



Pawtucket Falls Dam near the O'Donnell Bridge in Lowell MA.



# Unified Planning Work Program Federal Fiscal Year 2021

June 2020



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

## FFY 2021 UNIFIED TRANSPORTATION PLANNING WORK PROGRAM

(OCTOBER 1, 2020 – SEPTEMBER 30, 2021)

---

### Federal Title VI/Nondiscrimination Protections

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

### State Nondiscrimination Protections

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

### Additional Information

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

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

### Complaint Filing

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

---

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

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

---

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

Mail: Northern Middlesex Council of Governments  
40 Church Street, Suite 200  
Lowell, MA 01852  
Phone: (978) 454-8021  
Fax: (978) 454-8023  
Email: [jhoward@nmcog.org](mailto:jhoward@nmcog.org)

The document is also available for download on our website at [www.nmcog.org](http://www.nmcog.org)

---

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

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

ប្រសិនបើលោក-អ្នកត្រូវការបកប្រែព័ត៌មាននេះ សូមទាក់ទងអ្នកឯកទេសលើជំពូកទី៦ របស់NMCOG តាមរយៈលេខទូរស័ព្ទ 978-454-8021

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

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

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

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

---

## NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

---

### VOTING MEMBERS:

Stephanie Pollack, Transportation Secretary and CEO of MassDOT, NMMPO Chair

Jonathan Gulliver, Highway Division Administrator, MassDOT

Pat Wojtas, Chairman, Northern Middlesex Council of Governments (NMCOG)

Daniel Rourke, City Councilor serving on the NMCOG Council, City of Lowell

Tom Bomil, Chairman, Lowell Regional Transit Authority (LRTA)

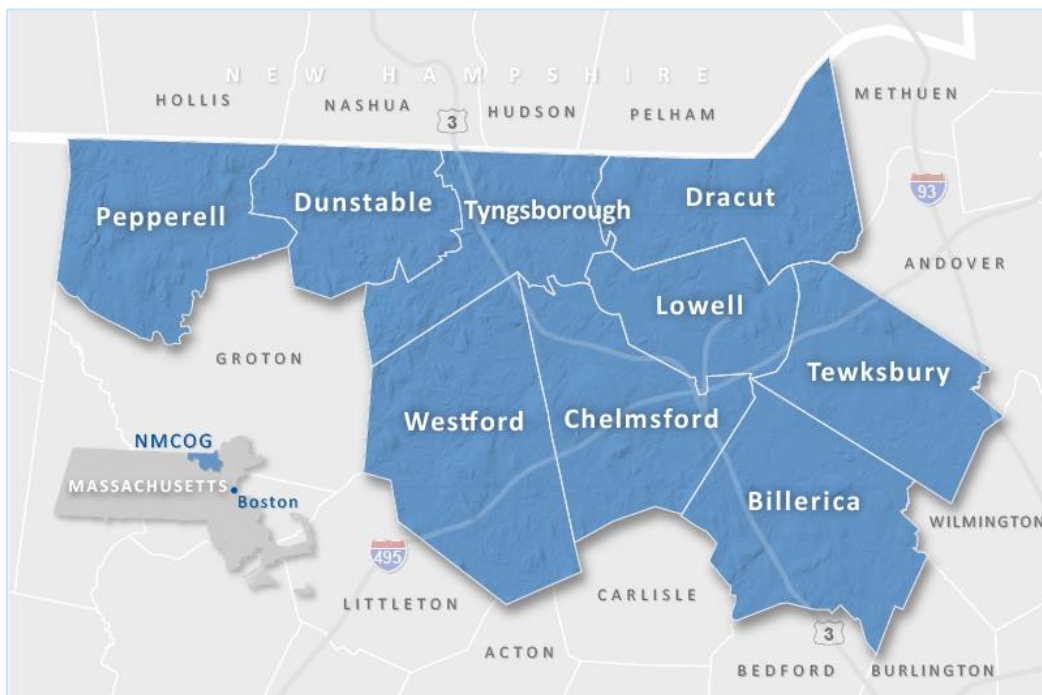
Kevin O'Connor, Town of Tyngsborough, LRTA Advisory Board MPO Representative

Ron Keohane, Town of Tyngsborough Board of Selectmen, NMCOG MPO Representative

### EX OFFICIO NON- VOTING MEMBERS:

Jeffrey McEwen, Division Administrator, Federal Highway Administration (FHWA)

Peter Butler, Regional Administrator, Federal Transit Administration (FTA)



## NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

---

### ENDORSEMENT OF THE FFY 2021 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 24, 2020, hereby approves the endorsement of the FFY 2021 *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 Fixing America's Surface Transportation (FAST) Act.



6/24/20

---

Stephanie Pollack, Secretary of Transportation and CEO of MassDOT

Date

---

Daniel Rourke, Lowell City Councilor, MPO Representative

Date

---

Pat Wojtas, Chair, Northern Middlesex Council of Governments

Date

---

Ron Keohane, Tyngsborough Selectman and NMCOG MPO Representative

Date

---

Tom Bomil, Chair, Lowell Regional Transit Authority

Date

---

Kevin O'Connor, Tyngsborough, LRTA Advisory Board MPO Representative

Date

---

# CONTENTS

---

INTRODUCTION .....	1
ROLE OF THE NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION.....	1
NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS' ROLE .....	2
ORGANIZATION OF THE UNIFIED PLANNING WORK PROGRAM .....	3
CONFORMITY TO FEDERAL PLANNING REGULATIONS AND POLICIES.....	3
MASSACHUSETTS STATE POLICIES AND PROGRAMS.....	5
FUNDING THE UPWP.....	8
DEVELOPMENT OF THE UPWP/PUBLIC PARTICIPATION PROCESS .....	8
AMENDMENTS/ADJUSTMENTS TO THE UPWP.....	10
UPDATES ON UPWP TASKS .....	11
TASK 1.0 MANAGEMENT AND SUPPORT OF THE PLANNING PROCESS AND CERTIFICATION ACTIVITIES..	28
TASK 1.1    MANAGEMENT OF THE 3-C PROCESS .....	28
TASK 1.2    UNIFIED PLANNING WORK PROGRAM .....	31
TASK 1.3    PUBLIC PARTICIPATION PROCESS .....	33
TASK 1.4    TRANSPORTATION IMPROVEMENT PROGRAM .....	35
TASK 1.5    TITLE VI AND ENVIRONMENTAL JUSTICE .....	37
TASK 2    TECHNICAL SUPPORT AND DATA COLLECTION.....	39
TASK 2.1    TRAFFIC COUNTING .....	39
TASK 2.2    GEOGRAPHIC INFORMATION SYSTEM (GIS) .....	41
TASK 2.3    DATA COLLECTION AND ANALYSIS.....	43
TASK 2.4    TRANSIT SYSTEM PERFORMANCE SURVEILLANCE .....	45
TASK 2.5    PERFORMANCE MEASURES .....	46
TASK 3 REGIONAL TRANSPORTATION PLANNING .....	48
TASK 3.1    REGIONAL PAVEMENT MANAGEMENT.....	48
TASK 3.2    TRANSPORTATION SAFETY AND SECURITY .....	50
TASK 3.3    REGIONAL CONGESTION MANAGEMENT/System Performance .....	53
TASK 3.5    INTELLIGENT TRANSPORTATION SYSTEMS (ITS) .....	55
TASK 3.6    SUSTAINABILITY, LIVABILITY AND CLIMATE CHANGE .....	57
TASK 3.7    LOCAL TECHNICAL ASSISTANCE .....	59
TASK 3.8    REGIONAL FREIGHT PLANNING.....	61
TASK 3.9    BICYCLE AND PEDESTRIAN PLANNING .....	63
TASK 3.10    TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROJECT REVIEW STUDY .....	65
TASK 3.11    STORMWATER MANAGEMENT.....	66

---

TASK 3.12	ENHANCING TRAVEL AND TOURISM.....	69
TASK 4	ONGOING TRANSPORTATION PLANNING.....	71
TASK 4.1	REGIONAL TRANSIT PLANNING.....	71
TASK 4.2	TRANSPORTATION AND ECONOMIC DEVELOPMENT PRIORITIZATION AND COORDINATION STUDY.....	73
APPENDIX A:	RELATIONSHIP BETWEEN UPWP TASKS AND NATIONAL PLANNING FACTORS.....	83
APPENDIX B:	FFY 2021 UPWP FINANCIAL PLAN.....	84
APPENDIX C:	NMMPO Public Comment Summary.....	85
APPENDIX D:	NMCOG AND NMMPO STAFF.....	89
APPENDIX E:	GLOSSARY OF ACRONYMS.....	90

---



## 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, 2020 – September 30, 2021 (Federal Fiscal Year 2021). 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.

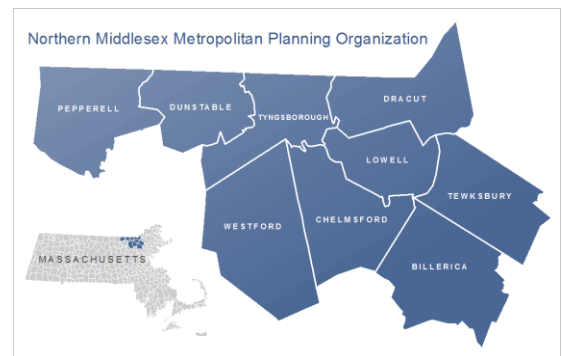
The UPWP has been prepared in accordance with the provisions of the Fixing America’s Surface Transportation (FAST) Act and with Federal Highway Administration (FHWA) and Federal Transit Authority (FTA) grant application requirements and planning emphasis areas and guidance. The UPWP provides a means to coordinate these many different planning activities, in order to address the “3-C” 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, and 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).

## 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.

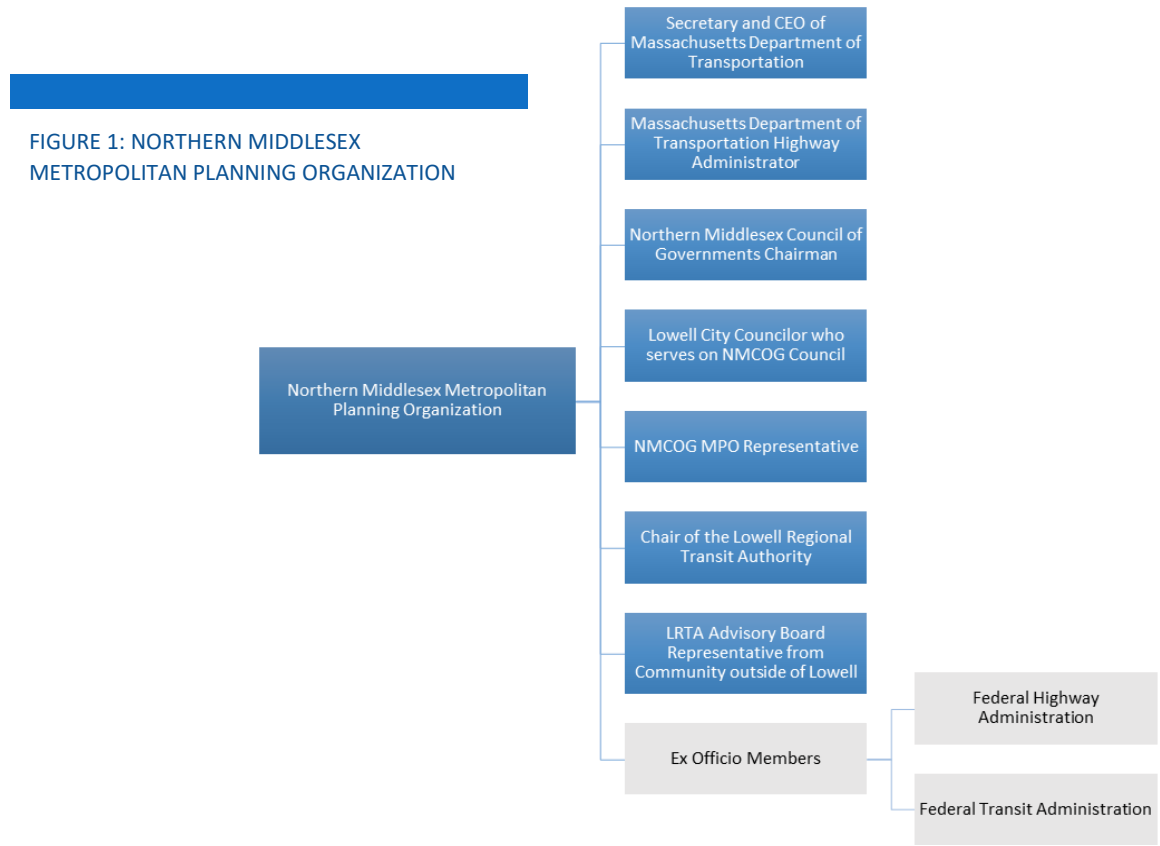


The Northern Middlesex MPO was established to carry out the transportation planning process in accordance with federal and state regulations. Federal regulations require that the MPO carry out a comprehensive, continuing and cooperative (3-C) transportation planning process. The Northern Middlesex MPO 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 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.



## NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS’ 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 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 FAST 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, and 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

---

### FIXING AMERICA'S SURFACE TRANSPORTATION ACT (FAST)

---

The UPWP has been prepared in accordance with the provisions of the Fixing America's Surface Transportation (FAST) Act (Title 23 CFR Section 450.308 (c)) and with Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) grant application requirements and planning emphasis areas and guidance. The FAST Act, signed into law by President Obama on December 4, 2015, builds on the program structure and reforms of the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21). The FAST Act continued all of the metropolitan planning requirements that were in effect under MAP-21, 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.

## FEDERAL PLANNING FACTORS

---

Title 23 CFR Section 450.308 (c) outlines planning regulations for MPOs in development of the UPWP, addressing the planning factors (23 CFR 450.306 (b)) initiated in MAP-21. The FAST Act 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. Improving transportation system resiliency and reliability and reducing (or mitigating) the stormwater impacts of surface transportation; and
10. Enhancing travel and tourism."

The NMMPO addresses these ten planning factors through the development of UPWP tasks outlined in this document. Appendix A contains an overview table showing the relationship between each planning factor and specific tasks outlined in the FFY 2021 UPWP.

In addition to the planning factors, federal planning emphasis areas have been incorporated into the UPWP. The following emphasis areas are included:

- Performance Management
- Climate Change
- Civil Rights
- Development of Products

- Bike/Pedestrian Safety
- Regional Models of Cooperation – Enhancing the process for effective communication between the MPO’s, MassDOT, and Regional Transit Authorities (RTAs) results in improved collaboration and cooperation in the transportation planning process
- 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 and have been considered by the MPO 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. These recommendations were considered in development of the 2020-2040 Northern Middlesex Regional Transportation Plan and in the formulation of this Unified Planning Work Program.

### WEMOVEMASSACHUSETTS

---

In December 2013, MassDOT released *WeMove Massachusetts: Planning for Performance (WMM)*, the Commonwealth of Massachusetts’ Long-Range Transportation Plan (LRTP). The report summarizes MassDOT’s approach to multimodal capital planning and the use of scenario planning. The Planning for Performance tool can be used to calculate the performance outcomes resulting from different funding levels available to MassDOT. The WMM tool also incorporates MassDOT’s important policy initiatives, such as mode shift and sustainability, into the capital planning process. MassDOT uses the tool to update and refine investment priorities. The performance tool also allows transportation customers and stakeholders to understand the impacts of investment or disinvestment in our transportation system.

### Themes of WeMove Massachusetts

- Improve Transportation System Reliability
- Focus More Attention on Maintaining Our Transportation System
- Design Transportation Systems Better
- Encourage Shared Use of Infrastructure
- Increase Capacity by Expanding Existing Facilities and Services
- Create a More User-Friendly Transportation System
- Broaden the Transportation System to Serve More People
- Provide Adequate Funding and Collect Revenue Equitably
- Minimize Environmental Impacts
- Improve Access to Our Transportation System

## 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, and to 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 is estimated that 42,000 to 48,000 jobs will 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.

## THE HEALTHY TRANSPORTATION COMPACT

---

The Healthy Transportation Compact is an inter-agency initiative whose members include the Secretaries of Transportation, Health and Human Services, and Energy and Environmental Affairs, as well as the MassDOT Highway and Transit Administrators, and the Commissioner of Public Health. As a key requirement of the 2009 transportation reform legislation, the Compact is designed to facilitate transportation decisions that balance the needs of all transportation users, expand mobility, improve public health, support a cleaner environment and create stronger communities.

The Compact focuses on the following tasks:

- Promote interagency cooperation to implement state and federal policies and programs;
- Reduce greenhouse gas emissions, improve access to services for persons with mobility limitations and increase opportunities for physical activities;
- Increase bicycle and pedestrian travel and facilitate implementation of the Bay State Greenway Network;
- Work with the Massachusetts Bicycle and Pedestrian Advisory Board (MABPAB) to effectively implement a policy of complete streets for all users, consistent with the current edition of the Project Development and Design Guide;
- Implement health impact assessments for use by planners, transportation administrators, public health administrators and developers;
- Expand service offerings for the Safe Routes to School program;
- Initiate public-private partnerships that support healthy transportation with private and non-profit institutions;
- Establish an advisory council with private and non-profit advocacy; and
- Develop goals for the Compact and measure progress toward these goals.

## 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 has 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 in place. Since 2017, funding has been awarded for projects in Billerica, Chelmsford, Lowell, Tewksbury, Tyngsborough and Westford. The Town of Dunstable has an approved Complete Streets Prioritization Plan. The Towns of Dracut and Pepperell are currently preparing Complete Streets Prioritization Plans. 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 (2017-2020)	Project Award
Billerica	Yes	Yes	\$378,320	Glad Valley Traffic Calming and Sidewalk Improvements (2020) Billerica Road Sidewalks, Richardson Road Multimodal Improvements and a Crosswalk at Parkhurst/North Road (2017)
Chelmsford	Yes	Yes	\$327,129	
Dracut	Yes	No	-	-
Dunstable	Yes	Yes	-	-
Lowell	Yes	Yes	\$400,000	South Common Shared Use Path (2017)
Pepperell	Yes	No	-	-
Tewksbury	Yes	Yes	\$400,000	East Street at Chandler Street Improvements (2018)

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

Community	Approved Complete Streets Policy	Complete Streets Prioritization Plan Approved	Project Funding Awarded (2017-2020)	Project Award
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 conduct 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 both the FTA 5303 planning program and the FHWA PL funding received by the region. NMCOG provides the matching funds for its Section 5307 contract with the LRTA.

The MassDOT/FHWA PL, FTA/LRTA Section 5307 and Section 5303 programs cover the period of October 2020-September 2021.

## DEVELOPMENT OF THE UPWP/PUBLIC PARTICIPATION PROCESS

Title 23 CFR 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. The outreach process for the development of the NMMPO's UPWP guarantees the following:

- Public access to the UPWP and all supporting documentation;



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

## PUBLIC OUTREACH TOOLS

---

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

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

As a result of the COVID-19 pandemic, the public input process has been modified to allow for remote participation through Zoom meetings. 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.

## NOTICE OF THE AVAILABILITY OF THE UPWP

---

Notice of availability and opportunity for public comment is published in the *Lowell Sun*, as well as other local news media such as community-specific or foreign language newspapers, and is posted at 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](http://www.nmcog.org). A notice and link is also provided on the LRTA website at: [www.lrta.com](http://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, in writing, through conventional mail, by 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.

The endorsed UPWP document is posted on the NMCOG website [www.nmcog.org](http://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 2021 UPWP DEVELOPMENT:

Endorsement of the FFY 2021 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 22, 2020: Staff presented a UPWP development schedule to the NMMPO
- January 29, 2020: MassDOT provided federal Planning (PL) funds to the MPO to be used in development of the 2021 UPWP.
- March 18, 2020: Staff presented a draft UPWP task list to the NMCOG Council
- March 25, 2020: Staff presented a draft UPWP task list and funding allocation to the NMMPO
- May 27, 2020: Staff presented the draft FFY 2021 UPWP to the NMMPO, which votes to release the document for public review and comment
- June 9 2020: Staff hosted a public meeting to hear comments on the draft FFY 2021 UPWP.
- June 24, 2020: Staff presented comments received on the draft UPWP and the NMMPO voted to endorse the document
- July 2020: The NMMPO-endorsed UPWP is submitted to FHWA, FTA, and MassDOT for approval
- October 1, 2020: The NMMPO FFY 2021 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 10% of task budget	Significant change in project scope, cost changes greater than 10% 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 2020 work plan, staff continue the process of development of the **FFY 2021-2025 Transportation Improvement Program** and the **FFY 2021 Unified Planning Work Program**.

**TITLE VI AND ENVIRONMENTAL JUSTICE** – Staff developed the 2020 Title VI Activities annual update report and submitted it to MassDOT. Staff provided updates on regional equity for inclusion in the TIP and UPWP.

**TRAFFIC COUNTING** – Staff continued the 2019 Traffic counting season and are in the process of updating 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 are currently reviewing the traffic counting scope and schedule in light of the COVID-19 pandemic and its effect on travel.

**PAVEMENT MANAGEMENT** – Staff continue monitoring roadway pavement conditions, collecting data in Chelmsford, Tyngsborough and Westford as part of the 2020 program.

**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 a Road Safety Audit at the Route 38 and Astle/Pike/Veranda Intersection in Tewksbury. Staff are currently preparing a RSA in Tewksbury at the intersection of Shawsheen, Beech, Foster and Patten Streets. The COVID-19 emergency has delayed the project. This RSA may move into FFY 2021 as part of a local technical assistance task, although alternatives, such as performing a remote RSA, are being explored.

**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.

**COORDINATED HUMAN SERVICES TRANSIT PLAN** – Staff are in the process of updating the Plan and will present the report to the MPO in May 2020.

**INTELLIGENT TRANSPORTATION SYSTEMS** - Staff continue to work with MassDOT on placement of variable message board and closed circuit TV cameras at regionally significant locations. In 2020, cameras were recommended to be placed at Route 113 and Middlesex Road in Tyngsborough and VFW Highway and Bridge Street in Lowell, as part of a MassDOT District 4 ITS project.

### 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 2020 (October 1, 2019 – March 31, 2020).

TABLE 3: LOCAL TECHNICAL ASSISTANCE ACTIVITIES (OCTOBER 1, 2019-MARCH 31, 2020)

<b>Community</b>	<b>Local Technical Assistance Project</b>
<b>Region</b>	<ul style="list-style-type: none"> <li>Park and Ride Lot Demand Monitoring</li> <li>Pavement Condition Inventory</li> <li>ITS Improvements Along Regional Highways</li> <li>Municipal Vulnerability Preparedness Program Assistance</li> <li>Assistance to Regional Stormwater Collaborative</li> </ul>
<b>Billerica</b>	<ul style="list-style-type: none"> <li>Boston Road/Lexington Road/Glad Valley Drive TIP Project Assistance</li> <li>Boston Road TIP Project Assistance</li> <li>Yankee Doodle Bike Path TIP Project Assistance</li> <li>MVP Planning Assistance</li> </ul>
<b>Chelmsford</b>	<ul style="list-style-type: none"> <li>Route 129 Corridor Infrastructure Needs Assessment</li> <li>Master Plan Update Assistance</li> <li>Ledge Rd Truck Volume Assistance</li> </ul>
<b>Dracut</b>	<ul style="list-style-type: none"> <li>Nashua Road Project Assistance</li> <li>Dracut Master Plan Update</li> <li>MVP Planning Assistance</li> </ul>
<b>Dunstable</b>	<ul style="list-style-type: none"> <li>Route 113/Main Street TIP Project Assistance</li> </ul>
<b>Lowell</b>	<ul style="list-style-type: none"> <li>Go Lowell Multimodal and Bicycle Master Plan Assistance</li> <li>Pawtucket Street Project Assistance</li> <li>Lord Overpass Project Assistance</li> <li>Upper Pawtucket Canalway Project Assistance</li> <li>Appleton-Middlesex-Jackson Street Study</li> <li>Pedestrian Infrastructure Inventory Project</li> <li>Canal Bridges/TIGER Grant Project Assistance</li> <li>Hamilton Canal Project Assistance</li> <li>Rourke Bridge Project Assistance</li> <li>Working Cities Challenge Grant Assistance</li> <li>Merrimack Riverwalk Project Assistance FLAP</li> <li>Pawtucket Falls Overlook Project Guidance</li> <li>MVP Planning Assistance</li> </ul>
<b>Pepperell</b>	<ul style="list-style-type: none"> <li>Master Plan Update Assistance</li> <li>Heavy Vehicle Exclusion Process Assistance</li> <li>Complete Streets Prioritization Plan Assistance</li> <li>MVP Planning Assistance</li> </ul>
<b>Tewksbury</b>	<ul style="list-style-type: none"> <li>Bike Path Feasibility Study Scope Assistance</li> <li>Shawsheen Street Traffic Volume Monitoring</li> </ul>

TABLE 3: LOCAL TECHNICAL ASSISTANCE ACTIVITIES (OCTOBER 1, 2019-MARCH 31, 2020)

Community	Local Technical Assistance Project
	Route 38 Corridor TIP Project Assistance Route 133/River Road TIP Project Assistance
<b>Tyngsborough</b>	Traffic Volume Data Collection on Middlesex Road Park and Ride Lot Expansion
<b>Westford</b>	Boston Road TIP Project Assistance Master Plan Update Assistance MVP Planning Assistance

## TRANSPORTATION AND ECONOMIC DEVELOPMENT COORDINATION STUDY

Under Task 4.2 of the FFY 2020 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 our economic growth.

