

MERRIMACK VALLEY METROPOLITAN PLANNING ORGANIZATION

FEDERAL FISCAL YEAR 2022

UNIFIED PLANNING WORK PROGRAM



FINAL REPORT

June 28, 2021

Prepared by the
**MERRIMACK VALLEY
PLANNING COMMISSION**

This document was prepared by the Merrimack Valley Planning Commission under Contract #112304 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.

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Merrimack Valley Metropolitan Planning Organization
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Haverhill, MA 01830-5061
(978) 374-0519, extension 15
AKomornick@mvpc.org

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To file a complaint alleging a violation of the Commonwealth's Public Accommodation Law, contact the Massachusetts Commission Against Discrimination within three hundred (300) days of the alleged discriminatory conduct at:

Massachusetts Commission Against Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02109
(617) 994-6000
TTY: (617) 994-6196

Translation

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If this information is needed in another language, please contact the MVMPO Title VI/Nondiscrimination Coordinator at 978-374-0519 ext. 15.

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Chinese Traditional

如果需要使用其他語言瞭解資訊，請聯繫Merrimack Valley大都會規劃組織（MVMPO）《民權法案》第六章協調員，電話978-374-0519，轉15

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Si vous avez besoin d'obtenir une copie de la présente dans une autre langue, veuillez contacter le coordinateur du Titre VI/anti-discrimination de MVMPO en composant le 978-374-0519, poste 15.

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Mon-Khmer, Cambodian

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Arabic

إذا كنت بحاجة إلى هذه المعلومات بلغة أخرى، يُرجى الاتصال بمنسق الفقرة السادسة لمنع التمييز التابع لمنظمة التخطيط الحضري في ميريماك فالي على الهاتف: 978-374-0519 و ثم اضغط الأرقام 15

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MVMPO Endorsement Page



**MERRIMACK VALLEY METROPOLITAN PLANNING
ORGANIZATION ENDORSEMENT**

**MERRIMACK VALLEY REGION
FEDERAL FISCAL YEAR 2022
UNIFIED PLANNING WORK PROGRAM**

The undersigned representatives on the Merrimack Valley Metropolitan Planning Organization hereby endorse the Merrimack Valley region's Federal Fiscal Year 2022 Unified Planning Work Program.

Jamey Tesler
MassDOT Acting Secretary/CEO

Jonathan Gulliver
MassDOT Highway
Division Administrator

Jerrard Whitten
MVPC Executive Director

Joseph Costanzo
MVRTA Administrator

James Fiorentini
Mayor of Haverhill

Kendrys Vasquez
Mayor of Lawrence

Neil Harrington
MVMPO Subregion 1

Robert Snow
MVMPO Subregion 2

John Cashell
MVMPO Subregion 3

Paul Materazzo
MVMPO Subregion 4

June 23, 2021

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INTRODUCTION

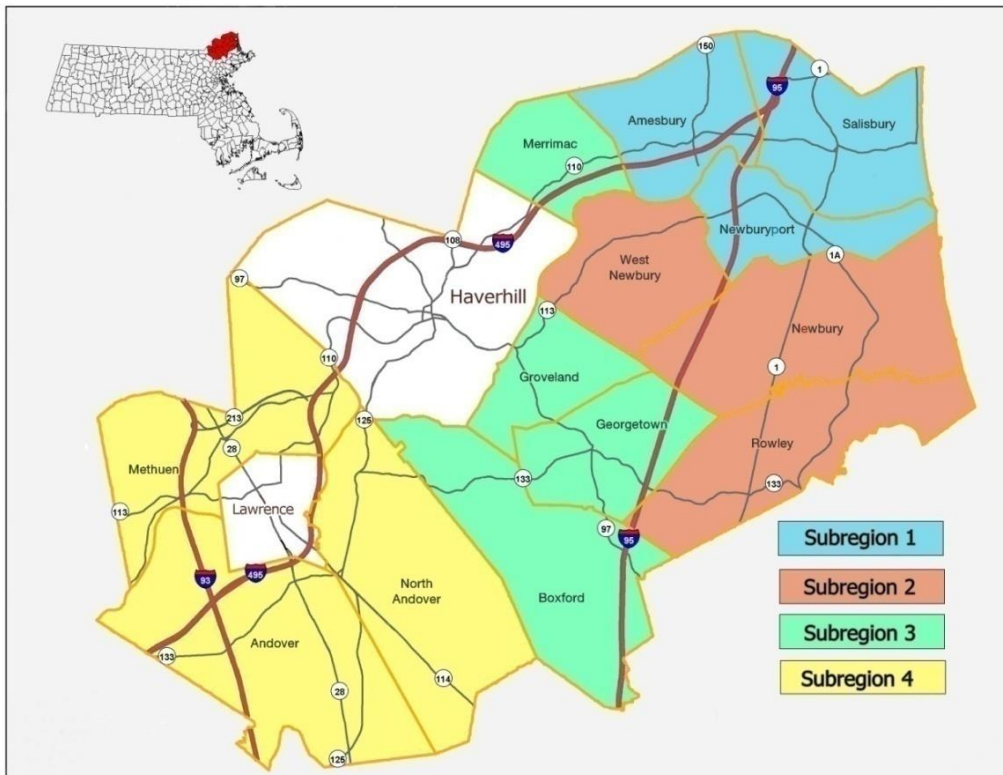
As mandated under the federal “3C” transportation planning process, the Unified Planning Work Program (UPWP), describes the transportation planning activities that are to be carried out by a Metropolitan Planning Organization (MPO) during the federal fiscal year (October 1 – September 30), identifies 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 2022 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 (Acting) | Jameil Tesler |
| • MassDOT Highway Division Administrator | Jonathan Gulliver |
| • MVPC Executive Director | Jerrard Whitten |
| • MVRTA Administrator | Joseph Costanzo |
| • Mayor of Haverhill | James Fiorentini |
| • Mayor of Lawrence | Kendrys Vasquez |
| • 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) | Susan Ruch |

Organization of FFY 2022 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 2022 UPWP

During the course of FFY 2022, amendments and adjustments 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:

Amendment with 21-day Public Review and Comment Period:

- Any revision which would result in the need for additional Federal funding.
- Addition or deletion of a UPWP task or sub-task.
- Funding transfers among direct cost categories, or, if applicable, among separately budgeted programs, projects, functions, or activities which exceed or are expected to exceed 25% of the current total approved budget.
- Funding increase or decrease equal to or greater than 25% of the UPWP task budget.
- Any revision of the scope or objectives of the project or program, regardless of whether there is an associated budget revision requiring prior approval.
- An extension of the period of availability of funds.
- Changes in key persons in cases where specified in an application or a grant award. In research projects, a change in the project director or principal investigator shall always require approval unless waived by the awarding agency.
- Contracting out, sub-granting (if authorized by law) or otherwise obtaining the services of a third party to perform activities which are central to the purposes of the award. Unless described in the application and funded in the approved awards, the sub-award, transfer or contracting out of any work under an award. This approval requirement does not apply to the procurement of equipment, supplies, and general support services, these purchases are handled through procurement procedure guidance and do not require UPWP amendment.
- The absence for more than three months, or a 25% reduction in time devoted to the project, by the approved project director or principal investigator.

- The transfer of funds allotted for training allowances (direct payment to trainees) to other categories of expense.

Adjustment with an approval vote from the MPO and sign-off from the Office of Transportation Planning (OTP):

- Minor changes to UPWP task descriptions, activities and other information;
- Modification of budget to an already programmed task that is less than 25% of the current total shown in the approved 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 2022 UPWP:

Bicycle and Pedestrian Planning

Border to Boston Rail Trail

MVMPO staff, in cooperation with the towns of Boxford, Georgetown, Newbury and Salisbury, continued working with MassDOT to advance Border to Boston Trail project designs. In the Spring of 2017, MassDOT and the above communities came to an agreement by which the final design of the various sections of the Trail was to be funded and administered.

In FFY 2020 MassDOT began construction of Phase II of the Salisbury Rail Trail which will extend from Mudnock Road (the northern terminus of Phase I of the Salisbury Rail Trail) north to the New Hampshire State Line. To augment this project, the Town of Salisbury received a MassTrails grant to develop a connection from the rail trail in Salisbury to the parking lot of the Seabrook Fire Station that is located just off Route 286 near the State Line.

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. In FFY 2021 this included:

- The beginning of construction of Phase II of the Bradford Rail Trail;
- The Town of Groveland moving forward with the design of the off-road segment of the Groveland Community Trail. 100% design plans have been submitted to MassDOT and the project was programmed for FFY 2021 construction funds in the MVMPO's FFYs 2021-2025 TIP at an estimated cost of \$2.9 million.

Lawrence Rail Trail

Late in 2017 MassDOT approved a project to construct a 1.4-mile path that will run in the old Manchester & Lawrence Branch railroad right of way from the south bank of the

Merrimack River to Manchester Street Park, and then north to link with the Methuen Rail Trail. MVPC completed a feasibility study for this proposed trail in 2014.

This project is now scheduled to be 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.

William Lloyd Garrison Trail

The William Lloyd Garrison Trail, a multiuse facility that links the Newburyport Park and Ride Lot to Route 110 in Amesbury, opened in October 2018. This trail is part of the new Whittier Bridge that carries I-95 over the Merrimack River between Amesbury and Newburyport and is the first interstate bridge in the state to incorporate a shared use trail.

In 2020, work was completed on the construction of a stairway that connects the trail to the Amesbury Visitors Center at Evans Place near the Amesbury/Salisbury town line. Evans Place and Main Street in Amesbury are heavily used by cyclists in the MVMPO region.

Other Trail Projects

In addition to the connection of the Garrison Trail to the Amesbury Visitors Center described above, construction was completed on a bicycle and pedestrian trail that links the Salisbury Ghost Trail with Elm Street in Amesbury. This section of trail also links to the end of the Garrison Trail, which terminates nearby on Route 110.

In late 2020, the City of Amesbury initiated a project for MassDOT funding to connect the western end of the above trail at Elm Street to the Powwow Riverwalk that runs from the nearby Carriage Town Marketplace to the Lower Millyard area near downtown. The estimated cost of this proposed project is \$1.7 million.

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
- 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.
- Starting in 2017, MassDOT initiated preliminary design work on the above project, with its scope being expanded to extend from the Stop and Shop Driveway to Waverly Road rather than to Andover Street. As preliminary design continued through 2019, it was determined that the project would require three complete land takings and the replacement of an additional culvert.
- 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 and North Andover 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 2022 UPWP, MVPC Transportation Staff will begin 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, and
- 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 also is developing a regional 'Top 100' Crash List that identifies high crash intersections and roadway corridors in the region. This list will be 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

An update to the 2014 Coordinated Human Service Public Transportation Plan, the 2020 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.

A preferential lane would permit higher bus operating speeds and carpools/vanpools and other modes of travel that would not be allowed in the shoulder. However, the permitting, construction and operation cost advantages of the BOS are extremely modest by comparison and this concept has proven to be effective in many U.S. applications.

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.

Active Transportation Plan for the Merrimack Valley

The MVMPO adopted this Plan in January 2015 which sets forth the region's Active Transportation Vision:

The Merrimack Valley region 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 improving air quality. We will connect jobs, housing, civic and recreation activities to strengthen our region's livability and economic vitality.

The document contains specific Goals, Strategies and Performance Measures that are designed to support achieving this Vision along with nearly 100 regionally significant

and priority community-level bicycle and pedestrian initiatives that have been proposed for the region. Many of which were developed with the intent of closing the gaps in the Active Transportation Network that were identified in the Plan.

Since 2015, great progress has been made in the further development of the region's bicycle and pedestrian transportation network. Trail projects have been completed or are under construction in Haverhill, Newburyport and Salisbury and will soon be under construction in Groveland, Georgetown and Lawrence. Many communities have adopted Complete Streets policies and, in some cases, received state grants to implement projects. In 2019, MassDOT completed its new statewide plans for bicycle and pedestrian transportation.

The MVMPO is completing the update to its Active Transportation Plan in FFY 2021 to fully consider and integrate the findings and recommendations identified in MassDOT's new state Bicycle and Pedestrian plans, community Complete Streets implementation plans and document the progress that has been made in growing the bicycle and pedestrian transportation network in the region over the past five years.

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 FFY2021 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 new program provides financial support for communities adopting Complete Streets ordinances or by-laws that meet MassDOT criteria. Funding will be provided to both support the implementation of the Complete Streets ordinance or bylaw and to support the construction of Complete Streets projects.

MVPC staff has been working with member communities over the past year to develop Complete Streets ordinances. By May 2021, 10 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. As of May 2021, nine Merrimack Valley communities have received almost \$1.4 million in 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 Draft 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.

Accelerated Bridge Program

Chapter 233 of the Acts of 2008 provided \$3 billion in bonding authority for the implementation of an Accelerated Bridge Program (ABP) in the Commonwealth. The goal of the program is to accelerate work on repairing/replacing over 200 MassDOT and Massachusetts Department of Conservation and Recreation (DCR) – owned bridges that are classified as Structurally Deficient (SD) or are in jeopardy of soon being classified as such. This infusion of state funding allowed for the completion of many bridge projects much sooner than would otherwise have been possible and thereby resulted in lower construction costs.

