



UNIFIED PLANNING WORK PROGRAM

Merrimack Valley Metropolitan Planning Organization
FFY 2023

FINAL REPORT
June 30, 2022



This document was prepared by the Merrimack Valley Planning Commission under Contract #114679 with the Massachusetts Department of Transportation (MassDOT) and with the assistance of the Merrimack Valley Regional Transit Authority (MVRTA), MassDOT, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Its contents do not necessarily reflect the official views or policies of the U.S. DOT.

Cover Photos: (Top) Sculpture on Bradford Rail Trail in Haverhill. (Middle) 'Friends' by Elain Gauthier, Essex Heritage and MVRTA bus at the Costello Transportation Center by MVRTA/More Advertising

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One Ashburton Place, 6th Floor
Boston, MA 02109
(617) 994-6000
TTY: (617) 994-6196

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MVMPO Endorsement Page



MERRIMACK VALLEY METROPOLITAN PLANNING ORGANIZATION ENDORSEMENT

**MERRIMACK VALLEY REGION
FEDERAL FISCAL YEAR 2023
UNIFIED PLANNING WORK PROGRAM**

The undersigned representatives on the Merrimack Valley Metropolitan Planning Organization hereby endorse the Merrimack Valley region's Federal Fiscal Year 2023 Unified Planning Work Program.

Date: June 22, 2022

Jamey Tesler
MassDOT Secretary/CEO

Jonathan Gulliver
MassDOT Highway
Division Administrator

Robert Snow
MVPC Chairman

Allison Heartquist
MVRTA Advisory Board Chair

James Fiorentini
Mayor of Haverhill

Brian A. De Peña
Mayor of Lawrence

Neil Harrington
MVMPO Subregion 1

Robert Snow
MVMPO Subregion 2

John Cashell
MVMPO Subregion 3

Paul Materazzo
MVMPO Subregion 4

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INTRODUCTION

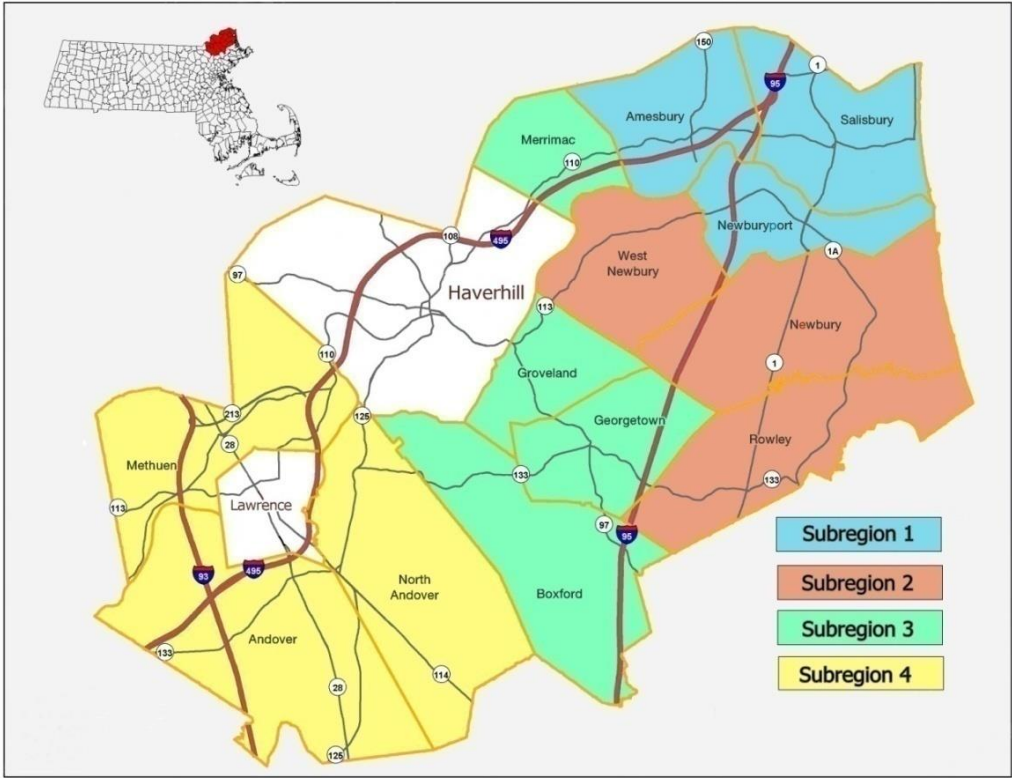
As mandated under the federal “3C” transportation planning process, the Unified Planning Work Program (UPWP), describes the transportation planning activities that are to be carried out by a Metropolitan Planning Organization (MPO) during the federal fiscal year (October 1 – September 30), identifies the planning products that are to be produced, and identifies which agency will be responsible for producing these products.

The UPWP must be prepared and endorsed annually by the Merrimack Valley Metropolitan Planning Organization (MVMPO) prior to the start of the planning program period before federal money may be spent on any transportation planning studies and activities in the region.

The Merrimack Valley Planning Commission (MVPC) Transportation Program staff serves as the MVMPO’s staff and is responsible for preparing the UPWP each FFY. The MVMPO staff will undertake most of the activities described in the FFY 2023 UPWP. However, this document also includes those significant transportation planning and engineering studies that will be completed in its region by other government entities and organizations.

Merrimack Valley Metropolitan Planning Organization (MVMPO) Region and Sub-regions

Figure 1 below is a map showing the boundaries of the MVMPO region, its sub-regions, and 15 member communities:



Under federal transportation legislation, MPOs are assigned the important task of completing the planning and programming of all federally funded transportation projects and programs in their respective urbanized area.

Created by the Governor of Massachusetts in 1972, the MVMPO covers the same fifteen-community geographic area that defines the MVPC region and the Merrimack Valley Regional Transit Authority (MVRTA) service area.

Current MVMPO Membership

- | | |
|--|------------------------|
| • MassDOT Secretary | Jamey Tesler |
| • MassDOT Highway Division Administrator | Jonathan Gulliver |
| • MVPC Chairman | Robert Snow |
| • MVRTA Advisory Board Chair | Allison Heartquist |
| • Mayor of Haverhill | James Fiorentini |
| • Mayor of Lawrence | Brian de Peña |
| • MVMPO Subregion Representatives: | |
| Subregion 1 (Amesbury, Newburyport, Salisbury) | Neil Harrington |
| Subregion 2 (Newbury, Rowley , West Newbury) | Robert Snow |
| Subregion 3 (Boxford, Georgetown , Groveland, Merrimac) | John Cashell |
| Subregion 4 (Andover , Methuen, North Andover) | Paul Materazzo |

Ex officio, non-voting MVMPO members:

- | | |
|---|-------------------|
| • FHWA Massachusetts Division Administrator | Jeff McEwen |
| • FTA Region I Administrator | Peter Butler |
| • Rockingham Planning Commission MPO (NH) | Richard McDermott |
| • Boston MPO | Erin Wortman |
| • Northern Middlesex MPO | Andrew Deslaurier |
| • Nashua Planning Commission MPO (NH) | Tim Tenhave |

Organization of FFY 2023 Unified Planning Work Program

The MVMPO's UPWP is structured so that planning tasks are grouped into the following four areas:

1. Management and Support of the 3C Planning Process
2. Data Collection and Analysis Activities
3. Short and Long-Range Transportation Planning Activities
4. Other Transportation Studies

MVMPO Transportation Planning Priorities

The UPWP may be thought of as the document that ensures that the 3C planning process in the MVMPO region is implemented in a *cooperative* manner and recognizes the many influences that are at work at various levels in shaping the transportation network. The Continuing, Comprehensive and Cooperative ('3C') federal transportation planning process

recognizes that a wide array of factors influence the multimodal transportation network and, conversely, many of these factors are influenced by this network. A milestone event in this regard occurred in 1991 with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA), which established 16 specific factors that MPOs were required to consider in developing the plans and programs mandated under the legislation. While the number of these factors has been consolidated to 10 over the past 30 years, the need to be continuing and comprehensive in considering them remains at the foundation of the 3C planning process.

This document was also prepared in cooperation with the U.S. Department of Transportation and the Massachusetts Department of Transportation who provided guidance to be considered by Metropolitan Planning Organization (MPO) so that it continues to reflect previously identified federal and statewide transportation planning objectives.

Amendment/Adjustment of FFY 2023 UPWP

During the course of FFY 2023, amendments or Administrative Modifications to the UPWP may be required. These changes will be developed in cooperation with MassDOT, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Merrimack Valley Transit Authority (MVRTA), and other concerned agencies as appropriate. The adjustment and amendment of this document shall be undertaken as defined below:

Amendments are defined as significant changes to the overall UPWP that require federal approval. Amendment with 21-day Public Review and Comment Period:

- Addition or deletion of a UPWP task or subtask.
- Major changes to UPWP task descriptions, activities, and other information.
- Funding increase above the originally approved UPWP overall budget.
- Funding transfers between tasks equal to or greater than 25% of the UPWP task budget.

Administrative Modifications require an approval vote from the MPO and sign-off from the Office of Transportation Planning (OTP) and include the following:

- Minor changes to UPWP task descriptions, activities, and other information.
- Funding increase or decrease less than 25% of the UPWP task budget.
- Funding transfers between UPWP tasks less than 25% of the UPWP task budget.

Regional Plans and Studies

The following regional transportation studies, plans, and areas of focus have played an important role in shaping the development of the FFY 2023 UPWP:

Active Transportation/Bicycle and Pedestrian Planning

Active Transportation Plan

The MVMPO adopted this plan in January 2015 and updated it in 2022 to create a region that will be 'connected by safe, convenient, and appealing Active Transportation

Corridors that people of diverse ages and abilities will choose to use. The MVPC and its communities will achieve this vision by increasing bicycling and walking mode shares to promote environmental sustainability and healthier lifestyles while reducing automobile dependence and improve air quality. We will connect jobs, housing, civic and recreation activities to strengthen our region’s livability and economic vitality.”

Since 2015, great progress has been made to further develop the Active Transportation Network through the development of the multi-use trail network as well as the adoption and implementation of Complete Streets and support of the implementation of MassDOT’s statewide bicycle and pedestrian plans.

Regional Significant Projects include:

Border to Boston Rail Trail:

MVMPO staff continue to support the towns of Boxford, Georgetown, Newbury, and Salisbury as they develop this long-distance trail in cooperation with MassDOT as we continue to fill in the gaps.

Coastal Trails Network:

The Communities of Newbury, Newburyport, Salisbury, and Amesbury are jointly creating an on-road and off-road bicycle and pedestrian network. The MVMPO continues to support their efforts and has programmed the trail projects on the TIP.

Georgetown Branch Rail Trails:

MVMPO staff continued working with local officials in Haverhill, Groveland, and Georgetown to implement recommendations made in the Georgetown Branch Rail Trail Feasibility Study. MVPC provides technical assistance, convenes working groups, and programs construction funding the TIP.

Manchester and Lawrence Branch:

The City of Methuen has completed the construction of the M&L Branch. In 2017, MassDOT approved a project to construct a 1.4-mile path in the City of Lawrence that will connect to the Methuen Rail Trail to the north and provide a dedicated trail bridge across the Merrimack River. MVPC completed a feasibility study for this proposed trail in 2014. This project is now programmed in the FFY 2023 and FFY 2024 elements of the MVMPO’s FFYs 2022-2026 TIP at a total estimated cost of \$23 million.

The Merrimack River Trail:

In partnership with the Essex National Heritage Commission and the Northern Middlesex Council of Governments, the Merrimack River Reconnaissance Report was published (2011) to reinvigorate this long-lived trail vision and outline opportunities. MVPC staff continues to work with regional partners and MassDOT to implement this trail, including a multi-use trail along Route 110 connecting Lawrence to Lowell.

Title VI/Environmental Justice Planning

In recent years, the MVMPO has worked in coordination with USDOT and MassDOT to increase its efforts to implement Title VI and EJ planning activities.

Between 2009 and 2015 MVMPO work tasks included revision of the MVMPO Public Participation Plan, Title VI Notification, Complaint Policy and form, integration of updated Census and American Community Survey data, and continued expansion of outreach to constituents in communities. Staff updated contact information, forged stronger working relationships with Community-Based Organizations (CBOs) and distributed information on its work in non-traditional formats (i.e., Facebook, attendance at community events) to engage Title VI and EJ populations.

Under the FFY 2016 UPWP, staff updated the MVMPO's Title VI Program, which included an analysis of the region's protected populations at the Census Block Group level of geography. Staff updated its Title VI Program in FFYs 2017 and FFY 2019 as well.

In recent years MVMPO staff also:

- Updated information required by FTA regulations pertaining to compliance with Title VI of the Civil Rights Act of 1964 and Executive Order 12898 regarding Environmental Justice.
- Implemented recommendations and increased solicitation of input from minority, low-income, and elder constituents.
- Made presentations on planning issues at neighborhood meetings in areas where low-income and minority populations are present, as well as at locations or events involving elders and the disabled.
- Assisted the MVRTA in implementing evaluation measures for its outreach to Limited English Proficiency (LEP) populations, as well as researched additional recommendations for improving its outreach to these groups.
- Monitored MVMPO transportation funding, project prioritization and investments as to how they benefited and/or burdened protected populations.

In May 2019, updated the Language Assistance Plan and the MVMPO voted to approve a change to the MPO's definition of low-income. Low-income is now defined as 65% of the regional median household income.

In May 2021, the MVMPO prepared a draft version of its Title VI update to MassDOT.

MVMPO Metropolitan Transportation Plan (MTP)

The MVMPO's FFY 2020 MTP (formerly referred to as the Regional Transportation Plan) presents a comprehensive examination of the region's existing transportation network and forecasts the future demand for transportation services in the Valley.

Through these analyses, staff was able to identify what is needed to both maintain the

transportation network in good condition and to establish a program of projects and studies/analyses designed to correct any deficiencies that were revealed.

The Goals for the transportation network set forth in the 2020 MTP are to:

- Maintain the System in a State of Good Repair
- Increase Safety for All Modes
- Create a Multi-Modal Transportation System to Support Mode Shift
- Promote Economic Vitality
- Support Transportation Equity
- Promote Environmental Sustainability

In meeting these goals, the MTP analyzes the region's transportation network through the lens of the performance and outcome-based planning methods established by USDOT. Building upon work in this area that was begun in the FFY 2016 MTP, the new document also considers the new performance measures and targets that were established by MassDOT and subsequently adopted by the MVMPO. These measures are related to safety, the reliability of NHS roadways, pavement quality, bridge condition, and asset management.

Route 114 Corridor Study

The Route 114 Corridor in Lawrence and northern North Andover is one of the MVMPO region's most congested roadways. Under the FFY 2011 UPWP, staff completed a corridor transportation study that considered existing traffic and safety problems, forecasted future travel demand, and made a series of recommendations to address recurrent congestion problems that have plagued the corridor for many years. The implementation of these recommendations is one of the MVMPO's highest priorities. The two projects (one proposed, one approved by MassDOT) that would address safety and congestion issues in this corridor are the two most highly rated projects in the MVMPO region based on their Transportation Evaluation Criteria scores.

The MVMPO has taken the following actions in recent years in pursuit of improving the Route 114 Corridor:

- In December 2014, MassDOT approved a project (#608095) that would make improvements to the section of the corridor from Andover Street to the Stop and Shop Driveway in North Andover.
- In 2015 and 2016, MassDOT, working in cooperation with area legislators, North Andover officials and with support from Merrimack College, implemented a project to install both a pedestrian signal on Route 114 between the College and the Royal Crest Apartment Complex and sidewalks along Route 114 and Andover Street.
- In 2017, the MVMPO programmed the use of available Target funding in the FFYs 2020 and 2021 elements of the MVMPO's FFYs 2017-2021 TIP for the construction of Project #608095. This project currently appears in the FFYs 2023, 2024 and

2025 elements of the FFYs 2021-2025 TIP. However, due to changes in the scope of the project and other factors, its estimated construction cost has increased to \$35 million and it is anticipated that it will be programmed to use MVMPO Target funding in the FFYs 2024, 2025, and 2026 elements of the MVMPO's FFYs 2022-2026 TIP.

- In 2018 MVPC completed a study of the feasibility of extending fixed route bus service along Route 114 to better serve the College, nearby medical offices and possibly even to restore service to the Liberty Tree Mall area.
- MVPC has met with local officials and trails advocates from the communities of Lawrence, North Andover, Middleton, and Danvers to identify options for improving bicycle and pedestrian travel in the corridor and providing connections to adjacent local and regional trails. Some of the improvements identified in this process will be implemented as part of the MassDOT project (#608809), now under construction, to resurface Route 114 from the Shawsheen River Bridge east to Peters Street in North Andover.

Priority Growth Strategy

In 2009, MVPC staff completed the Merrimack Valley Priority Growth Strategy (PGS), the land use plan for the Merrimack Valley region. This document, prepared with communities' direct participation, was well received by planning professionals and local/state elected officials. The National Association of Development Officials (NADO) recognized the PGS as a "Best Practice" in 2009 and awarded the MVPC an Innovation Award for the PGS in 2011 while FHWA featured the PGS on its *Transportation Planning Capacity Building* website as the latest example of an Innovative Project (FFY 2014). MVPC updated this document in 2015.

The MVMPO staff uses the PGS Update in two key areas; 1) to help define the preferred land use and zoning scenario included in the RTP, and 2) to quantify the economic impact of roadway and trails projects in applying the Transportation Evaluation Criteria. Under the FFY 2023 UPWP, MVPC Transportation Staff will continue the process of updating the PGS by reevaluating the transportation components of the document (see [Task 2.9.6](#)).

Congestion Management Process (CMP)

The CMP is a USDOT-mandated planning tool that MPOs with Urbanized Areas of more than 200,000 people must use to:

- Comprehensively examine and monitor congestion on an MPO's transportation network.
- Identify congested areas/components.
- Recommend actions to resolve specific congestion issues. These recommendations often result in traffic analyses and studies that appear in a region's UPWP.

The MVMPO continued to update its CMP under the FFY 2020 UPWP, incorporating 2019 travel time data that is available from FHWA for the NHS roadways in the region to identify congested corridor segments and intersections. It also considers the *Travel Time Reliability* and *Congestion* Performance Measures mandated by FHWA and Performance Targets for these measures that have been adopted by MassDOT and the MVMPO.

For transit services in the region, the CMP relies upon ridership data gathered by the MVRTA for its services, and from data gathered by the MBTA for the commuter rail services that it operates in the region.

Safety Monitoring System (SMS)

The MVMPO staff uses the SMS to identify components of the regional transportation network that have safety issues. The SMS uses crash data provided by MassDOT, local police departments, the MVRTA and other sources to identify safety problems for motor vehicles, bicycles and pedestrians, and transit riders in the region. Many of the potential safety problem areas identified through the SMS are studied in more detail through tasks included in the UPWP to determine if a safety problem truly exists and, if so, to identify what steps need to be taken next to address it.

With MVMPO's adoption of MassDOT's Safety Performance Targets in January 2018, a primary objective of the SMS in FFY 2019 was to identify locations on the region's transportation network where crashes involving fatalities and serious injuries take place. In FFY 2021, MVPC staff analyzed MVMPO region-specific data for each of the 14 Emphasis Areas identified in MassDOT's Strategic Highway Safety Plan. (See [Task 2.8](#)).

It has also developed a regional 'Top 100' Crash List that identifies high crash intersections in the region. This list was used in conjunction with the MassDOT Crash Cluster list as tools to identify high crash locations in the Valley.

MVRTA Regional Transit Plan

The MVRTA Comprehensive Regional Transit Plan (CRTP) prepared in 2015 was updated in 2020. This update was prepared with the assistance of AECOM, a consultant that was under contract to MassDOT. The document addresses fixed route bus service by examining route ridership, evaluating individual bus routes, and identifying areas for transit service. This CRTP will be used by the MVRTA to plan for and implement transit services in the future and any transit proposals must be included in the CRTP to receive consideration for programming and implementation by the MVRTA and MVMPO.

2020 Coordinated Human Services Transportation - Public Transportation Plan

The 2020 Coordinated Human Service Public Transportation Plan identified a wide range of proposed transit services that would address perceived gaps in the region's transit/transportation network. Among these were recommendations for transit

connections outside of the MVRTA region, more frequent service, coordinated transit for Veterans, and micro transit opportunities.

I-93 Bus on Shoulder

In November 2019, MVMPO staff met with the Secretary of Transportation to discuss the MVMPO's recommendation for Bus-on-Shoulder (BOS) transit service along I-93 between Anderson Transportation Center in Woburn and Somerville. Subsequently, representatives from MassDOT, the MVMPO and MVRTA participated in a test run of coach service along the shoulder on I-93 to identify potential issues around implementing bus-on-shoulder service.

How to address congestion along I-93 has been the subject of several analyses. A 2014 feasibility study of Bus-on-Shoulder service along I-93 was compiled in a report produced by the MVMPO in cooperation with the MVRTA. In addition, CTPS completed its reversible preferential lane analysis for the I-93 segment between Route 133 in Andover and the Central Artery North Area (CANA) in Boston.

In FFY 2020 MassDOT worked with the FHWA to secure approval to operate BOS service on I-93S between I-95 and the existing HOV Lane in Somerville. In January 2020, the MVRTA and MassDOT conducted an operational test of the BOS service. This test demonstrated that such a service was operationally feasible requiring signage and removal of the rumble strip to improve rideability. Unfortunately, the COVID-19 pandemic led the MVRTA to cease operation of its two routes that bring Merrimack Valley commuters to downtown Boston. The MVRTA will be reinstating its Boston Commuter Service on Tuesday July 6th with a limited schedule and has informed the MassDOT Highway Division so that the BOS pilot service can proceed as originally intended.

State Policies and Plans

The Commonwealth of Massachusetts has completed a series of transportation planning activities that will influence transportation planning as well as transportation project programming and development activities across the state. The MVMPO staff has considered these plans in the development of the MVMPO's FFY2023 UPWP.

Global Warming Solutions Act

Through the Global Warming Solutions Act, which was enacted by the Legislature in 2008, Massachusetts has committed to reducing statewide GHG emissions between 10- 25% from 1990 levels by 2020 and by at least 80% from 1990 levels by 2050. To help achieve these GHG emissions reductions, MassDOT committed to tripling the mode shares for walking, bicycling, and public transportation throughout the Commonwealth. Transit usage would be increased by offering more hours of service, improving bus route designs/schedules, reducing bus/train headways, and upgrading the condition of rolling stock and other equipment. Improving travel accommodations for bicyclists and pedestrians through a "Complete Streets" (see below) approach to improving

the state's transportation network will make it easier and safer for persons to bike and/or walk.

An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy

In late March of 2021, Governor Baker signed An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy, establishing newer, more stringent interim goals for emissions reductions, significantly increasing protections for Environmental Justice communities across Massachusetts. The legislation also authorizes the Administration to implement a new, voluntary energy efficient building code for municipalities, and allows the Commonwealth to procure an additional 2,400 Megawatts (MW) of clean, reliable offshore wind energy by 2027.

In addition, Massachusetts joined Connecticut, Rhode Island, and Washington D.C. in launching a multi-jurisdictional Transportation and Climate Initiative Program (TCI) that will reduce motor vehicle pollution by at least 26 percent and generate over \$1.8 billion in Massachusetts by 2032.

