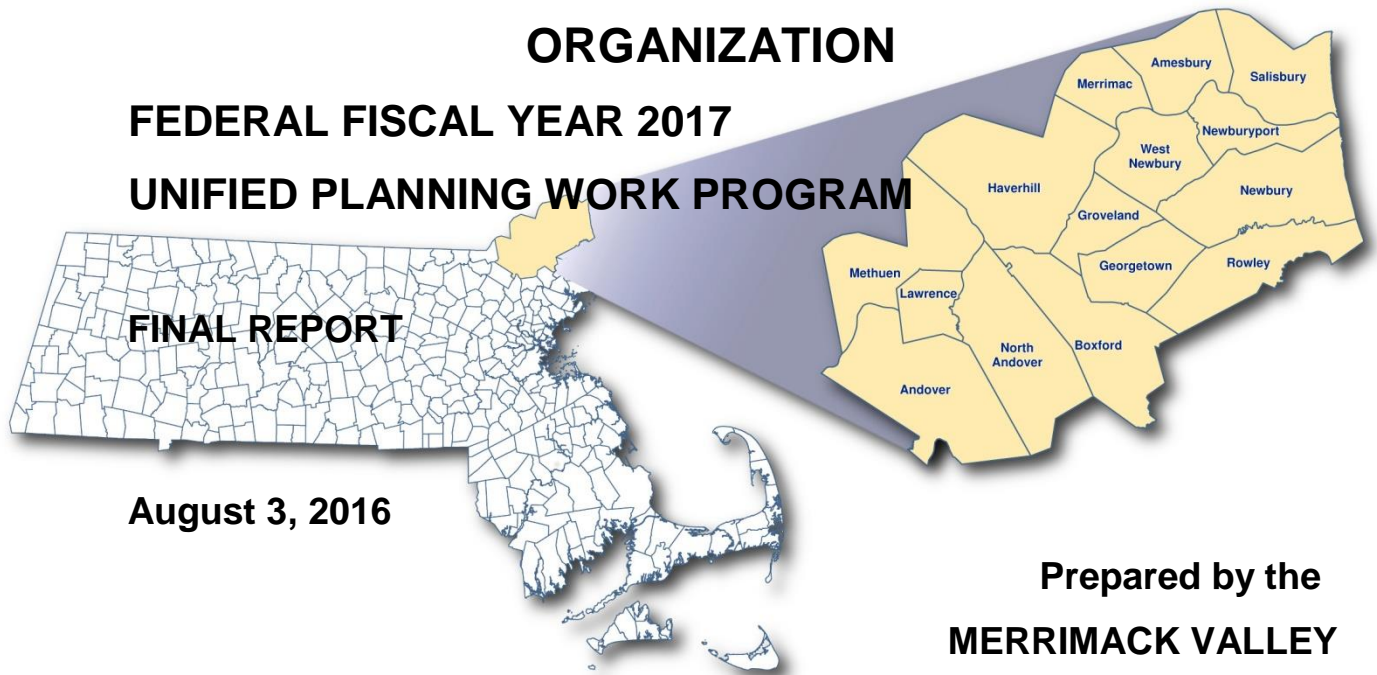


MERRIMACK VALLEY METROPOLITAN PLANNING ORGANIZATION

FEDERAL FISCAL YEAR 2017

UNIFIED PLANNING WORK PROGRAM



August 3, 2016

Prepared by the
**MERRIMACK VALLEY
PLANNING COMMISSION**

This document was prepared by the Merrimack Valley Planning Commission under Contract #75074 with the Massachusetts Department of Transportation (MassDOT) and under Contracts MA-80-009 and MA-80-010 with 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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Title VI Program Coordinator

Merrimack Valley Metropolitan Planning Organization

c/o Merrimack Valley Planning Commission

160 Main Street

Haverhill, MA 01830-5061

(978) 374-0519, extension 15

AKomornick@mvpc.org

Complaint Filing

To file a complaint alleging a violation of Title VI or related federal nondiscrimination law, contact the Title VI Program Coordinator (above) within one hundred and eighty (180) days of the alleged discriminatory conduct.

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

English

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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Si necesita esta información en otro idioma, por favor contacte al coordinador de MVMPO del Título VI/Contra la Discriminación al 978-374-0519 ext. 15.

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Nếu quý vị cần thông tin này bằng tiếng khác, vui lòng liên hệ Điều phối viên Luật VI/Chống phân biệt đối xử của MVMPO theo số điện thoại 978-374-0519, số máy nhánh 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

ប្រសិនបើលោកអ្នកត្រូវការបកប្រែពីភាសាខ្មែរ: សូមទាក់ទងអ្នកសម្របសម្រួលជំពូកទី6/គ្មានការរើសអើងរបស់ MVMPO តាមរយៈលេខទូរស័ព្ទ 978-374-0519 រូបភ្ជាប់ទៅលេខ 15។

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

TABLE OF CONTENTS

MVMPO ENDORSEMENT PAGE	1
MVMPO SELF CERTIFICATION COMPLIANCE STATEMENT.....	3
INTRODUCTION	5
Merrimack Valley Metropolitan Planning Organization (MVMPO) Region and Subregions	5
Organization of FFY 2017 Unified Planning Work Program.....	6
MVMPO Transportation Planning Priorities	6
Regional Plans and Studies	7
State Policies and Plans.....	12
Status of Accelerated Bridge Program Projects in the MVMPO Region.....	16
Federal Transportation Planning Legislation and Initiatives	17
Other Transportation Planning Studies	21
Other Non – Transportation MVPC Planning Studies and Funding Sources.....	22
Transportation Planning Program Years Covered by This Document.....	24
Transportation Planning Factors Considered Under the FAST Act	25
FAST Act Planning Factors in the MVMPO FFY 2017 UPWP.....	25
Summary of Anticipated MVPC Funding Resources	27
Geographic Distribution of UPWP funded studies and Target TIP Projects	29
Merrimack Valley Planning Commission Staff	31
Merrimack Valley Planning Commission Transportation Studies, Analyses and Technical Assistance.....	33
Acronyms Used in FFY 2017 UPWP.....	35
TASK 1.0 - MANAGEMENT AND SUPPORT OF THE 3C TRANSPORTATION PLANNING PROCESS	37
Task 1.1 - Program Management and Support.....	39
Task 1.2 - Public Participation Process.....	43
Task 1.3 – Unified Planning Work Program (UPWP).....	47
Task 1.4 - Transportation Improvement Program (TIP)	49
Task 1.5 – Title VI/Environmental Justice/Limited English Proficiency Activities.....	53
Task 1.6 - Regional Transportation Plan.....	57
TASK 2.0 - DATA COLLECTION AND ANALYSIS ACTIVITIES	59
Task 2.1 - Traffic Monitoring Program.....	61
Task 2.2 – Regional Pavement Management Program	65
Task 2.3 - Geographic Information Systems	67
Task 2.4 - Congestion Management Process	71
Task 2.5 - Intermodal Connections with National Highway System / Freight Planning	73
Task 2.6 - Regional Transportation Model	75
Task 2.7 -- Bicycle/Pedestrian/Water Trails Planning	77
Task 2.8 - Safety Monitoring System	81
Task 2.9 – Transportation and Livability.....	83
Task 2.10 - Development of MVMPO Transportation Performance Measures and Targets	87
Task 2.11 – Travel and Tourism Planning	91

TABLE OF CONTENTS (CONT.)

TASK 3.0 - SHORT AND LONG-RANGE TRANSPORTATION PLANNING ACTIVITIES93

- Task 3.1 -- Elderly and Disabled/ADA Planning.....95
- Task 3.2 -- Transit Planning99
- Task 3.3 – Route 1 / Route 133 Intersection Road Safety Audit in Rowley 101
- Task 3.4 – Route 110 / Main Street Intersection Road Safety Audit in Amesbury 103
- Task 3.5 – Pelham Street / Railroad Street / Osgood Street / Lowell Street / Hampshire Street Intersection Road Safety Audit in Methuen..... 105
- Task 3.6 – Feasibility Study of Restoring Two Way Traffic Operation on Common Street in Lawrence 107
- Task 3.7 – Roadway Guard Rail Study in the Town of West Newbury..... 109
- Task 3.8 – Stormwater Management Technical Assistance 111
- Task 3.9 - Climate Change..... 115

TASK 4.0 - OTHER TRANSPORTATION STUDIES119

- Task 4.1 - Intelligent Transportation Systems (ITS)..... 121
- Task 4.2 - Local Technical Assistance 123
- Task 4.3 - Regional Transportation Security 125
- Task 4.4 – County Road Adjudication 129

FFY 2017 UNIFIED PLANNING WORK PROGRAM TASK FUNDING SUMMARY.....131

COMMENTS RECEIVED ON MVMPO’S DRAFT FFY 2017 UPWP AND RESPONSES133

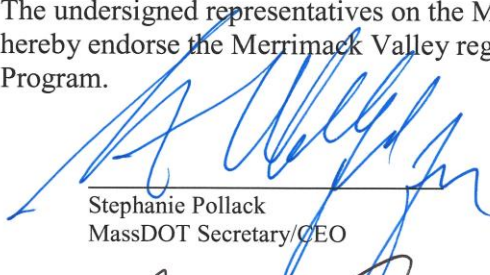
MVMPO Endorsement Page



MERRIMACK VALLEY METROPOLITAN PLANNING ORGANIZATION ENDORSEMENT

**MERRIMACK VALLEY REGION
FEDERAL FISCAL YEAR 2017
UNIFIED PLANNING WORK PROGRAM**

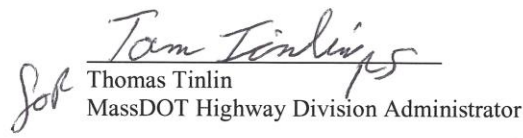
The undersigned representatives on the Merrimack Valley Metropolitan Planning Organization hereby endorse the Merrimack Valley region's Federal Fiscal Year 2017 Unified Planning Work Program.


Stephanie Pollack
MassDOT Secretary/CEO

Joseph Costanzo
MVRTA Administrator


James Fiorentini
Mayor of Haverhill

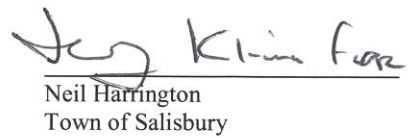
Dennis DiZoglio
MVPC Executive Director



Thomas Tinlin
MassDOT Highway Division Administrator


Daniel Rivera
Mayor of Lawrence

William Buckley
City of Methuen

Robert Snow
Town of Rowley


Neil Harrington
Town of Salisbury


Philip Trapani
Town of Georgetown

Date: August 1, 2016

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MVMPO Self Certification Compliance Statement



Self Certification Compliance Statement - Signatures

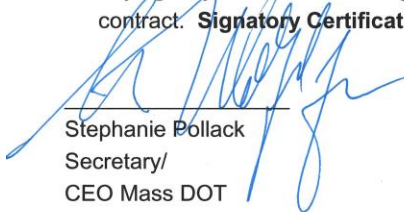
Merrimack Valley Metropolitan Planning Organization

Concurrent with the submittal of the proposed TIP to the FHWA and the FTA, the MPO Policy Board shall certify that the metropolitan transportation planning process is being carried out in accordance with all applicable requirements including:

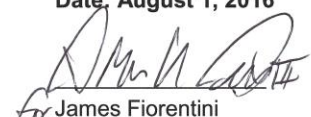
1. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
2. In nonattainment and maintenance areas, sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93;
3. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21;
4. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
5. Section 1101 (b) of the SAFETEA-LU (Pub. L. 109-59) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;
6. 23 CFR 230, regarding the implementation of an Equal Employment Opportunity Program on Federal and Federal-aid Highway construction contracts;
7. The provisions of the American with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and 49 CFR parts 27, 37, and 38;
8. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
9. Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender;
10. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities;
11. Anti-lobbying restrictions found in 49 USC Part 20. No appropriated funds may be expended by a recipient to influence or attempt to influence an officer or employee of any agency, a Member of Congress, in connection with the awarding of any Federal contract.


Signatory Certification:

Date: August 1, 2016



 Stephanie Pollack
 Secretary/
 CEO Mass DOT


 Joseph Costanzo
 Administrator
 MVRTA Advisory Board

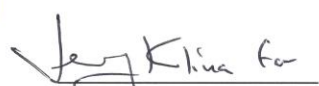

 for James Fiorentini
 Mayor of Haverhill


 for Thomas Tinlin
 MassDOT Highway
 Division Administrator

 William Buckley
 City of Methuen


 Daniel Rivera
 Mayor of Lawrence


 David Surface
 Town of Georgetown


 Neil Harrington
 Town of Salisbury

 Robert Snow
 Town of Rowley

 Dennis DiZoglio, MVPC Director

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INTRODUCTION

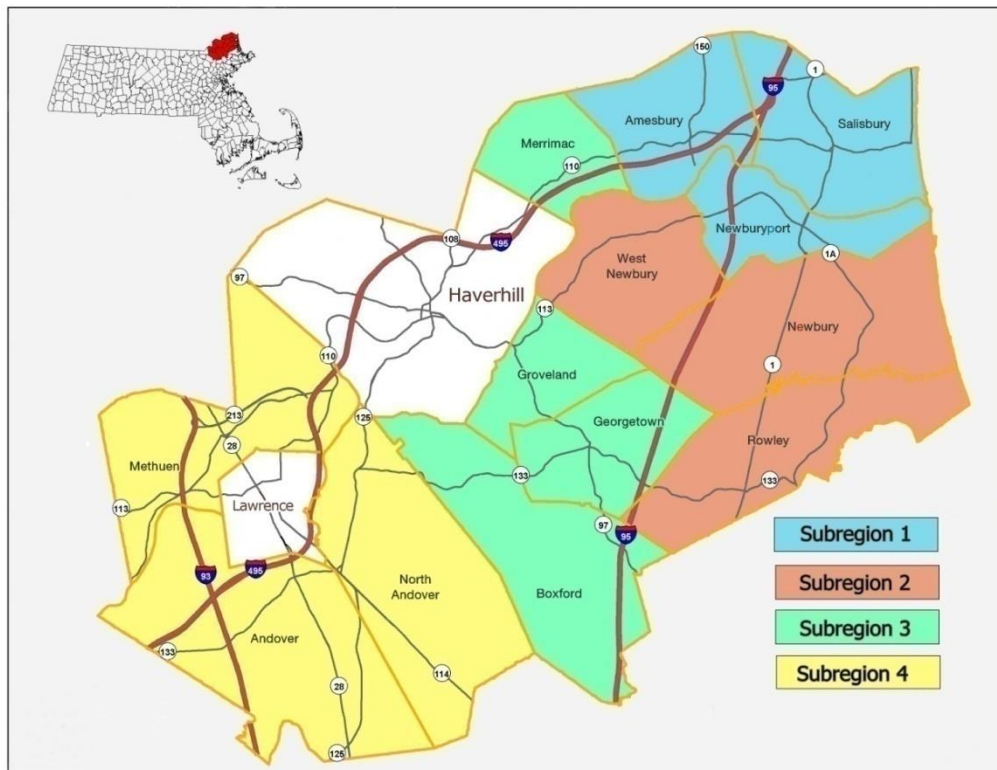
As mandated under the federal “3C” transportation planning process, the Unified Planning Work Program (UPWP), describes the transportation planning activities that are to be carried out by a Metropolitan Planning Organization (MPO) during the federal fiscal year (October 1 – September 30), identifies 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 2017 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 Subregions

Figure 1 below is a map showing the boundaries of the MVMPO region, its sub-regions, and fifteen community members:



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.

