

Unified Planning Work Program Federal Fiscal Year 2023

June 2022



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

FFY 2023 UNIFIED TRANSPORTATION PLANNING WORK PROGRAM

(OCTOBER 1, 2022 – SEPTEMBER 30, 2023)

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NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

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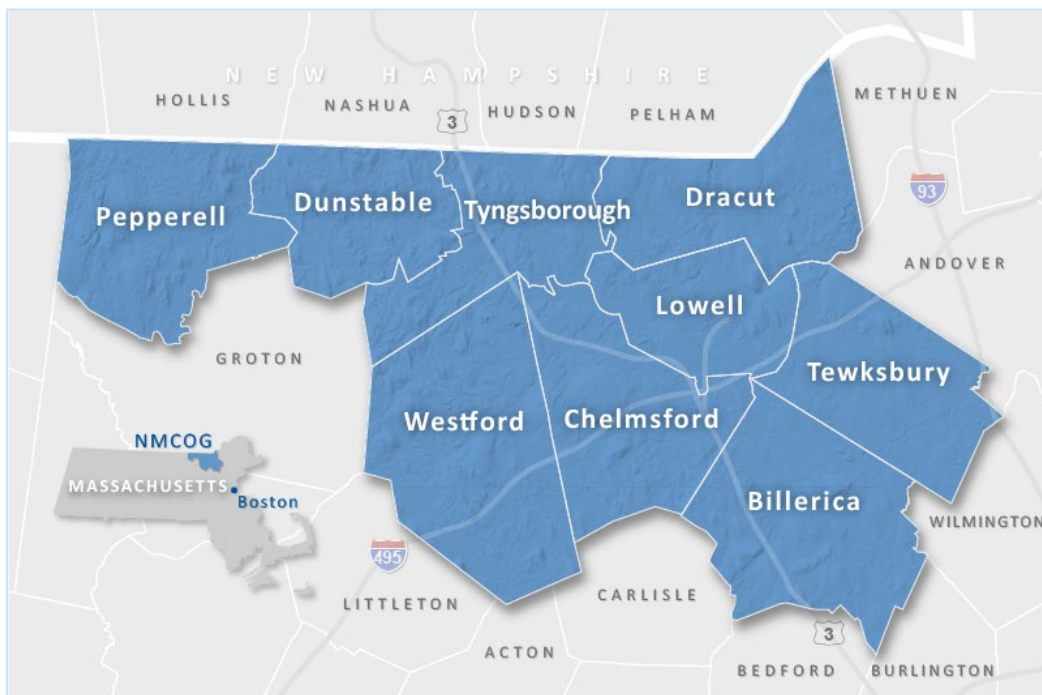
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NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

ENDORSEMENT OF THE FFY 2023 UNIFIED PLANNING WORK PROGRAM FOR THE NORTHERN MIDDLESEX REGION

This document will certify that the Northern Middlesex Metropolitan Planning Organization, at its meeting of June 22, 2022 hereby approves the endorsement of the FFY 2023 *Unified Planning Work Program for the Northern Middlesex Region*. The UPWP is being endorsed in accordance with the 3C Transportation Planning Process and complies with the requirements set forth in the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL).



6/22/22

Jamey Tesler, Secretary of Transportation and CEO of MassDOT

Date

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INTRODUCTION

The Unified Planning Work Program (UPWP) describes, in one document, all of the transportation and supportive planning activities to be carried out by the Northern Middlesex Metropolitan Planning Organization (NMMPO), for the programming period of October 1, 2022 – September 30, 2023 (Federal Fiscal Year 2023). The UPWP is required by the United States Department of Transportation (USDOT) as the basis for all Federal funding assistance for transportation planning to state, local, and regional agencies and is developed annually.

The UPWP has been prepared in accordance with the provisions of the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). It also follows Federal Highway Administration (FHWA) and Federal Transit Authority (FTA) grant application requirements and planning emphasis areas and guidance. The UPWP provides a means to coordinate these many different planning activities, in order to address the “3-C” (Continuing, Cooperative, and Comprehensive) transportation planning process.

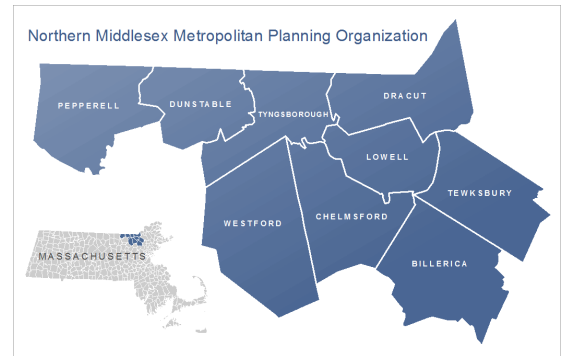
Funds for transportation planning come from separate agencies within USDOT, each addressing individual transportation modes such as highways, mass transit, and bicycle and pedestrian facilities. Funds also come from MassDOT. Anticipated planning activities and funding sources are published in advance of each fiscal year as part of the NMMPO’s Unified Planning Work Program (UPWP).

In March 2020, the COVID-19 pandemic altered how the country and the Commonwealth conducted business. The Governor declared a State of Emergency and issued a Stay at Home Order, forcing some businesses to close either temporarily or permanently, while others transitioned from an in-person model to remote operations. Schools were closed and children began learning remotely. With so many people working or attending school from home and retail operations pivoting to delivery or curbside business models, transit ridership and revenues decreased significantly. Traffic volumes also decreased considerably. Given social distancing requirements to avoid transmission of the virus, the MPO and municipalities transitioned to fully remote public involvement strategies, with all public meetings conducted online rather than in person. In the upcoming year, the NMMPO will update its Public Participation Plan work program to address virtual public engagement.

The advent of COVID vaccines has reduced the infection rate and allowed for the lifting of many restrictions that were put in place. While the economy has begun to reopen and children have returned to in person school, NMMPO staff is closely monitoring traffic conditions and transit ridership to document changing travel patterns and demand. Specific tasks in this UPWP document have been designed to respond to transportation issues caused by the pandemic and impacted by the evolving economic recovery.

ROLE OF THE NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

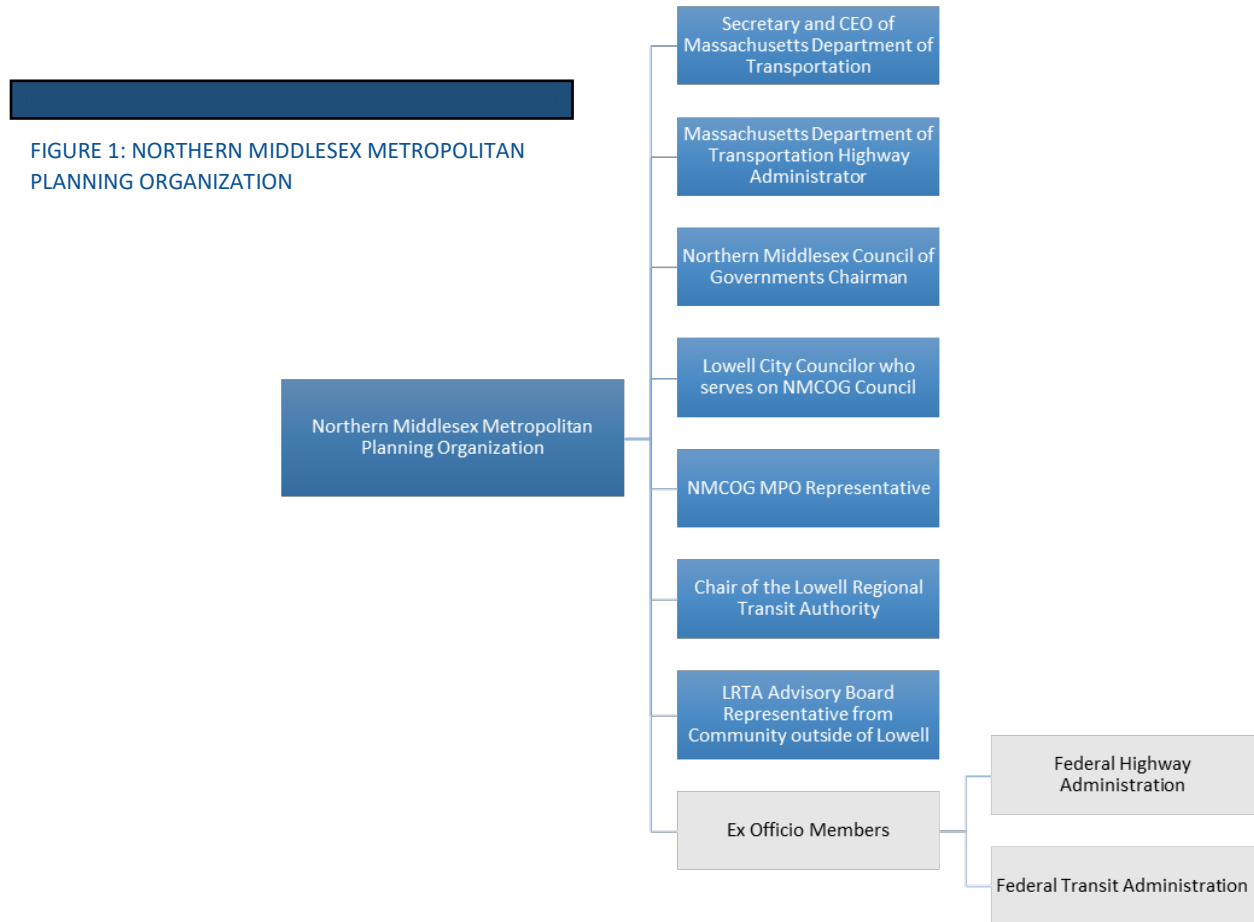
Established through federal legislation, Metropolitan Planning Organizations (MPOs) exist throughout the United States in all urbanized areas of more than 50,000 people and have the authority to prioritize, plan, and program transportation projects in urban/metropolitan areas using federal funding. In 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 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.

Membership of the MPO is guided by a 2021 Memorandum of Understanding between 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.

FIGURE 1: NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION



NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS'S ROLE

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.



ORGANIZATION OF THE UNIFIED PLANNING WORK PROGRAM

The NMMPO's UPWP document has been structured to include the following planning activity categories:

MANAGEMENT AND SUPPORT OF THE PLANNING PROCESS AND CERTIFICATION ACTIVITIES

Tasks within this category support the efforts required for coordinating transportation activities between the Northern Middlesex Metropolitan Planning Organization (NMMPO); other MPOs within the Boston Urbanized Area; member communities; and regional, state, and federal agencies. In addition, the NMMPO's public participation process and the administration of NMCOG's contract with MassDOT and LRTA are funded under this category. Preparation and maintenance of the Unified Planning Work Program (UPWP) and the Transportation Improvement Program (TIP) are also part of the Management and Support category.

TECHNICAL SUPPORT AND DATA COLLECTION

Tasks under this category include gathering and analyzing transportation data necessary for transportation planning and analysis; traffic counting; undertaking GIS work; and assisting transit system performance surveillance. In addition, the MPO assists MassDOT in the implementation of BIL regulations regarding the development and tracking of performance measures in the transportation planning process.

REGIONAL TRANSPORTATION PLANNING ASSISTANCE

Under this category, NMMPO staff maintains management systems including pavement, congestion, and safety. In addition, it provides technical assistance to local communities. Regional planning activities are outlined, addressing specific transportation issues identified through management of transportation systems, local requests, and the Regional Transportation Plan.

ONGOING TRANSPORTATION PLANNING

Under this category, NMMPO staff provides technical assistance to the region's communities, including the planning and implementation of transportation initiatives that support economic development projects and regional transit planning.

CONFORMITY TO FEDERAL PLANNING REGULATIONS AND POLICIES

INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA)/ "BIPARTISAN INFRASTRUCTURE LAW (BIL)"

The UPWP has been prepared in accordance with the provisions of the [Bipartisan Infrastructure Law \(BIL\)](#) (23 C.F.R. § 450.308 (c)). It also follows Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) grant application requirements and planning emphasis areas and guidance. The BIL, signed into law by President Biden on November 15, 2021, is built on the program structure of the [Fixing America's Surface Transportation Act \(FAST\)](#). The BIL continues all of the metropolitan planning requirements that were in effect under FAST, including the following national goal areas (originally initiated in SAFETEA-LU).

- **Safety** - to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

- **Infrastructure Condition** - to maintain the highway infrastructure asset system in a state of good repair.
- **Congestion Reduction** - to achieve a significant reduction in congestion on the National Highway System (NHS).
- **System Reliability** - to improve the efficiency of the surface transportation system.
- **Freight Movement and Economic Vitality** - to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental Sustainability** - to enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Accelerated Project Delivery** - to reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

SET ASIDE FOR INCREASING SAFE AND ACCESSIBLE TRANSPORTATION OPTIONS

In addition to continuation of FAST Act goal areas, the BIL has set aside funds for increasing safe and accessible transportation options. The BIL requires each MPO to use at least 2.5% of its Metropolitan Planning funds ("PL funds") on specified planning activities to increase safe and accessible options for multiple travel modes for people of all ages and abilities [§ 11206(b)]. Each State must use 2.5% of its State Planning and Research funding under 23 U.S.C. 505. A State or MPO may opt out of the requirement, with the approval of the Secretary, if the State or MPO has Complete Streets standards and policies in place, and has developed an up-to-date Complete Streets prioritization plan that identifies a specific list of Complete Streets projects to improve the safety, mobility, or accessibility of a street [§ 11206(c) and (e)].

Other new additions included in the BIL:

- The BIL allows the use of social media and other web based tools to encourage public participation in the transportation planning process [§ 11201(a)(3); 23 U.S.C. 134(i)(6)(D)].
- The BIL makes several changes to include housing considerations in the metropolitan transportation planning process, including—
 - updating the policy to include, as items in the national interest, encouraging and promoting the safe and efficient management, operation, and development of surface transportation systems that will better connecting housing and employment; [§ 11201(d)(1); 23 U.S.C. 134(a)(1)]
 - adding officials responsible for housing as officials with whom the Secretary shall encourage each MPO to consult; [§ 11201(d)(2); 23 U.S.C. 134(g)(3)(A)]
 - requiring the metropolitan transportation planning process for a metropolitan planning area to provide for consideration of projects and strategies that will promote consistency between transportation improvements and State and local housing patterns (in addition to planned growth and economic development patterns); [§ 11201(d)(3); 23 U.S.C. 134(h)(1)(E)]
 - adding assumed distribution of population and housing to a list of recommended components to be included in optional scenarios developed for consideration as part of development of the metropolitan transportation plan; [§ 11201(d)(4)(A); 23 U.S.C. 134(i)(4)(B)]

- adding affordable housing organizations to a list of stakeholders MPOs are required to provide a reasonable opportunity to comment on the metropolitan transportation plan; and [§ 11201(d)(4)(B); 23 U.S.C. 134(i)(6)(A)]
- within a metropolitan planning area that serves a transportation management area, permitting the transportation planning process to address the integration of housing, transportation, and economic development strategies through a process that provides for effective integration, including by developing a housing coordination plan. [§ 11201(d)(5); 23 U.S.C. 134(k)]

FEDERAL PLANNING FACTORS

Title 23 C.F.R. Section 450.308 (c) outlines planning regulations for MPOs in development of the UPWP, addressing the planning factors (23 C.F.R. § 450.306 (b)) initiated in MAP-21. The BIL continues the requirement that MPOs address the following federal planning factors:

1. “Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
2. Increase the safety of the transportation system for all motorized and non-motorized users;
3. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve transportation system resiliency and reliability and reduce or mitigate the stormwater impacts of surface transportation; and
10. Enhance travel and tourism.”

The NMMPO addresses these ten planning factors through the development of UPWP tasks outlined in this document and in accordance with the goals set forth in the [Northern Middlesex Regional Transportation Plan \(RTP\)](#), updated and adopted in FFY 2020. Appendix A contains an overview table showing the relationship between each federal planning factor and specific tasks outlined in the FFY 2023 UPWP. Goals of the RTP are addressed throughout the UPWP. These goals include:

1. Improving the Safety of the Transportation System for all users;
2. Efficiently managing existing transportation assets and infrastructure;
3. Improving travel time and reliability for people and goods;
4. Ensuring that the transportation network supports economic development needs and accommodates future economic growth;
5. Minimizing and mitigating the impacts of the transportation system on the environment, including air quality, water quality, wildlife habitat, and climate change; and
6. Providing fair and equitable transportation access and service quality to all communities and neighborhoods, regardless of income, race, or LEP status.

In addition to the planning factors and goals developed in the Regional Transportation Plan, federal planning emphasis areas have been incorporated into the UPWP. The following emphasis areas are included:

1. Performance Management;
2. Climate Change;
3. Civil Rights;
4. Development of Products;
5. Bike/Pedestrian Safety;
6. Regional Models of Cooperation – Enhancing the process for effective communication between the MPOs, MassDOT, and Regional Transit Authorities (RTAs) to result in improved collaboration and cooperation in the transportation planning process; and
7. Ladders of Opportunity/Access to Essential Services – Identification of gaps in the existing transportation network that may hinder access to essential services such as employment, health care, schools/education and recreation.

MASSACHUSETTS STATE POLICIES AND PROGRAMS

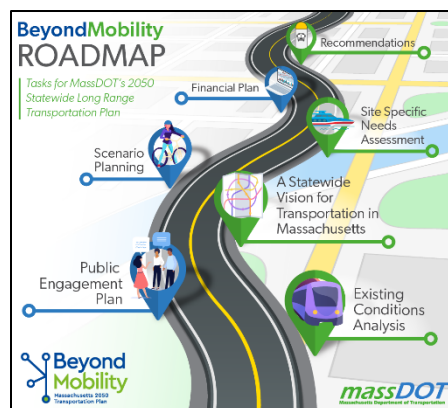
Massachusetts state policies are outlined below. The NMMPO has considered them in the region’s transportation planning activities and in the formulation of this document.

COMMISSION OF THE FUTURE OF TRANSPORTATION IN THE COMMONWEALTH

Executive Order 579, signed by Governor Charlie Baker in 2018, established the [Commission on the Future of Transportation in the Commonwealth](#) to advise the administration on future transportation needs and challenges. The charge of the Commission was to investigate anticipated changes in technology, climate, land use, and the economy to determine likely impacts on transportation between 2020 and 2040. A report outlining the recommendations of the Commission was published in December of 2018. The NMMPO considered these recommendations in development of the 2020-2040 Northern Middlesex Regional Transportation Plan and in the formulation of this Unified Planning Work Program.

BEYOND MOBILITY

[Beyond Mobility](#), the Massachusetts 2050 Transportation Plan, is a planning process that will result in a blueprint for guiding transportation decision-making and investments in Massachusetts in a way that advances MassDOT’s goals and maximizes the equity and resiliency of the transportation system. The plan will establish the vision, strategy, and goals for the future of transportation in Massachusetts and document transportation priorities of residents of the Commonwealth. This UPWP will build upon the Future of Transportation in the Commonwealth findings as well as State Plans already in place, such as the Strategic Highway Safety Plan, the Bicycle Plan, the Pedestrian Plan, the Freight Plan, the Rail Plan, and the Transportation Asset Management Plan.



THE GLOBAL WARMING SOLUTIONS ACT

The [Global Warming Solutions Act \(GWSA\) of 2008](#) mandates the reduction of greenhouse gas (GHG) emissions to 80 percent below 1990 levels by 2050. It also requires the Secretary of Energy and Environmental Affairs to set a legally enforceable GHG emissions limit for 2020 of between 10 percent and 25 percent below 1990. The Secretary must issue a plan for achieving those reductions while growing the clean energy economy.

The Commonwealth set the GHG emissions limit at the statutory maximum of 25 percent and released the *Clean Energy and Climate Plan for 2020*, which contained a portfolio of policies designed to meet the limit. The portfolio included established and new measures that reduce energy waste, save money, and stimulate the adoption of clean energy technologies, thereby creating jobs at the same time GHG emissions are being reduced. It was estimated that 42,000 to 48,000 jobs would result from full implementation of the plan in 2020.

In 2019, the Executive Office of Energy and Environmental Affairs (EOEEA) kicked off a planning process to develop the "[2050 Roadmap](#)," identifying cost-effective and equitable strategies and implementation pathways that ensure Massachusetts reduces greenhouse gas emissions by at least 80% by 2050. The 2050 Roadmap will also inform the Secretary of Energy and Environmental Affairs in setting of the 2030 emissions limit and the development of the Clean Energy and Climate Plans for 2030.