Healthy Transportation Policy Directive

Released by MassDOT in 2013, this directive modified MassDOT's Design Criteria for Projects and Bicycle Accommodation in a few important ways including requiring sidewalks on *both sides* of roadways in urban areas, on *both sides of bridges* and/or on *roadways passing beneath bridges*, and on MassDOT facilities wherever adjacent commercial/pedestrian development density is greater than 5 units/acre.

Complete Streets Funding Program

This program was instituted by MassDOT in February 2016 as part of its effort to further support the creation of highway infrastructure that meets the MassDOT goal of promoting the healthy transportation options of walking and bicycling. This goal was a primary factor influencing the development of the Department's Healthy Transportation Policy Directive.

The program provides financial support for communities adopting Complete Streets ordinances or by-laws that meet MassDOT criteria. Funding is provided to both support the implementation of the Complete Streets ordinance or bylaw and to support the construction of Complete Streets projects.

MVPC staff provides technical assistance in the form of drafting ordinances, advising on prioritization plans and public outreach. By May 2022, 11 communities in the MVMPO region had Complete Streets ordinances/bylaws in place and seven had received MassDOT approval for Complete Streets projects.

Shared Streets/ (Shared Winter Streets) and Shared Spaces Program

To combat the negative economic impacts generated by the COVID-19 Pandemic, MassDOT created the Shared Streets and Spaces Grant Program in June 2020 "to

assist municipalities in meeting their individual needs for more and safer outdoor recreation, commerce, community activities, and mobility.” Eight Merrimack Valley communities have received funding under this program to implement readily implementable small and medium scale projects including, but not limited to the creation of parklets to support outdoor dining, construction of sidewalks and sidewalk ramps, creation of bike lanes and installation of pedestrian signals.

Massachusetts Statewide Plans

State Rail Plan

MassDOT completed its most recent State Rail Plan in May 2018. The goals of this document are to:

- Set forth Commonwealth policy involving freight and passenger rail transportation.
- Establish policies, priorities, and strategies to enhance rail services in the Commonwealth that provide benefits to the public
- Serve as the basis for federal and state rail investments within Massachusetts
- Establish the means and mechanism to coordinate with adjoining states, private parties and the federal government in projects of regional and national significance, including corridor planning and investment strategies
- Meet the planning requirement established by the Federal Railroad Administration

The 2018 State Rail Plan establishes three tiers of long-term rail projects. Tier 1 projects are those that “clearly support the long-term vision of the state”, do not require additional study and can advance through the project development process. Tier 2 projects are those that warrant further analysis and will be revisited in future plans, while Tier 3 project are less consistent with the rail vision for the Commonwealth.

It should be noted that the 2018 State Rail Plan does not include policy decisions regarding specific MBTA Commuter Rail projects. There are several ongoing studies by the MBTA pertaining to the future of Commuter Rail that are currently underway including Focus40, the long-range investment plan for the MBTA and the MBTA Commuter Rail Vision, which will examine different approaches to delivering service including system electrification, among other potential longer-term investments in the MBTA’s rail network.

Rail Vision

In 2018-2019, the MBTA undertook an extensive planning effort toward examining future improvements for the MBTA commuter rail system. In October 2019, the MBTA voted to adopt the boldest option that called for electrification of the system and

increasing frequency to every 15 minutes at key stations, including Lawrence, downtown Haverhill, and Newburyport.

State Freight Plan

MassDOT's Freight Plan was completed in April 2018. It includes a Vision Statement and Guiding Principles for developing "...a multimodal freight system that is safe, secure, resilient, efficient, reliable, and sustainable, and one that catalyzes economic development while supporting the continued competitiveness of the Commonwealth."

It also identifies the following five Performance Goals for the Freight Network:

- The freight system should work for all its customers: shippers, carriers, consumers, workforce, and communities.
- The condition of the freight system should be improved to ensure an efficient and reliable supply chain.
- Capital budgets should be set in part using freight performance metrics, to ensure that the benefits of projects for freight uses are properly considered in decision-making.
- Freight movement should be safe for operators, motorists and passengers, bicyclists, and pedestrians, in urban, suburban, and rural areas.
- The freight system should not adversely impact the health and livability of the communities it touches, and it should contribute to the achievement of a 25% statewide reduction in greenhouse gas emissions from utilities, industry, transportation, and other sources by 2020 (Global Warming Solutions Act of 2008).

Most significantly, the Plan forecasts a large increase in the value of the amount of freight moved by all modes (i.e., truck, rail, marine, air, etc.) that will move into, out of and within the Commonwealth over the next 25 years reaching a value that is virtually double that which was moved in 2015.

The Freight Plan then identifies a series of 'Immediate,' 'Robust' and other strategies for improving the Commonwealth's freight infrastructure and operations. These include a number of projects that are slated to be built using National Highway Freight Program funds to support projects along the National Highway Freight Network that will improve truck travel time reliability and the condition of core freight assets.

In the Merrimack Valley MPO region, the Plan identifies the I-495 corridor north of I-90 (including the Merrimack Valley region) as the most heavily used truck route in the state. It also identifies the lack of truck parking facilities in this corridor as an issue that is adversely affecting truck freight movement.

State Bicycle Plan

In 2019, MassDOT finalized the Statewide Bicycle Transportation Plan. The Vision Statement for the document states that:

Biking in Massachusetts will be a safe, comfortable, and convenient option for everyday travel.

Two overarching goals for achieving this vision are also established:

- Goal 1: Create high comfort connected bike networks for people of all ages and abilities
- Goal 2: Increase the convenience and attractiveness of everyday biking

To achieve these goals, the Plan states that MassDOT will seek to remove gaps and barriers that discourage everyday biking and will work with cities and towns to promote and encourage everyday biking activity. Examples of barriers to everyday biking include uncomfortable roadway crossings, narrow or missing roadway shoulders and lack of bicycle parking.

A key component of the Plan is MassDOT's **Potential for Everyday Biking** analysis. This tool was developed in an effort to further identify those areas around the state where people would likely bike for everyday travel if safe, comfortable, and convenient bikeways were available.

State Pedestrian Plan

MassDOT also updated the Massachusetts Pedestrian Transportation Plan in an effort to improve conditions for walking throughout the Commonwealth. The new Plan recommends policies, programs, and projects for MassDOT to guide decision making and capital investments, as well as develop guidance for municipalities to improve walkability in local communities.

Core Goals of the Plan Include:

- I. Improve Accessibility - Improve mobility and connectivity to major community services, housing, and employment centers with an emphasis on changing demands, underserved communities, healthy transportation options, and connections to transit.
- II. Improve Safety – Provide guidance on state of the practice in policy, design, implementation, enforcement, and evaluation of safer pedestrian environments.
- III. Improve Maintenance - Identify policies and model practices to improve maintenance, year-round usability, and state of good repair of existing and planned pedestrian infrastructure.

- IV. Prudent Investment - Develop a prioritized investment strategy that supports our goals and complements robust regional pedestrian planning efforts; and provide a business case based on economic and public health data that inspires municipalities to invest in walking environments.

Additional Complete Street Resources

MassDOT has striven to provide easy access to resources for municipalities to help and encourage them to implement the most up-to-date infrastructure. Among these are:

- The Municipal Guide to Walkability
- The Municipal Guide to Bikeability
- Speed Management Web site that includes a Roadway Treatment Toolkit
- Free training courses offered through Bay State Roads

Next Generation Bridge Program

Over the next five years, MassDOT expects to invest over \$3 billion repairing the Commonwealth's Bridges. This includes \$816 million already programmed in the STIP using BIL's reauthorization of existing programs, \$1.1 billion under BIL's new Bridge Formula Program, and \$1.25 billion in bonding authority under the Commonwealth's Next Generation Bridge Program.

Next Generation Bridge Program projects will be advertised for construction during the five-year period covered during the upcoming TIP using state funding, which will be paid down by Grant Anticipation Notes (GANS) debt repayments in future years.

Three new bridge projects will be included in the MVMPO's FFYs 2023-2027 TIP through this program:

- Andover - Bridge Preservation, A-09-022, I-93 over Merrimack River (# 612193)
- Andover- Bridge Replacement, A-09-015, Tewksbury Street over MBTA/BMRR (# 612143)
- Methuen- Bridge Replacement, M-17-026, Route 213 EB/WB over the Methuen Rail Trail (# 612158)

District Local Technical Assistance Program (DLTA)

The Massachusetts Legislature created the DLTA Program to support implementation of Sustainable Development Principles. The Commonwealth's Executive Office of Administration and Finance has authorized distribution of DLTA funding to the Commonwealth's regional planning agencies to assist their communities with planning service. DLTA funds can be used for a variety of purposes including developing shared land use objectives, reviewing, and modifying existing local zoning and land use controls, and creating municipal partnerships.

MassDOT Capital Investment Program (CIP)

MBTA and each MassDOT agency are required to identify and prioritize the most beneficial investments, those that will most help to meet long-term goals for mobility, sustainability, and broad-based prosperity. These investments are funded through the Capital Investment Program (CIP), which uses state and federal funding to pay for long-term improvements to the transportation system. Each year, MassDOT creates a new CIP that combines its capital planning efforts across its aeronautics, highway, motor vehicles and transit business lines.

MassDOT has established three capital priority project types in evaluating transportation projects in the Commonwealth:

1 Reliability

Maintain and improve the overall condition and reliability of the transportation system

2 Modernization

Modernize the transportation system to make it safer and more accessible and to accommodate growth

3 Expansion

Expand diverse transportation options for communities throughout the Commonwealth

MassDOT and the MBTA are now in the process of developing the FFY 2023-2027 CIP.

Project Selection Advisory Council (PSAC)

Created by the Legislature as part of *Chapter 46 – An Act Relative to Transportation Finance* in 2013, the PSAC met throughout 2014 and 2015 to develop recommendations for modifying the Commonwealth’s transportation project development, evaluation, and selection process. MassDOT incorporated PSAC recommendations in its evaluation of transportation projects/project proposals during FFY 2016. The new evaluation and project selection process, with some minor modifications has been employed by MassDOT every year since. The Department completed development of the FY 2023 Capital Investment Program in May 2022 and it is anticipated that it will be adopted by MassDOT and the MBTA in June 2022.

Massachusetts Strategic Highway Safety Plan

Created under SAFETEA-LU and continuing under the BIL, the Highway Safety Improvement Program (HSIP) is designed “to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.” Funds may be used for design and/or construction of projects on any public road or publicly owned bicycle and pedestrian pathway or trail.

A key component of the HSIP is the State Highway Safety Plan (SHSP), which is a “data-driven” document that “provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads.” The Massachusetts SHSP was originally endorsed by local and regional stakeholders in September 2006 and revised in 2013 and 2018.

MassDOT has tentatively identified 12 Emphasis Areas for inclusion in the 2022 SHSP:

- Bicyclists
- Impaired Driving
- Motorcycle Crashes
- Pedestrians
- Driver Distraction
- Intersection Crashes
- Occupant Protection
- Speeding/Aggressive Driving
- Heavy Trucks
- Lane Departure
- Older Drivers
- Younger Drivers

Federal Transportation Planning Legislation and Initiatives

Bipartisan Infrastructure Law

On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act IIJA (Public Law 117-58, also known as the Bipartisan Infrastructure Law (BIL)) into law. The BIL provides \$550 billion over fiscal years 2022 to 2026 in Federal investment in infrastructure, including roads, bridges, mass transit, resilience, and broadband.

Livability

The transportation network plays a major role in affecting the quality of life of residents in the area it serves. As was noted by FHWA on its website:

“The transportation network should provide residents with choices, an effort to tying the quality and location of transportation facilities to broader opportunities such as access to good jobs, affordable housing, quality schools, and safe streets. This includes addressing safety and capacity issues on all roads through better planning and design, maximizing and expanding new technologies such as ITS and the use of quiet pavements, using Travel Demand Management approaches to system planning and operations, etc.”

Examples of MVPC’s work in this area includes:

- Preparation and updates for the Priority Growth Strategy (PGS), which makes direct connections between the transportation infrastructure and economic development and access to jobs. The PGS will be updated in the calendar years 2022 and 2023.
- Lawrence Mayor’s Health Task Force (MHTF): MVPC staff have been involved in the Healthy Active Living Working Group (HALWG) work to advance healthy living through advancing policy, systems and environmental changes, such as implementation of the Ciclovía (open streets) annual events, Safe Routes to School (both site specific and creating systemwide changes), Complete Streets advocacy, mapping of assets for the Lawrence food assessment, which includes transportation, housing, food, agriculture and more.
- Assisting Haverhill non-profits and the MVRTA with an in-depth assessment transit needs for city residents, which resulted with the creation of a new transit service that works closely with and compliments the MVRTA’s existing services.

USDOT Emphasis Areas

USDOT provides the MPOs with emphasis areas to focus transportation planning. These are discussed below.

Tackling the Climate Crisis – Transition to a Clean Energy, Resilient Future

Federal Highway Administration (FHWA) divisions and Federal Transit Administration (FTA) regional offices should work with State departments of transportation (State DOT), metropolitan planning organizations (MPO), and providers of public transportation to ensure that our transportation plans and infrastructure investments help achieve the national greenhouse gas reduction goals of 50-52 percent below 2005 levels by 2030, and net-zero emissions by 2050, and increase resilience to extreme weather events and other disasters resulting from the increasing effects of climate change.

The MVPC received a state-funded Regional Energy Planning Grant to map existing infrastructure, work with communities to breakdown barriers to implementing electric vehicle charging stations. MVMPO staff are also providing technical assistance to the City of Lawrence to implement an electric bicycle pilot project. We support the MVRTA's work to break down barriers to using transit including free fares, safe bus stops, public information, connections between modes and more.

Equity and Justice⁴⁰ in Transportation Planning

FHWA Division and FTA regional offices should work with State DOTs, MPOs, and providers of public transportation to advance racial equity and support for underserved and disadvantaged communities. This will help ensure public involvement in the planning process and that plans and strategies reflect various perspectives, concerns, and priorities from impacted areas. We encourage the use of strategies that: (1) improve infrastructure for non-motorized travel, public transportation access, and increased public transportation service in underserved communities; (2) plan for the safety of all road users, particularly those on arterials, through infrastructure improvements and advanced speed management; (3) reduce single-occupancy vehicle travel and associated air pollution in communities near high-volume corridors; (4) offer reduced public transportation fares as appropriate; (5) target demand-response service towards communities with higher concentrations of older adults and those with poor access to essential services; and (6) consider equitable and sustainable practices while developing transit-oriented development including affordable housing strategies and consideration of environmental justice populations.

The MVMPO strives to integrate outreach in our low income and racially diverse neighborhoods in all that we do. Examples of the MVMPO's work in this area includes:

- Participation in the Lawrence Mayor's Health Task Force.
- Participation, tabling and organizing the Ciclovía (open streets) in Lawrence.
- Coordinating with the City of Lawrence on a grant for an electric bicycle pilot project.
- Inviting residents to participate in Road Safety Audits.
- Meeting with Spanish and Chinese speaking elders at the Senior Center.
- Meeting with students at English as a Second Language classes.
- Tabling at health fairs in low-income and racially diverse neighborhoods.
- Participating in a food assessment for the City of Lawrence and a regional assessment.
- Advocating for and making connections between community needs and transportation, especially around transit, bicycle, and pedestrian transportation.

Complete Streets

USDOT is emphasizing the need to create complete streets that make roadways safer for all users. With the implementation of the Massachusetts Complete Streets funding program, 11 out of 15 Merrimack Valley Communities have adopted Complete Street policies. MassDOT has also encouraged further adoption of Complete Streets design in all projects developed with federal funding and has developed workshops, engineering guidance and toolboxes to aid in faster implementation. The MVMPO has provided technical assistance to communities on their Complete Street policies and projects. All studies take all users into consideration and the MVMPO does conduct specific Complete Street analyses for corridors. Two have been conducted in environmental justice communities. The MVMPO continues to emphasize multi-modal transportation with the 2015 Active Transportation Plan and the 2022 update.

Public Involvement

USDOT encourages early, effective, and continuous public involvement to bring diverse viewpoints into the decision-making process. It encourages use of a variety of tools and methods to encourage greater involvement including Virtual Public Involvement.

The MVMPO embraces the need to adapt and provide information in a variety of ways in order to reach and engage the public. The MVMPO adopted virtual meetings in response to the COVID-19 pandemic. In addition, it has been using GIS-based story maps to aid in providing information to the public on topics including Complete Streets, trails, and non-motorized crash data. Further, the MVMPO employed its first virtual mapping tool to encourage greater public input in the update to the Active Transportation Plan.

Strategic Highway Network/U.S. Department of Defense (DOD) Coordination

FHWA Division and FTA regional offices should encourage MPOs and State DOTs to coordinate with representatives from DOD in the transportation planning and project programming process on infrastructure and connectivity needs for STRAHNET routes and other public roads that connect to DOD facilities. According to the Declaration of Policy in 23 U.S.C. 101(b)(1), it is in the national interest to accelerate construction of the Federal-aid highway system, including the Dwight D. Eisenhower National System of Interstate and Defense Highways, because many of the highways (or portions of the highways) are inadequate to meet the needs of national and civil defense. The DOD's facilities include military bases, ports, and depots. The road networks that provide access and connections to these facilities are essential to national security. The [64,200-mile STRAHNET system](#) consists of public highways that provide access, continuity, and emergency transportation of personnel and equipment in times of peace and war. It includes the entire 48,482 miles of the Dwight D. Eisenhower National System of Interstate and Defense Highways and 14,000 miles of other non-Interstate public highways on the National Highway System. The STRAHNET also contains approximately 1,800 miles of connector routes linking more than 200 military installations and ports to the primary highway system. The DOD's facilities are also often major employers in a region, generating substantial volumes of commuter and freight traffic on the transportation network and around entry points to the military facilities. Stakeholders are encouraged to review the STRAHNET maps and recent Power Project Platform (PPP) studies. These can be a useful resource in the State and MPO areas covered by these route analyses.

Federal Land Management Agency (FLMA) Coordination

FHWA Division and FTA regional offices should encourage MPOs and State DOTs to coordinate with FLMAs in the transportation planning and project programming process on infrastructure and connectivity needs related to access routes and other public roads and transportation services that connect to Federal lands.

The MVMPO meets with managers of federal lands in the Merrimack Valley and coordinates federal transportation funding needs for these areas. Funding for the Parker River National Wildlife Refuge has been included on the MVMPO Transportation Improvement Program in the past, for example.

Planning and Environment Linkages (PEL)

FHWA Division and FTA regional offices should encourage State DOTs, MPOs and Public Transportation Agencies to implement PEL as part of the transportation planning and environmental review processes. The use of PEL is a collaborative and integrated approach to transportation decision making that considers environmental, community, and economic goals early in the transportation planning process, and uses the information, analysis, and products developed during planning to inform the environmental review process. PEL leads to inter-agency relationship building among planning, resource, and regulatory agencies in the early stages of planning to inform and improve project delivery timeframes, including minimizing duplication and creating one cohesive flow of information. This results in transportation programs and projects that serve the community's transportation needs more effectively while avoiding and minimizing the impacts on human and natural resources.

MVPC continues to support the Merrimack Valley Stormwater Collaborative to address the requirements contained in EPA's new Phase II National Pollutant Discharge Elimination System (NPDES) permit for Massachusetts, including those related to transportation infrastructure.

MVPC is also a certified provider of technical assistance under the Executive Office of Energy and Environmental Affairs' (EOEEA) Municipal Vulnerability Preparedness (MVP) Program. EOEEA developed the MVP program to provide financial support to cities and towns in the state both for "...planning for resiliency and in implementing key climate change adaptation actions for resiliency."

A key component of this program is the MVP Assessment Workshop, which identifies key adaptation strategies to address threats to vulnerable community assets and resources. MVPC staff completed Vulnerability Assessment Workshops for the Cities of Lawrence and Methuen and the Town of Andover in 2019 and completed MVP programs for the towns of Merrimac, North Andover, and Rowley in 2020. Many of these involve the transportation network and will be considered by the MVMPO as it works with communities in developing the RTP, UPWP, TIP and performing other key transportation planning and programming activities.

Data in Transportation Planning

To address the emerging topic areas of data sharing, needs, and analytics, FHWA Division and FTA regional offices should encourage State DOTs, MPOs, and providers of public transportation to incorporate data sharing and consideration into the transportation planning process, because data assets have value across multiple programs. Data sharing principles and data management can be used for a variety of issues, such as freight, bike and pedestrian planning, equity analyses, managing curb space, performance management, travel time reliability, connected and autonomous vehicles, mobility services, and safety. Developing and advancing data sharing principles allows for efficient use of resources and improved policy and decision-making at the State, MPO, regional, and local levels for all parties.

Other Transportation Planning Studies

In addition to the studies, analyses and legislation described above, the following transportation planning studies have been implemented in the region and surrounding areas by other agencies. These include:

Interstate 495 Corridor Study

Completed in 2008, MassDOT undertook this study in recognition of the growing congestion that exists along the roadway, especially in the western Merrimack Valley and eastern Northern Middlesex regions and the fact that many of the interchanges along this section of roadway have not been improved since the facility was built in the early 1960s.

The study recommended an array of short- and long-term improvements for the corridor. Short-term improvements include the retiming of existing signals at exit and entrance ramps, signaling many of these ramp junctions in the next few years and re-striping the existing roadway to increase the length of many of the substandard acceleration and deceleration lanes. Long-term improvements call for the widening of the roadway between Route 225 in Westford and Route 110 (Exit 49) in Haverhill.

Other Non – Transportation MVPC Planning Studies and Funding Sources

In addition to the transportation studies and analyses undertaken by the Commission on behalf of the MVMPO, as a comprehensive planning agency the MVPC is active in studies, initiatives and analyses that address economic development, land use, open space and environmental matters that often directly impact the region's transportation network.

The Merrimack Valley Planning Commission serves as a conduit to both Federal and State economic development resources through a partnership with the U.S. Economic Development Administration (EDA) and the Massachusetts Office of Business Development (MOBD).

MVPC serves as a Federally recognized Economic Development District (EDD) and a State-recognized Regional Economic Development Organization (REDO), in conjunction with its

roles and responsibilities as a comprehensive planning agency. Recent activities in these areas are noted below:

We Are MV: MVPC maintained and updated the regional economic development and business support website WeAreMV.com. Updates included full Spanish translation, new business resource library, new local success stories, and a “how to start a business” guide.

MVPC maintains an available property inventory of all non-residential properties in the Merrimack Valley. This database is updated every quarter. The information is mapped and displayed on our regional economic development website WeAreMV.com and our Data Portal on MVPC.org. The properties are updated with flyover image photography and information including access to transportation, incentive districts, and local contacts.

MVPC Hosted a Housing Forum in North Andover and Haverhill in partnership with the Massachusetts Housing Partnership. The events included panelists of local residents struggling to find housing in their communities and data that highlights the existing housing conditions in each community. Each forum ended with a series of policy recommendations for communities to implement on the municipal level.