The current MVMPO membership is as follows:

- MassDOT Secretary Stephanie Pollack
- MassDOT Highway Division Administrator Thomas Tinlin
- MVPC Executive Director Dennis DiZoglio
- MVRTA Administrator Joseph Costanzo
- Mayor of Haverhill James Fiorentini
- Mayor of Lawrence Daniel Rivera
- MVMPO Subregion Representatives:
 - Subregion 1 (Amesbury, Newburyport, **Salisbury**) **Neil Harrington**
 - Subregion 2 (Newbury, **Rowley**, West Newbury) **Robert Snow**
 - Subregion 3 (Boxford, **Georgetown**, Groveland, Merrimac) **Jeff Wade**
 - Subregion 4 (Andover, **Methuen**, North Andover) **Bill Buckley**

Ex officio, non-voting MVMPO members:

- FHWA Massachusetts Division Administrator Jeff McEwen
- FTA Region I Administrator Mary Beth Mello
- Rockingham Planning Commission MPO (NH) Phil Wilson
- Boston MPO Keith Bergman
- Northern Middlesex MPO Phillipe Thibault
- Nashua Planning Commission MPO (NH) David Hennessey

Organization of FFY 2017 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 3C planning process in the MVMPO region is implemented in a *cooperative* manner and recognizes the many influences

that are at work at many 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 MPO's 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 24 years, the need to be continuing and comprehensive in considering them remains at the foundation of the 3C planning process.

Listed below are the key concepts, analyses, policies, programs and recommendations that influenced the selection of the studies and analyses contained in the MVMPO FFY 2017 UPWP.

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 2017 UPWP:

Bicycle and Pedestrian Planning

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. MassDOT held a 25% design public hearing in May 2016 for a segment between Georgetown Square and Georgetown Road in Boxford. Staff also worked with MassDOT and the town of Salisbury on the future B2B crossing of MA-110 (Elm Street) north of Mudnock Road in Salisbury.

MVMPO staff continued working with local officials in Haverhill, Groveland, and Georgetown to implement recommendations made in the Georgetown Branch Rail Trail Feasibility Study. Also in 2016:

- Phase I of the Bradford Rail Trail (BRT) entered the construction phase;
- The City of Haverhill acquired a contiguous RR ROW segment for BRT Phase II;
- Town of Groveland officials funded final design of the off-road segment of the Groveland Community Trail, and route concepts for the on-road segment of this project. MassDOT's Project Review Committee has approved the off-road project segment for inclusion in its project development process.

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. In addition, MVMPO staff:

- 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 research 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.

MVMPO Regional Transportation Plan

The MVMPO prepared its FFY 2016 RTP under the FFY 2015 UPWP. It is the first MVMPO RTP to address the MAP-21 requirement that performance and outcome-based planning methods must be used to guide the programming of transportation capital investments. It also establishes a series of Goals and Objectives that the Organization should pursue in an effort to improve the transportation network. The Goals for the transportation network set forth in the RTP are:

- Maintain the System in a state of good repair;
- Increase Safety for All Modes
- Promote Economic Vitality
- Support Transportation Equity
- Promote Environmental Sustainability

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.

Under the FFY 2015 UPWP, MVMPO staff continued to work with local officials to bring the recommendations contained in its FFY 2010 study to realization. In December 2014, MassDOT approved a project that would make improvements to the section of the corridor from Andover Street to the Stop and Shop Driveway in North Andover. Staff also provided assistance to the City of Lawrence in the latter's submission of a TIGER Grant to FHWA that would fund improvements to the corridor in Lawrence and North Andover. Staff is also currently participating in a joint effort between area legislators, MassDOT staff and North Andover officials to identify bicycle and pedestrian improvements that can be built in the area around Merrimack College. Staff will continue working with MassDOT to advance this project under the FFY 2017 UPWP.

Priority Growth Strategy

In 2009, MVPC staff completed the Merrimack Valley Priority Growth Strategy (PGS), its first regional master plan in over 30 years. The 2009 PGS was prepared with MVPC communities' direct participation and 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. FHWA subsequently featured the PGS on its *Transportation Planning Capacity Building* website as the latest example of an Innovative Project (FFY 2014). The MVPC staff has since assisted many of its communities with implementing 2009 PGS findings and recommendations.

In 2011, the MVPC staff developed a PGS implementation plan with funding from the Commonwealth's Executive Office of Housing and Economic Development. This plan, entitled the 'Merrimack Valley Regional Strategic Framework Plan', informed an MVPC / EOHED discussion on how to integrate the Strategic Framework Plan with the Commonwealth's then-new "Planning Ahead for Growth" initiative. MVPC and EOHED staff worked together to identify which of the 57 regional "Concentrated Development Centers" identified in the PGS had statewide significance and could be designated as "Priority Development Areas." The same exercise was done for identifying "Priority Preservation Areas".

Under the FFY 2014 UPWP, the MVPC staff completed a PGS update to ensure that the PGS land use, transportation, environment, and other content captured any changes that had occurred over the five years since it released the 2009 PGS. The MVPC adopted its PGS update in January 2015. The MVMPO staff used the PGS Update to help define the preferred land use and zoning scenario informing its FFY 2016 RTP, and will continue implementing PGS Update recommendations in FFY 2017.

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 staff last updated its CMP in FFY 2011 to support development of its FFY 2012 RTP. Since then, staff has identified a number of congested MVMPO region locations and added them to the CMP. Staff has subsequently studied many of these locations in more detail under recent UPWPs. Location examples include the Marston's Corner intersection in Methuen, Route 28 in Methuen between Route 213 and the Massachusetts-New Hampshire boundary, and the intersection of Route 28 (Broadway) and Route 110 (Haverhill Street) in Lawrence. Under the FFYs 2015 and 2016 UPWPs, staff collected traffic volume and travel time data on federal aid roadways in the region that it will use to maintain the CMP in FFY 2017.

Safety Monitoring System (SMS)

The MVMPO staff uses the SMS (and the CMP) 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. Any potential problem areas identified through the SMS are often studied in more detail through tasks included in the UPWP in order to determine if a safety problem truly exists and, if so, to identify what steps need to be taken next to address it.

Since the preparation of the FFY 2016 UPWP last spring, staff participated in the following Road Safety Audits in the region:

- Broadway (Route 28) between Tremont St. and Haverhill St. (Route 110) in Lawrence;
- Commonwealth Drive at Marston St. and Ferry St. in Lawrence, and
- Common and Lowell Street Corridors in Lawrence.

MVRTA Regional Transit Plan

The MVRTA completed its Comprehensive Regional Transit Plan in 2015. This document addresses fixed route bus service by examining route ridership, evaluating individual bus routes, identifying areas for transit service and includes service recommendations for FY 2016, 2017 and 2018. The Plan also identifies areas for additional study.

Since this Regional Transit Plan will be used by the MVRTA to plan for and implement transit services in the future, any transit proposals must be included in this Plan in order to receive consideration for programming and implementation by the MVRTA.

2014 Coordinated Human Services Transportation - Public Transportation Plan

This Plan is an update not only of the 2007 Coordinated Human Service Public Transportation Plan, but the subsequent Elderly and Disabled Transportation Plans, and the 2013 Transit Mobility Plan that were jointly prepared by the MVMPO staff and the MVRTA. Like the preceding plans referenced above, it is an action plan for the MVMPO's transit planning and funding activities but *unlike* those previous plans it also considers the collaborative work of the Merrimack Valley Regional Coordinating Council (MVRCC), an entity created through Commonwealth Executive Order 530 to increase coordination among all transit service providers, including the RTAs and human services agencies.

Through the public outreach effort that was followed in developing the 2014 Coordinated Human Services Plan, MVMPO staff 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 modifying existing MVRTA bus routes, development of new routes that would serve destinations outside the MVRTA service area, and improving the level of MBTA service in the region.

I-93 Preferential Lane Study – Phase II

As the MVMPO was completing its feasibility study of providing Bus on Shoulder (BoS) transit service in the I-93 Corridor between New Hampshire and Boston, CTPS completed its reversible preferential lane analysis for the I-93 segment between MA-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, BoS permitting tasks and construction/operation cost advantages are extremely modest by comparison and have proven their value in transportation benefits in many U.S. applications. The MVMPO staff delivered its Draft BoS Study to MassDOT for inspection in FFY 2015 and expects to continue advocating for I-93 corridor transportation improvements with MassDOT in FFY 2017.

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. These tools will be used as part of the ongoing process of evaluating the 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.

Health Impact Assessment (HIA) for Route 1 Rotary

Working with staff from the Metropolitan Area Planning Council and the Massachusetts Department of Public Health, MVPC staff participated in a limited HIA of the Route 1 Rotary area in Newburyport in June 2016. The intent of this analysis was to introduce and apply the assessment of various Public Health measures into an MVMPO traffic study, which typically takes place very early in the process of developing a capital improvement project.

The limited HIA for the Route 1 Rotary identified three Health Affects for which a series of transportation-related health measures were examined and then applied to five potential roadway improvement options. The lessons learned from this HIA will be applied in the traffic studies to be undertaken under Task 3.0.

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 FFY 2017 UPWP.

Chapter 46 – An Act Relative to Transportation Finance

While the title of this 2013 act shows that it was intended to provide funding for the Commonwealth's transportation network, it also contained numerous provisions related to the management of the state's transportation infrastructure. It contained provisions establishing the development of the Performance and Asset Management Advisory Council, required the preparation of Comprehensive Regional Transit Plans and established the Project Selection Advisory Council (PSAC), which it charged with responsibility of developing the project selection criteria to be used in the development of the comprehensive state transportation plan. All of these provisions began shaping the transportation planning process in FFY 2016 and will be even more influential in FFY 2017.

WeMoveMassachusetts Planning For Performance

MassDOT introduced a number of firsts with the passage of *weMove Massachusetts*. It was the first multimodal transportation plan created by the agency since its restructuring

in 2009. It was also the first plan to introduce performance management measures into the capital planning process.

WeMove Massachusetts evaluates the long-term performance of the transportation network under two alternative funding scenarios: 1) assuming that **historical** funding levels would be in place and, 2) assuming that the current funding levels authorized under Chapter 46 would be available. These impacts were measured in a number of areas such as pavement condition, bridge condition, mobility, bicycle transportation and safety.

<http://www.massdot.state.ma.us/wemove/Home.aspx>

"GreenDOT"

Launched by MassDOT in July 2010, the **GreenDOT** initiative is designed to make Massachusetts a progressive state in how its transportation network coexists with the environment and supports sustainable development. Three of its primary goals are to:

- Reduce greenhouse gas (GHG) emissions;
- Promote the healthy transportation options of walking, bicycling, and taking public transit, and
- Support smart growth development.

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 has 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.

To further assist in the effort to reduce the number of Single Occupancy Vehicles in the Commonwealth, MassDOT has developed **MassRides**, a statewide travel options program that is designed to help people make more informed decisions about carpooling, bicycling, walking, public transportation, teleworking, and vanpooling.

In December 2012, MassDOT released its GreenDOT Implementation Plan, which establishes 15 broad sustainability goals to decrease the level of resources needed to sustain the Commonwealth's transportation network. It includes many specific measures for reducing GHG emissions in the state including providing alternative fueling options at highway service areas and installing 30 electric vehicle charging stations along the state highway system as well as at transit parking areas. A logical location for such a station

would be the Newburyport Park and Ride Lot, which is located adjacent to I-95 and is the busiest such facility in the Commonwealth.

The **Healthy Transportation Policy Directive**, released by MassDOT in 2013, modified MassDOT's Design Criteria for Projects and Bicycle Accommodation in a few key 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 GreenDOT 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 in recent months to develop Complete Streets ordinances.

Massachusetts Statewide Plans for Freight and Rail

In FFY 2011 MassDOT completed work on the State Freight Plan and the State Rail Plan. As part of these plans, MassDOT's consultant completed a comprehensive analysis of freight flows within Massachusetts and to/from Massachusetts. MassDOT has also reviewed the state of rail, truck, air, and water freight transportation in the Commonwealth and forecasted the amount of freight that will be carried by each mode in the year 2030. MassDOT projects that freight traffic in Massachusetts will grow by 70% over the next 20 years with all modes carrying more tonnage than today but with trucking significantly increasing its market share.

MassDOT cited some MVMPO region freight rail infrastructure capacity limitations. Some track structures do not support 286,000 pound carloads (which is becoming the industry standard) or the 20'8" clearances required for full-doublestack container capacity. In addition, the poor condition of the MBTA Merrimack River Bridge in Haverhill was another factor limiting the growth of freight rail service in the Commonwealth.

Rail projects recommended in prior MBTA Capital Improvement Programs are now being implemented, including:

Haverhill Line Double-Tracking Project

This project (in construction) will add a second main line track along the MBTA Haverhill Line for most of the section from Andover Street in Lawrence south to the

'Wildcat Branch' junction in Andover, a distance of 5.5 miles. Once completed in 2016, the additional length of second track will make it easier to schedule MBTA Commuter Rail, AMTRAK Downeaster, and PanAm Railways trains along this heavily used section of line. This additional track also offers the possibility of improving the level of MBTA Commuter Rail Service to the MVMPO region.

Rehabilitation of the MBTA Merrimack River Railroad Bridge

This structure was originally built in 1919 and was in very poor condition. Much of the rail freight from eastern New Hampshire, Maine, and eastern Canada travels across this structure as does the AMTRAK Downeaster, and all MBTA Commuter Rail trains. Due to its poor condition, freight trains currently must travel over the bridge at five miles per hour and only one freight train at a time can pass over the structure. MBTA Commuter Rail and AMTRAK Downeaster trains can only travel over the bridge at 15 mph. Reconstruction of this bridge commenced in 2015 and when complete in 2017, freight trains will be able to travel at 30 mph over the new spans and two freight trains will be able to cross the spans at the same time.

MassDOT is now beginning work on the development of the 2016 Update to the State Rail Plan. It will outline the Commonwealth's policies and planning goals for the state's rail network, describe the existing rail system, identify both anticipated trends and proposed system improvements. The Draft Update should be completed by the end of 2016.

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 will allow for the completion of many bridge projects much sooner than would otherwise be possible and thereby result in lower construction costs.

Six MVMPO region bridge repair or replacement projects are included in the ABP. These are listed on the following page along with their current status:

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	Construction
Replacement of the Route 28 Bridge over the MBTA railroad tracks in Andover	Construction
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 the above 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 2017-2021 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. For FFYs 2017-2021, MassDOT has created a new CIP that combines its capital planning efforts across its aeronautics, highway, motor vehicles and transit business lines. Accordingly, this CIP is important to the MVMPO's transportation network, and like the TIP will cover a rolling five-year period to be revised and adopted by MassDOT on an annual basis. During FFY 2016, the MVMPO staff commented on the Draft CIP and in FFY 2017 will be reviewing and commenting on the development of the (next) FFYs 2018-2022 CIP.

Project Selection Advisory Council (PSAC)

Created by the Legislature as part of *Chapter 46 – An Act Relative to Transportation Finance* in 2013, the PSAC met throughout 2014 and 2015 to develop recommendations for modifying the Commonwealth’s transportation project development, evaluation and selection process. The PSAC issued its Final Report to the Legislature in July 2015, and MassDOT incorporated PSAC recommendations in its evaluation of approximately 6,000 transportation projects/project proposals during FFY 2016. This work is being incorporated into the MVMPO’s FFY 2017 transportation planning process.

