



Merrimack Valley  
Planning Commission  
*plan \* develop \* promote*

**MERRIMACK VALLEY METROPOLITAN  
PLANNING ORGANIZATION**

**FEDERAL FISCAL YEAR 2013  
UNIFIED PLANNING WORK PROGRAM**

**Final REPORT**

**Prepared by the  
MERRIMACK VALLEY PLANNING COMMISSION**

**June 28, 2012**

This document was prepared by the Merrimack Valley Planning Commission under Contract #55999 with the Massachusetts Department of Transportation (MassDOT) and under Contract MA-80-0006 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).

160 Main Street, Haverhill, MA 01830

phone - 978.374.0519 • fax - 978.372.4890

---

Serving the communities of:

Amesbury Andover Boxford Georgetown Groveland Haverhill Lawrence Merrimac Methuen  
Newbury Newburyport North Andover Rowley Salisbury West Newbury



# TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>1</b>
Merrimack Valley Metropolitan Planning Organization (MVMPO) .....	1
Organization of FFY 2013 Unified Planning Work Program .....	2
MVMPO Transportation Planning Priorities .....	2
Federal Transportation Planning Policies .....	3
State Policies and Plans .....	3
weMove Massachusetts .....	4
Transportation Planning Program Years Covered by This Document .....	7
Other Transportation Planning Studies .....	8
Transportation Planning Requirements Under SAFETEA-LU .....	9
Other MVPC Planning Studies and Funding Sources .....	11
Summary of Anticipated MVPC Funding Resources in FY 2013 .....	15
<b>MERRIMACK VALLEY PLANNING COMMISSION STAFF .....</b>	<b>17</b>
<b>MERRIMACK VALLEY PLANNING COMMISSION TRANSPORTATION STUDIES, ANALYSES AND TECHNICAL ASSISTANCE .....</b>	<b>19</b>
Local Technical Assistance Projects .....	19
Transportation Studies .....	19
Acronyms Used in FFY 2013 UPWP .....	21
<b>TASK 1.0 - MANAGEMENT AND SUPPORT OF THE 3C TRANSPORTATION PLANNING PROCESS .....</b>	<b>23</b>
Task 1.1 - Program Management and Support .....	25
Task 1.2 - Public Participation Process .....	27
Task 1.3 – Unified Planning Work Program (UPWP) .....	29
Task 1.4 - Transportation Improvement Program (TIP) .....	31
Task 1.5 - Updating Transportation Web Pages .....	35
Task 1.6- Regional Transportation Plan .....	37
<b>TASK 2.0 - DATA COLLECTION AND ANALYSIS ACTIVITIES .....</b>	<b>39</b>
Task 2.1 - Traffic Monitoring Program .....	41
Task 2.2 - Pavement Management Studies .....	43
Task 2.3 - Geographic Information Systems .....	45
Task 2.4 - Congestion Management Processes .....	47
Task 2.5 - Intermodal Connections with National Highway System .....	49
Task 2.6 - Regional Transportation Model .....	51
Task 2.7 -- Bicycle/Pedestrian/Water Trails Planning .....	53
Task 2.8 - Safety Monitoring System .....	55
Task 2.9 – Transportation and Livability .....	57
Task 2.10 – Title VI / Environmental Justice Program Planning Activities .....	59
<b>TASK 3.0 - SHORT AND LONG-RANGE TRANSPORTATION PLANNING ACTIVITIES .....</b>	<b>61</b>
Task 3.1 -- Elderly and Disabled/ADA Planning .....	63
Task 3.2 – Transit Planning .....	65
Task 3.3 – Lawrence Roadway Project Development Support .....	67
Task 3.4 – Marston Corner Safety Analysis in Methuen .....	69
Task 3.5 – Route 110/Burnham Road Traffic Analysis in Methuen .....	71
Task 3.6 – Interstate 495/Massachusetts Avenue Safety Analysis in North Andover .....	73
Task 3.7 – Stormwater Management Technical Assistance .....	75
Task 3.8 - Climate Change .....	77
Task 3.9 - I-93 High-Occupancy Vehicle / Bus-On-Shoulder Feasibility Study .....	79
<b>TASK 4.0 - OTHER TRANSPORTATION STUDIES .....</b>	<b>83</b>
Task 4.1 - Intelligent Transportation Systems (ITS) .....	85
Task 4.2 - Local Technical Assistance .....	87
Task 4.3 - Regional Transportation Security .....	89
Task 4.4 – County Road Adjudication .....	91
<b>FFY 2013 UPWP TASK FUNDING SUMMARY .....</b>	<b>93</b>
<b>MVMPO ENDORSEMENT SHEET .....</b>	<b>95</b>



## INTRODUCTION

The Unified Planning Work Program (UPWP), as mandated under the federal “3C” transportation planning process, 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). In addition, the most recent federal transportation funding authorization legislation, the Safe, Accessible, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, requires that MPOs located in Transportation Management Areas (TMAs) prepare a UPWP that discusses the transportation planning priorities established by the MPO, describes the air quality planning activities that are to be conducted in the area, identifies the planning products that are to be produced, and identifies which agency will be responsible for producing these products. Since the Merrimack Valley region has been classified as a TMA by the Federal Department of Transportation (i.e. contains an urbanized area population of more than 200,000), it must therefore meet these requirements.

The FFY 2013 UPWP for the Merrimack Valley Metropolitan Planning Organization (MVMPO) fulfills the above requirement by briefly describing and providing budgetary information for the transportation planning tasks and activities that are to be conducted in the region during this period. The Merrimack Valley Planning Commission (MVPC) will undertake most of these activities in its capacity as the transportation planning staff of the MVMPO. 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.

U.S. Department of Transportation regulations mandate that the UPWP be prepared and endorsed annually by the 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 MVPC, as the transportation planning staff of the MVMPO, has the principal responsibility of maintaining the transportation planning process in the region as outlined in the 2010 Memorandum of Understanding (MOU), which was endorsed by the members of the MVMPO. In this role, the MVPC is responsible for annually preparing the UPWP for consideration and adoption by the MVMPO.

### **Merrimack Valley Metropolitan Planning Organization (MVMPO)**

The MVMPO was first created by the Governor of Massachusetts in 1972. 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.

The MVMPO covers the same 15-community geographic area that defines the MVPC region and the Merrimack Valley Regional Transit Authority service area. The current MVMPO membership is as follows:

- |  |   |                       |
|--|---|-----------------------|
| • Secretary of Massachusetts Department of Transportation (MassDOT)          | - | Richard Davey         |
| • Acting MassDOT Highway Division Administrator                              | - | Francis DePaola       |
| • Chairman of the Merrimack Valley Planning Commission (MVPC)                | - | Joseph Sullivan       |
| • Chairman of the Merrimack Valley Regional Transit Authority Advisory Board | - | Charles Boddy         |
| • Mayor of Haverhill   | - | James Fiorentini      |
| • Mayor of Lawrence  | - | William J. Lantigua   |
| • Representing Region 1 (Amesbury, Newburyport, Salisbury)                   | - | Thatcher W. Kezer III |
| • Representing Region 2 (Newbury, Rowley, West Newbury)                      | - | Robert Snow           |
| • Representing Region 3 (Boxford, Georgetown, Groveland, Merrimac)           | - | Philip Trapani        |
| • Representing Region 4 (Andover, Methuen, North Andover)                    | - | Curt Bellavance       |

Ex officio, non-voting MVMPO members include:

- |   |   |                      |
|---|---|----------------------|
| • Federal Highway Administration – Region I | - | Pamela S. Stephenson |
| • Federal Transit Administration – Region I | - | Mary Beth Mello      |
| • Rockingham Planning Commission MPO (NH)   | - | Tim Moore            |
| • Boston MPO                                | - |                      |
| • Northern Middlesex MPO                    | - |                      |
| • Nashua Planning Commission MPO (NH)       | - | Janet Langdell       |

## Organization of FFY 2013 Unified Planning Work Program

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

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

## MVMPO Transportation Planning Priorities

Briefly described below are the MVMPO's key transportation planning accomplishments under the FFY 2012 UPWP.

### Route 93 Corridor Study/Andover Interchange

MVPC continued to provide technical assistance to The I-93 Tri-Town Interchange Task Force and participated on the Tri-Town Project Coordinating and Participating Agency Group. During FFY 2012, MassDOT continued preparing the Environmental Impact Statement (EIS) in support of the development of this interchange. When completed, the EIR/EIS will allow MassDOT to complete the necessary environmental and preliminary design work needed to fully assess the environmental impacts and projected cost of a new interchange and the widening of I-93 between the Wilmington/Andover town line and the New Hampshire state line. When completed, this project would reduce congestion in the corridor, eliminate the use of the breakdown lane as a travel lane during peak travel periods and provide a uniform cross section along the roadway between Manchester, NH and Somerville, MA. The project potentially could also facilitate further corridor improvements being considered, such as the implementation of managed lanes.

### Bicycle and Pedestrian Planning

During FFY 2012, the MVMPO continued to focus on the development of the Border to Boston Trail. Design work was completed for the construction of a bicycle/pedestrian connection between the northern end of the Gillis Bridge and Salisbury's Old Eastern Marsh Trail. This connection, to be made under the bridge, would greatly improve the connection of the Old Eastern Marsh Trail with the Clipper City Rail Trail in Newburyport, located at the southern end of the Gillis Bridge.

FY 2012 also saw the progress of design work on the remaining sections of the Border to Boston Trail through the MPO's *Border to Boston Trail Funding Program*. This program was created to facilitate the continued development of the rail trail in Boxford, Georgetown, Newbury and Salisbury using funding that was earmarked for the project in SAFETEA-LU and local matching funding provided by the communities themselves. Twenty-five percent plans are expected to be completed in the autumn of 2012 and final design will be completed in 2013.

Merrimack Valley Planning Commission staff, working in cooperation with the Essex National Heritage Commission and Northern Middlesex Council of Governments, also completed efforts to provide planning assistance to communities in the Merrimack Valley and Northern Middlesex region to refocus support for the implementation of the Merrimack River Trail. This effort focused on identifying and evaluating the most feasible trail segments. Primarily envisioned as a walking trail, it would extend along the Merrimack from Lowell to Newburyport. Funding for this study was provided through a grant from the Massachusetts Department of Conservation and Recreation. MVPC staff also completed the M&L Branch Trail Feasibility study in downtown Lawrence.

### Merrimack Valley Regional Transit Authority Strategic Plan Update

Working in conjunction with MVPC staff, MVRTA began an update of its Strategic Plan, which was originally prepared in 1999. The Strategic Plan provides a comprehensive examination of the Authority's organizational structure, its existing strengths and weaknesses, the performance of its various fixed route bus and demand response services, and the characteristics and needs of the population that it serves.

The updated Strategic Plan will allow the MVRTA to adjust its policies and strategic goals to reflect the changes to the transportation system that have taken place in its service area since the original document was prepared over a decade ago. These include the findings and recommendations contained in the region's FFY 2009 Elderly Transportation Plan Update, its FFY 2008 Disabled Population Transportation Study, and its FFY 2008 Coordinated Human Service Transportation Plan.

MVPC transportation staff and the MVRTA continued work on this document in FFY 2012 and it is anticipated to be adopted by the MVRTA Advisory Board later in calendar 2012.

### **MVMPO 2012 Regional Transportation Plan**

The MVMPO 2012 RTP was endorsed in September 2011. The MVPC, in concert with its member communities, was able to demonstrate that there are a number of proposed roadway and bridge projects referenced in the document that no longer appear to be important to officials in the community that proposed them. Unfortunately, these projects, and their associated construction costs, were still being shown in the document and their estimated construction costs were consuming a large proportion of the roadway and bridge funding expected to be available to the MVMPO over the next 23 years. With the costs of completing such projects escalating rapidly and the amount of funding available to build them expected to remain largely the same in the coming years, MVMPO members realized that steps needed to be taken to remove unneeded/unwanted projects from the RTP and thereby allow limited transportation construction funding to be devoted to developing and programming more important ones.

### **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, MVPC completed a transportation study of the corridor that considers existing traffic and safety problems, forecasts future travel demand and made a series of recommendations that address the recurrent congestion problems that have plagued the area for many years.

### **Federal Transportation Planning Policies**

In FFY 2010, USDOT released a series of planning initiatives and provided planning guidance to the MPOs in the state that have helped shape the region's UPWP.

#### **Climate Change/Livability**

In approving the FFY 2010 Unified Planning Work Programs, USDOT provided guidance to the MPOs in the Commonwealth in considering two important planning areas contained in FHWA's 2010 Strategic Plan: Climate Change and Livability.

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. USDOT also asked these MPOs to address this issue in their 2012 RTPs.

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 2013 to support sustainable development principles in the Valley and, in doing so, improving the quality of life.

### **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. These plans, along with the state's continuing commitment to encourage Sustainable Development, are outlined below and have been considered in the formulation of the region's FFY 2012 UPWP.

## State Transportation Restructuring

On June 26, 2009, Governor Patrick signed Chapter 25 of the Acts of 2009, *An Act Modernizing the Transportation Systems of the Commonwealth*, into law. This legislation is intended to streamline the Commonwealth's transportation bureaucracy and to change certain pension and health benefits to realize substantial cost efficiencies. Key components of the legislation include:

- Creation of the Massachusetts Department of Transportation, which oversees four divisions:
  1. Highway (Including Turnpike, Tobin Bridge, DCR Bridges and most parkways);
  2. Mass Transit (with oversight of the MBTA and the Regional Transit Authorities (RTAs));
  3. Aeronautics, and
  4. Registry of Motor Vehicles.
- Oversight of MassDOT is provided by a five-person Board of Directors.
- Establishment of a Transportation Trust Fund to better manage transportation revenues.
- Requiring forward funding of the RTAs

## weMove Massachusetts

The Massachusetts Department of Transportation (MassDOT) is now undertaking a comprehensive effort to prioritize the state's transportation investments. This initiative is being undertaken:

"...to spend our limited resources on investments into our transportation system that yield the greatest return in meeting our needs, to defend our investment decisions with data, and to meet these goals while understanding the aspirations and concerns of the traveling public."

Through *weMove Massachusetts*, MassDOT is seeking to:

- Articulate MassDOT's goals, priorities, and policies, which are based on public input
- Advance important statewide policy goals for improving mobility, protecting the environment, promoting economic growth, and improving public health and quality of life
- Better use available information to allocate funding and prioritize projects in a clear and transparent way
- Communicate with stakeholders about their ideas on improving transportation services

It is anticipated that this study will be completed early in 2013.

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

## "Green Dot"

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 (see *Sustainable Development Criteria* on Page 6). Three of its primary goals are to reduce greenhouse gas (GHG) emissions, promote the healthy transportation options of walking, bicycling, and 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

As noted on the MassDOT GreenDOT website:

GreenDOT was designed in response to several existing state laws, Executive Orders, and MassDOT policies. These include the 2009 Transportation Reform Law that created MassDOT and established the [Healthy Transportation Compact](#) that promotes improved public health through active transportation; the Global Warming Solutions Act, which calls for measurable and enforceable economy-wide greenhouse gas reductions; and MassDOT's Complete Streets design approach that calls for appropriate accommodation of all transportation system users. Read the [GreenDOT Policy Directive](#) for more information.

## **Beyond Boston Transit Study**

Working in cooperation with the state's 15 Regional Transit Authorities and the MBTA, MassDOT is currently undertaking this study "...to more effectively strategize, prioritize, and deliver transit service throughout the Commonwealth." Some of the tasks that will be undertaken in the study include:

- A thorough review of the Commonwealth's transit network from a statewide perspective including the transit system operations and demands, barriers to improved service, and state, regional, and national best practices and trends.
- An analysis of the operation of each RTA, with the purpose of identifying ways in which each regional transit authority can improve the efficiency of existing services, and provide new or expanded services to local communities.
- The identification of transportation improvement projects for the regional transit authorities, and mechanisms to improve and maintain public transportation facilities and equipment.
- An evaluation to ensure resources and investments provide an equitable allocation of investments in transportation across the regions of the Commonwealth.
- Identification of opportunities for greater collaboration between the RTAs and the MBTA.
- Development of mechanisms for streamlining the management of public transportation assets.

<http://www.massdot.state.ma.us/planning/BeyondBostonTransitStudy.aspx>

## **MassDOT Highway Division Capital Investment Plan**

In May 2010, MassDOT prepared the first of the Capital Investment Plans called for under Section 11 of the transportation reform legislation. The MassDOT Highway Division Capital Investment Plan examines the condition of all bridges in the Commonwealth as well as the condition of all state-maintained roadways and other facilities and makes recommendations as to how much funding is needed to bring these facilities into a "state of good repair". The Capital Investment Plan showed that the Highway Division will need significantly more funding in the coming years to bring its facilities into excellent condition.

## **Massachusetts Freight Plan and Rail Plan**

In FFY 2011, MassDOT completed work on the Massachusetts Freight Plan and the State Rail Plan. MassDOT, through its consultant, has completed a comprehensive analysis of freight flows both within Massachusetts and from Massachusetts to other regions in the United States and to foreign markets. MassDOT has also reviewed the state of rail, truck, air, and water freight transportation in the Commonwealth and forecast the amount of freight that will be carried by each mode in the year 2030. This analysis determined 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.

The analysis specifically found that in the MVMPO region the existing freight rail network has a number of limitations. The existing tracks do not support 286,000 pound carloads (which is becoming the industry standard), and do not provide the 20'8" clearances needed to carry double-stacked containers. In addition to these system-wide problems with the track, the MassDOT analysis cited the poor condition of the Merrimack River Bridge in Haverhill as another factor limiting the growth of freight rail service in the Commonwealth.

## **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 structurally deficient bridges or bridges that are in jeopardy of becoming structurally deficient so as to reduce the number of such bridges in the state in the coming years. The legislation included an emphasis on planning and completing the identified bridge projects in an expedited manner. 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. Bridges owned by MassDOT and the Massachusetts Department of Conservation and Recreation are eligible for this program.

Six Merrimack Valley region bridge repair or replacement projects are included in the ABP. These are listed below along with their current status:

- Replacement of the Route 28 Bridge over the MBTA railroad tracks in Andover; (Design)

- Repair of the Route 28 Bridge over the Merrimack River in Lawrence; (Substantially Complete)  
Reconstruction of the Route 125 Connector Bridge over Ferry Road and the MBTA railroad tracks in Haverhill; (Substantially Complete)
- Rehabilitation of the Rocks Village Bridge over the Merrimack River between Haverhill and West Newbury; (Beginning Construction)
- Replacement of the Whittier Bridge, which carries I-95 over the Merrimack River between Amesbury and Newburyport. (Construction to Begin in December 2012)
- Cleaning and painting of the Gillis Bridge which carries Route 1 over the Merrimack River between Salisbury and Newburyport (Substantially Complete)

<http://www.eot.state.ma.us/acceleratedbridges/>

### **Sustainable Development Criteria**

The Commonwealth of Massachusetts has established a goal of stewardship for both the built and natural environment through the promotion of what is called “sustainable development.” This strategy relies on the integration of efforts within the state’s energy and environment, housing and economic development, transportation and other programs including policies investments, and regulations. This is to be accomplished through the pursuit of the following sustainable development principles:

1. **Redevelop first.** Support the revitalization of community centers and neighborhoods. Encourage reuse and rehabilitation of existing infrastructure rather than the construction of new infrastructure in undeveloped areas. Give preference to redevelopment of brownfields, preservation and reuse of historic structures and rehabilitation of existing housing and schools.
2. **Concentrate development.** Support development that is compact, conserves land, integrates uses, and fosters a sense of place. Create walkable districts mixing commercial, civic, cultural, educational and recreational activities with open space and housing for diverse communities.
3. **Be fair.** Promote equitable sharing of the benefits and burdens of development. Provide technical and strategic support for inclusive community planning to ensure social, economic, and environmental justice. Make regulatory and permitting processes for development clear, transparent, cost-effective, and oriented to encourage smart growth and regional equity.
4. **Restore and enhance the environment.** Expand land and water conservation. Protect and restore environmentally sensitive lands, natural resources, wildlife habitats, and cultural and historic landscapes. Increase the quantity, quality and accessibility of open space. Preserve critical habitat and biodiversity. Promote developments that respect and enhance the state’s natural resources.
5. **Conserve natural resources.** Increase our supply of renewable energy and reduce waste of water, energy and materials. Lead by example and support conservation strategies, clean power and innovative industries. Construct and promote buildings and infrastructure that use land, energy, water and materials efficiently.
6. **Expand housing opportunities.** Support the construction and rehabilitation of housing to meet the needs of people of all abilities, income levels and household types. Coordinate the provision of housing with the location of jobs, transit and services. Foster the development of housing, particularly multifamily, that is compatible with a community’s character and vision.
7. **Provide transportation choice.** Increase access to transportation options, in all communities, including land and water based public transit, bicycling, and walking. Invest strategically in transportation infrastructure to encourage smart growth. Locate new development where a variety of transportation modes can be made available.
8. **Increase job opportunities.** Attract businesses with good jobs to locations near housing, infrastructure, water, and transportation options. Expand access to educational and entrepreneurial opportunities. Support the growth of new and existing local businesses.
9. **Foster sustainable businesses.** Strengthen sustainable natural resource-based businesses, including agriculture, forestry and fisheries. Strengthen sustainable businesses. Support economic development in industry clusters consistent with regional and local character. Maintain reliable and affordable energy sources and reduce dependence on imported fossil fuels.