- MVPC, in partnership with MassHire, conducted a survey of Merrimack Valley employers to learn how to better respond to their workforce challenges. Their responses will be used to shape programming focused on connecting employers with additional workforce resources. Large employers in the manufacturing sector were targeted as participants.
- MVPC hosted The State of the Economy in Massachusetts and the Merrimack Valley in partnership with the UMass Amherst Donahue Institute and Merrimack Valley Regional Transit Authority. The event was a high-level overview of where the economy stands in Massachusetts after a volatile 18 months and where we stand as a regional economy. Over 35 people from across the Merrimack Valley were in attendance. Attendees are part of the Merrimack Valley Economic Development Coalition charged with crafting and implementing the CEDS.
- In partnership with Andover, North Andover, Lawrence, Lawrence Partnership, and Essex County Community Foundation MVPC used its regional business inventory to curate a targeted database of businesses with 50 or more employees in key industries including advanced manufacturing, life sciences, IT services, advanced textiles, and food manufacturers. Through a strategic outreach and engagement process, MVPC and economic development staff in Lawrence, Andover, and North Andover met with large employers in the three communities to better understand their challenges and needs. For many of these businesses, it was the first time they interacted with anyone from the municipality in which they operate.
- Although the primary goal of this outreach is to identify challenges businesses face with being in this region, both the municipal staff and the businesses found value in

simply establishing a connection and open lines of communication between the two parties. To date, the businesses engaged through this work have reported challenges they face, the most common being workforce recruitment and retention.

- Utilizing Essex County Community Foundation (ECCF) funding for our Targeted Economic Development Strategy, MVPC has been working with the communities of Lawrence, Andover, and North Andover to meet with large employers in their communities. The goal of this effort is to identify and respond to challenges the employers face with being located in this region. The number one concern routinely mentioned is workforce recruitment and retention. MVPC partnered with MassHire Merrimack Valley, The Gem Group, and the Merrimack Valley Project to put together a workforce webinar panel for manufacturing businesses to attend and ask questions about best practices in workforce recruitment and retention.
- In December of 2020, MVPC announced that the U.S. Economic Development Administration (EDA) awarded the Lawrence Partnership a \$600,000 grant to support the expansion of the Revolving Test Kitchen (RTK), an incubator which invests in small local food-based businesses in Lawrence. Due to its position as the region's Economic Development District (EDD), MVPC serves as the grant administrator and oversees the project. Over the past year, MVPC has worked with the Lawrence Partnership as it has expanded its operations at the RTK. The newly renovated space, which opened in August of 2021, is located at the street-level entrance at Northern Essex Community College's Lawrence campus on Common Street. Featuring shared culinary workspaces with multiple prep and cook spaces with dry and cold storage, RTK will accommodate a range of food businesses, including food trucks, catering companies, small batch manufacturers, and food delivery companies, while offering its members access to culinary and business experts in the food industry.
- The Merrimack Valley Economic Development (MVED) is a 501-C-4 non-profit organization housed within our Community and Community Development Program. MVED provides loans and financial incentives to small businesses throughout the region to stimulate the local economy. Financing is routinely cited as one of the biggest challenges for small businesses, so the MVED revolving loan program was created in partnership with the U.S Economic Development Administration and Massachusetts Department of Housing and Community Development to provide that assistance. Utilizing the MVED program, Boston Best Cookies and Jessica's Brick Oven have been able to come together under the same roof of an updated facility in Methuen that will allow each business to continue thriving, creating an economy of scale to help production costs and times. The latest loan from MVED will assist in purchasing new equipment to meet the demand of the partnership with their national retailer and other large orders as well as employ five more of our own Merrimack Valley residents. For more information on the MVED program please visit our Revolving Loan Fund page.

- MVED was designated as the Regional Economic Development Organization (REDO) by the Massachusetts Office of Business Development. This designation allows MVED to provide State resources to businesses and organization in the regions. MVED successfully leveraged its REDO designation to direct \$49,000 in grant funding to the Merrimack Valley Chamber of Commerce for their Merrimack Valley Means Business Program.
- MVPC produced a Recovery and Resiliency Plan which analyses how the Merrimack Valley was impacted by COVID-19. The report shows what businesses and industries were impacted and which ones began to recover. The report also compiles a series of local interventions that occurred during the course of the pandemic and recommends strategies and interventions that should be built upon to create a more resilient economy.
- MVPC continues to manage the Merrimack Valley Strong Program, a free technical assistance program for small businesses impacted by COVID-19. The program currently has 230 business in the pipeline, the majority of which are Latino-owned, Spanish speaking, and/or women owned. This program is implemented in partnership with Mill Cities Community Investments and Small Business Strong.

Transportation Planning Program Funding for FFY 2023 UPWP

The transportation planning tasks and activities in the FFY 2023 UPWP were developed by the MVPC and MVRTA in cooperation with FHWA, MassDOT, FTA, local officials, and the input of MVMPO Stakeholders.

The studies, analyses and other tasks contained in this document will be carried out through funding provided under two contracts. The first, and largest, is the annual planning contract between MassDOT and the MVPC. The second contract is between the Merrimack Valley Regional Transit Authority and the MVPC.

PL/Transit Planning Contract Between MassDOT and MVPC

Funding for virtually all of the highway planning tasks and many of the transit tasks contained in the MVMPO's FFY 2023 UPWP will be provided through a one-year contract between MassDOT and MVPC that will begin on October 1, 2022 and terminate on September 30, 2023.

While this contract is between MassDOT and the Commission, much of the funding is provided by FHWA and FTA through their PL and Section 5303 Metropolitan Planning programs, respectively. MassDOT provides the match for the federal planning funds from these two programs.

On January 28, 2022, MassDOT provided the MPOs in the Commonwealth with guidance on the amount of funding that would be available to them from the PL and Section 5303 federal programs and MassDOT matching sources in FFY 2023. In April 2022, OTP provided

supplemental information regarding the amount of additional FTA Section 5303 planning funds that became available through the passage of the Omnibus Appropriations Act of 2022. The amount for the Merrimack Valley MPO is \$941,381 and was used in the development of this document.

Transit Planning Contract Between MVRTA and MVPC

Transit planning activities carried out under the Section 5307 contract between the MVRTA and the MVPC are funded through an annual contract, with MVPC providing the 20% match for the federal transportation funds involved. The MVRTA sets aside a portion of its Section 5307 Urban Area Formula funds for this purpose. The tasks funded under this contract are more focused on having MVPC provide planning and technical assistance activities needed to support the Authority's fixed route and demand response transportation services.

The transportation planning activities funded through the Section 5307 contract between the MVRTA and the MVPC will be in effect from October 1, 2022 through September 30, 2023. In developing the FFY 2023 UPWP, it is assumed that the MVRTA will be providing \$80,000 in Section 5307 funding for this contract and that MVPC will provide the 20% match.

All planning tasks to be initiated under the FFY 2023 UPWP will be performed by either the MVPC or private consultants through the contracts described above.

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Transportation Planning Factors

10 planning factors must be considered in the conduct of the 3C Transportation Planning Process. The table presented below shows which individual transportation planning tasks included in the MVMPO's FFY 2023 UPWP address each of them:

Planning Factors in the MVMPO FFY 2023 UPWP		
Planning Factor	UPWP Task(s)	RTP Goals
<i>(1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;</i>	Tasks 1.6, 2.4, 2.5, 2.11 and 3.3	Promote Economic Vitality Transportation Equity
<i>(2) Increase the safety of the transportation system for motorized and nonmotorized users;</i>	Tasks 2.7, 2.8, 2.9, 2.10, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, and 4.3	Increase Safety for All Modes Promote Environmental Sustainability
<i>(3) Increase the security of the transportation system for motorized and nonmotorized users;</i>	Tasks 2.5, 2.7, 2.9, and 4.3	Promote Environmental Sustainability Promote Economic Vitality Transportation Equity
<i>(4) Increase the accessibility and mobility options available to people and for freight;</i>	Tasks 1.5, 1.6, 2.4, 2.5, 2.9, 2.10, 3.1 and 3.2	Create Multi-Modal System to Support Mode Choice Promote Economic Vitality
<i>(5) Protect and enhance the environment, promote energy conservation, and improve quality of life;</i>	Tasks 1.6, 2.7, 2.9, 2.11, 3.1, 3.2, 3.3, 3.8, 3.9 and 4.3.	State of Good Repair Transportation Equity Promote Environmental Sustainability
<i>(6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;</i>	Tasks 1.1, 1.2, 2.5, 2.7, 2.10 and 3.2	Create Multi-Modal System to Support Mode Choice Promote Economic Vitality
<i>(7) Promote efficient system management and operation;</i>	Tasks 2.1, 2.2, 2.4, 2.6, 2.10, 3.1, 3.2, and 4.1	State of Good Repair Promote Economic Vitality
<i>(8) Emphasize the preservation of the existing transportation system;</i>	Tasks 2.2, 2.4, 2.10, 3.9 and 4.3	State of Good Repair Environmental Sustainability
<i>(9) Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation;</i>	Tasks 3.8, 3.9 and 4.3	State of Good Repair Environmental Sustainability
<i>(10) Travel and tourism.</i>	Tasks 2.7, 2.9, 2.11, and 3.2	Create Multi-Modal System to Support Mode Choice Promote Economic Vitality

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Summary of Anticipated MVPC Funding Resources FFY 2023 (July 1, 2022 – June 30, 2023)		
<u>Source - Non-Transportation</u>	<u>Amount</u>	<u>% of Total</u>
Economic Development Administration (EDA)	\$100,000	4.3%
CMMS - Annual Maintenance	22,250	0.9%
EDA Revolving Loan Fund	25,000	1.1%
National Wildlife Federation - Sandy #2 Funds	51,000	2.2%
CZM Mass Bays N. Shore LGC/Greenscapes	65,500	2.8%
Mass. Department of Housing and Community Development District LTA	112,767	4.8%
Stormwater Coalition Assessment	3,000	0.1%
Mayor's Coalition Energy & MVMB Update	2,000	0.1%
EPA Brownfields Revolving Loan Fund	355,000	15.1%
MOBD - REDO	80,000	3.4%
Pictometry	3,000	0.1%
Local Technical Assistance	94,576	4.0%
Lawrence Partnership - Revolving Test Kitchen Admin.	10,332	0.4%
DOER - REPA Green Communities	40,219	1.7%
EOEEA - Stormwater Bylaw Grant	34,331	1.5%
Essex County Comm. Fnd. - Targeted Economic Dev. Strategy	60,000	2.6%
DEP - 319 Non-Point source Pollution	33,072	1.4%
Misc. GIS and Local Contracts	65,000	2.8%
TOTAL (Non-Transportation)	\$1,157,047	49.3%
<u>Source - Transportation</u>		
FHWA/MassDOT-PL	\$1,095,000	46.6%
FTA/MVRTA (Section (5307)	100,000	4.3%
TOTAL (Transportation)	\$1,195,000	50.9%
MVPC TOTAL	\$2,352,047	100.0%

Source: MVPC's FY 2023 Budget #1: July 1, 2022 – June 30, 2023* (Approved 2/17/22)

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Equity Analysis

The MVMPO examined the distribution of studies undertaken under the UPWP with respect to geographic and social equity.

Study Choices: Each year, the MVMPO staff make it a priority to include studies in the UPWP that address safety concerns, but some studies are undertaken for reasons related to traffic congestion or mobility needs, as is the case with Complete Streets analyses. Additional studies are undertaken as part of local technical assistance in which our member communities request MVMPO assistance with various transportation issues. For example, West Newbury requested a guard rail study, but this study did not include any high crash areas. This is reflected in the geographic distribution of studies among all MVMPO member communities.

Geographic Equity: In the table below, the second and third columns shows the number of studies undertaken in each community between 2016-2023. 48.7% of the studies conducted between 2016-2023 have been (will be) in those communities that represent 56% of the population of the Merrimack Valley or 34% of the Federal Aid roadway miles. Studies or analyses during this time period have been conducted in each of the 15 Merrimack Valley communities, but the emphasis has been on those communities with higher numbers of crashes.

Social Equity: To further drill down on the equity analysis, the geographic location of each study was then compared to the Title VI maps used for the Transportation Improvement Program (ACS 2019) in order to identify which ones were located in low-income and minority tracts. A tract is considered minority if it has a higher percentage of minorities than the regional average. A tract is considered low-income if the median income of the tract is 65% or less than the regional average.

A total of 69 transportation studies have been included in the MVMPO's UPWPs between FFY 2016 and 2023. Of those studies, 42% were (or will be in FFY 2023) conducted in or adjacent to Title VI/EJ tracts. It should be noted that these figures will change over the course of the FFY 2023 UPWP as communities come forward and ask MVPC for Local Technical Assistance related to transportation issues.

The analysis also takes into consideration the number of federal aid roadway miles and the number of crash clusters. 83% of the crash clusters designated by MassDOT between 2018-2020 occurred in the Merrimack Valley's largest cities of Haverhill, Lawrence, and Methuen. During the time period between 2016-2023, 47% of the studies were undertaken at high crash locations. The majority of these studies are also in low-income or minority tracts. The difference between the total number of crash clusters and the number of studies at crash cluster locations reflects the fact that studies are undertaken for a variety of reasons. In addition, this analysis only considers those studies during the time period 2016-2023. The MVMPO previously has studied many of the high crash locations identified through MassDOT's crash clusters and the MVMPO's Top 100 Intersection Crash List.

**Equity Analysis
UPWP FFY 2016-2023 Studies & Analyses**

Community	# Regional/ Local/ Sub- regional UPWP Studies 2016-2022	Proposed 2023 Studies	# Studies Located in/ adjacent to a low-income or minority Census Tract¹	Federal- Aid Roadway Center- line Miles (2015)	# Studies between 2016-2023 at a Crash Clusters location²	# Crash Clusters 2018- 2020	Total Pop.¹
Amesbury	4		3	32.98			17,366
Andover	2		0	78.02		3	36,569
Boxford	2		0	27.43			8,203
Georgetown	2		0	20.43			8,470
Groveland	2		0	17.31			6,752
Haverhill	7		1	79.88	1	19	67,787
Lawrence	13	2	13	41.54	15	31	89,143
Merrimac	2		0	15.95			6,723
Methuen	10	1	7	58.14	4	6	53,059
Newbury	5		0	27.11			6,716
Newburyport	4		0	23.09			18,289
North Andover	3	1	2	41.9	3	5	30,915
Rowley	1		0	19.4	1	1	6,161
Salisbury	1	1	0	28.22	2	2	9,236
West Newbury	3		0	19.59			4,500
Regionwide	3		1				
Total	64		27	530.99	26	67	369,889

¹ Data from 2020 Census. Information based on Census Tracts.

² MassDOT Crash clusters. The crash clusters vary over time depending on the number of crashes. This number is based on the crash clusters at the time of the study. Crash clusters between 2018-2020 are based MassDOT designation.

Merrimack Valley Planning Commission Staff

(Number in parentheses represents the approximate percentage of staff person's time devoted to transportation planning)

Jerrard Whitten, Executive Director
Mary Kay Beninati, Senior Transportation Planner (100%)
Ian Burns, Targeted Economic Development Coordinator
Tony Collins, Transportation Planner (100%)
Jennifer Dunlap, Accountant
Cece Gerstenbacher, Environmental Planner (15%)
Betsy Goodrich, Transportation Planner (100%)
Lauren Keisling, Housing Planner
Anthony Komornick, Transportation Program Manager (100%)
Nancy Lavallee, Administration
Steve Lopez, GIS Specialist (40%)
Mikayla Minor, GIS Specialist (40%)
Dan Ovalle, Field Services Specialist (100%)
Peter Phippen, Environmental Planner (10%)
Nate Robertson, Economic Development Planner
James Terlizzi, Senior Transportation Planner (100%)

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MVPC Transportation Studies, Analyses and Technical Assistance

Local Technical Assistance Projects

Traffic Data Collection on Scotland Rd. in Newbury (2021)	Green St./Merrimack St. Bike & Ped. Assess. (2014)
Traffic Data Collection on Railroad Ave. in Rowley (2021)	Low St./Bashaw Way Intersection Analysis (2014)
Traffic Data Collection on Andover St. in Lawrence (2019)	Newbury Plum Island Traffic and Parking Study (2013)
Georgetown Sq. Signal Analyses (2019)	Haverhill Consentino School Speed Zone Plan (2013)
Georgetown Thickly Settled Corridor Identification (2019)	Route 108/Route 110 Intersection Alignment (2012)
Bates Bridge Parcel Disposition in Groveland (2018)	Route 125 Pedestrian Crosswalk Analysis (FFY 2012)
Everett St./Newton St. Cut Through Traffic in Lawrence (2018)	Route 113 Traffic Impact Review (FFY 2012)
Establishing Speed Limits (Downfall Rd.) in Newbury (2018)	Parker St./Merrimack St. Intersect. Review (FFY 2011)
Evaluate Crosswalk on Route 110 in Merrimac (2018)	Haverhill Street Light Ident.and Mapping (FFY 2011)
Salem St./Loring St. Intersection Analysis in Lawrence (2018)	Improving Pedest. Access to Central Plaza (FFY 2010)
Andover St./Foster St. Intersection Analysis in Lawrence (2018)	Broadway/Lake St. Intersection in Haverhill (FFY 2010)
Transportation Element of Newbury Master Plan (2017)	Analyze Traffic & Safety Issues in Byfield (FFY 2010)
Boat Launch Concept Plan -West Newbury (2017)	Prepare PNF for Rte.133 Project in Boxford (FFY 2010)
Truck Exclusion Application - Georgetown (2016)	Willow Ave. Widening Review in Haverhill (FFY 2009)
North Andover Downtown Parking Study (2015)	Saratoga St. One-Way Study in Lawrence (FFY 2009)
Newburyport Chap.40R Traffic Impacts Analysis (2015)	Guard Rail Feasib. on Pelham St in Methuen (FY 2008)

Transportation Studies

Three Roads Intersection Study in Newburyport (2022)	Rte 113/Rte 95 RSA, Newburyport. (2012/3)
Turkey Hill Road Truck Exclusion Study in Newburyport (2022)	Rte 213/Rte 28 RSA, Methuen (2012/3)
Lawrence St./Haverhill St. RSA in Lawrence (2022)	Rte 1/Merrimack St. RSA, Newburyport (2012/3)
Merrimack Street Complete Streets Study, Methuen (2022)	Elm St./Rte 1 Intersection Study, Newbury (2012)
East Street/Prospect Street/Milk Streets RSA, Methuen (2022)	Broad St./Rte 495 Study, Merrimac (2012/3)
Broadway/Manchester/Daisy St. RSA in Lawrence (2022)	Route 28 Congestion Analysis, Methuen (2012)
Grove Street/Woodland Street Study, Merrimac (2022)	Merrimack River Trail Reconnaissance Study (2011)
Larkin Road Truck Exclusion, Newbury (2022)	Milk St./Route 113 Intersection Study, Methuen (2011)
Tyler St./Route 113 Intersection Study in Methuen (2020)	Georgetown Branch Rail Trail Feasibility Study (2011)
Route 125/Primrose St./Marsh Ave RSA in Haverhill (ongoing)	Andover St./Rte. 114 RSA, Lawrence (2011)
Park St.to Park St. Ped. Study in Law. and Methuen (2020)	Water St./Broadway RSA, Lawrence (2011)
I-93/I-495 Interchange RSA (ongoing)	Winter St/White St. Intersect. Study, Haverhill (2010)
Railroad Ave./Merrimack St./Moulton Way RSA (ongoing)	Georgetown Square Intersection Study (2010)
Route 28/Lowell St. RSA in Lawrence (ongoing)	Route 1/Route 133 Intersection Study, Rowley (2010)
Route 110/Lowell Ave./McDonalds Dr. RSA in Haverhill (2017)	Merrimac St/Spofford St Study, Newburyport (2010)
Route 28/Route 213 Ramps RSA in Methuen (2016)	Rte. 114 Corridor Study, Lawrence/N. Andover (2010)
Route 1 Rotary Health Impact Assess. In Newburyport (2016)	Ames St./Haverhill St. Intersection Study (2009)
Park St./Lawrence St. RSA in Lawrence (2014)	Main St. Corridor Study, Haverhill (2009)
Lawrence Project Development (2013)	Chickering Rd/Mass. Ave. North Andover (2009)
I-495 Ramps/Mass. Ave. Intersect. Study, N. And. (2014)	Route 125 Build Out Analysis, North Andover (2008)
Marston's Corner Intersection Study, Methuen (2013)	Lowell Junction IJS, Andover (2006)
Haverhill St. Corridor Study, Methuen (2013)	Rte. 1/March Rd. Intersection Study, Salisbury (2005)
M&L Branch Trail Feasibility Study, Lawrence (2012/3)	Rte. 125/Merrimack Street Intersection Study (2005)
Lafayette Square Safety Study, Haverhill (2012)	Route 93 Corridor Traffic Study (2005)

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Acronyms Used in FFY 2023 UPWP

ABP:	Accelerated Bridge Program	MAP-21:	Moving Ahead for Progress in the 21st Century Act
ADA:	Americans with Disabilities Act	MAPC:	Metropolitan Area Planning Council
ARPA:	American Recovery Program Act	MassDOT:	Massachusetts Department of Transportation
ADA:	Americans with Disabilities Act	MEPA:	Massachusetts Environmental Policy Act
AV:	Autonomous Vehicle	MOU:	Memorandum of Understanding
BOS:	Bus on Shoulder	MPO:	Metropolitan Planning Organization
BIL	Bipartisan Infrastructure Law	MVMPO:	Merrimack Valley Metropolitan Planning Org.
CAAA:	Clean Air Act Amendments of 1990	MVP	Municipal Vulnerability Preparedness
CEDS:	Comprehensive Economic Development Strategy	MVPC:	Merrimack Valley Planning Commission
CIP:	Capital Investment Plan	MVRTA:	Merrimack Valley Regional Transit Authority
CMP:	Congestion Management Process	MVTC:	Merrimack Valley Transportation Committee
CMAQ:	Congestion Mitigation/Air Quality Program	NHPP:	National Highway Performance Program
CHNA:	Community Health Network Area	NHS:	National Highway System
CTPS:	Central Transportation Planning Staff	NMCOG:	Northern Middlesex Council of Governments
DEP:	Department of Environmental Protection	NTD:	National Transportation Demand
DCR:	Dept. of Conservation and Recreation	PGS:	Priority Growth Strategy
DLTA:	District Local Technical Assistance Program	PL:	Planning Funds (FHWA)
E & D:	Elderly and Disabled	PPP:	Public Participation Plan
EDA	Economic Development Administration	PSAC:	Project Selection Advisory Council
EIR:	Environmental Impact Report	RIF:	Massachusetts Road Inventory File
EPA:	Environmental Protection Agency	RPC:	Rockingham Planning Commission
FAST:	Fixing America's Surface Transportation Act	RTP:	Regional Transportation Plan
FHWA:	Federal Highway Administration	SPR:	State Planning and Research Program
FTA:	Federal Transit Administration	STIP:	State Transportation Improvement Program
GIS:	Geographic Information Systems	STP:	Surface Transportation Program
GHG:	Greenhouse Gas	TAP:	Transportation Alternatives Program
HOV:	High Occupancy Vehicle	TEA-21	Transportation Equity Act for the 21st Century
HPMS:	Highway Performance Monitoring System	TDM:	Transportation Demand Management
HSIP:	Highway Safety Improvement Program	TMA:	Transportation Management Area
IIJA	Infrastructure Investment and Jobs Act	TIP:	Transportation Improvement Program
ISTEA:	Intermodal Surface Transportation and Efficiency Act of 1991	UPWP:	Unified Planning Work Program
ITS:	Intelligent Transportation Systems	3C:	Continuing, Comprehensive, and Cooperative (transportation planning process)
LEP:	Limited English Proficiency	8T&TGM:	Eight Towns and the Great Marsh
LRTA:	Lowell Regional Transit Authority		
MAP:	Mobility Assistance Program		

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**TASK 1.0 - MANAGEMENT AND SUPPORT OF THE 3C TRANSPORTATION PLANNING
PROCESS**

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Task 1.1 - Program Management and Support

Description

Program Management and Support activities include tasks that are necessary to maintain the federally prescribed 3C transportation planning process in the MVMPO region. These include administrative tasks associated with the preparation of transportation plans and programs (i.e., UPWP, TIP, and the MTP), coordination of transportation planning activities with other local, state, and regional agencies, contract administration, and staff attendance of seminars and workshops. Also included is MVPC staff participation in ongoing transportation studies & analyses being undertaken in the region or in surrounding MPO regions.