NMCOG staff addressed the public participation element of this work task through its work with regional stakeholder agencies regarding linkages related to the transportation and economic development areas and the relevance to the planning factors as required under the FAST Act.

### 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 and, during peak travel periods the bridge cannot physically accommodate the movement of emergency vehicles, causing them to find alternate routes, which increases response times and places patients at undue risk.

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 will continue to prioritize this project and will work with local and state officials and the legislative delegation to identify a funding source for construction of the new facility.

## **Hamilton Canal District (Lowell)**

NMCOG staff continues 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 additional \$ 2.482 million in EDA Public Works grant funds for the construction of 450 feet of new roadway, a new 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 municipal parking garage funded by a \$35 million investment by the City, and up to 68 new housing units. Construction on the canal bridge is complete. The Judicial Center has been constructed and is open for business in April 2020. The City previously had received \$4,572,000 in MassWorks funds as a match for the EDA Public Works grant. Work has commenced on a new parking garage within the district and construction is expected to be complete by October 2020.

The City received \$2 million in MassWorks funds in 2016 to upgrade a section of Thorndike Street adjacent to the Gallagher Intermodal Transportation Center in support of the mixed-use, transit-oriented Thorndike Exchange project. This project began construction in spring 2018. 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 City and the LRTA worked with the FTA to change the program definition for lapsing FY 2011 Paul S. Sarbanes Transit in the Park (STRIP) funding (\$1.513 million) in order to allocate it toward a multimodal study and bus/shuttle improvements serving the Hamilton Canal Innovation District and downtown Lowell. The design phase of this project began in the summer of 2018.

NMCOG received a contract from EDA effective April 30, 2019 to complete the *Greater Lowell CEDS for 2020-2024*, as well as Economic Development District (EDD) designation so that it will be able to establish a three-year planning contract and not have to compete for funds on an annual basis. This study is complete.

## **AYER'S CITY URBAN RENEWAL PLAN (LOWELL)**

During the past six 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 Watermark Engineering 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. In November 2019, the City received a \$3 million MassWorks grant to construct the Tanner street realignment project. The new roadway will create a new 4-way signalized 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. NMCOG staff continue to work with the City to advance the transportation components of the urban renewal plan, most recently the City has begun exploring funding available through the CARES Act

### **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 \$34.4 million with the anticipated completion date for construction in June 2023.

In regards to the Middlesex Turnpike Phase 3 project, NMCOG staff continues to work with the Middlesex 3 Coalition, a collaboration among the public sector (Burlington, Bedford, Billerica, Chelmsford and Lowell) the private sector and educational institutions (UMass Lowell and Middlesex Community College). 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. As a result of guidance provided by NMCOG staff, the Middlesex 3 Coalition established the Middlesex 3 TMA through the use of Community Innovation Challenge (CIC) funds. NMCOG staff, working in conjunction with MAPC and CTPS staff, completed a \$100,000 transit study for the Route 3 corridor through the use of Community Compact funds. The Middlesex 3 Coalition was able to secure Federal funds to operate a shuttle service between Lowell and Burlington. NMCOG staff has also regularly attend Middlesex 3 Coalition Transportation Subcommittee meetings and provide feedback on transportation and transit issues in the region.

### **ROUTE 38 CORRIDOR IMPROVEMENTS (TEWKSBURY)**

Several 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 along the corridor, define the development thresholds at which it becomes necessary to implement specific levels of travel mitigation in order to accommodate anticipated development, and project traffic conditions along the corridor over 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 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. Established economic development and transportation partnerships in the region will be leveraged 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 currently under construction with



an anticipated completion date of March 2022. Two projects are currently programmed in the FFY 2021-2025 TIP. A resurfacing of Route 38 and sidewalk reconstruction from Colonial Drive North to the intersection of Old Boston Road project is currently programmed in FFY 2021 with an anticipated advertisement date for construction in November 2020. 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.

With the increased focus on Route 38, several private investment 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.

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.

#### **Boston Road Revitalization Project (Billerica)**

While the Town did not receive MassWorks funding for the project like south of the Center, the Town is moving forward with a 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 FFY 2021-2025 Northern Middlesex TIP. The project is currently at 25% design. The project 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 the implementation of the transportation improvements recommended in the Vinal Square Traffic Study, 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 recently sold the West campus to a private developer.

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 the 54-unit market-rate rental project entitled the Grist Mill Apartments in the Town’s Center Village Overlay District. Due to some delays in the development project, the Town requested a one-year extension from DHCD on its MassWorks grant. DHCD extended the project until June 30, 2019. The Grist Mill Apartments are under construction and will be completed by October 2019. The Town is also seeking TIP funding for a Route 110 improvement project in the Town Center with proposed improvements to access, parking, and bicycle and pedestrian facilities. The NMMPO will consider this project in upcoming years.

## 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. Currently there is a \$3 million dollar shortfall in funding to complete these bridges. The City is currently discussing options to cover the shortfall including using available 2020 target funds in the TIP. The status of the five bridges as of April 2020 was as follows:

### 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

- 1) **Pawtucket Street over the Pawtucket Canal** – Currently closed to vehicular traffic. Bridge completion is anticipated by April 2022.
- 2) **Pawtucket Street over the Northern Canal** - Construction underway and closed to vehicular traffic (open to pedestrian traffic). Bridge completion is expected by November 2020.
- 3) **Central Street over the Lower Pawtucket Canal** – Construction work began in early April 2019. Bridge completion is anticipated by September 2021.
- 4) **Merrimack Street over the Western Canal** – Project complete.
- 5) **Merrimack Street over the Merrimack Canal** – Project complete.

## **APPLETON, MIDDLESEX AND JACKSON STREETS (LOWELL) CORRIDOR STUDY**

NMCOG staff has worked closely with the City of Lowell to address traffic, land use, and economic development issues related to Appleton, Middlesex and Jackson Streets. NMCOG staff have addressed the connections between Appleton Street and the Lord Overpass, as well as the tie-ins with Central and Church Streets, to provide more efficient traffic flow. The corridor study for Appleton Street also addressed the land use and economic development issues as a means to encourage more private investment along the corridor. The corridor study was expanded to Middlesex and Jackson Streets in order to complement the City's efforts to be designated as a Transformative Development Initiative (TDI). NMCOG staff continues to work with the City staff to implement the Appleton, Middlesex and Jackson Streets corridor study.

## **ROUTE 113 (PEPPERELL) CORRIDOR STUDY**

NMCOG staff built upon the previous work in Railroad Square and along the corridor to encourage additional private investment. Private businesses located along the corridor wanted to address various transportation issues- congestion, parking, pedestrian traffic, bike lanes, etc. The Town also wanted to encourage additional investment and provide the support services and infrastructure that these businesses need. These actions are related to the reuse of the former Pepperell Paper Mill building site and the review of zoning changes to address the needs of the business community. The corridor study is being incorporated within the Economic Development and Transportation sections of the updated Town Master Plan, being developed by NMCOG staff.

## **WORKING CITIES CHALLENGE (WCC)/SMART GROWTH AMERICA PROJECT (LOWELL)**

Four years ago the City of Lowell was chosen as one of six cities in Massachusetts to be designated as a Working Cities Challenge (WCC) community by the Federal Reserve Bank of Boston. This designation was made as a result of the unique partnerships established by the City and the Coalition for a Better Acre (CBA) to address the barriers facing Acre residents in accessing employment and educational opportunities to improve their quality of life. A significant barrier to the Acre residents is access to transportation options in order to get to work or to attend classroom training. The WCC Board and staff have continued to work directly with the Federal Reserve Bank of Boston to focus on the economic development, cultural and educational needs of Acre residents. Within this year's DLTA program, NMCOG agreed to work with the City of Lowell to address pedestrian and bicycle issues related to the City's Complete Streets Program in downtown and the Acre. The Economic Development Work Group of the WCC has adopted the Smart Growth America recommendations as part of its work plan for 2020 and Jeanne D'Arc Credit Union has allocated \$200,000 in small business loan funds for Acre businesses.

This comprehensive approach has enabled NMCOG to work more closely with private industry and local government to promote transportation improvements, which will encourage economic growth, while maintaining the quality of life that attracts residents, employers and visitors to the region.

## **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: BICYCLE AND PEDESTRIAN FACILITIES IN THE NORTHERN MIDDLESEX REGION

Off-Road/Multi-use Facilities in Northern Middlesex Region		
Trail/Walkway	Description	Status
<b>Statewide and Regional Trails</b>		
<b>Nashua River Rail Trail</b>	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
<b>Bay State Greenway</b>	A proposed 740-mile, seven-corridor bicycle transportation network that will be comprised of both off-road and on-road bicycle facilities.	Ongoing
<b>Bay Circuit Trail</b>	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
<b>Bruce Freeman Rail Trail</b>	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. Phase 2A opened in 2018. Phase 2B is under design and Phase 2C is expected to open summer 2019.	Ongoing
<b>Concord River Greenway</b>	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
<b>Tewksbury Rail Trail</b>	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. The feasibility study is complete and the Town has been in contact with MPO staff to learn about funding opportunities.	In feasibility study stage
<b>Yankee Doodle Bikeway</b>	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 2020-2024 TIP. The project is currently at 25% Design.	In design phase
<b>Middlesex Canal</b>	A trail network is planned along the towpath of the canal, with design work being advanced on the section of the canal adjacent to the Concord River/Mill Pond area of North Billerica.	In planning and design phases
<b>Merrimack River Trail</b>	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 design phase
<b>Dunstable Pathways</b>	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.	In design phase

TABLE 4: BICYCLE AND PEDESTRIAN FACILITIES IN THE NORTHERN MIDDLESEX REGION

Off-Road/Multi-use Facilities in Northern Middlesex Region		
<b>Chelmsford Center Brook Walk</b>	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
<b>Northern Canal Island and Great River Wall Walkway</b>	Reestablishment of walkways and landscaping on island and river wall separating Merrimack River and Northern Canal.	Complete
<b>Western Canal</b>	Development of three reaches – Acre, Western Canal Park, and Suffolk Street – to enhance pedestrian circulation along the Western Canal.	Complete
<b>Red Cross River Reach</b>	Conversion of an overgrown lot into a small park, which opens access to and view of the historic Pawtucket Canal.	Complete
<b>Hamilton Walkway</b>	An element of the revitalization of Hamilton Canal District, the project involves rehabilitation and reconstruction of pedestrian bridges, installation of new utilities, sidewalks, lighting, and landscaping	Complete
<b>Upper Pawtucket Canalway</b>	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 2021 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
<b>Pawtucket Falls Overlook</b>	Creation of a 5/6-mile linear park and walkway extending from Vandenberg Esplanade to School Street Bridge. This project is currently programmed in the NMMPO TIP for 2021 using Statewide CMAQ funding and is at the 25% design stage awaiting a design public hearing.	In design phase
<b>Merrimack Riverwalk</b>	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. In 2020, the MPO amended the TIP to program \$400,000 to close a funding shortfall. The project is scheduled to be advertised for construction in Summer 2020.	In design 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 TRANSIT ASSET MANAGEMENT PLAN

The Federal Transit Administration’s (FTA) Final rule (49 CFR Part 625) outlined a requirement for transit providers to implement performance management through Transit Asset Management Plans. LRTA, as a Tier II Provider<sup>1</sup>, adopted their respective TAM Plan on August 28, 2018. The NMMPO reviewed and adopted the performance measures outlined in the Plan on February 27, 2019. The TAM Plan covers a horizon period of Federal Fiscal Years 2018-2022. The purpose of the plan is to:

<sup>1</sup> Tier II Provider: 100 or fewer vehicles across all fixed routes.