- 10. Plan regionally.** Support the development and implementation of local and regional plans that have broad public support and are consistent with these principles. Foster development projects, land and water conservation, transportation and housing that have a regional or multi-community benefit. Consider the long-term costs and benefits to the larger Commonwealth.

#### **District Local Technical Assistance Program (DLTA)**

To support implementation of the Sustainable Development Principles listed above, the legislature created the DLTA Program, which provides funding for the regional planning agencies around the state to assist communities with planning services. The Commonwealth's DLTA program was funded for State Fiscal year 2013 and can be used for a variety of purposes including developing shared land use objectives, reviewing and modifying existing zoning and land use and creating municipal partnerships.

#### **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.

Each state must have a strategic highway safety plan that identifies and analyzes safety problems and opportunities in order to use HSIP funds for new eligible activities. The plan is required to include a crash data system that can perform problem identification and countermeasure analysis. The annual report to the Secretary of Transportation must include a description of not less than five percent of locations exhibiting the most severe safety needs, with an assessment of potential remedies for the identified hazardous locations, estimated costs associated with these remedies, and impediments to implementation other than cost. The funding split for projects developed under this program is 90% federal/10% state, although there are certain activities that can be 100% federally funded.

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 2012, the MVMPO programmed FFY 2016 HSIP funds in the FFY 2013-2016 TIP for the construction of roadway improvements at the Route 125 (Chickering Road)/Massachusetts Avenue intersection in North Andover, and for the section of the Route 125 Corridor in Haverhill between Winter Street and Merrimack Street. The MVMPO had previously used HSIP funds to complete the design work for both projects.

#### **Transportation Planning Program Years Covered by This Document**

The transportation planning tasks and activities in the FFY 2013 UPWP were developed by the MVPC and MVRTA in cooperation with FHWA, MassDOT, FTA, and local officials. 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 85% 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 2013 UPWP will be performed by either the MVPC or private consultants through the contracts described above. Contract #55999 between MassDOT and MVPC will end on September 30, 2012. A new four year contract between MVPC and MassDOT is anticipated to take effect on October 1, 2012 and will fund many of the highway-related transportation planning tasks to be undertaken in the FFY 2013 UPWP. Tasks funded under the FTA Section 5303 Contract X006 between MassDOT and the MVPC will be conducted between October 1, 2012 and March 31, 2013. Transit planning tasks for the period from April 1, 2013 through September 30, 2013 will be completed under Contract X007 between MassDOT and the MVPC. Finally, the transportation planning activities funded through the Section 5307 contract between the MVRTA and the MVPC will be funded through a contract that that will be in effect from October 1, 2012 through September 30, 2013.

## Other Transportation Planning Studies

In addition to the studies and analyses undertaken by the MVPC, a number of transportation planning studies have been implemented in the region and surrounding areas by other agencies. These include:

- **Interstate 93 Corridor Planning in New Hampshire:** In 2003, NHDOT completed an EIS in support of their proposal to widen I-93 in southern New Hampshire. The Final EIS recommended that I-93 be widened to four lanes in each direction between the Massachusetts/New Hampshire state line and Route I-293 in Manchester. In addition, the Final EIS recommended that provision be made to provide space in the right of way of the widened I-93 to accommodate future transit service. In FFY 2009, NHDOT completed construction of new park and ride lots along this section of the highway and began operating commuter bus service to South Station and Logan Airport. During FFY 2012, efforts continued to widen the roadway and to replace the bridges over I-93 to accommodate the wider roadway profile. The state of New Hampshire also moved to commit the funding necessary to complete the widening of the highway with an estimated completion date of 2020.

- **Interstate 495 Corridor Study:** MassDOT undertook this study in recognition of the growing congestion that exists along the roadway, especially in the western Merrimack Valley and eastern Northern Middlesex regions and the fact that many of the interchanges along this section of roadway have not been improved since the facility was built in the early 1960s.

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

- **Interstate 93/Route 110-113 Rotary Study:** Based on the work contained in the MVMPO's Route I-93 Corridor Traffic Study, MassDOT undertook a more detailed study of this location that also included a review of the traffic impacts that are expected to occur from continued development of the residential and industrial commercial areas of western Methuen and northeastern Dracut along the Route 113 Corridor.

The former Executive Office of Transportation and Public Works (EOTPW, now MassDOT) study of the area was completed in late 2007. A series of near-term improvements were identified that could reduce congestion and improve safety including cutting back brush, restriping the lanes in the rotary, signaling intersections on the west side of the rotary and widening the ramps. More significantly, the study identified a preferred, long-term interchange reconfiguration project that would largely eliminate the rotary and create a modified cloverleaf alignment.

In September 2008, MassDOT initiated work on the project by developing design plans for the preferred long-term alternative. A Draft EIS/EIR for the project was submitted to MEPA in December 2009 and it was approved as the Final EIS/EIR early in 2010. Design work on the project continued in FFY 2012 and will be completed by the end of the calendar year. Construction funding for the \$59.8 million project is anticipated to be included in the MVMPO's FFY 2013-2016 TIP.

- **Interstate 93 Corridor Transit Investment Study:** This study was undertaken by NHDOT in cooperation with the (then) Massachusetts EOTPW with the goal of evaluating alternative transit services in the corridor between Manchester and Boston and to recommend the implementation of services that show the most promise in relieving congestion and promoting sustainable development.

The consultant working for NHDOT reviewed a number of possible bus and rail services in the corridor. Working in cooperation with the Study Advisory Committee, two options--one rail and one bus--were recommended for further analysis and implementation. The rail option would allow for the institution of commuter rail service along the old Manchester and Lawrence Branch of the former B&M Railroad. The bus alternative would have commuter bus services being provided from many of the communities in the corridor, which would then operate as Bus-on-Shoulder (BOS) in the breakdown lane on I-93 in both New Hampshire and Massachusetts.

In FFY 2012, MVPC, using funding provided by the MVRTA, began work on a study that examines the feasibility of instituting BOS transit service in the corridor as well as for extending the existing HOV lane on I-93 southbound further north.

- **Newburyport Intermodal Parking Facility:** The MVRTA and the City of Newburyport have completed a Preliminary Engineering study to identify the preferred site for this facility and to review local transit needs.

In May 2010, the City Council approved the construction of the new facility on Titcomb Street, which is located just behind City Hall. In FFY 2012, the MVRTA worked with city officials to further refine alternative design concepts for this site, and pursued grant funds for construction.

### **Transportation Planning Requirements Under SAFETEA-LU**

In 1991, the original Intermodal Surface Transportation Efficiency Act (ISTEA) established 16 factors that MPO's were required to consider in developing the plans and programs mandated under the legislation. TEA-21 (1998) consolidated these 16 planning factors into seven broad areas, which were slightly altered with the passage of SAFETEA-LU in 2005 with Transportation Security now a stand-alone factor and the factor relating to the environment expanded to promote consistency of the long-range transportation plan with planned growth and development.

Listed below are each of the eight planning factors identified in SAFETEA-LU along with a brief discussion of how individual transportation planning tasks included in the MVMPO's FFY 2012 UPWP address them.

#### ***(1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;***

Task 2.4 - Congestion Management Process: Identifying congested roadway, bridge and transit facilities in the Valley, as well as measures designed to eliminate or reduce this congestion, will improve the efficiency of the region's economy.

Task 2.5 - Intermodal Connections with the National Highway System: Improving the connectivity of the various transportation modes in the region reduces freight shipping costs and makes the region a more attractive location to do business.

#### ***(2) Increase the safety of the transportation system for motorized and nonmotorized users;***

Task 2.7 - Bicycle/Pedestrian/Water Trails Planning: This task is intended to promote the development of both an on and off-road bicycle and pedestrian transportation network that supports bicycle and pedestrian transportation in the region. MVPC staff will also continue to coordinate activities under the Safe Routes to School Program.

Task 2.8 - Safety Monitoring System: This system provides a comprehensive review of safety conditions on the regional transportation network by identifying high crash roadway intersection and interchange locations. Locations identified through this analysis will be examined in more detail to develop measures to correct identified safety problems.

Tasks 3.4 – 3.6: MVPC will review traffic and safety conditions at two intersections in the MVMPO region that have been the frequent site of crashes from the beginning of 2006 through 2008. The recommendations that come from these studies, when implemented, should reduce the crash rates at these high-crash locations.

#### ***(3) Increase the security of the transportation system for motorized and nonmotorized users;***

Task 3.8 – Stormwater Runoff: One of the major objectives of this task is to identify stormwater runoff "choke points" which can cause flooding that impacts pedestrians, bicyclists and motor vehicles. Making improvements to these failing and undersized drainage structures will improve the overall security of the transportation system.

Task 3.9 – Climate Change: Through this task the MVMPO will identify all forms of transportation that could be impacted from changes in climate such as through rising sea levels and from flooding.

Task 4.3 – Regional Transportation Security: Under this task, MVPC will review developments in Transportation Security Planning, complete the region's Multi-Hazard Mitigation Plan for 2013 - 2017, and coordinate MVMPO security planning activities with those of the Northeast Regional Advisory Council (NERAC).

**(4) Increase the accessibility and mobility options available to people and for freight;**

Task 2.4 - Congestion Management Process: Eliminating or reducing congestion on the regional transportation network also reduces the cost of transporting goods and services in the MVMPO region.

Task 2.5 - Intermodal Connections with National Highway System: Improving the connectivity of the various transportation modes in the Valley by definition increases accessibility. This task focuses on improving/creating connections with the National Highway System roadways in the Valley, the primary movers of both persons and freight.

Task 2.9 – Livability in Transportation: Providing the supporting infrastructure and services to support sustainable development in and around the MVPC region’s Community Development Centers will provide more travel choices to its residents.

Task 3.2 - Transit Planning: MVRTA and MVPC have worked for many years to develop many improvements to the region’s transportation network including the preliminary design and engineering for the Lawrence Transportation Center, Haverhill Intermodal Transportation Center and the Amesbury Transit Center, and concepts for the Newburyport ITC.

**(5) Protect and enhance the environment, promote energy conservation, and improve quality of life;**

Task 2.7 - Bicycle/Pedestrian/Water Trails Planning: Development of the trails identified and supported under this task will promote access to many of the conservation/protected areas in the region and promote bicycle and pedestrian transportation, improve public health, and reduce the use of fossil fuels.

Task 2.9 – Livability in Transportation: Offering people more modes of transportation and tailoring the transportation system to meet the needs of residents and users will improve the overall quality of life in the MVMPO region and reduce our reliance on single occupancy vehicle trips.

**(6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;**

Task 1.1 – Management and Support of the 3C Transportation Planning Process and Task 4.2 – Local Technical Assistance: Through these tasks, MVPC has been able to provide such services as technical assistance to the City of Lawrence in support of efforts to improve freight rail access to the Lawrence Industrial Park through the construction of a rail siding either adjacent to or within the Park.

Also under these tasks, MVPC supported efforts to double-track the Haverhill Main Line and upgrade the signal system through the use of American Recovery and Reinvestment Act (ARRA) funds. These improvements must be made before the MVMPO region can receive improved levels of commuter rail and freight rail service.

Task 2.5 - Intermodal Connections with the National Highway System: Implementation of the recommended improvements to the NHS connected intermodal facilities in the Valley that will come from the completion of this task will improve the connectivity of the transportation system.

**(7) Promote efficient system management and operation;**

Task 2.1 - Traffic Monitoring Program: Through this task, MVPC staff gathers volume, vehicle classification and speed data on the federal aid roadway network in its region. This data is then used as an input to the region’s Congestion Management Process and in the Pavement Management task.

Task 2.2 – Pavement Management Studies: Pavement management programs are invaluable tools for municipal DPWs, MassDOT, and other agencies/organizations to cost effectively maintain their roadway assets.

Task 2.3 - Geographic Information Systems: The region’s GIS program is critical for providing MVMPO planners with a platform for viewing and managing multiple data sets. MVPC data layers include the loca-

tion of bridges, surface condition of roadways, location of TIP projects and location of congested roadways and intersections.

Task 2.4 - Congestion Management Process: This process is used to identify the location of congested locations along the MVMPO's roadways. Through its implementation, the MVMPO is able to develop studies and projects that improve the efficiency of the transportation system.

**(8) Emphasize the preservation of the existing transportation system.**

Task 2.2 - Pavement Management Studies: Under this task, MVPC will continue to monitor the condition of the region's federal aid roadway network and develop a program of projects to maintain and improve that network in a cost effective manner. This information will also be used in budgeting resources allocated to the region's resurfacing/reconstruction projects in the Valley. This task also allows MVPC to provide support to Valley communities seeking to implement local pavement management programs.

Task 2.4 - Congestion Management Process: As part of this process, MVPC will be able to identify locations where low-cost improvements can be developed that improve roadway capacity and performance while not requiring expansion of the existing network.

Accelerated Bridge Program: Six Structurally Deficient bridges in the Merrimack Valley were included in this program. As of May 2012, work was completed on repairs to the Route 28 Bridge over the Merrimack River in Lawrence and the repainting of the Gillis (Route 1) Bridge over the Merrimack River between Salisbury and Newburyport. Construction work is underway to repair the Route 125 Connector Bridge over the MBTA Tracks and Ferry Road in Haverhill. Work will soon begin on the rehabilitation of the Rocks Village Bridge over the Merrimack River between Haverhill and West Newbury. Replacement of the Route 28 Bridge over the MBTA tracks in Andover is slated to begin in 2013. Most significantly, the project to replace the Whittier Bridge, which carries Interstate 95 over the Merrimack River between Amesbury and Newburyport, will begin construction later this year. This design/build project includes the widening I-95 from a point just north of the Route 113/Route 95 interchange in Newburyport north to the I-95/I-495 interchange in Salisbury.

### **Other MVPC Planning Studies and Funding Sources**

MVPC's Environmental Planning Department carries out a wide array of professional planning, assessment, and mapping initiatives aimed at enhancing and preserving the region's vital inland, estuarine, and coastal resources. Projects range from Brownfields and stormwater assessment studies to watershed protection plans, open space and recreation plans, and environmental education projects. These activities are funded through a variety of federal and state sources, including the U.S. Environmental Protection Agency (EPA), U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), MA Department of Environmental Protection (MassDEP), MA Department of Conservation and Recreation (DCR), Massachusetts Emergency Management Agency (MEMA), Massachusetts Bays National Estuary Program (MBP), and Massachusetts Coastal Zone Management Office (CZM).

Additional funding is provided through contracts with various non-profit environmental organizations and individual member communities. MVPC environmental initiatives are supported by a complement of high-quality Geographic Information System (GIS) services including data compilation and development, data analysis, and digital mapping. During FFY 2011, MVPC's Environmental and GIS program staff collaborated on the following tasks:

- Administration of Merrimack Valley Regional Brownfields Assessment Program 2009-2012, involving 15 Phase I and II environmental site assessments for hazardous substance and petroleum contaminated properties in Haverhill, Lawrence, Merrimac, and Methuen. Future remediation of these sites will allow for the creation of a public, multi-purpose rail trail along the bank of the Merrimack River; new community gardens and "pocket" parks in several urban environmental justice neighborhoods; and new affordable housing units in a convenient downtown setting;
- The EPA-funded *Merrimack Valley Brownfields Cleanup Revolving Loan Fund*, designed to provide low-interest "gap" financing to municipalities, non-profit development corporations, and private for-profit developers for the purpose of cleaning up contaminated properties and returning them to productive use;

- Participation in salt marsh and watershed restoration projects in partnership with Eight Towns & The Bay (8T&B) and nine coastal municipalities;
- Design and implementation of salt marsh research, management, and monitoring program, including field investigation, mapping and control of over 300 stands of emergent and established *Phragmites australis*, an invasive plant threatening the ecological integrity of the Great Marsh Area of Critical Environmental Concern (ACEC);
- Implementation of the *Greenscapes North Shore* Partnership, a regional homeowner education program aimed at reducing stormwater runoff and enhancing water resources protection through individual, parcel-based smart landscaping practices;
- Review and comment on updated Draft Phase II Stormwater Permit, and discussions with EPA on Greenscapes and other program modifications to better assist communities in meeting the new federal requirements for managing municipal separate storm sewer systems (MS4s);
- Technical assistance to communities seeking to update their master plans and open space plans, complete NPDES Phase II Stormwater Management Plans and associated Annual Progress Reports, and implement recommendations of the Executive Office of Energy & Environmental Affairs (EEA) 5-Year Watershed Action Plans for the Ipswich, Merrimack, North Coastal, Parker, and Shawsheen River watersheds;
- Technical and organizational support to the 8T&B Committee, established to help North Shore municipalities implement the recommendations of the Massachusetts Bays Program's *Comprehensive Conservation and Management Plan*;
- In partnership with the Citizen Planner Training Collaborative (CPTC), organization and presentation of educational workshops for municipal officials on subdivision/site planning and land use regulations. The MVPC is exploring options for reinvigorating regional participation in this initiative during FFY 2013.

MVPC continued to work collaboratively with its private, nonprofit, and public partners in implementing its wide-ranging economic development planning program. As an Economic Development District recognized and supported by the U.S. Economic Development Administration (EDA), MVPC provides many services to its member communities, including economic development grant assistance, data analysis, strategic planning, and community and business marketing.

**Regional Data Center:** MVPC is the regional repository of demographic data from various federal and state agencies. In 2011 and 2012, MVPC has been busy collecting and analyzing data releases from the 2010 Census and American Community Surveys. Local population, race, and housing unit totals from the 2010 Census were released in March 2011, showing 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. The 1990 Census showed the region increasing 10.5% compared to a state increase of 4.9%. 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.

**Regional Clean Energy Grant:** MVPC applied for and was awarded a \$50,000 grant from the U.S. Economic Development Administration (EDA) in 2011 to develop a regional clean energy plan. The grant comes through the Global Climate Change Mitigation Incentive Fund, which was formed to support projects that aim to decrease dependence on fossil fuels, curb greenhouse gas emissions, and enhance energy efficiency. "Increasing economic resiliency and sustainability are top priorities for the Obama administration," said U.S. Assistant Secretary of Commerce for Economic Development John R. Fernandez in a press release. "This EDA investment will help to strengthen fifteen local municipalities by planning for and developing business and employment opportunities within the field of clean energy."

The grant follows the recommendations of the 2008 Merrimack Valley Comprehensive Economic Development Strategy and 2009 Merrimack Valley Priority Growth Strategy. Both documents highlight the need to develop an energy-focused plan to identify efficiency and job creation opportunities in the region. As with the Priority Growth Strategy and Comprehensive Economic Development Strategy, the Clean Energy Plan will be an action-oriented document, focused on opportunities for job creation and conservation and will be based on individual community energy strategies that MVPC will help each community develop. The Regional Energy Plan will be completed in 2012.