Previous Work

- Prepared of all necessary financial documents and progress reports for its PL contract with MassDOT and its transit planning contract with the MVRTA. MVPC also prepared newsletters and annual reports and provided information to the press.
- Coordination with other regional planning agencies
- Review major transportation programs and documents prepared by state and federal agencies.
- Certification Reviews and implementing recommendations.
- Participation in municipal-level committees, such as traffic and safety committees.
- Development and adoption of new Merrimack Valley MPO Memorandum of Understanding.

FFY 2023 Activities

Each of the activities described below will be performed by the MVPC since this agency is designated as the MVMPO's transportation planning staff. A breakdown of Program Management and Support tasks is shown below:

Tasks

- 1.1.1 *Review Federal and State Transportation Programs:* Includes staff reviews of federal and state transportation programs, guidelines, circulars, and manuals. This includes such documents as Federal Transportation Authorization legislation, the Commonwealth's State Rail and Freight plans, weMove Massachusetts, Transportation Bond Bills, and MassDOT's Capital Investment Plan. In addition, Chapter 40 Section 54A reviews of development projects proposed for abandoned rail lines in the region will be performed under this task as will staff attendance at workshops sponsored by MassDOT or USDOT.
- 1.1.2 *Coordination of Regional Transportation Planning Activities:* The MVMPO will, to the extent feasible, coordinate all its transportation activities with related activities and programs developed by other agencies and authorities in adjacent regions such as the Rockingham Planning Commission in New Hampshire, Northern Middlesex Council of Governments, Metropolitan Area Planning Council, Nashua Regional Planning Commission, Lowell Regional Transit Authority and the Merrimack Valley Regional Coordinating

Council. Staff will also stay apprised of activities being undertaken by the Merrimack Valley TMA in its efforts to relieve congestion in and around Greater Lawrence and the Lowell Junction area of Andover.

- 1.1.3 *Preparation of Newsletter Articles and 2022 Annual Report Articles:* Transportation staff will prepare articles for inclusion in the MVPC newsletter, which will be published monthly during the period, and for the MVPC's 2022 Annual Report. This latter document will be prepared in the period from December 2022 through March 2023.
- 1.1.4 *Contract Administration:* Prepare time sheets, monthly and quarterly progress reports, and billings for MVPC's two transportation planning contracts and perform other contract administration activities necessary to the conduct of the 3C transportation planning process such as staff meetings.
- 1.1.5 *Attend Meetings of MVPC and MassDOT District 4 Staff:* MVPC transportation planning staff will prepare for and attend meetings with MassDOT District 4 personnel to discuss the status of MVMPO region's roadway and trail projects, project programming issues, and other transportation-related topics.
- 1.1.6 *MVMPO Participation in Other Regional Studies/Analyses:* MVMPO staff will also support the planning activities needed for regional studies and analyses that can have an impact on transportation in the MVMPO region. These include MVPC's own efforts in Economic Development (including the development of the Comprehensive Economic Development Strategy), Housing, and Environmental Planning.
- 1.1.7 *Attend Transportation Program Managers and Data Users Group Meetings:* The Transportation Program Managers Group serves as a primary forum for the exchange of information between the Metropolitan Planning Organizations, MassDOT and USDOT. MVPC staff will be represented at meetings of this group as well as the Managers' Data Users Group. Both groups generally meet monthly.
- 1.1.8 *MVMPO Participation on Community Committees:* MVMPO will continued to participate on local traffic and safety committees, road committees, and other groups that have been created to address transportation issues in the Valley.
- 1.1.9 *Participate in Northern Boston UZA Meeting(s):* This group is comprised of transportation staff from the Boston, Northern Middlesex, and Merrimack Valley MPOs and meets annually to discuss transportation matters (e.g., projects, data availability, etc.) that cross MPO boundaries.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Fed. State Programs												
Regional Coordination												
Newsletters/Annual Rpt.			•		•		•		•		•	
Contract Admin.												
District 4 Meetings												
Part. Other Studies												
Program Managers/ DUG												
Local Committees												
North Boston UZA Mtg.												•
	• Product/Event											

Funding

Funding for Task 1.1 Program Management and Support		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	808	\$107,990
FTA Section 5307 / MVPC	57	\$7,469
TOTAL	865	\$115,459

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Task 1.2 - Public Participation Process

Description

An essential component of the federal transportation planning legislation requires that MPOs involve the public in all levels of the transportation planning process. The MVMPO's public participation process is designed to ensure that key public agencies at all levels of government, private and nonprofit organizations, MPO Stakeholders, and interested citizens are all kept apprised of the development of important MPO documents such as the Regional Transportation Plan, the Transportation Improvement Program, and the Unified Planning Work Program and provided with the fullest access to all the transportation planning milestones in the region.

Key participating groups in this process are the MVMPO members, the MVMPO Transportation Committee, the MVPC, and the MVRTA Advisory Board. However, MVPC-sponsored meetings of local elected officials, the Merrimack Valley Mayors, and Managers Coalition (MVMMC) and its subsidiary DPW Directors Subcommittee, Regional Planners and Economic Development Directors, and area legislators are also important. Through these and the MVPC website, information concerning the status of transportation planning and construction projects as well as transit services in the region are presented and reviewed.

Previous Work

The MVMPO created and adopted a regional Public Participation Plan in the summer of 2007, updated in 2010 and again 2016. Updates were made in response to guidance that the MVMPO has received from FHWA and MassDOT and were designed to more actively involve the region's Title VI/Environmental Justice/Limited English Proficiency populations in the transportation planning process. The MVMPO amended its Public Participation Plan in March 2017 to reduce the review and comment period needed to adopt/amend its Regional Transportation Plan, Transportation Improvement Program, and Unified Planning Work Program.

In FFY 2022 MVPC staff prepared numerous public notices and press releases for local newspapers and boards announcing MVMPO meetings, MVTC meetings, and Public Hearings to receive input on MVMPO documents, and modified its electronic outreach procedures to provide more information that can be used in both measuring how well this form of communication is performing and to streamline the management of the Stakeholders List.

MVPC staff continued supporting its Mayor's and Managers Coalition as well as meetings of a subcommittee of that group, the DPW Directors. This group has and will continue to play a key role in the Merrimack Valley Stormwater Collaborative, a group formed through funding provided through a Commonwealth Community Innovation Challenge Grant (see [Task 3.9](#)). Staff also continued to work with the DPW Directors in developing apps that can be used by local DPWs for collecting data and providing direct access to asset databases from locations in the field.

FFY 2023 Activities

Staff will continue to support the implementation of the Public Participation Plan in the region and the tasks described below. In addition, MVPC will work to implement the other planning-related requirements contained in BIL and the Final Rule on Statewide and Metropolitan Planning that apply to this task.

Tasks

- 1.2.1 *Complete Update of MVMPO Public Participation Plan (PPP):* Evaluate the effectiveness of specific PPP components and make revisions, as needed. The revised MVMPO PPP will consider the elements of MassDOT's PPP, which is expected to be completed later in 2022. Virtual public involvement strategies/procedures will be included.
- 1.2.2 *Continued Monitoring of Stakeholder Outreach Lists:* Additional groups and organizations will be added as warranted and non-participating parties will be removed upon their request.
- 1.2.3 *Implement Public Participation Process:* Staff will prepare public notices, announcements, documents, presentations, and educational tools to be circulated at MVMPO, MVTC and other meetings, posted on MVPC website / social media, or distributed by mail, newspapers or other media as outlined in the MVMPO's Public Participation Plan.
- 1.2.4 *Distribution of Required Documents (TIP, RTP, UPWP)* consistent with the MVMPO PPP.
- 1.2.5 *Host and/or Meetings of Merrimack Valley Mayors and Managers Coalition and Area Legislators.*
- 1.2.6 *Host Meetings of DPW Directors Subcommittee and Merrimack Valley Planning and Community Development Directors:* These groups are comprised of stakeholders that play prominent roles in maintaining the transportation infrastructure and in the development of transportation projects in the region. Bringing these groups together allows MVMPO staff to present information on the region's transportation network and transportation planning process and garner meaningful comments and insights. The DPW Directors Subcommittee meets the first Wednesday of every month, while the Planning and Community Development Directors meet on the fourth Thursday of the month.
- 1.2.7 *Merrimack Valley Transportation Committee:* Provide for and actively encourage public and private participation in the 3C planning process through the Merrimack Valley Transportation Committee (MVTC).
- 1.2.8 *Hold MVMPO Meetings:* MVPC staff will provide administrative and technical support to the MVMPO and host meetings of the organization. This task includes scheduling meetings, preparation and distribution of meeting agendas, notices, minutes, and other materials. The MVMPO usually meets on the fourth Wednesday of each month at the MVPC Offices in Haverhill. Since March 2020, these meetings have been held virtually.

1.2.9 *Monitor/Participate in MPO and Committee Meetings for Surrounding MPOs:* Under this task, MVPC staff will attend policy committee, technical committee, and meetings of the Boston, Northern Middlesex, Rockingham, and Nashua MPOs as needed. Staff may also attend meetings of other MPOs within the Boston Urbanized Area (UZA), although it is anticipated that this will occur less frequently. Staff will also review the materials prepared by these MPOs to ensure the coordination of all transportation-planning activities. Along with Task 1.2.10 below, this task will address the federal requirement for interregional transportation planning coordination.

1.2.10 *Update Transportation Web Pages of MVPC Website and Facebook Transportation Page:* MVPC staff will continue to update and maintain the transportation content at www.mvpc.org and the MVPC Facebook Transportation page and look for additional ways to reach the public.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Update PPP		•										
Update Outreach List												
Public Part. Process												
Distribute Documents												
Mayors/Legislators		•					•					
DPW Dir./Planners	•			•			•			•		
MVTC Meetings												
MVMPO Meetings	•	•	•	•	•	•	•	•			•	•
Attend Other MPOs												
Trans. Web Pages												

• Product/Event

Funding

Funding for Task 1.2 Public Participation Process		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	692	\$98,110
FTA Section 5307 / MVPC	0	\$0
TOTAL	692	\$98,110

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Task 1.3 - Unified Planning Work Program (UPWP)

Description

The Unified Planning Work Program (UPWP) describes all transportation planning activities to be undertaken within the region in the coming federal fiscal year. Most of these activities will be conducted by MVPC transportation staff within that agency’s role as the transportation staff for the MVMPO. However, this document must also include descriptions of significant transportation planning studies in the Valley that are to be undertaken by other agencies using federal transportation funds. Annually, MVPC staff produce draft and final versions of the MVMPO UPWP.

FFY 2023 Activities

Under this task in the coming program year the MVPC, in accordance with responsibilities defined in the Memorandum of Understanding for the MVMPO, will prepare the FFY 2024 UPWP for the region. The MVPC will also amend the FFY 2023 document as needed to reflect changes that may occur during the program year.

Tasks

- 1.3.1 *Develop FFY 2024 Unified Planning Work Program:* The MVPC will develop the FFY 2024 UPWP for the region which describes all transportation planning activities anticipated to be undertaken in the next program year including, to the extent feasible, those state and locally funded activities which are to be conducted by the MVPC, or other parties.
- 1.3.2 *Amend/Adjust FFY 2023 UPWP:* Performed, as necessary. Amendments and Adjustments to the UPWP shall be undertaken according to the procedures and circumstances identified on [Page 5](#) of the Introduction.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Draft/Final 2024 UPWP							•	•				
Amend 2023 UPWP												
	• Product/Event											

Funding

Funding for Task 1.3 Unified Planning Work Program		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	176	\$23,530
FTA Section 5307 / MVPC	0	\$0
TOTAL	176	\$23,530

Task 1.4 - Transportation Improvement Program (TIP)

Description

The TIP serves as a 5-year, financially constrained document that lists and briefly describes all federally funded transportation projects that are programmed for implementation in the region. Any project to be implemented using federal funding must appear in this document and any project that is to be implemented in the coming fiscal year must appear in what is known as the Annual Element.

Development and Implementation Process

- Development of the TIP is a cooperative and collaborative process in conjunction with municipalities, the MVRTA and MassDOT's Highway Division District 4 and its Office of Transportation Planning
- Update the universe of projects and apply Transportation Evaluation Criteria to each project. Projects meet the goals of the Metropolitan Transportation Plan.
- MVPC staff complete qualitative or quantitative assessments of each TIP project's Greenhouse Gas (GHG) Emissions
- For transit projects, staff coordinate projects between MVRTA and MassDOT using MassDOT's *GrantsPlus* project tracking and grant management system for projects using FTA Section 5307 and Section 5339 federal funds and state matching funds, Projects include the acquisition of new or replacement rolling stock, the purchase of Intelligent Transportation products, facility construction projects and other items. MassDOT's Rail and Transit Division then reviews these requests and provides the MPOs with a listing of projects that could be included given available state matching funds.
- Staff also employ MassDOT's eSTIP template which provides MPO's with improved access to the Department's project information database. In 2022, this included the incorporation of transit projects into eSTIP.
- Staff prepare all amendments for the MVMPO.

FFY 2023 Activities

MassDOT and the other MVMPO members will continue to work cooperatively to develop a regional priority list of federal aid and non-federal aid transportation projects that will serve as the basis of the FFYs 2024-2028 TIP.

MVPC will continue to complete GHG emissions evaluations for those roadway and bridge projects that appear in the TIP (in Appendix E and Appendix F of the document).

Tasks

- **Develop Five-year Program of Projects:** In developing the Draft FFYs 2024-2028 TIP, staff will work with MassDOT and the MVRTA to update the list of all transit and highway projects that could possibly receive federal transportation funds for planning, engineering, and construction or purchase during the period. For

informational purposes, all transportation projects proposed to be funded with Federal funds other than from FHWA and FTA, and

- For informational purposes, all regionally significant transportation projects proposed to be funded with Non-Federal funds.

This five-year list of projects shall include the following information:

- a. Project title.
- b. Project description.
- c. Project evaluation score based on the MVMPO staff's application of Transportation Project Evaluation Criteria.
- d. Project Type (i.e., Planning, Design, or Construction).
- e. Estimated total cost in the year that the project is to be advertised.
- f. Amount of federal funds proposed to be obligated during each program year.
- g. Identification of the intent to use Advance Construction method of funding, when approved.
- h. Proposed source of funding (federal and non-federal).
- i. Identification of the recipient/subrecipient and state and local agencies responsible for carrying out the project, and
- j. Quantitative or Qualitative evaluation of each roadway and bridge project's GHG emissions.

Project descriptions shall be of sufficient detail to adequately describe the scope of the project and should match the descriptions shown on MassDOT's project information web page. In addition, the total costs of projects seeking federal funds in each program year shall be comparable to the anticipated level of federal funding expected to be available to the MVMPO.

Also, all project construction cost estimates will be adjusted to reflect their anticipated levels in the fiscal year that they are programmed to be advertised. To accomplish this, baseline construction cost estimates will be increased by 4% per year until the fiscal year they are programmed.

1.4.1. *Preparation of MVMPO Region Draft and Final FFYs 2024-2028 TIP:* The following tasks and procedures will be performed by the MVPC transportation planning staff in developing the Draft FFYs 2024-2028 TIP:

- Ensure early involvement of local legislators, chief local officials, MVMPO Stakeholders, and citizens through the Public Involvement Process (see [Task 1.2](#)).
- Provide technical assistance to municipalities and private interests in developing projects and priorities, and
- Work with the MassDOT District 4 Project Engineer, MVRTA Administrator, MassDOT Rail and Transit Administrator, and the Office of Transportation Planning in developing project information.

The Draft FFYs 2024-2028 TIP will also include sections on:

- a. The relationship of the TIP to the RTP.
- b. Amounts of federal funds proposed to be obligated during each program year.
- c. Previously funded projects and programs, their status, and an explanation of any significant delays in the planned implementation of major projects. The region will also specifically identify “investments in pedestrian walkways and bicycle transportation facilities” as required in the FAST Act.
- d. The criteria and process for prioritizing projects.
- e. The Financial Plan that compares revenue needs to revenue sources for highway and transit programs.
- f. Evaluation of how the region is programming transportation funding to maintain the existing transportation network.
- g. Description of the transit funding provisions in The FAST Act.
- h. The GHG emissions associated with each project appearing in the FFYs 2024-2028 elements of the document.
- i. Description of how Performance Measures are included in the FFYs 2024-2028 TIP.

1.4.2. *Amendments to MVMPO’s FFY 2023-2027 TIP:* The MVMPO will endorse amendments to the region’s FFYs 2023-2027 TIP as needed throughout FFY 2023.

1.4.3. *Review Reports on Projects:* MassDOT provides quarterly reports to the Massachusetts Association of Regional Planning Agencies (MARPA) concerning the status of planned and advertised road and bridge projects. This information is usually disseminated and discussed at meetings of MassDOT staff, RPA Directors, and RPA Transportation Program Managers. Attendance of MVPC transportation staff at these meetings and the review of the information presented in these reports will be performed under this task.

1.4.4. *Project Evaluation Criteria:* Staff will continue to work with MassDOT and OTP staff to annually update the transportation project evaluation scores for roadway and trail projects in the MVMPO region.

As part of Chapter 46 of the Acts of 2013, the Legislature created the Project Selection Advisory Council (PSAC) which developed uniform project selection criteria that are to be used in the development of the comprehensive state transportation plan. These criteria, with minor modifications, have been applied by MassDOT to the universe of projects/project proposals as part of the preparation of the MassDOT/MBTA Capital Investment Programs since 2017. MVPC staff has and will continue to work with MVMPO members to determine how and whether MassDOT’s new evaluation criteria can be incorporated into its own transportation project evaluation process.

- 1.4.5. *CMAQ Consultation Committee*: Prepare CMAQ project descriptions and complete mandated Air Quality impact evaluations needed by the state’s CMAQ Consultation Committee. Attend/participate in Committee meetings.
- 1.4.6. *Publish List of Projects for Which Federal Transportation Funds Were Obligated in FFY 2022*: By December 31, the MVMPO will develop and make available to the public a list of the transportation projects that federal funds were obligated.
- 1.4.7. *Research and Develop investment programs that allow the MPO to assist communities with implementation of complete streets, bicycle and pedestrian improvements, transit connections and more.*

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Draft 2024-2028 TIP							•					
Final 2024-2028 TIP								•				
Amend 2023-2027 TIP												
Reports on Projects												
Evaluation Criteria						•						
CMAQ Anal./ Committee												
List of Obligated Projs.			•									
Investment Programs												
	• Product/Event											

Funding

Funding for Task 1.4 Transportation Improvement Program		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	504	\$68,551
FTA Section 5307 / MVPC	0	\$0
TOTAL	504	\$68,551

Task 1.5 - Title VI/Environmental Justice/Limited English Proficiency Activities

Description

The MVMPO's Nondiscrimination Program activities relate to its status as 1) a direct recipient of USDOT planning funds, and 2) through provision of its technical assistance to the Merrimack Valley Regional Transit Authority or MVRTA (an FTA direct funding recipient). Accordingly, certain tasks contained in each MVMPO UPWP are also part of MVRTA documents prepared and submitted by the MVRTA each federal fiscal year.

The MVMPO performs this task to raise awareness and integration of Transportation Equity / Environmental Justice (TE/EJ) principles and needs in the MVMPO's transportation planning and programming activities as well as in the MVPC's overall Program work. As in previous years, MVPC Staff will continue outreach efforts to minority, low-income, Limited-English-Proficiency, disabled, and elder populations. It accomplishes much of this work through its staff support to the MVRTA (see UPWP Tasks [3.1](#) and [3.2](#)). Staff will maintain efforts initiated in prior FFYs to integrate Title VI/EJ awareness through community outreach, specific analyses and reporting in its 3C process, a trend consistent among Federal, Commonwealth and MPO organizations in general.

Previous Work

- The MPO implements the Title VI program and prepares annual updates and certification reports as required.
- Staff conduct Title VI and EJ analyses during the planning processes.
- As part of the Public Participation Plan, outreach to Title VI and EJ communities is conducted throughout the year both for required documents as well as to create an inclusive environment that allows for input from historically underserved communities.

FFY 2023 Activities

MVPC Staff proposes to implement its FFY 2023 Title VI/Nondiscrimination Work Plan by performing the following tasks:

Tasks

- 1.5.1 *Staff Training and Coordination with MassDOT and USDOT:* MVPC Staff will attend seminars, workshops, and other training sessions such as webinars sponsored by USDOT and/or MassDOT to improve the quality of the MVMPO's own Title VI/EJ/LEP monitoring procedures.
- 1.5.2 *Data Collection and Monitoring Regional Protected Population Facts/Trends.*
- 1.5.3 *Reviewing TIP Projects/UPWP Studies and Perform 'Benefits and Burdens' Analyses:* MVPC Staff will continue to prepare 'Benefits and Burdens' analyses to determine how individual projects or programs contained in the TIP and UPWP affect the region's minority, low-income, limited English-proficient, and other protected populations.

- 1.5.4 *Translating MVMPO Documents/Materials* Translate all or portions of MPO documents and continue preparing process or document Fact Sheets in Spanish and in Simplified Chinese. Post materials in languages other than English on electronic media and hard copies at various locations
- 1.5.5 *Elevating Accessibility:* MVPC Staff will purchase or secure use of equipment and/or services that maintain and/or enhance MVMPO program accessibility. The Title VI Coordinator will also continue coordinating with the MVPC Office Administrator on MVPC facility, policy, and program accessibility. The MVPC's Title VI Coordinator will arrange for in-house accessibility training, as needed.
- 1.5.6 *Interacting with MVMPO Region Constituent Groups:* MVPC Staff will continue this work, including preparation and circulation of information as outlined in its Public Participation Plan in all MVMPO communities to increase potential for participation in the MVMPO planning process by protected populations including Title VI and EJ targeted populations as well as the disabled, elders, etc.
- 1.5.7 *Preparing Title VI Annual Report Submission to MassDOT:* MVPC Staff will prepare this report to summarize MVMPO Title VI/Nondiscrimination Program activities in the previous year. The content of the Annual Report will follow MassDOT guidance.
- 1.5.8 *Implement Recommendations Provided Through the 2021 Planning Certification Review:* The MVMPO will continue to update the LEP/LAP and Title VI program as needed according to the recommendations provided through the Certification Review process.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Staff Training												
Demographic Trends												
Benefits & Burdens						•	•					
Data Collection												
Translate Documents							•		•			
In-house Accessibility												
Outreach to Local Groups												
Title VI Annual Report												•
Implement Cert. Review												

• Product/Event

Funding

Funding for Task 1.5 Title VI / Environmental Justice / LEP		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	260	\$37,140
FTA Section 5307 / MVPC	0	\$0
TOTAL	260	\$37,140

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Task 1.6 - Metropolitan Transportation Plan

Description

The MVMPO Metropolitan Transportation Plan¹ (MTP) is the most important element in the region's 3C planning process. It comprehensively examines the existing transportation network in the region, identifies those issues and problems that either require or will require improvement, and recommends actions designed to facilitate these improvements. All major forms of transportation in the region are considered and the document is developed so that it is consistent with the region's comprehensive, long-term land use plans as well as any social, economic, environmental, and energy conservation goals and objectives. The MTP guides investments 20-years in the future and must be updated every four years.