Six MVMPO region bridge repair or replacement projects were included in the ABP (shown below). With the replacement of the Route 28 Bridge over the MBTA tracks in Andover, work on all six of these bridges has now been completed.

Status of Accelerated Bridge Program Projects in the MVMPO Region	
Project	Status
Replacement of the I-95 Whittier Bridge over the Merrimack River between Amesbury and Newburyport	Completed
Replacement of the Route 28 Bridge over the MBTA railroad tracks in Andover	Completed
Repair of the Route 28 Bridge over the Merrimack River in Lawrence	Completed
Reconstruction of the Route 125 Connector Bridge over Ferry Road/MBTA Haverhill Line in Haverhill	Completed
Cleaning and painting of the Route 1 (Gillis) Bridge over the Merrimack River between Salisbury and Newburyport	Completed
Rehabilitation of the Rocks Village Bridge over the Merrimack River between Haverhill and West Newbury	Completed

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 2022 CIP. As was the case with the FFY 2021 CIP, due to the impacts of the COVID-19 Virus, this version of the CIP will only focus on FFY 2022 and is considered by MassDOT to be a “maintenance of effort” document. Previous versions of the CIP considered a five-fiscal year timeframe.

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 2022 Capital Investment Program in May 2021 and it is anticipated that it will be adopted by MassDOT and the MBTA in June 2021.

Massachusetts Strategic Highway Safety Plan

Created under SAFETEA-LU and continuing in the FAST Act, 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 Fall 2013. Federal planning regulations require that the document be updated every five years.

The Massachusetts 2018 SHSP updates the safety goals and targets that were established in the 2013 document using crash and other data collected in the Commonwealth over the past five years. As noted in the SHSP, Massachusetts has been successful in reducing the rate of serious injuries and fatalities over the years, but this has become more difficult given the increase in traffic on Massachusetts roadways as a result of the Commonwealth’s robust economic growth.

MassDOT has identified 14 Emphasis Areas in its 2018 SHSP:

- Bicyclists
- Impaired Driving
- Motorcycle Crashes
- Pedestrians
- Speeding/Aggressive Driving
- Driver Distraction
- Intersection Crashes
- Occupant Protection
- Rail Grade Crossings
- Safety of Persons Working in Roadways
- Heavy Trucks
- Lane Departure
- Older Drivers
- Younger Drivers

In an effort to attain the more stringent goals and targets for fatalities and serious injuries contained in the 2018 SHSP, MassDOT is proposing five new legislative measures to reduce the number and severity of crashes in the state. These are:

- Hands Free policy for motorists using mobile devices
- Primary Seat Belt enforcement
- More stringent Work Zone Safety Rules
- Ignition Interlock for All Offenders
- Truck Side Guards for certain heavy vehicles registered in the state
- Giving municipalities option of using Automated Enforcement using cameras and radar.

Federal Transportation Planning Legislation and Initiatives

Fixing America’s Surface Transportation Act (FAST)

On December 4, 2015, President Obama signed into law the Fixing America’s Surface Transportation Act, or “FAST Act”, that provides five years of surface transportation funding authorization (FFYs 2016-2020). The FAST Act is the successor transportation funding authorization legislation to the Moving Ahead for Progress in the 21st Century Act (MAP-21).

The FAST Act largely maintains program structures and funding shares between highways and transit that existed in MAP-21. However, it does include changes such as:

- Streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance critical freight projects.
- Establishing a dedicated source of both formula and discretionary grant programs to fund critical transportation projects that would benefit freight movements.
- Reinstating the popular bus discretionary grant program and strengthening the Buy America requirements.
- Includes provisions that strengthen workforce training and improve regional planning.

While the FAST Act expired on September 30, 2020, it was extended for one year through The Continuing Appropriations Act, 2021 and Other Extensions Act, authorizing \$12.6 billion for FY2021. The funding amounts contained in this extension of the FAST Act were considered in the preparation of this document as well as the MVMPO's FFYs 2022-2026 TIP.

Livability

The concept of livability in transportation is in fact a recognition that 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.”

MVPC prepared its regional Priority Growth Strategy (PGS) with a particular emphasis upon how the region's transportation network impacts livability in cities and towns in the Merrimack Valley. The PGS contains numerous recommendations for improving bicycle, pedestrian and transit transportation to Community Development Centers (CDCs) throughout the Valley. MVPC will continue its efforts to implement these and other recommendations in the PGS in FFY 2021 to support sustainable development principles in the Valley and, in doing so, improving the quality of life (see [Task 2.9.6](#)).

Planning Factors

FHWA and FTA continue to recognize the importance for each UPWP to address the Planning Factors identified in the statute. The FAST Act added the following two Planning Factors to the eight that were included in MAP-21:

Improve the Resiliency and Reliability of the Transportation System and Reduce or Mitigate Stormwater Impacts of Surface Transportation

FHWA has issued guidance to MPOs in coastal areas to identify those transportation facilities that could be impacted by rising sea levels and from flooding and to develop a program of studies to review both drainage plans and the adequacy of drainage structures in these areas.

For many years, MVMPO has supported planning activities that respond to these issues (see [Tasks 3.9](#), [3.10](#), and [4.3](#)).

The region's Multi-Hazard Mitigation Plan, which expires in 2021, identified transportation facilities that are at risk from storms, floods, and other events. Staff is now in the process of assisting MVMPO communities in developing their own individual Hazard Mitigation Plans.

Staff also participated in the development of the Great Marsh Coastal Adaptation Plan, which was prepared by the National Wildlife Foundation in cooperation with the Ipswich River Watershed Association. This plan included the communities of Newburyport, Newbury, Rowley and Salisbury in the Merrimack Valley region. Key elements of the Plan including Assessing Climate Impacts in these communities and the development of Adaptation Strategies and Recommendations for Selected Areas of Concern and Vulnerabilities.

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.

MVPC Transportation staff has also participated in the vulnerability assessment workshops held by the towns of Newbury and West Newbury and the cities of Newburyport and Haverhill. It is anticipated that it will continue to participate in these assessments and provide additional assistance to communities under the FFY 2022 UPWP.

Enhance Travel and Tourism

Task 2.11 – Travel and Tourism Planning was first added to the FFY 2017 UPWP to meet this new requirement and appears in this document.

Supporting the above task, in FFYs 2018 and 2019 MVPC Transportation Staff assisted the agency's Economic Development Group in examining how effective the transportation network in the Merrimack Valley region was supporting economic development goals in the region as part of the development of the region's 2018 Comprehensive Economic Development Strategy.

The 2018 CEDS identified 12 Transportation Strategies that should be pursued to support key economic activities in the region and six of these Strategies were categorized as supporting the Natural and Cultural Resources in the Valley, which includes Tourism.

In 2020 and through its work with the Essex County Community Foundation, MVPC lead an effort to map those places that are valued by residents of and visitors to the region. This work resulted in the preparation of an Expression Book made up of original artwork that beautifully highlighted the region's cultural and natural resources, which was distributed to partners throughout the region. In addition, a Cultural Asset Map of the Merrimack Valley was prepared. MVPC has started using this data in other planning activities as it increases our understanding of important places in our community.

Bike and Pedestrian Networks

USDOT recommends that MPOs should work to assess bike and pedestrian networks, identify gaps in multi-modal connectivity, and implement strategies to address those gaps and to improve user safety.

As noted earlier, the MVMPO's Active Transportation Plan performs this function. This document is being updated under the MVMPO's FFY 2021 UPWP.

Performance Management

MPOs should continue to work with MassDOT, transit agencies, and other partners to incorporate performance measures into their planning processes.

From 2015 to 2017, USDOT released Final Rules for the seven Performance Management Areas first identified under MAP-21 and which remain in effect under the FAST Act.

In FFY 2019, the MVMPO adopted MassDOT's Safety Performance Measures and Targets ("PM1") and recognized the Performance Measure and Targets for equipment, rolling stock and facilities developed by the MVRTA in its Transit Asset Management Plan. It also adopted MassDOT's National Highway System Bridge and Pavement Condition Performance Measure Targets ("PM2") and its Reliability, Congestion and Emissions Performance Measure Targets ("PM3").

Under Task 2.10 of the FFY 2022 UPWP, MVPC will continue to monitor and, where needed, to assist the MPO in adopting new Safety Performance Measure Targets ("PM1") and developing Performance Targets for the remaining Performance Management areas.

Sustainability

Implementing sustainable practices and ensuring a sustainable transportation system is important in planning for future transportation needs. FHWA's INVEST offers one way to assess current practices and projects and identify potential areas to improve sustainability. Conducting a vulnerability assessment along with developing strategies and tools to adapt programs to address climate change impacts and severe weather events can also better prepare communities. MPOs should consider how the results of such assessments can inform transportation planning activities and how adaptation and mitigation strategies can be implemented effectively.

Tasks 3.9 – Stormwater Management Technical Assistance, 3.10 – Climate Change and 4.3 - Regional Transportation Security of this document are designed to assist communities in addressing the impacts that climate change and severe weather events can have on their transportation infrastructure.

Regional Models of Cooperation

There should be a regional approach to planning by promoting cooperation and coordination across transit agency, MPO, and state boundaries. The MPO might consider working with neighboring MPOs or states to identify corridors that are of significance to both regions and would benefit from a cooperative study. Proactively collaborating with transit agencies that may be based in another region through planning studies and related work may also be something for the MPO to consider in developing UPWP activities. Additionally, MPOs may need to revisit their MOUs to ensure that there are effective processes for cross-jurisdictional communication among State DOTs, MPOs, and providers of public transportation to improve collaboration, policy implementation, technology use, and performance management.

Examples of MVMPO activities in the above areas include:

- Coordinating with the Rockingham Planning Commission on assuring the connectivity of the Border to Boston trail in Salisbury with a section of the East Coast Greenway planned for Seabrook, New Hampshire;

- Working with Northern Middlesex Council of Governments on planning and outreach for the Merrimack River Trail.
- In FFY 2019, adopting a new MOU for the Boston UZA;
- Also in FFY 2019, adopting a new Performance Based Planning and Programming Agreement between MassDOT, the Regional Transit Authorities and Regional Planning Agencies in Massachusetts.
- Coordinating MVRTA and Lowell Regional Transit Authority transit services through the Merrimack Valley Regional Coordinating Council (see [Task 3.1](#));
- Having the Rockingham Planning Commission conduct a count of bicyclists and pedestrians on the Newburyport Rail Trail to demonstrate the operation of its new data collection equipment;
- Holding joint meetings of transportation staff from the Boston, Northern Middlesex and Merrimack Valley MPOs. Staff from these three organizations last met in January 2020.

Ladders of Opportunity

MPOs are encouraged to identify specific ways within the UPWP to focus on providing access to essential services. The UPWP may provide an opportunity for developing and implementing analytical methods to identify gaps in the connectivity of the transportation system and developing infrastructure and operational solutions that provide the public, especially the traditionally underserved populations, with adequate access to essential services.

In June 2017, MVPC staff made a presentation to the Lawrence Industrial Park Committee to hear from employers in the area as to their transportation needs and concerns. Following up on this effort, MVPC staff worked with the Merrimack Valley Transportation Management Association and the Merrimack Valley Chamber of Commerce to host an Access to Jobs Forum in September 2017 that gathered information from employers and employment agencies on transportation barriers that are preventing workers in the Valley from accessing jobs and to begin identifying potential solutions to these problems.

In 2017, the City of Lawrence expedited the removal of the abandoned railroad bridge as the first step in developing the Lawrence Rail Trail. The MVMPO had conducted a feasibility study for this proposed project for the City under its FFY 2014 UPWP.

Removing the bridge allowed the MVRTA to extend its Route 85 and serve the shopping and employment area that is adjacent to the old structure. The low 10-foot clearance for the old bridge had previously prevented MVRTA buses from serving that location.

This one component of the larger Rail Trail Project will make truck access to the area far more efficient and the revised bus service will provide employees with a far less costly option than relying upon cabs to get to work.

MVPC staff has continued to work with the Mount Washington Neighborhood Association in Haverhill and the Methuen Arlington Neighborhood group in Methuen to identify transportation projects and services that can improve residents' access to employment opportunities both inside the Merrimack Valley region and to adjacent areas. In FFY 2019, staff worked with the Mount Washington Neighborhood Association and the City of Haverhill to improve bicycle and pedestrian transportation in that section of the community and reviewed the neighborhood's accessibility to employment areas around the region via the MVRTA fixed route bus system.

Geographic Distribution of UPWP funded studies and Target TIP Projects

As part of the FHWA/FTA certification reviews, MPOs in TMAs are asked to prepare a chart showing the geographic distribution of PL funded studies by median income and municipality over the latest five-year (or longer) UPWP timeframe. Similarly, the MPO is asked to produce a chart showing the distribution (by municipality) of MPO-funded target projects over a similar timeframe. It is acknowledged that the timeframe is only a snapshot in time, however it would be informative to see the distribution of PL & Target funds in the MPO's region.

These analyses are contained in the [Geographic Equity Analysis](#) section of this document, which may be found on Pages 37-38.

