

**TRANSPORTATION IMPROVEMENT PROGRAM**  
**FOR THE**  
**NORTHERN MIDDLESEX REGION**  
**FEDERAL FISCAL YEARS 2012-2015**

*Preparation of this report was funded under contract to the Massachusetts Department of Transportation, in cooperation with the Federal Highway Administration and the Federal Transit Administration.*



# **COMPOSITION OF THE NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION**

## **Voting Members:**

- Richard Davey, Secretary and Chief Executive Officer, MassDOT
- Francis A DePaolo, P.E., Highway Division Administrator, MassDOT
- Stephen Themelis, Chair, Northern Middlesex Council of Governments
- Patrick Murphy, City Councilor, City of Lowell
- Arthur Doyle, Chairman, Lowell Regional Transit Authority
- Patricia Wojtas, Chelmsford, Regional Transit Authority Advisory Board
- David Gay, Selectman, Town of Tewksbury

## **Ex Officio Non-Voting Members:**

- Federal Highway Administration
- Federal Transit Administration



**NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION**

**ENDORSEMENT OF THE FFY 2012 – 2015 TRANSPORTATION IMPROVEMENT PROGRAM  
FOR THE NORTHERN MIDDLESEX REGION**

This document will certify that the Northern Middlesex Metropolitan Planning Organization hereby endorses the FFY 2012-2015 Transportation Improvement Program for the Northern Middlesex Region. The TIP is being endorsed in accordance with the 3C Transportation Planning Process and complies with the requirements set forth in the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

And

***Air Quality Conformity Determination***

Whereas, the 1990 Clean Air Act Amendments (CAAA) require Metropolitan Planning Organizations within non-attainment areas and/or attainment areas with maintenance plans to perform air quality conformity determinations prior to the approval of transportation plans and transportation improvement programs, and at such other times as required by regulation;

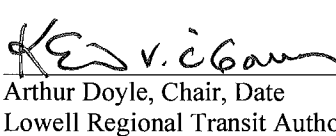
Whereas, the air quality conformity analysis prepared for the 2012 – 2015 Transportation Improvement Program also demonstrates air quality conformity of the Northern Middlesex 2012 Regional Transportation Plan, and that all regionally significant transportation projects in the 2012 – 2015 Transportation Improvement Program are contained in the 2012 Regional Transportation Plan, and that all regionally significant projects in the 2016 to 2035 timeframe of the Regional Transportation Plan are modeled in the 2012 – 2015 Transportation Improvement Program's air quality conformity analyses;

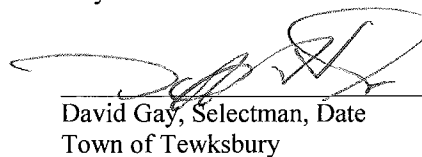
Whereas, the Northern Middlesex MPO has completed its review accordance with Section 176(c) (4) of the Clean Air Act as amended in 1990 [42 U.S.C. 7251 (a)}, and hereby certifies that the FFY 2012-2015 TIP is financially constrained and that the implementation of the Northern Middlesex 2012 Regional Transportation Plan satisfies the conformity criteria specified in both 40 CFR Part 51 and 93 (8/15/1997) and 310 CMR 60.03 (12/30/1994). Based on the results of the conformity analyses, the Northern Middlesex 2012 Regional Transportation Plan and FFY 2012-2015 TIP are consistent with the air quality goals of, and in conformity with, the Massachusetts State Implementation Plan;

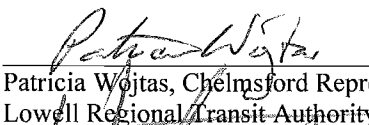
Therefore, in accordance with 23 CFR Part 450 Section 322 (Development and content of the Metropolitan Transportation Plan) of the March 16, 2007 Final Rules for Statewide and Metropolitan Planning, the MPO hereby endorses the FFY 2012-2015 Transportation Improvement Program.