In March 2021, Governor Baker [signed](#) a new climate bill into law to cut greenhouse gas emissions, build a greener economy and prioritize equity and environmental justice. The new law, "An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy", is the most significant update to climate policy since the 2008 [Global Warming Solutions Act](#). Under the new law, the state must achieve "net zero" emissions by 2050. This means the total amount of greenhouse gases put into the atmosphere must be balanced by what is removed. In addition to the 2050 target, the law also stipulates two interim benchmarks: by 2030, emissions must be 50% lower than they were in 1990, and by 2040, they need to be 75% lower. The legislation also authorizes EOEEA to establish emissions limits every five years and sub-limits for at least six sectors of the Massachusetts economy - electric power; transportation; commercial and industrial heating and cooling; residential heating and cooling; industrial processes; and natural gas distribution and service. Recognizing the significant impact of climate change on Environmental Justice communities overburdened by poor air quality and disproportionately high levels of pollution, the legislation statutorily defines Environmental Justice and environmental burdens, including climate change as an environmental burden.

COMPLETE STREETS PROGRAM

Complete Streets is a concept where all travel modes, including walking, biking, transit, and motorized vehicles, are considered in the design and construction processes in order to provide safe and accessible transportation for all users of the system. Designing Complete Streets contributes to the safety, health, economic viability, and quality of life in a community by closing critical gaps in the transportation system. Providing safer and more accessible options for travel between home, school, work, and recreation destinations promotes more livable communities.

In 2014, in order to provide more guidance on Complete Streets standards, MassDOT released a Healthy Transportation Policy Directive (P-13-0001) and Engineering Directive E-14-006. The goal of the Healthy Transportation Policy Directive is to "further the Healthy Transportation Compact and the statewide

mode shift goal.” These directives require that projects be designed so that users of all facilities have access to safe and comfortable healthy transportation options. The engineering directive adds specific design requirements related to sidewalk and bicycle accommodations.

In support of the Healthy Transportation Policy Directive, MassDOT launched a [Complete Streets Funding Program](#) to provide assistance and project funding on municipally owned roadways throughout the Commonwealth. As part of the program, MassDOT is providing training, design guidance, and funding. The NMMPO assists communities with Complete Streets policies and prioritization plans, and in finalizing design and implementation of identified priorities. All communities in the region have approved Complete Streets policies and Prioritization Plans in place. Since 2017, funding has been awarded for projects in Billerica, Chelmsford, Lowell, Tewksbury, Tyngsborough and Westford. Table 1 summarizes NMMPO member community participation in the program.

TABLE 1: COMPLETE STREETS FUNDING PROGRAM PARTICIPATION AMONG NMMPO MEMBER COMMUNITIES

Community	Approved Complete Streets Policy	Complete Streets Prioritization Plan Approved	Project Funding Awarded (2017-2022)	Project Award
Billerica	Yes	Yes	\$378,320	Glad Valley Traffic Calming and Sidewalk Improvements (2020)
Chelmsford	Yes	Yes	\$327,129	Billerica Road Sidewalks, Richardson Road Multimodal Improvements and a Crosswalk at Parkhurst/North Road (2017)
Dracut	Yes	Yes	-	-
Dunstable	Yes	Yes	-	-
Lowell	Yes	Yes	\$400,000	South Common Shared Use Path (2017)
Pepperell	Yes	Yes	-	-
Tewksbury	Yes	Yes	\$400,000	East Street at Chandler Street Improvements (2018)
Tyngsborough	Yes	Yes	\$396,631	Kendall Road Improvements (2018)
Westford	Yes	Yes	\$399,860	Town Center Improvements, Robinson School Sidewalk Connections, and Day School Pedestrian Crossing (2017)

FUNDING THE UPWP

Federal Highway Funds: MassDOT receives Metropolitan Planning Funds (PL) from FHWA and passes the monies through to the regional planning agencies. These funds are apportioned to states based on the population that resides in the urbanized areas and the amount of highway construction funds the

state receives. MassDOT maintains an annual contract with the RPAs to conduct transportation-related planning activities.

FTA/LRTA: Two categories of funds are utilized for the conducting of transit planning – Section 5303 and Section 5307, as established by the Federal Transit Act Amendments of 1991. Section 5303 funds are used for planning and technical studies related to transit. These funds are obtained from FTA and passed through MassDOT to the regional planning agencies.

Section 5307 funds can be used for planning, as well as other purposes, and are distributed by FTA based on the RTA service area population. The Lowell Regional Transit Authority, using Section 5307 funds, contracts with NMCOG to provide technical assistance for a wide range of planning issues.

Unless otherwise noted, the tasks described in this document are financed jointly (although not equally) by the Federal Highway Administration (FHWA), MassDOT, and the Federal Transit Administration, through the MassDOT contract with NMCOG and/or under contract with the LRTA. MassDOT provides the appropriate 20% local match for the consolidated FHWA Metropolitan Planning (PL) and FTA 5303 planning grant received by the region. NMCOG provides the matching funds for its Section 5307 contract with the LRTA.

The consolidated PL/5303 planning grant and FTA/LRTA Section 5307 programs cover the period of October 2022-September 2023.

DEVELOPMENT OF THE UPWP/PUBLIC PARTICIPATION PROCESS

Title 23 C.F.R. Section 450.316 requires that MPOs develop and use a documented public participation plan that describes procedures, strategies and desired outcomes for public review and comment during the development of the UPWP. Because of the COVID-19 pandemic, the public input process has been modified to allow for remote participation through virtual public engagement. This is in keeping with guidance provided by public health officials in order to slow the spread of the disease and protect the health and well-being of the region's vulnerable populations.

The outreach process for the development of the NMMPO's UPWP continues to guarantee the following:

- Public access to the UPWP and all supporting documentation;
- Public notification of the availability of the UPWP;
- Respect of the public's right to review the document and comment thereon; and
- Provision of 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 is published in the *Lowell Sun* and other local news media such as community-specific or foreign language newspapers. It is also posted at each Town and City Clerk office. The Public Meeting Notice and draft UPWP document is posted on the NMCOG web site at www.nmcog.org. A notice and link is also provided on the LRTA website at www.lrta.com. An email to the NMMPO public outreach list is sent to interested stakeholders notifying them of the availability of the draft UPWP. Notices are made available on social media websites. Copies of the draft UPWP are forwarded to the NMMPO members and all stakeholders and interested parties.

A 21-day public comment period commences once the draft UPWP has been approved by a vote of the NMMPO. A minimum of one public meeting is held to receive comments. Comments may also be submitted, through conventional mail, email, phone, or social media. At the completion of the comment period, all public comments are considered and incorporated into the draft UPWP if appropriate. The UPWP 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 document. Because of the COVID-19 pandemic, all public meetings are virtual.

The endorsed UPWP document is 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 require an additional 21-day comment period and follow the outreach process outlined above.

MILESTONES IN FFY 2023 UPWP DEVELOPMENT:

Endorsement of the FFY 2023 Northern Middlesex UPWP follows a specific schedule outlined by the NMMPO. Development consists of public outreach to the communities and presentation of UPWP information to the MPO and NMCOG Council throughout the process. The following lists key meeting dates throughout the UPWP development process.

- **January 28, 2022:** MassDOT provides preliminary funding allocation and guidance to the MPO to be used in development of the 2022 UPWP.
- **January 26, 2022:** Staff presents a UPWP development schedule to the NMMPO.
- **April 20, 2022:** Staff presents a draft UPWP task list to the NMCOG Council.
- **April 27, 2022:** Staff presents a draft UPWP task list and funding allocation to the NMMPO.
- **May 25, 2022:** Staff presents the draft FFY 2023 UPWP to the NMMPO, which voted to release the document for public review and comment.
- **June 7, 2022:** Staff hosts a virtual public meeting to hear comments on the draft FFY 2023 UPWP.
- **June 15, 2022:** Staff presents comment received on the draft UPWP to the NMCOG Council.

- **June 22, 2022:** Staff presents comments received on the draft UPWP and the NMMPO voted to endorse the document.
- **July 2022:** The NMMPO-endorsed UPWP is submitted to FHWA, FTA, and MassDOT for approval.
- **October 1, 2022:** The NMMPO FFY 2023 UPWP goes into effect on the first day of the new Federal Fiscal Year.

AMENDMENTS/ADJUSTMENTS TO THE UPWP

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 UPWP require an endorsement by the MPO after a public review and comment period. Administrative adjustments to the UPWP 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 they feel it is in the best interest of the MPO and the transportation planning process. Table 2 provides an overview of what constitutes an administrative adjustment versus an amendment to the UPWP.

TABLE 2: UPWP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS

UPWP Administrative Adjustment	UPWP Amendment
Reallocation of budget funds	Addition or Removal of UPWP task(s)
Change in start/completion dates within the current federal fiscal year	Change in start/completion dates outside of the federal fiscal year (i.e. extending the project into next UPWP)
Adjustment to project scope or cost changes of equal to or less than 25% of task budget	Significant change in project scope, cost changes greater than 25% of task budget, and/or time allocation

DEFINITION OF SIGNIFICANT CHANGE

A change to a project scope, budget, and/or project schedule is considered significant when it alters the original intent of the project or intended outcome of the project.

UPDATES ON UPWP TASKS

As part of the 2022 work plan, staff continue the process of development of the [FFY 2023-2027 Transportation Improvement Program](#) and the [FFY 2023 Unified Planning Work Program](#).

TITLE VI AND ENVIRONMENTAL JUSTICE – Staff provided updates on regional equity for inclusion in the TIP and UPWP. Staff coordinated with several Councils on Aging on senior and disabled outreach activities and ADA application distributions and reviews. Staff, as part of ongoing transit services, reviewed 2020 Census data. Staff assisted LRTA personnel with the review of the LRTA Title VI Complaint Procedures.

TRAFFIC COUNTING – Staff completed the 2021 traffic-counting season and produced the [Annual Traffic Volume Report](#). Staff continue to work with MassDOT, municipalities, consultants and developers to assist with traffic counting data in a timely manner. Staff expanded upon the modified program for the 2022 season put into effect during the COVID-19 pandemic.

PAVEMENT MANAGEMENT – Staff continue monitoring roadway pavement conditions, collecting data in Lowell as part of the program. Staff continue to participate in the Data Users Group, presenting the IWorQ software and discussing a joint purchasing effort.

TRANSPORTATION SAFETY – The Transportation Safety program work continued this past year with updates to the NMCOG regional crash database and dissemination of data. NMCOG staff continued to work with MassDOT and FHWA on the Highway Safety Improvement Program, following the guidance outlined in the Statewide Strategic Highway Safety Plan and participating in the ongoing SHSP update.

CONGESTION MANAGEMENT – Staff continue to monitor roadways, transit facilities, and park and ride lots throughout the region. Staff use available RITIS data to monitor travel time and delay along major corridors. Staff report LRTA ridership information to the National Transit Database on an ongoing basis. Staff collect park and ride lot occupancy data at Gallagher Terminal in Lowell, the North Billerica Commuter Rail station, and the Tyngsborough Route 113 Park and Ride lot.

INTELLIGENT TRANSPORTATION SYSTEMS – Staff continue to work with MassDOT on placement of variable message board and closed circuit TV cameras at regionally significant locations, supporting ongoing projects in District 3 and 4. In 2022, staff continue working with the LRTA to purchase automatic passenger counters for their fixed route bus fleet.

LOCAL TECHNICAL ASSISTANCE – Each year, NMCOG assists local communities in solving technical transportation issues. This local technical assistance task has expanded organically as communities’ needs are not always evident as the UPWP is developed each spring. This task allows staff to take on projects requested by communities throughout the year. Table 3 lists the technical assistance initiatives completed during the first half of FFY 2022 (October 1, 2021 – May 31, 2022).

TABLE 3: LOCAL TECHNICAL ASSISTANCE ACTIVITIES (OCTOBER 1, 2021-MAY 31, 2022)

Community	Local Technical Assistance Project
Region	<ul style="list-style-type: none"> Park and Ride Lot Demand Monitoring Pavement Condition Inventory ITS Improvements Along Regional Highways Assistance to Regional Stormwater Collaborative
Billerica	<ul style="list-style-type: none"> Boston Road/Lexington Road/Glad Valley Drive TIP Project Assistance Boston Road TIP Project Assistance Yankee Doodle Bike Path TIP Project Assistance Route 3A Bus Stop relocation Assistance
Chelmsford	<ul style="list-style-type: none"> Assistance to Town on Senior Transportation Options Master Plan Assistance Vinal Square Transportation Improvement Concept Ledge Rd Truck Volume Assistance
Dracut	<ul style="list-style-type: none"> Installation of a LRTA Bus Shelter Navy Yard Improvements Assistance

TABLE 3: LOCAL TECHNICAL ASSISTANCE ACTIVITIES (OCTOBER 1, 2021-MAY 31, 2022)

Community	Local Technical Assistance Project
Dunstable	Route 113/Main Street TIP Project Assistance
Lowell	Go Lowell Multimodal and Bicycle Master Plan Assistance Pawtucket Street Project Assistance Lord Overpass Project Assistance Upper Pawtucket Canalway Project Assistance Canal Bridges/TIGER Grant Project Assistance Hamilton Canal Project Assistance Rourke Bridge Project Assistance Working Cities Challenge Grant Assistance Pawtucket Falls Overlook Project Guidance Gallagher Terminal Improvements
Pepperell	Route 113 Improvements Assistance Railroad Square Transportation Evaluations and Wayfinding Signage Assistance
Tewksbury	Tewksbury Center TIP Project Assistance Potential Rail Trail Evaluation and Assistance Heavy Vehicle Exclusions on East Street Route 38 Corridor TIP Project Assistance
Tyngsborough	Master Plan Update Assistance Park and Ride Lot Expansion Town Center Pedestrian Improvement Project Assistance
Westford	Boston Road TIP Project Assistance

TRANSPORTATION AND ECONOMIC DEVELOPMENT COORDINATION STUDY

Under Task 4.2 of the FFY 2022 UPWP - Transportation and Economic Development Prioritization and Coordination Projects, NMCOG staff continued to coordinate transportation and economic development activities in the Greater Lowell region. The effective coordination of transportation and economic development projects has resulted in an upgraded transportation infrastructure and subsequent economic growth. Public investments in the transportation infrastructure have been a catalyst for private investments that create the jobs that fuel this economic growth.

ROURKE BRIDGE (LOWELL)

The replacement of the temporary Rourke Bridge in Lowell has been a priority for the region for many years. The Rourke Bridge is located on Wood Street and serves as a major arterial between Route 3 at Drum Hill Square and the north side of the Merrimack River at Pawtucket Boulevard. The current bridge is located along one of the most congested corridors in the region. During peak travel periods, the bridge cannot physically accommodate the movement of emergency vehicles, which causes them to find alternate routes, increasing response times and placing patients at undue risk.



IMAGE 1: THE ROURKE BRIDGE IN LOWELL

In 2014, NMCOG worked with MassDOT to use a \$500,000 earmark to complete a feasibility study focused on replacing the temporary bridge with a permanent structure. NMCOG staff worked closely with MassDOT, the City of Lowell and the Towns of Chelmsford and Dracut to hire a consultant (Vanasse Hangen Brustlin, Inc.) to lead the study. The results of the feasibility study identified several alternatives for a new crossing along with recommendations for improvements to nearby roads and intersections. Cost estimates for the various alignment alternatives ranged from \$30-70 million.

In 2015, the Lowell City Council voted to move three alternatives into the design phase. In 2018, MassDOT provided funding for the design and environmental permitting for a new bridge. The design will include a new, wider bridge and upgraded bicycle and pedestrian facilities. Due to the importance of this corridor in terms of regional traffic flow, emergency management, and economic development, NMCOG continued to prioritize this project and work with local and state officials and the legislative delegation to identify a funding source for construction of the new facility. In 2020, MassDOT initiated the design and permitting processes for the Rourke Bridge Replacement project. In 2022, Governor Baker announced the Rourke Bridge construction would be included in the State capital plan due to the Bipartisan Infrastructure Law (BIL) allocating increased funding to the State. The project is currently programmed for construction advertisement in FFY 2024 and will use a design build process. The project will likely take four construction seasons to be put into place.

AYER'S CITY URBAN RENEWAL PLAN (LOWELL)

During the past eight years, NMCOG staff has assisted the City of Lowell in the development of the Ayer's City Industrial Park Urban Revitalization and Renewal Plan (ACIP). Through the redevelopment of a blighted industrial district located between the Lowell Connector and Tanner Street, the Urban Renewal Plan called for the implementation of several transportation improvements, including the de-elevation of the section of the Lowell Connector extending from Plain Street to Gorham Street; the relocation and redesign of the intersection of the Lowell Connector ramps, Tanner Street, and Plain Street; pedestrian improvements along Tanner Street; and the construction of a pedestrian greenway along River Meadow Brook (as outlined in the River Meadow Brook Greenway Feasibility Study completed by NMCOG under the FFY 2014 UPWP). The Urban Renewal Plan was approved by DHCD in 2014. MEPA certification for the AICP Plan was received in February 2016.

The City has been working with two engineering firms to produce final design and engineering documents for the realignment of Tanner Street. Although the City initially considered phasing the

project through the design process, the City has since decided to construct the project in a single phase. The new roadway will create a new 4-way intersection at the Target Plaza and extend up to Montreal Street, which will be extended a short distance to connect to the new Tanner Street. Additionally, the project will connect the new Tanner Street with the existing Tanner Street at the intersection with West London Street. The City will be working with an appraiser to determine the value of the properties to be taken by eminent domain to accommodate the new road alignment. The City received \$3 million in MassWorks funds and submitted a draft application for Economic Development Administration (EDA) Public Works funds. The City also received a Site Readiness Grant for \$375,000 to address the realignment issues. With the upcoming round of MassWorks funds available, the City expects to submit another MassWorks application. At the federal level, EDA will be receiving \$3 billion in American Rescue Plan Act (ARPA) funds, a portion of which will be available for transportation projects linked to the creation of industrial/commercial jobs but not funded through another federal funding source.

MIDDLESEX TURNPIKE PHASE 3 (BILLERICA/BEDFORD)

Middlesex Turnpike Phase 3 includes the reconstruction, widening, and related improvements to 1.6 miles of the Middlesex Turnpike from the end of Phase II to 1,000 feet north of Manning Road in Billerica. Phase III has enormous economic development benefits for the Tri-Town area of Bedford, Billerica, and Burlington. With the investment of more than \$ 350 million in federal transportation dollars for the expansion of Route 3 and more than \$ 23 million in Middlesex Turnpike Phases 1 and 2 improvements to date, the state and federal governments have recognized the importance of this area in attracting high tech and biotech companies. It is anticipated that the Phase 3 project will support an additional 1.7 million square feet of new commercial, industrial, and residential space along the corridor, which equates to 2,500 new office, R&D, and industrial jobs. The project cost for Phase 3 has been established as \$34.475 million with an anticipated completion date of spring 2023.

In addition to the Middlesex Turnpike Phase 3 project, NMCOG staff will continue to work with the Middlesex 3 Coalition, a collaboration among multiple jurisdictions along U.S. Route 3, the private sector, and educational institutions. This initiative provides a unique opportunity to develop a “branding” strategy for the Route 3 corridor designed to attract additional private investments to this area, and allows the public and private partners to focus on the transportation needs of area businesses. NMCOG staff will continue to attend the Middlesex 3 Coalition Transportation and Infrastructure Subcommittee meetings and provide feedback on transportation, transit, and infrastructure issues in the region.

ROUTE 38 CORRIDOR IMPROVEMENTS (TEWKSBURY)

Several Massachusetts Route 38 transportation improvement projects in Tewksbury provide an opportunity to attract increased private investment along the corridor. The Route 38 Corridor Study, completed by NMCOG staff, identified the need for extensive transportation improvements to address congestion, safety and pedestrian facilities throughout the corridor. The results of the study were intended to assist the Town in making informed decisions regarding land use and development based on the capacity of the roadway and projected operating conditions along the corridor. The study was conducted to assess current and future operating conditions; define the development thresholds at which it becomes necessary to implement specific levels of traffic mitigation in order to accommodate anticipated development; and project traffic conditions over the next twenty years based on high, medium and low development scenarios.

The Tewksbury Economic Development Committee identified several sites along the Route 38 corridor that have potential for new development or redevelopment. Full build-out of the underdeveloped and vacant properties has the potential to generate several thousand additional vehicle trips per day, creating significant impacts along an already overburdened corridor.

The implementation of the Route 38 improvements has required collaboration between the NMMPO, the Town, MassDOT, and private sector partners. This included leveraging established economic development and transportation partnerships in the region through including the transportation recommendations in the TIP, Regional Transportation Plan, and the *Greater Lowell Comprehensive Economic Development Strategy (CEDS) for 2020-2024*. Route 38 improvements in the area between Salem Street and South Street is nearly complete. A resurfacing of Route 38 and sidewalk reconstruction project between Colonial Drive and Old Boston Road is currently under construction. Another Route 38 improvement project from the Douglas Road intersection in Lowell to the Pike/Astle/Veranda Street intersection is programmed in the FFY 2023 TIP utilizing Statewide Highway Safety Improvement Program funding.