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 recommends 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 restriping 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.

While there is insufficient funding available in the MVMPO's FFY 2016 RTP to support the construction of all the above improvements in the MVPC region, it is included as an Illustrative Project. However, it should be noted that some of the recommendations made in the MassDOT study are either being implemented or are included in the financially constrained section of the document. These are the signalization of the I-495 ramps to/from Massachusetts Avenue in North Andover and the replacement of the bridges that carry I-495 over the Merrimack River in the Ward Hill section of Haverhill. These latter two new structures will be built wide enough to carry four travel lanes in each direction on I-495 along with wider shoulders. An additional auxiliary travel lane will be provided on the I-495 northbound bridge to accommodate traffic that uses the Route 110 exit (Exit 49).

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 region is designated an Economic Development District (EDD) by the U.S. Economic Development Administration (EDA) of the Department of Commerce. EDA is the main economic development agency of the federal government and works with EDDs throughout the country to promote regional cooperation and job growth. MVPC is the designated liaison between EDA and the 15-community Merrimack Valley region and manages the Merrimack Valley Comprehensive Economic Development Strategy (CEDS) Program. In addition to producing the regional CEDS document, this program consists of; organizing regional CEDS meetings; public works grant assistance; information support through MVPC's regional demographic Data Portal, and the "We Are MV" economic development website. Recent activities in these areas are noted below:

- **Comprehensive Economic Development Strategy:** The 2018-2023 Merrimack Valley Comprehensive Economic Development Strategy (CEDS) is the guiding action plan and has been submitted and approved by the U.S. Economic Development Administration (EDA). The CEDS is funded primarily through an annual planning grant from EDA, which is the principal economic development agency of the federal government. EDA requires planning districts to update their CEDS once every five years and generate annual Performance Reports in between. The MVPC region has been designated an Economic Development District by EDA since 1986.

The 2018-2023 CEDS features an updated list of goals, objectives, and a plan of action. Implementation of the CEDS began as soon as the five-year strategy was completed in 2018. The four emergent issues – City and Town Centers, Manufacturing, Natural and Cultural Resources, and Transportation have their own set of priority tasks informed by regional stakeholders. The Merrimack Valley Planning Commission has

continued to implement the strategic plan laid out in the 2018-2023 Comprehensive Economic Development Strategy (CEDS). The COVID-19 Pandemic continues to cause large scale disruptions in nearly every economic sector, the impacts of which range from large employers unable to maintain workforce to small public-facing businesses having to face closures. MVPC continues to position itself as a go-to resource for all of our municipalities and others on our CEDS Committee. We continue convening leaders in the region to discuss issues, solutions, and share resources. MVPC serves as a clearinghouse for up-to-date information regarding business support programs at our website WeAreMV.com. The following are projects funded through our CEDS Program

- We Are MV: MVPC completed a full update of our economic development site, WeAreMV.com. This website serves as a clearing house for all relevant business support information. This was particularly essential as COVID-19 recovery programs were rolled out on the local, state, and federal levels. MVPC has been able to point businesses, municipalities, and other economic development stakeholders to this site to get connected to support services.
- 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. During the reporting period MVPC used this information to respond to business site selection requests from the City of Lawrence, Merrimack Valley Chamber of Commerce, and MassEcon. Additionally, we used the information to help communities see where existing vacancies are so they can target programming appropriately. MVPC plans to continue updating its non-residential available property inventory on a quarterly basis and distributing it to our regional partners.
- MVPC wrapped up its cultural planning project, *Merrimack Valley Place and Meaning 2020*. This project was MVPC's first foray into cultural planning, which was a need identified in our CEDS. We successfully partnered with Essex County Community Foundation (ECCF), Elevated Thought, Creative Community Builders, Lawrence History Center, and the Barr Foundation. MVPC now has a "Cultural Planning" page on our website MVPC.org which we produced to highlight all the cultural planning work done from 2018 to 2020 and advertise that it is now a standard area of practice that we provide.
- *Merrimack Valley Place and Meaning 2020* produced two products for the region's benefit. See our Cultural Planning work here: <https://mvpc.org/cultural-planning/>. The first is an 85-page Expression Book made up of original artwork

submitted from artists throughout the region. The artwork is of things that they love about the Merrimack Valley like parks, natural scenes, neighborhood paintings, and short stories. Artists were compensated for their work with a generous grant from ECCF. The book was distributed to partners throughout the region and was celebrated as an inspiring piece that beautifully highlighted the region's cultural and natural resources.

The second product was a Cultural Asset Map of the Merrimack Valley. Through a digital outreach strategy, we asked the public to contribute places, events, and things in their communities that had important cultural meaning to them. This crowd-sourced effort yielded over 150 different assets, which we then mapped as a GIS data layer available for public use. MVPC has started using this data in other planning activities as it increases our understanding of important places in our community. Protecting and preserving our cultural resources was a priority in our CEDS Strategy as was partnering with ECCF on a cultural planning project.

- **Regional Housing Planner:** In 2019 MVPC began implementing the recommendations that were identified in its, first-of-its-kind, Regional Housing Production Plan for the Merrimack Valley. Through a grant from the Executive Office of Energy and Environmental Affairs the MVPC Community and Economic Development Department has taken on the role of Regional Housing Coordinator to address the strategies identified in the Region Housing Production Plan and in each individual Housing Production plan.
 - **Monitoring:** Merrimack Valley Planning Commission staff finished updating the Regional Subsidized Housing Inventory. MVPC worked with DHCD to acquire the 2020 list of SHI units in each municipality. Once acquired MVPC staff consolidated the lists and found addresses for over 95% of the units. MVPC's GIS/IT team successfully added them as a GIS layer for our communities to use pursuant of other planning projects like, transit planning, master planning, and municipal vulnerability preparedness work. Affordable units at risk of expiring within the next two years are flagged so communities can prepare to preserve them or plan to create new SHI units. This map is available for public use on our website at <https://mvpc.org/economic-development-viewer/>.
 - **Regional Activities:** A leadership change precipitated MVPC to change the size and scope of the Affordable Housing Forum originally planned with the Northern Middlesex Council of Governments. MVPC is still moving forward with a Housing Forum, but a much more targeted one, focused on North Andover. The Town of North Andover is faced with a Housing Moratorium vote in June. Because of this MVPC partnered with the Mass Housing Partnership and the Town of North Andover to host a Community Housing Forum targeted at residents. The goal of this housing forum is to educate the public about housing best

practices, inform the public about local housing development projects, and provide a feedback mechanism where the public can communicate what housing policies they want to prioritize.

- Local Support: MVPC successfully developed a refined Priority Housing Development Site Analysis for the City of Methuen. Now renamed the Downtown Investment Guide, MVPC is working with Methuen to highlight opportunities for housing and mixed-use development/redevelopment in its downtown. MVPC is creating a GIS-based Story Map which will showcase where recent public and private investments are taking place, identify local zoning and incentive zone, identify relevant environmental parameters, identify parking and transportation infrastructure, and finally show where opportunities are in the downtown for further housing-driven investment.
- **Lawrence:** Through our partnership with the Economic Development Agency and the City of Lawrence we were able to develop, secure, and administer a \$850,000 grant for Lawrence Partnership's Revolving Test Kitchen, a food business incubator.
- **EDA CARES Act:** Through our partnership with the EDA MVPC was awarded a CARES Act grant to accomplish four things:
 - Update the Merrimack Valley Comprehensive Economic Development Strategy (CEDS) Recovery and Resiliency Section
 - Identify and Develop EDA-Eligible Economic Development Projects within the Region
 - Develop Additional Capacity for Disaster Resiliency Planning
 - Provide Technical Assistance to Impacted Businesses

Targeted Economic Development Strategy: In Partnership with Essex County Community Foundation, the City of Lawrence, and the Towns of Andover and North Andover the Merrimack Valley Planning Commission was awarded \$150,000 for the implementation of a Targeted Economic Development Strategy for the three communities impacted by the Columbia Gas Disaster. Since this award, MVPC expanded its economic development staff by hiring a full-time Targeted Economic Development Specialist, a new economic development position. This expanded capacity allows us to implement the *Targeted Economic Development Strategy (TEDS)* and build economic development capacity in the region, specifically in the Columbia Gas Impacted communities of Andover, North Andover, and Lawrence. To date we have identified a list of midsize and large employers in targeted key high-wage industries like manufacturing. We have begun conducting outreach to these businesses with the goal of building relationships with the business leaders and the municipalities and identifying common pain-points they are experiencing. Management and coordination of this work is led by MVPC's

Community and Economic Development Planner, which is funded by the EDA Planning Grant. The regional need for the position has been clear for a long time and was identified as a high priority item in our CEDS. Additionally, the EDA funded Lawrence Textile Feasibility Report helped highlight the economic development capacity gaps that exist on the regional level.

Housing Development Plan

In 2018, the Merrimack Valley Planning Commission (MVPC) completed the first Regional Housing Plan for the Merrimack Valley using funds from the Commonwealth Community Compact Cabinet and MassHousing programs. The goal for the plan was to develop a strategy for meeting the housing needs of today's and tomorrow's residents in the region.

Key products included the development of Housing Production Plans for 14 of the 15 cities and towns in the Merrimack Valley region (excluding Georgetown). Using current data, populations projections, and state-of-the-art mapping, the Merrimack Valley Planning Commission worked collaboratively with each community in the region to understand their housing needs, set goals, and craft appropriate, tailored strategies that address their needs over the next five years. A key product of this analysis was the identification of Potential Housing Locations in each community where additional housing units may be built, and their status (i.e., Conceptual, Permitted, Building Permitted).

The community Housing Production Plans that were developed through this process were subsequently adopted by each community's Planning Board and City Council or Select Board.

Transportation Planning Program Funding for FFY 2022 UPWP

The transportation planning tasks and activities in the FFY 2022 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 2022 UPWP will be provided through a new one-year contract between MassDOT and MVPC that will begin on October 1, 2021 and terminate on September 30, 2022.

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 26, 2021, 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 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, 2021 through September 30, 2022. In developing the FFY 2022 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 2022 UPWP will be performed by either the MVPC or private consultants through the contracts described above.

Transportation Planning Factors Considered Under the FAST Act

The FAST Act includes 10 planning factors that 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 2022 UPWP address each of them:

FAST Act Planning Factors in the MVMPO FFY 2022 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 FY 2022 (July 1, 2021 – June 30, 2022)		
<u>Source - Non Transportation</u>	<u>Amount</u>	<u>% of Total</u>
Economic Development Administration (EDA)	\$100,000	4.0%
CMMS - Annual Maintenance	22,250	0.9%
EDA Revolving Loan Fund	25,000	1.0%
EDA - CARES Act	228,000	9.2%
National Wildlife Federation - Sandy #2 Funds	204,500	8.2%
CZM Mass Bays N. Shore LGC/Greenscapes	65,500	2.6%
Mass. Department of Housing and Community Development District LTA	112,767	4.5%
Stormwater Coalition Assessment	3,000	0.1%
Mayor's Coalition Energy & MVMB Update	2,000	0.1%
EPA Brownfields Revolving Loan Fund	278,000	11.2%
EPA Brownfields Assess. Haz & Pet	24,000	1.0%
Pictometry	48,639	2.0%
Local Technical Assistance	75,086	3.0%
Lawrence Partnership - Revolving Test Kitchen Admin.	10,000	0.4%
DOER - AARC	19,840	0.8%
Essex County Community. Foundation. - TEDS	85,500	3.4%
DEP - 319 Non-Point source Pollution	55,556	2.2%
Misc. GIS and Local Contracts	65,000	2.6%
TOTAL (Non Transportation)	\$1,424,638	57.2%
<u>Source - Transportation</u>		
FHWA/MassDOT-PL	\$965,000	38.8%
FTA/MVRTA (Section (5307)	100,000	4.0%
TOTAL (Transportation)	\$1,065,000	42.8%
MVPC TOTAL	\$2,489,638	

Source: MVPC's FY 2022 Budget #1: July 1, 2021 – June 30, 2022* (Approved 2/18/21)

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Geographic 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: The second column shows the number of studies undertaken in each community. 45% of the studies conducted between 2015-2022 have been (will be) in those communities that represent 54% of the population of the Merrimack Valley or 34% of the Federal Aid roadway miles.

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 2014-2018) in order to identify which ones were located in low-income and minority block groups. A block group is considered minority if it has a higher percentage of minorities than the regional average. A block group is considered low-income if the median income of the block group is 65% or less than the regional average.

A total of 70 transportation studies have been included in the MVMPO's UPWPs between FFY 2015 and 2022. Of those studies, 50% were (or will be in FFY 2022) conducted in or adjacent to Title VI/EJ block groups. It should be noted that these figures will change over the course of the FFY 2022 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 between 2015-2017 with Equivalent Property Damage Only (EPDO) scores of ≥ 118 . 80% of the crash clusters occur in the Merrimack Valley's largest cities of Haverhill, Lawrence and Methuen. During the time period between 2015-2022, 31% of the studies were undertaken at high crash locations. The majority of these studies are also in low income or minority block groups. 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 takes into account those studies during the time period 2015-2022. The MVMPO previously has studied many of the high crash locations identified in MassDOT's 2015-2017 Crash Cluster list prior to FF 2015.