**Comprehensive Economic Development Strategy:** The 2011 Merrimack Valley Comprehensive Economic Development Strategy (CEDS) Performance Report was submitted to the U.S. Economic Development Administration (EDA) on June 30. The Report provides an update on economic development conditions, studies, and initiatives in the region since the release of the 2008 Merrimack Valley CEDS. The 2008 CEDS was a complete update of the regional master plan, featuring a new set of goals, objectives, and action plan. MVPC has worked closely with the private, public, and nonprofit sectors on numerous initiatives reflected in the CEDS, centered on the themes of infrastructure, marketing, green initiatives, and entrepreneurship support.

The CEDS is primarily funded through an annual planning grant from the US Economic Development Administration (EDA), which is the principal economic development agency of the federal government. Merrimack Valley has been designated an Economic Development District by EDA since 1986. EDA requires planning districts to update their CEDS once every five years and to issue Performance Reports each year between updates. MVPC will be preparing a CEDS update in FFY 2013.

**Merrimack Valley Means Business:** The Merrimack Valley Means Business (MVMB) website, officially launched on October 15, 2009, has now been successfully running for over two years. MVMB is a pioneering concept for new and existing businesses in the Merrimack Valley. Developed by the Merrimack Valley Planning Commission (MVPC), in partnership with the U.S. Economic Development Administration (EDA), the Merrimack Valley Economic Development Council (MVEDC), regional Chambers of Commerce, and community development departments, MVMB offers a unique and technologically advanced service for existing and prospective businesses looking to market or expand in the region. The only comprehensive, field-based inventory of properties in Massachusetts, the website offers valuable information on over 11,500 businesses and 500 locations for sale or lease in the Valley and employs the latest mapping and imaging technologies.

The data-rich, interactive website allows users to conduct qualitative online geographic research on key location factors, including: quality of workforce; consumer buying habits; tax incentives and enterprise zoning; transportation access; and available property attributes, such as building size, alternative energy sources, parking, and realtor contact information. In addition, high resolution, oblique aerial images using MVPC's Pictometry Image Warehouse System is available for each business and property location. This interactive imaging system is a first-of-its-kind tool offered on a business and property information website.

**Brownfields Assessment:** MVPC continued its Merrimack Valley Brownfields Assessment Program this past year, which launched in 2003. Through a series of grants from the U.S. Environmental Protection Agency (EPA), The Program has performed environmental assessments on a number of projects in the region, including the site of the proposed Lawrence Allied Health and Technology Center. While the current grant is set to expire in 2012, MVPC applied for additional funding in fall 2011 to extend the Program another three years. The award decision by EPA is expected soon.

**Other Economic Development Support:** MVPC staff handled numerous demographic data inquiries and requests for regional economic development overviews for businesses, individuals, and community officials. In addition, MVPC assisted the Town of Georgetown with their application to be designated a state Economic Target Area (ETA). Companies located in an ETA can receive state and local tax incentives in exchange for job creation and private investment commitments.



### Summary of Anticipated MVPC Funding Resources in FY 2013

<u>Source - Non Transportation</u>	<u>Amount</u>	<u>% of Total</u>
North American Wetlands Act Cons.	\$25,000	1.4%
Economic Development Administration	100,000	5.6%
Phragmites (DCR)	5,200	0.3%
EDA Revolving Loan Fund	26,000	1.4%
Eight Towns and the Bay (Environmental Protection Agency /Mass. Coastal Zone Mgt.)	64,250	3.6%
Mass. Department of Housing and Community Development (District Local Technical Assistance)	88,357	4.9%
MEMA Hazard Mitigation	47,500	2.6%
Georgetown & Boxford Stormwater	18,000	1.0%
Pictometry	35,000	1.9%
Mayor's Coalition	20,000	1.1%
EPA Brownfields Revolving Loan Fund	300,000	16.7%
Misc. GIS and Local Contracts	111,000	6.2%
Local Technical Assistance	29,481	1.6%
<b>TOTAL (Non Transportation)</b>	<b>\$869,788</b>	<b>48.2%</b>
<u>Source - Transportation</u>		
FHWA/MassHighway-PL	\$680,500	37.9%
FTA/MRTA (Section 5307)	90,000	5.0%
FTA/MVPC (Section 5303)	106,316	5.9%
Local Assessments (Transportation)	49,080	2.7%
<b>TOTAL (Transportation)</b>	<b>\$925,896</b>	<b>51.5%</b>
<b>MVPC TOTAL</b>	<b>\$1,795,684</b>	

Source: MVPC's Approved FY 2013 Budget (July 1, 2012 – June 30, 2013) with modifications to reflect updated contract information



## 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%)  
Jennifer Dunlap, Accountant  
Todd Fontanella, Transportation Planner (90%)  
Betsy Goodrich, Transportation Planner (100%)  
Anthony Komornick, Transportation Program Manager (100%)  
Steve Lopez, GIS Specialist (40%)  
Nancy Lavallee, Administration  
Alan Macintosh, Environmental Program Manager (15%)  
Jeff Normandin, GIS Specialist (10%)  
Dan Ovale, Data Collection Specialist (100%)  
Michael Parquette, Comprehensive Planning Manager  
Peter Phippen, Environmental Planner (10%)  
Ted Semesnyi, Economic Development Planner (15%)  
James Terlizzi, Senior Transportation Planner (100%)  
Jerrard Whitten, Environmental Planner/GIS Specialist (40%)



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

## Local Technical Assistance Projects

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. Intersection Review (FFY 2011)  
Haverhill Street Light Identification and Mapping (FFY 2011)  
Improving Pedestrian Access to Central Plaza (FFY 2010)  
Broadway/Lake Street Intersection in Haverhill (FFY 2010)  
Analyze traffic and safety issues in Byfield Village (FFY 2010)  
Prepare PNF for Route 133 Project in Boxford (FFY 2010)  
Willow Ave. Widening Review in Haverhill (FFY 2009)  
Saratoga Street One-Way Analysis in Lawrence (FFY 2009)  
Guard Rail Feasibility on Pelham St in Methuen (FY 2008)  
Rt. 125/Cushing Ave. Intersection Study, Haverhill (2008)  
Bradstreet Property Trail Mapping, Rowley (2008)  
Lawrence Five Corner Intersection Analysis (2007)  
Merrimac Traffic Impact Study Review (2007)  
Haverhill Lafayette Square Traffic Impact Review (2007)  
West Newbury Four-Way Stop Sign Analysis (2006)  
Storey Avenue Traffic Impacts, Newburyport (2007)  
Lawrence Industrial Park Rail Siding (ongoing)  
Review of Pleasant Valley St. Traffic Study, Methuen (2006)  
Review of Merrimack St. Development, Methuen (2006)  
Chickering St. Signal Warrant Analysis, Lawrence (2005)  
Water Street Traffic and Parking Study, Lawrence (2005)  
E. Haverhill St./Ferry St. Intersection Study, Lawrence (2005)  
Essex St./Milton St. Intersection Study, Lawrence (2002)  
Amesbury Downtown Parking Analysis (2002)  
Reservoir Street Traffic Analysis, Lawrence (2002)  
Georgetown Access Road Technical Support (2001)

Review of Wal-Mart Traffic Impact Study, Methuen (2001)  
Update to 1997 Haverhill Parking Study, Haverhill (2001)  
Merrimack St. Ped. Signal Study, Lawrence (1999)  
Ward Hill Industrial Park Road Signage, Haverhill (2000)  
Ponderosa Hills Traffic Study Review, Methuen (1999)  
Crystal St./Broadway Intersection Study, Haverhill (2000)  
Research on Scenic Roadways Bylaws, Groveland (2000)  
Library Street Traffic Analysis, Georgetown (2000)  
M&L Branch Commuter Rail Cost Estimates (1999)  
Eutaw Street Traffic Analysis, Lawrence (1999)  
Beacon Street/Glen St Intersection, Lawrence (1998)  
Milk St./East St. Intersection, Methuen (1999)  
North Andover/Haverhill Trash Truck Analysis (1999)  
Andover St./Route 28 Intersection Analysis, Lawrence (1999)  
Burnham Road/Route 110 Data Collection, Methuen (1998)  
Haverhill Fire Station Location Analysis (1998)  
Mt. Vernon Street/Route 28 Intersection, Lawrence (1998)  
Osco Drug Traffic Analysis, Methuen (1998)  
Downtown Haverhill Parking Study (1997)  
Shawsheen/Loring Street Intersection, Lawrence (1997)  
Manchester Street Rotary; Lawrence (Ongoing/1999)  
Downtown Newburyport Intersection Analyses (1997)  
Rocks Village Bridge Truck Exclusion, Haverhill (1997)  
Cross Street/Hampshire Road Intersection, Methuen (1997)  
Everett Street/Salem Street Traffic Volumes, Lawrence (1997)  
Marston Corners Intersection Study, Methuen (1996)  
Chestnut Hills Traffic Report Review, Methuen (1996)  
Mill Street Bridge Project Initiation, Merrimac (1996)

## Transportation Studies

M&L Branch Trail Feasibility Study, Lawrence (ongoing)  
Lafayette Square Safety Study, Haverhill (ongoing)  
Marston's Corner Intersection Study, Methuen (ongoing)  
Rte 113/Rte 95 Interchange Safety Study, Nbprt. (ongoing)  
Rte 213/Rte 28 Interchange Safety Study, Methuen (ongoing)  
Rte 1/Merrimack St. Intersection Study, Newburyport (ongoing)  
Elm St./Rte 1 Intersection Study, Newbury (ongoing)  
Broad St./Rte 495 Interchange Study, Merrimac (ongoing)  
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 Intersection Study, Lawrence (2011)  
Water St./Broadway Intersection Study, Lawrence (2011)  
MVMPO 2012 Regional Transportation Plan (2011)  
Winter St./White St. Intersection Study, Haverhill (2010)  
Georgetown Square Intersection Study (2010)  
Route 1/Route 133 Intersection Study, Rowley (2010)  
Merrimac St./Spofford St Study, Newburyport (2010)  
Route 114 Corridor Study, Lawrence/N. Andover (2010)  
Ames Street/Haverhill Street Intersection Study (2009)  
Main St. Corridor Study, Haverhill (2009)

Chickering Road/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)  
Route 1/March Road Intersection Study, Salisbury (2005)  
Route 125/Merrimack Street Intersection Study (2005)  
Route 93 Corridor Traffic Study (2005)  
MVMPO 2003 Regional Transportation Plan  
MVMPO Environmental Justice Study (2003)  
Northern Essex Community College Study, Haverhill (2002)  
Route 97 Corridor Study, Haverhill (2002)  
MVMPO 2000 Regional Transportation Plan  
Haverhill Intersections Study (1999)  
Congestion Management System (1997) Georgetown Industrial Access Road Update (1997)  
1997 Regional Transportation Plan  
Dascomb Road Traffic Study, Andover (1996)  
Congestion Management System (1995)  
Downtown Lawrence Circulation Study (1995)



## Acronyms Used in FFY 2013 UPWP

ADA:	Americans with Disabilities Act	MEPA:	Massachusetts Environmental Policy Act
CAAA:	Clean Air Act Amendments of 1990	MISER:	Massachusetts Institute for Social and Economic Research
CEDS:	Comprehensive Economic Development Strategy	MOU:	Memorandum of Understanding
CEPO:	Capital Expenditure and Programming Off.	MPO:	Metropolitan Planning Organization
CMP:	Congestion Management Process	MVATC:	Merrimack Valley Area Transportation Company
CMAQ:	Congestion Mitigation/Air Quality Mitigation Program	MVMPO:	Merrimack Valley Metropolitan Planning Organization
CTPS:	Central Transportation Planning Staff	MVPC:	Merrimack Valley Planning Commission
CTPP:	Census Transportation Planning Package	MVRTA:	Merrimack Valley Regional Transit Authority
DEP:	Department of Environmental Protection	MVTC:	Merrimack Valley Transportation Committee
DCR:	Dept. of Conservation and Recreation	NAAQS:	National Ambient Air Quality Standard
E & D:	Elderly and Disabled	NARC:	National Association of Regional Councils
EDA:	Economic Development Administration	NHS:	National Highway System
EIR:	Environmental Impact Report	NMCOG:	Northern Middlesex Council of Governments
EIS:	Environmental Impact Statement	NTD:	National Transportation Demand
EOTPW:	Executive Office of Transportation and Public Works	PPP:	Public Participation Plan
ENF:	Environmental Notification Form	RIF:	Massachusetts Road Inventory File
EPA:	Environmental Protection Agency	RPC:	Rockingham Planning Commission
FHWA:	Federal Highway Administration	RSPS:	Regionwide Systems Performance Study
FTA:	Federal Transit Administration	RTP:	Regional Transportation Plan
GIS:	Geographic Information Systems	SAFETEA-LU:	Safe Accessible, Flexible, Efficient Transportation Equity Act: A Legacy for Users
HOV:	High Occupancy Vehicle	SIP:	State Implementation Plan
HPMS:	Highway Performance Monitoring System	SPR:	State Planning and Research Program
ISTEA:	Intermodal Surface Transportation and Efficiency Act of 1991	STIP:	State Transportation Improvement Program
ITS:	Intelligent Transportation Systems	STP:	Surface Transportation Program
LEP:	Limited English Proficiency	TEA-21:	Transportation Equity Act for the 21st Century
LRTA:	Lowell Regional Transit Authority	TCM:	Transportation Control Measures
MAC:	Massachusetts Aeronautics Commission	TDM:	Transportation Demand Management
MAP:	Mobility Assistance Program	TIP:	Transportation Improvement Program
MAPC:	Metropolitan Area Planning Council	UPWP:	Unified Planning Work Program
MARPA:	Mass. Assoc. of Regional Planning Agencies	3C:	Continuing, Comprehensive, and Cooperative (transportation planning process)
MassDOT:	Massachusetts Department of Transportation	8T&B:	Eight Towns and the Bay



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



## 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 Merrimack Valley 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 staff participation in ongoing transportation studies & analyses being undertaken in the region or in surrounding regions that might impact the Merrimack Valley.

### Previous Work

In previous years, 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 Merrimack Valley Regional Transit Authority. MVPC also prepared newsletters and annual reports, and provided information to the press. This task also allows 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 the region. In FY 2012, MVPC staff continued to participate in a number of groups that are supporting the development regionally significant transportation projects. The Commission served as a member of the Route 110/113 Rotary Project and continued to be involved in the development of the Draft EIS/EIR for the I-93: Lowell Junction Interchange project. This included attending meetings of and providing technical assistance to the Tri-Community Planning Task Force for the Lowell Junction area. MVPC was also asked by NHDOT to participate on its I-93 Transportation Demand Management Task Force.

### FFY 2013 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. Review of such documents as the State Rail Plan, Freight Plan, weMove Massachusetts, Beyond Boston Transit Study, and the MassDOT Highway Division's Capital Facilities Plan would also be performed under this task, as would Chapter 40, Section 54A reviews of development projects proposed for abandoned rail lines in the region.
- 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. Staff will also stay apprised of and activities being undertaken by the Merrimack Valley TMA and Junction TMO in their efforts to relieve congestion in and around Greater Lawrence and the Lowell Junction area of Andover, respectively.
- 1.1.3 *Preparation of Newsletter Articles and 2013 Annual Report Articles:* Transportation staff will prepare articles for inclusion in Regional Review, the MVPC newsletter, which will be published four to five times during the period, and for the MVPC's 2012 Annual Report. This latter document will be prepared in the period from December 2012 through January 2013.
- 1.1.4 *Contract Administration:* Prepare Section 5303 contract application materials as well as 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.
- 1.1.5 *CMAQ Consultation Committee:* Under this task, MVPC staff will prepare CMAQ project descriptions and complete mandated Air Quality impact evaluations and attend meetings of the state's CMAQ Consultation Committee.
- 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 roadway projects in the Valley, 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 Tri-Community Planning Task Force, Tri-Town Project Coordinating and Participating Agency Group, and, if needed, the Route 110/113 Rotary Project Committee. In FFY 2013, MVPC will also continue to provide technical and administrative support to the communities of Amesbury, Salisbury and Newburyport in completing a coordinated review of the potential impacts that will arise through the construction of the new bridge to carry Interstate 95 over the Merrimack River.

**Products/Schedule**

- Tasks 1.1.1-1.1.2 - Ongoing. Resulting products will therefore be produced throughout the FFY 2013 UPWP program period
- Task 1.1.3 - MVPC Newsletters - ongoing
- Task 1.1.6 - MVPC 2012 Annual Report – December 2012/January 2013
- Task 1.1.6 - Attend Meetings with MassDOT District 4 Highway personnel - Ongoing

<b>Funding for Task 1.1 Program Management and Support</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	895	\$63,000
MassHighway	224	\$15,750
FTA/EOTC Section 5303	88	\$8,320
FTA/EOTC Section 5307	31	\$3,136
MVPC	30	\$2,864
<b>TOTAL</b>	<b>1,268</b>	<b>\$93,070</b>

## Task 1.2 - Public Participation Process

### Description

Federal transportation planning legislation requires that MPOs involve the public in the development of the Regional Transportation Plan and the Transportation Improvement Program. In 1994, the MVMPO developed and adopted what was then referred to as a Public Involvement Process as required under Section 450.316 of federal planning regulations developed under ISTEA. This process was designed to ensure those important public agencies at all levels of government, private and nonprofit organizations and interested citizens are kept apprised of transportation planning milestones in the region. It was also intended to solicit timely input from these groups that can be used to improve the effectiveness of the transportation planning process in the Valley. Key participants are the Merrimack Valley Transportation Committee, Merrimack Valley Planning Commission, Merrimack Valley Regional Transit Authority Advisory Board, and MVPC-sponsored meetings of local elected officials and area legislators. Through meetings of these and other groups and through MVPC website, information concerning the status of transportation planning and construction projects as well as transit services in the region are presented and reviewed.

With the passage of SAFETEA-LU in August 2005 and USDOT's release of the Final Rule for Statewide and Metropolitan Planning on February 14, 2007 came the requirement that a new participation plan be developed by MPOs that would broaden the scope of the public outreach process and which identified a number of specific groups that must now be included. Accordingly, the MVMPO created and adopted a regional Public Participation Process in the summer of 2007, which was subsequently updated by the MPO in 2010.

### Previous Work

Under the FFY 2012 UPWP, staff prepared numerous public notices and press releases for local newspapers and boards announcing MVMPO meetings, MVMPO Working Group meetings, public meetings and the availability of documents for review and comment. In addition, large mailings of required MVMPO documents and their amendments were prepared throughout the year.

MVPC staff continued to support its Mayor's and Managers Coalition in hosting meetings of the mayors as well as meetings of a subcommittee of DPW Directors. MVPC staff was very involved in assisting this latter group in developing an Invitation For Bids (IFB) in support of joint purchasing of selected highway services and equipment, developing a regional strategy for meeting FHWA's new traffic sign reflectivity requirements, and in developing a software package that can be used by DPW staff to track progress on work orders.

As recommended by USDOT in its 2008 Certification Review of the region's transportation planning process, transportation staff also developed a draft Memorandum of Understanding between the MVMPO and the MVRTA, which was adopted by the MVMPO late in 2011. A draft MOU between the MVMPO and NHDOT was also developed and circulated to NHDOT as well as the Rockingham (NH) MPO.

Staff also continued to review materials provided by and attend selected meetings held by of the Northern Middlesex MPO, Rockingham MPO and the Boston MPO's Traffic and Safety Committee.

Also in FFY 2012, staff from MVPC and MassDOT made minor modifications to the MVMPO's Transportation Project Evaluation Criteria by making more explicit reference as how Greenhouse Gas Emissions should be considered in the project scoring process.

### FFY 2013 Activities

Staff will continue to support the implementation of the Public Participation Plan in the region and the tasks described above. In addition, MVPC will work to implement the other planning-related requirements contained in SAFETEA-LU that apply to this task.