With the increased focus on Route 38, several private redevelopment projects have been completed or are in the process of being completed. The development of 192 housing units at Balsam Place and the 13,500 square foot Lowell General Hospital (LGH) urgent care facility/patient service center have been completed. This \$51 million development project created fourteen full-time jobs and numerous construction jobs.

Focusing elsewhere on Route 38, the Tewksbury Town Center Master Plan Committee completed the Town Center Master Plan in April 2016. The principal focus of the Town Center Master Plan was on traffic and circulation, a façade improvement program, streetscape improvements, signage and wayfinding, land use and zoning improvements, and public and private investment projects. The Town voted two years ago to replace the Fire Station in the Town Center, which will have an economic impact upon this area, as well as the associated transportation improvements along Route 38. The Town Center area is a priority location for transportation improvements. A Road Safety Audit was performed in May 2021 as part of the larger project in the Center. An intersection improvement project at Main and Pleasant Street and East at North Street in Tewksbury Center is programmed in FFY 2027 of the Northern Middlesex TIP and is currently under preliminary design.

Boston Road Revitalization Project (Billerica)

The Town of Billerica is moving forward with the revitalization of Boston Road north of the Town Center to support development in the area, including the new \$176 million Billerica High School. The project includes reconstruction of approximately 1 mile of Boston Road. In addition, sidewalks and a multi-use off road path will be constructed to improve safety for non-vehicular trips. This project is programmed in FFY 2022 and 2023 in the Northern Middlesex TIP and has been advertised for construction.

Vinal Square and Town Center Improvements (Chelmsford)

NMCOG staff completed the Strategic Action Plan for the Town of Chelmsford in January 2015. This Plan included transportation improvements recommended in the Vinal Square Traffic Study that was completed by NMCOG under the FFY2014 UPWP. It also included recommendations relative to streetscape improvements, lighting, signage, parking, and pedestrian connectivity. The plan was designed to encourage reinvestment in the Vinal Square neighborhood. NMCOG staff has continued to assist the Town with the implementation of the recommendations. All of the roadways within the Square (Route 40, Route 3A and Route 4) are on the federal aid system and most are owned and

controlled by MassDOT. Collaboration between the Town, MassDOT, residents, and the business community will be needed to advance the recommendations. The Town has invested some funds to begin the streetscape improvements through an initial ground study. NMCOG staff also worked with the Town on a Visioning Project to determine alternative uses for the UMass Lowell West campus in North Chelmsford. UMass Lowell ultimately sold the West campus to a private developer. The Town was also awarded NMCOG staff time under the District Local Technical Assistance (DLTA) XIV program to develop a concept plan for transportation related improvements within Vinal Square, which was presented to the Town in December 2021. The Town will use the concept plan in order to work with MassDOT to advance design work, given State ownership of most of the transportation infrastructure within the Square.

NMCOG staff continued to assist the Town in implementing the recommendations outlined in the Chelmsford Center Village Pedestrian and Parking Plan completed six years ago. The Town of Chelmsford received a MassWorks grant of \$370,000 in 2016 to construct a portion of the Beaver Brook Walk, build a pocket park, and provide public parking and landscaping along the Bruce Freeman Rail Trail. These public improvements were to be matched by \$15 million in private investment to construct a 54-unit market-rate rental project called Grist Mill Apartments and located in the Town’s Center Village Overlay District. Due to delays in the development project, the Town requested a one-year extension from EOHEd on its MassWorks grant. EOHEd extended the project until June 30, 2019. The NMMPO has also voted to program the Route 110 improvement project near the Town Center in FFY 2026 and 2027 of the TIP. The project includes improvements to access, parking, and bicycle and pedestrian facilities.

LOWELL’S CANAL BRIDGES

The City of Lowell is unique in that there are eight bridges crossing the canal system that were previously owned and/or controlled by Enel Green Power, a multi-national power company, until the City took ownership in July 2017. Prior to the City taking ownership, Enel repaired two of the bridges –Broadway Street over the Pawtucket Canal and Kearney Square over the Eastern Canal. The remaining six bridges were in various states of disrepair or deterioration, resulting in closures or weight restrictions. This adversely affected public safety, commerce, economic development, traffic congestion, and transportation efficiency. Buses, fire apparatus, and larger commercial vehicles were prohibited from crossing these spans and had to detour around these bridges. In 2015, the City of Lowell was awarded a TIGER Grant for \$13,389,750 to address the repair of these six bridges. This work has been overseen by MassDOT in conjunction with the City of Lowell. The design and engineering of the six bridges was completed in 18 months. Due to funding constraints, the superstructure replacement at the Suffolk Street over the Northern Canal was removed from the original project scope, and the City will seek additional funds to complete the project. Project bids for the five remaining bridges were opened on February 21, 2018 and awarded to the low bidder in March 2018. Construction began on July 1, 2018 with final construction anticipated on April 1, 2022.

Canal Bridges in Lowell

Pawtucket Street over the Pawtucket Canal

Pawtucket Street over the Northern Canal

Broadway Street over the Pawtucket Canal

Central Street over the Lower Pawtucket Canal

Suffolk Street over the Northern Canal

Merrimack Street over the Western Canal

Merrimack Street over the Merrimack Canal

Kearney Square over the Eastern Canal

The status of the five bridges as of April 2022 was as follows:

- 1) **Pawtucket Street over the Pawtucket Canal** – Project Complete.
- 2) **Pawtucket Street over the Northern Canal** – Project Complete
- 3) **Central Street over the Lower Pawtucket Canal** – Construction work began in early April 2019. Bridge completion is anticipated by autumn 2023.
- 4) **Merrimack Street over the Western Canal** – Project complete.
- 5) **Merrimack Street over the Merrimack Canal** – Project complete.

BICYCLE AND PEDESTRIAN PLANNING

Within the Northern Middlesex region, there are several off-road, multi-use facilities that have either already been constructed or at various stages of the planning/design/construction process. A general description of each facility is provided in Table 4.

TABLE 4: OFF-ROAD/MULTI-USE BICYCLE AND PEDESTRIAN FACILITIES IN THE NORTHERN MIDDLESEX REGION

Trail/Walkway	Description	Status
Nashua River Rail Trail	A 12.5 mile paved, multi-use rail trail which begins in Ayer, follows the course of the Nashua River through Groton, Pepperell, and Dunstable, and ends approximately one mile over the Massachusetts/New Hampshire line in Nashua.	Completed 2002
Bay State Greenway	A proposed 740-mile, seven-corridor bicycle transportation network that will be comprised of both off-road and on-road bicycle facilities.	Ongoing
Bay Circuit Trail	When complete, the 200-mile trail will link many of the outlying suburbs of Boston, extending from Plum Island in Newburyport to Kingston Bay in Duxbury. Some portions of this trail are complete, while others are still in the planning and design stages. Within the Northern Middlesex region, the trail crosses Tewksbury, Billerica, Lowell, Chelmsford and Westford	Ongoing
Bruce Freeman Rail Trail	As currently envisioned, the Bruce Freeman Rail Trail will extend approximately 24.5 miles in its entirety, passing through seven communities from Chelmsford to Framingham. Phase 1, extending from Lowell to Westford is complete. In other regions, Phase 2A and Phase 2C are complete. Phase 2B is under construction and Phase 2D is under design.	Ongoing
Concord River Greenway	A 1.75-mile multi-purpose trail extending along the eastern bank of the Concord River in the City of Lowell. The Greenway connects Lowell's largest parks, Rogers Fort Hill Park and Shedd Park, with the Riverwalk and ultimately with a network of trails throughout the City. It also fills a missing link in the 200-mile Bay Circuit Trail and will eventually link to the Bruce Freeman Rail Trail. Phase 1 of the project is complete. The City of Lowell has received \$1,350,000 to complete the Concord River Greenway Park. A new bridge at the end of Lawrence Street section, crossing over the Concord River to Centennial Island is currently under construction.	Ongoing
Tewksbury Rail Trail	Consultants have worked with Tewksbury Rail Trails (TRT) Committee on creating a trail along abandoned railroad beds that cross the town and on identifying, marking, and developing portions of the Bay Circuit Trail that traverse the town. NMCOG staff have been working with the Town and MassDOT to identify next steps for implementation.	In feasibility study stage

TABLE 4: OFF-ROAD/MULTI-USE BICYCLE AND PEDESTRIAN FACILITIES IN THE NORTHERN MIDDLESEX REGION

Trail/Walkway	Description	Status
Yankee Doodle Bikeway	A proposed bikeway located along an abandoned railroad right-of-way, extending from Iron Horse Park in North Billerica to the Bedford town line. The 2008 Statewide Bicycle Plan includes the Yankee Doodle Bike Path as an important link within the Bay Circuit Greenway system. The project is currently programmed in FFY 2024 of FFY 2023-2027 TIP. The project is currently at 25% Design.	In design phase
Middlesex Canal	A trail network is planned along the towpath of the canal adjacent to the Concord River/Mill Pond area of North Billerica. The project has not advanced beyond the planning stage and has been deactivated from TIP eligibility.	In planning phase
Merrimack River Trail	A proposed 50-mile multimodal on- and off-road recreational trail system along the Merrimack River, which will ultimately connect six cities and eleven towns from Tyngsborough to Newbury. In 2021, NMCOG staff worked with MassDOT and MVPC staff to discuss options along the route between Lawrence and Lowell. MassDOT is currently looking to design a route.	In planning and design phases
Dunstable Pathways	The Town of Dunstable has developed conceptual plans for a pedestrian pathway along Main Street, connecting destinations in the Town Center with the Town Library. The Town is currently seeking funding for design and are planning to apply for Complete Streets funding, once design funds are identified.	In design phase
Chelmsford Center Brook Walk	As part of an overall town center improvement plan, the Town of Chelmsford is seeking to establish a walkway along River Meadow Brook connecting destinations within the Town Center.	In design phase
Upper Pawtucket Canalway	The Lowell NHP has secured design funds for a multi-use path between Dutton Street and Broadway on the southern side of the Pawtucket Canal. Next steps in FFY 2022 will be to continue engineering two MBTA railroad underpasses, environmental testing, updating designs and completing compliance and permitting for construction. Preliminary discussion of TIP funding availability has occurred. The City of Lowell would need to be the proponent.	In design phase
Pawtucket Falls Overlook	Creation of a 5/6-mile linear park and walkway extending from Vandenberg Esplanade to School Street Bridge. This project is in need of a redesign as DCR would not approve of the proposed path as it has been designed. The project is currently not programmed in the TIP.	In design phase
Merrimack Riverwalk	Phase I of the project is complete. Phase II extends Riverwalk from historic Boott Mills to the east side of Bridge Street, crossing the Concord River and connecting to existing walkways at the Lowell Memorial Auditorium and the Concord River Greenway. Phase II of the project is currently under construction.	In Construction phase

TRANSPORTATION PROJECTS BY OTHERS

In addition to the studies and analyses undertaken by NMCOG, a number of other projects are being conducted in the region and surrounding area by other entities as outlined in the following narrative.

LRTA PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

On July 19, 2018, FTA published the Public Transportation Agency Safety Plan (PTASP) Final Rule (49 C.F.R. Part 673), which requires certain operators of public transportation systems that receive federal funds under FTA's Urbanized Area Formula Grants to develop safety plans that include the processes

and procedures to implement Safety Management Systems (SMS). The LRTA developed a plan outlining the agency’s existing safety practices and best practices to be implemented to meet Federal regulations. The LRTA board voted to adopt their plan on October 29, 2020 with set performance measures and targets included. The MPO then took action on December 2, 2020 to adopt the safety performance measures (Table 5) for both fixed route and demand response vehicles, which includes the following:

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

In June 2022, the LRTA Board will review updated targets. After that occurs, the MPO will then have 180 days to consider adoption of any new targets. This will likely occur in late summer/early fall 2022 and may be part of this work program.

TABLE 5: NMMPO ADOPTED LRTA PTASP PERFORMANCE MEASURES AND TARGETS

Mode of Transit Service	Fatalities (Total)	Fatalities (Rate*)	Injuries (Total)	Injuries (Rate)	Safety Events (Total)	Safety Events (Rate)	System Reliability (Miles between Failure)
Fixed Route	0	0	2	1.5	2	1.5	70,000
Demand Response (Roadrunner)	0	0	1	2.4	1	2.4	80,000
Demand Response (Council on Aging)	0	0	1	3.6	1	3.6	60,000

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

LRTA TRANSIT ASSET MANAGEMENT PLAN

The Federal Transit Administration’s (FTA) final rule (49 C.F.R. Part 625) outlined a requirement for transit providers to implement performance management through Transit Asset Management (TAM) Plans. LRTA, as a Tier II Provider¹, 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 Plan is updated annually as part of National Transit Database (NTD) reporting, and the NMMPO adopted updated targets on January 26, 2022. 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

¹ Tier II Provider: 100 or fewer vehicles across all fixed routes.

were set for rolling stock, equipment and facilities. Table 6 outlines the MPO-adopted TAM performance measures and targets.

Asset Category -Performance Measure	Asset Class	2021 Target	FY 2021 Performance	Target Met	2022 Target
REVENUE VEHICLES					
Age -% of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark	BU -Bus	10%	5.00%	Yes	5%
	CU -Cutaway Bus	35%	40.00%	Yes	35%
	Minivan	0%	0.00%		0%
EQUIPMENT					
Age -% of vehicles that have met or exceeded their Useful Life Benchmark	Non Revenue/Service Automobile	33%	33.00%	Yes	33%
	Trucks and other Rubber Tire Vehicles	67%	75.00%	No	75%
	Maintenance Equipment*	63%	63.00%	Yes	0%
	Facilities Equipment*	0%	0.00%	Yes	0%
FACILITIES					
Condition -% of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration/ Maintenance	0%	0.00%	Yes	0%
	Passenger Facilities/ Parking Structures	0%	0.00%	Yes	0%

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

OTHER NMCOG PLANNING STUDIES AND FUNDING RESOURCES

In addition to the wide range of transportation planning studies and activities described in this report, NMCOG performs environmental, land use, housing, economic development, emergency management, and comprehensive planning services. Table 6 provides a listing of other known planning activities that are currently being undertaken by NMCOG and summarizes the funding levels and match requirements for those activities.

TABLE 6: SUMMARY OF OTHER NMCOG FUNDING SOURCES FFY 2022 (10/01/2021 - 9/30/2022)

Sources of Funding	Contract Amount	% Match Required
Local Assessments	\$105,591	0
Billerica Sealer of Weights & Measures	\$12,500	0
Chelmsford Sealer of Weights & Measures	\$14,000	0
Dracut Sealer of Weights & Measures	\$8,500	0
Littleton Sealer of Weights & Measures	\$7,000	0
Lowell Sealer of Weights & Measures	\$44,000	0
Tewksbury Sealer of Weights & Measures	\$12,500	0
Mass Trails Grant	\$12,000	25
Northern Middlesex Stormwater Collaborative	\$48,000	0
Pepperell 2017 Master Plan Update	\$25,000	0
Local Rapid Recovery Plan	\$90,000	0
Local Rapid Recovery Plan SME Contract	\$27,500	0
Lowell Regional Waste Water Utility	\$2,500	0
DOER--Affordable Access Regional Coordination	\$77,036	0
DOER--Regional Energy Planning Assistance II	\$54,000	0
Tyngsborough Master Plan Update	\$30,000	0
EDA Economic Recovery and Resiliency Plan	\$150,000	20
National Fish and Wildlife Grant	\$22,417	25
DLTA XV/XVI	\$190,701	5
Pictometry (3 year contract)	\$91,548	0

REGIONAL EQUITY: UPWP STUDIES – 2018-2022

NMMPO undertook a study of the geographic distribution of UPWP-funded transportation planning activities to determine regional equity in the transportation planning process. UPWP activities have been reviewed between FFY 2018 and FFY 2022. Thirty Four (34) tasks were analyzed, resulting in three hundred and seventy five (375) items documented, categorized, and compared over the five-year period. Activities include ongoing data monitoring, systems management, development of certification documents and projects funded through the local technical assistance task. Figure 1 shows the percentage of UPWP activities by community during the study period. Table 7 summarizes the PL apportionment by spending per community.

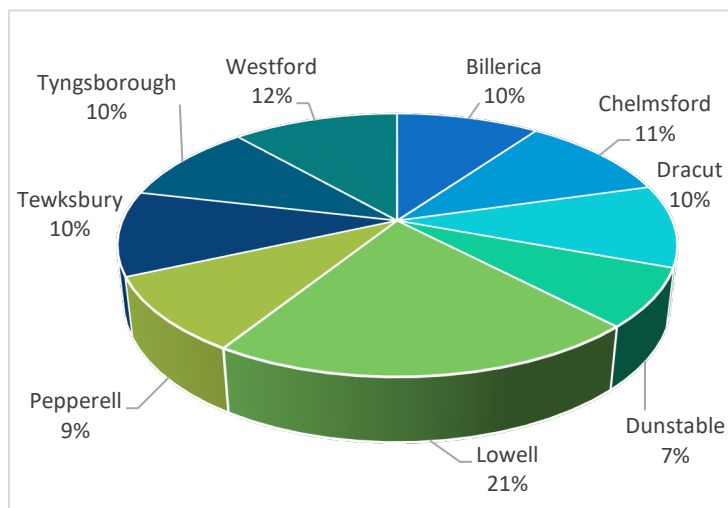


FIGURE 1: REGIONAL DISTRIBUTION OF UPWP TASKS (2018-2022)

An analysis of the MassDOT Metropolitan Planning (PL) funding apportionment to the NMMPO showed that the City of Lowell received the highest percentage of the planning funds, with 21% of the total funding between 2018 and 2022. The suburban communities surrounding Lowell received comparable funding during the study period, with percentages ranging from 7%-12%. Of note, regional programs such as the TIP and local technical assistance funding were distributed and reported in the Northern Middlesex Annual Progress Report for each fiscal year.

TABLE 7: PL APPORTIONMENT SPENDING BY COMMUNITY (2018-2022)

Community	PL Apportionment (2018-2022)	Items per Community	Percentage
Billerica	\$389,312	37	10%
Chelmsford	\$428,243	40	11%
Dracut	\$389,312	38	10%
Dunstable	\$272,518	27	7%
Lowell	\$817,555	39	21%
Pepperell	\$350,381	35	9%
Tewksbury	\$389,312	39	10%
Tyngsborough	\$389,312	37	10%
Westford	\$467,174	43	12%

TABLE 8: NORTHERN MIDDLESEX PL APPORTIONMENT (2018-2022)

UPWP Year	Federal	State	Total
2018	\$584,664	\$146,166	\$730,830
2019	\$597,217	\$149,304	\$746,521
2020	\$598,104	\$149,526	\$747,630
2021	\$615,918	\$153,980	\$769,898
2022	\$718,591	\$179,648	\$898,239

NMMPO staff also reviewed each task to determine if the project limits were located in Environmental Justice (EJ) areas within the region. Environmental Justice Areas include geographical locations where census figures show a concentration of minority populations higher than the regional average or a median income less than 65% of the statewide median. Analysis shows that of the 34 tasks performed since 2018, 26 tasks (76%) occurred within low income and minority Environmental Justice areas, as shown in Table 9 and Table 10 on the following pages.