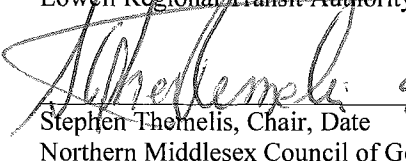
 9/13/2011  
Richard Davey, Secretary, Date  
Massachusetts Department of Transportation

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Patrick Murphy, City Councilor, Date  
City of Lowell

 9/13/2011  
Arthur Doyle, Chair, Date  
Lowell Regional Transit Authority

 9/13/11  
David Gay, Selectman, Date  
Town of Tewksbury

 9/13/2011  
Patricia Wojtas, Chelmsford Representative, Date  
Lowell Regional Transit Authority

 9/13/2011  
Stephen Themelis, Chair, Date  
Northern Middlesex Council of Governments



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**PART A: OVERVIEW OF THE TRANSPORTATION  
PLANNING PROCESS**



## **1. Introduction**

The Transportation Improvement Program is a programming and management document containing all federally funded transportation projects planned in the Northern Middlesex region over the next four years. All transportation projects that will be funded under Title 23, U.S.C., or with Federal Transit Act funds, must be included in the document. In addition, projects requiring FHWA or FTA approval, but not funded under Title 23, U.S.C., or with Federal Transit Act funds, must also be listed in the TIP. Similarly, transportation projects funded with Federal funds from other federal agencies, as well projects funded with local and private monies should be described in the document for informational purposes, in order to reflect the integrated and intermodal nature of the metropolitan transportation planning process.

On August 10, 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law. SAFETEA-LU addresses the many challenges facing our transportation system, such as improving safety, reducing congestion, increasing connectivity between modes and protecting the environment. In developing the FY 2012-2015 TIP, the MPO has considered the following planning factors as outlined in SAFETEA-LU:

- “Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety of the transportation system for all motorized and non-motorized users;
- Increase the ability of the transportation system to support homeland security and to safeguard the personal security of motorized and non-motorized users;
- Increase accessibility and mobility of people and freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.”

On March 16, 2007 the FHWA and FTA issued new joint regulations regarding statewide and metropolitan transportation planning. These new regulations address legislative requirements set forth in SAFETEA-LU.

## **2. TIP Organization**

FHWA and FTA jointly revised regulations for Statewide and Metropolitan Transportation Planning governing the development of metropolitan transportation plans and programs for urbanized areas. These regulations require that the TIP be updated every four years, and that the TIP include projects covering four years. This TIP covers Federal Fiscal Years 2012 through 2015.

The listing for each fiscal year is divided into a highway section and a transit section. Each listing includes a project description, estimated total cost, Federal funds to be obligated for each program year, sources of Federal and Non-Federal funds, and the fund recipient. In order for a project to be considered for inclusion in the first four fiscal years of the TIP, a project or program must have an estimated advertising or implementation date within that fiscal year. At the request of Federal Highway, the highway project cost estimates reflect a 4% increase compounded annually after the first fiscal year to reflect Year of Expenditure fiscal constraint.

### 3. TIP Development Process

The development of a regional transportation improvement program is required by federal regulation as part of the transportation planning process. This process is carried out under the authority of the Northern Middlesex Metropolitan Planning Organization (NMMPO), which reviews and endorses all federal certification documents. The NMMPO is comprised of: the Chairman of the Northern Middlesex Council of Governments (NMCOG), the Chairman of the Lowell Regional Transit Authority (LRTA), the Secretary and Chief Executive of the Massachusetts Department of Transportation (MassDOT), and the Massachusetts Department of Transportation (MassDOT) Highway Division Administrator (MassDOT). In addition, the following are also members of the NMMPO: the chief elected official from the City of Lowell, elected to serve as the City's representative to NMCOG; a selectman elected to serve on the Council and further elected by the Council to serve as the Town's representative to the NMMPO; and an LRTA Advisory Board member representing a community within the Northern Middlesex MPO boundaries other than the City of Lowell, who may also be an elected official. A representative of the Federal Highway Administration (FHWA) and a representative of the Federal Transit Administration (FTA) will serve as ex-officio, non-voting members of the NMMPO.