### Tasks

- 1.2.1 *Continued Analysis of the Implementation of the Public Participation Plan:* During the year, staff will continue to evaluate the effectiveness of specific components of its new Public Participation Plan.
- 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 Involvement Process:* Prepare mailings, newspaper announcements, public notices, and public service announcements outlined in the MVMPO's Public Involvement Process.
- 1.2.4 *Distribute Required Documents:* MVPC staff will distribute TIP, RTP, and UPWP documents as well as any amendments to all state and federal agencies and, in general, act as the secretariat for the MVMPO.

- 1.2.5 *Host Meetings of Merrimack Valley Mayors and Managers Coalition and Area Legislators:* MVPC staff will host meetings to discuss important transportation issues. This task will also contain some staff time devoted to supporting the DPW Directors Subcommittee of the Mayors and Managers' Coalition.
- 1.2.6 *Merrimack Valley Transportation Committee/MVMPO 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 MVMPO Working Group. Includes scheduling of meetings, preparation of agendas and meeting materials.
- 1.2.7 *Hold MVMPO Meetings:* MVPC will provide administrative and technical support to the MVMPO and host meetings of the organization. This task includes scheduling of meetings, preparation of agendas and meeting materials.
- 1.2.8 *Attend MPO and Transportation Committee Meetings for Surrounding MPOs:* Under this task, MVPC staff will attend selected meetings of the Boston, Northern Middlesex, Rockingham and Nashua MPOs including policy and technical committee meetings. Staff will also attend meetings of other MPOs within the Boston Urbanized Area (UZA), although it is anticipated that this will occur on a less frequent basis. It will also allow MVPC staff to review the materials prepared by these MPOs to ensure the coordination of all transportation-planning activities.
- 1.2.9 *Review/Revision of Project Evaluation Criteria:* The MVMPO's Transportation Project Evaluation Criteria have been applied over the past few years with little or no change in terms of weighting of the existing criteria or the addition of new criteria. With the completion of the Priority Growth Strategy, MVPC staff has talked about ways to better integrate the findings and recommendations in this document into the transportation planning process. MVPC staff will continue to work with MVMPO and MVTC members to assess the effectiveness of the current criteria and, if necessary, begin the process of modifying them to better suit the transportation priorities of the region.
- 1.2.10 *Adoption of New MOU's:* MVPC staff will continue the process, begun under the FY 2010 UPWP, of developing an agreement with NHDOT/Rockingham MPO as recommended in the MPO's 2008 USDOT Certification review from USDOT. The MVMPO has also brought forward a USDOT recommendation for an updated MassDOT/Regional Planning Agency/Department of Environmental Protection MOU and will follow up with MassDOT requirement.

**Products/Schedule**

- Tasks 1.2.1–1.2.4 - Prepare public announcements; present and distribute documents – Ongoing
- Task 1.2.5 - Meetings with Chief Elected Officials and Legislators – Ongoing
- Task 1.2.7 - MVTC Meeting packets and Committee newsletters as needed
- Task 1.2.9 - Revised Project Evaluation Criteria – June - September 2013
- Task 1.2.10 - New MVMPO MOUs as Recommended by USDOT – January 2013

<b>Funding for Task 1.2 Public Participation Process</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	445	\$35,460
MassHighway	111	\$8,865
FTA/EOTC Section 5303	94	\$6,640
FTA/EOTC Section 5307	0	\$0
MVPC	24	\$1,660
<b>TOTAL</b>	<b>674</b>	<b>\$52,625</b>

### 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 produced draft and final versions of previous MVMPO UPWPs.

#### FFY 2013 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 2014 UPWP for the region. The MVPC will also amend the FFY 2013 document as needed to reflect changes that may occur during the course of the program year.

#### Tasks

- 1.3.1 Develop FFY 2014 Unified Planning Work Program: MVPC will develop the FFY 2014 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 2013 UPWP*: Performed as necessary.

#### Products/Schedule

- Task 1.3.1 - Draft FFY 2013 UPWP - April - June 2013
- Task 1.3.1 - Endorsed FFY 2013 UPWP - July 2013
- Task 1.3.2 - Amendments to FFY 2013 UPWP - As necessary

Funding for Task 1.3 Unified Planning Work Program		
Source	Person Hours	Amount
FHWA	223	\$10,863
MassHighway	56	\$2,716
FTA/EOTC Section 5303	49	\$3,520
FTA/EOTC Section 5307	0	\$0
MVPC	12	\$880
<b>TOTAL</b>	<b>340</b>	<b>\$17,979</b>



## Task 1.4 - Transportation Improvement Program (TIP)

### Description

The TIP is 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 listing, it must be demonstrated in the document that there is sufficient funding available to construct the projects and that the existing transportation infrastructure is being maintained. Per the requirements contained in SAFETEA-LU and its successor authorization legislation, the MVMPO's TIP covers four federal fiscal years.

### Previous Work

MVPC produced numerous amendments to the region's FFY 2012-2015 TIP. MVPC staff also worked in cooperation with MassDOT Highway Division District 4 and the Office of Transportation Planning to produce the Draft FFY 2013-2016 TIP including the application of the Transportation Evaluation Criteria to projects being considered for inclusion in that document.

In FFY 2012, MVPC staff continued to update its database of roadway and transit projects that was used to develop the region's Draft FFY 2013-2016 TIP. Staff incorporated the Office of Transportation Planning's new format for the FFY 2013-2016 TIP, which includes either a qualitative or quantitative assessment of each project's Greenhouse Gas (GHG) Emissions. It also completed the GHG assessment for all roadway and bridge projects appearing in the FFY 2013-2016 elements of the document.

### FFY 2013 Activities

MassDOT and the other members of the MVMPO 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 FFY 2014-2017 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 Four-year Program of Projects:* In developing the Draft FFY 2014-2017 TIP, staff will update the list of all transit, highway or air quality projects that are expected to require federal transportation funds for planning and engineering, 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, including non-exempt Air Quality projects. This four-year list of projects shall include the following information:
    - a. Project title;
    - b. Project description;
    - c. Project evaluation score based on MVMPO'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;
    - j. Identification of those projects that are identified as TCM's in the SIP;
    - k. Quantitative or Qualitative evaluation of each roadway and bridge project's GHG emissions.

Project descriptions shall be of sufficient detail to permit air quality analysis in accordance with the U.S. EPA conformity requirements and, for the most part, 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.

1.4.2 *Preparation of MVMPO Region Draft 2014-2017 Transportation Improvement:* The following tasks and procedures will be performed by the MVPC transportation planning staff in developing the Draft FFY 2014-2017 TIP:

- Insure early involvement of local legislators, chief local officials 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 Transit Administrator, and the Office of Transportation Planning developing project information.

The Draft FFY 2014-2017 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 SAFETEA-LU;
- d. The criteria and process for prioritizing projects;
- e. Air quality significance and relationship of the TIP to the State Implementation Plan;
- f. Progress in implementing any required TCM's, including reasons for any significant delays in the planned implementation and strategies for ensuring their advancement;
- g. Projects found to conform in a previous TIP and are now part of the base-case for the purpose of air quality conformity analyses;
- h. The Financial Plan that compares revenue needs to revenue sources for highway and transit programs;
- i. Evaluation of how the region is programming transportation funding for the purpose of maintaining the existing transportation network, and
- j. Description of the transit funding provisions in SAFETEA-LU, or its successor.
- k. The GHG emissions associated with each project appearing in the FFY 2014-2017 elements of the document

1.4.3 *Air Quality Conformity Determination:* MVPC staff will prepare all documentation necessary for an air quality consistency determination to be performed by the MVMPO as required by EPA's "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, Projects funded or Approved under Title 23 U.S.C. or the Federal Transit Act." This will include a quantitative air quality analysis of all non-exempt projects including regionally significant projects. Non-exempt air quality projects, as defined by EPA and DEP, are generally those that change vehicular speed or affect travel delay. This analysis will utilize a methodology endorsed by the State Air Quality Task Force and will be performed by the Office of Transportation Planning.

1.4.4 *Amendments to MVMPO's FFY 2013-2016 TIP:* The MVMPO will endorse amendments to the region's FFY 2013-2016 TIP as needed throughout FY 2013.

1.4.5 *State Bridge Program/Accelerated Bridge Program:* Projects identified for implementation in the Merrimack Valley region through these two programs will be programmed in the TIP if they are to require the use of future federal funds (e.g. Federal aid Bridge funding) to reimburse MassDOT for its up front commitment of state funding to advertise projects for construction.

1.4.6 *Review Reports on Advertised Projects:* MassDOT will provide quarterly reports to the Massachusetts Association of Regional Planning Agencies (MARPA) concerning the status of planned and advertised road and bridge projects. This report will include information on project funding source, amount, cash expenditures for that fiscal year, and other data. The information in these reports will be reviewed and analyzed by

MVPC staff under this task. This information must also be made available on the MVPC website by December 31 for the preceding federal fiscal year.

- 1.4.7 *MVMPO Endorsement of FY 2014-2017 TIP:* MVPC staff will prepare a Draft FFY 2013-2016 TIP in the late spring of 2013. This document will go to public review that summer and should be adopted by the MVMPO in July 2013.

**Products/Schedule**

- Task 1.4.1 - Develop four year program of projects – March – May 2013
- Task 1.4.2 - Release notice of development of FFY 2013-2016 TIP - April 2013
- Release of Draft FFY 2014-2017 TIP – May – June 2013
- Task 1.4.4 - Amendments to MVMPO’s FFY 2013-2016 TIP – As needed
- Task 1.4.7 - Final FFY 2013-2016 TIP including a quantitative air quality analysis of regionally significant major construction projects, consistent with the SIP – June - July 2013

<b>Funding for Task 1.4 Transportation Improvement Program</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	309	\$23,461
MassHighway	77	\$5,865
FTA/EOTC Section 5303	54	\$4,160
FTA/EOTC Section 5307	0	\$0
MVPC	14	\$1,040
<b>TOTAL</b>	<b>454</b>	<b>\$34,526</b>



**Task 1.5 - Updating Transportation Web Pages**

**Description**

The transportation pages of the MVPC website have been developed to provide citizens of the Valley and surrounding areas with access to the latest information on the transportation planning process. They have rapidly become the primary means by which local officials and the public access information on the transportation planning process in the Merrimack Valley.

MVPC has maintained many transportation pages on its website. These pages contain information about the MVPC’s transportation planning activities such as significant traffic studies and important planning documents such as the Regional Transportation Plan, Unified Planning Work Program and the Transportation Improvement Program. They also include posting notices of upcoming meetings (MVTC/MVMPO Working Group, MVMPO, Trails Committee, etc.), copies of important planning documents such as the RTP, TIP, UPWP, a listing of transportation projects undertaken in the previous federal fiscal year, as well as copies of key reports or other data used by MPO staff and local officials in making transportation planning decisions in the Valley.

**Previous Work**

In 2011, MVPC completed a comprehensive upgrade its website, including the addition of a number of new transportation planning pages. These include:

- Transportation Links*
- Teleworking*
- Merrimack Valley MPO*
- Toolkit*
- Transportation Data Viewer*
- Complete Streets*
- Project Development*
- Project Spotlight*

MVMPO documents such as draft and final versions of amendments to the region’s FFY 2012-2015 TIP appeared along with notices of MVMPO public meetings, the availability of the MassDOT – Highway Division 2011-2015 Capital Investment Plan.

Staff also maintained a Facebook page for transportation.

**FFY 2013 Activities**

Under this task, MVPC transportation staff will continue to update and maintain the transportation web pages (including the new Facebook page).

**Tasks**

- 1.5.1 *Update Transportation Web Pages of MVPC Website:* Information shown on this page will be updated to reflect progress made through the end of the FFY 2013 UPWP. MVPC also anticipates either creating a new web page or posting information on its existing pages promoting telecommuting in the region.

**Products/Schedule**

Task 1.5.1 - Update Transportation Web Pages - Ongoing

<b>Funding for Task 1.5 Updating Transportation Web Pages</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	56	\$5,000
MassHighway	14	\$1,250
FTA/EOTC Section 5303	26	\$3,160
FTA/EOTC Section 5307	0	\$0
MVPC	7	\$790
<b>TOTAL</b>	<b>103</b>	<b>\$10,200</b>



## **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. The RTP 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. It considers all major forms of transportation in the region and 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**

During FFY 2011, the MVMPO completed a comprehensive update to the 2007 Regional Transportation Plan (RTP). The new document, the Merrimack Valley Metropolitan Planning Organization 2012 Regional Transportation Plan, marked a significant departure from previous RTPs in terms of organization and content. It is focused on how the region's transportation network and its transportation planning process support the attainment of the Goals and Objectives contained under the new Vision Statement, which were both approved by the MVMPO early in the RTP development process.

The MVMPO's 2012 RTP included the selection of key roadway and transit projects and a determination that the document was fiscally constrained. It also included new RTP sections that addressed how the transportation planning process in the Valley would consider such issues as the impact of the transportation network on the generation of Greenhouse Gases and Climate Change, and how the transportation system could be modified to improve the quality of life ('livability') in the region rather than continuing to be perceived as an impediment to this pursuit.

### **FFY 2013 Activities**

The release of population data gathered as part of the 2010 U.S. Census showed that the build out development assumptions incorporated into the MVMPO's 2012 RTP were in need of revision. The population of the City of Lawrence that was counted in the Census was already larger than the Massachusetts Executive Office of Environmental Affairs (EOEA) build out generated figure for the City, and the census population of Methuen was very close to its build out number. In response to requests received from community officials, MVPC staff will review and modify the build out population figures for Lawrence, Haverhill, Amesbury and North Andover. These revised population figures will be used in the development of the region's 2016 RTP.

Related to the above, late in FFY 2012, the Metropolitan Area Planning Council (MAPC) embarked upon an effort to forecast 2040 population and housing demand for communities in eastern Massachusetts including the 15 cities and towns in the Merrimack Valley as part of its MetroBoston initiative. MVPC has been asked to participate on the study's Projections Advisory Team, which has been created to guide this forecasting effort. Staff will provide information and insight on our region to MAPC in support of this effort while at the same time evaluating the methodologies and assumptions being used to develop the population and housing figures. At a minimum, the MetroBoston 2040 forecasting effort will inform the process of developing the socioeconomic forecasts that will be used by the MVMPO in the 2016 RTP.

### **Tasks**

- 1.6.1 *Develop Revised Build Out Population Forecasts for Lawrence, Haverhill, North Andover and Amesbury:* Staff will review the methodology used to generate the EOEEA build out population forecasts for these four communities. It will also gather information on both national/regional trends in the reuse of former mill and office buildings as residential or mixed use space (e.g. Union Crossing in Lawrence) and perform a literature search as to how this phenomenon is being considered in other build out methodologies being employed across the nation. Staff will then meet with community development officials and planners to review the trend data on the reuse of mill and office space, obtain their latest zoning and subdivision information, and identify any new project development proposals. Based on the information obtained in the previous step, staff will generate new build out population figures for these four communities that more effectively considers recent changes in the local housing market, expected trends, and the latest community plans to redevelop available mill and office space. These projections will then be presented to local officials for review and, if necessary, modification before they are adopted by the MVMPO for use in other planning analyses.

1.6.2 *Participate on and Assess Effectiveness of MetroBoston2040 Projections Advisory Team:* Staff will participate in Projections Advisory Team meetings, review materials prepared by MAPC along with the general methodologies and assumptions used produce the population and housing projections. It will then assess the specific differences between regions/geographic areas in Greater Boston, whether based on alternative land use development scenarios, economic projections, etc., to evaluate the potential usefulness of these projections in developing the 2016 RTP. Population and housing growth assumptions made elsewhere in New England and the nation will also be reviewed to assist in this evaluation process.

**Products/Schedule**

- Task 1.6.1 - Develop *Build Out* Population Forecasts for Lawrence, Haverhill, North Andover and Amesbury RTP Outreach Meetings – November 2012 – April 2013
- Task 1.6.2 - Participate on and Assess Effectiveness of MetroBoston2040 Projections Advisory Team – Ongoing

<b>Funding for Task 1.6 Regional Transportation Plan</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	442	\$33,000
MassHighway	110	\$8,250
FTA/EOTC Section 5303	134	\$9,200
FTA/EOTC Section 5307	0	\$0
MVPC	34	\$2,300
<b>TOTAL</b>	<b>720</b>	<b>\$52,750</b>

## **TASK 2.0 - DATA COLLECTION AND ANALYSIS ACTIVITIES**



## 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. 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.

### Previous Work

Under the FFY 2012 UPWP, MVPC completed approximately 110 traffic counts. Many of these counts were taken at locations needed to better calibrate the regional traffic model.

In FFY 2010, MVPC successfully 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 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. MVPC Geocoding of this information also makes it possible to incorporate volume data into the state's road inventory file and other GIS data layers.

### FFY 2013 Activities

Under this year's UPWP, MVPC again anticipates conducting approximately 110 traffic counts.

### 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 60 counts for these purposes in FY 2013.
- 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 10 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:* Forward all counts taken by the MVPC in FFY 2013 to MassDOT's Office of Transportation Planning on a monthly basis.
- 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 *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.

**Products/Schedule**

- Tasks 2.1.1- 2.1.3 - Conduct traffic volume, classification counts - October 2012 – November/December 2012; April 2013 – September 2013
- Task 2.1.4 - Update MVPC Count Library – December 2012 - January 2013
- Task 2.1.5 - Submittal of Data to MassDOT - October 2012 – November/December 2012; April 2013 – September 2013
- Task 2.1.6 - Community reports summarizing 2012 regional traffic counting activities – February - April 2013

<b>Funding for Task 2.1 Traffic Monitoring Program</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	640	\$41,000
MassHighway	160	\$10,250
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>800</b>	<b>\$51,250</b>

## **Task 2.2 - Pavement Management Studies**

### **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 that is 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**

Under the FFY 2010 UPWP, MVPC worked with the City of Haverhill to implement a pavement management program and continued to provide technical support to the Town of North Andover as that community continued to implement its own Infrastructure Management program, one that was originally developed in cooperation with MVPC. During FFY 2011, 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 20 years. This analysis showed that \$223 million in roadway resurfacing/reconstruction projects would be needed to maintain the non-interstate federal-aid roadways in the Valley at 2011 levels over the time period covered in the RTP. This road surface condition information is also used by MVMPO staff in evaluating the magnitude of the improvement to pavement quality that will occur through the implementation of planned or proposed roadway and intersection improvement projects, one of the criterion used in the Transportation Project Evaluation process.

### **FFY 2013 Activities**

Staff will also continue to review/refine the pavement repair decision matrices that were used in estimating the cost of improving or perhaps even just maintaining the overall condition of the region's federal aid roadway network.

And, as has been the case for many years, MVPC will continue to work with communities to develop local pavement management programs.

### **Tasks**

- 2.2.1 *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 *Collect Other Data on Federal Aid Road System:* MVPC will continue to coordinate its data collection efforts with those of DPW directors/engineers from other communities in the region that have pavement management programs both to avoid duplication of effort and to compare assessments of road surface conditions. Staff will also continue to update the pavement repair decision matrices that are used by our pavement in management software to identify appropriate repair/reconstruction strategies needed to maintain the overall condition of the region's federal aid roadway network.
- 2.2.3 *Attend Meetings of the Pavement Management Users Group:* Staff will attend meetings of the Pavement Management Users Group.

**Products/Schedule**

- Task 2.2.1 -Provide assistance to interested communities in developing pavement management systems - Ongoing
- Task 2.2.2 - Collect Other Data on Federal Aid Road System - *Ongoing*
- Task 2.2.3 - Attend meetings of Pavement Management Users Group – Ongoing

<b>Funding for Task 2.2 Pavement Management Studies</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	188	\$12,500
MassHighway	47	\$3,125
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>235</b>	<b>\$15,625</b>

## **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:

- Development of a *Traffic Viewer* for the MVPC website
- Creation of a process to develop intersection and roadway improvement plans in GIS-compatible formats
- Maps used in MVMPO's 2012 Regional Transportation Plan
- Creation of off-road trail maps in the Valley
- Maps showing the location of sidewalks in the region
- Location of stormwater outfall pipes along public roadways
- Maps showing scenic vistas in the region
- MVRTA route and system maps
- Maps/diagrams used in local and regional transportation studies
- Updated digital aerial imagery used in regional transportation studies

In FFY 2007, MVPC staff met with staff from the Executive Office of Transportation and Public Works to discuss the MVPC's role in updating the data shown in the state's Roadway Inventory File (RIF). This listing of roadways in each community serves as the basis for the development of street maps and other databases used by MVPC as well as the 15 cities and towns in the region.