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

The TAM Plan uses transit asset condition to guide the management of capital assets and prioritizations of funding to improve/maintain a State of Good Repair (SGR). SGR performance measures and targets were set for rolling stock, equipment and facilities. Table 5 outlines the MPO-adopted TAM performance measures and targets.

TABLE 5: TRANSIT ASSET MANAGEMENT PERFORMANCE MEASURES AND TARGETS

Asset Category - Performance Measure	Asset Class	Current Conditions (2019)	2019 Target	2020 Target	2021 Target	2022 Target	2023 Target
<b>REVENUE VEHICLES</b>							
Age -% of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark	BU -Bus	11.4%	12%	20%	10%	5%	3%
	CU -Cutaway Bus	6.3%	11%	24%	35%	13%	4%
<b>EQUIPMENT</b>							
Age -% of vehicles that have met or exceeded their Useful Life Benchmark	Non Revenue/ Service Automobile	33.3%	50%	0%	0%	0%	0%
	Trucks and other Rubber Tire Vehicles	66.7%	70%	67%	67%	67%	67%
	Maintenance Equipment*	40.0%	30%	30%	22%	22%	10%
	Facilities Equipment*	0.0%	0%	0%	0%	0%	0%
<b>FACILITIES</b>							
Condition -% of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration	0.0%	0%	0%	0%	0%	0%
	Maintenance	0.0%	0%	0%	0%	0%	0%
	Parking Structures	0.0%	0%	0%	0%	0%	0%
	Passenger Facilities	0.0%	50%	50%	0%	0%	0%

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

## LORD OVERPASS RECONSTRUCTION PROJECT

The Lord Overpass was originally constructed in 1959 and is owned by the City of Lowell. The overpass is a grade separated diamond interchange between Thorndike Street, Middlesex Street and Appleton Street/Chelmsford Street. The Lord Overpass today is functionally and structurally deficient, and is comprised of a rotary with four closely spaced signalized intersections. Sidewalks are provided on both sides of the roadways forming the square, with raised traffic islands provided at two of the four intersections. There is no access to the Hamilton Canal Innovation District (HCID) redevelopment and new Justice Center with the current configuration. As part of the MEPA permit conditions, and taking into account other improvements necessary for the HCID development and the Justice Center, a new intersection is required to connect Jackson Street extension to Fletcher Street and Thorndike/Dutton Streets. This new intersection cannot be created with the Overpass ramps in their current configuration. The overpass will be removed and new at-grade intersections at Summer Street, Appleton Street, Middlesex Street and Jackson Street will be built. The new intersection at Jackson Street would be the 'front-door' to the HCID and Judicial Center. Thousands of people, on a daily basis, would use this new intersection to access the new commercial, retail, residential, and social services available in the HCID. The City of Lowell has received \$15 million in state funding for the removal of the existing Lord Overpass and improvements to the Thorndike Street/Dutton Street corridor. The LRTA's Kennedy Bus Hub and the MBTA Lowell Commuter Rail Station at Gallagher Terminal are located along the corridor and will benefit from improved roadway conditions. The Lord Overpass project is currently under construction.

## 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 will be undertaken over the course of FFY 2020, and summarizes the funding levels and match requirements for those activities.

TABLE 6: SUMMARY OF OTHER NMCOG FUNDING SOURCES FFY 2020 (10/01/2019 - 9/30/2020)

Sources of Funding	Contract Amount	% Match Required
Local Assessments	\$90,480	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
Northern Middlesex Stormwater Collaborative	\$57,600	0
Lowell Regional Waste Water Utility	\$2,500	0
Mass Trails Grant	\$12,000	20
Mass DEP MS4 Grant	\$12,525	0
EOEEA Planning and Assistance Grant	\$60,000	23
DLTA XII/XIII	\$190,701	5
DOER--REGIONAL ENERGY PLANNING ASSISTANCE	\$21,800	0
DOER--Affordable Access Regional Coordination	\$77,036	0
EDA Planning Grant	\$75,000	37.5



TABLE 6: SUMMARY OF OTHER NMCOG FUNDING SOURCES FFY 2020 (10/01/2019 - 9/30/2020)

Sources of Funding	Contract Amount	% Match Required
Dracut Master Plan	\$33,500	0
Pepperell Master Plan	\$25,000	0
Pepperell Municipal Vulnerability Preparedness	\$4,000	0
Dunstable Community Preservation Plan	\$3,500	0
Tyngsborough Open Space & Recreation Plan	\$7,500	0
Tyngsborough Housing Production Plan Update 2018-2022	\$10,000	0
Tyngsborough Master Plan	\$30,000	0

### REGIONAL EQUITY: UPWP STUDIES – 2016-2020

A geographic distribution of UPWP funded transportation planning activities has been undertaken to determine regional equity in the transportation planning process. UPWP activities have been reviewed between FFY 2016 and FFY 2020. Thirty (30) tasks have been listed in the UPWP over the five-year period. Activities include ongoing data monitoring, systems

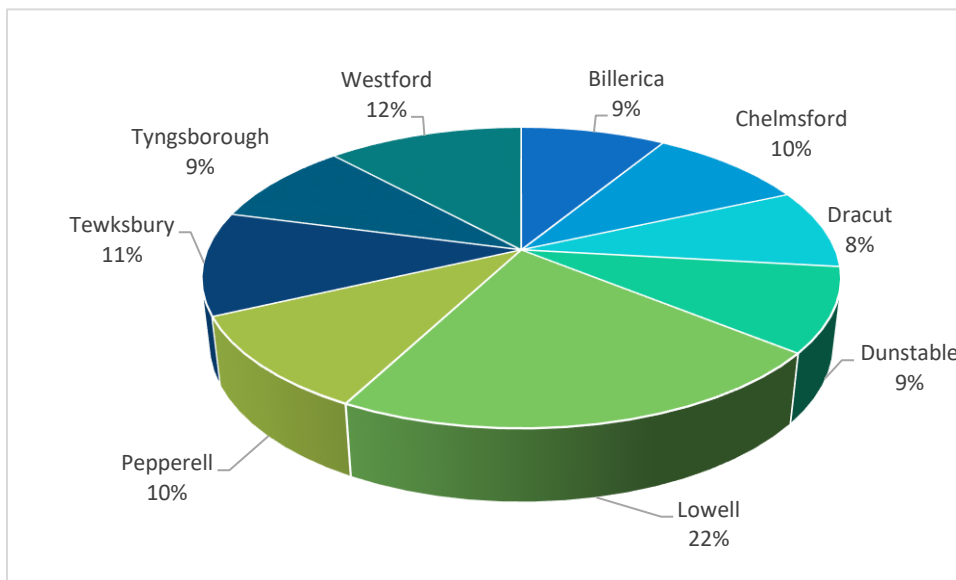


FIGURE 2: REGIONAL DISTRIBUTION OF UPWP TASKS BY COMMUNITY (2016-2020)

management, development of certification documents and projects funded through the local technical assistance task. Figure 2 shows the percentage of UPWP tasks by community during the study period. Table 7 summarizes the PL apportionment by spending per community between 2016 and 2020.

An analysis of the MassDOT PL funding apportionment to the NMMPO (Table 8) showed that the City of Lowell received the highest percentage of the planning funds, with twenty two percent (22%) of the total funding between 2016 and 2020. The suburban communities surrounding Lowell received comparable funding during the study period, with percentages ranging from 8-12%. Of note, regional programs like the TIP and local technical assistance funding was distributed and reported in the Northern Middlesex Annual Progress Report for each fiscal year.

TABLE 7: PL APPORTIONMENT SPENDING BY COMMUNITY (2016-2020)

Community	PL Apportionment (2016-2020)	Percentage
Billerica	\$322,928	9%
Chelmsford	\$358,809	10%
Dracut	\$287,047	8%
Dunstable	\$322,928	9%
Lowell	\$789,380	22%
Pepperell	\$358,809	10%
Tewksbury	\$394,690	11%
Tyngsborough	\$322,928	9%
Westford	\$430,571	12%

TABLE 8: NORTHERN MIDDLESEX PL APPORTIONMENT (2016-2020)

Year	Federal	State	Total
2016	\$529,221	\$132,305	\$661,526
2017	\$561,267	\$140,317	\$701,584
2018	\$584,664	\$146,166	\$730,830
2019	\$597,217	\$149,304	\$746,521
2020	\$598,104	\$149,526	\$747,630

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 thirty tasks performed since 2016, nineteen (63%) occurred within low income and minority Environmental Justice areas, as shown in Table 9.

Table 9: UPWP Tasks by Title VI/EJ Designation (2016-2020)

UPWP Year	UPWP Task	Community (s)	Funding	Project located in EJ Minority Population	Project located in EJ Low Income Population	Project located in Both EJ Minority and Low Income Population
2016	UPWP	All	\$ 21,691	Yes	Yes	Yes
	TIP	All	\$ 47,911	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 32,000	Yes	Yes	Yes
	Traffic Counting	All	\$ 57,000	Yes	Yes	Yes
	Chelmsford Neighborhood Traffic and Safety Assessment	Chelmsford	\$ 22,000	No	No	No
	Coordinated Human Services Transit Plan	All	\$ 8,921	Yes	Yes	Yes
	Pavement Condition Inventory	Chelmsford, Dracut, Dunstable	\$ 30,000	No	No	No
	Route 113 Dracut Corridor Transportation Study	Dracut	\$ 24,000	No	No	No
	2017	UPWP	All	\$ 24,691	Yes	Yes
TIP		All	\$ 50,911	Yes	Yes	Yes
Local Technical Assistance		All	\$ 42,000	Yes	Yes	Yes
Traffic Counting		All	\$ 60,000	Yes	Yes	Yes
Route 113 Pepperell Corridor Transportation Study		Pepperell	\$ 28,000	No	No	No
2018		UPWP	All	\$ 26,691	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

Table 9: UPWP Tasks by Title VI/EJ Designation (2016-2020)

UPWP Year	UPWP Task	Community (s)	Funding	Project located in EJ Minority Population	Project located in EJ Low Income Population	Project located in Both EJ Minority and Low Income Population
	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
	Tewksbury - Shawsheen/Foster/Beech Street RSA	Tewksbury	\$ 11,000	No	No	No
	Pavement Condition Inventory	Chelmsford, Tewksbury, Westford	\$ 30,000	No	No	No
Lowell Pedestrian Facility Inventory	Lowell	\$ 21,000	Yes	Yes	Yes	

Table 9: UPWP Tasks by Title VI/EJ Designation (2016-2020)

UPWP Year	UPWP Task	Community (s)	Funding	Project located in EJ Minority Population	Project located in EJ Low Income Population	Project located in Both EJ Minority and Low Income Population
	Dracut- Primrose Hill/Lakeview Avenue Intersection Study	Dracut	\$ 11,000	No	No	No

TABLE 10: UPWP TASKS BY TITLE VI/EJ DESIGNATION (2021)

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
<b>2021</b>	UPWP	All	\$ 34,691	Yes	Yes	Yes
	TIP	All	\$ 58,911	Yes	Yes	Yes
	Local Technical Assistance	All	\$ 45,500	Yes	Yes	Yes
	Traffic Counting	All	\$ 65,000	Yes	Yes	Yes
	Pavement Condition Inventory	All	\$ 28,000	No	No	No
	Regional Pedestrian Inventory	All	\$ 22,000	Yes	Yes	Yes
	TIP Project Review study	All	\$ 22,000	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, 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 FAST Act, and as further established through the USDOT metropolitan planning regulations.