The NMCOG staff serves as the planning staff of the NMMPO. In this capacity, NMCOG staff produces the TIP document in cooperation with the other three agencies comprising the NMMPO. The document is developed by updating information from the previous TIP, and with input solicited from the local communities, the LRTA, and the state and federal transportation agencies. Following local and public review, the document is submitted to the NMMPO for endorsement.

### 4. Project Prioritization

The projects included in the TIP were scored utilizing the Transportation Evaluation Criteria developed by the state transportation agencies and the former Office for Commonwealth Development (OCD). The NMMPO staff applied the criteria to all highway projects (except bridge projects) considered to be viable for FFY 2012-2015. MassDOT staff applied the evaluation criteria to the bridge projects. The criteria take into consideration the following state policies:

- **Communities First:** emphasizes context sensitive design that protects and enhances the surrounding community and landscape while addressing mobility for all transportation modes. The purpose of this policy is to prevent sprawl, recognize the communities as transportation agency customers, avoid the costs associated with unnecessary widening and associated conflicts, free up additional funding to complete future construction projects, and to provide enhanced mobility for sustainable transportation modes (walking, bicycling, and public transportation).
- **Sustainable Development Principles:** The Commonwealth of Massachusetts shall care for the built and natural environment by promoting sustainable development through integrated energy and environment, housing and economic development, transportation and other policies, programs, investments, and regulations. The Commonwealth will encourage the coordination and cooperation of all agencies, invest public funds wisely in smart growth and equitable development, give priority to investments that will deliver good jobs and good wages, transit access, housing, and open space, in accordance with the following sustainable development principles. Furthermore, the Commonwealth shall seek to advance these principles in partnership with regional and municipal governments, non-profit organizations, business, and other stakeholders:

## **1. Concentrate Development and Mix Uses**

Support the revitalization of city and town centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources, and integrates uses. Encourage remediation and reuse of existing sites, structures, and infrastructure rather than new construction in undeveloped areas. Create pedestrian friendly districts and neighborhoods that mix commercial, civic, cultural, educational, and recreational activities with open spaces and homes.

## **2. Advance Equity**

Promote equitable sharing of the benefits and burdens of development. Provide technical and strategic support for inclusive community planning and decision making to ensure social, economic, and environmental justice. Ensure that the interests of future generations are not compromised by today's decisions.

## **3. Make Efficient Decisions**

Make regulatory and permitting processes for development clear, predictable, coordinated, and timely in accordance with smart growth and environmental stewardship.

## **4. Protect Land and Ecosystems**

Protect and restore environmentally sensitive lands, natural resources, agricultural lands, critical habitats, wetlands and water resources, and cultural and historic landscapes. Increase the quantity, quality and accessibility of open spaces and recreational opportunities.

## **5. Use Natural Resources Wisely**

Construct and promote developments, buildings, and infrastructure that conserve natural resources by reducing waste and pollution through efficient use of land, energy, water, and materials.

## **6. Expand Housing Opportunities**

Support the construction and rehabilitation of homes to meet the needs of people of all abilities, income levels, and household types. Build homes near jobs, transit, and where services are available. Foster the development of housing, particularly multifamily and smaller single-family homes, in a way that is compatible with a community's character and vision and with providing new housing choices for people of all means.

## **7. Provide Transportation Choice**

Maintain and expand transportation options that maximize mobility, reduce congestion, conserve fuel and improve air quality. Prioritize rail, bus, boat, rapid and surface transit, shared-vehicle and shared-ride services, bicycling, and walking. Invest strategically in existing and new passenger and freight transportation infrastructure that supports sound economic development consistent with smart growth objectives.

## **8. Increase Job and Business Opportunities**

Attract businesses and jobs to locations near housing, infrastructure, and transportation options. Promote economic development in industry clusters. Expand access to education, training, and entrepreneurial opportunities. Support the growth of local businesses, including sustainable natural resource-based businesses, such as agriculture, forestry, clean energy technology, and fisheries.