In FFY 2008, MVPC staff worked with communities in obtaining new digital aerial photography through Pictometry, Inc. of Rochester, NY and establishing/installing the aerial imagery in libraries that reside on the computer systems of participating cities and towns. Thirteen of 15 MVPC cities and towns have purchased Pictometry images through MVPC as has the Town of Plaistow, NH. Along with this imagery, MVPC has continued to assist communities by installing accompanying Windows-based software that can be used, among many purposes, to derive accurate ground measurements from the imagery.

Key developments under the FFY 2011 UPWP were the expansion of the MVPC's Traffic Volume Viewer to also shown information on the number of crashes that have taken place at intersections/interchanges on the region's roadway network and the selection of software and development of a process by which transportation improvement concept plans can be quickly developed and integrated into the agency's GIS.

MVPC GIS staff also prepared a series of maps that were used in the development of the MVMPO's 2012 Regional Transportation Plan, and updated maps for ongoing Title VI/Environmental Justice monitoring activities..

### **FFY 2013 Activities**

MVPC staff will again be assisting local communities in managing and distributing new digital aerial photography that was collected in April 2012 by Pictometry, Inc. of Rochester, NY. As was the case with the 2008 imagery from Pictometry, this effort will include establishing/installing the aerial imagery in libraries that reside on the computer systems of participating cities and towns. MVPC will continue to provide technical support to communities that have purchased the Pictometry digital aerial imagery through the MVPC. This support 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 have had a chance to work 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 assist local communities in managing and distributing new digital aerial photography that was collected in April 2012. 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 *New and Revised Bike Trails Map:* Under previous UPWPs, MVPC developed a Regional Off-Road Trail Map that shows the locations of key trails on publicly accessible land throughout the region. Working with local trails groups and enthusiasts, MVPC will continue to add new trails to this map under this year's UPWP.
- 2.3.8 *Maintain/Update Traffic Counting Viewer:* GIS staff will update the MVPC's Traffic Count Viewer with traffic count data collected in FFY 2013.
- 2.3.9 *Transportation Mapping Support:* Provide GIS support and map creation for transportation studies, plans, Title VI/Environmental Justice, and other transportation planning activities as becomes necessary.

**Products/Schedule**

- Task 2.3.2 - Road Inventory File Updates - Ongoing
- Task 2.3.7 - New and Revised Trails Maps – Ongoing

<b>Funding for Task 2.3 Geographic Information Systems</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	896	\$77,000
MassHighway	224	\$19,250
FTA/EOTC Section 5303	134	\$12,000
FTA/EOTC Section 5307	0	\$0
MVPC	34	\$3,000
<b>TOTAL</b>	<b>1,288</b>	<b>\$111,250</b>

## Task 2.4 - Congestion Management Processes

### Description

The Intermodal Surface Transportation and Efficiency Act of 1991 (ISTEA) created Transportation Management Areas (TMA's) in those urbanized areas of over 200,000. Within these areas, MPOs were given the primary responsibility to develop and implement a Congestion Management System. This requirement was slightly modified in SAFETEA-LU and other reauthorizations of ISTEA, but its general intent remains the same. The newly defined "Congestion Management Process" in Transportation Management Areas must "provide for effective management and operation to address congestion issues."

### Previous Work

The MVMPO's current Congestion Management Process (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 Valley. MVPC staff also employs staff knowledge of the region, the results of traffic studies/reports to identify congested roadways and intersections while ridership data from the MBTA and the MVRTA 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 Unified Planning Work Program. The I-93 Corridor Study, I-495 Corridor Study, Route 114 Corridor Study were all undertaken or initiated largely based on the findings and recommendations generated by the CMP.

In FFY 2012, MVPC staff attended the joint National Highway Institute/Federal highway Administration course on *Advancing Planning for Operations in Metropolitan Areas*. This course presented additional guidance from USDOT on what it considers the key elements in an effective and comprehensive Congestion Management Process. Principal among these is the need for the document to contain Goals and Objectives that can be measured statistically so that the MVMPO can evaluate the effectiveness of measures being taken to achieve its goals.

### FFY 2013 Activities

MVPC will continue to update and calibrate its TransCAD traffic simulation model (see Task 2.6) and apply the output to the region's CMP. A key development in support of that effort will be the availability of detailed travel information for households throughout the Merrimack Valley region. This information was gathered through the statewide travel survey that was conducted by MassDOT in 2010-2011 and will provide MVPC with data on Non-work and Non-Home based trips that had previously been either unavailable or gathered in insufficient detail to provide information that could be included in our traffic model.

Staff will also begin the process of developing CMP Goals and Objectives. A key component of this effort will be the identification of available sources of traffic and transit data that could be used in establishing the performance measures that will be used to evaluate MVMPO progress in attaining these Goals and Objectives (see Task 4.1).

### Tasks

- 2.4.1 *Data collection:* MVPC staff will continue to collect the following data on those corridors identified as being moderately or severely congested in the Merrimack Valley CMP:
- Travel time and delay runs in each identified corridor
  - Monitoring usage at park and ride lots throughout the region
  - Ridership information on congested transit routes/services
- 2.4.2 *Development of CMP Goals and Objectives:* Data on real time travel speeds along interstates, real time performance of transit services, parking lot utilization at MBTA commuter rail lots, response/clearance times for incidents on the arterial roadway network and the performance of other segments of the region's transportation network is becoming increasingly available as ITS projects are implemented and the evolution of personal communication devices continues. It is the goal of MVPC transportation staff under this task to present the MVMPO with options for developing Goals and Objectives for the CMP that make maximum use of this data. This will greatly improve the MVMPO's ability to monitor regional congestion and to assess the effectiveness of MPO policies and projects that are intended to reduce traveler delay. A key first step in this process will be performed under Task 4.1 – ITS. It is there that staff will identify the range of transportation data that is now available both through the Boston Regional ITS architecture and from other sources. At the same time, staff will review the Goals and Objectives and monitoring measures that have been developed in other CMPs from around the nation and present these to the MVMPO for consid-

eration. Based upon the availability of transportation data from sources in the Commonwealth, from NHDOT, our regional traffic model and elsewhere, staff will develop a draft list of Goals, Objectives and measures of effectiveness for inclusion in the document.

**Products/Schedule**

- Task 2.4.1 - Data Collection – Ongoing
- Task 2.4.2 - Development of CMP Goals and Objectives – December 2012 – March 2013

<b>Funding for Task 2.4 Congestion Management Processes</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	247	\$18,000
MassHighway	62	\$4,500
FTA/EOTC Section 5303	45	\$3,160
FTA/EOTC Section 5307	0	\$0
MVPC	11	\$790
<b>TOTAL</b>	<b>365</b>	<b>\$26,450</b>

## Task 2.5 - Intermodal Connections with National Highway System

### Description

With its three interstate highways and many other NHS roadways such as Route 213 and sections of Routes 1A, 28, 97, 110, 113, 114 and 133, the Merrimack Valley region offers a number of existing and potential intermodal connection opportunities. The region is also served by four rail lines, two of which provide freight rail access to local businesses (M&L Branch, Industrial Park Spur, both in Lawrence) and one line that carries a substantial amount of interstate freight as well as passenger service (Haverhill Commuter Line). A fourth 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.

Potential intermodal projects could include new rail and airfreight terminals in the region or connections via the NHS to such facilities, existing or planned, nearby in adjacent regions. The continued economic growth of the Valley and surrounding regions has created a situation where the construction of new intermodal facilities becomes more feasible in both the economic and transportation sense.

### 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, the MVRTA and the City of Newburyport continued with preliminary design work for the construction of a parking facility on Titcomb Street that will include a transit component. This site is located just north of Route 1A (High Street), which is an NHS roadway.

MVPC also 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 2012, MVMPO staff, Newburyport officials and MassDOT staff initiated discussions regarding the usage and management of the Storey Avenue Park and Ride Lot and the Newburyport Commuter Rail Parking Lot. The Storey Avenue lot, despite being recently expanded, still operates at over capacity while the Newburyport Commuter Rail Lot is well below capacity.

Also in FFY 2012, a proposal was put forth by local officials for the state to consider constructing a parking lot near the Scotland Road/I-95 interchange to serve the Border to Boston Multi-Use Trail, which is proposed to pass by the site along Scotland Road and is now in preliminary design. There were preliminary discussions regarding how this proposed parking site might also serve as a Park and Ride Facility that could relieve the capacity issues at the Storey Avenue lot.

### FFY 2013 Activities

MVPC will undertake the following tasks in support of improving intermodal connections in the Valley:

#### Tasks

- 2.5.1 *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.
- 2.5.2 *Provide Administrative and Technical Support to MassDOT/City of Newburyport:* Staff will work with Newburyport officials and MassDOT staff to investigate options for modifying use of the existing park and ride lots in the City to better serve the needs of the community and the traveling public. Staff will also examine the potential impact of opening the proposed Multimodal Transit/Parking Facility on Titcomb Street will have on both lots and perform a preliminary assessment of the feasibility of constructing a parking facility adjacent to the Scotland Road/I-95 Interchange.

**Products/Schedule**

Task 2.5.1  
Task 2.5.2

- Development of NHS Projects – ongoing
- Administrative Assistance and Technical Support to City of Newburyport and MassDOT - Ongoing
- Assessment of impacts of proposed Titcomb Street transit facility – January 2013
- Preliminary study of the feasibility of constructing a new parking facility near Exit 56 on I-95 – April 2013

<b>Funding for Task 2.5 Intermodal Connections with NHS</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	80	\$5,000
MassHighway	20	\$1,250
FTA/EOTC Section 5303	18	\$1,360
FTA/EOTC Section 5307	0	\$0
MVPC	4	\$340
<b>TOTAL</b>	<b>122</b>	<b>\$7,950</b>

## **Task 2.6 - Regional Transportation Model**

### **Description**

Regional transportation simulation models play a prominent role in the 3C transportation planning process. They are the primary tools used to determine whether a region's TIP and RTP meet the requirements of the Clean Air Act Amendments of 1990 and they are also used to estimate the traffic impacts that will be generated by projected economic and population growth in the region. In the MVMPO region, the regional traffic model 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 2012 UPWP, MVPC continued to calibrate and refine its TransCAD traffic simulation model. This largely involved the addition of new centroid connectors for internal traffic zones and the creation of additional traffic zones in areas that were too large to provide accurate/realistic traffic assignment. Staff also updated the model TransCAD model software and developed a new 2010 baseline network based on the results from the 2010 US Census.

### **FFY 2013 Activities**

The principal focus of transportation staff in FFY 2013 will be the possible creation of a new base year (2011) for the regional traffic model. Population and household information from the 2010 US Census will continue to serve as the primary source of data that will support this effort. In addition, staff will continue to revise the zonal employment data in the model as additional information becomes available. MVPC has purchased 2011 employment data for businesses in the region through an agreement with MAPC.

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 *Review of Data for Merrimack Valley Region from Statewide Travel Survey:* During 2010 and 2011, MassDOT undertook a major effort to conduct a detailed travel survey of households across the Commonwealth. Respondents were asked to keep household travel diaries over a two-week period as the primary means of collecting this information. Data on trip generation, non-work and non-home based travel, etc. was collected as part of this effort. A significant number of surveys were completed in each MPO region so as to make the results statistically significant and able to be incorporated into the regional transportation model.

Staff will first review the survey results for the region and prepare a summary report that can be released to the public. Data on trip origin/destination pairs for various trip types will then be summarized in an effort to develop trip distribution tables that can be used to supplant the gravity model that the MVMPO now uses for this purpose. Trip generation data will then be reviewed to determine how the default trip generation rates contained in the current version of the TransCAD model can/should be modified.

The results from the statewide travel survey should also provide the MVMPO with comprehensive data on non auto based trip making, including fixed route bus trip patterns, bicycle and pedestrian mode share information, commuter rail and commuter bus trip making. A detailed summary of the non-auto based data in the region will be generated and provided to the MVRTA and local private transit operators.

2.6.2 *Modifications to 2010 Base Year Model Network:* Based on the work completed under Task 2.6.1, the existing base year model network will be modified to incorporate the results of the travel survey. Staff will also make a determination as to whether the base year of the model should be changed from 2010 to 2011 to better reflect the timeframe of the data collected in the 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 continued refinement of the model network.
- 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 *Collect Intersection Data and Automatic Traffic Recorder (ATR) Counts:* The TransCAD model package can incorporate signal timing information when assigning vehicle trips. To take advantage of this important model feature, staff will continue to collect sample turning movement and signal timing data at key signalized intersections throughout the Valley. Staff will also continue to integrate ATR count data into the model to assist in the model calibration process.

**Products/Schedule**

- Task 2.6.1
  - Travel Survey Summary Report – November 2012
  - Detailed travel data analysis broken out by TAZ – January 2013
  - Detailed Non-auto Based Summary Report – March 2013
- Task 2.6.2
  - New Base Year Model Network – January 2013 - August 2013
- Task 2.6.5
  - Intersection Data Collection – Ongoing

<b>Funding for Task 2.6 Regional Transportation Model</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	395	\$33,000
MassHighway	99	\$8,250
FTA/EOTC Section 5303	34	\$2,960
FTA/EOTC Section 5307	0	\$0
MVPC	9	\$740
<b>TOTAL</b>	<b>537</b>	<b>\$44,950</b>

## **Task 2.7 -- Bicycle/Pedestrian/Water Trails Planning**

### **Description**

Interest in creating a non-motorized off-road and on-road network has been growing in the region to the point where nearly every community in the Valley has a trail project either in the planning or development stage. The 2009 ribbon cutting for the Haverhill Riverwalk and the 2010 ribbon cutting of the Salisbury Ghost Trail and Newburyport Rail Trail added to the list of trails and were the culmination of over 10 years of effort to build these facilities.

Each of the above facilities was funded for design and/or construction through the MVMPO as were the Powow Riverwalk in Amesbury and a section of the Haverhill Riverwalk. The MVMPO will continue to be an active partner with MassDOT and our member communities to continue expanding this bicycle and pedestrian trail network.

### **Previous Work**

In 2006, with a Recreational Trail Program grant, MVPC staff worked with member communities to develop off-road trail maps. These maps can be found on the MVPC web site. This work continued over the past few years with GIS work to help Haverhill and Georgetown develop off-road trail guidebooks.

During FFY 2010, in an effort to help our member communities access High Priority Project funding for the Border to Boston Trail, MVPC staff, in partnership with MassDOT, created and managed a competitive funding program. The communities successfully came together to propose one project to develop 100% design of the remaining corridor in the MVPC region for the roughly \$718,000 plus local match. Twenty-five percent design plans for the remaining sections of his trail will be completed by MassDOT in Fall 2012 and Final Design should be completed by Summer 2013.

In FFY 2010, MVPC received a Recreational Trails Grant from the Massachusetts Department of Conservation and Recreation and partnered with the Essex National Heritage Commission and the Northern Middlesex Council of Governments to examine and map a possible route for the Merrimack River Trail. The Merrimack River Trail Reconnaissance Plan was completed in FFY 2012 and helped to redefine the trail's route and refocused local officials' efforts to implement the sections of the facility running through their communities. Also in 2012, MVPC conducted a trail feasibility study of the Old Georgetown Railroad right-of-way to connect the Bradford Rail-Trail to the Border to Boston Trail in Georgetown, and a feasibility study for development of a shared use trail on the Manchester and Lawrence (M&L Branch of the former B&MRR in Lawrence).

### **FFY 2013 Activities**

MVPC staff will continue to provide assistance to the Border to Boston communities to develop the trail. Additionally, staff will work with communities in their efforts to develop both on- and off-road bicycle and pedestrian facilities and connections.

The largest task to be undertaken in FFY 2013 will be the development of the Merrimack Valley Bicycle and Pedestrian Plan. The recent openings of the Salisbury Eastern Marsh Trail and the Newburyport Rail Trail, coupled with funding committed to the construction of Phase I of the Powow Riverwalk in Amesbury, a section of the Bradford Rail Trail in Haverhill, Clipper City Rail Trail in Newburyport and the northern segment of the Border to Boston Multiuse Trail in Salisbury constitute a dramatic change in the bicycle and pedestrian transportation landscape in the region. Ongoing efforts to create bike lanes and bike routes throughout the region further point to the need to develop an updated bicycle and pedestrian plan that will help local and regional officials and the members of the MVMPO to coordinate local and regional bicycle and pedestrian planning efforts.

### **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 *Develop Merrimack Valley Bicycle and Pedestrian Plan.* MVPC will invite the public to participate in creating the 2013 Merrimack Valley Bicycle and Pedestrian Plan. The plan will focus on links to multi-use trails and transit as well as improving access in village centers and employment areas. Merrimack Valley communities are already creating on-road bicycle facilities. The plan will offer a regional perspective to ensure that proper connections are made between communities and to ensure a seamless and comprehensive network. The Plan will also consider bicycle and pedestrian projects and initiatives taking place in the Rockingham, Nashua, Northern Middlesex and Boston MPO regions.
- 2.7.3 *Bicycle and Pedestrian Data Gathering:* MVPC will continue to work with local trails groups and interested citizens to gather information on the location and attributes of new off-road trails in the region. We will

begin to map bike routes and bike lanes as part of the on-road bicycle and pedestrian system. We will also continue to revisit existing off-road trail maps to update the information and reformatting, if needed.

- 2.7.4 *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.
- 2.7.5 *Technical Assistance:* MVPC will provide technical assistance on other off-road trail projects including the Bradford Rail Trail, Methuen Rail Trail, Merrimack River Trail and Manchester & Lawrence Branch project in Lawrence
- 2.7.6 *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.
- 2.7.7 *Promote Safer Bicycle and Pedestrian Transportation:* MVPC will provide support to MassDOT in implementing the Safe Routes to School Program in the MVMPO region. In addition, MVPC will work with communities to examine possible pedestrian safety concerns and identify possible improvements.
- 2.7.8 *Merrimack River Trail:* MVPC will provide technical assistance and guidance to communities seeking to implement the recommendations contained in the Merrimack Valley River Trail Reconnaissance Planning Report, which was completed by MVPC in December 2011 in cooperation with the Essex National Heritage Commission and the Northern Middlesex Council of Governments.
- 2.7.8 *Water Trail Planning:* Staff will continue to work with the Ipswich Watershed Councils in supporting the on-line water trails guide and trail network that may be accessed on the Eight Towns and the Bay Committee website ([www.8tb.org](http://www.8tb.org)).

**Products/Schedule**

- Task 2.7.2 - Development of Draft MVMPO Bicycle and Pedestrian Plan – January 2013  
- Development of Final MVMPO Bicycle and Pedestrian Plan – March 2013
- Task 2.7.3 - Bicycle and Pedestrian Data Gathering – October – December 2012, April – September 2013
- Task 2.7.4 - Border to Boston Trail Support – Ongoing

<b>Funding for Task 2.7 Bicycle/Pedestrian/Water Trails Planning</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	278	\$29,000
MassHighway	69	\$7,250
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>347</b>	<b>\$36,250</b>

## Task 2.8 - Safety Monitoring System

### Description

This task is designed to provide the MVMPO with a comprehensive planning analysis of traffic and transit safety conditions on the transportation network. SAFETEA-LU includes a requirement that metropolitan transportation plans should maximize the safety and mobility of people and goods. It also included the Highway Safety Improvement Program, which earmarks federal funding for safety-oriented projects that support the goals and objectives of a state's Highway Safety Improvement Program.

### Previous Work

Under last year's UPWP, MVPC acquired crash data from MassDOT for the year 2009, which was used in reviewing safety conditions at a number of intersections under study. Staff also began to incorporate traffic volume data for federal-aid roadways that was developed through the Regional Pavement Management task into a database that will be used to generate *estimated* crash rates for intersections. This information will soon be used by staff to assist in the selection of intersections and roadways with safety problems that should be reviewed by the MVMPO.