#### PROPOSED ACTIVITIES:

1. Provide support and implement FAST Act 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. Participation 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.
9. Provide management, guidance, and technical support to local communities and others relative to FAST 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.

**PROPOSED ACTIVITIES CONTINUED...**

11. 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.
12. 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.
13. Maintain county roads bylaws and procedures and update data as collected.
14. Coordinate with other MPOs and agencies comprising the Nashua Urbanized Area to update the Nashua UZA MOU.
15. Coordinate with Transit agencies comprising the Nashua Urbanized Area to update the Nashua UZA Split MOU.
16. Update the NMMPO MOU based on recommendations outlined in the most recent certification report.
17. Develop monthly, quarterly, and annual progress reports, as required by State and Federal partners.
18. Coordinate transit services with Councils of Aging and outside service providers.

**PREVIOUS WORK:**

- 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
- Revised MPO agreement and bylaws
- Update to Nashua UZA MOU
- Update to the MassDOT/MPO/LRTA MOU



SCHEDULE:

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
3C Process Activities (Ongoing)	→											

FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$91,318	23.0 weeks
MassDOT PL/5303 Match	\$22,830	5.7 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$114,148</b>	<b>28.7 weeks</b>

**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 FAST Act:

- Safety
- Infrastructure
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- 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](http://www.nmcog.org) and social media outlets.
2. Review and amend, as necessary, relevant portions of the UPWP in order to meet planning requirements contained in the FAST Act 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, quarterly, 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 2022)

**SCHEDULE:**

It is anticipated that the draft FFY 2022 UPWP will be completed and released for public review and comment in May 2021 and that the final document will be endorsed by the MPO in June 2021.

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Monitoring of UPWP Projects	→											
Public Outreach	→											
Draft UPWP							→					
Final UPWP								→				
Public Comment Opp.									●			

**FUNDING:**

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$27,753	5.9 weeks
MassDOT PL Match	\$6,938	1.5 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$34,691</b>	<b>7.4 weeks</b>

**OBJECTIVE:**

To provide the public with complete information, timely notification, full access and 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 FAST Act 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. This includes attendance at and participation in the Regional Transportation Advisory Council meetings for the MPOs within the Boston Urbanized area pursuant to the 2019 MOU, as well as the sharing of notices, reports, and other materials.

**PROPOSED ACTIVITIES:**

1. Continue to refine the current public participation process and the Public Participation Plan, based on the requirements of the FAST Act. 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, 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. Apply new and innovative approaches to improve public participation levels and opportunities including social media and virtual public meetings.
6. Present certification documents and amendments and/or adjustments to the public for input/comments.
7. Continue outreach efforts to local and regional communities and organizations, including the Coalition for a Better Acre, the CMAA, 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

PREVIOUS WORK (CONTINUED):

- 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 and Facebook

PRODUCTS:

- Revised and updated public participation plans and procedures
- Public meeting notices, public meetings and meeting minutes
- Website and social network maintenance and updates

SCHEDULE:

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Public Participation Activities (Ongoing)	←											→

FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$33,600	9.6 weeks
MassDOT PL/5303 Match	\$8,400	2.4 weeks
LRTA §5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$42,000</b>	<b>12.0 weeks</b>

**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](http://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 with sufficient levels of analysis and documentation to satisfy requirements of the Metropolitan Planning Regulations under FAST.
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.

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 2022-2026 Transportation Improvement Program
- TIP Amendments and Adjustments as needed

SCHEDULE:

It is anticipated that the draft FFY 2022-2026 TIP will be completed and released for public comment in April 2021 and that the final document will be endorsed by the MPO in May 2021.

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Monitoring of TIP Projects	←————→											
Public Outreach	←————→											
Draft TIP						←————→						
Final TIP								←————→				
Public Comment Opp.							●					

FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$47,929	11.5 weeks
MassDOT PL/5303 Match	\$11,982	2.8 weeks
LRTA §5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$59,911</b>	<b>14.3 weeks</b>



**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.
- Attend training seminars and workshops regarding environmental justice.

**PROPOSED ACTIVITES:**

1. The MPO will 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 in accordance with the latest regulations and state and federal policies;
10. Revise the MPO's public participation plan to reflect any change in state and federal regulations and policies;
11. Update the LEP Plan, as needed;
12. 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; and
13. 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
- EJ analysis for the RTP and TIP
- LEP Plan



## 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. FAST Act guidelines continue the MAP-21 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
- Reduced Project Delivery delays

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

---

### TASK 2.1 TRAFFIC COUNTING

---

#### OBJECTIVE:

Consistent with FAST 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.

#### PROPOSED ACTIVITIES:

1. Due to the COVID-19 pandemic, staff will review appropriate methods for conducting traffic counting data collection. Staff will continue to work with Federal, State and Municipal partners to determine the best approach to data collection.
2. Prepare documentation and attain permits for traffic counting activities on State owned roadways in Districts 3 and 4.
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. Perform data collection activities for other UPWP tasks, including corridor and traffic studies.

**TASK 2.1 (CONTINUED): TRAFFIC COUNTING**

**PROPOSED ACTIVITIES CONTINUED:**

9. 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.
10. 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:**

- 2020 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	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Data collection	←→						←→					
Data analysis	←→											
Final Report					←→							

**FUNDING:**

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$52,000	17.4 weeks
MassDOT PL Match	\$13,000	4.4 weeks
LRTA §5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$65,000</b>	<b>21.8 weeks</b>

## TASK 2.2      GEOGRAPHIC INFORMATION SYSTEM (GIS)

### OBJECTIVE:

To continue to develop and maintain digital geo-coded referenced 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 maps to include bus stop information (i.e. 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/ 20	11/ 20	12/ 20	01/ 21	02/ 21	03/ 21	04/ 21	05/ 21	06/ 21	07/ 21	08/ 21	09/ 21
GIS (Ongoing)	←											→

## FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$82,948	24.7 weeks
MassDOT PL/5303 Match	\$20,737	6.2 weeks
LRTA §5307	\$10,000	3.7 weeks
NMCOG 5307 Match	\$2,500	0.7 weeks
Total	\$116,185	35.3 weeks

**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 oversee efforts that are included in other tasks. For example, pedestrian facility inventory efforts will reported here but collection activities are mainly undertaken through the bicycle and pedestrian planning task.
2. Continue to work with communities to compile data on affordable housing locations in the regions in conjunction with housing production plans.
3. Continue to coordinate with municipalities in development of community specific plans including Master plans, land use, hazard mitigation, climate plans, municipal vulnerability plans, affordable housing and transportation.
4. Continue to collect useful and current data. Update and expand demographic data, employment data, and land use information.
5. Continue to build databases and develop mechanisms to improve public access to these databases.
6. Research methodologies and models for calculating demographic, land use and economic forecasts.
7. Promote coordination and cooperation among data generators and data users emphasizing local and regional applications and the need for standardization.
8. 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.
9. Assist the Census Bureau and the Donahue Institute in collecting relevant demographic data for development of Census estimates.
10. Compile data needed for transportation and transit studies.
11. Assist MassDOT, as needed, in the refinement and maintenance of the statewide travel demand model.
12. Work with MassDOT staff to incorporate the latest demographic and land use assumptions, and project information, into the model.
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.

**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
- Work on past decennial census relative to address range and identification issues







**OBJECTIVE:**

To assist in the development of performance measures in the transportation planning process as directed by Federal and State requirements outlined in the FAST Act. 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 and the process is continued in the FAST Act. 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 has released Final Rules establishing performance measures regarding safety, pavement condition, bridge condition, the National Highway System, freight movement, congestion, and Congestion Mitigation Air Quality (CMAQ). Each rule has an effective date. Once effective, MassDOT establishes performance targets for each national performance measure outlined in the rulemakings. The NMMPO then works 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 2019 and the Safety performance measures and targets for FFY 2020. The NMMPO has also adopted the LRTA's Transit Asset Management Plan (TAM), which outlines transit asset performance measures and targets.

**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.
6. Review the LRTA Public Transportation Agency Safety Plan and present to the MPO for adoption of performance measures and targets.
7. Use performance measure information to update Federal Certification documents.

**PREVIOUS WORK:**

- MPO Adoption of State performance measures and targets for safety, bridge condition, pavement condition, system reliability and air quality
- 2020-2040 Regional Transportation Plan
- Congestion Management Process
- Transportation Evaluation Criteria

**PRODUCTS:**

- MPO adoption of PTASP performance measures and targets
- MPO adoption of updated performance measures and targets for safety, bridge, pavement, system reliability and air quality
- Report on monitoring of ongoing planning tasks using system performance, data, and tracking

**SCHEDULE:**

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Refinement of Regional Performance Measures and Targets	←————→											
Monitoring of planning tasks to ensure progress toward targets	←————→											

**FUNDING:**

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$8,000	2.4 weeks
MassDOT PL/5303 Match	\$2,000	0.6 weeks
LRTA §5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$10,000</b>	<b>3.5 weeks</b>

## TASK 3 REGIONAL TRANSPORTATION PLANNING

---

Specific tasks in this grouping address the National Goal areas and performance measure requirements under FAST Act 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 Regional Transportation Plans 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.

#### PREVIOUS WORK:

- Past inventory and assessment of pavement conditions for pavement management program

#### PRODUCTS:

- Updated NMCOG Pavement Management database
- Pavement Management data for inclusion in the Regional Transportation Plan (annual reporting), corridor studies and for application by the PRC
- 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 FAST Act. 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, 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.

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 natural disasters and terrorism.

**PROPOSED ACTIVITIES:**

1. Further develop performance measures for vehicle, bicycle, and pedestrian safety as outlined in Federal legislation.
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. Assist MassDOT in implementation of the Strategic Highway Safety Plan (SHSP) and the Highway Safety Program.
6. Provide Safety Education materials for all vulnerable users of the transportation system.
7. Assist 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, as appropriate.
8. 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.
9. Review current plans for emergency planning and security elements, identifying critical facilities and infrastructure, and outlining the roles of various agencies.
10. Utilize Environmental Justice analysis from Task 1.5 to ensure the needs of vulnerable populations are adequately addressed in emergency response and evacuation plans.
11. Attend training seminars and workshops regarding disaster planning, and transportation safety and security.
12. Participate in meetings of LEPCs and emergency management agencies as a Northern Middlesex Council of Governments (NMCOG) and Lowell Regional Transit Authority (LRTA) representative.
13. Prepare and update the LRTA's COOP Plan, as needed.

TASK 3.2 (CONTINUED) TRANSPORTATION SAFETY AND SECURITY

PREVIOUS WORK:

- 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:

- 2020 Regional Transportation Safety Report
- Roadway Safety Audits, as appropriate
- Recommended TIP projects
- 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

SCHEDULE:

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Data collection/analysis/ technical assistance (ongoing)	←—————→											
Draft Safety Report			←————→									
Final Safety Report				←————→								

## FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$32,719	8.6 weeks
MassDOT PL/5303 Match	\$8,180	2.1 weeks
LRTA §5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$40,899	10.7 weeks



**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.

**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.
6. 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.

**PREVIOUS WORK:**

- Previous Congestion Management Plans
- 2020-2040 Regional Transportation Plan
- LRTA Transit Service Plan
- LRTA 21<sup>st</sup> 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

**PRODUCTS:**

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

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

**SCHEDULE:**

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Data collection	←→					←→				←→		←→
Data analysis/Update	←→	←→	←→	←→	←→	←→	←→	←→	←→	←→	←→	←→

**FUNDING:**

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$22,400	7.1 weeks
MassDOT PL/5303 Match	\$5,600	1.8 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$28,000</b>	<b>8.9 weeks</b>

---

## TASK 3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

---

### OBJECTIVE:

Assist in the maintenance and updating of the Boston/Eastern Massachusetts Regional ITS Architecture in accordance with FAST Act requirements that all ITS projects funded through the Highway Trust Fund be in conformance with National ITS Architecture and applicable standards. MassDOT Office of Transportation Planning has led the effort to develop an ITS Architecture for the Region. NMMPO staff will continue to participate in the update and maintenance, along with MassDOT and the local communities. In FY 2011, MassDOT completed an update of the Regional ITS Architecture. The NMMPO will continue to participate in activities related to the implementation of the 2011 Regional ITS Architecture.