Strategic Highway Safety Plan

SAFETEA-LU included a new “core” program, the Highway Safety Improvement Program (HSIP), which 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.

The Massachusetts State Highway Safety Plan was developed in 2005 and 2006 and endorsed by local and regional stakeholders in September 2006. The document reviewed a range of data regarding crashes that involved fatalities and incapacitating injuries. It revealed that Massachusetts fared worse than the nation in crashes that involved vehicles leaving a travel lane, and crashes involving pedestrians and bicyclists.

During FFY 2014, the MVMPO programmed FFY 2016 HSIP funds in the FFY 2013-2016 TIP for the construction of roadway improvements at the MA-125 (Chickering Road)/Massachusetts Avenue intersection in North Andover, and for the section of the MA-125 Corridor in Haverhill between Winter Street and Merrimack Street. The MVMPO had previously used HSIP funds to complete the design for both projects.

Federal Transportation Planning Legislation and Initiatives

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 outlined these plans and the Commonwealth’s continuing commitment to encourage Sustainable Development below as it formulates the region’s FFY 2017 UPWP.

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. The FAST Act is the successor transportation funding authorization legislation to the Moving Ahead for Progress in the 21st Century Act (MAP-21), which was originally intended to expire in 2014 but had been extended through continuing resolutions until December 2015.

As noted by FHWA, 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 a number of items that strengthen workforce training and improve regional planning.

Additional information on the FAST Act may be found at:

<https://www.transportation.gov/fastact/#sthash.W3ybwwyZ.dpuf>

Livability

The concept of livability in transportation is really a recognition that the transportation network plays a major role in affecting the quality of life of residents in the area it serves. As 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.”

Notably, MVPC prepared its regional Priority Growth Strategy (PGS) with 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 2017 to support sustainable development principles in the Valley and, in doing so, improving the quality of life.

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 new 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 3.8 and 3.9).

The region's Multi-Hazard Mitigation Plan identifies transportation facilities that are at risk from storms, floods, and other events. Staff has also been working with the state and local officials in Salisbury, Newburyport, Newbury and Rowley to prepare community resiliency plans that will include the identification of measures that should be taken to mitigate the impact that sea level rise will have on transportation infrastructure.

MVPC is also working closely with 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 (see Task 3.9), including those related to transportation infrastructure.

Enhance Travel and Tourism

Task 2.11 – Travel and Tourism Planning has been added to the FFY 2017 UPWP as a first step in better integrating travel and tourism into the transportation planning process.

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.

Performance Management

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

Refer to Task 2.10 of this UPWP to review the MVMPO's proposed FFY 2017 Performance Management work.

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 sustainabil-

ity. 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 3.8 – Stormwater Management Technical Assistance, 3.9 – 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 planned trail in Seabrook, New Hampshire;
- Working with Northern Middlesex Council of Governments on planning and outreach for the Merrimack River Trail.
- Developing a new MOU for the Boston UZA (see Task 1.1);
- Coordinating MVRTA and Lowell Regional Transit Authority transit services through the Merrimack Valley Regional Coordinating Council (see Task 1.2);
- Developing a new MOU between the MVMPO and MVRTA;
- Holding joint meetings of transportation staff from the Boston, Northern Middlesex and Merrimack Valley MPOs (see Task 1.2)

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.

Under the FFY 2016 UPWP, MVPC staff examined the feasibility of the MVRTA expanding transit service along Route 114 in North Andover and Route 133 in Andover to provide better connections for Lawrence residents to employment opportunities and health services that exist along both corridors.

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.

See table on Page 29.

Other Transportation Planning Studies

In addition to the studies, analyses and legislation described above, a number of 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 MA-225 in Westford and MA-110 (Exit 49) in Haverhill.

Newburyport Intermodal Parking Facility

The MVRTA and the City of Newburyport are completing Preliminary Engineering for the construction of a 205-space parking facility near the intersection of Titcomb and Merrimac Streets. This project appears in the MVRTA's FFY 2017-2021 Capital Plan as well as MassDOT's Draft 2017-2021 (CIP). The MVRTA will soon begin the process of completing the design for this facility, which should occur by the end of Calendar 2016.

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 center and economic impact model; and support for regional initiatives such as the Brownfields assessment program and "Means Business" websites. Recent activities in these areas are noted below:

- **Comprehensive Economic Development Strategy:** The 2013 Merrimack Valley Comprehensive Economic Development Strategy (CEDS) was submitted to 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 2013 CEDS features an updated list of goals, objectives, and a plan of action. The regional five-year vision is highlighted by three Executive Actions for immediate consideration: 1) enhanced regional marketing of economic development resources and opportunities available; 2) increased coordination of local capacity assistance in critical planning issues such as priority development sites, Chapter 40R establishment, streamlined permitting, complete streets, stormwater management, and compact neighborhoods and, 3) identifying critical workforce development needs, programs, and partnerships in the Merrimack Valley.

Implementation of the CEDS began as soon as the five-year strategy was completed in 2013. Updates were completed and submitted to EDA in 2014, 2015, and 2016. These updates are available for viewing on the MVPC website.

Enhanced marketing of the region is being done through an updated and streamlined Merrimack Valley Means Business (MVMB) website and marketing initiative. Working closely with the Merrimack Valley Mayors and Managers Coalition (MVMMC), we

have better marketed the region to prospective developers and businesses. MVMB.biz now features an easy to use property search tool (CoStar), and there are over 150 listings of commercial and industrial property for sale and lease. The site also highlights priority development projects and state, local, and regional priority development areas, and provides quick links to key municipal officials, zoning links, and other important information on doing business.

A Cluster Analysis was completed which identified four industry clusters driving economic growth in the region: Food Manufacturing, Electronics, Life Sciences, and Metal Fabricators. We are now working with the local Workforce Investment Board trying to target workforce assistance to businesses in these clusters.

Our Local Capacity Assistance has developed into the "Merrimack Valley Support Team" - a new regional resource entity to assist communities in the Merrimack Valley with their unique economic and community development needs. The support team will provide on-going training to local staff on development matters and will encourage the sharing of resources and bolster communication and cooperation in the region. In 2015 we completed a Housing Production Plan for the Town of Merrimac, assisted the City of Methuen with downtown redevelopment initiatives, completed a Development Permitting Guide for the Town of Groveland, and assisted the City of Newburyport with a successful 40R District application.

- **Brownfields Assessment:** Unfortunately, a three-year \$400,000 grant application to EPA to extend the Merrimack Valley Brownfields Assessment program to 2018 was not funded. The program, which began in 2003, has completed over 70 site investigations and reports on Brownfields sites throughout the Merrimack Valley. Many of these investigations have resulted in the cleanup and reuse of formerly contaminated properties into affordable housing, educational facilities, community gardens, parks, and rail trails. We will attempt again to secure these important funds for the region.

The Commission received supplemental funding from EPA to recapitalize our Brownfields Cleanup Revolving Loan Fund. This program recently financed cleanup activities in downtown Amesbury and Salisbury and we hope to continue assisting in the cleanup of sites for adaptive re-use projects in other communities. Some of these funds may be used to assist the Town of Merrimac clean a contaminated site and use it to build affordable housing.

- **Priority Growth Strategy:** Early in 2015, the Commission approved the update to MVPC's comprehensive plan for the region titled "Merrimack Valley Priority Growth Strategy". The Strategy identifies Priority Development Areas (PDA's) - where the region encourages growth, and Priority Preservation Areas (PPA's) - where the region would like to preserve and protect land from development. We also identify how the transportation network of the region can be upgraded and enhanced to sustain and

connect these development patterns. We continue to assist our member communities improve and enhance the zoning in their PDA's and PPA's.

- **Regional Data Center:** MVPC is the regional repository of demographic data from various federal and state agencies. In 2015, MVPC continued collecting and analyzing data releases from the U.S. Census and American Community Survey. The Merrimack Valley region's population grew by 4.8% compared to 3.1% for the balance of the entire State. Local population, race, and housing unit totals from the 2010 U.S. Census show our region growing, albeit more slowly than in previous censuses, and continuing to diversify. The region traditionally has seen its population grow faster than the State as a whole. After the 1990 U.S. Census the region saw a 10.5% increase compared to a State increase of 4.9% and in 2000 the region again saw a 10.5% increase with the State realizing a 5.5% increase. The total population for the 15-community Merrimack Valley region now stands at 333,748, up from 318,556 in 2000.
- **Other Economic Development Support:** MVPC staff handled numerous demographic data inquiries and requests for regional economic development overviews for businesses, individuals, and community officials.

Transportation Planning Program Years Covered by This Document

The transportation planning tasks and activities in the FFY 2017 UPWP were developed by the MVPC and MVRTA in cooperation with FHWA, MassDOT, FTA, local officials and the input of MVMPO Stakeholders. These activities will be financed in large part with federal planning funds provided by FHWA and FTA. Funding for the contract between MassDOT and the MVPC will be wholly provided by the Commonwealth, which will later receive 80% reimbursement from US DOT. Transit planning activities will be carried out under the Section 5303 and Section 5307 contracts between MassDOT and the MVPC, and MVRTA and the MVPC, respectively.

All planning tasks to be initiated under the FFY 2017 UPWP will be performed by either the MVPC or private consultants through the contracts described above. Contract #75074 between MassDOT and MVPC began on October 1, 2012 and will end on September 30, 2016. A successor agreement between MassDOT and MVPC will fund many of the highway-related transportation planning tasks to be undertaken in the FFY 2017 UPWP.

Two FTA Section 5303 transit planning contracts between MassDOT and MVPC will support the 3C planning process in FFY 2017. Contract X010 went into effect on April 1, 2016 and will end on March 31, 2017. Contract X011 will begin on April 1, 2017 and continue through March 31, 2018. Finally, the transportation planning activities funded through the Section 5307 contract between the MVRTA and the MVPC will be in effect from October 1, 2016 through September 30, 2017.

Transportation Planning Factors Considered Under the FAST Act

The new 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 2017 UPWP address each of them:

FAST Act Planning Factors in the MVMPO FFY 2017 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 1.7, 2.4, 2.5 and 3.4	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, 3.5, 3.6 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 2.7, 2.9, 3.5, 3.6 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 1.6, 1.7, 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, 3.3, 3.4, 3.7 and 4.1	State of Good Repair Promote Economic Vitality
<i>(8) Emphasize the preservation of the existing transportation system;</i>	Tasks 2.2, 2.10 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 and 2.11	Create Multi-Modal System to Support Mode Choice Promote Economic Vitality

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Summary of Anticipated MVPC Funding Resources SFY 2017 (July 1, 2016 – June 30, 2017)		
<u>Source - Non Transportation</u>	<u>Amount</u>	<u>% of Total</u>
Economic Development Administration (EDA)	\$100,000	3.1%
CIC Grant - CMMS	20,000	0.6%
EDA Revolving Loan Fund	25,000	0.8%
Eight Towns and the Great Marsh (Environmental Protection Agency/Mass. Coastal Zone Mgt.)	62,000	1.9%
Mass. Department of Housing and Community Development District LTA	106,926	3.3%
Stormwater Coalition	25,000	0.8%
U.S. Fish and Wildlife Service - NAWCA Grant	648,943	20.2%
National Wildlife Federation Sandy Grant	691,686	21.5%
Mayor's Coalition	20,800	0.6%
EPA Brownfields Revolving Loan Fund	425,175	13.2%
EPA Brownfields Assessment #4	14,026	0.4%
Local Technical Assistance	37,348	1.2%
Haverhill Open Space	7,500	0.2%
Misc. GIS and Local Contracts	60,000	1.9%
TOTAL (Non Transportation)	\$2,244,404	69.7%
<u>Source - Transportation</u>		
FHWA/MassDOT-PL	\$715,285	22.2%
FTA/MVRTA (Section 5307)	100,000	3.1%
FTA/MVPC (Section 5303)	134,194	4.2%
Haverhill Safety	24,400	0.8%
TOTAL (Transportation)	\$973,879	30.3%
MVPC TOTAL	\$3,218,283	

Source: MVPC's FY 2017 Budget #1: July 1, 2016 – June 30, 2017 (Approved 2/18/16)

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MVMPO TIP Annual Element Target Funding Projects / UPWP Studies FFYs 2010-2016 by Community with Community Household Median Income (2010-2014 ACS)			
Community	# TIP Target Projects	# Regional/Local/Subregional Studies	Med. HH Inc.
Amesbury	3	6	\$76,463
Andover	0	7	\$125,321
Boxford	0	5	\$127,813
Georgetown	0	5	\$106,898
Groveland	1	4	\$92,898
Haverhill	2	20	\$61,208
Lawrence	2	17	\$34,496
Merrimac	1	6	\$80,508
Methuen	1	9	\$68,587
Newbury	0	8	\$95,827
Newburyport	1	17	\$83,149
North Andover	1	8	\$100,544
Rowley	0	4	\$85,994
Salisbury	2	5	\$75,995
West Newbury	0	8	\$114,854

The above table shows that transportation studies and analyses were completed in every community in the MVMPO region during the period. Haverhill (20) and Lawrence (17), the two largest communities and the two with the lowest Median Household incomes, had the most studies undertaken.

There were 14 MVMPO TIP Target projects programmed in the Annual Element (i.e. first year) of the MVMPOs' TIPs between FFY 2010 and FFY 2016. Three projects were programmed in Amesbury (one being for design work only) and two each for Haverhill, Lawrence and Salisbury.

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Merrimack Valley Planning Commission Staff

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

Dennis DiZoglio, Executive Director

Mary Kay Beninati, Senior Transportation Planner (100%)

Joseph Cosgrove, Environmental Program Manager (15%)

Jennifer Dunlap, Accountant

Betsy Goodrich, Transportation Planner (100%)

Anthony Komornick, Transportation Program Manager (100%)

Steve Lopez, GIS Specialist (40%)

Nancy Lavallee, Administration

Dan Ovalle, Data Collection Specialist (100%)

Michael Parquette, Comprehensive Planning Manager (10%)

Peter Phippen, Environmental Planner (10%)

Kelsey Quinlan, GIS Specialist (10%)

James Terlizzi, Senior Transportation Planner (100%)

Angela Vincent, Community Development Specialist (15%)

Jerrard Whitten, Environmental Planner/GIS Specialist (40%)

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

Local Technical Assistance Projects

North Andover Downtown Parking Study (2015)
 Newburyport Chap.40R Traffic Impacts Analysis (2015)
 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/Rte 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)
 Rt. 125/Cushing Ave. Intersect. Study, Haverhill (2008)
 Bradstreet Property Trail Mapping, Rowley (2008)
 Lawrence Five Corner Intersection Analysis (2007)
 Merrimac Traffic Impact Study Review (2007)
 Haverhill Lafayette Sq. Traffic Impact Review (2007)
 West Newbury Four-Way Stop Sign Analysis (2006)
 Storey Avenue Traffic Impacts, Newburyport (2007)
 Lawrence Industrial Park Rail Siding (2007-2013)

Transportation Studies

Park St./Lawrence St. RSA in Lawrence (2014)
 Methuen Square Traffic Study (ongoing)
 Haverhill Railroad Ave./River St./Moulton Way Study (ongoing)
 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, Nbprt. (2012/3)
 Rte 213/Rte 28 Interchange RSA, Methuen (2012/3)
 Rte 1/Merrimack St. Intersect. RSA, Nbprt. (2012/3)
 Elm St./Rte 1 Intersection Study, Newbury (2012)
 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)
 MVMPO 2003 Regional Transportation Plan
 MVMPO Environmental Justice Study (2003)

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Acronyms Used in FFY 2017 UPWP

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

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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 and transit planning contracts 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.