In FFY 2012, MVPC staff also participated in or will soon host Road Safety Audits (RSAs) for intersections/interchanges analyzed under **Task 3.0 – Short and Long Range Planning Activities**. These include Lafayette Square in Haverhill, Route 1/Merrimack Street intersection in Newburyport, Route 28/Route 213 interchange in Methuen, Interstate 495/Broad Street interchange in Merrimac, and the Route 113/Interstate 95 interchange in Newburyport.

### FFY 2013 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. Additional information for identifying crash locations will come from reviewing copies of police reports where more detailed crash information is usually provided. Finally, staff will continue efforts to develop crash rates for intersections in the Valley where large numbers of crashes have taken place. This information is necessary to allow the MVMPO to identify which locations pose a greater crash risk to the public and is needed in developing projects to be funded in whole or in part under the HSIP funding earmark. MVPC will also continue to monitor data from the Federal Railroad Administration to identify safety problems at the active railroad/roadway crossings in the region.

### Tasks

- 2.8.1 *Obtain Most Recent MassDOT and Local Police Crash Data:* Staff believes that crash data from 2011 will be available late in early 2013 and facilitate creation of an analysis period of 2009-2011.
- 2.8.2 *Edit MassDOT Crash Data:* MassDOT crash data must be reviewed and edited by MVPC to make sure that all accidents are assigned to their correct location. Previous experience with the MassDOT crash database has shown that different descriptions of the same intersection or roadway resulted in accidents being classified improperly. These inconsistencies will be corrected by MVPC staff based on our knowledge of the different names for roadways and intersections in the region.
- 2.8.3 *Establish Intersection Crash Rates:* Staff will develop default ADT volumes for local roadways that intersect the federal road system. Coupled with the work completed in FFY 2012, this will enable staff to develop estimated crash rates for intersections on the federal aid roadway system. Existing ATR counts taken on local roads will be reviewed as part of this effort and staff will investigate the feasibility of using MVPC's GIS database to assist in this effort. Average Daily Traffic volumes for all federal aid roadways as part of its Pavement Management task. These will serve as the foundation for developing estimated intersection crash rates.
- 2.8.4 *Review State's Crash List:* MassDOT often releases a listing of its top crash locations. 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 *Implement 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 in-

clude 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 *Safety User's Group:* MVPC Staff will attend meetings of the State's Safety Users Group. Participation in this group will ensure that the data and findings generated through the Strategic Highway Safety Plan are reflected in the region's Safety Monitoring System.
- 2.8.7 *Road Safety Audits:* MVPC will conduct RSAs in the Merrimack Valley region, as needed. Most of these RSAs will take place as part of the intersection/interchange traffic and safety studies that will be undertaken by MVPC during this federal fiscal year.

**Products/Schedule**

- Task 2.8.2 - Edit MassDOT Crash Data – May 2013 – July 2013
- Task 2.8.3 - Develop Estimated Intersection Crash Rates – February 2013

<b>Funding for Task 2.8 Safety Monitoring System</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	178	\$12,500
MassHighway	44	\$3,125
FTA/EOTC Section 5303	26	\$1,717
FTA/EOTC Section 5307	0	\$0
MVPC	7	\$429
<b>TOTAL</b>	<b>255</b>	<b>\$17,771</b>

## Task 2.9 – Transportation and Livability

### Description

U.S. Department of Transportation Secretary Ray LaHood has defined Livability as meaning “being able to take your kids to school, go to work, see a doctor, drop by the grocery or post office, go out to dinner and a movie, and play with your kids at the park -- all without having to get in your car.”

The concept of influencing the quality of life of Americans through changes and improvements to the transportation network has been described in many ways and indeed has been an important consideration in the transportation planning process since the enactment of SAFETEA-LU back in 2005. (see Page 5 – Sustainable Development Criteria). What are new are the federal government’s recent efforts to coordinate the actions of three key Departments to make this a reality.

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 in 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

*“... 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...”*

The PGS contains numerous recommendations for transportation improvements that will improve the region's quality of life in the Valley including improving bicycle and pedestrian transportation to Community Development Centers, implementing transit services where needed to also serve these areas and relieving roadway congestion that both slows economic growth, degrades the quality of our air and generates greenhouse gases that may have a dramatic impact on our climate.

In FFY 2012, the Merrimack Valley Planning Commission hosted a series of workshops designed to assist local officials in both understanding the various transportation options that are available to improve livability and to provide support in their implementation. These workshops included:

- a review of Traffic Calming measures
- description of the "Complete Streets" concept and how it can be implemented at the local level
- proposals to refine subdivision regulations to make the roadway network more "user friendly"

**FFY 2013 Activities**

MVPC staff will focus its efforts 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 that can be used to accomplish this.

**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.

**Products/Schedule**

Task 2.9.1 - Technical Assistance to Communities – Ongoing

<b>Funding for Task 2.9 Transportation and Livability</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	133	\$9,000
MassHighway	33	\$2,250
FTA/EOTC Section 5303	46	\$3,520
FTA/EOTC Section 5307	0	\$0
MVPC	12	\$880

## **Task 2.10 – Title VI / Environmental Justice Program Planning Activities**

### **Description**

Title VI of the Civil Rights Act of 1964, prohibits discrimination based upon race, color, and national origin. Specifically, 42 USC 2000d states that:

*“No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”*

Other nondiscrimination statutes include the Section 162 (a) of the Federal-Aid Highway Act of 1973 (23 USC 324) (sex), the Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973/Americans with Disabilities Act of 1990.

In addition, Executive Orders #12898 (“*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*”), and #13166 (“*Improving Access To Services For Persons With Limited English Proficiency*”) direct federal agencies to develop strategies to address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations.

### **Previous Work**

In FFY 2012, MVPC staff updated the region’s minority and low income populations information, including production of new graphics showing the locations of transportation projects relative to these two groups. Staff also assisted the MVRTA in completing a fare and service equity analysis.

### **FFY 2013 Activities**

MVMPO staff will continue to increase its familiarity with USDOT/MassDOT Title VI and Environmental Justice monitoring and reporting requirements. It is also anticipated that the MVMPO will be called upon to respond to comments from USDOT and MassDOT relative to the information that was submitted to the state in FFY 2012.

### **Tasks**

- 2.10.1 *Staff Training and Coordination with MassDOT and USDOT Compliance:* 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 monitoring procedures.
- 2.10.2 *Review Universe of Projects to be programmed in FFY 2014-2017 TIP:* Staff will complete a ‘Benefits and Burdens’ analysis to determine how individual projects affect low income and/or minority populations in the region.
- 2.10.3 *MassDOT Title VI and EJ Compliance Presentation:* The MVMPO will provide a forum for state and or federal Title VI/Environmental Justice compliance personnel to present information about this program to MVMPO members and the public

**Products/Schedule**

Task 2.10.1  
Task 2.10.2  
Task 2.10.3

- Staff training and coordination – Ongoing
- Benefits and Burdens ' Analysis – May 2013
- MassDOT Title VI and EJ Compliance Presentation – November 2012

<b>Funding for Task 2.10 Title VI and Environmental Justice</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA/MassHighway PL	72	\$5,000
MassHighway	18	\$1,250
FTA/EOTC Section 5303	138	\$9,440
FTA/EOTC Section 5307	0	\$0
MVPC	35	\$2,360
<b>TOTAL</b>	<b>263</b>	<b>\$18,050</b>

**TASK 3.0 - SHORT AND LONG-RANGE TRANSPORTATION PLANNING  
ACTIVITIES**



### **Task 3.1 -- Elderly and Disabled/ADA Planning**

#### **Description**

The MVRTA has traditionally been a leader in the Commonwealth in providing reliable, inexpensive transportation for the elderly and disabled. For example, the MVRTA was the first Authority in the Commonwealth to have a fully accessible fixed route bus fleet.

Continued growth in the elderly population in the region and their demand for non-ADA eligible demand response transportation, coupled with the rapidly increasing demand for mandated ADA-eligible transportation services, continues to create severe budgetary pressures on the Authority. 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.

#### **Previous Work**

Under the FFY 2008 UPWP, MVPC finalized the Coordinated Public Transit-Human Services Transportation Plan for the MVMPO and conducted two rounds of grant applications (January and July/August 2008). It also completed an analysis of transportation issues facing the region's disabled population, which included forecasts of the region's disabled population to 2030, estimates the demand for transit service that will be generated by this group, and recommendations as to the type of transit services that will meet this groups transportation needs.

In FFY 2009, the MVPC completed an update to the Authority's 2004 Elderly Transportation Study that includes an evaluation of the transportation services currently available to older adults in the Merrimack Valley region and contains recommended strategies to meet the goal of increasing senior mobility needs while still meeting the future demands on the paratransit program.

In recent years, MVPC 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.

#### **Tasks**

- 3.1.1 *Continue to Assist the MVRTA in Complying with ADA Paratransit Requirements:* MVPC will assist the MVRTA in reviewing EZTrans Service for compliance with ADA Paratransit requirements.
- 3.1.2 *Assist the MVRTA in Monitoring Compliance with ADA Fixed Route Bus Requirements:* The MVPC will survey MVRTA lift maintenance and repair procedures, wheelchair securement system maintenance and repair procedures, and other areas to ensure that Authority is meeting the requirements of Subpart G of Part 37 of the ADA regulations.
- 3.1.3 *Oversight of Mobility Assistance Van Program:* As part of the Mobility Assistance Grant, MVRTA is required to monitor maintenance of MAP vehicles being used by Councils on Aging. MVPC will assist MVRTA in setting up and implementing this process.
- 3.1.4 *MVRTA ADA and non-ADA EZTrans Service Analysis:* The number of trips being made and the overall cost of providing paratransit service has increased sharply in recent years and the MVRTA expects that this trend will continue as the elderly population continues to increase. MVPC will work with MVRTA to take a close look at transit operations and analyze its impact on the operations budget. Goals of the project will be to seek efficiencies in the system and to identify proposed actions.

**Products/Schedule**

- Task 3.1.1 - Assist MVRTA in Monitoring ADA Demand Response Requirements – Ongoing
- Task 3.1.2 - Assist the MVRTA in Monitoring ADA Fixed Route Bus Requirements – Ongoing
- Task 3.1.4 - MVRTA EZTrans Service Analysis – May 2013

<b>Funding for Task 3.1 Elderly and Disabled/ADA Planning</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	0	\$0
MassHighway	0	\$0
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	136	\$13,760
MVPC	34	\$3,440
<b>TOTAL</b>	<b>170</b>	<b>\$17,200</b>

## Task 3.2 — Transit Planning

### Description

The MVRTA is the primary provider of public transportation in the Merrimack Valley region. Through private operators such as the Merrimack Valley Area Transportation Co., Inc. (MVATC), the Authority provides a wide array of fixed route bus and demand-response transit services. Each of the planning tasks described below is being undertaken in support of the services being offered through the MVRTA.

### Previous Work

The MVRTA now operates six demand response transit services in the region, these being the Ring and Ride Services in Georgetown, Groveland, Newbury, Salisbury, Boxford and West Newbury as well as demand response service that replaced Route 42 in Methuen, and the former Route 22 in Andover and a section of Route 51 in Newburyport.

FFY 2011 also saw much progress being made in the planning and implementation of five major transit capital projects that are being managed by the Authority. Construction began on the Haverhill Intermodal Transit Center and on the Amesbury Intermodal Center. Construction was also completed on Phase II of the Lawrence Gateway project with the opening of the 865 space surface parking area in November 2010.

In Haverhill the MVRTA continued work on the potential relocation of the Washington Square Transit Station and will select a site and commence final design in FFY 2012. Finally, the MVRTA has also recently completed a site selection study for an Intermodal Parking Facility in the City of Newburyport and the City Council approved the selection of the Titcomb Street site for the facility.

### FFY 2013 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:* In previous years, the MVRTA has asked the MVPC to perform technical analyses on an as-needed basis. This has included such activities as preparing RFPs and evaluating responses, estimating sample size for MVRTA surveys and updating the Authority's fixed route bus maps. Similar transit planning activities will be conducted for the Authority under the FFY 2012 UPWP. MVPC will also provide technical assistance on transit issues to communities. The MVPC will consult and coordinate with MVRTA prior to any technical assistance on transit issues that is requested by or would be provided to any MVRTA member community.
- 3.2.2 *Implement Pilot Projects and Programs:* MVPC will continue to work with MVRTA to initiate the grant process for JARC and New Freedom program proposals.
- 3.2.3 *Implementation and Evaluation of New Service:* MVPC will assist the MVRTA with implementing new bus services as well as evaluating them, including the new Salisbury fixed bus route, River Road and New Hampshire Mall services.
- 3.2.4 *Creation of Mobility Working Group:* MVPC will provide assistance to the MVRTA to organize and convene a mobility working group twice per year to discuss transit service in the MVRTA region.

**Products/Schedule**

Task 3.2.4

- Creation of Mobility Working Group – January 2013 – September 2013

<b>Funding for Task 3.2 Transit Planning</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	0	\$0
MassHighway	0	\$0
FTA/EOTC Section 5303	402	\$33,040
FTA/EOTC Section 5307	347	\$0
MVPC	187	\$17,036
<b>TOTAL</b>	<b>936</b>	<b>\$85,180</b>

### **Task 3.3 – Lawrence Roadway Project Development Support**

#### **Description**

This task is designed to provide MVMPO support to the City of Lawrence in the development of two potential TIP projects—the reconstruction of Merrimack Street between Parker Street and Interstate 495 and the updating of traffic signal equipment at two intersections along Andover Street in South Lawrence—at Winthrop Avenue (Route 114) and South Broadway (Route 28). Staff will assist the City by providing Level of Service information at the Route 28/Andover Street intersection and by assessing the need to install a new traffic signal along Merrimack Street as part of the proposed project, now in preliminary design, to reconstruct that roadway.

#### **Previous Work**

The MVMPO completed a Road Safety Audit and traffic operations study for the Andover Street/Winthrop Avenue intersection in 2011. Those analyses pointed to the need for new traffic signal control equipment at the intersection to facilitate the completion of other recommended improvements.

MVPC had also completed a traffic operations analysis for the Andover Street/Broadway intersection to identify improvements that could reduce congestion at this location and facilitate better accommodation of larger trucks. City officials and residents were concerned that operational and geometric conditions at the intersection were encouraging truckers to use the Carletonville Neighborhood as an alternative means of accessing the industrial areas located on Andover Street near the Lawrence/Andover town line.

As part of the 2012 MVMPO RTP development process, the City of Lawrence identified the reconstruction of Merrimack Street in South Lawrence as a priority project. This roadway provides east-west travel just south of the Merrimack River/South Canal and serves a number of key commercial and residential uses such as Monarch on the Merrimack, New Balance and the Riverwalk properties. It also provides access the McGovern transportation center, which is located at the intersection of South Union and Merrimack.

The City is working with a consultant to develop preliminary design plans for a project to rebuild the corridor from Parker Street to Interstate 495.

The City is also working with MassDOT and the MVPC to implement roadway and sidewalk improvements between the McGovern Center and Essex Street utilizing TCSP funds. The work scope for this project is being refined and construction is expected to be completed in FFY 2013.

#### **FFY 2013 Activities**

MVPC transportation staff will complete the following tasks with staff from MassDOT and officials from the City of Newburyport in developing proposed short and long-term improvements to this intersection to correct any safety/capacity deficiencies identified through an operational analysis.

#### **Tasks**

- 3.3.1 *Level of Service Analysis and Crash History:* MVPC will collect peak period turning movement data at the Andover Street/Broadway intersection and then perform capacity analyses for this location. MassDOT crash data from 2008-2010 will also be summarized.
- 3.3.2 *Traffic Signal Warrant Analysis:* Staff will collect vehicle turning movement and ATR counts at or near the central Riverwalk properties driveway and then perform a traffic signal warrant analysis for that location.
- 3.3.3 *Prepare Data Transmittal Report:* MVPC staff will prepare a data transmittal report that contains the results of the analyses that will be completed under Task 3.3.1 and Task 3.3.2 outline the study's findings and recommendations for MVMPO consideration for inclusion in future TIP documents.

**Products/Schedule**

- Task 3.3.1 - Data Collection – April 2013
- Task 3.3.2 - Data Analysis – May 2013
- Task 3.3.3 - Data Transmittal Report – May 2013

<b>Funding for Task 3.3 Lawrence Roadway Project Development</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	110	\$8,250
MassHighway	28	\$2,063
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>138</b>	<b>\$10,313</b>

## Task 3.4 – Marston Corner Safety Analysis in Methuen

### Description

The MVMPO's 2012 Regional Transportation Plan and the region's Congestion Management Process identify the intersection of Route 113/Howe Street/Jackson Street in Methuen that is north of Route 213 as being congested and the site of over 80 crashes during the period from 2006-2008. PM Peak period traffic on Pleasant Street eastbound often backs up to the Route 213 eastbound off ramp, with much of this delay having been caused by delays to traffic attempting to turn left onto Howe Street northbound.

### Previous Work

The MVPC completed a traffic study of this intersection in 1996. Staff recommended signal timing changes to reduce the long delays endured by drivers attempting to turn from Pleasant Street to Howe Street during the PM peak travel period.

Subsequent to this analysis staff reviewed the traffic improvement plans for the Loop development project (2006) and for the Osco Pharmacy that is located on Pleasant Street just west of the intersection (1998), both of which included this intersection.

Since that time, additional commercial development has taken place along Pleasant Valley Street through the redevelopment of the Mann's Orchard site. The City of Methuen has also restriped Howe Street to add a northbound lane on the bridge over Route 213. This additional capacity may offer opportunities to adjust the timing and phasing of the existing traffic signals at this location.

### FFY 2013 Activities

MVPC staff had intended to complete this study under the FFY 2012 UPWP. However, reconstruction work along Jackson Street made it impossible to collect traffic volume and turning movement data that could be used to complete the required traffic operations analysis. Reconstruction work on Jackson Street is expected to be completed in the spring of 2013.

### Tasks

- 3.4.1 *Data Collection:* MVPC staff will collect peak hour turning movement and pedestrian crossing data at the interchange and collect the most recent crash data available from the Methuen Police Department and the State Police. It will also review the sight-distances, and length of acceleration/deceleration lanes at this interchange.
- 3.4.2 *Data Analyses:* MVPC will then complete a Level of Service analysis of the intersection to determine how well it is functioning and to identify any improvements that might be made to improve peak hour Level of Service, improve sight distance (if necessary), and review signal phasing should an analysis of crash data show a particular problem with certain vehicle movements.
- 3.4.3 *Conduct RSA at the Intersection:* An RSA of a roadway or intersection with identified safety problems must be completed before the MVMPO can commit to funding any needed improvements under the Highway Safety Improvement Program. Staff will hold an RSA as part of this analysis and prepare both a draft and final RSA report.
- 3.4.4 *Meet Local/State Officials:* MVPC staff will present the findings of its analyses to City officials and MassDOT staff, along with preliminary recommendations for both short and long-term improvements to address the problems identified. After reviewing these options, staff will consider and evaluate any additional improvement alternatives recommended by local officials and MassDOT staff.
- 3.4.5 *Develop Short and Long Term Recommended Improvements:* Based on the findings of the traffic and safety analyses completed for all potential improvements, staff will again meet with town officials and staff from MassDOT to identify final short-term and any long-term improvements to the intersection with recommendations for future potential TIP projects.
- 3.4.6 *Prepare Draft/Final Intersection Study Report:* MVPC staff will prepare draft and final reports that outline the study's findings and recommendations for MVMPO consideration for inclusion in future TIP documents.

**Products/Schedule**

- Task 3.4.1 - Data Collection – May 2013
- Task 3.4.2 - Data Analysis – May 2013
- Task 3.4.3 - Draft/Final Intersection RSA Reports – May - June 2013
- Task 3.4.6 - Draft Study Report – June - July 2013
- Final Study Report – August - September 2013

<b>Funding for Task 3.4 Marstons Corner Traffic Study</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	254	\$20,000
MassHighway	64	\$5,000
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>318</b>	<b>\$25,000</b>

## Task 3.5 – Route 110/Burnham Road Traffic Analysis in Methuen

### Description

In response to a request received from Methuen city officials, MVPC will examine traffic and safety issues at the intersection of Route 110 (Haverhill Street) and Burnham Road. This intersection experiences congestion during the morning and evening peak travel periods that are largely caused by vehicles making left turns from the Burnham Road northbound and Haverhill Street westbound approaches.