**Equity Analysis
FFY 2015-2022 UPWP Studies and Technical Assistance**

Community	# Regional/ Local/ Sub- regional UPWP Studies	# Studies Located in/adjacent to a low-in- come or minority Block Group¹	Federal-Aid Roadway Centerline Miles (2015)	Total # Crash Clusters²	# Studies in Crash Clus- ter	Total Population¹
Amesbury	4	1	32.98	0		17,378
Andover	2	1	78.02	2		35,609
Boxford	1		27.43	0		8,270
Georgetown	1		20.43	0		8,649
Groveland	2		17.31	1		6,749
Haverhill	9	4	79.88	10	2	63,280
Lawrence	14	14	41.54	29	13	79,841
Merrimac	1		15.95	0		6,839
Methuen	9	7	58.14	10	3	50,019
Newbury	3		27.11	0		7,031
Newburyport	10	2	23.09	1		17,990
North Andover	5	4	41.9	7	3	30,589
Rowley	1		19.4	1	1	6,298
Salisbury	1		28.22	1		9,209
West Newbury	5		19.59	0		4,581
Regionwide	2	2				
Total	70	35	530.99	62	22	352,332

¹ Number of studies located in or adjacent to low-income or minority Block Groups

² MassDOT Crash clusters from 2015-2017 with EDPOs of 118+.

³ Based on data from American Community Survey 2014-2018.

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

Jennifer Dunlap, Accountant

Betsy Goodrich, Transportation Planner (100%)

Jenifer Hughes, Environmental Planner (20%)

Anthony Komornick, Transportation Program Manager (100%)

Nancy Lavallee, Administration

Steve Lopez, GIS Specialist (40%)

Mikayla Minor, GIS Specialist (40%)

Dan Ovalle, Data Collection Specialist (100%)

Peter Phippen, Environmental Planner (10%)

Nate Robertson, Economic Development Planner (10%)

James Terlizzi, Senior Transportation Planner (100%)

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**Merrimack Valley Planning Commission Transportation
Studies, Analyses and Technical Assistance**

Local Technical Assistance Projects

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

<p>Three Roads Intersection Study in Newburyport (2021) Turkey Hill Road Truck Exclusion Study in Newburyport (2021) Broadway/Daisy St. RSA in Lawrence (2021) Tyler St./Route 113 Intersection Study in Methuen (2020) Route 125/Primrose St./Marsh Ave RSA in Haverhill (ongoing) Park St.to Park St. Ped. Study in Law. And Methuen (2020) Rte 1/Rte. 1A/Rte. 110 Intersection RSA in Salisbury (ongoing) Lawrence St./Route 110 Int. RSA in Lawrence (ongoing) I-93/I-495 Interchange RSA (ongoing) Railroad Ave./Merrimack St./Moulton Way RSA (ongoing) Route 28/Lowell St. RSA in Lawrence (ongoing) Route 110/Lowell Ave./McDonalds Dr. RSA in Haverhill (2017) Route 28/Route 213 Ramps RSA in Methuen (2016) Route 1 Rotary Health Impact Assess. In Newburyport (2016) Park St./Lawrence St. RSA in Lawrence (2014) Lawrence Project Development (2013) I-495 Ramps/Mass. Ave. Intersect. Study, N. And. (2014) Marston's Corner Intersection Study, Methuen (2013) Haverhill St. Corridor Study, Methuen (2013) M&L Branch Trail Feasibility Study, Lawrence (2012/3) Lafayette Square Safety Study, Haverhill (2012) Rte 113/Rte 95 Interchange RSA, Newburyport. (2012/3) Rte 213/Rte 28 Interchange RSA, Methuen (2012/3) Rte 1/Merrimack St. Intersect. RSA, Newburyport (2012/3) Elm St./Rte 1 Intersection Study, Newbury (2012)</p>	<p>Broad St./Rte 495 Interchange Study, Merrimac (2012/3) Route 28 Congestion Analysis, Methuen (2012) Merrimack River Trail Reconnaissance Study (2011) Milk St./Route 113 Intersection Study, Methuen (2011) Georgetown Branch Rail Trail Feasibility Study (2011) Andover St./Rte. 114 RSA, Lawrence (2011) Water St./Broadway RSA, Lawrence (2011) MVMPO 2012 Regional Transportation Plan (2011) Winter St/White St. Intersect. Study, Haverhill (2010) Georgetown Square Intersection Study (2010) Route 1/Route 133 Intersection Study, Rowley (2010) Merrimac St/Spofford St Study, Newburyport (2010) Rte. 114 Corridor Study, Lawrence/N. Andover (2010) Ames St./Haverhill St. Intersection Study (2009) Main St. Corridor Study, Haverhill (2009) Chickering Rd/Mass. Ave. North Andover (2009) Elderly Transportation Plan Update (2009) Route 125 Build Out Analysis, North Andover (2008) Disabled Transportation Plan (2008) MVMPO 2007 Regional Transportation Plan Lowell Junction IJS, Andover (2006) Rte. 1/March Rd. Intersection Study, Salisbury (2005) Rte. 125/Merrimack Street Intersection Study (2005) Route 93 Corridor Traffic Study (2005)</p>
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Acronyms Used in Draft FFY 2022 UPWP

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

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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 RTP), 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

MVPC staff has prepared 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. This task also provides resources for MVPC staff to attend meetings of the Transportation Program Managers and to review major transportation programs and documents prepared by state, and federal agencies.

MVPC also uses this task to participate in many transportation planning studies that are being conducted in adjacent regions or supporting groups associated with the implementation of major roadway, bridge or transit projects.

In FFY 2017, FHWA and FTA jointly conducted the Planning Certification Review for the Merrimack Valley MPO. MVPC staff has continued to address the recommendations and findings coming from that review including its adoption of the Boston Urbanized Area Memorandum of Understanding in December 2018 and the Performance Based Planning Agreement in May 2019. This work will continue to take place not only under Task 1.1 but in other tasks included in this document. The Merrimack Valley MPO also worked cooperatively with FHWA and FTA to conduct a Planning Certification Review in May 2021.

At the local level, staff is a member of and attends Haverhill Traffic and Safety Committee and Newburyport Traffic and Safety Committee meetings.

FFY 2022 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 2021 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 2021 Annual Report. This latter document will be prepared in the period from December 2021 through March 2022.
- 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.

Staff will continue to attend meetings of working groups, task forces and committees that are involved in the development of transportation projects in the region and the completion of planning studies. Recent examples of such groups include the Tri-Community Planning Task Force, Tri-Town Project Coordinating and Participating Agency Group, and the Whittier Bridge Project Working Group.

- 1.1.7 *Attend Transportation Program Managers 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, which generally occur 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.
- 1.1.10 *Review MVMPO MOU:* As noted under Previous Work, the MVMPO adopted the new Boston Urbanized Area Memorandum of Understanding and the Performance Based Planning Agreement in FFY 2019. The former agreement reflects the results of the 2010 Census and includes all state DOTs and the transit operators while the latter identifies the responsibilities of MassDOT, the Regional Transit Authorities, and the MPOs in implementing the Performance Management provisions that have been established by USDOT. Under this subtask, MVPC staff will review the existing MVMPO MOU to determine whether it should be amended to reflect the new requirements and relationships created by these two other agreements.

Products/Schedule

Task(s)	2021			2022								
	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												
Local Committees												
North Boston UZA Mtg.												•
MVMPO MOU			•									
	• Product/Event											

Funding

Funding for Task 1.1 Program Management and Support		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	585	\$92,843
FTA Section 5307 / MVPC	45	\$5,760
TOTAL	630	\$98,603

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 and its Nondiscrimination Working Group, the MVPC, and the MVRTA Advisory Board. However, MVPC-sponsored meetings of local elected officials, the Merrimack Valley Mayors and Managers Coalition (MVMCMC) 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, which was subsequently updated by the MPO in 2010. Under the FFY 2016 UPWP, staff completed major revisions to the above document. Many of these 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 2021 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 2022 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 the FAST Act, any successor federal transportation authorization legislation, 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):* Staff will completed its evaluate the effectiveness of specific PPP components to the MVMPO's 2016 PPP, as amended, and make revisions, as needed. The revised MVMPO PPP will also consider the elements of MassDOT's PPP, which is expected to be completed later in 2021. Included will be provisions that outline the MPO's use of virtual public involvement strategies/procedures both during emergencies such as what was observed in the COVID-19 Epidemic and as part of the MPO's standard public outreach process.
- 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 *Distribute Required Documents:* MVPC staff will distribute TIP, RTP, and UPWP documents as well as any amendments to these documents in a manner consistent with the MVMPO PPP.
- 1.2.5 *Host Meetings of Merrimack Valley Mayors and Managers Coalition and Area Legislators:* MVPC staff will host and/or attend these meetings to discuss important transportation issues.
- 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/Nondiscrimination Working Group:* Provide for and actively encourage public and private participation in the 3C planning process

through the Merrimack Valley Transportation Committee (MVTC) and the MVTC Nondiscrimination Working Group.

- 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:* MVMPO staff will continue to update and maintain the transportation content at www.mvpc.org and the MVPC Facebook Transportation page.

Products/Schedule

Task(s)	2021			2022								
	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	•			•			•			•		
MVMPO Meetings	•	•	•	•	•	•	•	•			•	•
Attend Other MPOs												
Trans. Web Pages												
	• Product/Event											

Funding

Funding for Task 1.2 Public Participation Process		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	616	\$86,250
FTA Section 5307 / MVPC	0	\$0
TOTAL	616	\$86,250

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.

Previous Work

MVPC staff produced draft and final versions of previous MVMPO UPWPs. FFY 2021 also saw adoptions of one amendment and ten adjustments to the MVMPO's FFY 2021 UPWP.

FFY 2022 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 2022 UPWP for the region. The MVPC will also amend the FFY 2022 document as needed to reflect changes that may occur during the program year.

Tasks

- 1.3.1 *Develop FFY 2023 Unified Planning Work Program:* The MVPC will develop the FFY 2023 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, National Transit, Inc. or other parties.
- 1.3.2 *Amend/Adjust FFY 2022 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)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Draft/Final 2022 UPWP							•	•				
Amend 2021 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	139	\$21,083
FTA Section 5307 / MVPC	0	\$0
TOTAL	139	\$21,083

Task 1.4 - Transportation Improvement Program (TIP)

Description

The TIP serves as a multi-year document that lists and briefly describes all federally funded transportation projects that are programmed for implementation in the region. Federal planning regulations require that 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. In addition to this project listing, MPOs must demonstrate in the document that there is sufficient funding available to construct these projects and that the existing transportation infrastructure is being adequately maintained.

Previous Work

MVPC staff worked in cooperation with MassDOT's Highway Division District 4 and its Office of Transportation Planning to produce the FFYs 2021-2025 TIP including the application of the Transportation Evaluation Criteria to projects being considered for inclusion in that document.

MVPC staff also continued to update its database of roadway and transit projects that was used to develop the MVMPO's Draft FFYs 2021-2025 TIP. Staff completed qualitative or quantitative assessments of each TIP project's Greenhouse Gas (GHG) Emissions and endorsed 16 amendments to the FFYs 2021-2025 TIP.

For transit projects, the region's FFYs 2021-2025 TIP was developed using MassDOT's *GrantsPlus* project tracking and grant management system, which is also being used in the development of the region's FFYs 2022-2026 TIP. The *GrantsPlus* system relies on the Regional Transit Authorities to provide MassDOT with the capital projects they propose to build over the next five fiscal years using FTA Section 5307 and Section 5339 federal funds and state matching funds. These 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.

In preparing the MVMPO's FFYs 2021-2025 TIP and FFYs 2022-2026 TIP, staff also employed MassDOT's eSTIP template which provides MPO's with improved access to the Department's project information database.

FFY 2022 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 2023-2027 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

1.4.1. *Develop Five-year Program of Projects:* In developing the Draft FFYs 2023-2027 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. In addition to this list of federally funded projects, the TIP will include:

- 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.

1.4.2. *Preparation of MVMPO Region Draft FFYs 2023-2027 TIP:* The following tasks and procedures will be performed by the MVPC transportation planning staff in developing the Draft FFYs 2023-2027 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 2023-2027 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 2023-2027 elements of the document, and
- i. Description of how Performance Measures are included in the FFYs 2023-2027 TIP.

1.4.3. *Amendments to MVMPO’s FFY 2022-2026 TIP:* The MVMPO will endorse amendments to the region’s FFYs 2022-2026 TIP as needed throughout FFY 2022.

1.4.4. *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.

1.4.5. *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.