In recent years, the MVPC has increasingly used 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. Examples of transportation studies are New Hampshire DOT's Capitol Corridor Transit Alternatives Study, its Plaistow Commuter Rail Study, and its I-93 Transportation Demand Management Task Force. MVPC supports the Whittier Bridge Working Group, which is comprised of representatives from MassDOT and local officials from the communities of Amesbury, Newburyport and Salisbury.

At the local level, staff attends Haverhill Traffic and Safety Committee and Newburyport Traffic and Safety Committee meetings.

FFY 2017 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 the Federal Transportation Authorization legislation, the Commonwealth's State Rail and Freight plans, weMove Massachusetts, GreenDOT Implementation Plan, Transportation Bond Bills, Beyond Boston Transit Study, and the MassDOT Highway Division's Capital Facilities Plan. Also performed under this task, would be Chapter 40 Section 54A reviews of development projects proposed for abandoned rail lines in the region. Staff attendance at workshops sponsored by MassDOT or USDOT would also be

performed under this task.

- 1.1.2 *Coordination of Regional Transportation Planning Activities:* The MVMPO will 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, and 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 2016 Annual Report Articles:* Transportation staff will prepare articles for inclusion in the MVPC newsletter, which will be published quarterly during the period, and for the MVPC's 2016 Annual Report. This latter document will be prepared in the period from December 2016 through January 2017.
- 1.1.4 *Contract Administration:* Prepare time sheets, progress reports and billings for MVPC's three 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 *CMAQ Consultation Committee:* Under this task, MVPC staff will 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.
- 1.1.6 *Attend Meetings of MVPC and MassDOT Highway Department 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 roadway and trail projects, project programming issues, and other transportation-related topics.
- 1.1.7 *MVMPO Participation in Other Regional Studies/Analyses:* MVPC staff will also continue to attend meetings of the following groups, if scheduled: the Tri-Community Planning Task Force, Tri-Town Project Coordinating and Participating Agency Group, the Whittier Bridge Project Working Group, and the Lawrence Area-Wide Brownfields Planning Grant.
- 1.1.8 *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 on a monthly basis.
- 1.1.9 *MVMPO Participation on Community Committees:* MVMPO will participate on local traffic and safety committees, road committees, and other groups that have been created to address transportation issues in the Valley.
- 1.1.10 *MVMPO Certification Review:* Staff will prepare the materials needed by USDOT as part

of the MVMPO's Planning Certification Review. MVPC will also perform the public out-reach needed for this review and serve as host for the event.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Fed. State Programs												
Regional Coordination												
Newsletters/Ann. Rpt.												
Contract Admin.												
CMAQ Consultation												
District 4 Meetings												
Part. Other Studies												
Program Managers												
Local Committees												
Certification Review							●					
	● Product/Event											

Funding

Funding for Task 1.1 Program Management and Support		
Source	Person Hours	Amount
FHWA	634	\$63,200
MassDOT	158	\$15,800
FTA Section 5303	235	\$22,400
FTA Section 5307	42	\$4,000
MVPC	69	\$6,600
TOTAL	1,138	\$112,000

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Task 1.2 - Public Participation Process

Description

An essential component of the federal transportation planning legislation requires that MPOs involve the public in all levels of the transportation planning process. The MVMPO's public participation process is designed to ensure that key public agencies at all levels of government, private and nonprofit organizations MPO Stakeholders, and interested citizens are both 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 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 are designed to more actively involve the region's Title VI/ Environmental Justice/Limited English Proficiency populations in the transportation planning process.

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. The MVMPO continued to expand the MVMPO's Stakeholder list, which forms the foundation of this process, 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 3.8). Staff also continued to work with the DPW Directors in implementing a software package that can be used by local DPWs to track progress on work orders.

FFY 2017 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 that apply to this task.

Tasks

- 1.2.1 *Continued Analysis of the Implementation of the Public Participation Plan (PPP):* Staff will continue evaluating the effectiveness of specific PPP components; review PPP Best Practices information among MPOs in general and propose/adopt PPP modifications, if required.
- 1.2.2 *Continued Monitoring of MVTC and 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. This task will also contain some staff time devoted to supporting the Mayors and Managers Coalition's DPW Directors Subcommittee.
- 1.2.6 *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. This includes scheduling of meetings, preparation of agendas and meeting materials. As the Nondiscrimination Working Group is a subgroup of the MVTC, the MVMPO staff may choose to circulate Working Group materials to Working Group members in advance of an MVTC meeting and propose acting upon Working Group items at MVTC meetings to conserve participants' time and to encourage participation.
- 1.2.7 *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, minutes, and other materials.
- 1.2.8 *Monitor/Participate in MPO and Transportation Committee Meetings for Surrounding MPOs:* Under this task, MVPC staff will attend certain meetings of the Boston, Northern

Middlesex, Rockingham and Nashua MPOs including policy and technical committee meetings. 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.

1.2.9 *Participate in Northern Boston UZA Meeting:* 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.

1.2.10 *Adoption of New MOU's:* MVPC staff will participate in the process of developing and securing MVMPO endorsement of a new Memorandum of Understanding between all MPOs within the Boston Urbanized Area as was redefined as a result of the 2010 U.S. Census.

1.2.11 *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)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Analyze Process												
Update Outreach List												
Public Part. Process												
Distribute Documents												
Meetings MVPC: Other												
MVTC Meetings		●			●			●			●	
MVMPO Meetings												
Attend Other MPOs												
North Boston UZA Mtg.												●
Boston UZA MOU												
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	437	\$44,208
MassDOT	109	\$11,052
FTA Section 5303	204	\$19,120
FTA Section 5307	0	0
MVPC	51	\$4,780
TOTAL	802	\$79,160

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 2017 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 2018 UPWP for the region. The MVPC will also amend the FFY 2017 document as needed to reflect changes that may occur during the course of the program year.

Tasks

- 1.3.1 *Develop FFY 2018 Unified Planning Work Program:* The MVPC will develop the FFY 2018 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 FFY 2017 UPWP:* Performed as necessary. Amendments to the UPWP shall adhere to the following procedures:

Formal MPO Endorsement Process: These include the addition of a new task and/or deletion of a previously programmed task.

Administrative Adjustment: Minor revisions such as changes to the existing level of effort of tasks and procedures within the current contract/grant may be made as an administrative adjustment with the mutual consent of MassDOT and FHWA. An administrative adjustment will not require a formal MPO endorsement.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Draft/Final 2018 UPWP								•		•		
Amend 2017 UPWP												
	• Product/Event											

Funding

Funding for Task 1.3 Unified Planning Work Program		
Source	Person Hours	Amount
FHWA	130	\$12,000
MassDOT	32	\$3,000
FTA Section 5303	38	\$3,600
FTA Section 5307	0	\$0
MVPC	10	\$900
TOTAL	210	\$19,500

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. Any project that is 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 2017-2021 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 FFYs 2017-2021. Staff continued to conduct qualitative or quantitative assessments of each TIP project's Greenhouse Gas (GHG) Emissions.

The region's FFYs 2016-2019 TIP was developed using MassDOT's *GrantsPlus* transit project and grant management system, which is also being used in the development of the region's FFYs 2017-2021 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 federal funds and state matching funds. MassDOT's Rail and Transit Division then reviews these requests and provides the MPOs with a listing of projects that could be built given available state matching funds.

FFY 2017 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 2018-2022 TIP.

MVPC will continue to complete GHG emissions evaluations for those roadway and bridge projects that appear in Appendix A and Appendix B of the TIP.

Tasks

1.4.1. *Develop Five-year Program of Projects:* In developing the Draft FFYs 2018-2022 TIP, staff will 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 projects proposed to be funded with Federal funds other than from FHWA and FTA, and

- For informational purposes, all regionally significant 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. Construction, Operating, or Maintenance);
- 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 costs 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 2018-2022 TIP: The following tasks and procedures will be performed by the MVPC transportation planning staff in developing the Draft FFYs 2018-2022 TIP:*

- Insure 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 Highway Division District 4 Project Engineer, MVRTA Administrator, MassDOT Rail and Transit Administrator, and the Office of Transportation Planning in developing project information.

The Draft FFYs 2018-2022 TIP will also include sections on:

- a. The relationship of the TIP to the RTP;

- b. Funding categories and 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 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 for the purpose of maintaining the existing transportation network;
- g. Description of the transit funding provisions in The FAST Act, and
- h. The GHG emissions associated with each project appearing in the FFYs 2018-2022 elements of the document

1.4.3. *Endorsement of FFYs 2018-2022 TIP:* After the completion of the required public review and comment as outlined in the region’s Public Participation Plan, the MVMPO will endorse the region’s FFYs 2018-2022 TIP in late June or July of 2017.

1.4.4. *Amendments to MVMPO’s FFY 2017-2021 TIP:* The MVMPO will endorse amendments to the region’s FFYs 2017-2021 TIP as needed throughout FFY 2017.

1.4.5. *Review Reports on Advertised 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 quarterly 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.

1.4.6. *Project Evaluation Criteria:* As part of Chapter 46 of the Acts of 2013, the Legislature created the Project Selection Advisory Council (PSAC), which was charged with the responsibility of developing the uniform project selection criteria to be used in the development of a comprehensive state transportation plan. These new criteria were developed in 2015 and applied to the universe of MassDOT projects/project proposals as part of the preparation of the 2017-2021 CIP. MVPC staff has and will continue working with MVMPO members to determine how and whether the PSAC’s new criteria can be incorporated into its own transportation project evaluation process. Staff will also work with MassDOT to annually update the transportation project evaluation scores for roadway and trail projects in the MVMPO region.

1.4.7. *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.

- 1.4.8. *Publish List of Projects for Which Federal Transportation Funds Were Obligated in FFY 2016:* By January 1, 2017, the MVMPO will develop and make available to the public a list of all of the transportation projects that federal funds were obligated to in FFY 2016.
- 1.4.9. *Continue Work to Create Regional Bike Parking and ADA Ramp/Sidewalk Programs:* In many years, substantial amounts of MVMPO target CMAQ and TAP 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 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 CMAQ and/or TAP target funding.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
5- Year Prog. Projects								•				
Draft 2018-2022 TIP								•				
Final 2018-2022 TIP									•			
Amend 2017-2021 TIP												
Advertised Projects												
Evaluation Criteria												
CMAQ Analyses												
List of Obligated Projs.			•									
Bike & Ped Funding												

• Product/Event

Funding

Funding for Task 1.4 Transportation Improvement Program		
Source	Person Hours	Amount
FHWA	286	\$26,400
MassDOT	71	\$6,600
FTA Section 5303	62	\$5,760
FTA Section 5307	0	\$0
MVPC	15	\$1,440
TOTAL	434	\$40,200

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 technical assistance to the Merrimack Valley Regional Transit Authority or MVRTA (a 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 (FFY).

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 2016 and beyond, staff proposes to maintain efforts initiated in prior FFYs to integrate TE/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.

MVPC Staff submitted an FFY 2015 Title VI Annual Report to MassDOT in July 2015, and expects to submit the next Title VI update in September 2016. Also in FFY 2016, staff incorporated minority population, income and language information from the 2010-2014 American Community Survey.

FFY 2017 Activities

MVPC Staff proposes to implement its FFY 2017 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 as requested by MassDOT.

- 1.5.2 *Monitoring Regional Protected Population Facts/Trends/MVMPO Outreach and Inclusion Effectiveness:* For example, the MVMPO identifies low-income populations in its region as those households at or below 80% of regional median household income (AMI). The MVPC staff reaffirmed its use of this standard in a March 2014 analysis. The staff's analysis included a survey of other Massachusetts MPO standards as well as a variety of federal and Commonwealth-based analyses of poverty and low income populations. The staff will continue to monitor this standard's appropriateness in FFY 2017.
- 1.5.3 *Reviewing RTP and TIP Projects and Perform 'Benefits and Burdens' Analyses:* MVPC Staff will continue to prepare 'Benefits and Burdens' analyses to determine how individual projects or programs affect the region's minority, low-income, limited English-proficient, and other protected populations.
- 1.5.4 *Data Collection:* 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.
- 1.5.5 *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 languages other than English. 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.
- 1.5.6 *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. As requested by MassDOT, the Title VI Coordinator will arrange for in-house accessibility training.
- 1.5.7 *Interacting with MVMPO Region Constituent Groups.* MVPC Staff will continue this work, including preparation and circulation of information according to 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.
- 1.5.8 *Preparing Title VI Annual Report Submission to MassDOT:* MVPC Staff will prepare this report at MassDOT's direction to summarize MVMPO Title VI/Nondiscrimination Program activities in the previous year.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Staff Training												
Demographic Trends												
Benefits & Burdens												
Data Collection												
Translate Documents												
In-house Accessibility												
Outreach to Local Grps.												
Title VI Annual Report									•			

• Product/Event

Funding

Funding for Task 1.5 Title VI / Environmental Justice / LEP		
Source	Person Hours	Amount
FHWA	173	\$16,000
MassDOT	43	\$4,000
FTA Section 5303	71	\$6,700
FTA Section 5307	0	\$0
MVPC	18	\$1,675
TOTAL	305	\$28,375

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Task 1.6 - Regional Transportation Plan

Description

The MVMPO Regional Transportation Plan (RTP) 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 outlines possible courses of action 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

The MVMPO prepared its FFY 2016 RTP under the FFY 2015 UPWP. This document is the first MVMPO RTP that incorporates the application of performance and outcome-based techniques and programs in the evaluation and management of the region's transportation capital assets.

In FFY 2016, MVPC revised the process used to collect information on proposed, planned, permitted, and built developments in the region.

FFY 2017 Activities

MVPC staff will continue to apply its revised process for collecting information on proposed, planned, permitted, and built developments in the region.

Tasks

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

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Monitor Development												●
	● Product/Event											

Funding

Funding for Task 1.6 Regional Transportation Plan		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	47	\$4,380
MassDOT	12	\$1,095
FTA Section 5303	14	\$1,300
FTA Section 5307	0	\$0
MVPC	3	\$325
TOTAL	76	\$7,100

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 a number of 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 regional traffic 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. This information is submitted to the FHWA each year and 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

Under the FFY 2016 UPWP, MVPC completed approximately 100 traffic counts. Many of these counts were taken at locations needed to better calibrate the regional traffic model. At the same time, MVPC produced Community Traffic Counting reports that were distributed to local officials.

MVPC has incorporated its traffic counting database into its website to provide the public with an improved method of accessing traffic count information. This is done through the MVPC's *Transportation Viewer*. The Viewer allows the public to access traffic count data that has been collected by the MVPC over the years, locate the count locations using Google Maps and view aerial and ground level images of the count station using Pictometry and Google Earth, respectively. Since 2013, MassDOT has been contracting with Midwestern Software Solutions (MS2) to manage and administer its traffic data library rather than handling these functions itself. As part of this new arrangement MVPC staff has been reporting traffic counting data to MS2 and this process took place in FFY 2016.

FFY 2017 Activities

Under this year's UPWP, MVPC again anticipates conducting approximately 110 ATR traffic counts. In addition, MVPC staff is seeking to obtain equipment that will allow it to automatically collect data on bicycle and pedestrian travel volumes in an effort to better monitor these two important travel modes.