## **9. Promote Clean Energy**

Maximize energy efficiency and renewable energy opportunities. Support energy conservation strategies, local clean power generation, distributed generation technologies, and innovative industries. Reduce greenhouse gas emissions and consumption of fossil fuels.

## **10. Plan Regionally**

Support the development and implementation of local and regional, state and interstate 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 Commonwealth.

Following the scoring of each project, the design status and readiness of document was then considered. In addition to the application of the evaluation criteria, each project was also screened to ensure that it meets the following:

- Requirements set forth in SAFETEA-LU, the Clean Air Act and Amendments, and the Americans with Disabilities Act.
- Is consistent with local, regional, and state plans; and
- Complies with Title VI/Environmental Justice requirements. Map 1 shows the environmental Justice Areas within the Region and identifies any TIP projects within that area.

## **5. Public Participation Procedures**

Title 23 CFR Section 450.324 and 310 CMR 60.03(6) h require adequate opportunity for public review and comment be provided during the development of the TIP. Section 450.316(b) establishes the outline for MPO public participation programs. The Northern Middlesex MPO Public Participation Plan is contained in Appendix B of this document.

The development of the TIP conforms to the requirements of the above sections. It guarantees public access to the TIP and all supporting documentation, provides for public notification of the availability of the TIP and the public's right to review the document and comment thereon, and provides a 30-day public review and comment period prior to the adoption of the TIP by the NMMPO. The document was circulated in accordance with the NMMPO's most recent Public Participation Plan.

A public notice was advertised in the Lowell Sun informing the public of its right to comment on the document. Notice was also posted in the Town and City Clerks' offices and on the NMCOG website. The public comment period for this document commenced on August 12, 2011 and a public meeting was held on August 24, 2011 at 6:00 pm and September 7, 2011 at 6:00 pm. The public comment period concluded after 30 days on September 11, 2011. This allowed ample opportunity for public comment and review of the document prior to MPO action. These procedures comply with the associated federal requirements.

In accordance with the Public Participation procedures, the following organizations are given an opportunity to comment on the TIP. They receive notification on the opportunity to comment from NMCOG.

- **Citizens:**
  - Libraries
  - City/Town Clerks
  - Area Congressional Delegation
  - State Legislators
  - Interested Citizens
  - Local Neighborhood Organizations
  
- **Affected Public Agencies and Government Entities:**
  - MassDOT Executive Office (MPO Member)
  - MassDOT Highway Division (MPO Member)
  - LRTA (MPO Member)
  - FHWA (Ex-officio MPO Member)
  - FTA (Ex-officio MPO Member)
  - US Environmental Protection Agency
  - Massachusetts Department of Environmental Protection
  - Local Chief Elected Officials
  - Nashua Regional Planning Commission
  - Merrimack Valley Planning Commission
  - Metropolitan Area Planning Council
  - Montachusets Regional Planning Commission
  - MassRides
  - Local DPWs
  - Local Planning Boards
  - City/Town Engineers
  - City/ Town Managers
  - City/Town Conservation Commissions
  - Lowell National Historical Park
  - Middlesex Canal Commission
  - Transportation Coordinators for Municipal School Departments
  
- **Representatives of Public Transportation Employees**
  - Teamsters Local
  - Amalgamated Transit Union
  
- **Freight Transportation Services:**
  - United Parcel Service
  - PanAm/Guilford Transportation
  - U.S. Postal Service
  
- **Private Providers of Transportation:**
  - Local Taxi Companies
  - Private Transportation Providers Listed in the RTP
  
- **Representatives of Users of Public Transportation**
  - Councils on Aging
  - Local Senior Centers