- 1.4.6. *CMAQ Consultation Committee:* Under this task, MVPC staff will prepare CMAQ project descriptions and complete mandated Air Quality impact evaluations needed by the state’s CMAQ Consultation Committee. MVPC staff will also review the project descriptions, Air Quality analyses, and other materials to be considered by the state’s CMAQ Consultation Committee and attend/participate in Committee meetings.
- 1.4.7. *Publish List of Projects for Which Federal Transportation Funds Were Obligated in FFY 2021:* By December 31, 2021, the MVMPO will develop and make available to the public a list of the transportation projects that federal funds were obligated to in FFY 2021.
- 1.4.8. *Continue to Support Regional Bike Parking and ADA Ramp/Sidewalk Programs:* In some years, substantial amounts of MVMPO Target funds are not obligated in the region’s TIP. Given the need to improve bicycle parking facilities in the region and improve sidewalks, it may be possible for the MVMPO, working in cooperation with local officials, to develop programs that could channel these funds to such projects. MVPC staff will continue to work with District 4 staff and the Office of Transportation Planning to identify the type of projects that could be developed to make use of any available MPO Target funding.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Draft 2023-2027 TIP							•					
Final 2023-2027 TIP								•				
Amend 2022-2026 TIP												
Reports on Projects												
Evaluation Criteria						•						
CMAQ Anal./ Committee												
List of Obligated Projs.			•									
Bike & Ped. Projects												
	• Product/Event											

Funding

Funding for Task 1.4 Transportation Improvement Program		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	481	\$64,984
FTA Section 5307 / MVPC	0	\$0
TOTAL	481	\$64,984

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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**). For FFY 2022 and beyond, staff proposes to 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

In FFY 2015 the MVPC Staff continued implementing Title VI/EJ/LEP monitoring and outreach activity improvements recommended at the MPO's April 2013 Certification Review. It also met with MassDOT's Office of Diversity and Civil Rights in Winter 2015 to review MVMPO progress in achieving MassDOT-recommended FFY 2014 tasks and to receive MassDOT's FFY 2015 Title VI Work Plan. A Title VI Workplan update was completed in FFY 2017.

MVPC Staff submitted a Title VI Annual Report to MassDOT in December 2018, met with the MVMPO's Equity Working Group in 2018 and began updating the Language Assistance Plan, which calls for the MPO to produce key planning documents in three languages: English, Spanish, and Traditional Chinese.

MVPC Staff also provides annual Title VI reviews to MassDOT, with a draft version of the most recent update being completed in May 2021.

FFY 2022 Activities

MVPC Staff proposes to implement its FFY 2022 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. MVPC Staff will continue coordinating with other Massachusetts

MPOs to share nondiscrimination best practices information and will arrange for in-house trainings and meetings as requested by MassDOT.

- 1.5.2 *Data Collection and Monitoring Regional Protected Population Facts/Trends:* MVPC Staff will continue to update its socioeconomic data including data for the region's protected populations and will provide this information in its regular reporting cycles to MassDOT. The MVMPO staff will continue to monitor the low-income definition standard.
- 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 FFYs 2022-2026 TIP and FFY 2022 UPWP affect the region's minority, low-income, limited English-proficient, and other protected populations.
- 1.5.4 *Translating MVMPO Documents/Materials:* MVPC Staff will continue to translate all or portions of its documents and will continue preparing process or document Fact Sheets in Spanish and in Traditional Chinese. It will also continue to post materials in languages other than English on electronic media and hard copies at various locations. It will conduct this task in accordance with the MVMPO Public Participation Plan.
- 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)	2021			2022								
	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 Grps.												
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	180	\$25,705
FTA Section 5307 / MVPC	0	\$0
TOTAL	180	\$25,705

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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.

Previous Work

In FFY 2018, collected information on proposed, planned, permitted, and built developments in the region which MassDOT, MAPC and the UMass Donahue Institute used to develop the socioeconomic projections that were used in the MVMPO's FFY 2020 RTP. Staff also participated in MassDOT's Socioeconomic Projections Committee, which met monthly since Autumn 2017, to review socioeconomic data and provide input into the process of developing these projections.

Under the FFY 2019 UPWP, the MVMPO completed preparation of the region's FFY 2020 RTP. The MVMPO's FFY 2020 RTP 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 2022 Activities

The Merrimack Valley MPO must prepare and endorse a new Metropolitan Transportation Plan in Spring/Summer 2023. A critical element in this process will be the development of socioeconomic projections that will be used to help forecast mid and long-range travel demand in the region. MassDOT's Office of Transportation Planning will again be working with the Collins Socioeconomic Center at UMass and MAPC to develop these population and employment forecasts. To assist and offer guidance in this effort, MassDOT anticipates reconvening its Socioeconomic Projections Committee, which will include staff from all the regional planning agencies in the Commonwealth. It is anticipated that this group will begin meeting in Summer 2022.

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

As part of the above process, the MVMPO will continue to monitor the status of development projects and proposals in the region.

Tasks

- 1.6.1 *Monitor Status of Local Development Projects and Proposals:* Staff will continue to work with community planners, development directors and planning boards and use other sources to track the progress of proposed, planned, approved and built developments around the region.
- 1.6.2 *Socioeconomic Projections:* MVPC staff will participate in MassDOT’s proposed process for developing socioeconomic projections for the MPOs in the state that will be included in the MVMPO’s FFY 2024 MTP. It is anticipated that MassDOT will reconvene its Socioeconomic Projections Committee to work closely with the MPOs to ensure there is input from all regions in developing these projections. MVPC staff will monitor the progress of this committee and provide data and other inputs as needed.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Monitor Developments												
Socioeconomic Proj.												
● Product/Event												

Funding

Funding for Task 1.6 Regional Transportation Plan		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	62	\$9,374
FTA Section 5307 / MVPC	0	\$0
TOTAL	62	\$9,374

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.

Previous Work

During the 2020 traffic counting season (i.e. April – November), MVPC completed approximately 100 traffic volume counts. However, unlike previous, pre-COVID years, the 2020 traffic counting program focused on measuring the degree to which the pandemic was affecting traffic volumes in the region. Staff conducted ATR counts at 30 locations on heavily traveled routes throughout the region where recent pre-COVID volume data had recently been collected. The data collected in 2020 was then compared to the pre-COVID volumes to estimate the degree to which the traffic volumes had changed as the region's economy began to rebound from the pandemic. This data collection program continued during the 2021 traffic counting season.

FFY 2022 Activities

Under this year's UPWP, MVPC again anticipates conducting approximately 100 ATR traffic counts. The counts taken in September through November 2021 will be at the 30 locations where staff collected volume data in 2020 as staff continues to monitor how traffic volumes in the region change as COVID related restrictions are lifted. In early 2022, MVPC staff will work with MassDOT staff in determining if the agency should return to its pre-COVID data collection program. In addition, MVPC staff is seeking to obtain equipment that will allow it 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 2022 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 2022 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 collect bicycle and pedestrian counts 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 data-base.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
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	1,063	\$93,344
FTA Section 5307 / MVPC	0	\$0
TOTAL	1,063	\$93,344

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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.

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. This data was used 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 MVPC entered into an agreement to upgrade its regional pavement management system to Cartegraph's newer Operations Management System (OMS) software platform. 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 2022 Activities

MVPC will focus on managing and updating data on the condition of pavement on federal aid arterial and collector roadways in the region. And as has been the case for many 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.

Staff will also supplement the data that it collected in 2018 for the FFY 2020 RTP with new information on the condition of federal-aid roadways that becomes available during the year.

2.2.2 *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.

2.2.3 *Attend Meetings of the Pavement Management Users Group:* While this group has not met in recent years, the need for it to begin meeting again has been discussed at many Transportation Program Managers’ meetings. Staff will attend these meetings should this occur.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Update MVPC Program												
Community Assistance												
Users Group Meetings												
●Product/Event												

Funding

Funding for Task 2.2 Pavement Management Studies		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	202	\$25,901
FTA Section 5307 / MVPC	0	\$0
TOTAL	202	\$25,901

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.

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:

- *Traffic Viewer* for the MVPC website, which allows the public to access the MVPC's traffic counting and crash databases;
- 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 local workers in the field to manage data on catch basins, location of bus route signs 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, and
- Mapping location of stormwater outfall pipes along public roadways.

In addition, MVPC worked with 14-member communities and one New Hampshire community to contract with Pictometry (now Eagleview) for a spring 2017 flyover of the area to acquire new digital aerial imagery. This effort was expanded in FFY 2020 as MVPC coordinated a spring 2020 Eagleview flyover that included all 15 member communities as well as two in New Hampshire (Plaistow, Seabrook). In 2020 and 2021, staff began to examine the other options for acquiring aerial imagery.

In FFY 2020 and FFY 2021, GIS Staff took a lead role in both working with MVPC Transportation Staff and Cartegraph to develop a new agreement that provides the Commission access to Cartegraph's OMS Pavement Management Software and to integrate MVPC's pavement related databases into the new platform.

FFY 2021 also saw MVPC make strides in linking its transportation GIS data layers to its Municipal Information Mapping Access Program (MIMAP). MIMAP is an internet-based GIS service that enables the user to access the wealth of GIS data archived at MVPC and through the state's GIS office and is currently used by 14 communities in the MVMPO region.

FFY 2022 Activities

MVPC will continue to review any new road centerline files or Road Inventory Files 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 trail maps based on georeferenced data and information received from the communities.

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 *Road Inventory Line File Updates:* MVPC will continue to incorporate the latest Road Inventory File information from MassDOT into its GIS database.

Staff will also continue to work with MassDOT to develop and implement a process by which MVPC can assist communities in submitting the data needed to update their RIF information.

2.3.3 *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.

- 2.3.4 *Eagleview Data and Software Technical Support:* MVPC staff will continue to 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.
- 2.3.5 *Eagleview Workshops:* MVPC staff will hold workshops for local officials on how to use both the Electronic Field Study software to access and manage the community and neighborhood level imagery provided through Pictometry.
- 2.3.6 *MVRTA Bus Route Data Layer:* Any changes in the structure of the MVRTA’s fixed route system will need to be reflected in a revised bus route data layer. GIS staff will complete any such revisions under this year’s UPWP.
- 2.3.7 *Maintain Active Transportation and Trails Datasets:* Under previous UPWPs, MVPC staff developed a series of community off-road trail maps that shows the locations of key trails on publicly accessible land. In addition, MVPC staff have collected data on sidewalks, Complete Streets and the active transportation network, which it will continue to maintain and update.
- Similarly, staff will update the information shown in its Regional Trails and Active Transportation Story map.
- 2.3.8 *Maintain/Update Traffic Counting Viewer:* GIS staff will update its public facing web viewer to facilitate public engagement and outreach in the transportation planning process. RTP and TIP projects along with Census demographic data will be displayed along with other data including traffic count locations and volumes as well as trail routes (on-road and off-road). Data in the viewer will be accessible to the public and interactive for mapping and analytical purposes. Staff will also investigate options for further integrating the Viewer with MassDOT MS2 database.
- 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:* MVPC GIS Staff will 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 2022 Guidance. These subject areas include:
- Mobility
 - Asset Management
 - Resiliency
 - Safety
 - Economic Development
 - Title VI and Environmental Justice
 - Transit
 - Affordable Housing
 - Vehicle/Bike/Pedestrian Counts

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maintain Database												
Road Inventory File												
State GIS User Group												
Pictometry Support												
Pictometry 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		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	1,228	\$115,084
FTA Section 5307 / MVPC	118	\$18,400
TOTAL	1,346	\$133,484

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.

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 2022 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)	2021			2022								
	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	201	\$25,539
FTA Section 5307 / MVPC	0	\$0
TOTAL	201	\$25,539

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.

Previous Work

In FFY 2016, MVPC prepared a Regional Park and Ride Lot Study, which reviewed the demand for park and ride lot capacity, facility ownership/operation, parking charges, potential sites for new lots, expansion options for existing facilities, and issues that are affecting demand at the existing facilities.

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.

Also in FFY 2017, the MVMPO designated almost four miles of Critical Urban Freight Corridor in the region. With this designation, these designated roadways would become eligible to receive funding under the FAST Act's National Highway Freight Program (NHFP) and under the "Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies" (FASTLANE) Grants Program (Nationally Significant Freight and Highway Projects Program).

FFY 2022 Activities

For the FFY 2022 UPWP, MVPC will undertake the following task in support of improving intermodal connections and the movement of freight in the Valley:

Tasks

- 2.5.1 *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. •

2.5.2 *Review MassDOT Park and Ride and MBTA Station Counts:* MassDOT will be performing annual counts at these locations. MVPC staff will review this information to determine the level of demand at these lots as well as their general conditions. MassDOT is also available to count these intermodal locations in the MVMPO region on a more frequent basis.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Develop NHS Projects												
Review Quarterly Data			•			•			•			•
	• Product/Event											

Funding

Funding for Task 2.5 Intermodal Connections with NHS		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	63	\$8,182
FTA Section 5307 / MVPC	0	\$0
TOTAL	63	\$8,182

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.

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 2022 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)	2021			2022								
	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	36	\$4,297
FTA Section 5307 / MVPC	0	\$0
TOTAL	36	\$4,297

Task 2.7 - Bicycle/Pedestrian/Water Trails Planning

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.

Previous Work

In FFYs 2020-21, MVPC updated the Merrimack Valley Active Transportation Plan, a document intended to both guide the further development of the bicycle and pedestrian network in the Valley and assist communities in improving the condition and safety of their bicycle and pedestrian facilities.