Tasks

2.1.1 *Conduct MVPC Counts:* Conduct counts throughout the region in order to refine and update the traffic database with emphasis on those locations added as a result of adding

new links to the traffic model. The MVPC plans to conduct 70 counts for these purposes in FY 2016.

- 2.1.2 *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.
- 2.1.3 *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.
- 2.1.4 *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.
- 2.1.5 *Traffic Monitoring System:* Each year, MVPC conducts traffic volume counts at 25 locations in an effort 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.
- 2.1.6 *Data Submittal:* All counts taken by the MVPC in FFY 2017 will be uploaded directly to the Midwestern Software Solutions (<http://www.ms2soft.com/>) website.
- 2.1.7 *Community Reports:* Prepare and distribute 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.
- 2.1.8 *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 database.

Staff will also obtain a bicycle and/or pedestrian traffic recording device (or devices) and begin to collect volume information at selected monitoring locations in the region such as rail trails, arterial roadways, etc.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
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	527	\$54,400
MassDOT	132	\$13,600
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	659	\$68,000

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Task 2.2 – Regional Pavement Management Program

Description

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 water and sewer lines, streetlights, fire hydrants, storm drains and, in some cases, even electric boxes.

Previous Work

During FFY 2015, MVPC collected information on the condition of pavement on federal aid arterial and collector roadways in the region in an effort to identify the level of funding needed to maintain the quality of these facilities over the next 25 years. This analysis, which was included in the MVMPO's FY 2016 RTP, showed that \$195 million in roadway resurfacing/reconstruction projects would be needed over the next 25 years to maintain the non-interstate federal-aid roadways in the Valley at 2015 levels.

Also in FFY 2015, MVPC assisted the City of Haverhill in updating its pavement management program and expanding it to also consider the condition of all sidewalks.

In FFY 2016, MVPC provided the pavement condition information gathered by MVPC staff in 2015 to community DPW Directors to assist them in the maintenance of their locally maintained federal aid roadways.

FFY 2017 Activities

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 *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.
- 2.2.2 *Review Latest Development in Pavement Data Collection and Analysis:* FFY 2016 saw many communities in the Commonwealth beginning to utilize automated means of collecting road surface condition data. This data collection method, while costly, can be completed in a fraction of the time that it takes to collect this data by hand. Staff will review available information on these technologies to determine if they have applicability for the region's Pavement Management Program.

2.2.3 *Attend Meetings of the Pavement Management Users Group:* Staff will attend meetings of the Pavement Management Users Group.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Community Assistance												
Data Collection Review												
Users Group Meetings												
	● Product/Event											

Funding

Funding for Task 2.2 Pavement Management Studies		
Source	Person Hours	Amount
FHWA	123	\$12,160
MassDOT	31	\$3,040
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	154	\$15,200

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 a number of 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 2016 Regional Transportation Plan, its TIPs; and the MVPC's Title VI/Environmental Justice/Limited English Proficiency analyses;
- MVRTA route and system maps and updates;
- 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.

FFY 2017 Activities

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.

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.

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.

Tasks

- 2.3.1 *Maintain Transportation Database:* MVPC will continue to upgrade 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 *Monitor Status of Road Inventory Line File Updates:* Staff will continue to monitor and evaluate MassDOT's progress in developing roadway line files that match up with available orthophotographs.
- 2.3.3 *Attend Regional Data Center and State User Group Meetings:* Staff will participate in preparing for Regional Data Center meetings and will attend meetings of the MassGIS User Group.
- 2.3.4 *Pictometry 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 *Pictometry 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 Trails Database:* 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. Working with local trails groups and enthusiasts, MVPC will continue to add new trails to these maps and modify maps of existing trails to reflect changes/ improvements that may have been made. Similarly, maps showing the locations of new bike lanes, recently opened bicycle and pedestrian trails will also be prepared.
- 2.3.8 *Maintain/Update Traffic Counting Viewer:* GIS staff will implement and update its new 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.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maintain Database												
Road Inventory File												
State GIS User Group												
Pictometry Support												
Pictometry Workshops												
MVRTA Bus Layers												
Trails Database												
Updated Trans. Viewer			●									
			● Product/Event									

Funding

Funding for Task 2.3 Geographic Information Systems		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	791	\$76,000
MassDOT	198	\$19,000
FTA Section 5303	146	\$14,000
FTA Section 5307	57	\$5,600
MVPC	51	\$4,900
TOTAL	1,242	\$119,500

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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 (now Congestion Management Process). 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 measureable Goals and Objectives that could be tracked through the use of performance measures.

Previous Work

The MVMPO's current CMP relies on the regional traffic model and existing traffic and transit usage data to identify congested highway, transit, and park-and-ride facilities in the region. MVPC staff also employs staff knowledge of the region, the results of traffic studies/reports to identify congested roadways and intersections. Ridership data from the MBTA is used to identify congested transit services/facilities. Additional field data is then collected to confirm and quantify congestion at those locations. From here, specific recommendations are proposed to solve some of these congestion problems. Such recommendations often include a call for a transportation study of the problem. In such cases, the study is included in the region's UPWP. The I-93 Corridor Study, I-495 Corridor Study, and Route 114 Corridor Study were all undertaken or initiated largely based on the findings and recommendations generated by the CMP.

Under the FFY 2016 UPWP, staff continued to analyze data that shows travel times on the NHS roadways in the Valley and develop its 2016 Congestion Management Process.

FFY 2017 Activities

Much of the effort needed to develop/refine CMP Goals, Measures and Targets will be accomplished under Task 2.10. Staff will, however continue to collect information included under the current CMP such as turning movement counts at congested intersections.

Tasks

- 2.4.1 *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.
- 2.4.2 *Congestion Management Process:* Coupled with the work to be performed under Task 2.10, staff will continue the process of integrating travel time data and analyses into the Congestion Management Process.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Data Collection												
Update CMP Data												
● Product/Event												

Funding

Funding for Task 2.4 Congestion Management Processes		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	136	\$12,880
MassDOT	34	\$3,220
FTA Section 5303	20	\$1,920
FTA Section 5307	0	\$0
MVPC	5	\$480
TOTAL	195	\$18,500

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 a number of 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 a number of trucking terminals.

Previous Work

In FFY 2011, MassDOT completed construction of the expansion of the Newburyport Park and Ride Lot, which is located at the interchange of Route 113 and Interstate 95. MassDOT also completed work on the expansion of the Dascomb Road Park and Ride Lot, which is located adjacent to Interstate 93 in Andover. This project doubled the capacity of this lot and included the construction of numerous amenities that were either substandard or lacking at the old facility.

In FFY 2012, MVPC completed an analysis of the condition and usage of the intermodal facilities in the region with a focus on the park and ride facilities and transit stations located on or near NHS roadways. MVPC also assessed the adequacy of the connections to NHS roadways from truck freight terminals in the region. This analysis considered such factors as the physical condition of the facilities and whether there was 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.

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.

FFY 2017 Activities

For the FFY 2017 UPWP, MVPC will undertake the following task in support of improving intermodal connections in the Valley:

Tasks

2.5.1 *Update Analysis of the Condition and Usage of Intermodal Facilities in the Region:* As noted above, in 2011 MVPC completed an analysis of the condition and usage of the intermodal facilities in the region with a focus on the park and ride facilities and transit stations located on or near NHS roadways and also assessed the adequacy of the connections to NHS roadways from truck freight terminals in the region. Staff will update this study in FFY 2017.

2.5.2 *Development of NHS Projects:* Based on the recommendations contained in the MVPC's NHS Facilities Inventory, 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.

2.5.3 *MassDOT Freight Plan Update:* MassDOT is now in the process of updating its 2010 Freight Plan. MVPC staff will participate in this process by attending Freight Plan Task Force Meetings, Public Meetings and by responding to MassDOT/consultant requests for data, public outreach information, and project/policy suggestions and recommendations.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Intermodal Fac. Update											•	
Develop NHS Projects												
	• Product/Event											

Funding

Funding for Task 2.5 Intermodal Connections with NHS		
Source	Person Hours	Amount
FHWA	132	\$12,216
MassDOT	33	\$3,054
FTA Section 5303	10	\$1,000
FTA Section 5307	0	\$0
MVPC	3	\$250
TOTAL	178	\$16,520

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, an important component of the Regional Transportation Plan. In the MVMPO region, the regional traffic model also plays a critical role in the screening process to identify congested transportation facilities as part of the Congestion Management Process.

MVPC uses the TransCAD transportation modeling software package, as do virtually all of the MPOs in the Commonwealth. The most recent version of the MVMPO's regional traffic simulation model currently consists of over 3,000 roadway links, over 375 internal traffic analysis zones, and 43 external zones that link the region with neighboring areas of Massachusetts and New Hampshire. The number of zones will continue to grow over the years as the MVPC completes more regional traffic studies, which generally require the creation of smaller traffic zones to achieve the desired level of accuracy needed to complete project-level link and intersection analyses.

Previous Work

Under the FFY 2016 UPWP, staff continued to refine its 2010 baseline network by incorporating population and employment data. Staff also received updated TransCAD model software from Caliper and began the process of creating a new regional model.

FFY 2017 Activities

Detailed employment data at place of work may be released by the Massachusetts Executive Office of Labor and Workforce Development sometime in FFY 2017. This information will be incorporated into the model as soon as it becomes available.

In addition, MVPC will continue the task of creating smaller, Census block-based zones in those parts of the Valley where block groups are too large to allow for reasonable assignment of traffic to the network. In most cases, such zones are in the more rural areas in the eastern part of the region where there is little or no employment.

Tasks

- 2.6.1 *Creation of New Regional Traffic Model:* MVPC will work with MassDOT's Office of Transportation Planning and CTPS to complete the process of incorporating its existing model network and zone structure into the new version of TransCAD.
- 2.6.2 *Statewide Travel Survey:* Staff will continue to modify the base year model using the results of data for the Merrimack Valley region obtained from the 2010-2011 Statewide Travel Survey.
- 2.6.3 *Model Calibration and Refinement:* Staff will continue to perform tasks as part of the model calibration and refinement process. The most important task in this regard will be the refinement of the model network as needed, through the creation of additional TAZs.

Staff will also collect turning movement counts at selected intersections to assess how well the model is reflecting actual travel patterns and will continue to integrate ATR count data into the model

2.6.4 *Model Coordination:* Planning areas surrounding the MVMPO region have also developed transportation simulation models. Traffic zone data and/or volume data from roadways entering the region will be incorporated into the MVPC regional traffic model, as necessary.

2.6.5 *Update Employment Shown in Model:* Should more detailed place of employment data become available in FFY 2017, staff will compare the employment levels/locations currently shown in the model with the new data.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Updated Model		●										
Calibration/Refinement												
Model Coordination												
Update Employment												
	● Product/Event											

Funding

Funding for Task 2.6 Regional Transportation Model		
Source	Person Hours	Amount
FHWA	222	\$20,480
MassDOT	55	\$5,120
FTA Section 5303	17	\$1,600
FTA Section 5307	0	\$0
MVPC	4	\$400
TOTAL	298	\$27,600

Task 2.7 -- Bicycle/Pedestrian/Water Trails Planning

Description

MVMPO communities are increasingly interested in improving opportunities for non-motorized transportation. 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 FFY 2014, MVPC prepared the Merrimack Valley Active Transportation Plan a document intended to both guide the further development of the bicycle and pedestrian trail network in the Valley and assist communities in improving the condition and safety of their bicycle and pedestrian facilities.

In FFYs 2015 and 2016, MVPC continued to work in cooperation with MassDOT and the Haverhill Police Department to implement an innovative program that will track 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.

FFY 2017 Activities

The largest task to be undertaken in FFY 2017 will be the implementation of the recommendations contained in the Merrimack Valley Active Transportation Plan and continue to develop both an on-road and off-road bicycle and pedestrian networks in the MVMPO region. Any project recommendations made under this task will consider the requirements of MassDOT's Healthy Transportation Directive.

MVPC staff will also continue to provide assistance to the Border to Boston communities to develop the trail.

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 Manchester & Lawrence Branch project in Lawrence. 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 in an effort 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 Recommendations Contained in the MVMPO Active Transportation Plan:* This plan identified a network of regional and local bicycle and pedestrian facilities that will serve the citizens of the region. Staff will provide technical assistance to local officials in developing the trail and pedestrian facilities recommended in the Plan, creating needed connections between existing trails, and correcting those parts of the network that are experiencing safety problems.
- 2.7.6 *Promote Safer Bicycle and Pedestrian Transportation:* MVPC will continue to work with communities to examine bicycle and pedestrian safety concerns and identify possible improvements (see Haverhill Police Department tracking program described above). While infrastructure is being built, it must go hand-in-hand with a safety education program. Staff will assess local bike education programs/marketing efforts and provide recommendations for how communities and the region can improve bicycle safety.
- 2.7.7 *Explore the Administration of Bicycle Parking Program in the MVMPO Region:* Staff will reexamine the feasibility of establishing a bicycle parking program in the region. Previous efforts in creating such a program were unsuccessful largely due to limited local demand for bicycle parking facilities. This situation has likely changed given the development of MassDOT's Complete Streets Funding Program. If determined to be feasible, MVPC staff will work with MassDOT, member communities and MPO stakeholders to administer such a program. Installation of bicycle parking equipment would likely be funded using available CMAQ funds.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Program Review												
Border to Boston Trail												
Technical Assistance												
Attend Meetings												
Active Trans. Plan												
Bike/Ped Safety												
Bike Parking Program												
	● Product/Event											

Funding

Funding for Task 2.7 Bicycle/Pedestrian/Water Trails Planning		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	237	\$21,920
MassDOT	59	\$5,480
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	296	\$27,400

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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 will also be needed by the MVRTA to incorporate into its Bus/Van operator training. This will assist in increasing awareness for dealing with high crash locations.

Previous Work

Under last year's UPWP, MVPC acquired crash data from MassDOT for the year 2013, which was used in reviewing safety conditions at a number of intersections under study. Staff also participated in Road Safety Audits that were conducted at the Park Street/Lawrence Street intersection in Lawrence, the Storey Avenue/Low Street /Woodman Way intersection in Newburyport, and the I-495/Route 114 Interchange, also in Lawrence. Finally, MVPC developed crash rates for intersections in the Valley where large numbers of crashes have taken place as part of the process of identifying locations for safety studies to be undertaken in the FFY 2017 UPWP.

FFY 2017 Activities

MVPC will continue to assign crashes to their proper location within the MVPC's crash database. Much of this work will be accomplished using the MassDOT crash data summaries and geospatial information provided through our GIS. Staff will also assign geospatial coordinates to crash summaries where staff feels that enough information is contained in the summary (often placed in the wrong field) data that has been provided by MassDOT. Finally, staff will continue to develop and refine crash rates for intersections in the Valley where large numbers of crashes have taken place.

Tasks

- 2.8.1 *Obtain Most Recent MassDOT and Selected Local Police Crash Data:* Staff believes that crash data from 2014 will be available late in July 2016 and facilitate creation of a three-year analysis period of 2012-2014.
- 2.8.2 *Edit MassDOT Crash Data:* MassDOT crash data is reviewed and edited by MVPC so that crashes not assigned GPS coordinates, but with sufficient supporting information to identify where the crash took place, can be given coordinates and thereby be effectively added to the crash database.