Previous Work

The MVMPO completed preparation of the region's FFY 2020 RTP, which presents a comprehensive examination of the region's existing transportation network and forecasts the future demand for transportation services in the Valley.

The Goals for the transportation network set forth in the 2020 RTP are to:

- Maintain the System in a State of Good Repair.
- Increase Safety for All Modes.
- Promote Economic Vitality.
- Support Transportation Equity.
- Promote Environmental Sustainability.

FFY 2023 Activities

The Merrimack Valley MPO must prepare and endorse a new Metropolitan Transportation Plan in Spring/Summer 2023.

Tasks

- 1.6.1 *Review of Significant Regional Studies:* Staff will incorporate into the MTP data and other information from the MVPC's Regional Housing Production Plan, CEDS, Multi-Hazard Mitigation Plan, the Active Transportation Plan, and the Coordinated Public Transit -Human Services Transportation Plan.
- 1.6.2 *Outreach to Communities to Develop Preferred Land Use/Zoning Scenario:* Staff will contact local planners and community development officials to solicit input on their long-term zoning and land use objectives and likely reflect recommendations contained in existing Community Master Plans and strategies being followed to support the development of Priority

¹ Also often referred to as the Regional Transportation Plan (RTP)

Development Areas and Priority Protection Areas as identified in the Merrimack Valley Planning Commission's Priority Growth Strategy.

- 1.6.3 *Modification of Existing Goals and Objectives to Reflect New Performance Measures and Targets:* The MVMPO will review and, if needed, modify the goals and objectives contained in the MTP so that they support current performance measures and targets.
- 1.6.4 *Collection of Data Showing the Condition and Utilization of the Regional Transportation Network:* Staff will develop or obtain data relating to the regional transportation network
- 1.6.5 *Development of Financial Constraint Information Used in the Document:* It is anticipated that MassDOT, working in cooperation with FTA and FHWA, will prepare estimates of the amount and type of state and federal transportation funding that will be available to all the MPOs in the state over the time period covered in the MTP. In addition, MVPC will develop an estimate of the amount of Chapter 90 funding that can reasonably be expected for use in maintaining federal aid roadways in the region.
- 1.6.6 *Hold Public Outreach Sessions:* A minimum of three public outreach sessions will be held to introduce the MTP, describe the Merrimack Valley transportation network, present information generated through Tasks 1.6.4 and 1.6.5 above, and discuss important findings and recommendations. Additional presentations will be made to other groups throughout the region including those serving underserved protected populations.
- 1.6.7 *Develop Recommendations for Programs and Projects:* Staff will work with MPO members and stakeholders to develop a list of recommended projects and programs for inclusion in the RTP.
- 1.6.8 *Preparation of Draft / Final Versions of MVMPO FFY 2024 MTP:* Staff will prepare a draft MTP that contains the recommended projects and programs developed in Task 1.6.7 along with important information that describes the existing condition of the region's transportation network, identifies the amount of funding that will be available to implement the MTPs recommendations.

Once the MVMPO Draft FFY 2024 MTP has been approved for release to the public by the MPO, the document will be made available for public review and comment as outlined in the MPO's Public Participation Plan. Comments received during the public review and comment period will be brought to the attention of the MVMPO for consideration and appropriate action. Once approved by the MPO, a final version of the MTP will be completed and submitted to MassDOT, FTA and FHWA.

1.6.9 *Monitor Status of Local Development Projects and Proposals:* Staff will continue to work with community planners, development directors and planning boards to identify readily accessible sources of information that can be monitored to track the progress of developments around the region.

1.6.10 *Prepare Amendments if Needed.*

1.6.11 *Participate in MassDOT Socioeconomic Projections Committee*

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Review Signif.Studies												
Local Land Use/Zoning.												
Goals and Objectives												
Collection of Data												
Financial Constraint												
Public Outreach												
Dev. Recommendations												
Monitor Developments												
Socioeconomic Comm.												
Draft/ Final MTP						•		•		•		
Amendments if Needed												
	• Product/Event											

Funding

Funding for Task 1.6 Metropolitan Transportation Plan		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	664	\$84,440
FTA Section 5307 / MVPC	0	\$0
TOTAL	664	\$84,440

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TASK 2.0- DATA COLLECTION AND ANALYSIS ACTIVITIES

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Task 2.1 - Traffic Monitoring Program

Description

Traffic volume count data is the most widely used and easily understood method to monitor and measure activity on our roadways. Using Automatic Traffic Recorder (ATR) counting equipment, the MVPC has annually gathered traffic volume information on roadways throughout the region since 1983. These counts are taken for several important transportation planning purposes including the calculation of accident rates on links and at intersections, for use in MVPC corridor and intersection studies, in refining the Statewide Travel Demand Model, and in response to community requests for traffic counting information. These community requests often call for data on vehicle classification and vehicle speed to be collected. Counts are also taken at MassDOT-specified coverage locations to aid the state in obtaining data on vehicle miles traveled by road type. MassDOT also submits this information to the FHWA each year and it is used, in part, to determine the amount of federal highway funding that will be made available to Massachusetts.

In addition to the ATR counts described above, MVPC staff manually collects vehicle turning movement counts at intersections/interchanges as well as information on bicycle and pedestrian travel.

Applicability:	• Regionwide
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Previous Work

During the 2021 traffic counting season (i.e., April – November):

- Completed approximately 100 traffic volume counts, and
- Conducted ATR counts at 30 locations on heavily traveled routes throughout the region where recent pre-COVID volume data had recently been collected.

FFY 2023 Activities

MVPC again anticipates conducting approximately 100 ATR traffic counts including 17 MassDOT-assigned locations. We will continue to collect data at 30 locations as part of COVID comparisons. In addition, MVPC staff will purchase equipment to automatically collect data on bicycle and pedestrian travel volumes to better monitor these two important travel modes and assist with Complete Street planning and development of the Active Transportation Network.

Tasks

- 2.1.1 *Establish Revised 2023 Traffic Counting Schedule:* Staff will work with MassDOT and CTPS staff to develop a revised schedule of ATR volume count locations. This will be impacted by the rate and nature of the reopening of the Massachusetts and New Hampshire economies.
- 2.1.2 *Conduct MVPC Counts:* Conduct counts throughout the region to refine and update the Statewide Travel Demand Model and in support of MVPC studies and analyses.
- 2.1.3 *Conduct MassDOT Coverage Counts:* Take additional counts at MassDOT coverage count locations on undivided highways in the region. The MVPC will conduct 15 such counts this year for MassDOT to assist in their efforts to estimate the number of vehicle miles traveled on various classes of roadways in the Commonwealth. MassDOT will be submitting this information to FHWA, and it will be one of the data sources used to determine the state's highway funding allocation.
- 2.1.4 *Community Requests:* Member communities often request traffic counting information (vehicle classification, volume, or speed counts) at specific locations in anticipation of future developments, to address citizen concerns, etc. The MVPC anticipates conducting 10-15 of these counts under this UPWP.
- 2.1.5 *Count Library:* Maintain a library of traffic counts to be made available to the public. Staff annually updates its library of volume counts by including new information collected by MVPC, MassDOT, and by consultants as part of any traffic studies conducted in the Valley.
- 2.1.6 *Traffic Monitoring System:* Depending upon the traffic volume data collection program established under Task 2.1.1, MVPC will attempt to collect traffic volume counts at many of the locations it counts annually to measure changes in traffic levels. This data, along with volume data collected by MassDOT at the permanent count stations in the region, serves to quantify regional volume growth factors.
- 2.1.7 *Data Submittal:* All counts taken by the MVPC in FFY 2023 will be uploaded to the Midwestern Software Solutions (<http://www.ms2soft.com/>) website. MassDOT has recently proposed having this data upload process occur in the field rather than from the MVPC Offices.
- 2.1.8 *Community Reports:* Prepare and distribute electronic reports summarizing the traffic counting activities for each community in the region. Paper copies of these reports will be distributed to the chief elected officials, MVPC Commissioners and DPW Directors of each community. Electronic versions of the reports will be emailed to other local officials.
- 2.1.9 *Bicycle and Pedestrian Travel Data:* Staff will purchase bike/ped counters as well as create and implement a bicycle and pedestrian counting program along key on-road and off-road facilities in the Valley and at locations previously counted as part of MVPC

intersection/corridor studies and mine the data contained in such studies prepared by consultants to support the development of a bicycle/pedestrian travel database.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2024 Count Schedule												
Data Collection												
Count Library												
Data Submittal												
Community Reports							•					
Bike/Ped Counts												

• Product/Event

Funding

Funding for Task 2.1 Traffic Monitoring Program		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	1,028	\$96,410
FTA Section 5307 / MVPC	0	\$0
TOTAL	1,028	\$96,410

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Task 2.2 - Regional Pavement Management Program

Description

One of the most significant expenditures that municipalities confront each year is the maintenance of their local roadways. Pavement management programs are designed to provide officials with a comprehensive tool to both evaluate the condition of their roadways and cost-effectively program roadway improvement projects. These programs have proven to be persuasive and effective tools in educating the public on road maintenance issues and obtaining funding necessary to support a comprehensive road maintenance program.

In recent years, many communities have expanded their pavement management programs to include other community-owned infrastructure usually found in the road right of way. These typically include sidewalks, water and sewer lines, streetlights, fire hydrants, storm drains and, in some cases, even electric boxes.

Applicability:	• Regionwide
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Previous Work

- Under the FFY 2019 UPWP, MVPC collected information on the condition of pavement on non-interstate federal aid arterial and collector roadways in the region for use in the FFY 2020 RTP.
- Used pavement condition data to identify the level of funding needed to attain and maintain the Pavement Condition goals identified in the FFY 2020 RTP over the next 20 years.
- In 2020 and into 2021, MVPC staff worked with staff from Cartegraph to customize their OMS platform to meet MVPC's data collection and analysis requirements.
- MVPC Staff employed Cartegraph's OMS Platform in collecting pavement condition data as part of its work with the Town of Groveland to implement a community pavement management program.

FFY 2023 Activities

MVPC will focus on managing and updating data on the condition of pavement on federal aid arterial and collector roadways in the region for use in the FFY 2024 MTP. The data will be used to identify the level of funding needed to maintain the quality of these facilities over the next 20 years.

MVPC will continue to work with communities to develop local pavement management programs.

Tasks

2.2.1 *Continue to Update MVMPO's Regional Pavement Management Program:* While much of this effort is complete, our recent experiences indicate that this process will likely continue as staff makes greater use of the OMS system. This task will involve reviewing and

where necessary, modifying the assumptions contained in the pavement management software to reflect local preferences in selecting appropriate roadway improvement treatments. It will also likely involve working with Cartegraph staff to modify the OMS platform to better meet MVMPO pavement management needs.

- 2.2.2 *Collect Data on Pavement Conditions:* Staff will collect data on pavement conditions on all federal-aid roadways for use in the FFY2024 MTP.
- 2.2.3 *Analysis of Pavement Condition Data:* Once Task 2.2.1 has been completed, staff will use the Regional Pavement Management Program to assess the network pavement’s current condition and forecast what the condition of the network would be if the existing level of roadwork spending were to continue over the time period covered in the MTP.
- 2.2.4 *Identification of Pavement Maintenance Needs:* From Task 2.2.2, staff will identify the estimated cost of maintaining the region’s roadway network in its current condition through the year 2050, and how much funding would be needed for the system to attain the MVMPO’s pavement condition target. These amounts would be compared to estimates of the funding expected to be available to the MVMPO for the maintenance of these roadways over the years covered in the FFY 2024 MTP.
- 2.2.5 *Community Assistance:* Continue to assist communities in the region seeking to establish pavement management programs. This assistance will consist of technical support and, if necessary, data collection.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Update MVPC Program												
Community Assistance												
Collect Data												
Identify Needs												
●Product/Event												

Funding

Funding for Task 2.2 Pavement Management Studies		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	372	\$43,900
FTA Section 5307 / MVPC	0	\$0
TOTAL	372	\$43,900

Task 2.3 - Geographic Information Systems

Description

The MVPC makes extensive use of its Geographic Information Systems (GIS) in all phases of its comprehensive planning program. This is especially true of its transportation planning activities where virtually all map and geographical information used in its transportation planning studies and analyses is now produced and transmitted in digital format. Consequently, it is imperative that MVPC and all RPAs in the Commonwealth continue to have state of the art GIS programs in place to support their own planning studies and analyses and to provide technical assistance to their constituent communities.

Applicability:	• Regionwide
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Previous Work

Under recent UPWPs, MVPC GIS and transportation staff worked cooperatively on several transportation-related issues, which have resulted in the creation of the following:

- A process to develop intersection and roadway improvement plans in GIS-compatible formats.
- GIS-based tool to assist staff in assigning locations to MassDOT crash reports
- Mapping tool that allows MVPC Transportation Staff to directly access and modify data contained in the Agency's GIS transportation databases.
- Application that integrates the collection of pavement condition data into both Cartegraph and MVPC's GIS Databases.
- Maps that were used in the development of the MVMPO's FFY 2020 Regional Transportation Plan, its TIPs: and the MVPC's Title VI/Environmental Justice/Limited English Proficiency analyses.
- MVRTA route and system maps and updates.
- Development of Apps that can be used by staff and municipalities in the field to manage data on catch basins, location of bus route signs, collect sidewalk conditions data and other assets.
- Updated digital aerial imagery used in regional transportation studies.
- Methodology to identify location of sidewalks using aerial imagery and MassDOT Road Inventory File data.
- Mapping location of stormwater outfall pipes along public roadways.
- Acquire regional aerial imagery to be used by MVPC staff and member communities.

FFY 2023 Activities

A priority area under this task will be to support the development of the MVMPO's FFY 2024 MTP. This work will include the preparation of maps and other materials that will be used to present information at public outreach meetings, on the MVPC website, and for inclusion in the Draft and Final versions of the document.

MVPC will continue to review any new road centerline files or Road Inventory Files (RIF) developed by MassDOT and will continue using its GIS in geocoding newly accepted roadways that have been submitted to the state for inclusion in the RIF. It will also continue to work with MassDOT and member communities to facilitate the process of updating the information in the RIF.

MVPC staff will again be assisting local communities in managing their digital aerial photography databases. This work will include offering additional workshops intended to familiarize new staff persons from participating cities and towns with the use of the Pictometry imagery and software as well as to answer the questions of persons who are working with the product.

GIS staff will also continue to update the region's on-road and off-road bicycle and pedestrian facility data and assist the MVRTA with route map updates, and other GIS projects.

In response to a request made by MassDOT in its effort to "achieve consistency in data collection efforts across all regions," MVPC will take extra steps this year to provide OTP with GIS-based data for the MVMPO region in several key areas including asset management, resiliency, safety, and economic development.

Tasks

- 2.3.1 *Maintain Transportation Database:* MVPC will continue to upgrade and update its highway planning and transit planning data layers for its GIS. MVPC will continue to work closely with MassDOT's Office of Transportation Planning, its Highway Division, MVRTA, MassGIS, and other public and private agencies to incorporate any information they may have into our transportation database.
- 2.3.2 *Preparation of Maps and Other Information Needed for FFY 2024 MTP:* Provide updated information in the form of tables, charts, and maps for topics to be included in the MTP including, but not limited to, pavement condition, bridge condition, high crash locations, transportation networks/facilities, Census/ACS data, travel time/reliability, and environmental constraints.
- 2.3.3 *Road Inventory Line File Updates:* Incorporate the latest Road Inventory File information from MassDOT into its GIS database.
- 2.3.4 *Attend Regional Data Center and State User Group Meetings:* While the Mass Users Group has not met in recent years, should it become active again staff will participate. Staff will also participate in Regional Data Center meetings.
- 2.3.5 *EagleView Data and Software Technical Support and Workshops:* Assist staff from participating member communities in managing their Pictometry digital aerial image libraries and in the use of the Electronic Field Study software that is used to access and interpret the digital image database.
- 2.3.6 *MVRTA Bus Route Data Layer and Technical Assistance:* Maintain an up-to-date fixed route data layer for use in analyses, Title VI program, published route maps and more.

- 2.3.7 *Maintain Active Transportation and Trails Datasets*
- 2.3.8 *Maintain/Update Traffic Counting Viewer and data layer that can be used easily by the public and in analyzing the transportation network.*
- 2.3.9 *Develop Maps and Conduct Spatial Analyses:* MVPC GIS Staff will assist Transportation Staff in completing its transportation studies and analyses by creating required maps and undertaking spatial analyses that may be required in these efforts.
- 2.3.10 *Development of Apps:* Continue to develop Apps that can be used by MVPC Staff and MVMPO communities to manage transportation asset databases and facilitate data collection activities.
- 2.3.11 *Provide OTP with Regional GIS Data:* Staff will provide MassDOT with shape files and data for the MVMPO region in a number of subject areas as identified in MassDOT’s Unified Planning Work Program 2023 Guidance. These subject areas include:
 - Mobility
 - Safety
 - Transit
 - Asset Management
 - Economic Development
 - Affordable Housing
 - Resiliency
 - Title VI and Environmental Justice
 - Vehicle/Bike/Pedestrian Counts

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maintain Database												
Road Inventory File												
State GIS User Group												
EagleView Support												
EagleView Workshops												
MVRTA Bus Layers												
Trails Database												
Transportation Viewer												
Maps and Spatial Anal.												
Development of Apps												
Provide Data to OTP												
	● Product/Event											

Funding

Funding for Task 2.3 Geographic Information Systems		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	1,248	\$132,040
FTA Section 5307 / MVPC	118	\$12,116
TOTAL	1,366	\$144,156

Task 2.4 - Congestion Management Process

Description

The Intermodal Surface Transportation and Efficiency Act of 1991 (ISTEA) created Transportation Management Areas (TMA's) in those urbanized areas with populations over 200,000 persons. Within these areas, MPOs were given the primary responsibility to develop and implement a Congestion Management System, which has now become the Congestion Management Process (CMP). This requirement was slightly modified in SAFETEA-LU, but its general intent remains the same under the FAST Act. Significantly, MAP-21 did officially set forth the requirement that an MPO's Congestion Management Process include Goals and Objectives that could be tracked through application of performance measures.

Applicability:	• Regionwide
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Previous Work

In FFY 2017, MVPC staff completed the process of identifying congested roadway segments using travel time data made available under FHWA's National Performance Management Research Data Set (NPMRDS) program. This data set contains travel time data gathered from a variety of sources on the nation's NHS roadways. Unlike the Statewide Transportation Model, the NPMRDS data set provides an almost around the clock measure of actual travel times and congestion.

Under the FFYs 2020 and 2021 UPWPs, staff updated the MVMPO's CMP using travel time data from 2019. The CMP uses the NPMRDS to identify congested NHS roadway locations in the Valley. The updated CMP also reflects the FHWA Congestion Performance Measure for NHS Roadways and considers MassDOT/MVMPO Performance Targets.

FFY 2023 Activities

MVPC staff will focus on incorporating new travel time data for NHS roadways in the region into the CMP. Staff will work with MassDOT to determine if and how the NPMRDS data from 2020 can be used. It will also continue to investigate acquiring additional travel time data that is available for the remaining federal aid roadways in the region.

Tasks

- 2.4.1 *NPMRDS Data:* Staff will work with MassDOT and FHWA to acquire and monitor new NPMRDS travel time information as it becomes available.
- 2.4.2 *Other Travel Time Data:* Staff will inquire as to the availability of INRIX or other travel time datasets for the non-NHS federal aid roadways in the region for inclusion in a future MVMPO CMP report.
- 2.4.3 *Other Data Collection:* MVPC staff will continue to monitor usage at park and ride lots throughout the region, review ridership information on congested transit routes/services, and collect turning movement counts at congested intersections.

2.4.4 *Update MVMPO CMP*: Staff will incorporate the results of the latest NPMRDS data and other sources into an update of the CMP document.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Travel Time Data Col.												
Other Travel Time Data												
Other Data Collection												
Update CMP												•
• Product/Event												

Funding

Funding for Task 2.4 Congestion Management Processes		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	294	\$39,415
FTA Section 5307 / MVPC	0	\$0
TOTAL	294	\$39,415

Task 2.5 - Intermodal Connections with National Highway System / Freight Planning

Description

With its three interstate highways and other NHS roadways such as Route 213, the Merrimack Valley region offers many existing and potential intermodal connection opportunities. The region is also served by three rail lines, one of which provides freight rail access to local businesses (Lawrence Industrial Park Spur) and one line that carries a substantial amount of interstate freight as well as passenger service (Haverhill Commuter Line). A third line currently supports commuter rail service between Newburyport and North Station. Existing intermodal facilities include park and ride lots for commuter bus, commuter rail, and transit services as well as several trucking terminals.

Applicability:	• Regionwide
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Previous Work

- In FFY 2016, MVPC prepared a Regional Park and Ride Lot Study.
- In FFY 2017, MVPC completed an update to its 2012 analysis of the condition and usage of the intermodal facilities in the region. This analysis focuses on the park and ride facilities and transit stations located on or near NHS roadways and also assesses the adequacy of the connections to NHS roadways from truck freight terminals in the region. It considers such factors as the physical condition of the facilities and whether there is peak period congestion on the roadways that connect them to the NHS system. The study also makes recommendations for addressing any of the deficiencies identified.
- FFY 2017, the MVMPO designated almost four miles of Critical Urban Freight Corridor in the region, making them eligible to receive funding under the FAST Act.

FFY 2023 Activities

Tasks

- 2.5.1 *Collect usage data at park & ride lots in the region to be used in the MTP. Review MassDOT data collected and collect additional data as needed.*
- 2.5.2 *Monitor freight corridors in the region and identify unofficial overnight freight parking locations in the region.*
- 2.5.3 *Development of NHS and Freight Projects:* Based on the recommendations contained in the MVPC's NHS Facilities Inventory and the State Freight Plan, MVPC will work with its communities and MassDOT to develop improvement projects that will improve access between key transportation facilities and the region's NHS roadway network and/or improve the movement of freight both within and through the Merrimack Valley region.
- 2.5.4 *Provide technical assistance to communities in maintaining freight routes and implementing truck exclusions on local roadways not designed for freight use.*

2.5.5 *Facilitate Better Transit Connections with other Transportation Modes and Planning Processes.* Coordination with municipal-led and community-led efforts to ensure transit is incorporated and coordination with municipalities to ensure that transit is included in important planning documents and processes, such as master plans, land use, and open space plans as well as project development.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Collect Data												
Monitor Freight Corridors												
Develop NHS Projects												
Tech Assistance												
Transit Connections												

● Product/Event

Funding

Funding for Task 2.5 Intermodal Connections with NHS		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	171	\$18,750
FTA Section 5307 / MVPC	0	\$0
TOTAL	171	\$18,750

Task 2.6 - Regional Transportation Model

Description

Regional transportation simulation models are the primary tools used to estimate the traffic impacts that will be generated by projected economic and population growth in the region and is a required component of the Regional Transportation Plan. These models also play an important role, along with NPMRDS travel time data on NHS roadways, in identifying and evaluating congested transportation facilities as part of an MPO's Congestion Management Process.