In FFYs 2015 through 2017, MVPC worked in cooperation with MassDOT and the Haverhill Police Department to implement an innovative program that tracks the behaviors of motorists, bicyclists and pedestrians. The results from this program and those from elsewhere in the state will be used to develop future outreach programs that are intended to promote bicycle and pedestrian transportation.

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. This data is being used by communities to create maintenance plans and complete streets programs and prioritization plans.

Under the FFY 2021 UPWP, MVPC Staff hosted meetings of local officials from Haverhill and Groveland to support the continued development of along the former Georgetown Branch railroad right of way, and from Salisbury, Newbury, Georgetown and Boxford to support the continued the Border to Boston. Representatives from MassDOT also participated in this latter meeting. Staff also worked with MassDOT to initiate the development of a multiuse trail along Route 110 that would link the cities of Lawrence and Lowell.

FFY 2022 Activities

The primary effort under this task in FFY 2022 will be the implementation of the findings and recommendations contained in the 2021 Merrimack Valley Active Transportation Plan. Any project recommendations made under this task will consider the requirements of MassDOT's Healthy Transportation Directive.

MVPC staff will also continue to assist communities in developing multi-use trails. This will include supporting community efforts to map these facilities.

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 Border to Boston Trail:* MVPC will continue to work with local trails groups and MassDOT in support of the effort to complete 25% and 100% design plans for the remaining portions of the Border to Boston Multiuse Trail.
- 2.7.3 *Technical Assistance to Communities for Trails in Development:* MVPC will provide technical assistance on other off-road trail projects including the Georgetown Branch Trail, extension of the Bradford Rail Trail, Methuen Rail Trail, Merrimack River Trail, Shawsheen River Trail and Lawrence Rail Trail. It will also encourage communities to undertake activities that support the development of projects that appear on the Bay State Greenway.
- 2.7.4 *Attend Meetings of the Coastal Trail Coalition and Other Local Bicycle, Pedestrian and Water Trail Groups:* MVPC staff will attend meetings of the Coastal Trails Coalition, Haverhill Trails Committee and other local and/or regional groups to foster coordination between the various bicycle and pedestrian planning efforts across the region and to provide technical assistance and advice to groups and organizations as they seek to implement improvement projects.
- 2.7.5 *Implementation of the 2021 MVMPO Active Transportation Plan:* The 2021 Active Transportation Plan for the MVMPO updates the 2015 document to reflect the development of new projects, the recommendations for the Merrimack Valley contained in MassDOT's Bicycle and Pedestrian Plans, and the projects/connections contained in the many Complete Streets programs now being implemented in the region. MVPC staff will work with state and local officials to implement off- and on-road bicycle and pedestrian facilities and infrastructure.
- 2.7.6 *Assist City of Lawrence in Completing Resilient Corridors Plan:* Through funding provided by the Robert Wood Jones Foundation, Groundwork Lawrence and the Conservation Law Foundation will develop Resilient Corridors "to facilitate access and connections to critical destinations in the community where people can access resources like healthy food, parks and green spaces, shade, community and health centers, and schools". MVPC staff will support this project by providing transportation planning technical assistance and sharing transportation data.
- 2.7.7 *Maintenance of Regional Bikeability Index:* Staff will work with MassDOT and area cyclists to refine and where necessary update the Regional Bikeability Index.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Program Review												
Border to Boston Trail												
Technical Assistance												
Attend Meetings												
Active Trans. Plan Imp.												
Bikeability Index												
	● Product/Event											

Funding

Funding for Task 2.7 Bicycle/Pedestrian/Water Trails Planning		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	259	\$33,302
FTA Section 5307 / MVPC	0	\$0
TOTAL	259	\$33,302

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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.

Previous Work

In recent years, MVPC has used MassDOT's 'Crash Cluster' data as the primary means of identifying locations for safety studies to be undertaken in the UPWP.

However, with the adoption of the new Safety Performance Measures and Targets by the MVMPO, staff also completed a preliminary assessment of how well the Crash Cluster measure employed by MassDOT identified locations where there were fatalities and serious injuries. This analysis showed that only a very small percentage of the crashes at the 2013-2015 Crash Cluster locations in the region involved serious injuries or fatalities.

Under the FFY 2021 UPWP, MVPC staff began to develop a 'Top 100' Crash List that identifies high crash intersections and roadway corridors in the region. This list will be used in conjunction with the MassDOT Crash Cluster list as tools to identify high crash locations in the Valley.

MVPC also reviewed region-specific data for the 14 Safety Emphasis Areas contained in the Massachusetts Strategic Highway Safety Plan.

FFY 2022 Activities

Massachusetts' Strategic Highway Safety Plan (SHSP) was updated in 2018 and describes how well the state is performing within 14 Safety Emphasis Areas. Under the FFY 2022 UPWP, MVPC staff will continue to review data within each of these areas for the MVMPO region and compare it to the statewide data shown in the SHSP.

MVPC will also continue to review available data to identify where fatal crashes and those involving serious injuries have occurred in the region.

Tasks

2.8.1 *Obtain Most Recent MassDOT Crash Data:* Summary information on crashes reported to the Registry of Motor Vehicles is available from MassDOT's Impact Crash Portal. The information contained in this database are from crashes that have occurred as recently as the previous day. However, this is raw data and there are limits to the extent that it

can be/should be used in analyses that MVPC performs. MVPC Staff will work with MassDOT to determine just how this information can be utilized.

- 2.8.2 *Continue to Identify Locations of Crashes Involving Fatalities and Serious Injuries:* Using the data collected in Task 2.8.1, staff will identify the number of fatalities and serious injuries that occurred in each such crash. This information will be categorized by roadway functional classification and community, and high crash locations will be identified.
- 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. It is anticipated that this Crash Cluster list will include new measures for identifying high crash locations.
- 2.8.4 *Evaluation of Emphasis Areas Included in the Strategic Highway Safety Plan:* The Strategic Highway Safety Plan identifies 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 in FFY 2022.
- 2.8.6 *Develop Updated Regional Top 100 Crash Location 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.

Products/Schedule

Task(s)	2021			2022								
	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												
	● Product/Event											

Funding

Funding for Task 2.8 Safety Monitoring System		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	259	\$30,825
FTA Section 5307 / MVPC	0	\$0
TOTAL	259	\$30,825

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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.

Previous Work

In 2009, the MVPC completed its Priority Growth Strategy, which serves as the Regional Land Use Plan for the Merrimack Valley. A fundamental goal of the Commission in preparing this document was that it should support Sustainable Growth principles as appropriate throughout the region. As noted in the document, the PGS is intended to serve as a tool to realize a shared vision of creating:

“...a region that promotes development in the right place that generates good jobs, new tax revenues, creates affordable housing, stimulates the economy and creates a sense of place. A region that balances growth with preservation, maintains open space and the character of the region, and is served by an effective transportation system...”

In FFY 2015, MVPC updated the PGS to reflect changes in land use and other areas addressed in the document that have taken place since 2009. Like the original, it contains numerous recommendations for creating a transportation network that will improve the region's quality of life including improving bicycle and pedestrian transportation to Priority Development Areas, implementing transit services where needed to also serve these areas and relieving roadway

congestion that both slows economic growth, degrades the quality of our air and generates greenhouse gases that may have a dramatic impact on our climate.

In FFY 2021, staff continued to be an active participant on the Mayor's Health Task Force in Lawrence, a group that is devoted to promoting healthy living in the City. MVPC continued to play an important role in assisting the Task Force in conducting a Food Assessment in the City, mapping the location of food establishments, assisting in the development of the report/story map, organizing a participating in planning meetings, and providing other technical assistance, as needed. MVPC staff also continued to work with the City of Haverhill's Mount Washington neighborhood in addressing pedestrian infrastructure improvements and employment access issues, and to the Lawrence Council on Aging in an effort to reach out to the City's Asian and Spanish populations on transportation matters.

FFY 2022 Activities

MVPC staff will continue to focus on assisting communities with implementing the recommendations contained in the PGS and at the same time to further educate Valley officials and residents on both the benefits of providing a livable community and the various tools, including the Complete Streets approach to managing transportation infrastructure, that can be used to accomplish this.

MVPC will also be updating the transportation sections of the region's PGS as part of a larger effort to update the entire document.

Tasks

- 2.9.1 *Provide Technical Assistance to Communities Implementing Recommendations Contained in the PGS:* MVPC Staff will assist communities in implementing the transportation livability recommendations contained in the region's Priority Growth Strategy. These implementation activities will be developed in cooperation with the MVRTA and integrated into the Authority's Five-Year Capital Plan and Five-Year Regional Transit Plan.
- 2.9.2 *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.

Staff will also identify and evaluate the effectiveness of transportation-related health performance measures such as those identified in the MVMPO's Route 1 Rotary HIA. Available health impact data and health-related transportation performance measures will be considered in the traffic and transit studies conducted by the MVMPO under Task 3.0.
- 2.9.3 *Participate in Meetings of the Mayor's Health Task Force in Lawrence, Community Health Network Area 12 (CHNA), and Other Groups:* The MVPC joined the Lawrence Mayor's Health Task Force and is partnering with this coalition to create policies,

systems and environmental changes that impact health, and which pertain to transportation. In partnership with the coalition, MVPC is assisting with implementing its Complete Streets policy, conducting its annual Ciclovía (open streets) event, food access plan and other transportation-related projects. Staff will also participate in Haverhill’s Mount Washington Alliance Partnership.

- 2.9.4 *Provide Technical Assistance to Communities Seeking to Implement Safe Route to Schools Projects:* Many, though not all MVPC communities have joined the Safe Routes to School program. MVPC will work to encourage more schools to join the program and assist communities seeking infrastructure improvements to encourage more children to walk or bicycle to school.
- 2.9.5 *Assist Communities in Development of Complete Streets Ordinances:* Staff will work with communities interested in adopting Complete Streets Ordinances as well as prioritization plans and implementation as needed. In addition, staff will assist communities in gathering the data required by MassDOT for communities to apply for funding under the Complete Streets Funding Program.
- 2.9.6 *Update Transportation Section of MVPC’s 2015 PGS:* Since the completion of the last update of the document in late 2014, there have been many changes to the transportation network that impact the Priority Development Areas identified in the PGS. As the impact of a transportation project may have on a PDA(s) is considered by the MVMPO in evaluating projects for inclusion in the region’s TIP, it is important that the most current information be reflected in this document. In addition, an overall update to the document may result in the identification of new PDAs in the region that will need to have its transportation access/needs identified.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Technical Assistance												
Collect Health Data												
CHNNA, Health 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	147	\$19,096
FTA Section 5307 / MVPC	0	\$0
TOTAL	147	\$19,096

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.

Previous Work

In FFY 2015, MVPC staff identified various transportation performance measures that were subsequently integrated into the FFY 2016 RTP. These measures were developed in recognition of the fact that they were likely not the same measures that would ultimately be mandated for use by FHWA/FTA.

Throughout FFYs 2016 and 2017, staff monitored the Federal Register and USDOT communications on Performance Management to stay informed as the process evolved. Staff also began to participate in the Transportation Managers Performance Measures Committee, which advised MassDOT on the development of its Safety Performance Targets (established in August 2017) and reviewed the development of the Department's NHS Roadway Travel Time Reliability (including Freight), Percent of Non-Single Occupant Vehicle Travel, Pavement and Bridge Condition targets.

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.

MVPC staff also collected information on sidewalk location and condition in the communities of Groveland, Rowley, and West Newbury.

FFY 2022 Activities

The MVMPOs will need to establish new Safety Performance Targets (PM1) by late February 2022. MVMPO staff will focus its efforts on working with MassDOT to review the data for the

performance measures and statewide targets that the MPO will need to consider and possibly adopt.

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:* Staff will continue to monitor the progress being made by MassDOT in developing new statewide targets for the other federally mandated Performance Measures and assess their applicability for possible adoption by the MVMPO.
- 2.10.3 *Collect Data for MVMPO Region Sidewalk Locations and Conditions:* This Performance Measure was used in the FFY 2016 RTP but reliable data on the location of sidewalks was spotty and of their condition was almost totally lacking. Through a State Planning grant and activity conducted under this subtask in 2020, MVPC has gathered sidewalk location and condition data for or obtained such information for 10 communities in the region and received data from two others. Staff will continue to collect this information in at least two communities in the region in FFY 2022.
- 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 as is required under The FAST Act.
- 2.10.5 *Participate on Program Managers Performance Measures Committee:* Staff will continue to participate on this Committee to both exchange ideas and information on the development of local performance measures and targets and to maintain coordination with MassDOT and USDOT in the development and implementation of the remaining statewide performance management measures.
- 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. Many of these are fully operational and staff will continue to update them with new information.

Products/Schedule

Task(s)	2021			2022								
	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	136	\$17,333
FTA Section 5307 / MVPC	0	\$0
TOTAL	136	\$17,333

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Task 2.11 - Travel and Tourism Planning

Description

As noted earlier in this document, the FAST Act includes a Planning Factor to enhance travel and tourism.

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.

Previous Work

Under the FFY 2017 UPWP, MVPC staff created a database of Regional Tourism Centers and Tourism Organizations in and around the MVMPO region and will perform comprehensive outreach to these stakeholders to get an update on their activities and to solicit information on tourism activities/organizations that we may not be aware of.