### Previous Work

This intersection sits at the eastern edge of the Route 110/113 Rotary reconstruction project area and traffic operations at this location were analyzed in the Methuen Rotary Interchange Reconstruction Environmental Impact Report that was prepared by MassDOT. This analysis found that while this intersection functioned at LOS C during the morning and evening peak travel periods in 2008, it will operate at LOS E during the PM Peak Period in 2030 even after the improvements are made to Haverhill Street as part of the interchange reconstruction work. The final EIR noted that that "to bring operations to an acceptable level will require [an] additional lane on the westbound and northbound approaches."

### FFY 2013 Activities

MVPC transportation staff will work with staff from MassDOT and officials from the City of Methuen in developing proposed short and long-term improvements to this intersection to address any capacity deficiencies identified through an operational analysis. This analysis will make use of the traffic information and assumptions contained in the Methuen Rotary Interchange Reconstruction EIR, but also include updated data that will be collected by MVPC staff.

### Tasks

- 3.5.1 *Data Collection:* MVPC staff will collect peak hour turning movement and pedestrian crossing data at the intersection and collect the most recent crash data available from the Methuen Police Department.
- 3.5.2 *Data Analyses:* MVPC will then complete a Level of Service analysis of the intersection to determine how well it is functioning and to identify any improvements that might be made to improve peak hour Level of Service, improve sight distance (if necessary), and review signal phasing should an analysis of crash data show a particular problem with certain vehicle movements.
- 3.5.3 *Conduct RSA at the Intersection:* An RSA of a roadway or intersection with identified safety problems must be completed before the MVMPO can commit to funding any needed improvements under the Highway Safety Improvement Program. Staff will hold an RSA as part of this analysis and prepare both a draft and final RSA report.
- 3.10.1 3.5.4 *Meet Local/State Officials:* MVPC staff will present the findings of its analyses to City officials and MassDOT staff, along with preliminary recommendations for both short and long-term improvements to address the problems identified. After reviewing these options, staff will consider and evaluate any additional improvement alternatives recommended by local officials and MassDOT staff.
- 3.5.5 *Develop Short and Long Term Recommended Improvements:* Based on the findings of the traffic and safety analyses completed for all potential improvements, staff will again meet with City officials and staff from MassDOT to identify final short-term and any long-term improvements to the intersection with recommendations for future potential TIP projects.
- 3.5.6 *Prepare Draft/Final Intersection Study Report:* MVPC staff will prepare draft and final reports that outline the study's findings and recommendations for MVMPO consideration for inclusion in future TIP documents.

**Products/Schedule**

- Task 3.5.1 - Data Collection – October 2012
- Task 3.5.2 - Data Analysis –October - November 2012
- Task 3.5.3 - Draft/Final Intersection RSA Reports – December 2012
- Task 3.5.6 - Draft Study Report – February – March 2013
- Final Study Report – March – April 2013

<b>Funding for Task 3.5</b>		
<b>Route 110 / Burnham Rd. Traffic Study</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	222	\$17,500
MassHighway	56	\$4,375
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>278</b>	<b>\$21,875</b>

### **Task 3.6 – Interstate 495/Massachusetts Avenue Safety Analysis in North Andover**

#### **Description**

This interchange serves as a gateway to both South Lawrence and to both downtown North Andover and Old Town Center.

The two unsignalized intersections of the Interstate 495 ramps with Massachusetts Avenue in North Andover has been identified as a congested intersection in the MVMPO's Congestion Management Process. These locations were also recommended for signalization in MassDOT's Route 495 Corridor Study. .

#### **Previous Work**

MassDOT's study of the Interstate 495 Corridor between Westford and Salisbury was completed in 2008. It recommended that the two ramps coming from/going to Interstate 495 from Massachusetts Avenue be signalized to address congestion and safety issues.

#### **FFY 2013 Activities**

MVPC transportation staff will work with staff from MassDOT in updating the Level of Service and safety analyses that were contained in the 2008 Corridor Study.

#### **Tasks**

- 3.6.1 *Data Collection:* MVPC staff will collect peak hour turning movement and pedestrian crossing data at the two ramp intersections and collect the most recent crash data available from the North Andover Police Department.
- 3.6.2 *Data Analyses:* MVPC will then complete a Level of Service analysis of the intersections to determine how well they are functioning and review the recommendations for geometric improvements that were contained in the I-495 Corridor Study.
- 3.6.3 *Conduct RSA at the Intersection:* An RSA of a roadway or intersection with identified safety problems must be held before the MVMPO can commit to funding any needed improvements under the Highway Safety Improvement Program. Staff will hold an RSA as part of this analysis and prepare both a draft and final RSA report. MVPC staff will present the findings of its analyses to Lawrence and North Andover officials as well as MassDOT staff.
- 3.6.5 *Develop Recommended Improvements:* Based on the findings of the traffic and safety analyses completed for all potential improvements, staff will again meet with town officials and staff from MassDOT to identify final short-term and any long-term improvements to the intersection with recommendations for future potential TIP projects.
- 3.6.6 *Prepare Draft/Final Intersection Study Reports:* MVPC staff will prepare draft and final reports that outline the study's findings and recommendations for MVMPO consideration for inclusion in future TIP documents.

**Products/Schedule**

- Task 3.6.1
- Task 3.6.2
- Task 3.6.6

- Data Collection – June 2013
- Data Analysis – July 2013
- Draft/Final Intersection RSA Reports – August 2013

<b>Funding for Task 3.6 I-495 Ramps/Massachusetts Ave.</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	145	\$22,000
MassHighway	36	\$5,500
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>181</b>	<b>\$27,500</b>

## Task 3.7 – Stormwater Management Technical Assistance

### Description

The Phase II Stormwater Rule published by EPA in December 1999 required operators of municipal separate storm sewer systems (“MS4s”) to develop and implement six *minimum* stormwater management measures:

- 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 these six measures requires 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. Except in the case of more recent subdivisions, such infrastructure information is often incomplete, or is not available in a consistent, retrievable, and user-friendly format.

Developing comprehensive drainage system databases and maps on an individual community basis is an expensive proposition that taxes already strained local DPW and highway department budgets and staff. It also results in map and data products that are not compatible on an intermunicipal, watershed, or Regional Planning District level, as the products will have been developed by different parties using wide-ranging field collection and mapping protocols.

### Previous Work

Under the region’s 2001-2002 UPWP, MVPC completed a pilot project in the Town of Georgetown to demonstrate how a smaller community, assisted by MVPC, could go about developing the type of detailed drainage system database that would be necessary to meet the requirements of Phase II Stormwater Rule. Using its GPS and GIS capabilities, MVPC conducted field reconnaissance with Georgetown DPW personnel to locate and inspect stormwater facilities within the community’s Urbanized Area. From this information, a digital storm drainage system inventory and map were created. Local and regional workshops were then held to illustrate how the mapping project was conducted and to showcase the various products and protocols that grew out of it. This information was updated under the region’s FFY 2007 Unified Planning Work Program to include additional areas in Georgetown that were designated as being within the urbanized area as a result of the 2000 U.S. Census.

During FFYs 2010 and 2011 MVPC identified and mapped high priority stormwater runoff problem areas (‘choke-points’) in Boxford, Georgetown, Groveland, Merrimac, Rowley, Salisbury, and West Newbury. Undersized or damaged culverts and other inadequate drainage facilities in these problem areas either cause or contribute to periodic localized flooding and temporary road closures, as well as chronic soil erosion and receiving water degradation.

MVPC staff is currently working with the communities of Boxford and Georgetown to inventory and map municipal stormwater facilities, draft stormwater management bylaws, and conduct local and regional workshops on the Federal Phase II regulations and stormwater best management practices, including Low Impact Development (LID) techniques. Staff also worked in partnership with the *Greenscapes North Shore Coalition* in organizing and participated in numerous workshops where information related to stormwater runoff and treatment issues were discussed.

The compilation and digital mapping of this information will aid the communities as they begin updating their Phase II Storm Water Management Programs (SWMPs) later this year, when the new EPA Small MS4 (Municipal Separate Storm Sewer Systems) requirements are expected to be finalized and issued. This same information is also being used by MVPC in preparing the Merrimack Valley Region Multi-Hazard Mitigation Plan for 2013-207, which will be approved by FEMA by the end of this calendar year (see Task 4.3 – Regional Transportation Security).

### FFY 2013 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 forthcoming Massachusetts Phase II Small MS4 General Permit.

### Tasks

- 3.7.1 *Training Workshops and Development of Stormwater Management Bylaws/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, including stormwater facilities mapping, illicit discharge detection and elimination, stormwater best management practices, and stormwater management program financing options (e.g., stormwater utilities). Staff will draft and customize relevant stormwater management bylaws 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.

- 3.7.2 *Stormwater Infrastructure Inventorying and Mapping:* Building on previous infrastructure inventorying and mapping work, MVPC will continue to collect and review drainage plans, maps, and reports and will consult with knowledgeable local DPW and highway department personnel and map the locations of existing stormwater facilities, with an emphasis on catch basins and connecting drainage pipes. This information will subsequently be verified in the field by trained MVPC staff using GPS equipment.
- 3.7.3 *Stormwater Sampling Program Training & Design:* In order to facilitate local compliance with the 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).

**Products/Schedule**

- Task 3.7.1 - Training Workshops & Bylaws/Outreach Materials – October 2012- August 2013
- Task 3.7.2 - Stormwater Infrastructure Inventorying/Mapping – ongoing
- Task 3.7.3 - Stormwater Sampling Program Training & Design – October 2012 – November 2012  
April 2013 – September 2013

<b>Funding for Task 3.7 Stormwater Runoff Technical Assistance</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	236	\$22,000
MassHighway	59	\$5,500
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>295</b>	<b>\$27,500</b>

## Task 3.8 - Climate Change

### Description

This task responds to guidance that the MVMPO has received from FHWA and FTA calling for MPOs to “increase their capacity to address climate change in transportation.”

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 Global Warming Solutions Act (GWSA) was passed in 2008 and is designed 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 state 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

The MVMPO had originally intended to complete the mapping of areas prone to the impacts of climate change using LIDAR mapping information and best available estimates for anticipated rising of sea level and the associated storm surge and inland flooding. However, this LIDAR mapping information has not been released and may not become available until the end of FFY 2012 or perhaps even later. After reviewing the maps of areas prone to flooding in regions where LIDAR information was not used, staff decided to hold off on its mapping efforts until it becomes available.

MVPC staff did attend the 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. This event pointed to the need for the MVMPO to begin the process of assessing the vulnerability of transportation assets to climate change events and identifying those that merit special attention/protection.

### FFY 2013 Activities

Once the mapping work described above has been completed, staff will identify flood-prone infrastructure in coastal areas and identify both local and regional transportation facilities that could be impacted. Staff will then work with the MVMPO and our communities to develop a methodology to evaluate how vulnerable these facilities are to flooding and what impact their loss would have on the region’s transportation network as well as on infrastructure that is often related to transportation facilities such as water and sewer lines and electric lines.

### Tasks

- 3.8.1 *Map Areas Prone to Impacts from Climate Change:* Using LIDAR mapping data when it becomes available, staff will develop regional and community-specific GIS databases and maps depicting those geographic areas that are projected to be at risk from climate change impacts (especially sea level rise, coastal storm surges, and coastal and inland flooding.)

- 3.8.2 *Identify Impacted Transportation Facilities and Services:* Staff will superimpose the projected climate change impact area boundaries onto existing GIS maps depicting the region's current (and planned) transportation infrastructure in order to identify specific transportation facilities and services at risk. As part of this, MVPC will identify and map other vulnerable infrastructure in the region that, if damaged, could have an impact on the transportation system, or that would affect the transportation system as it is used by emergency responders.
- 3.8.3 *Develop Transportation Infrastructure Vulnerability Assessment Methodology:* Staff will work with local officials and MVMPO members to develop a means of assessing the vulnerability of the affected transportation facilities/services to storm events and identify those that could/should be made more resistant. Staff will consider such factors as availability of alternative routes to serve impacted areas, presence of vital public utilities, location of public safety and medical facilities, evacuation routes, magnitude and duration of impact, and the importance of the facility to the local/state/regional economy.
- 3.8.4 *Host Regional Workshops:* MVPC will design and host a public workshop to inform local officials and partner agencies and organizations on the current status and anticipated impacts of climate change on the Merrimack Valley region, and to present the inventory and map results from Tasks 3.11.2 and 3.11.3 above.
- 3.8.5 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).

**Products/Schedule**

- Task 3.8.1 - Climate change impact area databases and maps – November 2012 - March 2013
- Task 3.8.2 - At-risk transportation infrastructure and services maps – March - June 2013
- Task 3.8.3 - Develop Transportation Infrastructure Vulnerability Assessment Methodology – March 2013 – June 2013
- Task 3.8.4 - Public workshop & handout maps and materials – July - September 2013

<b>Funding for Task 3.8 Climate Change</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	204	\$17,000
MassHighway	51	\$4,250
FTA/EOTC Section 5303	50	\$3,892
MVRTA	0	\$0
MVPC	13	\$973
<b>TOTAL</b>	<b>318</b>	<b>\$26,115</b>

## Task 3.9 - I-93 High-Occupancy Vehicle / Bus-On-Shoulder Feasibility Study

### Description

This study was undertaken by MVPC transportation staff on behalf of the MVMPO under the FFY 2012 Unified Planning Work Program with funding provided through the MVRTA and MVPC. It is intended to assess the feasibility and effectiveness of HOV and BOS as robust Transportation Demand Management (TDM) measures in the I-93 corridor between the New Hampshire state line and Central Artery/North Artery (CANA) area. The Project will estimate the I-93 corridor's potential HOV uses and transit ridership, estimate travel mobility improvements, and identify limiting factors that influence how and where these technologies are implemented. The Project will generate capital and maintenance costs for HOV and BOS and a preliminary implementation outline.

The I-93 High-Occupancy Vehicle (HOV) Lane / Bus on Shoulder (BOS) Feasibility Study envisions a Project to be implemented in three phases: 1) a 'near-term' phase consisting of: a) implementation of a new I-93 southbound HOV lane from points north on I-93 up to the Massachusetts / New Hampshire boundary to the existing I-93 southbound HOV lane in Medford, MA; 2) implementation of a new I-93 northbound HOV lane from the Boston / Somerville municipal boundary to the Massachusetts / New Hampshire boundary, and 3) implementation of I-93 BOS between Manchester, NH and Greater Boston.

### Previous Work

During FFY 2012, MVPC began work on the study. Data on the HOV lane assumptions considered in previous studies was collected as was data from other HOV lane concepts employed around the nation. Potential starting and ending points for the HOV lane are being established based on right-of-way documents for the segment of highway between the O'Neill Tunnel in Boston and the interchange with MA Route 213 near the Massachusetts - New Hampshire boundary. Preliminary cost information has been compiled from preexisting studies and MassDOT reports, and incorporated into the draft Study. The MVPC has obtained cost data for enforcement activities and for the movable barrier operation on the existing Southeast Expressway I-93 HOV lane, which can be used as a basis for calculating costs for a future I-93 HOV lane north of Boston.

For the Bus on Shoulder component of the study, staff has collected data for other roadway construction projects in the corridor that might influence the implementation of BOS service. It has also prepared a preliminary set of recommended operating parameters that it recommends based upon its review of other U.S. BOS operations. MVPC has identified rights-of-way, wetlands, endangered species, historic resources or other issues relevant to implementation of BOS technologies in the Massachusetts segment of the Project corridor, particularly south of the Wilmington "lane drop".

Also in FFY 2012, MVPC staff conferred with the CTPS and anticipates that the parties will produce a firm work scope that can be approved by the Boston MPO during Q4 of FFY 2012, depending upon the Boston MPO's meeting schedule. The MVPC expects that any such work would be approved by the Boston MPO for its FFY 2013 UPWP and would be performed during FFY 2013.

### PROJECT TASK SUMMARY AND UPDATE

#### NEAR - TERM I-93 TDM IMPROVEMENTS - HOV LANE

- 3.9.1 *Establish HOV Lane Starting and Ending Mileposts:* The MVPC will complete its review the I-93 right-of-way documents for the segments between the O'Neill Tunnel in Boston and the interchange with MA Route 213 near the Massachusetts - New Hampshire boundary to determine the feasibility of implementing the various HOV lane concepts identified in the previous step. For each HOV lane concept, identify those sections of the roadway where implementation would be problematic. This information will be used to establish starting and ending mileposts for the preferred HOV Lane concept.
- 3.9.2 *Estimate the additional roadway capital costs of implementing the Preferred HOV Lane alternative.* MVPC will complete the process of developing develop cost estimates for making improvements to I-93 to facilitate implementation of the preferred HOV Lane alternative(s). These HOV Lane estimates will be prepared for a two scenarios: 1) a phased implementation plan (if needed), and 2) for implementing the entire HOV lane concept(s) in one phase. This approach differs from the BOS alternative component of this Project, for which the cost analysis will be developed for implementation of the complete project in a single phase. Operating costs will be calculated in accordance with USDOT standards.

- 3.9.3 *Estimate the additional roadway operating costs of implementing the Preferred HOV Lane alternative:* The MVPC will complete the process of prepare operating cost estimates for implementing HOV lane options that are acceptable to the FHWA and MassDOT, as well as estimates for additional operating costs that may be forecasted for the selected HOV Lane alternative(s). The MVPC will consult with the FHWA and MassDOT to identify costs and potential issues that are associated with police enforcement activities on the HOV Lane. Operating costs will be calculated in accordance with USDOT standards.
- 3.9.4 *Prepare HOV Lane utilization Projections:* CTPS will be preparing Phase II of its regional HOV analysis that includes I-93 in the Project Area, and MVPC anticipates that it will utilize the CTPS regional travel model output. The MVPC is also prepared to assist the CTPS with Phase II of its HOV analysis as needed. This will include projecting ridership for commuter bus (public and private carriers), MBTA bus, Logan Express, and other possible transit services that could use the HOV lane under alternative operating assumptions. In addition, the CTPS will analyze potential rideshare usage of the HOV facility (by vanpools, carpools, and use by vehicles carrying two or more persons).
- 3.9.5 *Calculate LOS, travel speed and other measures of HOV effectiveness on I-93:* The MVPC projects that it will work with the CTPS on this task, which is to be performed by CTPS for trip links between all I-93 interchanges from the Massachusetts - New Hampshire boundary to the O'Neill Tunnel in Boston. It will include the 'no build' (four travel lanes and breakdown lane in each direction) and 'build' (i.e. preferred HOV Lane) scenario for both the existing travel conditions (as defined in the statewide traffic model) as well as forecast years. Selection of forecast years will simplify the LOS analyses and comparisons between the various BOS and HOV lane options and implementation schedules that are likely to be developed as part of this study.