- 2.8.3 *Update Estimated Intersection Crash Rates:* Staff will refine the ADT volumes for local roadways that intersect the federal aid road system as well the ADTs for roadway segments on the federal aid system.
- 2.8.4 *Review State’s Crash Cluster List:* MassDOT prepares a listing of ‘Crash Cluster’ locations based on the latest three years of crash data. This list considers a number of factors such as severity of accidents, but does not consider accident rates. Nevertheless, this list provides valuable information on crash locations across the Commonwealth and will be reviewed by MVPC staff when it is released.
- 2.8.5 *Assist in Implementing the Recommendations of the Strategic Highway Safety Plan:* MVPC staff will continue to work with MassDOT to implement the recommendations contained in the Massachusetts Strategic Highway Safety Plan. This would include development of projects that would reduce the number of lane departure crashes in the region along with efforts to develop projects to address safety problems at high-crash locations.
- 2.8.6 *Participation in Road Safety Audits:* Staff will participate in the Road Safety Audits undertaken in the region in FFY 2017.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Obtain Crash Data												
Edit MassDOT Data												
Update Crash Rates												
Monitor Crash Clusters												
Strategic Safety Plan												
Road Safety Audits												
● Product/Event												

Funding

Funding for Task 2.8 Safety Monitoring System		
Source	Person Hours	Amount
FHWA	117	\$10,800
MassDOT	29	\$2,700
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	146	\$13,500

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 conges-

tion 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 2016, 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, and continued working with the City of Haverhill in drafting and implementing a Complete Streets ordinance.

MVPC also created the Regional Health Directors Group in an effort to provide a forum where staff could reach out to local public health officials and inform them of the agency's programs and services, and in turn be made aware of their concerns and initiatives.

FFY 2017 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.

Staff will also apply the Infrastructure Voluntary Evaluation Sustainability Tool (INVEST) that can be used to assess the sustainability of a program or project against best practices relative to sustainability.

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 and Five Year Bus Improvement Design programs.
- 2.9.2 *Continue to Collect Public Health Data for Use in Health Impact Assessment Analyses:* Staff will collect information on health indicators in the MVMPO region from the Massachusetts Department of Public Health, area hospitals and other parties.

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. 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, and other transportation-related projects.

- 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 through MassRides. 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 by providing examples of similar ones that have been adopted around the state. In addition, staff will assist communities in gathering the data identified required by MassDOT in order for communities to apply for funding under the new Complete Streets Funding Program.
- 2.9.6 *Support Regional Health Directors Group:* MVPC will continue to convene meetings of and provide support to the Regional Health Directors.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Technical Assistance												
Collect Health Data						•						
Attend Meetings									•			
Safe Routes to School												
Complete Sts. Assist.										•		
Reg. Health Directors		•				•			•			
	• Product/Event											

Funding

Funding for Task 2.9 Transportation and Livability		
Source	Person Hours	Amount
FHWA	129	\$12,000
MassDOT	32	\$3,000
FTA Section 5303	57	\$5,300
FTA Section 5307	0	\$0
MVPC	14	\$1,325
TOTAL	232	\$21,625

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Task 2.10 - Development 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, state DOTs and MPOs must also adopt performance standards and measures that support key federal transportation priorities and establish performance targets based on these measures.

USDOT began releasing Notices for Proposed Rulemakings (NPRMs) during 2014 and 2015 for Performance Measures for Safety, the Highway Safety Improvement Program, Planning, Pavement and Bridge Condition, and Asset Management.

Meanwhile, MAP-21's successor, the FAST Act, carried forward the performance management federal rulemaking process, although at a slower pace than expected. To date, Final Rules have been issued for State and MPO Planning; the Highway Safety Improvement Program (HSIP), and Safety.

Notices of Proposed Rulemakings (NPRMs) have been released for some performance factors during FFY 2016; pavement and bridge systems performance, traffic congestion, on-road mobile source emissions, and freight movement. Final Rules for these factors have yet to be released, or to become effective, which MVPC staff anticipates will occur in Quarters 1-3 of FFY 2017. Once the Final Rules become effective, state transportation agencies will be expected to implement the federal performance standards and will have one year to establish complimentary (and/or additional) statewide measures and targets. Working in cooperation with USDOT and their state transportation agencies, MPOs will then have an additional 180 days to adopt their own region-specific measures and targets.

Particular to transportation safety, states also have the option to establish any number of urbanized area targets and one non-urbanized area target for any or all of the safety measures. USDOT has recently advised that safety targets will be established annually, beginning in August 2017 (fourth quarter of FFY 2017) for application in calendar year 2018.

Previous Work

In FFY 2015, MVPC staff identified various transportation performance measures that were integrated into the FFY 2016 RTP. Throughout FFY 2016, staff has been monitoring the Federal Register and USDOT communications on Performance Management to stay informed as the process evolves. Staff has also been receiving periodic updates on performance management from MassDOT through the Transportation Managers Group. In addition, the MVMPO staff expects to learn more about the effectiveness of MVRTA's FY14-FY17 performance management efforts following the MVRTA's June 2016 Certification Review.

MVMPO has prepared the following table to guide its FFY 2017 Performance Management activities:

Schedule of Performance Management Implementation				
Performance Category	NPRM and Comment Period	Final Rule Effective Date	MassDOT Deadline	MVMPO Deadline
Trans. Planning for States and MPOs	Closed	05/01/16	05/01/17	10/01/17
HSIP	NPRM 3/15/16	4/14/16	4/14/17 (effective 1/18)	10/14/17 (effective 1/18)
Safety Performance Mgt. Measures	NPRM 3/15/16	4/14/16	4/14/17 (effective 1/18)	10/14/17 (effective 1/18)
Public Transit Agency Safety Plan	Closed 4/5/16	TBD	TBD	TBD
NHS Pavement and Bridge Conditions	Closed 4/6/15	10/01/16	04/01/17	10/01/17
NHS Performance (Congestion)	Comments due 8/20/16	TBD	TBD	TBD
Public Transit Agency State of Good Repair	NPRM Sep 2015	TBD	TBD	TBD
Freight on Inter-state System	Comments due 8/26/16	TBD	TBD	TBD
CMAQ	Comments due 8/26/16	TBD	TBD	TBD

FFY 2017 Activities

In accordance with the above information, the MVMPO staff's FFY 2017 activities will include the following tasks.

Tasks

- 2.10.1 *Safety Performance Measures/Targets; Incorporate Injury Severity Data:* MAP-21 established a National Goal of reducing both the number of fatalities and serious injuries that take place on the nation's transportation system as well as the number of such injuries per Vehicle Mile Traveled. Staff will work with MassDOT to obtain information on the specific circumstances surround crashes that result in fatalities and serious injuries so that effective strategies can be identified to reduce their occurrence.
- 2.10.2 *Collect Data for MVMPO Region Sidewalk Locations and Conditions:* While this measure was used in the FFY 2016 RTP, reliable data on the location and condition of sidewalks is lacking. Under the FFY 2016 UPWP, MVPC GIS staff began to apply a methodology for collecting this information using aerial photographs, MassDOT's Road Inventory File, and other resources. Staff will complete applying this process in all communities in FFY 2017.
- 2.10.3 *Continue Working with MassDOT and the MVRTA on Transit Performance Measures:* Staff will work with MassDOT to evaluate the effectiveness of certain programs and services such as the Community Transit Grant Program, and with the MVRTA to monitor its ongoing transit performance measures as well as its responsibilities for preparing a

Transit Agency Safety Plan (TASP) and Transit Asset Management Plan (TAMP). When needed, staff can assist in identifying potential measures for substitution or addition. Staff also expects to work with the MVRTA to integrate its transit performance measurement activities into the MVMPO's overall planning as was required by MAP-21 and is now required under The FAST Act. This work will accelerate during FFY 2017 toward full implementation in FFY 2018, and will require that the MVMPO staff address how MVRTA's plans are incorporated into the 3C transportation planning process.

2.10.4 *Continue Monitoring USDOT Final Rule Releases and Effective Dates/ Participate on Mayors and Managers Performance Management Committee:* Staff will continue to review the Final Rules for the outstanding Performance Measures as identified in the above table. In addition, the Transportation Program Managers have created a 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 statewide performance management measures.

2.10.5 *Continue Development/Refinement/Maintenance of MVMPO-Specific Performance Measures:* The MVMPO's 2016 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. Others, such as the Number of Miles of Sidewalks in the region (see Task 2.10.2) are being developed and staff will continue to work on these as well.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Injury Severity Data												
Sidewalk Inventory						●						
Transit Measures												
Monitor USDOT Rules												
MPO Measures												
	● Product/Event											

Funding

Funding for Task 2.10 Transportation Performance Measures		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	199	\$18,400
MassDOT	50	\$4,600
FTA Section 5303	21	\$2,000
FTA Section 5307	0	\$0
MVPC	5	\$500
TOTAL	275	\$25,500

Task 2.11 – Travel and Tourism Planning

Description

As noted earlier in this document, the recently passed FAST Act included a new Planning Factor to enhance travel and tourism.

Public-sector tourism and travel promotion in the MVPC region is 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 also has land use implications. The MVMPO plans and programs funding for transportation projects that often serve local tourism and recreation travel needs.

Previous Work

The MVMPO staff has worked closely with the Essex National Heritage Area (ENHA) and its region's Chambers of Commerce for many years to advance travel and tourism. Over time, it has conducted studies, helped to plan, or to program funds for:

- Identifying or addressing traffic issues on key travel routes and facilities that serve visitors
- Supporting the creation of scenic byways, promoting eco-tourism, heritage trails (including bicycle and pedestrian facilities), and rehabilitation of historic transportation facilities (i.e. ROWs);
- Operational and aesthetic improvements—streetscapes, Complete Streets transportation facilities improvements
- Connect with North of Boston Visitors Center to coordinate MVMPO planning activities with that group's initiatives.
- Identify and map key travel and tourism activity centers in the MVMPO region.

Most tourism and traveler information (signage, variable messaging systems, visitor information and welcome centers, ITS, visitor publications, websites, and information kiosks) in the MVMPO region has been developed by the Essex National Heritage Area, National Park Service, MassDOT, the Massachusetts Office of Travel and Tourism (MOTT), and the North of Boston Visitors and Convention Bureau.

FFY 2017 Activities:

MVPC staff will reach out to groups such as the Essex National Heritage Area, National Park Service, MOTT, the North of Boston Visitors and Convention Bureau and other organizations such as its region's Chambers of Commerce, and to local and state officials to update its database of tourism activity centers in the region. MVPC will then convene a meeting of representatives from all identified groups to solicit input on any transportation-related issues that they feel are impacting their organizations/facilities, improvements that they would like to see implemented or studied, and hear about any plans they may have for expanding their facilities.

Tasks

- 2.11.1 *Update MVPC Database of Regional Tourism Centers and Tourism Organizations:* While MVPC has maintained a database of such these centers and organizations over the years, the development of this new and continuing transportation planning effort warrants its comprehensive update. Staff will reach out to our partners identified above under **'2017 Activities'** 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 *Convene Meeting of Staff from State and Regional Tourism Centers/Organizations:* The goal of this meeting will be to introduce these organizations to the new role that travel and tourism has in the transportation planning process and to begin collecting information on any transportation-related issues that they feel are impacting their organizations/facilities, improvements that they would like to see implemented or studied, and hear about any plans they may have for expanding their facilities.
- 2.11.3 *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.
- 2.11.4 *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.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Tourism Database		•										
Tourism Meeting			•									
	• Product/Event											

Funding

Funding for Task 2.11 Travel and Tourism Planning		
Source	Person Hours	Amount
FHWA	90	\$8,400
MassDOT	23	\$2,100
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	113	\$10,500

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 and elevate demand for non-ADA demand-response transportation. Increased regional demand for federally-mandated ADA transportation services also continues. Accordingly, combined ADA- and non-ADA transportation demands continue to impact the MVRTA's annual budget. With federal operating subsidies now largely phased out 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

Under the FFY 2008 UPWP, staff finalized the Coordinated Public Transit-Human Services Transportation Plan for the MVMPO and conducted two rounds of grant applications. 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. It contained forecasts of the region's disabled population to 2030, transit service demand estimates for persons with disabilities, and recommendations as to the type of transit services that will meet this groups transportation needs.

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 'Medi Van' program, which provides transportation for disabled persons in the Valley to medical facilities in Peabody and in Boston.

FFY 2017 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 provide assistance to 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.

Tasks

3.1.1 *Assist MVRTA in Developing in Regional Paratransit Plan:* The MVRTA completed its Regional Transit Plan in 2015 that analyzed its fixed route bus service. In order to appropriately plan for future demand response service, the MVMPO staff will prepare projections for demand response service usage.

Since the adoption of the Regional Mobility Plan in 2013, the Authority has seen rapid increases in the demand for and the cost of providing its paratransit services. This study will review the review recent paratransit service ridership and operations data to determine how the productivity of this service is changing. MVPC will also revisit the ridership and service cost projections contained in Regional Mobility Plan and update them with the latest available population projections and most recent operating and ridership information. New paratransit service operating and capital cost forecasts will then be developed for use by the MVRTA in shaping future capital and operating budgets.

3.1.2 *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.

3.1.3 *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.

3.1.4 *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.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Paratransit Plan							•					
ADA: Demand Response			•				•			•		
ADA: Fixed Route					•				•			
MAP Vehicles												
	• Product/Event											

Funding

Funding for Task 3.1 Elderly and Disabled/ADA Planning		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	0	\$0
MassDOT	0	\$0
FTA Section 5303	44	\$4,240
FTA Section 5307	250	\$23,200
MVPC	74	\$6,860
TOTAL	368	\$34,300

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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 six demand-response transit services in the region – its Ring and Ride Services in Boxford, Georgetown, Groveland, Newbury, Salisbury, 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 Haverhill Intermodal Transit Center and the Amesbury Costello Transportation Center. In FFY 2015, the MVRTA completed a site selection study for an Intermodal Parking Facility in the City of Newburyport, and the Newburyport City Council approved the MVRTA’s recommended Titcomb Street facility site. Design work on this project proceeded in FFY 2016 and it is anticipated that the Final Design for the project will be completed by the end of Calendar 2016.

In FFY 2015, the MVMPO and the MVRTA produced an updated Coordinated Plan in 2015 as required by the Commonwealth’s Merrimack Valley Regional Coordinating Council, with the same goal of unifying planning for the needs of these diverse groups. The Coordinated Plan is particularly important, as MassDOT requires FTA Section 5310 applicants to demonstrate that their proposed transportation projects will address an unmet transportation need in the MVMPO region.

FFY 2017 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 2017 UPWP.