- **Representatives of Users of Pedestrian Walkways and Bicycle Transportation Facilities**  
Friends of the Bruce Freeman Rail Trail  
Lowell Parks and Conservation Trust
- **Representatives of the Disabled**  
Northeast Independent Living Program  
Renaissance Club  
Greater Lowell Association for the Blind
- **Populations Traditionally Underserved by Existing Transportation Systems**  
Community Teamwork, Inc  
Coalition for a Better Acre  
ONE Lowell  
Lowell Transitional Living Center  
Cambodian American League of Lowell  
Cambodian Mutual Assistance Association
- **Agencies and Officials responsible for State and Local Planned Growth**  
Local Planning Boards  
City/Town Planners  
Zoning Boards of Appeal  
Northern Middlesex Council of Governments
- **Economic Development Interests**  
Greater Lowell Chamber of Commerce  
Greater Lowell CEDS Committee
- **Interested Community and Neighborhood Organizations**  
Centerville Neighborhood Action Group  
Downtown Neighborhood Association  
Pawtucketville Citizens Council  
Highlands Neighborhood Association  
Back Central Neighborhood Association  
Lower Highlands Neighborhood Association

## **6. TIP Amendment and Adjustment Procedures**

For purposes of project selection and programming, any project listed in the FY'12 portion of the TIP will be considered to have the concurrence of the NMMPO without further action required. Prioritization of projects is reflected in the placement of a project within Fiscal Years 2012-2015 of the TIP.

Based on the multi-year nature of the TIP, it is expected that there may be a need to modify the document more frequently than on an annual basis. In order to minimize constraints on programming projects, the endorsed TIP has NMMPO-adopted provisions which allow relatively minor adjustments to be made without formal MPO action. Minor adjustments may include such action as moving a project from FY '13 to FY '12, and may be accomplished through an agreed upon administrative adjustment. Significant changes, such as the addition or deletion of a project, require MPO action through the amendment process. Statewide and Metropolitan Transportation Planning regulations define an amendment as: "...a type of revision to a long-range statewide or metropolitan transportation plan, TIP, or STIP that is significant enough to require public review

and comment, redemonstration of fiscal constraint, or a conformity determination”. All actions on the TIP must be taken in accordance with the region’s public participation program.

## **7. Relationship between the TIP, the Congestion Management Program and the Regional Transportation Plan**

The Regional Transportation Plan covers a period of twenty years and must be updated every four years. The overall transportation goals and policies articulated in the Plan ensure that individual projects are considered within the context of established regional goals, as required by Federal regulation. The region also maintains a Congestion Management Program to monitor operating conditions within the regional transportation network.

The TIP provides access to the funding necessary to transform the Plan’s policies and goals into finalized projects and to address congestion issues identified through the Congestion Management Program. TIP projects are drawn directly from the Plan. In addition to being drawn from the Plan, projects may be derived from special studies, such as corridor studies and traffic impact studies. The transit portion of the TIP may also contain routine capital equipment replacement projects.

## **8. Description of Project Funding Categories**

The explanations that follow outline the basic uses and requirements of each funding category contained in this TIP. Specific information related to a particular roadway’s eligibility for these funds can be provided by NMCOG staff at (978) 454-8021. Questions regarding transit projects and funding are best directed to LRTA staff at (978) 459-0164.

- ***Non-Federal Aid (NFA)***: Non-Federal aid funds are typically state monies that are derived from various sources including the Transportation Bond Bill.
- ***Bridge On and Off System (BR, BR-On & BR-Off)***: Finances the replacement or repair of structurally deficient or functionally obsolete bridge structures. On-system bridge monies are used for bridges impacting roadways on the federal aid system. Off-system bridge monies are used for bridges that impact roadways that are not part of the federal aid system. These types of projects are funded with 80% federal money matched with 20% state money.
- ***Surface Transportation Program-Enhancements (STP-E)***: Enhancement funds are federal monies for non-traditional transportation projects such as bike paths, pedestrian projects, streetscapes, historic restoration of transportation structures, stormwater management programs, etc. Transportation enhancements are funded with 80% federal monies matched with 20% state monies.
- ***Public Lands Highway Program (PLH)***: PLH funds are available for any type of transportation project eligible for assistance under Title 23 U.S.C., that is within or adjacent to, or provides access to Federal Public Lands/Jurisdictions such as National Parks or military installations. These funds are 100% discretionary; no state or local match is required.
- ***Surface Transportation Program (STP)***: Funds obligated under this category may be expended for construction, reconstruction, rehabilitation, resurfacing and operational safety improvements for federal aid eligible roadways and bridges. STP funds may also be used for capital costs for transit projects eligible for assistance under the Federal Transit Act. STP funds are 80% federal monies requiring a 20% state match.