TABLE 9: UPWP TASKS BY TITLE VI/EJ DESIGNATION (2018-2022)

UPWP Year	UPWP Task	Community (s)	Funding	Project located in Minority Population	Project located in Low Income Population	Project located in Both Minority and Low Income Population
2018	UPWP	All	\$ 26,691	Yes	Yes	Yes
	TIP	All	\$ 55,161	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 43,100	Yes	Yes	Yes
	Traffic Counting	All	\$ 62,000	Yes	Yes	Yes
	Pavement Condition Inventory	Pepperell	\$ 30,000	No	No	No
	Middlesex Road Tyngsborough Corridor Study	Tyngsborough	\$ 10,000	No	No	No
2019	Regional Transportation Plan	All	\$ 80,875	Yes	Yes	Yes
	UPWP	All	\$ 25,191	Yes	Yes	Yes
	TIP	All	\$ 52,911	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 39,000	Yes	Yes	Yes
	Traffic Counting	All	\$ 60,000	Yes	Yes	Yes
	Pavement Condition Inventory	Billerica, Dracut, Pepperell	\$ 29,000	No	No	No
Route 110 (Littleton Road) Chelmsford Corridor Study	Chelmsford	\$ 11,871	No	No	No	
2020	UPWP	All	\$ 27,691	Yes	Yes	Yes
	TIP	All	\$ 58,911	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 45,500	Yes	Yes	Yes
	Traffic Counting	All	\$ 67,000	Yes	Yes	Yes
	Coordinated Human Services Transit Plan	All	\$ 8,921	Yes	Yes	Yes
	Pavement Condition Inventory	Chelmsford, Tyngsborough, Westford	\$ 30,000	No	No	No
	Lowell Pedestrian Facility Inventory	Lowell	\$ 21,000	Yes	Yes	Yes
Dracut- Primrose Hill/Lakeview Avenue Intersection Study	Dracut	\$ 11,000	No	No	No	

TABLE 9: UPWP TASKS BY TITLE VI/EJ DESIGNATION (2018-2022)

UPWP Year	UPWP Task	Community (s)	Funding	Project located in Minority Population	Project located in Low Income Population	Project located in Both Minority and Low Income Population
2021	UPWP	All	\$ 34,691	Yes	Yes	Yes
	TIP	All	\$ 59,911	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 45,500	Yes	Yes	Yes
	Traffic Counting	All	\$ 65,000	Yes	Yes	Yes
	Pavement Condition Inventory	Dracut, Dunstable, Pepperell	\$ 28,000	No	No	No
	Regional Pedestrian Inventory	Dracut, Lowell, Pepperell, Tyngsborough	\$ 22,000	Yes	Yes	Yes
	TIP Project Review Study	Tewksbury, Westford	\$ 22,000	No	No	No
2022	UPWP	All	\$ 33,691	Yes	Yes	Yes
	TIP	All	\$ 59,261	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 45,000	Yes	Yes	Yes
	Traffic Counting	All	\$ 63,200	Yes	Yes	Yes
	Pavement Condition Inventory	Lowell, Billerica	\$ 27,200	Yes	Yes	Yes
	TIP Project Review study	All	\$ 21,000	Yes	Yes	Yes

TABLE 10: UPWP TASKS BY TITLE VI/EJ DESIGNATION (2023)

UPWP Year	UPWP Task	Community (s)	Funding	Project located in Minority Population	Project located in Low Income Population	Project located in Both Minority and Low Income Population
2023	UPWP	All	\$ 36,996	Yes	Yes	Yes
	TIP	All	\$ 66,062	Yes	Yes	Yes
	Regional Transportation Plan	All	\$ 118,700	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 48,150	Yes	Yes	Yes
	Traffic Counting	All	\$ 65,728	Yes	Yes	Yes
	Pavement Condition Inventory	Tewksbury	\$ 28,288	No	No	No
	TIP Project Review study	All	\$ 21,840	Yes	Yes	Yes

TASK 1.0 MANAGEMENT AND SUPPORT OF THE PLANNING PROCESS AND CERTIFICATION ACTIVITIES

Task 1.0 supports coordination of transportation activities between NMCOG; the Northern Middlesex Metropolitan Planning Organization (NMMPO); other MPOs within the Boston Urbanized Area; member communities; and local, regional, state and federal agencies. Maintenance of the public participation process; administration of the NMCOG contracts with MassDOT and LRTA; and preparation and maintenance of the Regional Transportation Plan, Unified Planning Work Program, and the Transportation Improvement Program are also part of this task.

TASK 1.1 MANAGEMENT OF THE 3-C PROCESS

OBJECTIVE:

To assist, support, and facilitate an open, comprehensive, cooperative and continuing (3-C) transportation planning and programming process at all levels of government in conformance with applicable federal and state requirements and guidelines as described in the 3-C Memorandum of Understanding. The development of all planning documents will be undertaken in accordance with the metropolitan planning requirements set forth in the BIL, and as further established through the USDOT metropolitan planning regulations.

It should also be noted that activities in this task as well as other tasks in the UPWP will include work to address ongoing COVID-19 pandemic issues, looking at the future of transportation in the region. Peak periods of travel will be monitored to determine if there are consistent changes in how people commute and receive goods and services.

PROPOSED ACTIVITIES:

1. Provide support and implement BIL policies and guidelines, including emphasis on the seven National Goal Areas.
2. Provide liaison service between the NMCOG communities, LRTA, private transportation providers, adjoining regions, transportation agencies, and other organizations and stakeholders at the local, regional, state, and federal levels, on transportation related matters, issues and actions.
3. Work with the Metropolitan Planning Organization and its constituent members. Present transportation plans and programs developed through the 3-C public participation process for appropriate MPO action.
4. Participate in the Transportation Managers Group as a means to improve the quality and efficiency of the transportation planning process.
5. Review, comment, and assist on federal and state transportation related plans, programs, regulations and guidelines.
6. Provide transportation and transit planning services in support of NMCOG's comprehensive planning programs and conduct meetings and workshops on transportation issues.
7. Participate in transportation and transit workshops, seminars, conferences, training programs, and courses. Review literature on new transportation planning procedures.
8. Participate in the MPO certification process. Prepare and periodically update regional planning documents, as necessary, to maintain federal certification of the NMMPO's planning program and LRTA's eligibility to receive transit assistance. Provide updates to the 2020 Certification Action Plan.

PROPOSED ACTIVITIES CONTINUED...

9. Provide management, guidance, and technical support to local communities and others relative to BIL funding programs, Transit Oriented Development, MassWorks, and other statewide and Federal funding programs.
10. Work cooperatively with the other MPOs comprising the Boston Urbanized Area per the terms of the 2019 Memorandum of Understanding for the Boston Urbanized Area.
11. Work cooperatively with the other MPOs comprising the Nashua Urbanized Area per the terms of the 2020 Memorandum of Understanding for the Nashua Urbanized Area.
12. Coordinate with adjoining regional planning agencies including the Nashua Regional Planning Commission, Merrimack Valley Planning Commission, Montachusett Regional Planning Commission, and the Metropolitan Area Planning Council.
13. Coordinate with neighboring regional transit authorities including the Massachusetts Bay Transportation Authority, Merrimack Valley Regional Transit Authority, Montachusett Regional Transit Authority, Nashua Transit System, Manchester Transit Authority, and the Lowell Regional Transit Authority.
14. Maintain county roads bylaws and procedures and update data as collected.
15. Coordinate with Transit agencies comprising the Nashua Urbanized Area to update the Nashua UZA Split MOU.
16. Develop monthly and annual progress reports, as required by State and Federal partners.
17. Coordinate transit services with Councils of Aging and outside service providers.

PREVIOUS WORK:

- NMMPO MOU update
- Boston and Nashua UZA MOUs
- Nashua UZA Transit funding splits
- Participation in the statewide State Implementation Plan Steering Committee
- Participation in the Transportation Managers Group
- Participation in FTA / LRTA Triennial Review
- Participation in the Route 110/I-93 Project Advisory Committee
- Participation in the Lowell Junction/I-93 Task Force
- Participation in the I-93 Transit Investment Study Advisory Committee
- Participation in the Downtown Lowell Circulation Study Advisory Committee
- Participation in the City of Lowell's Climate Action Plan Committee
- Participation in the MassDOT/MARPA quarterly meetings
- Past review and processing of regional transportation enhancement applications
- Past review of TDM and TMA funding applications
- Assistance to the City of Lowell on TIGER Grant Implementation
- Assistance to the National Park Service on Public Lands grants and Transit in the Park grants

PRODUCTS:

- Technical assistance, reports, memoranda, workshops, as appropriate
- Updated certification documents
- MPO meeting notices and minutes
- Press releases, newsletters and other public information materials

SCHEDULE:

Work Item	10/ 22	11/ 22	12/ 22	01/ 23	02/ 23	03/ 23	04/ 23	05/ 23	06/ 23	07/ 23	08/ 23	09/ 23
3C Process Activities (Ongoing)	—————▶											

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$99,001	1,024
MassDOT PL/5303 Match	\$24,750	256
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$123,752	1,280

OBJECTIVE:

To prepare and maintain a [Unified Planning Work Program \(UPWP\)](#) that describes all transportation and transportation related planning activities anticipated within the region during the upcoming year, in accordance with applicable federal, state, and regional regulations and guidelines. The UPWP will be developed in accordance with the Northern Middlesex Public Participation Plan (PPP), as well as Title VI, Environmental Justice, and Executive Order 13166, improving access to services for Limited English Proficiency (LEP). The UPWP will maintain a performance and outcome-based program that makes progress toward the identification and achievement of performance goals in the following national goal areas, as outlined in the BIL:

- Safety;
- Infrastructure;
- Congestion reduction;
- System reliability;
- Freight movement and economic vitality;
- Environmental sustainability; and
- Reduced project delivery delays.

PROPOSED ACTIVITIES:

1. Develop a new UPWP for the region for the upcoming year. The UPWP will be reviewed in accordance with the MPO's adopted public participation plan. The UPWP will also be available to the public via the NMCOG website www.nmcog.org and social media outlets.
2. Review and amend, as necessary, relevant portions of the UPWP in order to meet federal planning requirements or to address changes in funding levels or federal emphasis area.
3. Circulate proposed revisions to appropriate agencies for review and/or endorsement. Amendments to the UPWP shall follow the formal MPO endorsement process. Minor revisions, such as changes to the existing level of effort or addition/deletion of tasks and procedures within the current contract/grant, may be made as an administrative adjustment with the mutual consent of the contractor and FHWA. An administrative adjustment will not require a formal MPO endorsement.
4. Evaluate analysis methods and explore enhanced measures to ensure regional equity in UPWP funding.
5. Monitor progress of UPWP tasks throughout the work program year.
6. Develop monthly, and annual UPWP progress reports, as required by State and Federal partners.

PREVIOUS WORK:

- Past Unified Planning Work Programs

PRODUCTS:

- Amendments/adjustment to the current UPWP as necessary
- UPWP for the next program year (FFY 2023)
- Monthly and Annual UPWP Progress Reports

SCHEDULE:

It is anticipated that the draft FFY 2023 UPWP will be completed and released for public review and comment in May 2022 and that the final document will be endorsed by the MPO in June 2022.

Work Item	10/21	11/21	12/21	01/22	02/22	03/22	04/22	05/22	06/22	07/22	08/22	09/22
Monitoring of UPWP Projects	→											
Public Outreach	→											
Draft UPWP							→					
Final UPWP								→				
Public Comment Opp.								●				

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$29,596	266
MassDOT PL/5303 Match	\$7,399	67
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$36,996	333

OBJECTIVE:

To provide the public with complete information, timely notification, full access, input relative to key decisions, and opportunities for early and continual involvement in the 3-C process. To assess the effectiveness of the current public participation process and to develop and enhance the process of regional public involvement, supporting the objectives of the BIL and the metropolitan planning regulations. All public participation and outreach efforts shall be conducted in accordance with USDOT guidance regarding Title VI and environmental justice. NMMPO staff will continue to participate in the transportation planning process of other regions subject to the Boston Urbanized Area MOU and the Nashua Urbanized Area MOU. This includes attendance at and participation in the Regional Transportation Advisory Council meetings for the MPOs within the two urbanized areas pursuant to the 2019 and 2020 MOUs, as well as the sharing of notices, reports, and other materials. COVID-19 brought changes to how public participation is conducted in the Commonwealth. A moratorium on in-person meetings has led to a significant change in how the MPO interacts with the public. In this UPWP, the MPO will continue to update the [2017 Public Participation Plan](#) to reflect virtual public engagement opportunities and processes that have been implemented since March 2020.

PROPOSED ACTIVITIES:

1. Update the regional [Public Participation Plan](#) to include virtual public engagement and guidance from the State Public Participation Plan. Publicize any proposed changes to the public and encourage input/comments on revisions.
2. Apply the public participation process to transportation programs and tasks: prepare for public meetings, attend public meetings, and inform and educate the public relative to transportation issues.
3. Continue to identify and reach out to underserved/underrepresented groups and improve outreach efforts, offering materials and web site access in accessible formats in order to meet Title VI, environmental justice, and LEP requirements. Periodically attend meetings of organizations representing the underserved/underrepresented community as a means of gathering input.
4. Continue engagement of local and regional groups and organizations and encourage both public and private participation in the transportation planning process through the following tasks provided in the Northern Middlesex Public Participation Plan:
 - Publicize meetings of the Northern Middlesex MPO, the Northern Middlesex Council of Governments, and opportunities for public input and comments via newspaper notices, City/Town Clerk postings, the NMMPO mailing list, the NMCOG website, and social media.
 - Announce and provide draft documents for public comment and review on the NMCOG website in an accessible format.
5. Continue to apply new and innovative approaches to improve public participation levels and opportunities including social media and virtual public meetings.
6. Engage the public on the transportation planning process through the social media platforms Instagram and Twitter as well as the MPO distribution list.
7. Present certification documents and amendments and/or adjustments to the public for input/comments.
8. Continue outreach efforts to local and regional communities and organizations, including the Coalition for a Better Acre, the Cambodian Mutual Assistance Association, UTEC, and the International Institute.

PREVIOUS WORK:

- Amendment of the Public Participation Plan to reduce public comment periods for TIP, UPWP, and RTP from 30 to 21 days
- Development of the revised Public Participation Plan
- Public review processes for UPWP, TIP, and the Regional Transportation Plan
- Outreach efforts to minority and low-income groups
- Amended the Public Participation Plan to allow for an abbreviated public review and comment period for the TIP when extraordinary circumstances arise
- Maintained updated MPO information on the NMCOG webpage
- Maintained social media sites such as Twitter, Instagram, and Facebook

PRODUCTS:

- Updated public participation plan
- Public meeting notices, public meetings and meeting minutes
- Website and social network maintenance and updates

SCHEDULE:

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Public Participation Activities (Ongoing)	←—————→											
Draft PPP		————→										
Final PPP			————→									
Opportunity for Public Comment					●							

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$33,946	314
MassDOT PL/5303 Match	\$8,486	79
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$42,432	393

OBJECTIVE:

NMMPO staff is responsible for annually developing, adjusting, and maintaining the [Transportation Improvement Program \(TIP\)](#) for the region. The TIP is a multi-year document that lists and briefly describes all federally funded transportation projects that are likely to be implemented in the region. Any project that proposes to use federal funding must appear in this document, and any project that may be implemented in the current fiscal year must appear in the Annual Element.

Under this activity, NMMPO staff will refine a multi-year program of transportation improvements that is consistent with the [Regional Transportation Plan](#); the [State Implementation Plan](#); EPA Air Quality Conformity Regulations; FHWA/FTA Planning Regulations; and the Memorandum of Understanding among Massachusetts State and Regional officials to define, develop, and monitor a balanced statewide road and bridge program. The TIP will conform to the federal requirement to produce a financially constrained document.

Each TIP project will be evaluated using the Transportation Evaluation Criteria utilized by the NMMPO and based on NMMPO adopted performance measures and targets. Project priorities will be generated accordingly.

The TIP will be distributed and circulated in accordance with the Northern Middlesex regional Public Participation Plan. The document will be available on the NMCOG website: www.nmcog.org and distributed via a MPO email contact distribution list and social media.

PROPOSED ACTIVITIES:

1. Solicit the submittal of candidate transportation improvement projects from municipalities, MassDOT Highway Division, LRTA, and other transportation providers.
2. Work with the MPO partners to prioritize projects using the Transportation Evaluation Criteria as appropriate.
3. Develop a multi-year TIP that includes all transit, highway, or air quality projects that are expected to require federal and state transportation funding for design, engineering, construction or acquisition. Project descriptions shall be of sufficient detail to permit air quality analysis in accordance with EPA conformity requirements.
4. Present air quality conformity findings for both highway and transit projects with sufficient levels of analysis and documentation to satisfy requirements of the Metropolitan Planning Regulations under the BIL.
5. Revise and amend the TIP as needed in cooperation with federal, state, and local officials.
6. Conduct appropriate public participation for the TIP consistent with the public participation plan for the region and in compliance with Title VI and environmental justice requirements.
7. Present the TIP document to the MPO for endorsement.
8. Produce and distribute TIP documents to federal, state, and local entities.
9. Attend regular meetings with MassDOT staff from the District offices to exchange information regarding TIP projects.
10. Coordinate with MassDOT on conformity of the NMMPO TIP to the Statewide Transportation Improvement Program (STIP) and the Capital Investment Plan (CIP).
11. Evaluate analysis methods and explore enhanced measures to ensure regional equity in TIP funding.

PROPOSED ACTIVITIES CONTINUED:

- 12. Educate and support member communities on the TIP development process and advancing local projects through initiation and design.

PREVIOUS WORK:

- Past Transportation Improvement Programs
- Memorandum of Understanding among Massachusetts State and Regional officials to define, develop, and monitor a balanced statewide road and bridge program
- 2019 MOU for the Boston Urbanized Area
- Refinement of the Transportation Project Evaluation Criteria

PRODUCTS:

- FFY 2024-2028 Transportation Improvement Program
- TIP Amendments and Adjustments as needed

SCHEDULE:

It is anticipated that the draft FFY 2024-2028 TIP will be completed and released for public comment in April 2023 and that the final document will be endorsed by the MPO in May 2023.

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Monitoring of TIP Projects	←————→											
Public Outreach	←————→											
Draft TIP						←————→						
Final TIP								←————→				
Public Comment Opportunity							●					

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$52,850	461
MassDOT PL/5303 Match	\$13,212	115
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$66,062	576

OBJECTIVE:

To integrate the basic principles of Title VI and Environmental Justice into the 3-C transportation planning process. Under the Civil Rights Act of 1964 and Executive Order 12898, MPOs are required to:

- Ensure that the all MPO related activities, specifically the TIP and the Regional Transportation Plan, comply with Title VI and Executive Order 12898, Environmental Justice;
- Take the steps necessary to ensure that the transportation public involvement process contains no barriers to minority and low-income groups; and
- Attend training seminars and workshops regarding environmental justice.

PROPOSED ACTIVITIES:

1. Continue to coordinate with MassDOT Office of Civil Rights to improve how Title VI is implemented.
2. Address Environmental Justice requirements in the preparation of certification documents and in the conduct and preparation of various transportation planning studies and activities, as required under federal guidance and regulations.
3. Attend training seminars and workshops regarding environmental justice.
4. Review existing information relative to Environmental Justice/Title VI activities of the NMMPO, LRTA, and NMCOG to ensure compliance of the certification documents with current guidance and regulations.
5. Analyze Census Data and the latest available race and income data and update the Environmental Justice areas in the region accordingly.
6. Evaluate projects for environmental justice impacts as part of the RTP/TIP/transportation evaluation criteria application processes.
7. Evaluate and assess methods used to determine regional equity of TIP projects and UPWP activities. As part of the process, staff will collect and map data on vulnerable populations based on income, race, color, national origin, disability, age, and sex.
8. Maintain NMCOG website so that documents are available in alternative languages, including Khmer, Portuguese, Spanish, Vietnamese, and Chinese, which are the current Safe Harbor languages for the region.
9. Prepare Title VI documents and updates to the [Title VI Plan](#) in accordance with the latest regulations and state and federal policies.
10. Post Title VI updates to the NMCOG website.
11. Revise the MPO's public participation plan to reflect any change in state and federal regulations and policies.
12. Update the [LEP Plan](#), as needed.
13. Work with MassDOT Office of Civil Rights to revise the MPO's Title VI complaint process, ensuring that accurate procedures are utilized, information is current, practices meet state and federal requirements, and that the process is focused on resolution.
14. Ensure that complaint forms are available in Safe Harbor languages.

PREVIOUS WORK:

- Environmental Justice analysis for the LRTA Transit Service Plan
- NMMPO and LRTA Title VI Review and Certification
- NMMPO/LRTA Annual Title VI Update Reports

TASK 2 TECHNICAL SUPPORT AND DATA COLLECTION

This element describes technical assistance and data collection activities to be undertaken in support of transportation planning tasks. BIL guidelines continue FAST Act requirements for the development of performance measures in order to achieve targets set forth for national goal areas. These goal areas include the following:

- Safety,
- Infrastructure Condition,
- Congestion Reduction,
- System Reliability,
- Freight Movement and Economic Vitality,
- Environmental Sustainability, and
- Reduced Project Delivery delays.

Activities within this task will support the tracking and analysis of performance related data and criteria.

TASK 2.1 TRAFFIC COUNTING

OBJECTIVE:

Consistent with national goals, the traffic counting program addresses continued monitoring of the transportation network. The objective of the program is to provide accurate and efficient traffic data collection services to MassDOT and the local communities. The program maintains an ongoing region-wide traffic count database for use in monitoring regional VMT growth rates. Whenever possible, the FHWA Traffic Monitoring Guide procedures are followed. Traffic monitoring will focus on all modes of transportation with motor vehicle, bicycle, and pedestrian counts collected at key locations throughout the region. NMMPO traffic counting data collection efforts generally run from April through November, depending on weather conditions and holidays. The [Northern Middlesex Traffic Volume report](#) is developed annually.