Staff will also provide technical assistance to communities on transit issues, including the MVRTA's implementation of its 2015 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 *Support Implementation of Route Marker Signs:* In 2016, MVPC staff prepared a draft plan for the placement of fixed route bus marker signs. The signs are intended to facilitate public use of the Authority's flag system by increasing MVRTA regional identify and visibility while guiding potential riders to convenient boarding locations. MVMPO staff will make any necessary changes to the plan as requested by the MVRTA.
- 3.2.3 *Support Mobility Working Group:* This group provides the MVRTA with user input on the provision of its transit services. MVPC staff will continue to support this group in FFY 2017.
- 3.2.4 *Collect and Analyze NTD Fixed Route Ridership Data:* Working in concert with MVRTA personnel, staff will collect passenger ridership information (i.e. boardings, alightings, passenger miles traveled) for a sample of one-way trips on the Authority's fixed route bus system. MVPC will summarize this information, which will then be presented to the MVRTA for submission to FTA.
- 3.2.5 *Assist MVRTA in Monitoring FTA Areas of Compliance:* MVPC Staff will assist the MVRTA in monitoring 17 areas of compliance, including Grant Administration, Procurement, and Civil Rights areas, that are included as part of FTA's Triennial Review of the Authority.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Technical Assistance												
Route Markers												
Mobility Working Grp.												
NTD Data Collection										●		
● Product/Event												

Funding

Funding for Task 3.2 Transit Planning		
Source	Person Hours	Amount
FHWA	0	\$0
MassDOT	0	\$0
FTA Section 5303	185	\$17,200
FTA Section 5307	511	\$47,200
MVPC	174	\$16,100
TOTAL	871	\$80,500

Task 3.3 – Route 1 / Route 133 Intersection Road Safety Audit in Rowley

Description

This is the signalized intersection of two moderate-to-high volume arterial roadways in central Rowley. Route 1 carries approximately 10,000 vehicles/day and connects Rowley to Newbury and Newburyport to the north and to Ipswich and other communities on the North Shore to the south. Route 133 carries 14,000 vehicles/day near the intersection and provides a primary east west link to Route 1A to the east and to Interstate 95 and Georgetown to the west.

The intersection was identified by MassDOT as being a 2011-2013 Crash Cluster and MVPC estimates the crash rate at this intersection to be 1.43 per Million Entering Vehicles.

Proponent	Work Conducted By
<ul style="list-style-type: none">● Merrimack Valley MPO (Crash Rate)● Town of Rowley	<ul style="list-style-type: none">● Merrimack Valley Planning Commission

Previous Work

The MVMPO completed a study of this intersection under the FFY 2010 UPWP. That study identified a series of improvements that were intended to relieve the congestion problems found at this location.

In recent years, MassDOT worked with local officials to modify signal operations.

FFY 2017 Activities

The MVMPO staff will work with MassDOT staff and Town of Rowley officials to conduct a Road Safety Audit of this intersection, which will include the identification of short and long-term roadway and intersection improvements that will correct existing safety/capacity deficiencies.

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. This information will be presented and discussed as part of the Road Safety Audit for this intersection.
- 3.3.2 *Traffic Data Collection:* MVPC will collect AM, PM and Saturday Midday peak period Turning Movement counts at the intersection and will also conduct ATR counts on the Route 1 and Route 133 approaches.
- 3.3.3 *Data Analysis:* MVPC staff will first analyze existing Levels of Service (LOS) at intersections in the corridor and then analyze these intersections using alternative roadway configurations
- 3.3.4 *Review Crash Data:* Staff will collect and analyze Town of Rowley and MassDOT crash reports for the intersection for the most recent three-year period available.

- 3.3.5 *Prepare Draft Road Safety Audit Report:* MVPC staff will prepare a Draft Road Safety Audit Report that will be distributed to local and MassDOT officials before conducting the Audit.
- 3.3.6 *Hold Intersection Road Safety Audit:* Staff will work with MassDOT and local officials to schedule the Road Safety Audit for this location and present the findings contained in the Draft Road Safety Audit Report.
- 3.3.7 *Develop Short and Long Term Recommended Improvements:* Based on the results from Tasks 3.3.1-4, staff will prepare preliminary short and long-term recommendations for modifying the intersection.
- 3.3.8 *Prepare Final Road Safety Audit Report:* Based on the feedback received at the Road Safety Audit, MVPC staff will prepare a Final Road Safety Audit Report for this location.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Data Collection												
Draft RSA Report							•					
Hold RSA									•			
Develop Alternatives												
Final RSA Report										•		

• Product/Event

Funding

Funding for Task 3.3 Rte. 1 / Rte 133 RSA in Rowley		
Source	Person Hours	Amount
FHWA	177	\$16,400
MassDOT	44	\$4,100
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	222	\$20,500

Task 3.4 – Route 110 / Main Street Intersection Road Safety Audit in Amesbury

Description

This signalized intersection was identified as a 2011-2013 Crash Cluster by MassDOT. MVPC staff calculated the estimated crash rate for this intersection to be 1.34 per Million Entering Vehicles, one of the highest rates in the MVMPO region.

Proponent	Work Conducted By
<ul style="list-style-type: none">• Merrimack Valley MPO (Crash Rate)• City of Amesbury	<ul style="list-style-type: none">• Merrimack Valley Planning Commission

Previous Work

This intersection was improved by MassDOT in 2009 through Project #603142, which primarily added sidewalks to Route 110.

FFY 2017 Activities

The MVMPO staff will complete the following tasks in developing corrective measures for safety/capacity deficiencies at 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 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 collect peak period turning movement counts at this signalized intersection.
- 3.4.3 *Level of Service Analysis:* MVPC will perform capacity analyses for the intersection to determine whether capacity problems at the intersection might be contributing to its high crash rate.
- 3.4.4 *Obtain Most Recent MassDOT and City of Amesbury Police Crash Data:* Crash reports for the most recent three-year period available will be collected and analyzed for inclusion in the Draft Road Safety Audit Report.
- 3.4.5 *Draft Road Safety Audit Report/Road Safety Audit:* Staff will present the findings from Tasks 3.4.1 - 3.4.4 to MassDOT and local officials in a Road Safety Audit. This audit will provide MVPC with information and suggestions that will facilitate the development of a small range of improvement options that could address the observed safety problems at the intersection.
- 3.4.6 *Develop and Evaluate Alternative Improvement Options:* The information obtained through the Road Safety Audit will be used to develop a small set of improvement options that will then be analyzed in greater detail to determine the impacts they might have in reducing the intersection's crash rate. Staff will consult with the MVRTA as part

of this process to solicit input as to how bus movements through the study area can be better accommodated and ensure that any proposed improvements for the intersection accommodate MVRTA fixed route bus services.

3.4.7 *Prepare Final Road Safety Audit Report:* MVPC staff will prepare a final version of the Road Safety Audit report that outlines the study's findings and recommendations.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Data Collection												
Draft RSA Report										•		
Hold RSA										•		
Develop Alternatives												
Final RSA Report											•	
• Product/Event												

Funding

Funding for Task 3.4		
Rte. 110 / Main St. Intersection RSA in Amesbury		
Source	Person Hours	Amount
FHWA	184	\$16,984
MassDOT	46	\$4,246
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	230	\$21,230

Task 3.5 – Pelham Street / Railroad Street / Osgood Street / Lowell Street / Hampshire Street Intersection Road Safety Audit in Methuen

Description

This study will examine traffic and safety conditions at this signalized intersection, which is located just west of Methuen Square and is considered a gateway to the City’s proposed 40R District. MVPC staff estimated the crash rate for this intersection to be 1.05 Per Million Entering Vehicles.

Proponent	Work Conducted By
<ul style="list-style-type: none"> ● Merrimack Valley MPO (Crash Rate) ● City of Methuen 	<ul style="list-style-type: none"> ● Merrimack Valley Planning Commission

Previous Work

MVPC is completing an examination of the Walkability of roadways in and around the City’s proposed 40R District, which includes this intersection. This review noted the difficulty faced by pedestrians in attempting to cross this intersection to travel to Methuen Square and the public park on Osgood Street.

FFY 2017 Activities

MVPC will undertake the following tasks in conducting this study:

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 peak hour vehicle turning movement and pedestrian crossing counts at the signalized intersection.
- 3.5.3 *Data Analysis/Level of Service (LOS) Calculations:* MVPC staff will complete LOS analyses for this intersection to both measure congestion and develop an intersection crash rate, which will be used in the Road Safety Audit for this location.
- 3.5.4 *Obtain and Analyze Crash Data:* Staff will analyze MassDOT 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 local officials in a Road Safety Audit. This audit will provide MVPC with information and suggestions that will facilitate the development short and long-term improvement options that could implemented.

- 3.5.6 *Develop 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 crash rate 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.
- 3.5.7 *Prepare Final Road Safety Audit Report:* MVPC staff will prepare a final version of the Road Safety Audit report that outlines the study's findings and recommendations.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Data Collection												
Draft RSA Report												
Hold RSA												
Develop Alternatives												
Final RSA Report												
● Product/Event												

Funding

Funding for Task 3.5 Five Corners Intersection RSA in Methuen		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	188	\$17,400
MassDOT	47	\$4,350
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	235	\$21,750

Task 3.6 – Feasibility Study of Restoring Two Way Traffic Operation on Common Street in Lawrence

Description

The Lawrence City Council has requested MVPC assistance in evaluating the traffic impacts of restoring two-way traffic operations on Common Street. For years, Common Street served as the primary eastbound corridor through the Central Business District while Essex Street was the primary westbound corridor. Essex Street was restored to two-way traffic operation in 2008, a move that is considered to have been a success. That, coupled with growth in the Northern Essex Community College campus along and around Common Street, have helped prompt the Council's request.

Proponent	Work Conducted By
• City of Lawrence	• Merrimack Valley Planning Commission

Previous Work

Under the FFY 2015 UPWP, MVPC examined the feasibility of restoring two-way traffic operation to Hampshire Street and Amesbury Street, two north/south corridors that run through the western half of the downtown. That analysis recommended that Amesbury Street be converted to two-way operation to provide a direct northbound connection to downtown from the Casey Bridge.

In April 2016 the City of Lawrence prepared and submitted a TIGER Grant application to USDOT that would make improvements to the Amesbury Street/Parker Street/Winthrop Avenue corridor, including returning Amesbury Street to two-way traffic operation between Lawrence Street and Canal Street (northern end of Casey Bridge).

Also in 2016, the City of Lawrence initiated and MassDOT approved a project that will upgrade selected traffic and pedestrian signal control equipment along Common Street.

FFY 2017 Activities

MVPC transportation staff will complete the following tasks in developing proposed short and long-term improvements to this intersection to correct the safety/capacity deficiencies that now exist.

Tasks

- 3.6.1 *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.
- 3.6.2 *Traffic Data Collection:* MVPC staff will collect peak period turning movement and pedestrian counts at selected intersections along Common Street between Route 28 and Union Street as well as ATR counts.

- 3.6.3 *Regional Traffic Model:* The MVPC's TransCAD model will be used to estimate how traffic patterns could change if Common Street were to be made a two-way street. Modifications to the model's Traffic Analysis Zone (TAZ) structure in the downtown area will be made as part of this effort.
- 3.6.4 *Level of Service Analysis:* MVPC will perform capacity analyses for selected intersections under current conditions and the proposed two-way traffic operation on Common Street.
- 3.6.5 *Crash Data Analyses:* MassDOT and City of Lawrence crash reports for the most recent three-year period available for intersections along the corridor will be analyzed.
- 3.6.6 *Develop and Evaluate Alternative Improvement Options:* The information obtained in completion of Tasks 3.6.4 and 3.6.5 will be used to evaluate how having two-way traffic on Common Street could impact parking at the approaches to each intersection in the corridor. Staff will also consult with the MVRTA as part of this process to solicit input as to how bus movements through the study area might be impacted by opening Common Street to two-way traffic.
- 3.6.7 *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)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Data Collection	■	■					■					
Modify Traffic Model				■	■	■	■					
Crash Analyses							■	■	■			
Draft Report									■	●		
Final Report										■	●	

● Product/Event

Funding

Funding for Task 3.6 Common St. Two-way Traffic in Lawrence		
Source	Person Hours	Amount
FHWA	187	\$17,320
MassDOT	47	\$4,330
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	234	\$21,650

Task 3.7 – Roadway Guard Rail Study in the Town of West Newbury

Description

The Town of West Newbury has approached the Merrimack Valley Planning Commission to analyze key roadways in the community to determine the feasibility of installing new guardrails where needed and to replace old guardrails that are either damaged or have been removed.

Proponent	Work Conducted By
• Town of West Newbury	• Merrimack Valley Planning Commission

Previous Work

None.

FFY 2017 Activities

MVPC will undertake the following tasks in conducting this study:

Tasks

- 3.7.1 *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.
- 3.7.2 *Inventory Location/Condition of Guardrails in West Newbury:* MVPC staff will work with the West Newbury Department of Public Works to identify the location of guardrails in town and develop a condition inventory of these structures.
- 3.7.3 *Collect Information on Adjacent Structures and Roadway Traffic Volumes:* In addition to collecting information on the location and condition of guardrails in town, MVPC will review traffic volumes along these roadways, identify the location of culverts, bridges and adjacent objects/facilities, and estimate side-slope grades.
- 3.7.4 *Review Traffic Engineering Resources for the Installation of Guardrails.* Staff will review the AASHTO Manual and MassDOT's Project Design Guidebook to identify locations/situations where guardrails should be installed.
- 3.7.5 *Develop Recommended Guardrail Improvement Program:* Using the information gathered in Tasks 3.7.2-3.7.4 and cost estimates prepared for appropriate guardrail projects, MVPC staff will work with the West Newbury Department of Public Works to develop a prioritized program of guardrail improvements.
- 3.7.6 *Study Report:* MVPC staff will prepare a report that outlines the study's findings and the recommendations generated through Task 3.7.5.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Data Collection												
Engineering Review												
Improvement Program												
Final Report												
• Product/Event												

Funding

Funding for Task 3.7		
Roadway Guardrail Study in West Newbury		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	170	\$15,720
MassDOT	43	\$3,930
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	213	\$19,650

Task 3.8 – Stormwater Management Technical Assistance

Description

The U.S. Environmental Protection Agency released its Final Phase II National Pollutant Discharge Elimination System (NPDES) permit for Massachusetts early in 2016. 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 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 and 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 securing funding under the Commonwealth Innovation Challenge grant-program that:

- Developed a framework for establishing local/regional stormwater utilities as a funding mechanism to support sustainable, EPA-compliant local stormwater management programs (SWMPs);
- Standardized and incorporated existing local stormwater infrastructure information into a comprehensive, web-based GIS database and mapping system;

- Developed the regional Collaborative website as a platform for education/outreach tools as well as resource showcasing standard stormwater codes, policies, and procedures for operating and maintaining municipal stormwater systems;
- Designed and conducted a stormwater training program for local personnel, focusing on pollution prevention and good housekeeping practices for municipal operations and facilities;
- 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;
- Prepared a 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.), and
- Prepared a 'Sustainability Plan' to ensure the Merrimack Valley Stormwater Collaborative's viability and effectiveness over the long term.

In FFY 2015 and 2016, MVPC sponsored Stormwater Collaborative networking meetings, organized joint services procurement and sponsored information sessions on the new MS4 permit requirements.

FFY 2017 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 education and outreach, public participation and providing technical assistance to communities in development of updated, compliant Stormwater Management Programs as required by the MS4 permit by Fall 2017.

Tasks

- 3.8.1 *Provide Local Technical Assistance to Communities/Outreach Materials:* Staff will 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. The regional coalition, made up of DPW, local conservation/ stormwater management offi-

cials and regional watershed directors, meets monthly. Activities include equipment sharing, joint procurement, maintenance of information/programs on the Collaborative's website www.merrimackvalleystormwater.org, and program development in areas of regulatory development and stormwater program administration.