### 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. Assist in developing an ITS Vision for the region, consistent with the existing and anticipated local transportation infrastructure and institutional capabilities.
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:

- Staff 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
- Staff worked with the City of Lowell to identify congested corridors as part of City wide monitoring program.
- Staff attended several workshops and training sessions run by FHWA and MassDOT regarding ITS
- Staff assisted the LRTA in the development of the Transit Service Plan, which includes an assessment of ITS needs
- Staff 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:**

FAST Act guidelines prioritize the concepts of sustainability and livability within the transportation planning process. One method for measuring sustainability is to assess the project against existing best practices. FHWA had developed a web-based tool called the Infrastructure Voluntary Evaluation Sustainability Tool (INVEST). In addition to sustainability of projects, the NMMPO will look to address livability through climate change monitoring efforts. MPO staff will work to identify the impacts of climate change on transportation in the Northern Middlesex region and implement strategies to address these impacts by reducing the levels of greenhouse gas (GHG) emissions from transportation sources. This work includes assessing the impacts of climate change on the critical regional transportation infrastructure by identifying areas vulnerable to flooding and inventorying infrastructure potentially impacted. GHG analysis will be performed for proposed TIP projects using guidance provided by MassDOT. In addition, MPO 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 Climate Action Plan and update as needed.
3. Review MEPA projects and comment on transportation and environmental impacts of proposed developments.
4. Monitor sustainability of projects using FHWA developed INVEST Tool.
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.
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 Climate Action Plan
- Participation on the City of Lowell's Climate Action Plan Advisory Committee
- Completion of the region's Hazard Mitigation Plan
- Massachusetts' Clean Energy and Climate Plan for 2020
- Regional Strategic Plan
- GHG analysis for RTP/TIP projects
- MEPA Project reviews
- Attended FHWA sponsored Climate Change Peer Exchange



---

**TASK 3.7      LOCAL TECHNICAL ASSISTANCE**

---

**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 may be delayed in FFY 2020 due to the current COVID-19 pandemic and subject to guidance from State, Federal and local stakeholders.

**PROPOSED ACTIVITIES:**

1. Assist Northern Middlesex municipalities with transportation related activities throughout the year.  
Known projects at this point include:
  - a. Heavy vehicle exclusion study along Dunstable Road in Chelmsford;
  - b. Development of a regional trail map;
  - c. Continuation of the Lowell Pedestrian Inventory project;
2. Data collection and operational analysis.
3. GIS related services.
4. Assistance with the MassDOT project development process.
5. Attendance at local meetings related to transportation issues.
6. Provide review and comment to local, state and federal interests on transportation related documents.
7. Assistance with implementation of recommendations derived from UPWP studies.
8. Analysis of small-scale transportation problems and solutions.
9. Enhance the MPO’s assistance in helping communities advance projects from studies to the MassDOT Project Development Process, namely PIF/PNF submissions to the MassDOT District offices.

**PREVIOUS WORK:**

- Transportation planning assistance to communities in the Northern Middlesex region (See Table 5)

**PRODUCTS:**

- Transportation related data and analysis of transportation issues and problems
- Assistance and guidance relative to the project development process

**SCHEDULE:**

Work Item	10/ 20	11/ 20	12/ 20	01/ 21	02/ 21	03/ 21	04/ 21	05/ 21	06/ 21	07/ 21	08/ 21	09/ 21
Local Technical Assistance (Ongoing)	←											→

### TASK 3.7 (CONTINUED): LOCAL TECHNICAL ASSISTANCE

---

#### FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$36,400	12.1 weeks
MassDOT PL/5303 Match	\$9,100	3.0 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$45,500	15.1 weeks



**OBJECTIVE:**

The Federal Highway Administration continues to place a high priority on the efficient movement of goods throughout the country. The recent COVID-19 pandemic highlighted the critical importance of freight shipments and delivery during a national emergency. The FAST Act establishes a national policy of maintaining and improving the condition and performance of the National Multimodal Freight Network. FAST requires 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. This 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 FAST Act calls for the development of performance measures in evaluating the transportation system. FHWA has published a Notice of Proposed Rulemaking (NPRM) establishing two proposed performance measures for freight movement on the Interstate system. These include truck travel time reliability and percent uncongested roadway mileage. The NMMPO will continue to work with FHWA and MassDOT on the development of these performance measures and updating of NMMPO adopted targets, programming any resulting infrastructure improvement projects into the NMMPO TIP. The NMMPO will also continue to provide opportunities for input from freight stakeholders throughout the region, through the public participation process.

**PROPOSED ACTIVITIES:**

1. Assist in the development of freight movement performance measures as part of the planning process.
2. Monitor major freight corridors in the region, including I-495 and Route 3.
3. Refine the region's designated Critical Rural and Urban Freight Corridors as needed.
4. Develop strategies and advance TIP projects designed to improve infrastructure and promote efficient movement of goods.
5. Report on freight planning data through the Annual Traffic Volume Report and Transportation Improvement Program.



**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. This task includes continuing the partnership with the Boston MPO to provide discount bicycle parking facilities to municipalities and the LRTA. Research into the development of a municipal bicycle-parking program using Congestion Mitigation and Air Quality (CMAQ) funding will also be undertaken. Staff will continue to partner 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. Assess the walkability and rideability of the region's transportation network.
3. Collaborate with local communities and MassDOT relative to future funding opportunities available for plan implementation.
4. Work with local communities and MassDOT to advance bicycle and pedestrian projects through the TIP process.
5. Identify and assess regional bicycle and pedestrian safety needs.
6. Analyze bike/pedestrian accessibility at transit locations/stations, including Gallagher Terminal, North Billerica MBTA Station, and the Tyngsborough Park and Ride Lot.
7. Identify critical gaps in the sidewalk network throughout the region to assist in development of future TIP projects.
8. 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.
9. 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.
10. Continue to coordinate with the City of Lowell on bike share efforts and assist other communities to develop programs.

**PREVIOUS WORK**

- 2020-2040 Regional Transportation Plan
- Congestion Management Process
- Bruce Freeman Rail Trail and Nashua River Trail planning and design work activities
- Assistance to the National Park Service, City of Lowell and Lowell Parks and Conservation Trust on the development of the Lowell Canalway system, the Merrimack Riverwalk and the Concord River Greenway



**OBJECTIVE:**

Evaluation of implemented transportation improvement projects is a key measure of effectiveness in the metropolitan planning process. This study aims to compile and review data relative to completed TIP projects and compare the operational and safety conditions before and after project completion to assess the effectiveness of these projects. By examining how well different strategies work and by quantifying the benefits of various project types, the NMMPO staff and regional partners will have better understanding of how to most effectively and efficiently allocate federal funds in the future.

**PROPOSED ACTIVITIES:**

1. Staff will identify completed TIP funded projects in the region.
2. Staff will compile historical data prior to construction stage of the study location.
3. Current data at study locations will be collected and analyzed.
4. Comparisons between historical and current data and conditions will be used to determine effectiveness of the project.
5. Staff will present findings to the MPO and make a summary report available to regional partners.

**PREVIOUS WORK:**

- Northern Middlesex Transportation Improvement Programs
- Road Safety Audits
- Traffic studies and corridor studies throughout the region.
- Crash data analysis
- Congestion analysis

**PRODUCTS:**

- Summary Report
- Presentation to the NMMPO

**SCHEDULE:**

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Data collection/ analysis		←										→
Develop Final Report											←	→

**FUNDING:**

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$17,600	5.3 weeks
MassDOT PL/5303 Match	\$4,400	1.3 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$22,000</b>	<b>6.6 weeks</b>

---

## TASK 3.11 STORMWATER MANAGEMENT

---

### 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.

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. With the release of the new MS4 permit for Massachusetts, it is imperative that communities work collaboratively to address the new permit requirements set for by the EPA. These requirements took effect 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 inventoring and testing, and maintenance, illicit discharge detection and elimination, municipal operations best management practices, stormwater management program (SWMP) financing options, and education and outreach.
2. Staff will also 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. Staff will 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.

**TASK 3.11 (CONTINUED) STORMWATER MANAGEMENT**

**PROPOSED ACTIVITIES CONTINUED...**

4. Assistance to 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 web 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. Staff will provide municipal staff training on IDDE and good housekeeping.

**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
- Participation in the Statewide Stormwater Collaborative Quarterly Meetings with EPA and DEP

**PRODUCTS:**

- Infrastructure Mapping- online map tool for municipalities
- Template for municipalities to use for stormwater management reporting developments of regulations
- Trainings for municipal staff and officials
- Public outreach and education materials
- Annual Draft report on stormwater management activities
- Annual Final report on stormwater management activities

**SCHEDULE:**

Work Item	10/ 20	11/ 20	12/ 20	01/ 21	02/ 21	03/ 21	04/ 21	05/ 21	06/ 21	07/ 21	08/ 21	09/ 21
Training/workshops	←											→
Inventory/mapping	←											→
Develop Draft Report							←			→		
Public Outreach	←											→
Develop Final Report										←		→

TASK 3.11 (CONTINUED)      STORMWATER MANAGEMENT

---

FUNDING:

Funding Source	Budget	Estimated Staff Effort
Federal PL/5303	\$20,000	6.3 weeks
MassDOT PL/5303 Match	\$5,000	1.6 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
<b>Total</b>	<b>\$25,000</b>	<b>7.9 weeks</b>



**OBJECTIVE:**

FAST Act guidelines include the addition of a national emphasis area for enhancing travel and tourism as part of the metropolitan planning process. The FAST Act 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 COVID-19 pandemic will be addressed through cooperation and assistance between the MPO and regional tourist organizations including the Lowell National Historic Park, The Greater Lowell Convention and Visitors Bureau, the Lowell Chamber of Commerce and other regional stakeholders.

**PROPOSED ACTIVITIES:**

1. Continue development of an inventory of local and regional tourist destinations and contact information for each.
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 committees 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 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. Develop an informational brochure with links to tourism information and information on parking and transportation options for accessing sites.

**PREVIOUS WORK:**

- 2018 Inventory of Local and Regional tourist destinations on NMCOG website
- Congestion Management Reports
- Regional Transportation Plan

**PRODUCTS:**

- Updated Interactive map showing travel/tourism destinations posted on the NMCOG website
- Updated Regional inventory of tourist destinations/contact information
- Information Brochure with tourist attractions and transportation options

SCHEDULE:

Work Item	10/20	11/20	12/20	01/21	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21
Data collection	←											→
Inventory/analysis	←											→
Interactive Map	←											→

FUNDING:

Funding Source	Budget	Estimated Staff Effort
FHWA	\$4,000	1.5 weeks
MassDOT PL Match	\$1,000	0.4 weeks
LRTA 5307	-0-	-0-
NMCOG 5307 Match	-0-	-0-
Total	\$5,000	1.9 weeks

## 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.

#### 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, and 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.

#### PREVIOUS WORK:

- Preparation of statistical reports
- Materials for media and marketing
- Evaluation of proposed fare restructuring
- Review of ADA Compliance issues
- Previous grant applications
- Coordinated Public Transit – Human Services Transportation Plan



**OBJECTIVE:**

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. The widening of Route 3 continues to generate economic benefits for the region, while also addressing critical traffic and safety issues.

Work under this task allows NMCOG transportation staff to assist local communities and the state in addressing transportation needs specific to economic development projects and to tie together transportation 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.

In addition to implementing its transportation program on behalf of the NMMPO, the Northern Middlesex Council of Governments (NMCOG) has maintained its partnership with the Economic Development Administration (EDA) of the U.S. Department of Commerce through the establishment of a planning contract effective April 30, 2019, which has enabled NMCOG to develop the *Greater Lowell Comprehensive Economic Development Strategy for 2020-2024*. This Five-Year CEDS builds upon the previous work in the *Greater Lowell Comprehensive Economic Development Strategy (CEDS) Update for 2010-2013*. The CEDS document provides an “economic blueprint” for the Greater Lowell region, and identifies barriers to economic growth, such as transportation infrastructure. The CEDS “grass-roots” planning process has provided additional support in linking economic development and transportation planning in order to maintain the region’s transportation infrastructure and economic competitiveness. Similarly, NMCOG has 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.