In 2020, NMMPO staff developed a modified traffic monitoring program in response to changing travel patterns due to the COVID-19 pandemic. The program was put on hold until July due to stay-at-home orders and decreased travel. The program was reassessed by the MPO and MassDOT in light of the COVID-19 impacts on transportation. In an effort to track traffic volumes and the anticipated economic recovery from the pandemic, staff identified 12 regional locations to monitor on an ongoing basis. This effort continued during the 2021 traffic-counting season. The 2022 season, which continues into the FFY 2023 UPWP timeline, moves back toward a more conventional approach to traffic monitoring as levels continue to rise to pre pandemic conditions.

PROPOSED ACTIVITIES:

1. Monitor 12 identified locations during the 2022 and 2023 traffic counting seasons to determine how regional traffic patterns have been affected by the ongoing COVID-19 pandemic. Summary of work will be included in the [Annual Traffic Volume Report](#).
2. Prepare documentation and attain permits for traffic counting activities on State-owned roadways in Districts 3 and 4.

PROPOSED ACTIVITIES CONTINUED:

3. Test and maintain traffic counting equipment, update software, and inventory needed supplies.
4. Collect minimum 48-hour traffic count volumes at locations requested by MassDOT as part of the State Coverage Count program.
5. Collect traffic count data for the regional coverage count program and for community requested locations.
6. Compile and upload all traffic count data to MassDOT MS2 interactive database and maintain NMCOG databases.
7. Assist in the development of traffic count adjustment factors and growth rates.
8. Assist communities in development of projects by providing background traffic volume and growth rate data.
9. Perform data collection activities for other UPWP tasks, including corridor and traffic studies.
10. Collect bicycle and pedestrian counts as part of all turning movement counts and at high volume locations, such as the Bruce Freeman Rail Trail, Nashua River Rail Trail, and downtown Lowell locations.
11. Prepare Annual Traffic Volume Report and present the report to the NMCOG Council and NMMPO.

PREVIOUS WORK:

- Collection of historical traffic count data
- Previous Traffic Volume reports

PRODUCTS:

- 2022 Annual Traffic Volume Report for the region
- Traffic count data for various UPWP tasks as needed
- Traffic Volume growth rates, truck percentages, high volume locations, and bike/ped counts
- Regional and MassDOT coverage counts

SCHEDULE:

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Data collection	←→						←→					
Data analysis	←→											
Final Report				←→								
Presentation to MPO							●					

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$52,582	651
MassDOT Match	\$13,146	163
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$65,728	814

TASK 2.2 GEOGRAPHIC INFORMATION SYSTEM (GIS)

OBJECTIVE:

To continue to develop and maintain digital geographic information system data, increase access to regional databases, improve spatial analytical capabilities, and exchange and distribute map data. A strong emphasis will be placed on providing visual information and interpretation to enhance the public’s understanding of complex transportation issues and to facilitate informed decision-making.

PROPOSED ACTIVITIES:

1. Continue staff training and develop data, maps, and other graphic displays to help facilitate an exchange of information.
2. Continue to use GIS technology in the conduct of various transportation planning tasks.
3. Enhance existing digital map data and develop additional geographically referenced data layers for use in transit service analysis, land use analysis, build out analysis, evaluation of highway alternatives, and bicycle and pedestrian initiatives.
4. Create work maps, report graphics, and presentation materials using GIS.
5. Work with local communities to improve existing base maps and to acquire additional digital map data.
6. Ongoing maintenance and updating of parcel level mapping.
7. Work with state and federal agencies to review, correct, and enhance regional GIS map coverage and related data to meet state standards.
8. Maintain interactive transit route and asset maps (i.e. stops, signage, routes and stop times). Revise the transit route map as needed.

PREVIOUS WORK:

- Development and maintenance of parcel level coverage for NMCOG communities
- Development and maintenance of GIS program
- Preparation of various maps and graphics for transportation reports and programs
- Development of interactive transit route maps

PRODUCTS:

- New expanded and enhanced digital layers and data files
- Transportation planning maps and graphics for reports and presentations
- Databases, data layers, etc., in conformance with State standards

SCHEDULE:

Work Item	10/ 22	11/ 22	12/ 22	01/ 23	02/ 23	03/ 23	04/ 23	05/ 23	06/ 23	07/ 23	08/ 23	09/ 23
GIS (Ongoing)	←											→

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$86,794	958
MassDOT PL/5303 Match	\$21,698	24
LRTA 5307	\$10,000	110
NMCOG 5307 Match	\$2,500	27
Total	\$120,992	1,335

OBJECTIVE:

To continue to develop and maintain extensive databases for use in decision-making relative to regional transportation issues. To improve analytical capabilities, monitor statistical trends, and develop projections.

PROPOSED ACTIVITIES:

1. Coordinate with MassDOT and municipalities to collect and report on asset management data collection activities. This task will coordinate with efforts that are included in other tasks. For example, Master Plan efforts will be reported here in addition to the Local Technical Assistance task.
2. Continue to work with communities to compile data on affordable housing locations in the regions in conjunction with housing production plans.
3. The BIL recommends linkages between land use, housing, and transportation goals. Activities in this task will look to supplement a future Housing Coordination Plan.
4. Continue to coordinate with municipalities in development of community-specific plans, including Master Plans and land use, hazard mitigation, climate, municipal vulnerability, affordable housing, and transportation plans.
5. Continue to collect useful and current data. Update and expand demographic data, employment data, workforce data, and land use information.
6. Continue to build databases and develop mechanisms to improve public access to these databases.
7. Research methodologies and models for calculating demographic, land use, and economic forecasts.
8. Promote coordination and cooperation among data generators and data users emphasizing local and regional applications and the need for standardization.
9. Serve as the principal regional liaison to the U.S. Census Bureau. Continue to analyze, aggregate, and disseminate updated demographic data as it is made available.
10. Assist the Census Bureau and the Donahue Institute in collecting relevant demographic data for development of Census estimates.
11. Compile data needed for transportation and transit studies.
12. Assist MassDOT, as needed, in the refinement and maintenance of the statewide travel demand model, incorporating the latest demographic data, land use assumptions, and project information.
13. Work with adjoining regions, MassDOT, and consultants relative to the development of travel demand models created for specific transportation projects.
14. Analyze ACS and 2020 Census data as it is released by the Census Bureau.
15. Work with federal, state, and regional partners on refinement of new urbanized area boundaries based on 2020 Census information.

PREVIOUS WORK:

- Maintenance of on-going updates to the demographic, land use, and economic databases
- Maintenance of on-going LRTA transit ridership information, including passenger trips, passenger miles, route miles, vehicle information, etc., as required by the FTA National Transit Data systems
- Compilation of data needed for technical analyses relative to various transportation and transit studies
- Demographic forecasts for use in the statewide model, air quality conformity analyses, and the Regional Transportation Plan
- Monitoring and reporting of demographic and land use trends and projections

TASK 2.4 TRANSIT SYSTEM PERFORMANCE SURVEILLANCE

OBJECTIVE:

To maintain a current database for the region’s transit system in order to provide an accurate basis for future forecasting, planning and program analysis and project evaluation. The three-year National Transit Database (NTD) ridership survey will be undertaken, to determine passenger mileage data for both fixed route and demand response services. Performance measures and threshold criteria will be reviewed and analyzed in accordance with State and Federal guidelines. Adjustments to bus route alignments will be proposed to reflect changes in local demographics.

PROPOSED ACTIVITIES:

1. Produce daily ridership samples for three-year NTD passenger reporting data.
2. Assemble and analyze monthly ridership and revenue reports and quarterly monitoring reports.
3. Provide an annual summary report of ridership and revenues.
4. Prepare information as needed for FTA reports, SIP submissions, American Public Transit Association reports, MassDOT reports, and other routine reporting.
5. Analyze transit performance in accordance with the State and Federal criteria.
6. Review the LRTA’s Transit Asset Management Plan and Public Transportation Agency Safety Plan and present to the MPO for adoption of updated performance measures and targets.
7. Maintain and update bus stop and route data in accordance with MassDOT and LRTA guidelines.

PREVIOUS WORK:

- Prepared NTD reports annually as required
- Prepared Title VI certifications as needed

PRODUCTS:

- Up-to-date ridership/revenue statistics for LRTA
- Information for federal and state reporting requirements
- Maintenance of Title VI certification

SCHEDULE:

Work Item	10/ 22	11/ 22	12/ 22	01/ 23	02/ 23	03/ 23	04/ 23	05/ 23	06/ 23	07/ 23	08/ 23	09/ 23
Transit Surveillance (Ongoing)	←											→

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$40,445	336
MassDOT PL Match	\$10,111	84
LRTA 5307	\$15,500	129
NMCOG 5307 Match	\$3,875	32
Total	\$69,931	581

OBJECTIVE:

To assist in the development of performance measures in the transportation planning process as directed by Federal and State requirements outlined in the BIL. MAP-21 transformed the US highway program into a more performance- and outcome-based program in which resources are invested to achieve targets that collectively reach national goals concerning safety, infrastructure, congestion, system reliability, freight movement and economic vitality, environmental sustainability, and project delivery delays. This process was continued in the FAST Act and now the BIL. The establishment of performance measures at the regional level is undertaken in conjunction with MassDOT in the following areas:

- Pavement Condition on the Interstate System and on remainder of the National Highway System (NHS);
- Performance of the Interstate System and the remainder of the NHS – Travel Time Reliability;
- Bridge Condition on the NHS;
- Traffic Safety: fatalities and serious injuries – both number and rate per vehicle mile traveled on all public roads; total non-motorized fatalities and serious injuries;
- Traffic Congestion;
- On-road mobile source emissions; and
- Freight movement on the Interstate System – Truck Travel Time Reliability and % mileage uncongested (> 50mph).

FHWA released Final Rules establishing performance measures regarding safety, pavement condition, bridge condition, the National Highway System, freight movement, congestion, and Congestion Mitigation Air Quality (CMAQ). MassDOT then established performance targets for each national performance measure outlined in the rulemakings. The NMMPO then worked with MassDOT and our regional partners to establish regional targets, either adopting state targets or developing new goals. The NMMPO has adopted the MassDOT pavement, bridge condition, NHS performance, travel time reliability, and air quality performance measures and targets for FFY 2020 and the Safety performance measures and targets for FFY 2022. The NMMPO adopted updated targets for LRTA’s Transit Asset Management Plan (TAM) in January 2022. In December 2020, the NMMPO adopted the LRTA Public Transportation Agency Safety Plan, which included safety performance measures and targets for fixed route fleet. The MPO will consider updates to PTASP targets as part of this work program as updates are scheduled to be presented to the LRTA Board in June 2022 and the MPO will then have 180 days to consider.

PROPOSED ACTIVITIES:

1. Assist in continued development of performance measures as part of planning process.
2. Assist in updating of targets for performance measures.
3. Coordinate with FHWA, FTA, MassDOT, and other MPOs on the refinement of set performance measure criteria.
4. Monitor specific planning tasks for progress in achieving targets.
5. Coordinate with the Lowell Regional Transit Authority on asset management, transit safety, and state of good repair measures.

TASK 3 REGIONAL TRANSPORTATION PLANNING

Specific tasks in this grouping address the National Goal areas and performance measure requirements under BIL guidelines. Management programs are included in this category. These work tasks will be coordinated with MassDOT Office of Transportation Planning, MassDOT District offices, and local communities.

TASK 3.1 REGIONAL PAVEMENT MANAGEMENT

OBJECTIVE:

The USDOT national goal area “Infrastructure Condition” is addressed under this task. Objectives include continuing pavement data collection and analysis for the Northern Middlesex region’s Federal Aid eligible roadway network. Based on data collected and the utilization of pavement management software, staff will calculate the cost of maintaining the Region’s roadways and provide an assessment of long-term roadway maintenance needs. This data is included in the [Regional Transportation Plan](#) and in planning studies. Pavement condition data will be collected for UPWP studies, TIP projects, and those projects being proposed to the Project Review Committee for approval and funding. This data is used in the application of transportation evaluation criteria utilized in project prioritization.

PROPOSED ACTIVITIES:

1. Collect roadway condition information including but not limited to ride, distress, and rutting conditions that adversely impact surface friction.
2. Analyze segment condition, including the calculation of remaining service life rating and benefit/cost analysis using IWorQ software.
3. Prepare an annual report on pavement management activities to be included in the Regional Transportation Plan and on the NMCOG website.
4. Coordinate with MassDOT on meeting pavement management data needs for projects going to the PRC and for TIP projects to which the transportation evaluation criteria will be applied.
5. Participate in the TMG Data Users Group to share ideas and information with other MPOs in the Commonwealth.
6. Coordinate with MassDOT and other MPO’s to consider group purchase of pavement management software.

PREVIOUS WORK:

- Past inventory and assessment of pavement conditions for pavement management program
- Pepperell Pavement Inventory Report 2019
- FFY 2020-2040 Northern Middlesex Regional Transportation Plan
- FFY 2016-2040 Northern Middlesex Regional Transportation Plan
- FFY 2012-2035 Northern Middlesex Regional Transportation Plan

PRODUCTS:

- Updated NMCOG Pavement Management database
- Pavement Management data for inclusion in the Regional Transportation Plan and studies
- Data for application of the transportation evaluation criteria

OBJECTIVE:

Safety has been identified as an emphasis area by the Federal Highway Administration and is supported through the planning factors contained in the BIL. Staff will continue with safety monitoring for all users of the transportation network throughout the region reporting on top crash locations in the region for vehicles, public transit, pedestrians, and bicyclists. In development of an annual [Traffic Safety report](#), the NMMPO identifies future locations for performing Road Safety Audits so that Highway Safety Improvement Program (HSIP) funding may be sought through the Transportation Improvement Program (TIP). NMCOG staff will continue to examine safety and operating conditions at high hazard intersections identified in the Region. Transit safety review and reporting is conducted by staff on a monthly basis. The LRTA's Public Transportation Agency Safety Plan was adopted by the MPO in 2020, and staff continue to work with the LRTA to update the Plan on an annual basis. The next LRTA Board consideration of Transit Safety plan targets is being held in June 2022. The MPO then has 180 days to consider adoption of updated targets.

As part of this task, the NMMPO will continue to provide assistance in the planning and development of local, state, regional, and federal transportation security and emergency response plans. This effort includes planning work needed to protect critical infrastructure and services, including transit, which may be subject to various threats, including pandemics, natural disasters, and terrorism.

PROPOSED ACTIVITIES:

1. Further develop performance measures for vehicle, bicycle, and pedestrian safety as outlined in Federal legislation. Consider adoption and incorporation of LRTA PTASP measures and target updates.
2. Assist in Road Safety Audits to fulfill Federal guidelines for using HSIP funds.
3. Assist in development of improvement strategies for HSIP locations to correct safety and operating deficiencies.
4. Update the [regional traffic safety report](#) (top 100 crashes).
5. Continue to assist MassDOT in updating and implementing the [Strategic Highway Safety Plan \(SHSP\)](#) and the Highway Safety Program.
6. Participate in the TMG Data Users Group to share ideas and information with other MPOs in the Commonwealth.
7. Provide Safety Education materials for all vulnerable users of the transportation system.
8. Assist, as appropriate, local emergency planning committees (LEPCs), Massachusetts Emergency Management Agency (MEMA), Federal Emergency Management Agency (FEMA), the US Department of Transportation (USDOT), the Department of Homeland Security (DHS), and the Executive Office of Public Safety and Security (EOPSS), State 911 Department, and law enforcement organizations with comprehensive emergency management plans.
9. Provide technical assistance to State and local emergency planning agencies to support evacuation planning such as traffic counts, roadway capacity, planned highway construction, maps, and other such data necessary to facilitate the evacuations in an emergency.
10. Review current plans for emergency planning and security elements, identifying critical facilities and infrastructure. Outline the roles of various agencies.
11. Utilize Environmental Justice analysis from Task 1.5 to ensure the needs of vulnerable populations are adequately addressed in emergency response and evacuation plans.

PROPOSED ACTIVITIES CONTINUED:

12. Attend training seminars and workshops regarding disaster planning and regarding transportation safety and security.
13. Participate in meetings of LEPCs and emergency management agencies as a Northern Middlesex Council of Governments (NMCOG) and Lowell Regional Transit Authority (LRTA) representative.
14. Prepare and update the LRTA's COOP Plan as needed.

PREVIOUS WORK:

- FFY 2021 Regional Transportation Safety Report
- Analysis of high crash intersections
- 2020-2040 Regional Transportation Plan
- Previous corridor and traffic studies
- An Assessment of Traffic Safety Conditions in the Northern Middlesex Region (2002-2004)
- The Top 100 High Crash intersections in the Northern Middlesex Region (2004-2006)
- The Top 100 High Crash intersections in the Northern Middlesex Region (2006-2008)
- The Top 100 High Crash Intersections in the Northern Middlesex Region (2008-2010)
- The Top 100 High Crash Intersections in the Northern Middlesex Region (2010-2012)
- 2017 Northern Middlesex Regional Transportation Safety Report
- Various roadway safety audits performed in conjunction with MassDOT
- Past High Crash Intersection Reports
- Participation and attendance in meetings of the LEPCs and emergency management agencies
- Work on FEMA/MEMA Hazard Mitigation Plans and Homeland Security Planning
- Work with Executive Office of Public Safety and Security on the implementation of the goals contained in the Statewide Security Strategy
- Technical assistance to LRTA for the preparation and update of the Coordinated Organization Operations Plan (COOP)

PRODUCTS:

- FFY 2023 Regional Transportation Safety Report
- Updated PTASP performance measures and targets
- Roadway Safety Audits, as appropriate
- Future coordination with the local communities and MassDOT to advance identified safety improvements
- Assistance in the development of transportation security and emergency response plans
- Attendance at meetings, seminars and workshops related to emergency planning
- Updated COOP Plan, as needed

OBJECTIVE:

To continue the Congestion Management Process for the Northern Middlesex region, providing effective management of transportation facilities through the use of travel demand reduction and operational management strategies. Identify and evaluate bottlenecks impacting congestion in the region. Assess the region's system performance by analyzing data based on travel time reliability, truck travel time reliability, peak hour excessive demand, and non-single occupancy vehicle performance measures and targets. Staff will continue to utilize available RITIS data sets to assess regional performance and prioritize regional TIP projects.

The COVID-19 pandemic brought new congestion issues to light as travel demand decreased significantly in March of 2020 due to the stay-at-home order and State of Emergency announcement from the Governor. Staff continue to work with member communities, regional partner agencies, MassDOT, FHWA, and FTA to assess the lasting travel demand impacts of the pandemic. The TMG Data Users Group was to discuss data collection and analysis efforts at the MPO/RPA level, and staff continues to participate.

PROPOSED ACTIVITIES:

1. Continue to monitor congestion levels throughout the region. The COVID-19 pandemic is currently affecting the travel throughout the Commonwealth. Staff will continue to monitor and adjust programs based on guidance from Federal and State partners.
2. Refine congestion management performance measures and targets as part of FAST Act regulations.
3. Compile data on arterial corridors identified through UPWP studies, environmental reviews, and the Regional Transportation Plan.
4. Monitor congested corridors using RITIS travel time and delay data.
5. Monitor park and ride/MBTA lots in Lowell, North Billerica, and Tyngsborough on a quarterly basis. Identify current regional park and ride locations in member communities. Work with the LRTA, MBTA and MassDOT to share park and ride data.
6. Continue to address regional top bottleneck locations, recommending low cost improvements and identifying potential TIP projects.
7. Continue to monitor and assess ridership information for high ridership transit routes.
8. Work with local communities to identify possible mitigation strategies for congested locations.
9. Assess effectiveness of potential ITS strategies.
10. Participate in the TMG Data Users Group.

PREVIOUS WORK:

- Previous Congestion Management Plans
- 2020-2040 Regional Transportation Plan
- LRTA Transit Service Plan
- LRTA 21st Century Transit Initiative
- Route 3 Park and Ride Lot Feasibility Report
- Various corridor and traffic studies
- NTD Reporting Data
- Traffic impact studies for various development projects throughout the region

TASK 3.3 (CONTINUED): REGIONAL CONGESTION MANAGEMENT/SYSTEM PERFORMANCE

PRODUCTS:

- Updated CMP system performance data
- Updated regional Park and Ride lot Inventory
- LRTA Fixed Route Ridership monitoring

SCHEDULE:

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Data collection	←→					←→						←→
Data analysis/Update	←→											

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$22,464	236
MassDOT PL/5303 Match	\$5,616	59
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$28,080	295

OBJECTIVE:

The objective of this task is to update the Northern Middlesex Regional Transportation Plan as required by the BIL. Every four years the NMMPO updates this plan by identifying the transportation system's strengths and weaknesses, forecasting changes in population, land use, employment and households, and creating recommendations to address existing and future transportation needs. The resulting long range planning document identifies federal funding for regional transportation projects and serves as a guide for capital investment. The Northern Middlesex Metropolitan Planning Organization endorsed the previous update to the RTP in 2019. The NMMPO will vote to endorse an updated plan in Spring 2023.