Applicability:	• Regionwide
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Previous Work

In FFY 2018, MVPC staff worked with MassDOT, MAPC, the Donahue Institute at UMass and MPOs from around the Commonwealth to develop the socioeconomic projections that were included in the MVMPO's FFY 2020 RTP. As part of this effort, MVPC staff provided CTPS with information on the size and location of recently completed, approved, and planned developments in the Valley under the MVMPO's FFY 2017 and FFY 2018 UPWPs. Similar work will be undertaken by the MVPC under this UPWP as the MVMPO begins to prepare for the development of its FFY 2024 Metropolitan Transportation Plan (see Task 1.6).

FFY 2023 Activities

MVPC staff will continue to work with MassDOT and CTPS to review the parameters and capabilities of the Statewide Travel Demand Model. A focus area will continue to be the coordination of the MVPC's traffic data collection program with MassDOT's need to refine calibration of the Merrimack Valley section of the model.

Tasks

2.6.1 *Model Coordination:* Staff will review the Statewide Travel Demand model network for the region and may suggest possible modifications. It will also review the latest forecasts for the region that have been generated. MVPC will also work with CTPS to identify locations where staff can collect ATR and/or turning movement data in support of further refinement/calibration efforts.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Model Coordination												
	• Product/Event											

Funding

Funding for Task 2.6 Regional Transportation Model		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	35	\$4,190
FTA Section 5307 / MVPC	0	\$0
TOTAL	35	\$4,190

Task 2.7 - Active Transportation

Description

MVMPO communities are increasingly interested in improving opportunities for non-motorized transportation. The Merrimack Valley MPO's FFY 2020 Regional Transportation Plan objectives include:

1. Implementing and expanding the multi-modal network through
 - a. The development of the Active Transportation Network,
 - b. Assisting communities with implementing Complete Streets policies and practices
2. Increasing bicycle parking
3. Fostering tourism through enhancing visitor experiences and improving mobility.

Applicability:	• Regionwide
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Previous Work

- Updated the Merrimack Valley Active Transportation Plan
- In FFYs 2015 through 2017, MVPC worked in cooperation with MassDOT and the Haverhill Police Department to implement a non-motorist safety program.
- In FFY2019, MVPC finished an inventory of and condition reports for sidewalks and ADA ramps in the seven communities of Amesbury, Andover, Georgetown, Lawrence, Methuen, North Andover, and Salisbury.
- MVPC provided technical assistance to communities developing multi-use trails and worked with MassDOT to initiate the development of a multiuse trail along Route 110 that would link the cities of Lawrence and Lowell.
- Produced a Complete Streets analysis of Merrimack Street in Methuen in 2021 and a pedestrian crossing study along Broadway between Park Street in Methuen and Park Street in Lawrence.
- Coordinated with MassDOT to initiate a new project to implement a sidepath along Route 110 between Lawrence and Lowell.
- Coordinated meeting between Border to Boston Communities, MassDOT, Essex National Heritage Commission and other parties to facilitate advancements of projects to address gaps.

FFY 2023 Activities

Tasks

- 2.7.1 *Program Review:* MVPC staff will continue to review any local, regional, state, and national policies/reports as they pertain to multi-use, pedestrian, bicycle, and equestrian trails.
- 2.7.2 *Provide Support to the Development of the Multi-Use Trail Network in the Region.*

- 2.7.3 *Implementation of the MVMPO Active Transportation Plan.* This includes developing workshops for municipal staff and officials around best practices and design to encourage implementation of Complete Streets.
- 2.7.4 *Conduct a Regional Bicycle Parking Needs Assessment to Help Communities Plan for Better Bicycle Access and Take Advantage of Funding Opportunities.*
- 2.7.5 *Provide Technical Assistance to City of Lawrence Bicycle and Pedestrian Initiatives, such as the Pa'Lante Project and the e-bike share pilot project funded through the Massachusetts Clean Energy Council.*
- 2.7.6 *Develop and Maintain Regional Bikeability Index:* Staff will work with MassDOT and area cyclists to refine and where necessary update the Regional Bikeability Index.
- 2.7.7 *Provide Technical Support for Implementing Complete Streets in the Region.*
- 2.7.8 *Maintain and update bicycle and pedestrian network data.* Identify critical gaps in the network for project identification.

Products/Schedule

Task(s)	2022					2023						
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Program Review												
Spt. Multiuse Trails												
Implement ATP												
Parking Needs Assess.												●
Lawrence Tech. Asst.												
Bikeability Index												
Complete Streets Assist.												
Bicycle and Ped. Network												
● Product/Event												

Funding

Funding for Task 2.7 Bicycle/Pedestrian/Water Trails Planning		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	277	\$38,000
FTA Section 5307 / MVPC	0	\$0
TOTAL	277	\$38,000

Task 2.8 - Safety Monitoring System

Description

The Safety Management System is designed to provide the MVMPO with a comprehensive planning analysis tool that identifies potential 'hot spot' safety problem areas on the transportation network. Federal transportation planning regulations include a requirement that Metropolitan Transportation Plans should maximize the safety and mobility of people and goods. The importance of USDOT's emphasis on safety may be found in the fact that funding for the Highway Safety Improvement Program has grown substantially in recent years. This program provides federal funding for safety-oriented projects that support the goals and objectives of a state's Highway Safety Improvement Program.

Data prepared under this task is also used by the MVRTA as part of its Bus/Van operator training to increase awareness for dealing with high crash locations.

Applicability:	• Regionwide
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Previous Work

- Create a Top 100 Crash Intersection List and Analyze Top Crash Corridors
- Presented Story Map on Non-motorist crashes in the region.
- Participate in MassDOT's Strategic Highway Safety Plan process.
- Participate in and perform Road Safety Audits

FFY 2023 Activities

Tasks

- 2.8.1 *Obtain Most Recent MassDOT Crash Data and Assist State in Verifying Data*
- 2.8.2 *Identify Locations of Crashes Involving Fatalities and Serious Injuries:*
- 2.8.3 *Review State's Crash Cluster List:* Staff will review MassDOT's latest list of 'Crash Cluster' locations based on the latest three years of crash data and compare it to data contained in previous lists.
- 2.8.4 *Evaluation of Emphasis Areas Included in the Strategic Highway Safety Plan:* The 2018 Strategic Highway Safety Plan identified 14 Emphasis Areas. MVPC staff will analyze MVMPO region-specific data for each of these areas and report back to the MVMPO on how well the region is performing in relation to statewide information.
- 2.8.5 *Participation in Road Safety Audits:* Staff will participate in the Road Safety Audits undertaken in the region.
- 2.8.6 *Develop Updated Regional Top 100 Crash Location List and Corridor List:* To supplement MassDOT's Crash Cluster list, MVPC staff will develop an updated 'Top 100' Crash List that identifies high crash intersections and roadway corridors in the region.

2.8.7 Support regional and community efforts to plan and implement strategies to accomplish Vision Zero.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Obtain Crash Data												
Fatal/Serious Crashes					•							
Update Crash Clusters						•						
Strat. Highway Safety						•						
Road Safety Audits												
Top 100 Crash List						•						
Spt. Vision Zero Planning												
	• Product/Event											

Funding

Funding for Task 2.8 Safety Monitoring System		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	357	\$41,314
FTA Section 5307 / MVPC	0	\$0
TOTAL	357	\$41,314

Task 2.9 - Transportation and Livability

Description

In 2009, USDOT, the Department of Housing and Community Development (HUD), and the Environmental Protection Agency (EPA) formed the Interagency Partnership for Sustainable Communities “to help improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide.” These agencies then established the following *Six Principles of Livability* to attain this goal:

- **Provide more transportation choices** to decrease household transportation costs, reduce our dependence on oil, improve air quality and promote public health.
- **Expand location- and energy-efficient housing choices** for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- **Improve economic competitiveness of neighborhoods** by giving people reliable access to employment centers, educational opportunities, services, and other basic needs.
- **Target federal funding toward existing communities** – through transit-oriented development and land recycling – to revitalize communities, reduce public works costs, and safeguard rural landscapes.
- **Align federal policies and funding** to remove barriers to collaboration, leverage funding and increase the effectiveness of programs to plan for future growth.
- **Enhance the unique characteristics of all communities** by investing in healthy, safe, and walkable neighborhoods, whether rural, urban, or suburban.

These six principles are intended to guide these three federal agencies to work in concert when considering and evaluating capital investments.

Applicability:	• Regionwide
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Previous Work

- 2009 completion of the Priority Growth Strategy (regional land use plan) and subsequent updates utilizing sustainable growth principles. It includes recommendations for transportation infrastructure to increase quality of life, promote uses of non-motorized modes and reduce greenhouse gas generation.
- Active participant on the Mayor’s Health Task Force, Healthy Active Living Working Group, in Lawrence, a group that is devoted to promoting healthy living in the city. Projects include planning for the Ciclovía and assisting in development of a Food Assessment, mapping the location of food establishments, housing, community-based agriculture, and transportation connections as well as assisting in the development of the report/story map, organizing, and participating in planning meetings, and providing other technical assistance, as needed.

- MVPC staff worked with the City of Haverhill’s Mount Washington neighborhood in addressing pedestrian infrastructure improvements and employment access issues.
- Produced the Methuen Merrimack Street Complete Streets report in 2022.
- Conducted a Health Impact Assessment of the Newburyport Route 1 Rotary.
- In 2022, MVPC signed an MOU with the Greater Lawrence Family Health Center to share de-identified health data to be used in mapping projects around food security and access, which includes transportation access.

FFY 2023 Activities

Tasks

- 2.9.1 *Update the Priority Growth Strategy (PGS) transportation components.*
- 2.9.2 *Provide Technical Assistance to Communities Implementing Recommendations Contained in the PGS, in order to encourage a more robust transportation network.*
- 2.9.3 *Continue to Collect Public Health Data for Use in Health Impact Assessment Analyses:* The MVMPO will do this through collecting health data and participating in Health Impact Analyses. Staff will collaborate with health-related working groups, committees, and organizations to improve transportation access for communities.
- 2.9.4 *Participate in Meetings of the Mayor’s Health Task Force in Lawrence and Other Groups.*
- 2.9.5 *Provide Technical Assistance to Communities Seeking to Implement Safe Route to Schools Projects:*
- 2.9.6 *Technical Assistance to Communities in Advancing Complete Streets through project prioritization planning, implementation, etc.:*
- 2.9.7 *Update housing data, contribute to the Merrimack Valley Housing Production Plan, analyze connections between subsidized housing, jobs, and transportation options.*

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Technical Assistance												
Collect Health Data												
Health Group Meetings												
Safe Routes to School												
Complete Sts. Assist.												
Update PGS Trans.				●								
	● Product/Event											

Funding

Funding for Task 2.9 Transportation and Livability		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	224	\$26,910
FTA Section 5307 / MVPC	0	\$0
TOTAL	224	\$26,910

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Task 2.10 - Development and Maintenance of MVMPO Transportation Performance Measures and Targets

Description

MAP-21 mandated that USDOT, state Departments of Transportation, and MPOs establish a performance and outcomes-based approach to managing the nation's transportation infrastructure and set out National Performance Goals in the areas of Safety, Infrastructure Conditions, Congestion Reduction, System Reliability, Freight Movement / Economic Vitality, Environmental Sustainability, and Reduced Project Delivery Delays.

USDOT began releasing Notices for Proposed Rulemakings (NPRMs) for the above areas during 2014 and 2015. Meanwhile, MAP-21's successor, the FAST Act, was passed and carried forward the performance management federal rulemaking process.

Applicability:	• Regionwide
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Previous Work

- In FFY 2015, MVPC staff identified various transportation performance measures that were subsequently integrated into the FFY 2016 RTP.
- In FFY 2019, the MVMPO adopted MassDOT's Safety Performance Measures and Targets (PM1), and recognized the MVRTA's Asset Targets for its Equipment, Rolling Stock and Facilities. The MPO also adopted MassDOT's Targets for Pavement and Bridge conditions on the NHS (PM2), and Freight, Traffic Congestion on the NHS, and emissions (PM3).
- In FFY 2021, the MVMPO adopted MassDOT's 2021 Safety Performance Targets and recognized the MVRTA's Revised Asset Management Targets for its Equipment, Rolling Stock and Facilities. It also adopted MassDOT's revised 2022 Target for the Percentage of Non-Single Occupancy Vehicle Travel in the region along with the MVRTA's new Safety Performance Targets as contained in its Public Transportation Safety Plan.
- Staff created a story map explaining the non-motorized performance measure using visualization techniques and presented it to the MVTC.
- MVPC staff also collected information on sidewalk location and condition in the communities of Groveland, Rowley, and West Newbury. Sidewalk conditions data was proposed as a performance measure in the 2016 RTP.

FFY 2023 Activities

Tasks

2.10.1 *Safety Performance Measures/Targets:* Staff will review new MassDOT data on the number and rate of fatalities and serious injuries (PM1) both at the statewide and region level. Staff will then advise the MVMPO as to whether it should adopt the MassDOT targets or develop targets of its own.

2.10.2 *Review and MPO Adoption of Targets for Other Federal Performance Measures.*

2.10.3 *Collect Data for MVMPO Region Sidewalk Locations and Conditions.*

- 2.10.4 *Continue Working with MassDOT and the MVRTA on Transit Performance Measures:* Staff will work with the MVRTA to coordinate activities integrate performance targets contained in the Authority’s Transit Asset Management Plan (TAM Plan) and the Public Transit Agency Safety Plan (PTASP) into the MVMPO’s overall planning process.
- 2.10.5 *Coordinate with MassDOT and USDOT and Participate on Program Managers Performance Measures Committee:*
- 2.10.6 *Continue Development/Refinement/Maintenance of MVMPO-Specific Performance Measures:* The MVMPO’s 2020 RTP identifies 30 Performance Measures within its six Goals.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Safety Measures/Targets					•							
Other Measures/Targets												
Sidewalk Inventory												
Transit Measures												
Performance Committee												
MPO Measures												
	• Product/Event											

Funding

Funding for Task 2.10 Transportation Performance Measures		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	204	\$25,750
FTA Section 5307 / MVPC	0	\$0
TOTAL	204	\$25,750

Task 2.11 - Travel and Tourism Planning

Description

Public-sector tourism and travel promotion in the MVPC region are chiefly conducted at a statewide or multi-region level. MVPC is involved in promoting the development of tourism activities and recreation projects as tourism is an important element of the region's comprehensive economic development strategy and has land use implications. The MVMPO plans and programs funding for transportation projects that often serve local tourism and recreation travel needs.

Applicability:	• Regionwide
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Previous Work

- MVPC staff created a database of Regional Tourism Centers and Tourism Organizations in and around the MVMPO region
- Transportation staff participates in the updates of the Merrimack Valley Region's Comprehensive Economic Development Strategy in which stakeholders examined how effective the region's transportation network was in supporting access to the key tourist locations in the Valley. From this, ideas for improving access to these areas such as providing new transit services, installing signage, and even improving the navigability of the Merrimack River were offered for consideration.
- In FY 2019, MVPC participated in the Essex County Arts Plan in conjunction with the Essex County Community Foundation and the Metropolitan Area Planning Council. During the planning meetings, transportation access was cited as an issue within the county.

FFY 2023 Activities:

MVPC staff will continue to reach out to groups such as the Essex National Heritage Area, National Park Service, Massachusetts Office of Travel and Tourism, the North of Boston Visitors and Convention Bureau, Essex County Community Foundation, its Chambers of Commerce and to local and state officials to update its database of tourism activity centers in the region.

Tasks

- 2.11.1 *Update MVPC Database of Regional Tourism Centers and Tourism Organizations:* MVPC will continue to maintain its database of these centers and organizations. Staff will reach out to our travel and tourism partners to both get an update on their activities and to solicit information on tourism activities/organizations that we may not be aware of.
- 2.11.2 *Attend Meetings of State and Regional Tourism Centers/Organizations:* Through this process, MVPC transportation staff can ensure there is timely coordination of these organizations' projects and planning initiatives with those of the MVMPO.
- 2.11.3 *Collaborate with MVRTA, municipalities and tourism-based organizations to better make the connection with all transportation modes.*

2.11.4 *Participate in Historic and Arts Planning Efforts:* MVPC staff will continue to work with municipal leaders, residents and business owners participating to address transportation needs around accessing historic, cultural and art destinations, jobs, and education.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Tourism Database												
Tourism Meetings					•					•		
MVRTA Coordination												
Historic & Arts Planning												
	• Product/Event											

Funding

Funding for Task 2.11 Travel and Tourism Planning		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	185	\$20,030
FTA Section 5307 / MVPC	0	\$0
TOTAL	185	\$20,030

TASK 3.0 -SHORT AND LONG-RANGE TRANSPORTATION PLANNING ACTIVITIES

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Task 3.1 - Elderly and Disabled/ADA Planning

Description

The MVMPO region's elderly population continues to grow, a trend that is expected to continue over the next few years. Elderly and disabled transportation needs continue to grow. Creating accessible and affordable transportation choices is key to helping people of all ages and abilities lead high quality lives.

Proponent	Work Conducted By
• Merrimack Valley Regional Transit Authority	• Merrimack Valley Planning Commission

Previous Work

- Finalized the FFY2020 Coordinated Public Transit – Human Services Transportation Plan in FFY 2020 and helped the MVRTA implement recommendations, such as securing funding for the MediVan program and coordinating Councils on Aging van recipients.
- In 2013, MVPC prepared the MVRTA's Regional Mobility Plan, which both combined three previous plans (2007 Coordinated Human Service Transportation Plan, 2008 Elderly Transportation Plan, and 2009 Disabled Transportation Plan) into one planning document and updated the analysis of transportation issues facing the region's disabled population.
- Assisted MVRTA in monitoring its EZTrans services for ADA compliance.
- Worked with the MVRTA and social services agencies in Haverhill to create the Haverhill Transportation Alliance.
- Coordinate meetings for the Regional Coordinating Council in cooperation with NMCOG.

FFY 2023 Activities

Tasks

- 3.1.1 *Continue to Assist the MVRTA in Complying with ADA Paratransit Requirements:* MVPC will assist the MVRTA in reviewing EZTrans Service for compliance with ADA Paratransit requirements.
- 3.1.2 *Coordinate and support the Merrimack Valley Regional Coordinating Council.*
- 3.1.3 *Conduct outreach to elderly and disabled stakeholders regarding transportation needs and improvements to the transportation infrastructure.*
- 3.1.4 *Provide technical assistance to communities implementing Healthy Aging plans and programs.*
- 3.1.5 *Update MVMPO's Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan):* The Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan) is intended to identify the unmet transportation needs for seniors and individuals with disabilities as well as strategies for addressing them. It is also

tied directly to the Federal Transit Administration’s (FTA) 5310 grant program. An entity may apply for grants under this program only if the service is included in the Coordinated Plan. The Coordinated Plan was last updated in January 2020 and will be updated late in 2022 so that any new findings and recommendations can be incorporated into the MVMPO’s 2024 MTP.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
ADA: Demand Resp.											•	
ADA: Fixed Route											•	
MAP Vehicles												
Support RCC		•						•				
2022 Coordinated Plan			•									
	• Product/Event											

Funding

Funding for Task 3.1 Elderly and Disabled/ADA Planning		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	91	\$10,362
FTA Section 5307 / MVPC	79	\$9,015
TOTAL	170	\$19,377

Task 3.2 - Transit Planning

Description

The MVRTA is the primary provider of public transportation in the MVMPO region. It provides a wide array of fixed-route bus and demand-response transportation through private operators such as the Merrimack Valley Area Transportation Co., Inc. (MVATC). The MVRTA currently operates seven demand-response transit services in the region – its Ring and Ride Services in Boxford, Georgetown, Groveland, Newbury, North Reading (which joined the MVRTA in May 2017), and West Newbury. It also operates demand-response services as more efficient options to the former Route 42 in Methuen and the former Route 22 in Andover.

The MVMPO performs specific planning tasks every FFY in support of the MVRTA's public transportation services.

Proponent	Work Conducted By
<ul style="list-style-type: none">• Merrimack Valley Regional Transit Authority	<ul style="list-style-type: none">• Merrimack Valley Planning Commission• Merrimack Valley Regional Transit Authority

Previous Work

- In 2018, MVPC staff worked with MVRTA staff and a coalition of service organizations to conduct a Haverhill Transportation Needs Assessment, which identified gaps, needs and opportunities for transportation coordination.
- In FFY 2019, the MVPC developed an App that MVRTA staff is using to inventory and manage bus route signs, bus stops and other assets. Data was used to enhance the Transit app and GTFS data for Google maps.
- In FFY 2020, MVPC reviewed ridership and investigated possible scheduling/routing changes for the Authority's Boston Commuter Bus Service.
- In FFY 2020 and 2021, MVPC staff participated on the Advisory Committee that assisted the MVRTA in the development of its 2021 Regional Transit Plan.
- Manage process and prepare route maps and system maps.
- Perform NTD passenger counts every three years. In FFY 2022, performed APC certification work in preparation for the 100% APC counts for NTD.
- Regularly collaborate with the MVRTA on outreach activities, such as joint tabling at the Lawrence SALSA festival.

FFY 2023 Activities

Tasks

- 3.2.1 *Provide Technical Assistance to the MVRTA and Communities as Required:* MVPC staff has performed technical analyses for the MVRTA in previous FFYs at the MVRTA's request. Staff has prepared Requests for Proposals (RFPs) and evaluated RFP responses; estimated sample sizes for MVRTA surveys and updated the MVRTA's fixed route bus

maps. The staff will conduct similar transit planning activities for the MVRTA under the FFY 2022 UPWP.

Staff will also provide technical assistance to communities on transit issues, including the MVRTA's implementation of its Regional Transit Plan. As always, the MVMPO staff will consult and coordinate with MVRTA prior to providing transit-related technical assistance to any MVRTA member community.