- 3.8.3 *Conduct Training Sessions for Municipal Personnel:* In order to facilitate local compliance with the anticipated new Phase II stormwater quality sampling requirements, MVPC staff will conduct training sessions for municipal personnel and assist in the design of sampling programs that are tailored to the needs of individual communities, or, as appropriate, coalitions of communities. Wherever feasible, and to maximize limited local resources (both personnel and financial), MVPC will work with member communities to design and implement Phase II MS4 stormwater sampling programs on a shared, inter-municipal basis. A detailed description of the sampling programs will be incorporated in the communities' updated 5-year Storm Water Management Programs (SWMPs) to be submitted to EPA and MassDEP.
- 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 and other regional partners to be held between Fall 2016 through Summer 2017.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
LTA/Outreach												
Spt. Stormwater Collab.												
Training Sessions												
Part. In Workshops												

● Product/Event

Funding

Funding for Task 3.8 Stormwater Management Technical Assistance		
Source	Person Hours	Amount
FHWA	239	\$22,120
MassDOT	60	\$5,530
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	298	\$27,650

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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.

The GWSA also requires that the Commonwealth's agencies develop an implementation plan for achieving the required GHG emissions reductions by 2020. This process is now underway. Reports prepared by the consultants working on the Implementation Plan have identified a range of transportation-related policies and measures that can help achieve the required emissions reduction goals. These include the implementation of stricter federal standards for 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 is being led by staff from the Northeast Office of the National Wildlife Federation (NWF) and planning staff from the Ipswich River Watershed Association (IRWA). Its goal is to identify and prioritize 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.

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 2016, MVPC again, in partnership with the Great Marsh Coalition, planned, promoted, and co-sponsored a regional “Sea Level Rise Strategy Symposium” for Merrimack Valley and North Shore municipal officials, non-profit organizations, educational institutions, and the general public.

FFY 2017 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. It will also monitor the more 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.

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 *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.
- 3.9.3 *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 current 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.
- 3.9.4 *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.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Resiliency Task Force												
Mapping / Modeling												
Regional Workshops												
Coordination												

● Product/Event

Funding

Funding for Task 3.9 Climate Change		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	243	\$22,502
MassDOT	61	\$5,626
FTA Section 5303	20	\$1,900
FTA Section 5307	0	\$0
MVPC	5	\$475
TOTAL	328	\$30,503

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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;
- Smart phone apps and in-vehicle devices that can provide navigational and real time travel information;
- Incident management programs on interstates and major arterial roadways, and
- Advanced Traffic Management activities such as coordination of signals.

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 lanes and 60% more traffic than a dedicated E-Z Pass lane. While local officials have suggested that congestion on I-95 southbound has increased since the Hampton toll booths were upgraded, it is likely that this problem will be corrected through the widening of I-95 in Salisbury, which is taking place as part of the Whittier Bridge Replacement project.

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 is replacing/upgrading the parking collection technology at several of the intermodal transportation facilities that it manages.

FFY 2017 Activities

The MVMPO staff will continue to investigate the Boston ITS Architecture data archives to determine whether it can use the Boston ITS architecture's data sources to refine its existing performance measures or develop new ones.

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/IITS 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 *Assess State of the Practice for Adaptive Signal Control Traffic Modeling:* This relatively new technology has proven to be effective in reducing traffic delay at signalized intersections. However, the lack of recognized modeling/analysis tools to quantify the benefits of this technology prevent MPOs from assessing how effective it might be in correcting congestion problems at specific locations.

Products/Schedule

Task(s)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Gather Information												
Conf./Workshops												
Boston Regional ITS												
Adaptive Signals												

● Product/Event

Funding

Funding for Task 4.1 Intelligent Transportation Systems		
Source	Person Hours	Amount
FHWA	54	\$5,080
MassDOT	13	\$1,270
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	67	\$6,350

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 and 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 2015 and FFY 2016 UPWPs include:

- Provision of technical assistance to the City of Newburyport in Analyzing Potential Traffic Impacts of Proposed 40R District to be located in vicinity of MBTA Commuter Rail Station;
- Preparation of Downtown Parking Utilization Study for the Town of North Andover;
- Preparation of Four-Way Stop Sign Warrant analysis for the Town of West Newbury
- Preparation of recommended improvements for bicycle and pedestrian travel in and around the intersection of Green Street and Merrimac Street in Newburyport;
- Developed Heavy Commercial Vehicle Exclusion application for the Searle Street area for the Town of Georgetown
- Preparation of concept plan for developing rooftop kayak launch facility for the Town of West Newbury;
- Reviewing location of crosswalks for school buses on Lake Street in Haverhill

FFY 2017 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)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Local Technical Assist.												
● Product/Event												

Funding

Funding for Task 4.2 Local Technical Assistance		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	177	\$16,560
MassDOT	44	\$4,140
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	222	\$20,700

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 and Route 114 near the Lawrence/North Andover line.

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 February 2008, the Merrimack Valley Planning Commission prepared the **Merrimack Valley Multi-Hazard Pre-Disaster Mitigation Plan** *Action Plan to Reduce or Eliminate the Long-term Loss in Human Life and Property from Natural Hazards*. This plan was developed by MVPC in cooperation with 12 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" in order to qualify for FEMA funding under the Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA), and Hazard Mitigation Grant Program (HMGP).

In FFY 2012, with funding assistance from MEMA, MVPC began working collaboratively with 14 of the region's 15 communities to prepare an updated Merrimack Valley Multi-Hazard Mitigation Plan covering the period of 2013-2018. This work was completed at the end of 2014 when the draft of the updated plan was submitted to FEMA for review. In 2015 and 2016, MVPC staff has worked with committees to secure local endorsement of the Draft.

MEMA has also completed a Statewide Mass Care and Sheltering Plan and is in the process of preparing a Statewide Evacuation Plan and Local Toolkit to address evacuations of one or more communities for "no notice" and "notice" events. The Evacuation Plan and Local Tool Kit will be completed in early 2016. Coordination of the Mass Care and Sheltering Plan and the Statewide Evacuation Plan with locally developed Mitigation Plans will be required in order to establish expectations, roles/responsibilities and to avoid inconsistencies and duplication of efforts at both the State and Local levels. Local cities and towns will design and implement their own evacuation service designs that will feed into the State-supported part of an evacuation scenario.

In 2011, NERAC commissioned a study 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 the following planning tools for communities to use in improving planning for

the evacuation of local populations. NERAC is updating these tools to assist member communities in addressing their local evacuation planning requirements.

- **An Emergency Vehicle Adequacy Calculator (EVAC) Tool** assists communities in estimating the number and types of vehicles that would be necessary to complete an evacuation of a given population within a known time frame;
- **A Transportation Asset Database** contains a listing of each transportation asset in the NERAC region, and
- **A Transportation Availability Workbook** contains a series of worksheets and step-by-step instructions that enable communities to assess their individual levels of transportation readiness and evacuation preparedness.

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 also 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.

FFY 2017 Activities

Staff will continue to work with our communities to implement the recommendations contained in the region's Multi-Hazard Mitigation Plan. 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. MVPC staff will then report back to the MVMPO to discuss what actions should be taken to address this issue either through an amendment to this UPWP or as a task in the FFY 201 UPWP.

Tasks

- 4.3.1 *Plan Monitoring and Data Collection:* In early 2015, staff completed draft of the Regional Natural Hazard Mitigation Plan update for the 14 participating communities. The Plan was accepted by FEMA and MEMA and locally adopted by member communities in Spring 2016. Staff will monitor plan implementation including website updates, project monitoring, and incident/climate data collection.
- 4.3.2 *Assist Communities in Implementing/Monitoring Multi-Hazard Mitigation Plan Elements:* Once adopted, MVPC staff will assist community officials in implementing the recommendations contained in the document as well with the associated monitoring effort

4.3.3 *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)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Plan Monitoring & Data												
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	82	\$7,720
MassDOT	21	\$1,930
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	103	\$9,650

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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 is comprised of five members:

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

Previous Work

The Merrimack Valley Planning Commission Adjudicatory Board (MVPC Adjudicatory Board) has taken the following actions since its creation:

- Approved a request from the Town of Amesbury to discontinue a section of county road layout near the intersection of Routes 150 and 110 (June 2009);
- Approved a request from the Town of Boxford to discontinue a section of county road layout for Towne Road, which is located near the North Andover town line (September 2011);
- Approved a request from the City of Amesbury to discontinue a sliver of the old County Road layout along Route 110 just east of the intersection where a discontinuance was approved in 2009 (September 2012), and
- Approved a request from the Town of Merrimac to discontinue the section of River Road 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).

FFY 2017 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)	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Implement Process												
	● Product/Event											

Funding

Funding for Task 4.4 County Roads Adjudication		
Source	Person Hours	Amount
FHWA	27	\$2,520
MassDOT	7	\$630
FTA Section 5303	0	\$0
FTA Section 5307	0	\$0
MVPC	0	\$0
TOTAL	33	\$3,150

FFY 2017 UNIFIED PLANNING WORK PROGRAM TASK FUNDING SUMMARY

Task	Description	FHWA/ MassDOT (PL)	FTA/ MassDOT/ MVPC Sect. 5303	FTA/ MVRTA/ MVPC Sect. 5307	FFY 2017 TOTAL
1.1	Program Management & Support.	\$79,000	\$28,000	\$5,000	\$112,000
1.2	Public Participation Process	\$55,260	\$23,900	\$0	\$79,160
1.3	Unified Planning Work Program	\$15,000	\$4,500	\$0	\$19,500
1.4	Transportation Improvement Program	\$33,000	\$7,200	\$0	\$40,200
1.5	Updating Transportation Web Pages	\$12,000	\$2,500	\$0	\$14,500
1.6	Title VI/Environmental Justice/LEP Activities	\$20,000	\$8,375	\$0	\$28,375
1.7	Regional Transportation Plan	\$5,475	\$1,625	\$0	\$7,100
2.1	Traffic Monitoring Program	\$68,000	\$0	\$0	\$68,000
2.2	Regional Pavement Management Program	\$15,200	\$0	\$0	\$15,200
2.3	Geographic Information Systems	\$95,000	\$17,500	\$7,000	\$119,500
2.4	Congestion Management Process	\$16,100	\$2,400	\$0	\$18,500
2.5	Intermodal Connections to NHS System/Freight Planning	\$15,270	\$1,250	\$0	\$16,520
2.6	Regional Transportation Model	\$25,600	\$2,000	\$0	\$27,600
2.7	Bicycle /Pedestrian /Water Trails Planning	\$27,400	\$0	\$0	\$27,400
2.8	Safety Monitoring System	\$13,500	\$0	\$0	\$13,500
2.9	Transportation and Livability	\$15,000	\$6,625	\$0	\$21,625
2.10	Development of Transportation Performance Measures	\$23,000	\$2,500	\$0	\$25,500
2.11	Travel and Tourism Planning	\$10,500	\$0	\$0	\$10,500
3.1	Elderly and Disabled / ADA Planning	\$0	\$5,300	\$29,000	\$34,300
3.2	Transit Planning	\$0	\$21,500	\$59,000	\$80,500
3.3	Route 1 / Route 133 Road Safety Audit in Rowley	\$20,500	\$0	\$0	\$20,500
3.4	Route 110 / Main St. Intersection RSA in Amesbury	\$21,230	\$0	\$0	\$21,230
3.5	Five Corners' Intersection Road Safety Audit in Methuen	\$21,750	\$0	\$0	\$21,750
3.6	Common Street Two-Way Traffic Feasibility Study	\$21,650	\$0	\$0	\$21,650
3.7	Roadway Guardrail Study in the Town of West Newbury	\$19,650	\$0	\$0	\$19,650
3.8	Stormwater Management Technical Assistance	\$27,650	\$0	\$0	\$27,650
3.9	Climate Change	\$28,128	\$2,375	\$0	\$30,503
4.1	Intelligent Transportation Systems	\$6,350	\$0	\$0	\$6,350
4.2	Local Technical Assistance	\$20,700	\$0	\$0	\$20,700
4.3	Regional Transportation Security	\$9,650	\$0	\$0	\$9,650
4.4	County Road Adjudication	\$3,150	\$0	\$0	\$3,150
	TOTAL	\$744,713	\$137,550	\$100,000	\$982,263
	AMOUNT AVAILABLE	\$744,714	\$137,699	\$100,000	\$982,413

Percentage of Spending – Task 1	30.6%
Percentage of Spending – Task 2	37.0%
Percentage of Spending – Task 3	28.3%
Percentage of Spending – Task 4	4.1%
Percentage of Spending – Planning Studies	34.9%

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COMMENTS RECEIVED ON MVMPO'S DRAFT FFY 2017 UPWP AND RESPONSES

MassDOT

Page 35 - Please correct typo in "Dept. of Conservation and Recreation."

Response: Correction made.

Pages 53-54-Task 1.5: Please include this activity within Task 1.2, as this is not substantial enough to warrant a separate task.

Response: Change made.

Page 75-Task 2.5: Please include a sub-task to participate in MassDOT's freight plan update.

Response: Subtask added.

Page 77-Task 2.6: Please utilize and reference the Massachusetts Household Travel Survey data.

Response: Subtask 2.6.2 added.

Page 79-Task 2.7: Please ensure that any project recommendations anticipate the requirements of the Healthy Transportation Directive.

Response:

Page 79 – Task 2.7: Please consider adding a sub-task to support the administration of a bicycle parking program, should there be available Congestion Mitigation Air Quality funds within your Transportation Improvement Program -to prioritize such an initiative.

Response: Subtask added.

Page 125 -Task 4.2: Please consider adding a sub-task for MPO staff to assist communities advancing projects from planning studies into the MassDOT Project Development Process, specifically the preparation of Project Need Forms and Project Initiation Forms.

Response: Subtask added.

Page 133 - Please sum the budget of each of the task areas one through four and be sure that task area three represents 33% of the planning activities by cost.

Response: Summary of funding under each task area provided along with calculation of percentage of UPWP budget devoted to transportation planning studies.

MVRTA

1. Page 24: The contract period between the MVRTA and the MVPC is 10/1/2016-9/30/2017 not 10/1/2017-9/30/2018.

Response: Correction made.

2. Page 25: Table as presented below would be a better reference than Table 2 on the following page.

Response: Change made.

3. Pages 55/56: There are references to MVMPO Staff, MVPC Staff and Staff-which staff is doing the work under this task.

Response: Change made with references to 'MVPC Staff'.

4. Page 90: In the Table, Public Transit Agency State of Good Repair (that is, FTA's proposed Asset Management Rule) in the Final Rule column should be TBD.

Response: Change made.

5. Page 90: Subtask 22.10.3: MassDOT Rail and Transit Division administers and oversees the Community Transit Grant Program not MassMobility (EOHHS).

Response: Change made.

6. Page 93: Task 2.11 Travel/Tourism Planning: Sites of historic or tourism interest can be placed on MVRTA bus system routes maps as well as system map as room is available.

Response: Added Subtask 2.11.4

7. Page 101: Task 3.2 Transit Planning: Minor correction: Route 51 Newburyport D/R service has been removed and is now served by Bus Route 54.

Response: Reference to Route 51 Demand Response removed.

8. Page 101: Task 3.2 Transit Planning: Add the following subtask 3.2.5: Provide assistance to MVRTA as requested regarding compliance with the 17 FTA areas of compliance covering approximately 575 supporting questions.

Response: Subtask 3.2.5 added.

9. Page 127: Task 4.3 Regional Transportation Security: MEMA is now concentrating on the State responsibility regarding the implementation of an Evacuation Plan. As presented in the Concept of Operations local cities and towns will design and implement their own evacuation service design that will feed into the State supported part of an evacuation scenario. NERAC is updating the items listed on page 128 to assist member communities in addressing this local responsibility under the MEMA Concept of Operations.

Response: 'Previous Work' section modified to reflect comment.