The updated Regional Transportation Plan will be one that:

1. Complies with all applicable environmental and planning regulations;
2. Furthers the statewide smart growth and sustainable development policies;
3. Offers multimodal strategies to address the region's transportation needs;
4. Fosters economic development in the Northern Middlesex region;
5. Is financially constrained to available and projected funding sources;
6. Reflects the NMMPO's goals and policies;
7. Addresses the national goal areas outlined in BIL;
8. Complies with Performance Measure requirements as outlined in BIL legislation;
9. Consider the impacts that the region's transportation infrastructure and transportation services have on Climate Change;
10. Complies with Title VI, Environmental Justice, and Executive Order 13166, Access to Services for Persons with Limited English Proficiency.

PROPOSED ACTIVITIES:**TRANSPORTATION PLANNING FRAMEWORK**

- **Development of goals and objectives of the Plan:** The NMMPO will develop and update regional goals and objectives, reflecting transportation planning factors outlined in the BIL. Goals of the plan will be developed using a performance based planning approach to gauge progress toward addressing identified needs.
- **Public Participation Process:** The NMMPO will conduct an extensive outreach process to solicit public comments. Activities will include development of surveys to both municipal staff and residents of the region, regional public meetings, and meetings with neighborhood organizations and stakeholders, in accordance with the NMMPO endorsed Public Participation Plan. The Northern Middlesex Council of Governments (NMCOG) will discuss the Plan updates at Council meetings, given that Council members include chief elected officials and planning board members from each respective community. NMCOG's participation will offer the NMMPO considerable insight into local transportation issues and priorities.
- **Role of the NMMPO:** Discussion of the role of the NMMPO in transportation policy, planning, and investment decision making.

CURRENT TRANSPORTATION SYSTEM – CURRENT CONDITIONS AND NEEDS ASSESSMENT

- **Existing and Projected Demographic and Economic Conditions:** Work on this activity began in FFY 2022 with the MPO Socioeconomic Projections Committee, which was tasked with development

of population, employment, and household projections to the year 2050. Community and regional economic conditions will be evaluated through review of economic development plans and strategies.

- Land Use and Commuting Patterns: Staff will update journey to work information to evaluate where Northern Middlesex residents work and analyze travel patterns of those employed in the region.
- Existing Transportation System Needs: This task will include the review and update of existing conditions as documented in the 2020 Regional transportation Plan. This review will include overview of the regional transportation system by mode, including highways and bridges, public transportation, and bicycling and walking. As this plan takes a performance based approach to achieving set goals, this section will evaluate goal areas including but not limited to traffic safety, travel time reliability and peak hour excessive delay, bridge and infrastructure performance, environmental needs and transportation equity.

DEVELOPMENT OF THE REGIONAL TRANSPORTATION PLAN

- Recommendations of the Plan: The NMMPO will develop recommendations for projects and programs designed to best address regional transportation needs, while focusing on the preservation and maintenance of the transportation system. Recommendations will be developed based on comments received during public outreach, review of existing plans, studies and capital programs, projects identified through evaluation of data, and consultation with state and local representatives.
- Financial Constraint: Staff will work with MassDOT, FHWA and FTA to develop a financial plan to address the needs of the regional transportation system based on anticipated federal revenue and cost estimates of recommended projects.
- Preparation of Draft and Final Regional Transportation Plan: Staff will prepare a proposed draft NMMPO Regional Transportation Plan in Spring 2023. The release for a public comment will require a vote by NMMPO members. Comments received will be considered by the NMMPO prior to voting on endorsement of the Final 2024 Regional Transportation Plan. Once endorsed by the NMMPO, the final Plan will be submitted to MassDOT, FHWA and FTA.

PREVIOUS WORK:

- 2020-2040 Regional Transportation Plan
- 2016-2040 Regional Transportation Plan
- 2012-2035 Regional Transportation Plan
- RTP Amendments and updates

PRODUCTS:

- Draft Regional Transportation Plan
- Final Regional Transportation Plan

SCHEDULE:

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Public Outreach (ongoing)	←————→											
Data Collection Activities (Ongoing)	←————→											
Draft Report							←→					
Final Report									←————→			

FUNDING

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$94,960	996
State PL/5303 Match	\$23,740	249
LRTA 5307	\$0	0
NMCOG 5307 Match	\$0	0
Total	\$118,700	1245

OBJECTIVE:

Assist in the maintenance and updating of the Boston/Eastern Massachusetts Regional ITS Architecture in accordance with BIL requirements that all ITS projects funded through the Highway Trust Fund be in conformance with National ITS Architecture and applicable standards. In 2011, MassDOT Office of Transportation Planning led the effort to develop an ITS Architecture for the Region. NMMPO staff continue to participate in the update and maintenance, along with MassDOT and the local communities. The LRTA continues work on ITS activities including the implementation of automatic passenger counters on the fixed route bus fleet, development of an upgraded parking payment system at Gallagher Terminal in Lowell and a review of the cashless fare collection system.

PROPOSED ACTIVITIES:

1. Continue to train and educate staff through ITS workshops and other training opportunities so that staff may assist local stakeholders with the maintenance and update efforts.
2. Continue to work with FTA consultants to address the ITS needs of the LRTA in support of the Regional Architecture through coordination of transit elements with the overall Regional Architecture.
3. Continue to assist in educating key stakeholders, such as local officials and MPO members, regarding ITS and its potential applications in the region.
4. Continue to plan for electrification of the State and regional transportation system as recommended in the Future of the Commonwealth report.
5. Assist in ensuring a seamless transition of ITS activities between the adjacent metropolitan regions.
6. Ensure short- and long-range ITS projects are consistent with the overall transportation planning process, including the Regional Transportation Plan, the Transportation Improvement Program, and the MPO approval process.

PREVIOUS WORK:

- Provided stakeholder input on locations of VMS and traffic cameras included in ITS TIP projects along I-495, Route 3, Lowell Connector, and Merrimack River Bridge Crossings
- Worked with the City of Lowell to identify congested corridors as part of City wide monitoring program
- Attended several workshops and training sessions run by FHWA and MassDOT regarding ITS
- Assisted the LRTA in the development of the Transit Service Plan, which includes an assessment of ITS needs
- Participated in the MassDOT ITS Working Group
- Reviewed and commented on MassDOT initiated ITS architecture plans and documents
- Identification of ITS stakeholders and projects throughout the region
- Development of the Regional ITS Architecture

PRODUCTS:

- Facilitate education and training of ITS stakeholders
- Assistance to MassDOT in maintaining and updating the Regional ITS Architecture
- Preparation of MOUs and other agreements between various ITS stakeholders
- Monitoring ITS projects to ensure consistency with the transportation planning process

OBJECTIVE:

The BIL guidelines prioritize the concepts of sustainability and livability within the transportation planning process. One method for measuring sustainability is to assess transportation programs and projects against existing best practices. FHWA developed a web-based tool called [the Infrastructure Voluntary Evaluation Sustainability Tool \(INVEST\)](#) which covers the full lifecycle of transportation services, including system planning, project planning, design, construction, and operations and maintenance. This tool includes a System Planning for Regions (SPR) module intended for evaluating an agency's programs and a PD module for the evaluation of projects, from early project planning through construction. Although many programs and project development and implementation efforts are already considered to be sustainable, INVEST is focused on "above and beyond" efforts. No points are earned in INVEST for sustainability efforts that are typically required for federally funded programs and projects. In FY 2023, the NMMPO will use this tool to identify areas where it can enhance sustainability.

In addition to the sustainability of projects, the NMMPO will further address livability through climate change monitoring efforts. In March 2021, Governor Baker signed new [climate change legislation](#) calling for the State to achieve net-zero by 2050. The legislation updates the greenhouse gas emissions limits related to the 2008 Global Warming Solutions Act and authorizes the Secretary of Energy and Environmental Affairs to establish an emissions limit of no less than 50% for 2030 and no less than 75% for 2040. It also authorizes EEA to establish emissions limits every five years with specific limits for at least six sectors of the Massachusetts economy - electric power; transportation; commercial and industrial heating and cooling; residential heating and cooling; industrial processes; and natural gas distribution and service. NMMPO staff will work to identify the impacts of transportation projects and programs in the Northern Middlesex region on climate change, and they will implement strategies that help reduce greenhouse gas (GHG) emissions from transportation sources. GHG analysis will be performed for proposed TIP projects using guidance provided by MassDOT. In addition, work under this task will include assessing the impacts of climate change on critical transportation infrastructure, by identifying roadways, bridges and other infrastructure vulnerable to flooding and other climate impacts, such as drought and extreme temperatures. NMMPO staff will work cooperatively with the local communities and the State in developing climate action plans and will work with MassDOT in carrying out state initiatives.

PROPOSED ACTIVITIES:

1. Monitor CMAQ performance measures for reporting to MassDOT and FHWA.
2. Review the NMMPO CMAQ Performance Plan and update as needed.
3. Review MEPA projects and comment on transportation and environmental impacts of proposed developments using the Resilient MA Action Team (RMAT) Climate Resilience Design Standards Tool.
4. Monitor sustainability of projects and programs using FHWA-developed INVEST Tool. Prepare a technical memo on the analysis results.
5. Develop strategies for reducing GHG emissions.
6. Perform GHG analysis on potential TIP projects to report on improvements to air quality and determine eligibility for CMAQ funding.
7. Continue to work with regional partners to improve access to alternative transportation options.
8. Maintain a GIS-based inventory of vulnerable infrastructure in the region.
9. Assist communities and the State in the development of local climate action plans.

TASK 3.6 (CONTINUED): SUSTAINABILITY, LIVABILITY AND CLIMATE CHANGE

PROPOSED ACTIVITIES CONTINUED:

10. Participate in State initiatives to reduce GHG emissions.
11. Coordinate and initiate activities integrating climate change and transportation planning in accordance with MassDOT and FHWA guidance.

PREVIOUS WORK:

- NMMPO CMAQ Performance Plan
- Participation on the City of Lowell’s Climate Action Plan Advisory Committee
- Completion of the region’s Hazard Mitigation Plan and assistance to communities with the MVP Planning process
- Massachusetts’ Clean Energy and Climate Plan for 2020
- Assistance with preparation of MVP Plans and community master plans
- Regional Strategic Plan
- GHG analysis for RTP/TIP projects
- MEPA Project reviews

PRODUCTS:

- Updated inventory of flood hazard areas and vulnerable transportation infrastructure assessment
- Assistance to communities with the MVP Planning Process and the development of Community Master Plans
- GHG analysis of transportation projects
- MEPA Project reviews

SCHEDULE:

Work Item	10/ 22	11/ 22	12/ 22	01/ 23	02/ 23	03/ 23	04/ 23	05/ 23	06/ 23	07/ 23	08/ 23	09/ 23
Sustainability evaluation/ monitoring	←————→											
Identification of CMAQ eligible TIP Projects	←————→											
GHG Analysis of TIP projects				←————→								
Assess vulnerable transportation infrastructure/outline adaptation strategies	←————→											

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$20,160	263
MassDOT PL/5303 Match	\$5,040	66
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$25,200	329

OBJECTIVE:

To provide member municipalities in the Northern Middlesex region with technical assistance on a variety of transportation planning related activities upon request. This task will include studies that municipalities request and subject to guidance from State, Federal, and local stakeholders. This task will also focus on the coordination of land use, housing, economic development, and transportation as recommended in BIL legislation.

PROPOSED ACTIVITIES:

1. Assist Northern Middlesex municipalities with transportation related activities throughout the year. Known projects at this point include:
 - Continued monitoring of regional locations as part of COVID-19 response;
 - Heavy vehicle exclusion study along Ledge Road, Groton Road, Main Street and Dunstable Road in Chelmsford;
 - Continued development and maintenance of the regional trail map;
 - Assistance with Merrimack River Interceptor Trail Improvements;
 - Housing Planning coordination with infrastructure needs, including MBTA Community Zoning Assistance and Housing Production Plan assistance in Dunstable, Lowell and Tewksbury;
 - Master Plan development.
2. Data collection and operational analysis.
3. Assist with the MassDOT project development process.
4. Attendance at local meetings related to transportation issues.
5. Provide review and comment to local, state and federal interests on transportation related documents.
6. Assist with implementation of recommendations derived from UPWP studies.
7. Analyze small-scale transportation problems and solutions.
8. Enhance the MPO's assistance in helping communities advance projects from studies to the MassDOT Project Development Process, including project initiation submissions through the IMPACT portal and guidance on agency coordination.
9. Alert Northern Middlesex Communities to private, state, and federal grant opportunities related to transportation, transit-oriented development, or complete neighborhoods and assist them with applications.
10. Assist communities with compliance with compliance with Section 3A of M.G.L. c. 40A (Multi-Family Zoning Requirement for MBTA Communities).

PREVIOUS WORK:

- Transportation planning assistance to communities in the Northern Middlesex region (See Table 3)
- Coordinating communities with Complete Neighborhoods grant, EDA ARPA and Economic Adjustment Assistance Public Works grants, and Multi-family zoning requirement for MBTA communities

OBJECTIVE:

The Federal Highway Administration continues to place a high priority on the efficient movement of goods throughout the country. The BIL continues the FAST Act establishment of a national policy of maintaining and improving the condition and performance of the National Multimodal Freight Network. FAST required the USDOT to develop a national freight strategic plan, in consultation with MassDOT and the NMMPO (49 U.S.C. 70102). Freight transportation continues to be an important component of the Northern Middlesex regional economy. The region is traversed by I-495, a major truck route in the northeast. Historical truck percentages on the highway average 12% of all vehicles per day. In addition, several railroad lines across the region carry commodities throughout the northeast. The purpose of the Northern Middlesex regional freight-planning program is to enhance the regional freight system, both within the region and to outside connections with other freight movement networks. The Northern Middlesex region supports MassDOT's [Statewide Freight Plan](#) and its goals, which include: (1) facilitate the movement of goods to consumers efficiently and cost effectively; and (2) support economic prosperity for Massachusetts businesses and a strong quality of life for Massachusetts residents.

Regional freight planning is an ongoing process, supported by data collection activities such as traffic counting and pavement management programs. The recent COVID-19 pandemic highlighted the critical importance of freight shipments and delivery during the national emergency. During COVID, people changed the way they shop and receive goods and services. Staff are monitoring changing travel patterns, particularly looking at the increase in overall commercial vehicle volumes in the region. Determining what travel demand looks like going forward will be a priority for the Commonwealth and the MPO.

Freight system evaluation is used in the development of the NMMPO Regional Transportation Plan and in the identification of projects in the Transportation Improvement Program. The NMMPO will continue to work with the State to develop strategies for improving infrastructure and promoting the efficient movement of goods along the transportation network.

The BIL continues the use of performance measures in evaluating the transportation system. These include truck travel time reliability and percent-uncongested roadway mileage as established by FHWA. The NMMPO will continue to work with FHWA and MassDOT on monitoring of these performance measures, updating of NMMPO adopted targets, and programming any resulting infrastructure improvement projects into the NMMPO TIP. The NMMPO will also continue to, through the public participation process, provide opportunities for input from freight stakeholders throughout the region..

PROPOSED ACTIVITIES:

1. Assist the MPO in updating freight movement performance measures as part of the planning process.
2. Use freight performance measure data in TIP project prioritization efforts through the transportation evaluation criteria.
3. Monitor major freight corridors in the region, including I-495 and Route 3.
4. Monitor the region's commercial/heavy vehicle demand moving forward as travel patterns change due to the COVID-19 pandemic.
5. Refine the region's designated Critical Rural and Urban Freight Corridors as needed.

PROPOSED ACTIVITIES CONTINUED:

6. Report on freight planning data through the Annual Traffic Volume Report and Transportation Improvement Program.
7. Present freight data to the NMCOG Council and NMMPO as part of Annual Traffic Volume Report.

PREVIOUS WORK

- 2020-2040 Regional Transportation Plan
- 2016-2040 Regional Transportation Plan
- Congestion Management Process
- Annual Traffic Volume Reports
- Staff participation in development of State Freight Plan

PRODUCTS:

- List of specific performance measures and targets for freight planning (TIP)
- Annual Traffic Volume Report (NMCOG website)
- Vehicle classification data (Traffic Volume Report)

SCHEDULE:

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Development of Regional Performance Measures	←————→											
Monitoring of freight network	←————→											
Regional Traffic Volume Report							←→					

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$6,656	68
MassDOT PL/5303 Match	\$1,664	17
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$8,320	85

OBJECTIVE:

NMMPO staff will continue to promote region-wide active transportation in the form of bicycle and pedestrian planning. Active transportation reduces greenhouse gas emissions and recurring congestion due to changes in mode share, and is critical to public health. The COVID-19 pandemic brought increased demand throughout the region for outdoor activities, including bicycling and walking. Staff will continue to collaborate with MassDOT and stakeholders on implementation of recommendations of the [Statewide Pedestrian Plan](#) and the [Statewide Bicycle Plan](#). It is intended that projects outlined in these plans will be funded and advanced through the TIP. Activities under this task will support the local communities by advancing bicycle and pedestrian projects through the MassDOT project development process.

PROPOSED ACTIVITIES:

1. Inventory and update regional on-road and off-road bicycling and walking trails and facilities.
2. Assist with development of a regional trails map.
3. Continue work with the Town of Tewksbury on development of a rail trail.
4. Assess the walkability and rideability of the region's transportation network.
5. Collaborate with local communities and MassDOT relative to future funding opportunities available for plan implementation.
6. Work with local communities and MassDOT to advance bicycle and pedestrian projects through the TIP process, including the Pawtucket Falls Overlook project in Lowell, the Dracut Safe Routes to School project, and the Yankee Doodle Bike Path in Billerica.
7. Identify and assess regional bicycle and pedestrian safety needs by monitoring crashes involving non-motorized users.
8. Analyze bike/pedestrian accessibility at transit locations/stations, including Gallagher Terminal, North Billerica MBTA Station, and the Tyngsborough Park and Ride Lot.
9. Identify critical gaps in the sidewalk network throughout the region to assist in development of future TIP projects.
10. Continue to develop a quality of service metric for bicycling, i.e. bikeability index, bicycle level of service, etc. Staff will work with MassDOT and area organizations to evaluate these methods in terms of applicability to the region.
11. Research efforts to conduct bicycle and pedestrian counting in the region and participate in the Transportation Managers Group Data Users Group.
12. Identify gaps in the regional bicycle network by mapping existing or planned regional bike facilities and evaluating areas where bicycle facilities may be lacking. Once identified, staff will work with communities to bridge those gaps, through the TIP process, Complete Streets Program, or other funding opportunities.

PREVIOUS WORK

- 2020-2040 Regional Transportation Plan
- Congestion Management Process
- Bruce Freeman Rail Trail and Nashua River Trail planning and design work activities

OBJECTIVE:

The purpose of this task is to provide technical assistance to local communities in the area of stormwater management and stormwater infrastructure. Infrastructure across municipal boundaries will be examined. The 2016 MS4 Permit for Massachusetts required operators of municipal separate storm sewer systems (“MS4s”) to develop and implement six *minimum* stormwater management measures:

- Public education and outreach;
- Public participation and involvement;
- Illicit discharge detection and elimination;
- Construction site runoff control;
- Post-construction runoff control; and
- Stormwater pollution prevention/municipal good housekeeping.

Successful implementation of these six measures requires a detailed knowledge of the location, function, and condition of urbanized areas’ municipal storm drainage infrastructure – storm drains, manholes, catch basins, and outfall pipes – as well as of the receiving waters. Except in the case of more recent subdivisions, such infrastructure information is often incomplete, or is not available in a consistent, retrievable, and user-friendly format.

It is anticipated that the urbanized area boundaries will be changing as a result of the 2020 U.S. Census. Furthermore, intercensal updates of urban areas have not been possible to date due to the lack of population counts at the census block-level between decennial censuses. As a result, although the Census Bureau presented estimated populations for urban areas based on the ACS, these data were produced using boundaries defined based on data from the previous decennial census and did not keep pace with changes to the extent of urbanization. Going forward, the Census Bureau is proposing to release intercensal urban area revisions based on housing unit density using housing unit information in the Census Bureau's Master Address File, as outlined in the February 19, 2021 Federal Register. The Census Bureau also proposes that an area will qualify as urban if it contains at least 4,000 housing units or has a population of at least 10,000. The proposed increase in the minimum population responds to calls for the Census Bureau to increase its minimum threshold for defining urban areas from the 2,500-person minimum established in 1910. In addition, when establishing urban area boundaries the criteria for addressing Jumps (and the shorter distance hops), which recognize that urban development is not always a continuous and contiguous, is also changing, as described in the Federal Register. It is unknown if these proposed changes will impact the current MS4 areas for Massachusetts municipalities, altering the extent of their stormwater programs.