- 3.2.2 *Assist MVRTA in Monitoring FTA Areas of Compliance:* MVPC Staff will assist the MVRTA in monitoring 17 areas of compliance, including Grant Administration, Maintenance reviews, EEO policy implementation, Procurement, and Civil Rights areas, which are included as part of FTA's Triennial Review of the Authority.
- 3.2.3 *Commuter Rail Evaluation:* Under this task, MVPC will examine the recommendations of Rail Vision and identify the impacts they will have on the Merrimack Valley region. Related to this, MVPC staff will continue to examine commuter rail issues in the Valley that are of interest to local officials and residents.
- 3.2.4 *Housing and Transit:* MVPC will continue to refine and update its housing data layer so that it reflects existing housing. MVPC will provide technical assistance to MPO member communities related to MBTA communities legislation, smart growth, and transit-oriented development in order to emphasize the transit connections. This information can also be used to assist the Authority in possibly modifying its routes to better accommodate the often transit-dependent population that reside in these facilities.
- 3.2.5 *NTD Counts and APC Certifications:* MVPC will support the MVRTA with the 100% APC counts, which includes monitoring and certifications of APC accuracy.
- 3.2.6 *Implementation of Bus Stops:* Assist the MVRTA with implementation of regular bus stops throughout the system and bus shelters.
- 3.2.7 *Service Planning and Transit Hub Changes:* Assist MVRTA with service planning and changes to its transit hubs in both Lawrence and Haverhill.
- 3.2.8 *Mapping/Analysis of MVRTA Fixed Route Boarding/Alighting Data:* With the installation of APCs on all its fixed route buses and commuter coaches expected to be completed in the near future, the Authority will be able to generate a wealth of data on the precise locations of each boarding and alighting passenger. Staff will assist the MVRTA in analyzing and mapping this data.
- 3.2.9 *ARPA Route Planning Grant:* The MVRTA will receive \$450,000 in funding through the American Rescue Plan Act of 2021 to conduct a planning study on restoring transit services and addressing the effects of COVID-19 and its changing demographics. While this UPWP contains this full amount, work on this project is anticipated to be conducted over three years.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Technical Assistance												
FTA Areas of Compliance												
Commuter Rail Eval.										•		
Aff. Housing & Transit										•		
NTD Counts												
Implement Bus Stops						•						
Hub Change Planning												
Boarding/Alighting Data							•					
ARPA Route Planning												
	• Product/Event											

Funding**

Funding for Task 3.2 Transit Planning		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	188	\$21,840
FTA Section 5307 / MVPC	614	\$71,400
ARPA Route Planning Discretionary Grant		\$450,000
TOTAL	802	\$543,240

** \$450,000 in ARPA Route Planning Discretionary Grant funding will be spent over three years.

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Task 3.3 – Bicycle and Pedestrian Access on Route 114 from the Intersection of Willow and Mill Streets to Middleton Town Line

Description

MVPC will participate in a coordinated planning process with the Metropolitan Area Planning Council and the communities of North Andover, Middleton, and Danvers to create a coordinated approach to bicycle and pedestrian access along Route 114.

Bicycle and pedestrian access along Route 114 has been a long-standing concern that has resulted in both short-term immediate solutions as well as a long-term reconstruction project that will result in the implementation of a sidepath along portions of the corridor. The Route 114 project that is currently funded on the TIP ends at the intersection of Route 114, Willow, and Mill Streets.

This project will address needed safe bicycle and pedestrian access across Route 114 as well as access to important open spaces, such as Harold Parker State Forest and Ward Hill and the Middleton Rail Trail.

Previous Work

- MVPC completed a Route 114 Corridor Study in 2010, which focused primarily on traffic congestion, safety, and pedestrian access. The study led to a Complete Street design of the corridor that is now programmed in the Merrimack Valley TIP. This project extends between Waverly Road and the Willow and Mill Streets intersection.
- MVPC participated in a Road Safety Audit at Route 114, Sharpners Pond Road, and Sandalwood Lane.

Proponent	Work Conducted By
• North Andover	• Merrimack Valley Planning Commission

FFY 2023 Activities

The MVMPO staff will complete a traffic study for this location.

Tasks

- 3.3.1 *Obtain and Analyze Crash Data:* Staff will collect and analyze the most recent three years of MassDOT data.
- 3.3.2 *Cross-Regional Coordination:* MVPC staff will coordinate with MAPC, local advocacy committees and the Towns of North Andover, Middleton, and Danvers.
- 3.3.3 *Develop and Evaluate Alternative Improvement Options:* The information and feedback obtained through Tasks 3.3.1-3.3.2 will be used to develop a set of short and long-term improvement options that will then be analyzed in greater detail to determine the impacts they might have in improving traffic and safety at this location and improving accommodations for bicycle and pedestrian travel. Staff will consult with the MVRTA as

part of this process to solicit input as to how the proposed intersection improvements could impact bus movements through the study area.

3.3.4 *Draft / Final Report Outlining Study Findings and Recommendations:* Staff will prepare draft and final versions of the Study report outlining its findings and recommendations.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Crash Data Collection												
Coordination w/ MAPC												
Crash Data Analysis												
Draft/Final Study Report.												
	• Product/Event											

Funding

Funding for Task 3.3 Bicycle and Pedestrian Access on Route 114 in North Andover		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	153	\$17,280
FTA Section 5307 / MVPC	0	\$0
TOTAL	153	\$17,280

Task 3.4 – Road Safety Audit of S. Union Street between Market Street and Merrimack Street in Lawrence

Description

South Union Street is a two-lane congested north south primary route over the Merrimack River. Merrimack Street has dedicated bike lanes, but South Union does not provide any specific bicycle accommodation. The intersection of South Union and Merrimack Street is both a bicycle and HSIP crash cluster. The roadway does experience congestion. It is a transit route and is the location of the McGovern Transportation Center. The MVRTA is considering moving its bus transit hub to this location.

This project will also look at bicycle access across the South Union Bridge over the railroad tracks and include the South Union/Market Street intersection.

Previous/Ongoing Work

No studies or traffic counts have previously been conducted by the MVMPO at this location.

Proponent	Work Conducted By
<ul style="list-style-type: none"> MVMPO/City of Lawrence (2017-2019 HSIP Crash Cluster and 2010-2019 HSIP Bicycle Crash Cluster) 	<ul style="list-style-type: none"> Merrimack Valley Planning Commission

FFY 2023 Activities

MVPC will conduct a Road Safety Audit for this intersection.

Tasks

- 3.4.1 *Collect Data on Health Impact Indicators and Transportation-Related Health Performance Measures:* Staff will assemble available Health Impact Indicators for the community as well as any available transportation related health performance measures. This information will be presented and discussed as part of the Road Safety Audit for this intersection.
- 3.4.2 *Data Collection:* MVPC will review data collected as part of the Merrimack Street reconstruction projects and perform data collection on this corridor as needed, including bicycle and pedestrian counts, transit data and freight movement.
- 3.4.3 *Data Analysis/Level of Service Calculations:* MVPC staff will complete LOS analyses for these two intersections to both measure congestion and develop intersection crash rates, which will be used in the Road Safety Audit for the study area.
- 3.4.4 *Obtain and Analyze Crash Data:* Staff will collect and analyze the most recent three years of MassDOT data and City of Lawrence Police Department traffic incident reports to identify the outstanding safety issues in the area. This information will be included in the Draft Road Safety Audit Report.

- 3.4.5 *Conduct Study Area Road Safety Audit:* Staff will present the findings from Tasks 3.4.1 - 3.4.4 to state and local officials in a Road Safety Audit. This audit will provide MVPC with information and suggestions that will facilitate the development of short and long-term improvement options that could be implemented.
- 3.4.6 *Develop and Evaluate Alternative Improvement Options:* The information and feedback obtained through the Road Safety Audit will be used to develop a set of short and long-term improvement options that will then be analyzed in greater detail to determine the impacts they might have in reducing the number of crashes at this location. Staff will consult with the MVRTA as part of this process to solicit input as to how any of the proposed intersection improvements could impact bus movements through the study area.
- 3.4.7 *Draft / Final Report Outlining Study Findings and Recommendations:* Staff will prepare draft and final versions of the Road Safety Audit report outlining the study's findings and recommendations.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Data Collection				■	■		■	■				
Draft Data Analysis							■	■	●			
Conduct RSA								■	●			
Develop Alternatives								■	■			
Draft/Final Reports										●		
	● Product/Event											

Funding

Funding for Task 3.4 Road Safety Audit on South Union Street in Lawrence		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	279	\$30,760
FTA Section 5307 / MVPC	0	\$0
TOTAL	279	\$30,760

Task 3.5 – Road Safety Audit at the Intersection of Franklin Street and Common Street in Lawrence

Description

The MVMPO has ranked the intersection of Franklin Street and Common Street as number 3 on its Top 100 Intersection Crash Locations. It has a MassDOT Estimated Property Damage Only (EDPO) score of 245 and is part of a HSIP Pedestrian Crash Cluster. This intersection is located in an Environmental Justice community.

Common Street is located in the downtown area of the Lawrence. Northern Essex Community College and the MVRTA Buckley Transportation Center are located on Common Street. Public housing as well as the St. Vincent de Paul Family Thrift Store are located at the corner of Common Street and Franklin Street as well.

Previous/Ongoing Work

MVPC participated in a 2016 MassDOT RSA on Common Street between Hampshire and Newbury Streets.

Proponent	Work Conducted By
● MVPC (2017-2019 HSIP Crash Cluster and 2010-2019 HSIP Pedestrian Cluster)	● Merrimack Valley Planning Commission

FFY 2023 Activities

MVPC will undertake the following tasks in conducting a Road Safety Audit at this location:

Tasks

- 3.5.1 *Collect Data on Health Impact Indicators and Transportation-Related Health Performance Measures:* Staff will assemble available Health Impact Indicators for the community as well as any available transportation related health performance measures. This information will be presented and discussed as part of the Road Safety Audit for this intersection.
- 3.5.2 *Data Collection:* MVPC staff will perform weekday AM and PM peak hour vehicle turning movement and bicycle/pedestrian counts at the intersection. ATR traffic volume counts will be taken on Franklin Street and Common Street.
- 3.5.3 *Data Analysis/Level of Service Calculations:* MVPC staff will complete LOS analyses for this intersection to both measure congestion and develop an intersection crash rate, which will be used in the Road Safety Audit for the study area.
- 3.5.4 *Obtain and Analyze Crash Data:* Staff will collect and analyze the most recent three years of MassDOT data and City of Lawrence Police Department traffic incident reports to identify the outstanding safety issues in the area. This information will be included in the Draft Road Safety Audit Report.

- 3.5.5 *Conduct Study Area Road Safety Audit:* Staff will present the findings from Tasks 3.5.1 - 3.5.4 to state and local officials in a Road Safety Audit. This audit will provide MVPC with information and suggestions that will facilitate the development of short and long-term improvement options that could be implemented.
- 3.5.6 *Develop and Evaluate Alternative Improvement Options:* The information and feedback obtained through the Road Safety Audit will be used to develop a set of short and long-term improvement options that will then be analyzed in greater detail to determine the impacts they might have in reducing the number of crashes at this location. Staff will consult with the MVRTA as part of this process to solicit input as to how any of the proposed intersection improvements could impact bus movements through the study area.
- 3.5.7 *Draft / Final Reports Outlining Study Findings and Recommendations:* Staff will prepare draft and final versions of the Road Safety Audit report outlining the study's findings and recommendations.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Data Collection									•			
Data Analysis												
Conduct RSA										•		
Develop Alternatives												
Final Report											•	

• Product/Event

Funding

Funding for Task 3.5 Franklin Street/Common Street Road Safety Audit in Lawrence		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	220	\$24,400
FTA Section 5307 / MVPC	0	\$0
TOTAL	220	\$24,400

Task 3.6 – Road Safety Audit at the Intersection of Main Street and the I-95 Connector in Salisbury

Description

The MVMPO has ranked the intersection of Main Street and the I-95 Connector as number seven on its 2022 Top 100 Intersection Crash Locations list. MassDOT has identified this intersection as a 2017-2019 HSIP Cluster.

This location is a popular truck route as well as congested beach route during the summer season.

Previous/Ongoing Work

MVPC staff has previously reviewed traffic operations at this intersection.

Proponent	Work Conducted By
● MVPC (2017-2019 Crash Cluster)	● Merrimack Valley Planning Commission

FFY 2023 Activities

MVPC transportation staff will complete the following tasks in developing recommendations for bicycle and pedestrian improvements in the study corridor.

Tasks

- 3.6.1 *Data Collection:* MVPC staff will perform weekday AM and PM peak hour vehicle turning movement and bicycle/pedestrian counts at the intersection. ATR traffic volume counts will be taken on Main Street and the I-95 connector.
- 3.6.2 *Data Analysis/Level of Service Calculations:* MVPC staff will complete LOS analyses for this intersection to both measure congestion and develop an intersection crash rate, which will be used in the Road Safety Audit for the study area.
- 3.6.3 *Obtain and Analyze Crash Data:* Staff will collect and analyze the most recent three years of MassDOT data and Town of Salisbury Police Department traffic incident reports to identify the outstanding safety issues in the area. This information will be included in the Draft Road Safety Audit Report.
- 3.6.4 *Conduct Study Area Road Safety Audit:* Staff will present the findings from Tasks 3.6.1 - 3.6.3 to state and local officials in a Road Safety Audit. This audit will provide MVPC with information and suggestions that will facilitate the development of short and long-term improvement options that could be implemented.
- 3.6.5 *Develop and Evaluate Alternative Improvement Options:* The information and feedback obtained through the Road Safety Audit will be used to develop a set of short and long-term improvement options that will then be analyzed in greater detail to determine the impacts they might have in reducing the number of crashes at this location. Staff will consult with the MVRTA as part of this process to solicit input as to how any of the proposed intersection improvements could impact bus movements through the study area.

3.6.6 *Draft / Final Reports Outlining Study Findings and Recommendations:* Staff will prepare draft and final versions of the Road Safety Audit report outlining the study’s findings and recommendations.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Data Collection												
Data Analysis												
Conduct RSA												
Develop Alternatives												
Draft/Final Reports												
	● Product/Event											

Funding

Funding for Task 3.6 Main Street/I-95 Connector Road Safety Audit in Salisbury		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	231	\$25,800
FTA Section 5307 / MVPC	0	\$0
TOTAL	231	\$25,800

Task 3.7 – Road Safety Audit at the Intersection of Lowell Street (Route 113) at Elm Street in Methuen

Description

The intersection of Lowell Street (Route 113) at Elm Street is on the MVMPO's Top 100 Intersection Crash Locations. The City of Methuen recommended the study, because of speeding concerns and high crashes. The intersection is in an Environmental Justice Census Tract.

Staff will examine the geometry, crash data, evaluate improvement options, as well as speed management techniques.

Previous Work

MVPC has not studied this intersection before.

Proponent	Work Conducted By
● MVPC/City of Methuen (Top 100 Intersection Crash List)	● MVPC

FFY 2023 Activities

MVPC transportation staff will perform a Road Safety Audit at this intersection.

Tasks

- 3.7.1 *Data Collection:* MVPC staff will perform weekday AM and PM peak hour vehicle turning movement and bicycle/pedestrian counts at the intersection. ATR traffic volume counts will be taken on Lowell Street and Elm Street.
- 3.7.2 *Data Analysis/Level of Service Calculations:* MVPC staff will complete LOS analyses for this intersection to both measure congestion and develop an intersection crash rate, which will be used in the Road Safety Audit for the study area.
- 3.7.3 *Obtain and Analyze Crash Data:* Staff will collect and analyze the most recent three years of MassDOT data and City of Methuen Police Department traffic incident reports to identify the outstanding safety issues in the area. This information will be included in the Draft Road Safety Audit Report.
- 3.7.4 *Conduct Study Area Road Safety Audit:* Staff will present the findings from Tasks 3.5.1 - 3.5.3 to state and local officials in a Road Safety Audit. This audit will provide MVPC with information and suggestions that will facilitate the development of short and long-term improvement options that could be implemented.
- 3.7.5 *Develop and Evaluate Alternative Improvement Options:* The information and feedback obtained through the Road Safety Audit will be used to develop a set of short and long-term improvement options that will then be analyzed in greater detail to determine the impacts they might have in reducing the number of crashes at this location. Staff will

consult with the MVRTA as part of this process to solicit input as to how any of the proposed intersection improvements could impact bus movements through the study area.

3.7.6 *Draft / Final Reports Outlining Study Findings and Recommendations:* Staff will prepare draft and final versions of the Road Safety Audit report outlining the study’s findings and recommendations.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Data Collection							■	■				
Data Analysis/LOS							■					
Crash Data Analysis				■		■	■					
Road Safety Audit									●			
Develop Alternatives									■		■	
Draft / Final Report											●	

● Product/Event

Funding

Funding for Task 3.7 Lowell Street/Elm Street Road Safety Audit in Methuen		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	240	\$27,040
FTA Section 5307 / MVPC	0	\$0
TOTAL	240	\$27,040

Task 3.8 - Stormwater Management Technical Assistance

Description

One of the byproducts of a good transportation system is stormwater runoff that carries pollutants from vehicles and adjacent land uses. Pollutants can impair waterways and cause harm to not just drinking water for humans, but also the biotic communities living in the water. Both local municipalities and the Massachusetts Department of Transportation share responsibility for managing stormwater, testing, and enforcing regulations.

The U.S. Environmental Protection Agency issued the Final Phase II National Pollutant Discharge Elimination System (NPDES) permit for Massachusetts urbanized communities in 2016 with an effective date of July 1st, 2017. After a one-year delay, this permit went into effect on July 1, 2018.

The new permit outlines expanded, more prescriptive requirements for city and town operators of municipal separate storm sewer systems (“MS4s”) in implementing six *minimum* stormwater management control measures toward minimizing pollution to the maximum extent practicable of the Commonwealth’s rivers, streams, and water bodies. The minimum control measures, elements of all compliant municipal stormwater management systems, are in areas of:

- 1) Public education and outreach.
- 2) Public participation and involvement.
- 3) Illicit discharge detection and elimination.
- 4) Construction site runoff control.
- 5) Post-construction runoff control.
- 6) Stormwater pollution prevention/municipal good housekeeping.

Successful implementation of the six control measures will require a detailed knowledge of the location, function, and condition of the urbanized areas’ municipal storm drainage infrastructure – storm drains, manholes, catch basins, and outfall pipes – as well as of the receiving waters. Each community will need to prepare stormwater facilities and infrastructure operating and maintenance plans, implement rigorous monitoring and illicit discharge detection & enforcement programs, and update enhanced database and map inventories of stormwater system features including outfalls, pipes and catch basins.

Developing individual community programs that will comply with anticipated new federal requirements will be an expensive proposition. Local DPW and highway department budgets are limited, as is the staffing to implement these programs. These cost and implementation concerns were the impetus for formation of the Merrimack Valley Stormwater Collaborative, established in 2014 by the 15 MVPC communities to promote regional approaches to stormwater pollution prevention.

Applicability:	● Regionwide
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Previous Work

Under the region's FFY 2014 UPWP, MVPC was successful in assisting its 15 communities with the following:

- Worked with several municipalities to develop stormwater management plans including standard operating procedures for municipal facilities and open space/recreation areas.
- Assisted municipalities with drafting/updating stormwater bylaws and associated regulations to comply with more recent requirements of the MS4 Permit.
- Standardized and incorporated existing local stormwater infrastructure information into a comprehensive, web-based GIS database and mapping system including a mobile application to track maintenance and inspection of the system.
- Utilizing the Merrimack Valley Stormwater Collaborative mailing list, shared ongoing training and outreach information with Collaborative member communities. This includes training opportunities, grants, and outreach materials.
- Provided virtual IDDE training for local personnel, focusing on pollution prevention and good housekeeping practices for municipal operations and facilities.
- In collaboration with Greenscapes Northshore Inc., designed and conducted a multi-faceted stormwater public education program, with targeted messaging for four distinct Merrimack Valley audiences: (1) residents, (2) businesses, institutions, commercial facilities, (3) industrial facilities, (4) real estate developers.
- Assisted several communities with annual reporting as required by the MS4 Permit.
- Prepared Request for Proposals (RFP) templates for procurement of common stormwater management services, equipment, and supplies (e.g., catch basin inspections, out-fall catchment area mapping, illicit discharge detection, dry- and wet-weather sampling, etc.).
- Applied for and was awarded a MS4 Municipal Assistance Grant to assist the 15 MVPC communities with identifying 5 BMP retrofit sites and mapping these sites and their attributes on a GIS data layer in each community's MIMAP system.
- In FFYs 2020-2021, MVPC sponsored Stormwater Collaborative networking meetings, organized joint services procurement and sponsored information sessions and trainings on the new MS4 permit requirements. Agendas and attendance lists are available for all meetings.

FFY 2023 Activities

MVPC will continue to provide Stormwater Management technical assistance to communities in the region and will broaden its range of services to include the enhanced municipal requirements under the Massachusetts Phase II Small MS4 General Permit, focusing on staff training, public participation and providing technical assistance to communities in development of updated, compliant Stormwater Management Programs as required by the MS4 permit.

Tasks

- 3.8.1 *Provide Local Technical Assistance to Communities/Outreach Materials:* Staff will continue to design and conduct local and regional workshops to inform and train municipal personnel (public works and highway departments, conservation commissions, health boards) on the new Phase II Small MS4 General Permit requirements identified in the final permit including assistance in preparation of stormwater system operating & maintenance plans and Notices of Intent. Staff will also draft and customize relevant stormwater management regulatory updates 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.
- 3.8.2 *Provide Support to the Region’s Stormwater Collaborative:* Staff will provide technical support and training assistance to the Merrimack Valley Stormwater Collaborative. This regional coalition, made up of DPW, local conservation/stormwater management officials and regional watershed directors, meets monthly. Activities include equipment sharing, joint procurement, maintenance of information/programs on the MVPC website, and program development in areas of regulatory development and stormwater program administration.
- 3.8.3 *Assist Communities in meeting requirements of new MS4 Permits:* MVPC staff will conduct training sessions for municipal personnel. MVPC will pursue opportunities to promote and implement Green Infrastructure practices in the region. MVPC will assist with preparation of Operation and Maintenance Plans for town facilities and Stormwater Pollution Prevention Plans for highway garages as needed.
- 3.8.4 *Participate in MassBays and Regional Watershed Associations Water Quality Planning and Best Management Practices Forums and Workshops:* Staff will assist in organizing and making presentations at sponsored workshops & public information meetings in collaboration with MassBays National Estuary Program, Merrimack River Watershed Council, Ipswich River Watershed Association, Greenscapes North Coalition, Merrimack River District Commission, and other regional partners.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LTA/Outreach												
Spt. Stormwater Collab.												
Training Sessions												
Part. In Workshops												
	● Product/Event											

Funding

Funding for Task 3.8 Stormwater Management Technical Assistance		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	218	\$20,945
FTA Section 5307 / MVPC	0	\$0
TOTAL	218	\$20,945

Task 3.9 - Climate Change

Description

According to the FHWA report, "Integrating Climate Change into the Transportation Planning Process," there is general scientific consensus that the earth is experiencing a long-term warming trend and that human-induced increases in atmospheric greenhouse gases (GHGs), primarily from non-renewable fuel consumption, is primarily responsible. Global climate change is expected to result in rising sea levels and the increased frequency and severity of damaging weather events, including high-intensity and long-duration storms, coastal storm surges, coastal and inland flooding, and even heat waves, droughts, and wildfire. These climate change impacts pose a potential significant threat to the Merrimack Valley region's transportation network and services, and thus need to be properly considered and integrated into the region's future transportation planning and decision-making.

In Massachusetts, the Legislature passed its Global Warming Solutions Act (GWSA) in 2008. Its purpose is to accomplish a range of environmental objectives including the reduction of the state's greenhouse gas emissions. The Act requires the Commonwealth, on an economy-wide basis, to:

- Reduce statewide GHG emissions between 10- 25% from 1990 levels by 2020.
- Reduce statewide GHG emissions by at least 80 percent below the 1990 levels by 2050.

In late March of 2021, Governor Baker signed An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy, establishing new interim goals for emissions reductions, significantly increasing protections for Environmental Justice communities across Massachusetts. The legislation also authorizes the Administration to implement a new, voluntary energy efficient building code for municipalities, and allows the Commonwealth to procure an additional 2,400 Megawatts (MW) of clean, reliable offshore wind energy by 2027. In addition, Massachusetts joined Connecticut, Rhode Island, and Washington D.C. in launching a multi-jurisdictional program that will reduce motor vehicle pollution by at least 26 percent and generate over \$1.8 billion in Massachusetts by 2032. The Transportation and Climate Initiative Program (TCI-P) will allow participating jurisdictions to invest in equitable, cleaner transportation options, and create significant new employment opportunities while substantially improving public health across the Commonwealth and New England.