In FFY 2018, transportation staff participated in the creation of the Merrimack Valley Region's Comprehensive Economic Development Strategy. As part of the outreach and involvement process used to guide the development of this Strategy, 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.

In FFY 2020, the project continued with an arts and cultural assets mapping effort for the Merrimack Valley. Through its PlaceAndMeaning.MVPC.org we asked people to identify cultural assets in their neighborhoods and ask how they travel to those locations. This resulted in the production of the *Merrimack Valley Cultural Mapping Project 2020 – Connecting Communities*. Under the FFY 2021 UPWP, MVPC staff updated its list of Travel and Tourism Stakeholders and a met with them to identify any transportation-issues they are encountering.

FFY 2022 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 *Coordinate with MVRTA:* MVPC Staff will work with the MVRTA to include the location of historic and tourist sites identified under this task on the Authority's bus route maps and its System Map.
- 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)	2021			2022								
	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	128	\$14,643
FTA Section 5307 / MVPC	0	\$0
TOTAL	128	\$14,643

TASK 3.0 -SHORT AND LONG-RANGE TRANSPORTATION PLANNING ACTIVITIES

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Task 3.1 - Elderly and Disabled/ADA Planning

Description

The MVRTA has long been a leader among the Commonwealth’s regional transit authorities in providing reliable, affordable transportation for the elderly and disabled. The MVRTA was the first Regional Transit Authority (RTA) in the Commonwealth to operate a fully accessible fixed route bus fleet.

The MVMPO region’s elderly population continues to grow, a trend that is expected to continue over the next few years. Due to the pandemic and similar to what was observed on its fixed route bus system, ridership on the MVRTA’s demand response system dropped significantly in 2020 and into 2021. However, it is anticipated that the Increased regional demand for federally mandated ADA transportation services that was observed before the pandemic will resume.

Accordingly, combined ADA- and non-ADA transportation demands continue to impact the MVRTA’s annual budget. With federal operating subsidies limited for transit authorities in urbanized areas of 200,000 people or more, the MVRTA must consider a range of options in how to satisfy its obligations under ADA.

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

Previous Work

MVMPO staff finalized the Coordinated Public Transit – Human Services Transportation Plan in FFY 2020. Previously, staff worked with the MVRTA to conduct two rounds of grant applications relative to the 2008 Coordinated Plan. 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.

In recent years, staff has assisted MVRTA in monitoring its EZTrans and Fixed Bus Route services for ADA compliance. It also assisted the MVRTA in securing funding for the ‘MediVan’ program, which provides transportation for disabled persons in the Valley to medical facilities in Peabody and in Boston. MVMPO staff also assisted the MVRTA in coordinating with Council on Aging van recipients around required data gathering.

Worked with the MVRTA and social services agencies in Haverhill to create the Haverhill Transportation Alliance

FFY 2022 Activities

The most important activity under this task will be an in-depth update of the analysis of the MVRTA’s existing ADA/Non-ADA paratransit services as contained in the Authority’s Regional Transit Mobility Plan. In addition, MVPC will continue to assist the MVRTA by reviewing how

well it is complying with ADA paratransit and fixed route bus requirements and in monitoring the maintenance of MAP vehicles being used by Councils on Aging.

More communities are considering 'healthy aging' and the transportation needs of an aging population. The City of Lawrence has been designated as a Healthy Aging community. MVMPO staff will work with our communities and the MVRTA to identify the service gaps, needs and possible solutions.

The MVMPO will continue to collaborate with NMCOG staff to host the Regional Coordinating Council, which focuses on senior and disabled transportation.

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 *Assist the MVRTA in Monitoring Compliance with ADA Fixed Route Bus Requirements:* The MVPC will survey MVRTA lift maintenance and repair procedures, wheelchair securement system maintenance and repair procedures, and other areas to ensure that the MVRTA is meeting the requirements of Subpart G of Part 37 of the ADA regulations.
- 3.1.3 *Oversight of Mobility Assistance Van Program:* As part of the Mobility Assistance Grant, MVRTA is required to monitor maintenance of MAP vehicles being used by Councils on Aging. MVPC staff will assist MVRTA in implementing this process.
- 3.1.4 *Coordinate and Support the Merrimack Valley Regional Coordinating Council.* The MVMPO will actively participate in the Regional Coordinating Council and provide planning assistance to help improve mobility in the region.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
ADA: Demand Resp.											•	
ADA: Fixed Route											•	
MAP Vehicles												
Support RCC		•						•				
	• Product/Event											

Funding

Funding for Task 3.1 Elderly and Disabled/ADA Planning		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	21	\$7,652
FTA Section 5307 / MVPC	140	\$18,100
TOTAL	161	\$25,752

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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
• Merrimack Valley Regional Transit Authority	• Merrimack Valley Planning Commission

Previous Work

The MVRTA made significant progress in recent years in the planning and implementation of major transit capital projects such as the McGovern Transportation Center and Gateway Surface Parking Facility, both in Lawrence, the Haverhill Intermodal Parking Facility and the Amesbury Costello Transportation Center. In 2010 the MVRTA completed a site selection study for an Intermodal Parking Facility in the City of Newburyport and the City Council approved the MVRTA's recommended Titcomb Street site. The City of Newburyport completed the final design and construction and the facility opened in May 2019.

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. It also provided case studies of transportation options to address the identified gaps in transportation.

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.

In FFY 2020, MVPC reviewed ridership and investigate 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.

FFY 2022 Activities

Planning assistance will be provided to the Authority and local officials by the MVPC as follows:

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, that are included as part of FTA's Triennial Review of the Authority.
- 3.2.3 *Survey of Bus Bike Rack Users:* The MVRTA installed bike racks on its fixed route buses in late 2019/early 2020. Under this task a survey of bike rack users will be administered by MVRTA and MVPC staff to obtain important information such as origin/destination points, trip purpose, identifying major trip generators, and other facets of their trip decision making process. The Automatic Passenger Counters (APC) that will be installed by the MVRTA on all fixed route buses will assist in providing this type of data. This task was not undertaken systemwide under the FFY 2021 UPWP due to the impacts of the COVID-19 pandemic.
- 3.2.4 *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.
- 3.2.5 *Affordable Housing Proximity to Transit:* Under this task, MVPC will access its regional Affordable Housing database to identify how far each location is from a fixed route or commuter rail facility. This information can be used to assist the Authority in possibly modifying its routes to better accommodate the often transit-dependent population that reside in these facilities.
- 3.2.6 *Provide Technical Assistance in Securing FTA Certification of APC System:* with the installation of the new APC counters on its vehicles, the MVRTA will have the opportunity of using the new technology to gather the NTD passenger miles traveled data that is required by FTA. However, the Authority must first complete a multistep process in order receive certification from FTA before this technology can be employed for this purpose. MVPC staff will assist the Authority in completing this certification process.

3.2.7 *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.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Technical Assistance												
FTA Areas of Compli-												
Bike Rack User Survey												•
Commuter Rail Eval.										•		
Aff. Housing & Transit										•		
FTA Certification of APC						•						
Analysis of APC Data							•					
	• Product/Event											

Funding

Funding for Task 3.2 Transit Planning		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	143	\$19,606
FTA Section 5307 / MVPC	440	\$57,740
TOTAL	583	\$77,346

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Task 3.3 – Grove Street/Woodland Street Intersection Study in Merrimac

Description

The intersection is located in a residential area west of the downtown area.

Woodland Street intersects with West Main Street (Route 110) at an offset four-way intersection, with Locust Street located just to the east of the Woodland Street approach. There is signage along Route 110 directing drivers to use Woodland Street to access the Merrimac Soccer Field, which is located on Winter Street approximately .8 miles north of the intersection. Grove Street is a residential street that connects Orchard Street to Summer Street.

This intersection is currently under four way Stop Sign control. Town officials have asked MVPC to identify potential design changes that would make it a safer intersection for both pedestrians and vehicles.

Previous Work

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

Proponent	Work Conducted By
● Town of Merrimac	● Merrimack Valley Planning Commission

FFY 2022 Activities

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

Tasks

- 3.3.1 *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 performance measures.
- 3.3.2 *Data Collection:* MVPC will collect weekday AM, PM peak period Turning Movement counts at the intersection and will conduct ATR counts on Grove Street and Woodland Street.
- 3.3.3 *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.
- 3.3.4 *Obtain and Analyze Crash Data:* Staff will collect and analyze the most recent three years of MassDOT data and Town of Merrimac Police Department traffic incident reports to identify the outstanding safety issues in the area.
- 3.3.5 *Meet with Local Officials:* MVPC staff will meet with the Newburyport officials to both review the options that have already been developed for modifying this intersection and to discuss other potential improvements.
- 3.3.6 *Develop and Evaluate Alternative Improvement Options:* The information and feedback obtained through Tasks 3.3.1-3.3.5 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.

3.3.7 *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)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Data Collection												
Traffic Data Analysis												
Crash Data Analysis												
Meet with Local Officials												
Analyze Options												
Draft/Final Study Report.												

• Product/Event

Funding

Funding for Task 3.3 Grove Street/Woodland Street Intersection Study in Merrimac		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	164	\$17,102
FTA Section 5307 / MVPC	0	\$0
TOTAL	164	\$17,102

Task 3.4 - Hampshire Street/Center Street Road Safety Audit in Lawrence

Description

This intersection is located in north central Lawrence and has appeared in numerous versions of the MassDOT Crash Cluster location lists.

Both Hampshire Street and Center Street are classified as urban minor collector roadways. The intersection is located in a predominantly residential area that is largely comprised of multifamily buildings. Center Street is an east/west roadway with a western terminus at Broadway (Route 28) and eastern terminus at Arlington Street. Hampshire Street extends north from Canal Street near Downtown Lawrence to Lawrence Street, which continues northwest to Methuen Square.

There is a four-way red flashing beacon at this location along with four-way Stop Sign control. Although both intersect at a right angle, sight distances on all approaches appear limited due to the presence of lateral obstructions and parked vehicles.

Previous/Ongoing Work

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

Proponent	Work Conducted By
● MVMPO (2015-2017 Crash Cluster)	● Merrimack Valley Planning Commission

FFY 2022 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 staff will perform weekday AM, PM and Saturday Midday peak hour vehicle turning movement and bicycle/pedestrian counts at the Center Street/Hampshire Street intersection.
- 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)	2021					2022						
	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 Hampshire Street/Center Street Road Safety Audit in Lawrence		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	244	\$25,701
FTA Section 5307 / MVPC	0	\$0
TOTAL	244	\$25,701

Task 3.5 – Woodland Street/Elm Street Intersection Road Safety Audit in Methuen

Description

Woodland Street is an Urban Minor Arterial that links the Manchester Street Rotary area of Lawrence (where it is Barker Street) to Haverhill Street in Methuen. It is an important route used by residents of southern Methuen and northern Lawrence to access I-93 at the new interchange with Routes 110 and Route 113 which is located slightly less than one mile to the west. Elm Street is an Urban Collector roadway that runs from Lowell Avenue in Methuen south/southeast to Haverhill Street (Route 110) near the Lawrence/Methuen City Line.

This intersection is located in a single-family residential section of Methuen. It is slightly skewed and traffic is controlled by a multi-phase signal.

MassDOT has identified this location as a Crash Cluster based upon 2015-2017 crash data.

Previous/Ongoing Work

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

Proponent	Work Conducted By
• MVPC (2015-2017 Crash Cluster)	• Merrimack Valley Planning Commission

FFY 2022 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, PM peak hour vehicle turning movement and bicycle/pedestrian counts at the intersection. ATR traffic volume counts will be taken on Elm Street and Woodland 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 rates, 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 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.
- 3.5.5 *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)	2021			2022								
	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 Woodland Street/Elm Street Road Safety Audit in Methuen		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	232	\$24,218
FTA Section 5307 / MVPC	0	\$0
TOTAL	232	\$24,218

Task 3.6 – Merrimack Street/Parker Street Road Safety Audit in Lawrence

Description

Both Parker Street and Merrimack Street are classified as Urban Minor Arterial roadways. In addition, Merrimack Street has been identified by the MVMPO as a Critical Urban Freight Corridor. Surrounding land uses are all commercial/industrial.

This intersection sits at the southern end of the bridge over the South Canal. South Canal Street intersects Parker Street at an unsignalized four-way intersection approximately 150 feet north of the Merrimack Street/Parker Street intersection.

The alignment of this intersection is skewed and the Parker Street northbound approach has a long uphill grade. The intersection is controlled by a multi-phase traffic signal and approach has two lanes. The configuration of these lanes varies between the approaches.

A review of this intersection on the MassDOT IMPACT tool shows that it has appeared in the 2013-2015, 2014-2016, and 2015-2017 MassDOT Intersection Crash Cluster lists.

Previous/Ongoing Work

MVPC staff has previously reviewed traffic operations at this intersection.