Compliance with permit requirements on an individual community basis is an expensive proposition that challenges already strained local DPW and highway department budgets and staff. It also results in mapping, products and programs that are duplicative and not compatible on an intermunicipal, watershed, or Regional Planning District level, as the products will have been developed by different parties using wide-ranging methodologies and protocols. It is imperative that communities work collaboratively to address the permit requirements set for by the EPA on July 1, 2018.

PROPOSED ACTIVITIES:

1. *Training Workshops and Development of Stormwater Management Regulations/Outreach Materials:* Staff will design and conduct local and regional workshops to inform and train municipal personnel (public works and highway departments, conservation commissions, boards of health) on Phase II Small MS4 General Permit requirements. Topics include stormwater infrastructure testing, maintenance, illicit discharge detection and elimination, municipal operations best management practices, stormwater management program (SWMP) financing options, and education and outreach.
2. Draft and customize relevant local stormwater management documents and associated public outreach materials, which are critical to reducing the volume and pollutant loads of uncontrolled stormwater that enters local drainage systems, waterways, and groundwater.
3. Assist communities with procurement of stormwater program related equipment, materials and services, such as catch basin cleaning and disposal of materials, street sweeping, and outfall testing and laboratory services.
4. Assist communities in revising and developing local stormwater bylaws and ordinances.
5. *Stormwater Infrastructure Inventorying and Mapping:* Building on previous infrastructure inventorying and mapping work, NMCOG will collect and review stormwater drainage data and will work with municipal DPW and highway department personnel and MassDOT to integrate local stormwater facilities into a central mapping application for communities. NMCOG will provide application support for the local communities. The emphasis will be on mapping drain pipe locations as well as the catchment areas of outfall pipes.
6. *Stormwater Sampling Program Training & Design:* In order to facilitate local compliance with the new Phase II stormwater quality sampling requirements, NMCOG staff will conduct training sessions for municipal personnel and assist in the design of sampling programs that are tailored to the needs of individual communities, or, as appropriate, the region overall.
7. Evaluate potential impact of urbanized area boundary changes on municipal stormwater programs and requirements.

PREVIOUS WORK:

- Stormwater infrastructure facilities inventory and mapping
- Northern Middlesex Regional Transportation Plans
- Previous training sessions on stormwater issues
- Previous customizable stormwater education materials for municipalities
- 2014 and 2015 Community Innovation Challenge grant activities
- Establishment of the NMSC
- 2020 DEP MS4 grant to create customizable stormwater bylaw and regulations and to create a web-based tool for post-construction monitoring
- Participation in the Statewide Stormwater Collaborative Quarterly Meetings with EPA and DEP

TASK 3.11 (CONTINUED) STORMWATER MANAGEMENT

PRODUCTS:

- Infrastructure Mapping- online map tool for municipalities
- Template for municipalities to use for stormwater management reporting
- Trainings for municipal staff and officials
- Public outreach and education materials
- Customizable stormwater bylaw and regulations
- Web-based tool for post-construction monitoring
- Regional procurement of stormwater management services and materials
- Equipment sharing
- Annual Draft report on stormwater management activities
- Annual Final report on stormwater management activities

SCHEDULE:

Work Item	10/ 22	11/ 22	12/ 22	01/ 23	02/ 23	03/ 23	04/ 23	05/ 23	06/ 23	07/ 23	08/ 23	09/ 23
Training/workshops	←	←	←	←	←	←	←	←	←	←	←	←
Inventory/mapping	←	←	←	←	←	←	←	←	←	←	←	←
Develop Draft Report							←	←	←	←	←	←
Public Outreach	←	←	←	←	←	←	←	←	←	←	←	←
Develop Final Report										←	←	←

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$20,160	250
MassDOT PL/5303 Match	\$5,040	62
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$25,200	312

OBJECTIVE:

FAST Act guidelines included the addition of a national emphasis area for enhancing travel and tourism as part of the metropolitan planning process and are continued with BIL. The BIL encourages MPO officials to consult and coordinate with regional officials to identify issues related to enhancement of tourism. The objective of this task is to provide technical assistance to the NMMPO's regional partners to help remove barriers to tourism by improving transportation infrastructure throughout the region. Through this task, the MPO will identify transportation network issues and work to mitigate these issues through the TIP process. The MPO will also promote local tourist destinations and provide transportation options through social media ([Instagram](#), [Twitter](#)) and the [NMCOG website](#). The COVID-19 pandemic affected tourism in that visitors in and around the region decreased significantly. Outdoor socially distanced attractions have become more important to the region's tourism industry. The region has been awarded federal and state assistance to promote local efforts to improve the economy. Initiatives like the Shared Streets and Spaces program help promote local businesses by reimagining outdoor space. The MPO will continue to support such programs and promote local tourism. Staff continue to promote local attractions in cooperation with regional tourist organizations including the Lowell National Historic Park, the Greater Lowell Convention and Visitors Bureau, the Lowell Chamber of Commerce, and other stakeholders.

PROPOSED ACTIVITIES:

1. Continue development of an inventory of local and regional tourist destinations and contact information for each and provide information on the NMCOG website.
2. Consult with and assist local and regional officials responsible for travel and tourism to help identify transportation barriers to visitors of the region. Research development of a regional travel and tourism committee to meet and discuss issues and priorities in the region. Such a committee could include the Lowell National Historic Park, the Greater Lowell Convention and Visitors Bureau, and other regional stakeholders.
3. Expand outreach efforts to other regional tourist and travel related organizations including Friends of the Bruce Freeman Rail Trail and Middlesex Canal Commission.
4. Maintain an interactive map on the NMCOG website showing tourist destinations/landmarks, marking congested roadways, structurally deficient bridges, high crash locations, and other relevant information that may hinder access to tourist destinations, such as the Lowell National Historic Park, local museums and scenic and recreation areas.
5. Promote local tourism through NMCOG social media (Twitter and Instagram).

PREVIOUS WORK:

- Social media posts promoting local tourist attractions and providing access information
- Inventory of local and regional tourist destinations on NMCOG website
- Regional Transportation Plan

PRODUCTS:

- Updated Interactive map showing travel/tourism destinations posted on the NMCOG website
- Updated regional inventory of tourist destinations/contact information
- Social media posts promoting local and COVID-friendly tourist sites

TASK 4 ONGOING TRANSPORTATION PLANNING

Task 4 provides technical assistance to the region’s communities, including assistance in the design, coordination, and implementation of transportation and economic development projects and regional transit planning.

TASK 4.1 REGIONAL TRANSIT PLANNING

OBJECTIVE:

Continue to provide a high level of technical assistance to the Lowell Regional Transit Authority. Work under this task will include ongoing analysis of existing transit services and special service proposals, as well as the exploration of potential new service and financial arrangements with local human service agencies, and continued implementation of the requirements of the Americans with Disabilities Act. Coordination of the LRTA Drug and Alcohol program by the NMCOG staff will be continued.

The COVID-19 pandemic adversely affected the entire LRTA system. Revenues and ridership plummeted, and the LRTA needed to make changes to the overall system to compensate. The USDOT has provided assistance via CARES Act and ARPA funding, which will boost operating assistance as documented in the Northern Middlesex TIP. Changes made to LRTA bus routes and services going forward will be reviewed and analyzed, along with the changes to customer commuting pattern and ridership levels.

PROPOSED ACTIVITIES:

1. Provide continued technical assistance to the LRTA in capital planning activities, data collection for grant applications, and meeting federal and state reporting requirements.
2. Assist in preparation of proposals, statistical analysis, small and special studies, capital planning, and program implementation.
3. Provide continued support for LRTA marketing activities, supplying information to media, employers, employees, service agencies, etc. Preparation of special presentations and development of presentation materials.
4. Provide analysis of service and fare structures. Assist in layout, costing and scheduling of modifications or “special service” proposals as needed by LRTA.
5. Develop and maintain FTA Drug and Alcohol Program for LRTA Council on Aging contractors.
6. Assist LRTA in plan preparation, data collection, reporting, and other activities associated with FTA annual DBE reporting requirements.
7. Assist LRTA as liaison with human service agencies and special interest groups such as the Lowell Commission for the Disabled. Assist with maintenance of effort, update and implementation associated with its Compliance Plan, and other requirements of the Americans with Disabilities Act.
8. Review and update the [NMMPO Coordinated Human Service Transportation Plan](#) as needed.
9. Continue to work with regional communities to identify gaps and opportunities in transit service provision.
10. Participate in Merrimack Valley Regional Coordinating Council (MVRCC) and other coordinating council meetings and workshops.

TASK 4.2 TRANSPORTATION, LAND USE, HOUSING AND ECONOMIC DEVELOPMENT
COORDINATION STUDY OBJECTIVE:

OBJECTIVE:

To assist local communities and the state in addressing transportation needs specific to land use, housing and economic development projects; to advance economic development and housing plans and projects that will better utilize existing transportation assets or enhance the feasibility of alternative transportation; and to tie together transportation, land use, housing, and economic development activities.

THE LINK BETWEEN TRANSPORTATION AND ECONOMIC DEVELOPMENT

As outlined by FHWA during previous certification reviews, USDOT assigns high priority to transportation improvement projects that promote economic development and foster job growth, and the economic competitiveness of the Greater Lowell region depends largely on the quality of the transportation system. The region is well served by the highway network provided through I-495, I-93 and Route 3, as well as the local street network. This efficient highway network benefits the regional economy by supporting businesses in accessing labor, supply, and customer markets. Investing in transportation improvements as a means to attract new private investment fuels the growth of the Greater Lowell economy. In addition, the Commonwealth has placed an emphasis on the link between housing development and transportation, as exemplified by the new Section 3A of M.G.L. c. 40A (Multi-Family Zoning Requirement for MBTA Communities).

Therefore, NMCOG works diligently to addressing transportation, housing, and economic development holistically. In addition to implementing its transportation program on behalf of the NMMPO, NMCOG has maintained its partnership with the Economic Development Administration (EDA) via the Greater Lowell Comprehensive Economic Development Strategy (CEDS) for 2020-2024, its annual updates, and the Greater Lowell Economic Recovery and Resiliency Plan (ERRP), funded partially through the EDA. The CEDS document provides an “economic blueprint” for the Greater Lowell region and identifies barriers to economic growth such as transportation infrastructure.

Within the Greater Lowell CEDS Update for 2020-2024, more than one hundred twenty-five (125) priority projects were identified, including nine (9) major development projects described below. Work completed under this task will focus on advancing the transportation infrastructure improvements needed to support these projects. The CEDS planning process will incorporate the transportation elements developed within the Regional Transportation Plan, TIP, and UPWP documents. NMCOG will also continue to utilize this task to leverage partnerships to advance transportation and economic development. In the last year, NMCOG completed an Economic Recovery and Resiliency Plan and built the capacity of economic development stakeholders in the region via a \$150,000 EDA CARES Act grant; submitted an application to EDA for Economic Development District (EDD) designation; maintained its partnership with the Executive Office of Housing and Economic Development (EOHED) by building off the 2011 Regional Strategic Plan for Greater Lowell through our focus on priority development sites within the region; participated in the MassWorks approval process, Housing Choice designation and Community One Stop for Growth program; and completed Local Rapid Recovery Plan (LRRPs) for Dracut, Pepperell and Tyngsborough as a Subject Matter Expert (SME) in transportation and land use.

The COVID-19 pandemic has created an even greater need for transportation and economic development projects to be tied together in order to enhance the economic recovery in the region. The region's unemployment rate increased from 2.6% in April 2019 to 15.7% in April 2020 with the Town of Dracut (17.2%) and the City of Lowell (17.1%) experiencing the highest unemployment rates in the region.

HAMILTON CANAL DISTRICT (LOWELL)

NMCOG staff will continue to work with the City of Lowell on the Hamilton Canal Innovation District project. The City of Lowell, with the assistance of NMCOG staff, received an \$2.5 million in EDA Public Works grant funds for the construction of 450 feet of new roadway, a "Signature" canal bridge, and utilities to support the planned development of more than 203,000 square feet of office/R&D space, 21,800 square feet of retail space, a City-funded municipal parking garage, and up to 68 new housing units. The City received a \$4.6 million MassWorks grant as the local project match. Completion of final punch list items and opening of the signature bridge occurred January, 2022. This complemented an upgrade of Thorndike Street funded by a \$2 million MassWorks grant completed in November 2018 that supported Thorndike Exchange, a mixed-use transit-oriented development project.

NMCOG staff continued to work with the City of Lowell to ensure that the \$15 million in State funds awarded in April 2014 for off-site traffic improvements needed to accommodate the Hamilton Canal development project, such as the Lord Overpass improvements, were included on the State's Capital Investment Program. The Lord Overpass improvements are currently under construction, anticipated to be substantially complete in November 2022. NMCOG staff will continue to work on the planning and design of these improvements linking transit-oriented development with Gallagher Terminal and the Lowell Connector.

AYER'S CITY URBAN RENEWAL PLAN (LOWELL)

During the past seven years, NMCOG staff have assisted the City of Lowell in the development of the Ayer's City Industrial Park Urban Revitalization and Renewal Plan (AICP). Through the redevelopment of a blighted industrial district located between the Lowell Connector and Tanner Street, the Urban Renewal Plan called for the implementation of several transportation improvements, including the de-elevation of the section of the Lowell Connector extending from Plain Street to Gorham Street, the relocation and redesign of the intersection of the Lowell Connector ramps, Tanner Street and Plain Street, pedestrian improvements along Tanner Street and the construction of a pedestrian greenway along River Meadow Brook (as outlined in the River Meadow Brook Greenway Feasibility Study completed by NMCOG under the FFY 2014 UPWP). The Urban Renewal Plan was approved by DHCD in 2014. MEPA certification for the AICP Plan was received in February 2016.

The City has been working with two engineering firms to produce final design and engineering documents for the realignment of Tanner Street. Although the City initially considered phasing the project through the design process, the City has since decided to construct the project in a single phase. It is expected that 100% design plans for the project will be completed in the summer of 2021. The new roadway will create a new 4-way intersection at the Target Plaza and extend up to Montreal Street, which will be extended a short distance to connect to the new Tanner Street. Additionally, the project will have the new Tanner Street connect with the existing Tanner Street at the intersection with West

London Street. The City will be working with an appraiser to determine the value of the properties to be taken by eminent domain due to the new road alignment. The City received \$3 million in MassWorks funds and submitted a draft application for EDA Public Works funds. The City also received a Site Readiness Grant for \$375,000 to address the realignment issues. With the upcoming round of MassWorks funds available, the City is likely to submit another MassWorks application. At the federal level, EDA will be receiving \$3 billion in American Rescue Plan Act (ARPA) funds, a portion of which will be available for transportation projects that are linked to the creation of industrial/commercial jobs and are not funded through another federal funding source.

ROURKE BRIDGE (LOWELL)

The replacement of the temporary Rourke Bridge in Lowell has been a priority for the region for many years. The Rourke Bridge is located on Wood Street, which serves as a major arterial between Route 3 at Drum Hill Square and the north side of the Merrimack River at Pawtucket Boulevard. The current bridge is located along the most congested corridors in the region and, during peak travel periods, the bridge cannot physically accommodate the movement of emergency vehicles. This causes them to find alternate routes, increasing response times and placing patients at undue risk. In 2014, NMCOG used a \$500,000 earmark to study replacing the temporary bridge with a more permanent structure. NMCOG staff worked with MassDOT, the City of Lowell, and the Towns of Chelmsford and Dracut to hire a consultant (Vanasse Hangen Brustlin, Inc.) to lead the study.

In 2015, the Lowell City Council voted to move three alternatives into the design phase. In 2018, MassDOT provided funding for the design and environmental permitting for a new bridge. The design will include a new, wider bridge and upgraded bicycle and pedestrian facilities. Due to the importance of this corridor in terms of regional traffic flow, emergency management, and economic development, NMCOG continues to prioritize this project and work with local and state officials and the legislative delegation to identify a funding source for construction of the new facility. In 2020, MassDOT initiated the design and permitting processes for the Rourke Bridge Replacement project. In 2022, Governor Baker announced the Rourke Bridge construction would be included in the State capital plan due to the BIL allocating increased funding to the State. The project is currently programmed for construction advertisement in FFY 2024 and will use a design build process. The project will likely take four construction seasons to be put into place.

MIDDLESEX TURNPIKE PHASE 3 (BILLERICA/BEDFORD)

Middlesex Turnpike Phase 3 includes the reconstruction, widening, and related improvements to 1.6 miles of the Middlesex Turnpike from the end of Phase II to 1,000 feet north of Manning Road in Billerica. Phase 3 has enormous economic development benefits for the Tri-Town area of Bedford, Billerica and Burlington. With the investment of more than \$350 million in federal transportation dollars for the expansion of Route 3 and more than \$23 million in Middlesex Turnpike Phases 1 and 2 improvements to date, the state and federal governments have recognized the importance of this area in attracting high tech and biotech companies. It is anticipated that the Phase 3 project will support an additional 1.7 million square feet of new commercial, industrial, and residential space along the corridor, which equates to 2,500 new office, R&D, and industrial jobs. The project cost for Phase 3 has been established as \$34.4 million with the anticipated completion date of spring 2023.

In regards to the Middlesex Turnpike Phase 3 project, NMCOG staff will continue to work with the Middlesex 3 Coalition, a collaboration among jurisdictions along US Route 3, the private sector, and educational institutions. This initiative provides a unique opportunity to develop a “branding” strategy for the Route 3 corridor designed to attract additional private investments to this area and to focus on the transportation needs of area businesses. NMCOG staff will continue to attend the Middlesex 3 Coalition Transportation and Infrastructure Subcommittee meetings and provide feedback on transportation, transit, and infrastructure issues in the region.

ROUTE 38 CORRIDOR IMPROVEMENTS (TEWKSBURY)

Several Massachusetts Route 38 transportation improvement projects in Tewksbury provide an opportunity to attract increased private investment along the corridor. The Route 38 Corridor Study, completed by NMCOG staff, identified the need for extensive transportation improvements to address congestion, safety and pedestrian facilities throughout the corridor. In addition, the Tewksbury Economic Development Committee identified several sites along the Route 38 corridor that have potential for new development or redevelopment. Full build-out of the underdeveloped and vacant properties has the potential to generate several thousand additional vehicle trips per day, creating significant impacts along an already overburdened corridor.

The implementation of the Route 38 improvements will require collaboration between the NMMPO, the Town, MassDOT and private sector partners. Staff will leverage established economic development and transportation partnerships in the region to advance the transportation recommendations through inclusion in the TIP, Regional Transportation Plan, and the Greater Lowell CEDS for 2020-2024. Route 38 improvements in the area between Salem Street and South Street are complete. Two projects are currently programmed in the Northern Middlesex TIP. A resurfacing of Route 38 and sidewalk reconstruction from Colonial Drive north to the intersection of Old Boston Road project is currently under construction. Another Route 38 intersection improvement project from the Douglas Road intersection in Lowell to the Pike/Astle/Veranda Street intersection is programmed in FFY 2023 utilizing Statewide Highway Safety Improvement Program funding. The Town also received \$220,000 in Housing Choice Capital Grant funds to develop a Sidewalk Improvement Program connecting housing/mixed-use projects from Victor Drive to Colonial Drive.

Focusing elsewhere on Route 38, the Tewksbury Town Center Master Plan Committee completed the Town Center Master Plan in April 2016. The principal focus of the Town Center Master Plan was on traffic and circulation, a façade improvement program, streetscape improvements, signage and wayfinding, land use and zoning improvements, and public and private investment projects. The Town voted two years ago to replace the Fire Station in the Town Center, which will have an economic impact upon this area, as well as the associated transportation improvements along Route 38. The Town Center area is a priority location for transportation improvements. A Road Safety Audit was performed in May 2021 as part of the larger project in the Center. An intersection improvement project at Main and Pleasant Street and East at North Street in Tewksbury Center is programmed in FFY 2027 of the Northern Middlesex TIP and is currently under preliminary design.

BOSTON ROAD PHASE 2 REVITALIZATION PROJECT (NORTH) (BILLERICA)

The Town of Billerica is moving forward with the revitalization of Boston Road north of the Town Center to support development in the area including the new \$176 million Billerica High School. The project includes reconstruction of approximately one mile of Boston Road. In addition, sidewalks and a multi-use off road path will be constructed to improve safety for non-vehicular trips. This project is programmed in FFY 2022 and 2023 in the Northern Middlesex TIP. The project is currently at 25% design and will help create 50 part-time and 18 full-time jobs, not to mention a number of construction jobs.