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. Four major projects stand out as examples of the strong link and interdependency between transportation and economic development: the Hamilton Canal Development District and Tanner Street Initiative (now the Ayer’s City Urban Renewal Plan) in Lowell, Middlesex Turnpike Phase 3 in Billerica, and the Route 38 Corridor Improvements in Tewksbury. The implementation of these four projects is likely to result in more than 4,000 permanent jobs. The replacement of the Rourke Bridge will also have a significant impact upon the economic development future of the Greater Lowell region. Additional projects, such as the Tyngsborough “town center”, Boston Road in Westford, and the Route 129 improvements in Chelmsford will have a significant impact upon the local and regional economies. 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.

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 national unemployment rate for April 2020 was 14.7%, which is the highest it has been since the Greater Depression. The Baker Administration is expected to release a report on reopening the economy on May 18<sup>th</sup> and the Economic Development Administration (EDA) just released a \$1.5 billion CARES Act Notice of Funding Opportunity (NOFO) designed to spur economic recovery. The unemployment rate is expected to increase as businesses slowly reopen and customers determine whether it is safe from a public health perspective to use their services. NMCOG expects to request funding under the CARES Act NOFO, which could include a request for funds to support transportation projects.

#### *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 additional \$ 2.482 million in EDA Public Works grant funds for the construction of 450 feet of new roadway, a new 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 municipal parking garage funded by a \$35 million investment by the City, and up to 68 new housing units. Construction on the canal bridge is expected to be no later than September 30, 2020. The Judicial Center has been completed and is open for business as of April 2020. The City previously had received \$4,572,000 in MassWorks funds as a match for the EDA Public Works grant.

The City received \$2 million in MassWorks funds in 2016 to upgrade a section of Thorndike Street adjacent to the Gallagher Intermodal Transportation Center in support of the mixed-use, transit-oriented Thorndike Exchange project. This project began construction in spring 2018. 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.

NMCOG completed the *Greater Lowell CEDS for 2020-2024* and submitted the document to EDA for approval. NMCOG plans to submit an application in response to the \$1.5 billion CARES Act NOFO to encourage the completion of public works projects and to provide support to the business community as a means to foster economic recovery. NMCOG will also pursue Economic Development District (EDD) designation so that it will be able to establish a three-year planning contract and not have to compete for funds on an annual basis.

NMCOG staff continues to work with the City of Lowell on the planning and design of these vehicular, transit and pedestrian improvements. The combination of multiple transportation and economic development funding sources provide for the improvement of the multimodal corridor along Thorndike Street from its junction with the Lowell Connector to Gallagher Terminal and the Hamilton Canal Innovation District to facilitate development both within the District and throughout downtown Lowell.

*AYER'S CITY URBAN RENEWAL PLAN (LOWELL)*

During the past six 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 Watermark Engineering 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 2019. 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 will be applying for MassWorks funds in order to construct the project. NMCOG staff will continue to work with the City to advance the transportation components of the urban renewal plans.

*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, causing them to find alternate routes, which increases response times and places 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.

The results of the feasibility study identified several alternatives for a new crossing, along with recommendations for improvements to nearby roads and intersections, ranging from an estimate \$30-70 million. In 2015, the Lowell City Council voted to move forward with three alternatives into the design phase. In 2018, MassDOT provided funding for the preliminary design and environmental permitting for a new bridge. The design included an expansion of the bridge from two to four lanes and include upgraded bicycle and pedestrian facilities. Funding for the final design has been identified and HNTB has been hired to lead the effort. Due to the importance of this corridor as priority area for traffic flow, emergency management and economic development for the region, NMCOG will continue to pursue funding for the construction of a new bridge. The significance of this project to the future economic development of the region cannot be underestimated.

---

*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 \$34.4 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 the public sector (Burlington, Bedford, Billerica, Chelmsford and Lowell) the private sector and educational institutions (UMass Lowell and Middlesex Community College). 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. As a result of guidance provided by NMCOG staff, the Middlesex 3 Coalition established the Middlesex 3 TMA through the use of Community Innovation Challenge (CIC) funds. NMCOG staff, working in conjunction with MAPC and CTPS staff, completed a \$100,000 transit study for the Route 3 corridor through the use of Community Compact funds. The Middlesex 3 Coalition was able to secure \$250,000 in Federal funding to operate a shuttle service between Lowell and Burlington for 2<sup>nd</sup> shift workers. 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 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 along the corridor, define the development thresholds at which it becomes necessary to implement specific levels of travel mitigation in order to accommodate anticipated development, and project traffic conditions along the corridor over 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 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. Established economic development and transportation partnerships in the region will be leveraged 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 currently under construction with an anticipated completion date of March 2022. Two projects are currently programmed in the FFY 2021-2025 TIP. A resurfacing of Route 38 and sidewalk reconstruction from Colonial Drive north to the intersection of Old Boston Road project is currently programmed in FFY 2021 with an anticipated advertisement date for construction in November 2020. 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.

With the increased focus on Route 38, several private investment 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.

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.

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

While the Town did not receive MassWorks funding for the project like south of the Center, the Town 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 FFY 2021-2025 Northern Middlesex TIP. The project is currently at 25% design. The project 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 the implementation of the transportation improvements recommended in the Vinal Square Traffic Study, 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 with most 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.

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 entitled 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. Although the Grist Mill Apartments have been constructed, the Town is working with EOHEd for another extension beyond June 30, 2020. The Town is also seeking TIP funding for a Route 110 improvement project in the Town Center with proposed improvements to access, parking, and bicycle and pedestrian facilities. The NMMPO will consider this project in upcoming TIPs.

**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.

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

In 2015, the City of Lowell was awarded a TIGER Grant for \$13,389,750 to address the repair of these six bridges. MassDOT has overseen this work 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. Currently there is a \$3 million dollar shortfall in funding to complete these bridges.

The City is currently discussing options to cover the shortfall including using available 2020 target funds in the TIP. The status of the five bridges as of April 2020 was as follows:

- 1) **Pawtucket Street over the Pawtucket Canal** – Currently closed to vehicular traffic. Bridge completion is anticipated by April 2022.
- 2) **Pawtucket Street over the Northern Canal** - Construction underway and closed to vehicular traffic (open to pedestrian traffic). Bridge completion is expected by November 2020.
- 3) **Central Street over the Lower Pawtucket Canal** – Construction work began in early April 2019. Bridge completion is anticipated by September 2021.
- 4) **Merrimack Street over the Western Canal** – Project complete.
- 5) **Merrimack Street over the Merrimack Canal** – Project complete.

#### *APPLETON, MIDDLESEX AND JACKSON STREETS (LOWELL) CORRIDOR STUDY*

NMCOG staff has worked closely with the City of Lowell and Town of Pepperell to address traffic, land use, and economic development issues related to Appleton, Middlesex and Jackson Streets (Lowell) and Route 113 (Pepperell). In our work related to Appleton, Middlesex and Jackson Streets, NMCOG staff addressed the connections between Appleton Street and the Lord Overpass, as well as the tie-ins with Central and Church Streets, to provide more efficient traffic flow. The draft corridor study for Appleton Street also addressed the land use and economic development issues as a means to encourage more private investment along the corridor. The corridor study was expanded to Middlesex and Jackson Streets in order to complement the City's efforts to be designated as a Transformative Development Initiative (TDI). NMCOG staff has collected data for Middlesex and Jackson Streets similar to that developed for Appleton Street as part of its partnership responsibilities. NMCOG staff will work with the City staff to review the draft Appleton, Middlesex and Jackson Streets corridor study.

#### *ROUTE 113 CORRIDOR (PEPPERELL)*

In terms of the Route 113 Corridor Study, NMCOG staff built upon the previous work in Railroad Square and along the corridor to encourage additional private investment. Private businesses located along the corridor wanted to address various transportation issues- congestion, parking, pedestrian traffic, bike lanes, etc. The Town also wanted to encourage additional investment and provide the support services and infrastructure that these businesses need. These actions are related to the reuse of the former Pepperell Paper Mill building site and the review of zoning changes to address the needs of the business community. The initial draft corridor study will be incorporated within the Economic Development section of the updated Master Plan.

#### *ROUTE 129 CORRIDOR (CHELMSFORD)*

The Town of Chelmsford has focused on the need to support the businesses along the Route 129 corridor and to attract more private investment to the area. NMCOG staff had 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. The adoption of the Route 129 Business Amenity Overlay District (BADO) by Chelmsford Town Meeting in 2016 has provided new opportunities for business amenities and multifamily housing that are starting to be implemented.

NMCOG staff worked two years ago with the Chelmsford Economic Development Commission to develop a Permitting Handbook and additional business survey to improve the overall business climate in Chelmsford.

The Town applied for funding under the MassWorks program to address road, sidewalk and bicycle infrastructure issues in the Route 129 Corridor. Identified as the Chelmsford Route 129 Billerica Road Enhanced Mobility project, these infrastructure improvements were 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. The Route 129 area would be enhanced by a Mass Housing Choice Capital Grant request for \$250,000 to develop 3,400 linear feet of new sidewalks along Turnpike Road and a MassDOT TIP project scheduled for FFY 2019 to realign the Billerica Road intersection, reconstruct the bridge/culvert adjacent to River Meadow Brook and provide new sidewalks and bike lanes. The project would create 100 construction jobs, 10 full-time jobs and 60 part-time jobs. Unfortunately, the Town only received funding under the Housing Choice Capital Grant program.

With funding from MassDevelopment's Site Readiness Program, the Town of Chelmsford was able to hire Camoin Associates and Howard Stein Hudson to complete an analysis on repositioning the Chelmsford Cross Roads at Route 129 Business Park for the future. The study entitled *Chelmsford Cross Roads at 129: Repositioning a Suburban Office Park for a New Era* was released in May 2019. This study focused on several areas: Existing Conditions Analysis, Market Analysis, Stakeholder Strategy Session, Suburban office park case studies, Strategy recommendations for repositioning the park, Conceptual visualizations of the future of the park and the final presentation to stakeholders conducted on May 14, 2019. This study provides 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. As noted in the previous discussion, the need for transportation infrastructure improvements in this area is an important component for future economic success.

#### *WORKING CITIES CHALLENGE (WCC)/SMART GROWTH AMERICA PROJECT (LOWELL)*

Five years ago the City of Lowell was chosen as one of six cities in Massachusetts to be designated as a Working Cities Challenge (WCC) community by the Federal Reserve Bank of Boston. This designation was made as a result of the unique partnerships established by the City and the Coalition for a Better Acre (CBA) to address the barriers facing Acre residents in accessing employment and educational opportunities to improve their quality of life. A significant barrier to the Acre residents is access to transportation options in order to get to work or to attend classroom training. The WCC Board and staff have continued to work directly with the Federal Reserve Bank of Boston to focus on the economic development, cultural and educational needs of Acre residents. Within last year's DLTA program,

NMCOG worked with the City of Lowell to address pedestrian and bicycle issues related to the City's Complete Streets Program in downtown, the Acre, and a few major corridors. The Economic Development Work Group of the WCC has adopted the Smart Growth America recommendations as part of its work plan for 2020 and Jeanne D'Arc Credit Union has allocated \$200,000 in small business loan funds for Acre businesses. The Lowell WCC received transition funds from the Federal Reserve Bank to continue the program through June 30, 2020 and has expanded its focus citywide.

**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 and identify transportation issues and infrastructure needs related to each project;
3. Work with MassDOT, EOHED, the local communities, EDA and economic development organizations and stakeholder 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; and
5. Work with the region's business organizations and workforce development agencies to address the transportation needs of the area's workforce.