Proponent	Work Conducted By
• MVPC (2015-2017 Crash Cluster)	• Merrimack Valley Planning Commission

FFY 2022 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, PM peak hour vehicle turning movement and bicycle/pedestrian counts at the intersection. ATR traffic volume counts will be taken on Parker Street and Merrimack Street.
- 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 rates, 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 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.
- 3.6.4 *Conduct Study Area Road Safety Audit:* Staff will present the findings from Tasks 3.6.1 - 3.6.4 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.

- 3.6.5 *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)	2021			2022								
	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 Merrimack Street/Parker Street Road Safety Audit in Lawrence		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	236	\$25,395
FTA Section 5307 / MVPC	0	\$0
TOTAL	236	\$25,395

Task 3.7 – South Main Street/Boston Road Safety Audit in Haverhill

Description

This intersection was the southern terminus point for the South Main Street (Route 125) Corridor reconstruction project in Haverhill, which was completed in 2013. South Main Street north of this intersection primarily a two-lane arterial although the southbound approach to the intersection is striped for two travel lanes.

Route 125 is an Urban Principal Arterial and also part of the NHS road network. It is the primary non-interstate means of travel between Haverhill and North Andover. This intersection is located approximately one mile north of the Haverhill/North Andover boundary. Both Ferry Road and Boston Road are Urban Collector roadways.

This intersection is located roughly .4 miles north of the Route 125's intersection with the Route 125 Connector. This latter roadway connects Route 125 with I-495, located one mile to the north, and provides access to the Ward Hill Industrial Park.

Land uses south of the intersection are entirely commercial while there is a mixture of residential and commercial development north of the intersection.

Previous Work

South Main Street (Route 125) Corridor reconstruction project (#600214) in Haverhill.

Proponent	Work Conducted By
● MVPC (2015-2017 Crash Cluster)	● Merrimack Valley Planning Commission

FFY 2022 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, PM peak hour vehicle turning movement and bicycle/pedestrian counts at the intersection. ATR traffic volume counts will be taken on South Main 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 rates, 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 Haverhill 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 - 3.5.4 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 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)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Data Collection												
Meet w/ Local Officials												
Review Layout Plans												
LOS Analyses												
Develop Concepts												
Final Report												
	● Product/Event											

Funding

Funding for Task 3.7 Merrimack Street/Parker Street Road Safety Audit in Lawrence		
Source	Person Hours	Amount
FHWA PL / FTA 5303 / MassDOT	239	\$25,523
FTA Section 5307 / MVPC	0	\$0
TOTAL	239	\$25,523

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, and
- 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.

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 communities 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 2022 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)	2021			2022								
	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	\$26,799
FTA Section 5307 / MVPC	0	\$0
TOTAL	218	\$26,799

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. 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 increases 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.).

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, that 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 to develop 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 2022 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 regional planning to meet new GHG emission reduction goals and will seek additional grant funding to assist communities with Net Zero planning.

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 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, for example, 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 research best practices for local bylaws for encouraging electric vehicle charge stations and track municipal efforts across the region to create EV charging stations and incentivize implementation. The MVRTA has eight plug-in connections at the Haverhill Intermodal Parking Facility and four plug-in connections at the McGovern Transportation Center.
- 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, such as: 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 that calls for reducing greenhouse gas emissions by 45% by 2030 and

85% by 2050. Preparation toward developing a community-wide net-zero plans, including preliminary scoping work, stakeholder surveys, community workshops.

Products/Schedule

Task(s)	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Resiliency Task Force												
Staff Training												
Vulnerability Asses.												
Mapping / Modeling												
Regional Workshops		•										
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	349	\$42,820
FTA Section 5307 / MVPC	0	\$0
TOTAL	349	\$42,820

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, and
- Creation of High Occupancy Toll (HOT) Lanes on limited access roadways.

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 has 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 intermodal 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. 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 2022 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)	2021			2022								
	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		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	78	\$8,620
FTA Section 5307 / MVPC	0	\$0
TOTAL	78	\$8,620

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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.

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 2022 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)	2021			2022								
	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	149	\$17,650
FTA Section 5307 / MVPC	0	\$0
TOTAL	149	\$17,650

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."

Previous Work

In April of 2016, the Merrimack Valley Planning Commission 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.

In 2011, the Northeast Homeland Security Regional Advisory Council (NERAC) commissioned a plan to assess each Massachusetts region's emergency transportation needs and investigate the availability of transportation assets and agreements in NERAC communities, including all those in the Merrimack Valley region. This study resulted in the development of several recommendations to assist communities in improving planning for the evacuation of local populations.

As a follow-up to the 2011 Study NERAC prepared a report titled “ Evacuation Planning Guidance, Individual & Multiple Community Community Evacuations”. This guidance was prepared to assist cities and towns in the NERAC Region in planning for and implementing the evacuation of a single community or multiple communities when confronted with a notice or no notice natural or man-made disaster. This guidance is available on the NERAC website.

In FFY 2010, the MVRTA became the first transit provider to convert a public transit bus into an Ambu-Bus for use by first responders as a casualty vehicle. The Ambu-Bus can accommodate 12 stretchers and a small number of walk-on patients for treatment and to transport individuals to hospitals. The Authority made this vehicle available to the organizers of the 2014 Boston Marathon. The Authority has two Evacuation Buses and has two Evacuation Vans available for deployment.

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.

In FFY 2018 and 2019, MVPC staff worked with several of our local communities in implementing the projects recommended in the region’s Multi-Hazard Mitigation Plan.

FFY 2022 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)	2021			2022								
	Oct	Nov	Dec	Jan	Fe	Mar	Apr	May	Jun	Jul	Aug	Sep
Assist Communities												
Review Security Planning												
	● Product/Event											

Funding

Funding for Task 4.3 Regional Transportation Security		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA PL / FTA 5303 / MassDOT	69	\$9,115
FTA Section 5307 / MVPC	0	\$0
TOTAL	69	\$9,115

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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)

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 2022 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)	2021			2022								
	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	21	\$3,432
FTA Section 5307 / MVPC	0	\$0
TOTAL	21	\$3,432

DRAFT FFY 2022 UNIFIED PLANNING WORK PROGRAM TASK FUNDING SUMMARY

Task	Description	FHWA PL/ FTA 5303 / MassDOT	FTA 5307 / MVPC	FFY 2022 TOTAL
1.1	Program Management and Support	\$92,843	\$5,760	\$98,603
1.2	Public Participation Process	\$86,250	\$0	\$86,250
1.3	Unified Planning Work Program	\$21,083	\$0	\$21,083
1.4	Transportation Improvement Program	\$64,984	\$0	\$64,984
1.5	Title VI/Environmental Justice/Limited English Proficiency Activities	\$25,705	\$0	\$25,705
1.6	Metropolitan Transportation Plan	\$9,374	\$0	\$9,374
2.1	Traffic Monitoring Program	\$93,344	\$0	\$93,344
2.2	Regional Pavement Management Program	\$25,901	\$0	\$25,901
2.3	Geographic Information Services	\$115,084	\$18,400	\$133,484
2.4	Congestion Management Process	\$25,539	\$0	\$25,539
2.5	Intermodal Connections with NHS System/Freight Planning	\$8,182	\$0	\$8,182
2.6	Regional Transportation Model	\$4,297	\$0	\$4,297
2.7	Bicycle/Pedestrian/Water Trails Planning	\$33,302	\$0	\$33,302
2.8	Safety Monitoring System	\$30,825	\$0	\$30,825
2.9	Transportation & Livability	\$19,096	\$0	\$19,096
2.10	MVMPO Transportation Performance Measures and Targets	\$17,333	\$0	\$17,333
2.11	Travel and Tourism Planning	\$14,643	\$0	\$14,643
3.1	Elderly and Disabled/ADA Planning	\$7,652	\$18,100	\$25,752
3.2	Transit Planning	\$19,606	\$57,740	\$77,346
3.3	Grove Street/Woodland Street Intersection study in Merrimac	\$17,102	\$0	\$17,102
3.4	Hampshire Street/Center Street Intersection Study in Lawrence	\$25,701	\$0	\$25,701
3.5	Woodland Street/elm Street Intersection Study in Methuen	\$24,218	\$0	\$24,218
3.6	Merrimack Street/Parker Street Intersection Study in Lawrence	\$25,395	\$0	\$25,395
3.7	South Main Street/Boston Road Intersection Study in Haverhill	\$25,523	\$0	\$25,523
3.8	Stormwater Management	\$26,799	\$0	\$26,799
3.9	Climate Change	\$42,820	\$0	\$42,820
4.1	Intelligent Transportation Systems	\$8,620	\$0	\$8,620
4.2	Local Technical Assistance	\$17,650	\$0	\$17,650
4.3	Regional Transportation Security	\$9,115	\$0	\$9,115
4.4	County Road Adjudication	\$3,432	\$0	\$3,432
	TOTAL	\$941,418	\$100,000	\$1,041,418

Percentage of Spending for Task 1	29.38%
Percentage of Spending for Task 2	38.98%
Percentage of Spending for Task 3	27.91%
Percentage of Spending for Task 4	3.73%

Percentage of Spending for Planning Studies 34.46%

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Comments Received on MVMPO's Draft FFY 2022 UPWP and Responses

MVRTA

1. Page 11; MVRTA Regional Transit Plan

Delete the included paragraph and insert this new one:

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.

Response: This change has been made.

2. Page 12; I-93 Bus on Shoulder (BOS)

Revise the last paragraph as follows:

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.

Response: These changes have been made.

3. Page 142; Task 4.3

Delete the four bullets and add this:

As a follow-up to the 2011 Study NERAC prepared a report titled "Evacuation Planning Guidance, Individual & Multiple Community Community Evacuations". This guidance was prepared to assist cities and towns in the NERAC Region in planning for and implementing the evacuation of a single community or multiple communities when confronted with a notice or no notice natural or man-made disaster. This guidance is available on the NERAC website.

Response: This change has been made.

FHWA

1. Overall

- Ensure the document is 508-compliant. All unreadable graphics (logos) should have alternative text included.
- Minor text revisions and commendations (not included in this table) are noted directly in the PDF document.
- Overall very thorough document that makes clear effort to meet all the requirements. Great level of detail.

2. Page 1; Endorsement Page

Include full list of MPO representatives, even if Secretary is signing on behalf of the MPO.

Response: Change made.

3. Page 5; includes language from 2 CFR 200.308. However, the FHWA MA Division threshold for amendments is defined as funding transfers equal to or greater than 25% of the UPWP task budget. That should replace the language here.

Response: Correction made.

4. Page 12; Under I-93 Bus on Shoulder

Is there an update on the status of this bus service?

Response: See above response to MVRTA comment on this subject.

5. Page 26; Geographic Distribution of UPWP funded studies and Target TIP Projects

Please include page reference to point reader to the analysis in this document.

Response: Change made.

6. Page 41; MVPC Transportation Studies, Analyses and Technical Assistance

Is this updated with 2021 information?

Response: These tables have been updated.

7. Pages 52-53: Task 1.2 – Public Participation Process

Under Task 1.2.1, suggest including some language here on virtual public involvement strategies/procedures.

Response:

Under Products/Schedule – Add product/event marker for estimated completion of PPP update.

Response: Event Marker added.

8. Pages 87-89; Task 2.7 – Bicycle and Pedestrian Planning

Under FY22 Activities – please fix incomplete sentence.

Response: Correction made.

Under Products/Schedule – Please verify that product/event indicators are accurate for Active Trans. Plan

Response: Correction made.

9. Page 99; Task 2.10 – Development and Maintenance of MVMPO Performance Measures/Targets

Under Previous Work - Please also acknowledge adoption of updated Non-SOV target and related transit performance measures/targets.

Response: Acknowledgement Added.

10. Page 103; task 2.11 – Travel and Tourism Planning

Under Previous Work – Are there 2021 updates to share?

Response: Staff has updated its list of Travel and Tourism Stakeholders and will be scheduling a meeting to identify any transportation-issues they are encountering.

11. Page 129; Task 3.9 – Climate Change

Under Description – Is MVPC planning to develop regional performance measures/targets for emissions?

Response: It is anticipated that the MVPC/MVMPO will adhere to 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.

12. Page 147; Task Funding Summary

FTA 5303 (fourth column) should be changed to FTA 5307.

Response: Correction made.

City of Haverhill

1. The Mayor wants to see more electric charging stations in the City. The one outside City Hall is always being used. We would like a task in the UPWP to try to map and coordinate where electric charging stations could/should be installed.

Response: Tasks 3.9.7 and 3.9.8 of the FFY 2022 UPWP will address these two requests.

2. Haverhill is still looking to map more bicycle routes and ways to create safe roads for bicycling.

Response: Much of this request will be addressed in the MVMPO's Active Transportation Plan Update.

3. The City supports the Georgetown and Groveland trails that will connect Haverhill to the Border-to-Boston Trail.

Response: The Groveland Community Trail will be advertised for construction later in FFY 2021 and MassDOT has approved a project that would create a side path along Route 97 that would link the eastern end of the Groveland Community Trail with the Border to Boston Trail.

4. The City is seeking to create an Industrial Park at the old Haverhill Airport site off Route 108 and to redevelop the former Haverhill Paperboard site in Bradford. Both sites have access issues that need to be addressed.

Response: MVPC/MVMPO are available to assist the City in identifying and developing options for improving access to these two areas.