VINAL SQUARE AND TOWN CENTER IMPROVEMENTS (CHELMSFORD)

NMCOG staff completed the Strategic Action Plan for the Town of Chelmsford in January 2015. This Plan included transportation improvements recommended in the Vinal Square Traffic Study that was completed by NMCOG under the FFY2014 UPWP. It also included recommendations relative to streetscape improvements, lighting, signage, parking and pedestrian connectivity. The plan was designed to encourage reinvestment in the Vinal Square neighborhood and square, which consists of three federal-aid highways (Route 40, Route 3A and Route 4) with most owned and controlled by MassDOT. The Town was also awarded NMCOG assistance under a District Local Technical Assistance (DLTA) XIV program to develop a concept plan for transportation related improvements within Vinal Square. Chelmsford submitted a Project Notification Form to MassDOT for highway improvements and will be advancing 25% design utilizing that concept plan.

In addition, NMCOG staff will continue to assist the Town in implementing the recommendations outlined in the Chelmsford Center Village Pedestrian and Parking Plan completed six years ago. The Town of Chelmsford received a MassWorks grant of \$370,000 in 2016 to construct a portion of the Beaver Brook Walk, build a pocket park and provide public parking and landscaping along the Bruce Freeman Rail Trail. These public improvements were to be matched by \$15 million in private investment to construct the 54-unit market-rate rental project called the Grist Mill Apartments in the Town's Center Village Overlay District. Due to some delays in the development project, the Town received a one-year extension from EOHEd on its MassWorks grant until June 30, 2019. The NMMPO has also voted to program the Route 110 improvement project near the Town Center in FFY 2026 and 2027 of the TIP. The project includes improvements to access, parking, and bicycle and pedestrian facilities.

LOWELL'S CANAL BRIDGES

In 2015, the City of Lowell was awarded a TIGER Grant for \$13.4 million to address the repair of six then-privately-owned canal bridges. The private owner, Enel Green Power, repaired two of the bridges before transferring all eight to the City in July 2017. The remaining six bridges were in various states of disrepair or deterioration, resulting in closures or weight restrictions. The TIGER grant was to bring these bridges into a state of good repair, unlocking economic development potential. MassDOT has overseen this work in conjunction with the City of Lowell. Due to funding constraints, one bridge was removed from the original project scope and the City will seek additional funds to complete the project. Construction began on the remaining bridges July 1, 2018. Four of the five bridges are now complete. Although construction of the final bridge to be completed, Central Street over the Lower Pawtucket Canal, began in early April 2019, multiple issues related to the bridge's deteriorated state delayed

completion. It is currently restricted to one-way traffic and substantial completion is anticipated by autumn 2023.

ROUTE 113 CORRIDOR (PEPPERELL)

NMCOG staff are building upon—and will continue to advance—previous work in Railroad Square and the Route 113 corridor, including a 2015 transportation study, to encourage additional private investment in Pepperell. Private businesses located along the corridor are interested in addressing various transportation issues: congestion, parking, pedestrian traffic, bike lanes, and more. The Town also wanted to encourage additional investment and provide the support services and infrastructure that these businesses need. These actions are related in part to the reuse of the former Pepperell Paper Mill building site and the Peter Fitzpatrick School. The completed corridor study was incorporated within the Economic Development section of the updated Master Plan and a subsequent Local Rapid Recovery Plan (LRRP) project recommended several interventions. Pepperell is now working with NMCOG and a private consultant on multiple rezoning initiatives to encourage more flexible development and affordable housing on the corridor, anticipating to bring zoning bylaw amendments to the Fall Town Meeting. In addition, the Town has applied for funding through the Shared Streets and Spaces program to make Railroad Square itself more accessible and safer for pedestrians. The Town has also applied for funding under Tier 3 of the Complete Streets program, to improve the rotary at the intersection of Route 113 and Route 111 by refining circulation, traffic flow, and make safety and accessibility improvements for pedestrians.

ROUTE 129 CORRIDOR (CHELMSFORD)

The Town of Chelmsford has focused on the need to support the businesses along the Massachusetts Route 129 corridor and to attract more private investment to the area. NMCOG staff worked with the Town of Chelmsford to survey the business community on the need for an overlay district that would allow business amenities along Route 129, which was adopted in 2016, providing new opportunities for business amenities and multifamily housing. The Town subsequently applied for funding under the MassWorks program to address road, sidewalk, and bicycle infrastructure issues in the Route 129 Corridor. This “Chelmsford Route 129 Billerica Road Enhanced Mobility project” was designed to support a \$6 million, private two-building mixed-use development that included a 4,300 square foot 200-seat restaurant and 8,000 square feet of retail and service space at the corner of Billerica Road and Scientia Drive. In addition, the town received a Mass Housing Choice Capital Grant for \$250,000 to develop 3,400 linear feet of new sidewalks along Turnpike Road and completed a MassDOT TIP project in FFY 2019 to realign the Billerica Road intersection with Riverneck Road, reconstruct the bridge/culvert adjacent to River Meadow Brook and provide new sidewalks and bike lanes. The project created 100 construction jobs, 10 full-time jobs, and 60 part-time jobs.

Funded by MassDevelopment’s Site Readiness Program awarded to the Town, Camoin Associates and Howard Stein Hudson completed *Chelmsford Cross Roads at 129: Repositioning a Suburban Office Park for a New Era* was released in May 2019. This study provided a blueprint for the Chelmsford Economic Development Commission to move forward in addressing the needs of the current businesses and in attracting new private investment in the Route 129 corridor. Chelmsford is now advancing sidewalk construction and marketing and branding initiatives. One major private developments is being

designed: a 250,000 square foot warehouse building on Riverneck Road. In addition, there are new owners at 300 Apollo Drive, 250 Apollo Drive, 220 Mill Road, 254 Billerica Road, 297 Billerica Road, 321 Billerica Road, and 2, 4, and 6 Omni Way. NMCOG will continue to assist the Town in a holistic approach including transportation, land use strategies, and marketing strategies to revitalize this area.

PROPOSED ACTIVITIES:

1. Provide assistance to the City of Lowell and Towns of Billerica, Chelmsford, Dracut, Dunstable, Lowell, Pepperell, Tewksbury, Tyngsborough and Westford in advancing major development projects through transportation infrastructure investments as described above.
2. Monitor development proposals in the region, update the MassBuilds online map. Identify transportation issues and infrastructure needs related to each project.
3. Work with the LRTA, MassDOT, EOHEd, the local communities, EDA and economic development organizations and stakeholders to address transportation issues that present an obstacle to continued economic growth and job creation.
4. Tie together the CEDS Priority Projects and local economic development related transportation initiatives with the region's transportation planning program.
5. Improve access to jobs by working with the region's business organizations and workforce development agencies to address the transportation needs of the area's workforce.
6. Assist Northern Middlesex communities and local and state housing agencies to holistically plan and create housing, including affordable housing with access to jobs, transit-oriented development, and complete neighborhoods.
7. Address the negative impacts of COVID-19 through the implementation of transportation and economic development programs.

PREVIOUS WORK:

- Greater Lowell Comprehensive Economic Development Strategy (CEDS) Annual Performance Report (2022)
- Economic Recovery and Resiliency Plan (ERRP) Phase I Report (2022)
- Local Rapid Recovery Plans (LRRPs) for Dracut, Pepperell, and Tyngsborough (2021)
- Greater Lowell Comprehensive Economic Development Strategy (CEDS) Update for 2020-2024 (2020)
- Pepperell Master Plan (2020)
- Dracut Master Plan (2019)
- Dunstable Master Plan (2018)
- Billerica Economic Development Strategy (2017)
- Upper Merrimack Street/Pawtucket Street Land Use/Zoning Analysis (2017)
- Dracut Economic Development Strategy (2016)
- Transportation Section of the Dracut and Dunstable Master Plans
- Siting of Renewable Energy Facilities in Montachusett and Northern Middlesex Regions (2014)
- Route 38 Transportation Study (2014)
- Vinal Square Strategic Plan (2014) and Concept Plan (2021)
- Greater Lowell Comprehensive Economic Development Strategy (CEDS) Update for 2010-2013
- Chelmsford Center Parking and Pedestrian Plan (2013)

PRODUCTS:

- Technical updates with the monthly billings on the progress on each of these components
- Technical assistance to the local communities and MassDOT on transportation infrastructure needs related to major development projects, as outlined above
- Plans and reports such as the CEDS Annual Report and transportation sections of Master Plans
- Work with economic development partners and stakeholders in identifying and addressing transportation needs related to continued economic growth and workforce needs
- Coordination of transportation, housing, and economic development through the attendance of local and regional affordable housing and economic development groups
- Coordination of the infrastructure needs identified through the transportation planning process, community development programs and the CEDS planning process

SCHEDULE:

Progress on these components will be summarized in technical updates included with the monthly billings and annual report. Technical assistance to local communities will be provided on an ongoing basis.

Work Item	10/22	11/22	12/22	01/23	02/23	03/23	04/23	05/23	06/23	07/23	08/23	09/23
Technical Assistance (ongoing)	←											→

FUNDING:

Funding Source	Budget	Estimated Staff Effort (Hours)
Federal PL/5303	\$56,280	664
MassDOT PL/5303 Match	\$14,070	166
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$70,350	830

APPENDIX A: RELATIONSHIP BETWEEN UPWP TASKS AND NATIONAL PLANNING FACTORS

UPWP Task	National Planning Factors									
	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	Enhance Travel and Tourism
1.1 - 3C Process	x	x	x	x	x	x	x	x	x	x
1.2 - UPWP	x	x	x	x	x	x	x	x	x	x
1.3 - Public Participation	x									
1.4 - TIP	x	x		x	x	x	x	x	x	x
1.5 - Title VI and EJ		x		x	x					
2.1 - Traffic Counting						x		x		x
2.2 - GIS	x	x	x	x	x	x	x	x	x	x
2.3 - Data Collection	x	x	x	x	x	x	x	x		x
2.4 - Transit System Performance Surveillance		x		x	x	x	x	x		
2.5 - Performance Measures	x	x	x	x	x	x	x	x		
3.1 - Pavement Management	x			x			x	x	x	
3.2 - Transportation Safety and Security		x	x							
3.3 - Congestion Management				x		x	x	x		
3.4 – Regional Transportation Plan Update	x	x	x	x	x	x	x	x	x	
3.5 - ITS		x			x	x				
3.6 - Climate Change					x		x		x	
3.7 - Local Technical Assistance	x	x	x	x	x	x	x	x		x
3.8 - Freight Planning				x			x			
3.9 - Bicycle and Pedestrian Planning		x					x			
3.10 - TIP Project Review Study		x			x		x	x		
3.11 - Stormwater Management					x			x	x	
3.12 - Enhancing Travel and Tourism										x
4.1 - Regional Transit Planning		x	x		x	x	x			
4.2 – Transportation, Land use, Housing and Economic Development Coordination	x			x		x				

APPENDIX B: FFY 2022 UPWP FINANCIAL PLAN

UNIFIED PLANNING WORK PROGRAM TASK	NMMPO Task #	PL/5303 Funding			FTA/LRTA 5307			TOTAL
		Federal	State	Total	FEDERAL	NMCOG	TOTAL	
Management of the 3C Process	1.1	\$99,001	\$24,750	\$147,264	\$0	\$0	\$0	\$123,752
Unified Work Program	1.2	\$29,596	\$7,399	\$36,996	\$0	\$0	\$0	\$36,996
Public Participation	1.3	\$33,946	\$8,486	\$42,432	\$0	\$0	\$0	\$42,432
Transportation Improvement Program	1.4	\$52,850	\$13,212	\$66,062	\$0	\$0	\$0	\$66,062
Title VI & Environmental Justice	1.5	\$24,088	\$6,022	\$30,110	\$0	\$0	\$0	\$30,110
Subtotal		\$239,481	\$59,870	\$299,351	\$0	\$0	\$0	\$299,351
Traffic Counting	2.1	\$52,582	\$13,146	\$65,728	\$0	\$0	\$0	\$65,728
Geographic Information System	2.2	\$86,794	\$21,698	\$108,492	\$10,000	\$2,500	\$12,500	\$120,992
Data Collection and Analysis	2.3	\$54,080	\$13,520	\$67,600	\$10,000	\$2,500	\$12,500	\$80,100
Transit System Performance Surveillance	2.4	\$40,445	\$10,111	\$50,556	\$15,500	\$3,875	\$19,375	\$69,931
Performance Measures	2.5	\$8,070	\$2,018	\$10,088	\$0	\$0	\$0	\$10,088
Subtotal		\$241,972	\$60,493	\$302,464	\$35,500	\$8,875	\$44,375	\$346,839
Regional Pavement Management	3.1	\$22,630	\$5,658	\$28,288	\$0	\$0	\$0	\$28,288
Transportation Safety and Security	3.2	\$35,297	\$8,824	\$44,122	\$0	\$0	\$0	\$44,122
Congestion Management/System Performance	3.3	\$22,464	\$5,616	\$28,080	\$0	\$0	\$0	\$28,080
Regional Transportation Plan	3.4	\$94,960	\$23,740	\$118,700	\$0	\$0	\$0	\$118,700
Intelligent Transportation System (ITS)	3.5	\$6,783	\$1,696	\$8,478	\$0	\$0	\$0	\$8,478
Sustainability, Livability and Climate Change	3.6	\$20,160	\$5,040	\$25,200	\$0	\$0	\$0	\$25,200
Local Technical Assistance	3.7	\$38,520	\$9,630	\$48,150	\$0	\$0	\$0	\$48,150
Freight Planning	3.8	\$6,656	\$1,664	\$8,320	\$0	\$0	\$0	\$8,320
Bicycle and Pedestrian Planning	3.9	\$17,805	\$4,451	\$22,256	\$0	\$0	\$0	\$22,256
TIP Project Review Study	3.10	\$17,472	\$4,368	\$21,840	\$0	\$0	\$0	\$21,840
Stormwater Management	3.11	\$20,160	\$5,040	\$25,200	\$0	\$0	\$0	\$25,200
Enhancing Travel and Tourism	3.12	\$4,074	\$1,019	\$5,093	\$0	\$0	\$0	\$5,093
Subtotal		\$306,981	\$76,745	\$383,726	\$0	\$0	\$0	\$383,726
Regional Transit Planning	4.1	\$28,361	\$7,090	\$35,452	\$24,500	\$6,125	\$30,625	\$66,077
Transportation, Land Use, Housing and & Economic Development Coordination	4.2	\$56,280	\$14,070	\$70,350	\$0	\$0	\$0	\$70,350
Subtotal		\$84,641	\$21,160	\$105,802	\$24,500	\$6,125	\$30,625	\$136,427
TOTALS		\$873,075	\$218,269	\$1,091,344	\$60,000	\$15,000	\$75,000	\$1,166,344

APPENDIX C: NMMPO PUBLIC COMMENT SUMMARY

DRAFT FFY 2023 UNIFIED PLANNING WORK PROGRAM

COMMENT PERIOD: MAY 30, 2022 – JUNE 20, 2022

PUBLIC MEETING DATE: JUNE 14, 2022

COMMENT 1: FEDERAL HIGHWAY ADMINISTRATION/FEDERAL TRANSIT ADMINISTRATION: JUNE 6, 2022

The following comments were emailed to NMCOG staff:

PDF Page/Section	Comment	NMMPO Response
11	“Infrastructure Investment and Jobs Act (IIJA)/Bipartisan Infrastructure Law (BIL)” I'd suggest the term "regulations" rather than requirements [last sentence before the bullet point].	The document has been updated to reflect comment.
12	“Other new additions included in the BIL:” Thank you for including this section--very helpful information on BIL	Noted.
85-86	This and the next page appear to have some edits in place.	Noted. Some comments made by staff during development of the document remained in the draft and have now been removed.

COMMENT 2: MASSDOT: JUNE 15, 2022

MassDOT uses a checklist as part of their review of the UPWP. Their checklist is provided on the next few pages listing the different parts of the UPWP reviewed. Upon finalizing their review, the checklist provided shows no substantive comments for the MPO to consider.

MPO Liaison UPWP Review Checklist

Completeness

ID	Review Item	Comments	Reference
A1	✓ * Table of Contents is accurate and internally-linked.		✓ -- for use in column B
A2	✓ * Document has no broken links.		✗ -- for use in column B
A3	✓ * Document has no text or image placeholders.		
A4	✓ * Charts, tables, and maps are legible and properly annotated.		
A5	✓ * Document passes an accessible check.		
A6	✓ * New federal emphasis areas from the Bipartisan Infrastructure Law (BIL) are referenced.		https://www.transit.dot.gov/regulations-and-programs/transportation-planning/2021-planning-emphasis-areas
A7	✓ * Document is available in relevant languages per the MPO's Title VI Plan.		
A8	✓ * List of MPO members is current.		
A9	✓ * Signatory sheet is included and accurate.		
A10	✓ * Acronyms and partner agency lists are up to date.		

Narrative

ID	Review Item	Comments	Reference
B1	✓ * UPWP is comprehensible to the general public.		
B2	✓ * UPWP refers directly to vision, goals, and objectives from RTP.		
B3	✓ * UPWP Amendment/Adjustment procedures are explicit and align with latest federal guidance (see MAPRA materials)		
B4	✓ Governing MOUs between MassDOT, MPO, RTAs, and neighboring MPOs have been reviewed for potential improvements or updates.		
B5	✓ Planning efforts are coordinated with MassDOT modal plans.		https://www.mass.gov/statewide-plans

UPWP Tasks

ID	Review Item	Comments	Reference
C1	✓ * Individual tasks include detailed scopes, budgets, and		
C2	✓ * Individual tasks outline community beneficiaries.		
C3	✓ Transit-related tasks are specific.		
C4	✓ * Includes a task on performance-based planning.		
C5	✓ * Includes a task for an update to any congestion mitigation planning efforts.		Required for TMA MPOs if current CMP is out of date.
C6	✓ * UPWP includes a summary of available staff hours.		
C7	✓ Individual tasks anticipate needed staff-hours / consulting resources.		

C8	✓	Tasks from previous UPWPs have been analyzed for past utilization.		
Impacts Analysis				
ID		Review Item	Comments	Reference
D1	✓	* UPWP includes a geographic equity distribution table showing 2018–2022 and current UPWP-funded studies by municipality and number of tasks.		
D2	✓	* UPWP includes a social equity distribution table of past and current UPWP-funded studies considering language access and EJ populations.		
D3	✓	* Public involvement and comment are explicitly documented and in line with MPO's Public Participation Plan.		

* indicates required by state or federal regulation.

APPENDIX D: NMCOG AND NMMPO STAFF

NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS STAFF

- Jennifer Raitt, Executive Director (0%)
- Justin Howard, Assistant Director/Transportation Program Manager (90%)
- Chris Hayes, Housing and Economic Development Planner (50%)
- Christopher Curry, Associate Planner/Transit (100%)
- Carlin Andrus, GIS Specialist (75%)
- David Tilton, Transportation Planner (85%)
- Shravanthi Gopalan Narayanan, Transportation Planner (100%)
- Jeff Owen, Regional Planner (70%)
- Vacant, Environmental Planner (50%)
- Lambert Almeida, Financial Officer (0%)
- Katrina Garavanian, Executive Assistant (0%)
- Moe Lefebvre, Assistant Sealer of Weights and Measures (0%)

(Numbers in parentheses represent the approximate percentages of time devoted to transportation planning)

NORTHERN MIDDLESEX TRANSPORTATION PLANNING STAFF

- Justin Howard, Assistant Director/Transportation Program Manager
- Christopher Curry, Associate Planner/Transit
- Chris Hayes, Housing and Economic Development Planner
- David Tilton, Transportation Planner
- Shravanthi Gopalan Narayanan, Transportation Planner
- Carlin Andrus, GIS Specialist
- Jeff Owen, Regional Planner

NORTHERN MIDDLESEX JOINT TRANSPORTATION COMMITTEE

The Northern Middlesex Council of Governments Board, which is comprised of a chief elected official and Planning Board member from each community, also serves as the Joint Transportation Committee.

APPENDIX E: GLOSSARY OF ACRONYMS

- 3C Process: Continuing, Cooperative, Comprehensive
- ADA: Americans with Disabilities Act
- ARPA: American Rescue Plan Act
- BIL: Bipartisan Infrastructure Law (aka IIJA)
- CARES: Coronavirus Aid, Relief and Economic Security 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.
- DLTA: District Local Technical Assistance
- EDA: Economic Development Administration
- 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
- IIJA: Infrastructure Investment and Jobs Act (aka BIL)
- 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
- UZA: Urbanized Area