**PREVIOUS WORK:**

- Greater Lowell Comprehensive Economic Development Strategy (CEDS) Update for 2020-2024
- 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)
- Greater Lowell Comprehensive Economic Development Strategy (CEDS) Update for 2010-2013
- Chelmsford Center Parking and Pedestrian Plan (2013)
- Vinal Square Traffic Study (2012)
- Regional Strategic Plan for Greater Lowell (2011)
- 2012-2035 Regional Transportation Plan for the Northern Middlesex Region (2011)
- Chelmsford Updated Comprehensive Master Plan (2010)
- Economic Development component of the Westford Updated Comprehensive Master Plan (2008)
- Route 40 Traffic and Safety Study (2007)
- Tyngsborough Economic Development Plan (2006)
- Route 110 Corridor Study (2004)

**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
- Work with economic development partners and stakeholders in identifying and addressing transportation needs related to continued economic growth and workforce needs



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		
3.5 - 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 and Economic Development Prioritization/Coordination Study	x			x		x				



APPENDIX B: FFY 2021 UPWP FINANCIAL PLAN

UNIFIED PLANNING WORK PROGRAM TASK	NMMPO Task #	Combined PL/5303 Funding			FTA/LRTA 5307			TOTAL
		Federal	State	Total	FEDERAL	NMCOG	TOTAL	
Management of the 3C Process	1.1	\$91,318	\$22,830	\$114,148	\$0	\$0	\$0	\$114,148
Unified Work Program	1.2	\$27,753	\$6,938	\$34,691	\$0	\$0	\$0	\$34,691
Public Participation	1.3	\$33,600	\$8,400	\$42,000	\$0	\$0	\$0	\$42,000
Transportation Improvement Program	1.4	\$47,929	\$11,982	\$59,911	\$0	\$0	\$0	\$59,911
Title VI & Environmental Justice	1.5	\$22,100	\$5,525	\$27,625	\$0	\$0	\$0	\$27,625
<b>Subtotal</b>		<b>\$222,700</b>	<b>\$55,675</b>	<b>\$278,376</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$278,376</b>
Traffic Counting	2.1	\$52,000	\$13,000	\$65,000	\$0	\$0	\$0	\$65,000
Geographic Information System	2.2	\$82,948	\$20,737	\$103,685	\$10,000	\$2,500	\$12,500	\$116,185
Data Collection and Analysis	2.3	\$53,600	\$13,400	\$67,000	\$10,000	\$2,500	\$12,500	\$79,500
Transit System Performance Surveillance	2.4	\$32,344	\$8,086	\$40,430	\$15,500	\$3,875	\$19,375	\$59,805
Performance Measures	2.5	\$8,000	\$2,000	\$10,000	\$0	\$0	\$0	\$10,000
<b>Subtotal</b>		<b>\$228,892</b>	<b>\$57,223</b>	<b>\$286,115</b>	<b>\$35,500</b>	<b>\$8,875</b>	<b>\$44,375</b>	<b>\$330,490</b>
Regional Pavement Management	3.1	\$22,400	\$5,600	\$28,000	\$0	\$0	\$0	\$28,000
Transportation Safety and Security	3.2	\$32,719	\$8,180	\$40,899	\$0	\$0	\$0	\$40,899
Congestion Management/System Performance	3.3	\$22,400	\$5,600	\$28,000	\$0	\$0	\$0	\$28,000
Intelligent Transportation System (ITS)	3.5	\$6,230	\$1,558	\$7,788	\$0	\$0	\$0	\$7,788
Sustainability, Livability and Climate Change	3.6	\$20,000	\$5,000	\$25,000	\$0	\$0	\$0	\$25,000
Local Technical Assistance	3.7	\$36,400	\$9,100	\$45,500	\$0	\$0	\$0	\$45,500
Freight Planning	3.8	\$7,200	\$1,800	\$9,000	\$0	\$0	\$0	\$9,000
Bicycle and Pedestrian Planning	3.9	\$17,600	\$4,400	\$22,000	\$0	\$0	\$0	\$22,000
TIP Project Review Study	3.10	\$17,600	\$4,400	\$22,000	\$0	\$0	\$0	\$22,000
Stormwater Management	3.11	\$20,000	\$5,000	\$25,000	\$0	\$0	\$0	\$25,000
Enhancing Travel and Tourism	3.12	\$4,000	\$1,000	\$5,000	\$0	\$0	\$0	\$5,000
<b>Subtotal</b>		<b>\$206,549</b>	<b>\$51,637</b>	<b>\$258,186</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$258,186</b>
Regional Transit Planning	4.1	\$15,958	\$5,199	\$21,157	\$24,500	\$6,125	\$30,625	\$51,782
Transp. & Econ. Develop. Prioritization/Coord. Study	4.2	\$54,400	\$13,600	\$68,000	\$0	\$0	\$0	\$68,000
<b>Subtotal</b>		<b>\$70,358</b>	<b>\$18,799</b>	<b>\$89,157</b>	<b>\$24,500</b>	<b>\$6,125</b>	<b>\$30,625</b>	<b>\$119,782</b>
<b>TOTALS</b>		<b>\$728,499</b>	<b>\$183,334</b>	<b>\$911,834</b>	<b>\$60,000</b>	<b>\$15,000</b>	<b>\$75,000</b>	<b>\$986,834</b>



## APPENDIX C: NMMPO PUBLIC COMMENT SUMMARY

### DRAFT FFY 2021 UNIFIED PLANNING WORK PROGRAM

**COMMENT PERIOD: MAY 29, 2020 – JUNE 19, 2020**

**PUBLIC MEETING DATE: JUNE 9, 2020**

#### COMMENT 1: FEDERAL HIGHWAY ADMINISTRATION (FHWA)

Page	Comment
10	Under <i>Amendments/Adjustments to UPWP</i> : <ul style="list-style-type: none"> <li>Update Table 2 to include specific details as provided by MassDOT/FHWA guidance, which includes cost change thresholds of below-equal/above 10% for adjustment/amendments.</li> </ul>
19	Under <i>Table 4: Bicycle and Pedestrian Facilities...</i> : <ul style="list-style-type: none"> <li>Consider adding completion date for those marked as complete.</li> </ul>
22	Under <i>Lord Overpass Reconstruction Project</i> <ul style="list-style-type: none"> <li>Please indicate the community/City by name where this is located.</li> </ul>
59	Under <i>Task 3.7: Local Technical Assistance</i> : <ul style="list-style-type: none"> <li>For item #1 under <i>Proposed Activities</i>, are there specific projects identified at this point that can be included here?</li> </ul>
83	Under Appendix B: FFY 2021 UPWP Financial Plan <ul style="list-style-type: none"> <li>Could be good to include here or in a separate table any additional funding sources expected to support planning/projects within the region.</li> </ul>

Chris Timmel, with the FHWA, provided the above comments via email on June 8, 2020. Comments and responses include the following:

**1. Under *Amendments/Adjustments to UPWP*:**

- Update Table 2 to include specific details as provided by MassDOT/FHWA guidance, which includes cost change thresholds of below-equal/above 10% for adjustment/amendments.

**NMMPO Response:**

Staff have updated Table 2 to reflect that financial thresholds for UPWP adjustments/amendments.

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 10% of task budget	Significant change in project scope, cost changes greater than 10% of task budget, and/or time allocation

**2. Under Table 4: Bicycle and Pedestrian Facilities...:**

- Consider adding completion date for those marked as complete

NMMPO Response:

Staff have updated Table 4 to add known dates to completed projects.

**3. Under Lord Overpass Reconstruction Project**

- Please indicate the community/City by name where this is located.

NMMPO Response:

Staff have updated narrative to add that the project is located in Lowell.

**4. Under Task 3.7: Local Technical Assistance:**

- For item #1 under *Proposed Activities*, are there specific projects identified at this point that can be included here?

NMMPO Response:

Staff have updated Item 1 under proposed activities to add the one known technical assistance study. The new narrative follows:

“Assist Northern Middlesex municipalities with transportation related activities throughout the year. Known projects at this point include:

- a. Heavy vehicle exclusion study along Dunstable Road in Chelmsford;
- b. Development of a regional trail map;
- c. Continuation of the Lowell Pedestrian Inventory project.”

**5. Under Appendix B: FFY 2021 UPWP Financial Plan**

- Could be good to include here or in a separate table any additional funding sources expected to support planning/projects within the region.

NMMPO Response:

Table 6 on pages 22-23 includes additional funding sources.

---

**COMMENT 2: MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT)**

---

Derek Shooster, MassDOT Office of Transportation Planning, submitted an email on June 12, 2020 with the following comments on the Draft UPWP. MassDOT has developed a checklist for reviews of UPWP’s. The table is provided at the end of the summary. Comments and responses include the following:

**1. Review Item: Document has no text or image placeholders**

- Make sure references to COVID-19 are consistent (grammatically)

NMMPO Response:

Staff have checked the document and updated all COVID-19 references to ensure consistency.

**2. Review Item: Individual Tasks outline community beneficiaries**

- Please consider contacting Friends of Bruce Freeman Rail Trail and Nashua Rail Trail (among others) for potential products on Task 3.12 Enhancing Travel and Tourism.

NMMPO Response:

Staff have updated the travel and tourism task to add a proposed activity: “ Expand outreach efforts to other regional tourist and travel related organizations including Friends of the Bruce Freeman Rail Trail and Middlesex Canal Commission.”

**3. Review Item: UPWP includes a social equity distribution table of past and current UPWP-funded studies considering language access and EJ populations**

- Please include this item in the final document. (Table 9 fulfills this requirement. Comment Redacted)

NMMPO Response:

Table 9 includes past and current UPWP funded studies from 2016-2020 with EJ and minority populations considered.

**For Reference: MassDOT Checklist included in Email:**

MassDOT MPO Liaison UPWP Review Checklist					
Completeness					
ID			Review Item	Comments	Reference
A1	X	*	Table of Contents is accurate and internally-linked.		
A2	X	*	Document has no broken links.		
A3	X	*	Document has no text or image placeholders.	Please make sure references to COVID-19 are consistent (grammatically).	
A4	X	*	Charts, tables, and maps are legible and properly annotated.		
A5	X	*	Document passes an accessible check.		
A6	X	*	Document is available in relevant languages per the MPO's Title VI Plan.		
A7	X	*	List of MPO members is current.		
A8	X	*	Signatory sheet is included and accurate.		
A9	X	*	Acronyms and partner agency lists are up to date.		
Narrative					
ID			Review Item	Comments	Reference
B1	X	*	UPWP is comprehensible to the general public.		
B2	X	*	UPWP refers directly to vision, goals, and objectives from RTP.		
B3	X	*	UPWP Amendment/Adjustment procedures are explicit.		

B4	X		Governing MOUs between MassDOT, MPO, RTAs, and neighboring MPOs have been reviewed for potential improvements or updates.		
B5	X		Planning efforts are coordinated with MassDOT modal plans.		<a href="https://www.mass.gov/statewide-plans">https://www.mass.gov/statewide-plans</a>

#### UPWP Tasks

ID			Review Item	Comments	Reference
C1	X	*	Individual tasks include detailed scopes, budgets, and schedules.		
C2	X	*	Individual tasks outline community beneficiaries.	Please consider contacting Friends of the Bruce Freeman Rail Trail and Nashua River Rail Trail (among others) for potential products on Task 3.12 - Enhancing Travel and Tourism.	
C3	X		Transit-related tasks are specific.		
C4	X	*	Includes a task on performance-based planning.		
C5	X	*	Includes a task for an update to any congestion mitigation planning efforts.		Required for TMA MPOs if current CMP is out of date.
C6	X	*	UPWP includes a summary of available staff hours.		
C7	X		Individual tasks anticipate needed staff-hours / consulting resources.		
C8	X		Tasks from previous UPWPs have been analyzed for past utilization.		

#### Impacts Analysis

ID			Review Item	Comments	Reference
D1	X	*	UPWP includes a geographic equity distribution table showing 2015–2019 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.	Please include this item in final document. (Table 9 fulfills this requirement Comment redacted)	
D3	X	*	Public involvement and comment are explicitly documented and in line with MPO's Public Participation Plan.		
		*	<i>indicates required by state or federal regulation.</i>		

## APPENDIX D: NMCOG AND NMMPO STAFF

---

### NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS STAFF

- Beverly Woods, Executive Director (0%)
- Jay Donovan, Assistant Director (50%)
- Justin Howard, Transportation Program Manager (100%)
- Christopher Curry, Associate Planner/Transit (100%)
- Eric Molinari, Transportation Planner, (100%)
- Carlin Andrus, GIS Specialist (75%)
- David Tilton, Transportation Planner (85%)
- Jeff Owen, Regional Planner (70%)
- Rick Minard, Energy Specialist (10%)
- 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, Transportation Program Manager
- Christopher Curry, Associate Planner/Transit
- Jay Donovan, Assistant Director
- David Tilton, Transportation Planner
- Eric Molinari, Transportation Planner
- Carlin Andrus, GIS Specialist
- Jeff Owen, Regional Planner
- Rick Minard, Energy Specialist (10%)

### 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
- 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
- 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 21<sup>st</sup> 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