#### BOS Implementation

- 3.9.6. *Develop operating parameters:* The MVPC will complete the process of coordination of the BOS concept with the other I-93 projects now being planned or designed. The MVPC will use this data to determine what modifications are required for use of the I-93 shoulders by HOVs including over-the-road coaches, buses and authorized vehicles. The MVPC will, in concert with Study stakeholders, determine the best locations for terminating the BOS service in the Boston region using the NHDOT I-93 Corridor Transit Investment Study recommended location as a starting point. The MVPC will determine need for and locations of turn-outs between the MA-NH boundary and the City of Boston suitable for the interim and final Project phases. The MVPC will work with Study stakeholders identified above to establish I-93 travel conditions that would trigger bus use of shoulder, e.g. 'free-flow' speed on I-93 must be lower than (TBD, i.e. 35 mph) before buses can use breakdown lane.
- 3.9.7 *Identify potential impacts:* The MVPC will complete identification of any rights-of-way, wetlands, endangered species, historic resources or other issues relevant to implementation of BOS technologies in the Massachusetts segment of the Project corridor, particularly south of the Wilmington "lane drop". This sub-task will include an assessment of operational and logistical issues relevant to introducing additional HOVs into the City of Boston during morning and evening peak travel periods. The MVPC will consult with the City of Boston's Transportation Department on its bus management policies and identify location(s) for lay-over space if required. The MVPC will identify any approvals and / or permits that may be required from agencies of the Commonwealth of Massachusetts and its political subdivisions (i.e. host communities) to operate public transportation on applicable roadways.
- 3.9.8 *Perform an I-93 travel demand analysis.* The MVPC and CTPS will consult and meet with the Boston, Northern Middlesex, Rockingham and Southern NH MPOs, and MassDOT and NHDOT Transit Divisions to define the I-93 Corridor study area and identify potential service operators. The MVPC will also meet with transit operators to develop service parameters that CTPS will utilize in its demand modeling process. The CTPS will calculate projected I-93 travel times, ridership demand, and other relevant factors including parking availability and cost in downtown Boston and at other Corridor locations (including facilities where BOS could operate to/from). As previously noted, it will be assumed that the HOV lane will operate first and that the BOS service will be incrementally implemented as segments of I-93 (particularly in Massachusetts) are upgraded as part of routine maintenance projects.
- 3.9.9 *Calculate projected I-93 levels of service, travel speed and other performance measure:* The MVPC anticipates relying on data from CTPS that will be prepared as part of its Phase II analysis of HOV options in the corridor. CTPS calculations will be prepared according to the following two assumptions: 1) a "no-build"

(four travel lanes, one breakdown lane per direction) and a "build" (four general purpose lanes and one BOS Lane per direction) scenario. The CTPS will generate LOS, travel speed and other appropriate measures for three scenarios: 1) existing travel conditions; 2) a Year 2017 forecast, and 3) a Year 2030 forecast. The 2017 scenario will compare preferred options at a point in time when the MVPC anticipates that the first phase will be in operation, and the 2030 scenario evaluates the facility's performance for BOS services.

- 3.9.10 *Develop capital and operating cost estimates for BOS improvements:* The MVPC will work with transportation providers in the I-93 corridor to develop operating budgets for the transit services to be considered in the demand analysis. BOS capital improvements will likely include some of the improvements required for an HOV service, plus: shoulder reconstruction including modified barriers, drain structures, signage and pavement markings, larger turnouts to accommodate BOS vehicles; upgraded ITS interface with buses for real-time schedule information, incident response, lane obstruction detection, fare media, BOS vehicles, terminals or shared-use accommodations at key locations, provisions for backup buses for emergencies, adequate tow vehicles and towing protocols, and traffic controls. Service accessibility for the disabled must include provisions for vehicle and station equipment to meet regular service requirements and emergencies. The MVPC will identify and estimate costs associated with potential locations for commuter bus stops / park-and-ride lots along I-93 in Massachusetts and along the eastern section of I-495 in the Northern Middlesex MPO region and the western and central sections of I-495 in the MVMPO region.
- 3.9.11 *Address BOS compatibility with existing transportation services in the I-93 corridor:* Identify labor-covered transportation modes in the same corridor (i.e. MBTA or private carriers) that will be notified as a result of BOS implementation.
- 3.9.12 *Conduct a comparative project benefit / cost review.* The MVPC will identify potential Project benefits in the Massachusetts segment of the Project corridor including but not limited to the environment, cost savings to transportation infrastructure and to travelers for certain trip origins / destinations to illustrate the Project's benefits. This review will be conducted in accordance with USDOT recommended standards.
- 3.9.13 *Prepare a Funding Plan.* The MVPC will investigate funding opportunities to improve I-93 and associated infrastructure supporting both the interim and final Project phases. FTA New Starts, FHWA and other funding sources will be reviewed. The MVPC will organize this information according to sources and uses. The Funding plan will address the need for a comprehensive HOV and BOS training and public awareness / outreach program. This program will be designed to train transit personnel, law enforcement officials, MassDOT Highway and Transit Divisions. This training should also be given to personnel at the Registry of Motor Vehicles (RMV) and the Executive Office of Public Safety and Security (EOPSS). The details of such a training program should also include public awareness / media outreach to educate the public about HOV and / or BOS operations, to emphasize traffic safety and penalties for illegal use of these facilities.
- 3.9.14 *Prepare Draft / Final Project Reports:* The draft and final Project reports will outline the findings of both the HOV and BOS Lane analyses for the I-93 corridor as outlined above. In particular, the Project report should provide enough information on both the HOV and BOS options for MassDOT, NHDOT and the Merrimack Valley and Boston MPOs to satisfactorily determine impacts on travel conditions and mobility in the I-93 Corridor should the HOV and / or preferred BOS Lane concepts be implemented.

**Products/Schedule**

- 3.9.1 - Establish HOV Lane starting and ending mileposts - October 2012
- 3.9.2 - Estimate the additional roadway capital costs of implementing the Preferred HOV Lane alternative - October 2012
- 3.9.3 - Estimate the additional roadway operating costs of implementing the Preferred HOV Lane alternative - October 2012
- 3.9.4 - Prepare HOV Lane utilization projections - March 2013
- 3.9.5 - Calculate LOS, travel speed and other measures of HOV effectiveness on I-93 - April 2013.
- 3.9.6 - Develop operating parameters - October 2012
- 3.9.7 - Identify potential impacts - November 2012
- 3.9.8 - Perform an I-93 travel demand analysis - December 2012.
- 3.9.9 - Calculate projected I-93 levels of service, travel speed and other performance measures - January 2013.
- 3.9.10 - Develop capital and operating cost estimates for BOS improvements - February 2013
- 3.9.11 - Address BOS compatibility with existing transportation services in the I-93 corridor - December 2012.
- 3.9.12 - Conduct a comparative project benefit /cost review - March 2013
- 3.9.13 - Prepare a Funding Plan - March 2012
- 3.9.14 - Draft / Final Study - April 2013

<b>Funding for Task 3.9 HOV / BOS Study</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	0	\$0
MassHighway	0	\$0
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	714	\$48,000
MVPC	179	\$12,000
<b>TOTAL</b>	<b>893</b>	<b>\$60,000</b>

## **TASK 4.0 - OTHER TRANSPORTATION STUDIES**



## 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 has the potential to play 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;
- real-time travel information services for commuters;
- in-vehicle computers for navigation;
- smart phone apps 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 2004, the MVRTA introduced Vehicle Location/GPS-enabled capabilities for all its buses and vans including Interoperability capability on the Authority's communications system. A year later, the decision was made to include the Merrimack Valley region under the umbrella of the Boston ITS Architecture. Inclusion of the Merrimack Valley as well as the other MPO regions within the Boston Urban area was made in recognition of the strong transportation connections that these areas have to Boston via automobile and transit.

In FFY 2010, MVPC staff participated in the stakeholder input meetings that were 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 actions being taken by the Authority will have an impact on the services the agency offers either directly to Valley residents (commuter rail) or to residents as they use the other parts of the MBTA system.

Finally, in FFY 2010 NHDOT initiated "Open Road Tolling" at its Hampton Toll Booths. Open Road Tolling lanes can process nearly five times as many vehicles as a conventional cash toll lane and 60% more traffic than a dedicated E-Z Pass lane. This was considered significant for the Merrimack Valley region as backups from the Hampton Tolls during the peak summer travel periods have often had spillback effects that impact Interstates 95 and 495 in Massachusetts. However, since the completion of the upgrades to the Hampton toll booths, officials from Amesbury and Salisbury have suggested that congestion on I-95 southbound has increased and claim that the additional throughput provided by the new tolling technology is the cause of this congestion.

In FFY 2012, the MVRTA continued efforts to update the surveillance equipment on its fixed route and demand response vehicles.

Also in 2012, MassDOT initiated an effort to update the Regional Intelligent Transportation System (ITS) Architectures for all four regions in Massachusetts by creating regional ITS data archives for the storage, compilation, and analysis of transportation data from multiple agencies. This data would then be made accessible to stakeholders through a secure web portal or by other means.

### FFY 2013 Activities

The creation of the data archive for the Boston ITS Architecture area comes at a fortuitous time for the MVMPO. Under the FFY 2013 UPWP, staff will be developing goals, objectives and evaluation measures for its Congestion Management Process and one of the key factors influencing the selection of the goals and objectives will be the availability of transportation data that is available through the existing ITS architecture. MVPC will work closely with MassDOT's Office of Transportation Planning and the consultant charged with task of developing the archive to identify the possible data resources that will be considered for inclusion.

### Tasks

- 4.1.1 *Continue Gathering Information on Existing ITS Projects in Massachusetts:* A number of MPOs around the state are in line to undertake ITS Strategic Deployment Studies. MVPC staff will continue to solicit project updates from these agencies.
- 4.1.2 *Attend Future ITS Conferences and Workshops:* MVPC staff will attend workshops and seminars on ITS 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 the state's efforts to update the Boston Regional Architecture.

4.1.4 *Identify Transportation Data from ITS Architecture and Other Sources:* In addition to working with MassDOT's Office of Transportation Planning to identify ITS Architecture generated transportation data, staff will survey private sources of transportation information. A report outlining the results of MVPC's data search will be prepared and presented to the MVMPO as part of the process of selecting CMP goals and objectives.

**Products/Schedule**

- Task 4.1.1 - Gather Information on ITS Projects – Ongoing
- Task 4.1.2 - Attend ITS Conferences and Workshops – Ongoing
- Task 4.1.3 - Attend Boston Regional ITS Architecture Meetings – Ongoing
- Task 4.1.4 - Transportation Data Inventory – March 2013

<b>Funding for Task 4.1 Intelligent Transportation Systems</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	67	\$5,500
MassHighway	17	\$1,375
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>84</b>	<b>\$6,875</b>

## **Task 4.2 - Local Technical Assistance**

### **Description**

Each year, officials from around the MVMPO region request MVPC 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, or traffic safety issues. 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 2012 UPWP and in other recent years include:

- Assist City of Haverhill in identifying options for improving pedestrian safety along Route 125 near Sheridan Street
- Review traffic impacts of proposed rezoning of two residential parcels along Route 113 in Newburyport.
- Develop revised intersection plan for Routes 110/108 in Haverhill
- Assist City of Haverhill in identifying overhead street lights that could be turned off in order to lower the community's expenditures on electricity (FFY 2011)
- Review traffic and safety issues at the intersection of Parker Street and Merrimack Street in Lawrence (FFY 2011)
- Assist the City of Haverhill in identifying options for improving safety of pedestrian traffic to Central Plaza (FFY 2010)
- Review options for making improvements to the Route 97 (Broadway)/Lake Street intersection in Haverhill (FFY 2010)
- Analyze traffic and safety issues in and around the Byfield Village section of Newbury (FFY 2010)
- Provide assistance to the Town of Boxford in preparing Project Need Form for the reconstruction of Route 133 (FFY 2010)

Where such LTA analyses show that a corridor or intersection will deteriorate to a level that would cause it to be categorized as a "Most Severe", "Severe", or "Problem" congestion location, it would be included in the CMS.

### **FFY 2013 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 Valley.

**Products/Schedule**

Task 4.2.1

- Local Technical Assistance— Ongoing

<b>Funding for Task 4.2 Local Technical Assistance</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	184	\$13,000
MassHighway	46	\$3,250
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>230</b>	<b>\$16,250</b>

## 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. These events have also forced officials to consider how the existing transportation system can be integrated into plans designed to ensure the safety of citizens in areas that could be the target of another terrorist event or a natural disaster.

Federal requirements include security as a factor to be considered by MPOs in the transportation planning process. MPOs are directed 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). That law established a national program for pre-disaster mitigation, and streamlined the federal administration of disaster relief and requires all communities to have a FEMA-approved "Multiple Hazards Mitigation Plan" to qualify for FEMA funding under the Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA), and Hazard Mitigation Grant Program (HMGP). This Action Plan considered the potential impacts for natural disaster events that could conceivably occur in the region including hurricanes, floods, coastal storm surges, wildfires, and other disasters). Included were inventorying and mapping of 12 communities' critical facilities and infrastructure (including transportation), analysis of hazard vulnerabilities, identification of existing protection measures, and development of regional and local mitigation action plans.

The 2008 Multi-Hazard Pre-Disaster Mitigation Plan is a five year document that remains in effect through December 2012. In FFY 2012, MVPC began work on the region's Multi Hazard Mitigation Plan for 2013-2018.

In 2011, NERAC commissioned a study to assess the emergency transportation needs of the region 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.

- **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;
- **Transportation Asset Database** contains a listing of each transportation asset in the NERAC region.
- **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

The Merrimack Valley Regional Transit Authority 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.

### FFY 2013 Activities

Staff will continue to work with our communities to complete the Multi Hazard Mitigation Plan for 2013 - 2017. 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 2013 UPWP.

### Tasks

- 4.3.1 *Review Developments in Transportation Security Planning:* Staff will continue to monitor materials and policies of transportation security that are issued by, NERAC, USDOT and state transportation agencies.
- 4.3.2 *Complete Merrimack Valley Region Multi-Hazard Mitigation Plan for 2013-2017:* This document is designed to assist local emergency response and state safety officials in accessing the risks and likely impacts that would occur to the infrastructure in the Valley, including key transportation infrastructure, should

it be subject to natural disaster or other catastrophic event. MVPC will maintain the document by attending meetings of local safety officials and workshops on disaster planning.

**Products/Schedule**

- Task 4.3.1 - Review Developments in Transportation Security Planning - Ongoing
- Task 4.3.2 - Multi-Hazard Mitigation Plan for 2013 -2017Mitigation Plan- December 2012

<b>Funding for Task 4.3 Regional Transportation Security</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	60	\$5,500
MassHighway	15	\$1,375
FTA/EOTC Section 5303	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	
<b>TOTAL</b>	<b>75</b>	<b>\$6,875</b>

## 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 public ways. 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. To carry out this mandate, the General Court has defined procedures that must be followed by the regional planning agencies.

### Previous Work

During FFY 2009, staff worked with the Town of Amesbury to initiate a request for the discontinuance of a section of county road layout near the intersection of Routes 150 and 110. MVPC developed the necessary forms and outlined the process that must be followed in processing the town’s discontinuance request. The Merrimack Valley Regional Planning Commission Adjudicatory Board met on June 18, 2009 after a public viewing at the site and took action to approve the discontinuance.

In FFY 2011, the MVPC Adjudicatory Board received 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. The board met on September 5, 2011 and took action approving this proposed discontinuance.

In FFY 2012, the Adjudicatory Board received a request from the City of Amesbury to discontinue a sliver of the old County Road layout along Route 110. It is anticipated that the Board will be meeting during the summer to consider this proposed discontinuance.

### FFY 2013 Activities

MVPC staff will continue to implement and refine the review and approval process for the relocation/discontinuance of these roadways.

### Tasks

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

### Products/Schedule

Task 4.4.1

- Implement Adjudication Process – Ongoing

<b>Funding for Task 4.4 County Roads Adjudication</b>		
<u>Source</u>	<u>Person Hours</u>	<u>Amount</u>
FHWA	52	\$4,000
MassHighway	13	\$1,000
FHWA/MassHighway (SPR)	0	\$0
FTA/EOTC Section 5307	0	\$0
MVPC	0	\$0
<b>TOTAL</b>	<b>65</b>	<b>\$5,000</b>



## FFY 2013 UPWP TASK FUNDING SUMMARY

Task	Description	FHWA (PL)	MassDOT	FTA/ MassDOT Sect. 5303	FTA/ MVRTA Sect. 5307	MVPC	MVRTA	CZM/ MassBays	TOTAL
1.1	Mgt. & Spt.	\$64,000	\$16,000	\$8,320	\$3,920	\$3,060			\$95,300
1.2	Public Part.	\$35,500	\$8,875	\$6,640	\$0	\$1,660			\$52,675
1.3	UWP	\$10,783	\$2,696	\$3,520	\$0	\$880			\$17,879
1.4	TIP	\$23,500	\$5,876	\$4,160	\$0	\$1,040			\$34,576
1.5	Update Web Pages	\$5,000	\$1,250	\$3,160	\$0	\$790			\$10,200
1.6	Transportation Plan	\$33,000	\$8,250	\$9,200	\$0	\$2,300			\$52,750
2.1	Traffic Monitoring	\$41,000	\$10,250	\$0	\$0	\$0			\$51,250
2.2	Reg. Pave. Mgt.	\$12,500	\$3,125	\$0	\$0	\$0			\$15,625
2.3	GIS	\$77,000	\$19,250	\$12,000	\$0	\$3,000			\$111,250
2.4	CMS	\$18,000	\$4,500	\$3,160	\$0	\$790			\$26,450
2.5	NHS Connections	\$5,000	\$1,250	\$1,360	\$0	\$340			\$7,950
2.6	Model	\$33,000	\$8,250	\$2,960	\$0	\$740			\$44,950
2.7	Bike/Ped/Water Trails	\$29,000	\$7,250	\$0	\$0	\$0			\$36,250
2.8	Safety Monitoring	\$12,500	\$3,125	\$1,717	\$0	\$429			\$17,771
2.9	Livability	\$9,000	\$2,250	\$3,520	\$0	\$880			\$15,650
2.10	Title V/Environmental Justice	\$5,000	\$0	\$9,500	\$0	\$0			\$14,500
3.1	E&D Planning	\$0	\$0	\$0	\$17,200	\$4,300			\$21,500
3.2	Transit Planning	\$0	\$0	\$33,040	\$43,880	\$19,230			\$96,150
3.3	Lawrence Roadway Project Dev.	\$8,250	\$2,063	\$0	\$0	\$0			\$10,313
3.4	Marstons Corner Study	\$20,000	\$5,000	\$0	\$0	\$0			\$25,000
3.5	Route 110 / Burnham Rd.	\$17,500	\$4,375	\$0	\$0	\$0			\$21,875
3.6	I-495 Ramps/Massachusetts Ave	\$11,000	\$2,750	\$0	\$0	\$0			\$13,750
3.7	Stormwater Planning	\$22,000	\$5,500	\$0	\$0	\$0		\$10,000	\$37,500
3.8	Climate Change	\$17,000	\$4,250	\$3,892	\$0	\$973			\$26,115
3.9	HOV/BOS Study	\$0	\$0	\$0	\$0	\$15,000	\$60,000		\$75,000
4.1	Intel. Trans. Systems	\$5,500	\$1,375	\$0	\$0	\$0			\$6,875
4.2	Local Tech. Assist.	\$13,000	\$3,250	\$0	\$0	\$0			\$16,250
4.3	Transportation Security	\$5,500	\$1,375	\$0	\$0	\$0			\$6,875
4.4	County Roads Adjudication	\$4,000	\$1,000	\$0	\$0	\$0			\$5,000
TOTAL		\$537,533	\$133,134	\$106,149	\$65,000	\$57,787	\$60,000	\$10,000	\$967,228





**MERRIMACK VALLEY METROPOLITAN PLANNING  
ORGANIZATION ENDORSEMENT**

**MERRIMACK VALLEY REGION  
FEDERAL FISCAL YEAR 2013  
UNIFIED PLANNING WORK PROGRAM**

The undersigned representatives on the Merrimack Valley Metropolitan Planning Organization hereby endorse the Merrimack Valley region's Federal Fiscal Year 2013 Unified Planning Work Program.

\_\_\_\_\_  
Richard A. Davey  
MassDOT Secretary/CEO

\_\_\_\_\_  
Charles Boddy  
Chair – MVRTA Advisory Board

\_\_\_\_\_  
James Fiorentini  
Mayor of Haverhill

\_\_\_\_\_  
Joseph Sullivan  
Chairman - MVPC

\_\_\_\_\_  
Francis DePaola  
MassDOT Highway Division Administrator

\_\_\_\_\_  
William Lantigua  
Mayor of Lawrence

\_\_\_\_\_  
Curt Bellavance  
Town of North Andover

\_\_\_\_\_  
Robert Snow  
Town of Rowley

\_\_\_\_\_  
Thatcher W. Kezer III  
Mayor of Amesbury

\_\_\_\_\_  
Philip Trapani  
Georgetown Selectman

Date: June 27, 2012