MVPC will work to plan and promote measures that can help achieve the emission reduction targets established in An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy that was passed by the Legislature in March 2021. This includes measures to lower GHG emissions from new vehicles, prioritization of transportation projects that preserve the existing transportation system, supporting denser land use development, and promoting the use of alternative forms of transportation (e.g., public transit ridership, bicycling, Teleworking, "trip chaining", etc.).

Applicability:	• Regionwide
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Previous Work

Under the FFY 2016 UPWP, MVPC staff participated in the Community Resiliency Planning Project, specifically through its participation in meetings of *the Community Coastal Resiliency Project Municipal Task Force*. This project was led by staff from the Northeast Office of the National Wildlife Federation (NWF) and planning staff from the Ipswich River Watershed Association (IRWA). This effort resulted in the creation of the Great Marsh Coastal Adaptation Plan, which was completed in early 2018. This document identifies and prioritizes public assets in the Great Marsh that are at risk from climate change events, including coastal storms, sea level rise, inland flooding, and erosion and includes community-based adaptation strategies and plans to reduce those risks. Many of these are transportation assets that are located in Salisbury, Newburyport, Newbury and Rowley and the Adaptation Plan includes proposed actions that would protect them.

Staff also continued to participate in FHWA's Climate Change Adaptation Peer Exchange and reviewed the Climate Change planning efforts that have been completed or are under way in New England and elsewhere in the nation.

In FFY 2020, MVPC again, in partnership with the Great Marsh Coalition, planned, promoted, and co-sponsored a regional "Great Marsh Symposium" for Merrimack Valley and North Shore municipal officials, non-profit organizations, educational institutions, and the public.

In FFY 2020, staff worked with the communities of Merrimac and Rowley to complete their Municipal Vulnerability Preparedness (MVP) plans and assisted the Town of North Andover with a combined MVP/Hazard Mitigation Plan (HMP).

In FY 2021, MVPC assisted the City of Lawrence in applying for FEMA Building Resilient Infrastructure Communities (BRIC) grant funding to update the Regional Multi-Hazard Mitigation Plan which expires in 2021. Staff also assisted Merrimac in completing an individual HMP to meet FEMA BRIC grant requirements.

FFY 2023 Activities

MVPC staff will continue to participate in meetings of the Community Coastal Resiliency Project Municipal Task Force as part of the Community Resiliency Planning Project and work with communities to prepare vulnerability assessments and strategic plans based on Community Resilience Building guidance promoted through the Mass. Municipal Vulnerability Preparedness Program of the Executive Office of Energy and Environmental Affairs and Executive Order 569 "Establishing an Integrated Climate Change Strategy for the Commonwealth" issued by Governor Baker in September 2016. Staff will also receive training in climate project data generated by Commonwealth agencies along with detailed climate adaptation mapping and modeling activities currently being prepared by MassDOT, the Woods Hole Institute, NOAA, and other sources.

Depending upon the availability of detailed mapping information and tools to model the impacts of storms at inland locations, MVPC can begin to work with its communities located west of the Great Marsh in identifying flood-prone infrastructure and identify potential impacts to both local and regional transportation facilities.

MVPC will continue to conduct regional planning to meet new GHG emission reduction goals and will seek additional grant funding to assist communities with Net Zero planning. In 2021, MVPC received a Regional Energy Planning grant to facilitate planning and implementation of electric vehicle (EV) charging infrastructure. This work included mapping of all charging stations, convening working groups around EV, and researching local by-laws.

Tasks

- 3.9.1 *Participation in Community Coastal Resiliency Project Municipal Task Force:* Staff will participate in Task Force meetings and will assist local officials in Salisbury, Newburyport, Newbury, and Rowley in preparing their Community Adaptation Plans.
- 3.9.2 *Implementation of Vulnerability Plans:* Staff will continue to assist communities seeking to implement strategic plans under the Massachusetts Municipal Vulnerability Preparedness Program, CZM Resiliency Plan, the RTP process and other processes.
- 3.9.3 *Regional Tracking and Analysis:* Staff will track, analyze, and prioritize identified vulnerabilities as related to transportation at the sub-regional and regional levels.
- 3.9.4 *Monitor Progress of Sea Level Rise Mapping/Modeling Tools:* Through its work with the MassBays Program, Hurricane Sandy Grant studies/analyses and MassDOT, staff will continue to assess the availability of the mapping and modeling tools needed to identify the combined impacts of flooding from storms and rising sea levels along inland waterways.
- 3.9.5 *Participate In/Host Regional Workshops:* MVPC will continue to participate and present at public workshops to inform local officials and partner agencies and organizations on the status and anticipated impacts of climate change on the Merrimack Valley/North Shore region. This will include the Sea Level Rise symposium held annually with MassBays partners.
- 3.9.6 *Consultation and Coordination* will be undertaken by the MPO staff with various statewide and regional organizations including Executive Office of Public Safety and Security (EOPSS), Massachusetts Emergency Management Agency (MEMA), Northeast Homeland Security Advisory Council (NERAC), and regional conservation and watershed agencies.
- 3.9.7 *Electric Vehicles:* MVPC will convene working groups to identify needs and next steps in deployment of EV charging infrastructure. MVPC will examine this issue from an equity standpoint and work with our communities to develop strategies. MVPC will also continue to assist Lawrence with its e-bike pilot program funded through MassCEC.
- 3.9.8 *Clean Energy Planning:* Staff will convene training events or workshops that facilitate peer-to-peer learning and exchanges. Projects which further state clean energy goals, include adding alternative fuel vehicles to fleets, conducting municipal energy aggregation that includes renewable technologies, fuel switching from delivered fossil fuels to renewable heating processes, and other similar activities. Municipal clean energy

planning services, in alignment with the recently released Massachusetts 2050 Decarbonization Roadmap calls for reducing greenhouse gas emissions by 45% by 2030 and 85% by 2050. Preparation toward developing community-wide net-zero plans, including preliminary scoping work, stakeholder surveys, and community workshops is also included.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Resiliency Task Force												
Impl. Vulnerability Plans												
Tracking & Analysis.												
Sea Level Rise Mapping												
Regional Workshops		•				•				•		
Consultation/Coordination												
Electric Vehicles												•
Clean Energy Planning												

• Product/Event

Funding

Funding for Task 3.9 Climate Change		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	358	\$38,520
FTA Section 5307 / MVPC	0	\$0
TOTAL	358	\$38,520

TASK 4.0 -OTHER TRANSPORTATION STUDIES

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Task 4.1 - Intelligent Transportation Systems (ITS)

Description

Intelligent Transportation System (ITS) technology's purpose is to maximize the efficiency of the existing transportation network. This technology plays a prominent role in the MVMPO region where the opportunities to expand existing roadway capacity are limited. Examples of ITS technologies include:

- Use of "EZ Pass" transponders at toll booths to reduce delay and to facilitate the installation of High Occupancy Toll (HOT) lanes on limited access roadways.
- Smart phone apps and in-vehicle devices that provide navigational assistance and real-time travel information.
- Incident management programs on interstates and major arterial roadways.
- Advanced Traffic Management activities such as coordination of signals.
- Creation of High Occupancy Toll (HOT) Lanes on limited access roadways.

Applicability:	• Regionwide
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Previous Work

In FFY 2010 the MVMPO staff participated in the stakeholder input meetings held in support of MassDOT's effort to update the Boston Regional ITS Architecture. Staff also reviewed the MBTA's ITS Architecture Report to identify what impact any impending MBTA actions could have on services the MBTA provides directly to MVMPO region (commuter rail) or to the other parts of the MBTA system.

Also, in FFY 2010, the New Hampshire Department of Transportation (NHDOT) initiated "Open Road Tolling" (ORT) at its Hampton Toll Booths. ORT lanes can process nearly five times as many vehicles as a conventional cash toll lane and 60% more traffic than a dedicated EZ Pass Lane.

In recent years, the MVRTA introduced new fareboxes on its fixed route buses that recognize cards accepted by the MBTA, has upgraded its Vehicle Location/GPS-enabled capabilities for all its buses and vans, and replaced the parking collection technology at several of the inter-modal transportation facilities that it manages.

Early in 2018, the Authority introduced its *Transit App*, which allows users to track the precise location of any bus on the MVRTA fixed route system. The information that the new app provides has been shown to boost ridership where implemented elsewhere across the nation. The upgraded Vehicle Location/GPS-enabled technology has also allowed the MVRTA to more effectively monitor the on-time performance of its buses and to then adjust its fixed route schedules.

In October 2018, MVPC staff participated in a meeting between the ITS Programs unit of MassDOT, Police, Highway Operations Center (HOC) personnel, MPOs along with key District and Boston Office engineers regarding proposed ITS camera and Variable Message Sign (VMS) installations on major corridors in District 4.

In 2020 the MVRTA received Statewide Federal Transit Section 5339 funds through MassDOT to purchase on board Automatic Passenger Counters (APCs). During the FFY 2021 UPWP, the Authority began installing the APCs on its fixed route buses. In 2022, MVPC staff has begun to analyze the data generated by the first APCs that have been put into operation (see Task 3.1). When fully implemented, the APC system will supply data on passenger boarding, track wheelchair and bicycle rack use on the Authority's fixed route and commuter buses.

FFY 2023 Activities

The MVMPO staff will continue to monitor ITS strategies and technologies in Massachusetts and around the country and assess both their effectiveness and potential applicability in the MVMPO region.

Tasks

- 4.1.1 *Continue Gathering Information on Existing ITS Projects in Massachusetts:* Using the Boston ITS Architecture and those from other regions in the state as well as information contained in the STIP and other sources, MVPC staff will monitor actions being taken by other MPOs to implement ITS technologies and assess their potential applicability in the MVMPO region.
- 4.1.2 *Attend Future ITS Conferences and Workshops:* MVPC staff will attend ITS workshops and seminars as appropriate.
- 4.1.3 *Attend Meetings of Boston Regional ITS Architecture Committee/ITS Integration Strategy:* MVPC staff will continue to attend meetings of the Boston Regional ITS Architecture Committee and participate in MassDOT's efforts to update the Boston Regional Architecture. The MVPC will update the MVMPO on Boston ITS Architecture Committee activities that would impact their present and future ITS plans/deployments.
- 4.1.4 *Autonomous Vehicle (AV) Technology:* In recent years there has been extensive work in developing and testing Autonomous Vehicles and it is anticipated that there will be widespread use of such vehicles in the United States within the next 20 years. AVs are being tested for transporting people (cars and buses) and moving freight. Full implementation of this technology may require substantial modifications to the nation's transportation infrastructure. Under this task, staff will continue to monitor the trends in AV technology and identify how they may impact the region's transportation network.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Gather Information												
Conf./Workshops												
Boston Regional ITS												
AV Technology												
● Product/Event												

Funding

Funding for Task 4.1 Intelligent Transportation Systems		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	71	\$8,075
FTA Section 5307 / MVPC	0	\$0
TOTAL	71	\$8,075

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Task 4.2 - Local Technical Assistance

Description

Each year, officials from around the MVMPO region request MVPC staff assistance to address traffic issues in their communities. These requests typically are limited in scope and consist of intersection capacity analyses, review of roadway signage, small-scale parking studies, a review of local traffic regulations, analysis of traffic safety issues or even assistance in completing the Project Need and Project Initiation Forms needed to advance project proposals through the MassDOT Project Development Process. Because of their limited scope and often-urgent timeframe, it is usually infeasible to prepare a scope of services to complete these projects.

Applicability:	• Regionwide
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Previous Work

Examples of technical assistance projects undertaken under the FFY 2020 and FFY 2021 UPWPs include:

- Collected traffic volume/vehicle classification/ speed count data on Scotland Road and performed a field visit to the site to review Exit and Stopping Sight Distances for a recently opened commercial facility.
- Reviewed the traffic impact report for a proposed Chapter 40B development on Salem St. and looked at the operation of the Salem St./School St. intersection.
- Collected ATR counts on Andover Street and Vehicle Turning Movement counts at the Andover Street/Shepard Street/Lawrencian Drive intersection in support of the City of Lawrence's MassWorks application.
- Completed two sets of analysis of selected roadway corridors in the Town of Georgetown to determine if they met the Thickly Settled Criteria for residential areas that are defined by state law.
- Worked with Groveland officials to develop scope of services for contract with MVPC to develop an Asset Management Program for the Town.
- Prepared report outlining MVPC's findings in collecting turning movement counts at Georgetown Square, the Library St./Central St. intersection, and the East Main St./Winter St. intersection.

FFY 2023 Activities

MVPC staff will continue to provide technical assistance to member communities and local citizens on an as-needed basis.

Tasks

- 4.2.1 *Respond to Community Requests for Transportation Data and Analyses:* MVPC staff will respond to small-scale, limited requests for technical assistance in addressing transportation issues in the MVMPO region.
- 4.2.2 *Support Advancement of Projects Through the MassDOT Project Development Process:* MVPC will also support community efforts to advance projects through the MassDOT

Project Development Process. This will largely include providing assistance in the preparation of Project Need and Project Initiation Forms.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Local Technical Assist.												
Support Proj. Devel.												
	● Product/Event											

Funding

Funding for Task 4.2 Local Technical Assistance		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	202	\$23,200
FTA Section 5307 / MVPC	0	\$0
TOTAL	202	\$23,200

Task 4.3 - Regional Transportation Security

Description

The events of September 11, 2001 and the tremendous damage caused by Hurricanes Rita and Katrina dramatically raised awareness regarding the security of the nation's transportation system. In the Merrimack Valley region, winter storms have caused severe damage to beach areas on Plum Island in Newbury and major rain events have often resulted in flooding that closes major arterial roadways such as Route 1 in Salisbury. Further inland, Route 114 near the Lawrence/North Andover line has been closed many times due to flooding of the Shawsheen River.

Federal requirements include security as a factor that MPOs must address in the transportation planning process. MPOs must ensure that their planning process "...should provide for consideration and implementation of projects, strategies, and services that will increase the security of the transportation system for motorized and nonmotorized users."

Applicability:	● Regionwide
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Previous Work

In April of 2016, the MVPC received approval of the Merrimack Valley Multi-Hazard Pre-Disaster Mitigation Plan. This plan was developed by MVPC in cooperation with 14 of the region's 15 cities and towns pursuant to the Disaster Mitigation Act of 2000 (DMA 2000), which established a national program for pre-disaster mitigation and streamlined the federal administration of disaster relief. This legislation also requires all communities to have a FEMA-approved "Multiple Hazards Mitigation Plan" to qualify for FEMA funding under the Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA), and Hazard Mitigation Grant Program (HMGP).

In September 2020, FEMA announced the Building Resilient Infrastructure and Communities (BRIC) program aimed at shifting the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience. In FY2021, MVPC assisted the City of Lawrence in applying for FEMA Building Resilient Infrastructure Communities (BRIC) grant funding to update the MV Regional Multi-Hazard Mitigation Plan which expires in 2021. Staff also assisted Merrimac in completing an individual HMP to meet FEMA BRIC grant requirements.

MEMA presented the Evacuation (and Shelter) Concept of Operations to local officials and Emergency Management Directors in the summer of 2015 and it was determined that there was a need to better synchronize the agency's efforts in Shelter, Evacuation, and Critical Transportation Need planning. In Fall 2016, MEMA completed the Critical Transportation Need Evacuation Operational Plan and the update for the Cape Cod Traffic Plan. In addition, the agency is continuing work on the Mass Care and Shelter Planning Phase II effort that kicked off in Fall 2016.

The MVRTA is the transit representative to the Northeast Regional Advisory Council (NERAC) that was established under the Executive Office of Public Safety and chairs the NERAC Working Group on Evacuation Planning. MVPC serves as a member of this committee.

FFY 2023 Activities

The 2016 Merrimack Valley Multi-Hazard Mitigation Plan expires in 2021. MVPC will assist communities with updating their Plans. Staff will continue to monitor information from USDOT, NARC, AAMPO and other sources on this subject to determine what basic elements should be addressed by an MPO in evaluating its transportation network. It will review and evaluate the ongoing activities of other RPAs and MPOs around the nation in this matter and assess their potential applicability in the MVMPO region.

Tasks

- 4.3.1 *Updating Merrimack Valley Multi-Hazard Mitigation Plan:* Instead of one regional plan, communities may choose to update their plans individually or in smaller regional groups. MVPC will assist communities with updating their plans.
- 4.3.2 *Review Developments in Transportation Security Planning:* Staff will continue to monitor materials and policies of transportation security issued by, NERAC, USDOT and state transportation agencies.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Assist Communities												
Review Security Planning												
	● Product/Event											

Funding

Funding for Task 4.3 Regional Transportation Security		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	84	\$8,600
FTA Section 5307 / MVPC	0	\$0
TOTAL	84	\$8,600

Task 4.4 - County Road Adjudication

Description

Chapter 336 of the Acts of 2006 amended several sections of Chapter 82 of Massachusetts General Laws governing the alteration, relocation, and discontinuance of county roads. Section 1 of Chapter 82, as amended, states that regional planning agencies have the responsibility to “lay out, alter, relocate and discontinue highways and order specific repairs thereon” in those areas where no county government or council of governments exists. The General Court also mandated that the regional planning agencies in such areas create regional Adjudicatory Boards to take actions on any proposed changes to county roadways in their jurisdiction. With the dissolution of Essex County in 1996, the Merrimack Valley Planning Commission fell under this requirement.

The Merrimack Valley Planning Commission Adjudicatory Board (MVPC Adjudicatory Board) is comprised of five members:

- MVPC Chairman
- MVPC Vice Chairman
- MVPC Secretary
- MVPC Treasurer
- MassDOT District 4 Highway Director (or designee)

Applicability:	• Regionwide
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Previous Work

The MVPC Adjudicatory Board has responded to community requests and approved the discontinuance of the following sections of County Roadway in the Merrimack Valley region:

- Section of county road layout near the intersection of Routes 150 and 110 in Amesbury (June 2009).
- Portion of Towne Road layout in Boxford near the North Andover Town Line (September 2011).
- Sliver of the old County Road layout along Route 110 just east of the intersection with Route 150 (September 2012).
- Section of River Road in Merrimac that lies between Skunk Road and a point just east of its intersection with Middle Road, which had been severely damaged by storms in 2006 and 2010 (October 2013), and
- County Easement in front of 38 and 40 Main Street in Amesbury (December 2019).

FFY 2023 Activities

MVPC staff will continue to implement and refine the review and approval process for the relocation/discontinuance of county roadways and roadway layouts that are located on or adjacent to federal aid-eligible roadways in the region.

Tasks

4.4.1 *Implement/Amend Merrimack Valley Region County Road Adjudication Board and Roadway Review Process:* MVPC staff will implement and as needed, amend the process for the review of requests to alter county roadways.

Products/Schedule

Task(s)	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Implement Process												
	• Product/Event											

Funding

Funding for Task 4.4 County Roads Adjudication		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	30	\$3,510
FTA Section 5307 / MVPC	0	\$0
TOTAL	30	\$3,510

FFY 2023 UNIFIED PLANNING WORK PROGRAM TASK FUNDING SUMMARY

Task	Description	FHWA PL/ FTA 5303 / MassDOT	FTA 5307 / MVPC	ARPA ROUTE PLANNING GRANT	FFY 2023 TOTAL
1.1	Program Management and Support	\$107,990	\$7,469		\$115,459
1.2	Public Participation Process	\$98,110	\$0		\$98,110
1.3	Unified Planning Work Program	\$23,530	\$0		\$23,530
1.4	Transportation Improvement Program	\$68,551	\$0		\$68,551
1.5	Title VI/Environmental Justice/Limited English Proficiency Activities	\$37,140	\$0		\$37,140
1.6	Metropolitan Transportation Plan	\$84,440	\$0		\$84,440
2.1	Traffic Monitoring Program	\$96,410	\$0		\$96,410
2.2	Regional Pavement Management Program	\$43,900	\$0		\$43,900
2.3	Geographic Information Services	\$132,040	\$12,116		\$144,156
2.4	Congestion Management Process	\$39,415	\$0		\$39,415
2.5	Intermodal Connections with NHS System/Freight Planning	\$18,750	\$0		\$18,750
2.6	Regional Transportation Model	\$4,190	\$0		\$4,190
2.7	Bicycle/Pedestrian/Water Trails Planning	\$38,000	\$0		\$38,000
2.8	Safety Monitoring System	\$41,314	\$0		\$41,314
2.9	Transportation & Livability	\$26,910	\$0		\$26,910
2.10	MVMPO Transportation Performance Measures and Targets	\$25,750	\$0		\$25,750
2.11	Travel and Tourism Planning	\$20,030	\$0		\$20,030
3.1	Elderly and Disabled/ADA Planning	\$10,362	\$9,015		\$19,377
3.2	Transit Planning	\$21,840	\$71,400	\$450,000	\$543,240
3.3	Bicycle and Pedestrian Access on Route 114 from Stop & Shop to Middleton Town Line	\$17,280	\$0		\$17,280
3.4	RSA of S. Union St between Market St. and Merrimack St. in Lawrence	\$30,760	\$0		\$30,760
3.5	Road Safety Audit at Intersection of Franklin St. and Common St. in Lawrence	\$24,400	\$0		\$24,400
3.6	Road Safety Audit at the Intersection of Main St. and the I-95 Connector in Salisbury	\$25,800	\$0		\$25,800
3.7	Road Safety Audit at the Intersection of Lowell Street (Route 113) at Elm Street in Methuen	\$27,040	\$0		\$27,040
3.8	Stormwater Management	\$20,945	\$0		\$20,945
3.9	Climate Change	\$38,520	\$0		\$38,520
4.1	Intelligent Transportation Systems	\$8,075	\$0		\$8,075
4.2	Local Technical Assistance	\$23,200	\$0		\$23,200
4.3	Regional Transportation Security	\$8,600	\$0		\$8,600
4.4	County Road Adjudication	\$3,510	\$0		\$3,510
	TOTAL	\$1,166,802	\$100,000	\$450,000	\$1,716,802

Percentage of Spending for Task 1	24.89%
Percentage of Spending for Task 2	29.06%
Percentage of Spending for Task 3	43.53%
Percentage of Spending for Task 4	2.53%

Percentage of Spending for Planning Studies	48.69%
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Comments Received on MVMPO's Draft FFY 2023 UPWP and Responses

MassDOT

1. P. 21 blue text either needs hyperlinks or reformatting. P. 24 - add hyperlinks for WeAreMV.com

Response: These changes will be made.

2. Please add IIJA to Acronym List, and please edit acronym on p. 17 (p. 26 of PDF) from IIIJA to IIJA.

Response: These changes will be made.

3. Community beneficiaries are more clearly outlined in some tasks but not others. If a task is generally applicable to all communities in region, please consider a note to that effect in task description(s).

Response: Notations will be inserted where appropriate.

4. p. 32, edit table title from "20116" to "2016"

Response: This change will be made.

5. MVMPO should include an update to the MVMPO's Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan).

Response: This activity will be referenced under Task 3.1 - Elderly and Disabled/ADA Planning

MVRTA Comments

1. The Merrimack Valley Regional Transportation Authority will receive \$450,000 in funding through the American Rescue Plan Act of 2021 to conduct a planning study on restoring transit services and addressing the effects of COVID-19 and its changing demographics. As the project is for planning funds, it will need to be in the UPWP

Response: This study will be added under Task 3.2 - Transit Planning