- **High Priority Project Funds (HPP):** High priority project funds are for specially earmarked projects contained in TEA-21 and SAFETEA-LU. These monies are 80% federal with a 20% state match required.
- **Congestion Mitigation Air Quality (CMAQ):** Programs and projects funded under this category must contribute to the attainment of National Ambient Air Quality Standards (NAAQS) or must be included in the State Implementation Plan pursuant to the Clean Air Act of 1990 and subsequent amendments. These funds may be utilized for both roadway and transit projects. These are 80% federal monies requiring a 20% state match.
- **National Highway System (NHS):** NHS funds are used to finance construction projects on major roadways that have been designated highways of National Significance under the 1991 Surface Transportation Assistance Act. The purpose of the NHS funds are to provide an inter-connected system of principal routes to serve major population centers, airports, and public transportation facilities, to meet national defense requirements, and to serve interstate and interregional travel. U.S. Route 3, I-495 and I-93 are the NHS eligible roadways in the Northern Middlesex region. NHS funds are 80% federal monies with a 20% state match required.
- **Highway Safety Improvement Program (HSIP):** Highway Safety Improvement Program funds are for the design and construction of highway projects that would reduce the number and severity of roadway crashes. Funding determination is based on crash data and engineering assessments of identified hazardous locations.
- **American Recovery and Reinvestment Act (ARRA):** This temporary program was developed to jumpstart the economy, create or save jobs and address long neglected infrastructure (including transportation projects).
- **Safe Routes to School (SRTS):** Safe Routes to School funds are used to encourage school children to walk and bicycle to school. Schools that choose to participate in the SRTS programs work with MassDOT to examine conditions around schools and conduct projects and activities that work to improve safety and accessibility, and reduce traffic and air pollutions.
- **Metropolitan Planning Funds (PL):** Metropolitan Planning Funds are apportioned to states based on population in urbanized areas and relative to the amount of highway construction funds the state receives. MassDOT maintains multi-year contracts with the RPAs to conduct transportation-related planning on behalf of the MPO.
- **Section 5307:** Section 5307 funds are Federal Transit Administration monies used to finance capital, planning, operating and maintenance expenses for the Lowell Regional Transit Authority (LRTA) urban service area. The funding ratios and match requirements for each sub-category are as follows:
  - Funding for capital expenses: Federal 80%/State 20%
  - Funding for planning expenses: Federal 80%/NMCOG 20%
  - Funding for operating/preventive maintenance: Federal 35%/State 40%/LRTA 25% (varies annually)
- **Section 5309:** Section 5309 is a federal discretionary program financing capital expenditures. These monies are 80% federal requiring a 20% state match.

- **Section 5311:** Section 5311 monies finance operating expenses for the LRTA rural service area. Although these are federal monies, in Massachusetts the program is administered through the Massachusetts Department of Transportation (MassDOT). These are 50% federal monies with a 25% state match and a 25% local match.
- **Section 5310/Mobility Assistance Program (MAP):** This program finances capital expenses for private non-profit organizations to provide specialized transit services for the elderly and disabled. The Massachusetts MAP program extends these provisions to public non-profit agencies. These awards are approved on a project-by-project basis, funding only capital expenses for the acquisition of specific types of vans and base station equipment and may not be used for operating expenses. The program is funded with 80% MAP monies and 20% RTA CAP (Capital Assistance Program) funds or other local funds depending on the applicant.
- **Paul S. Sarbanes Transit in the Parks Program:** Formerly known as the Alternative Transportation in Parks and Public Lands Program, the Paul S. Sarbanes Transit in Parks Program was established to enhance the protection of federal lands and increase the enjoyment of those visiting them. Administered by the Federal Transit Administration in partnership with the Department of the Interior and the U.S. Forest Service, the program funds capital and planning expenses for alternative transportation systems such as shuttle buses and bicycle trails. Funds are distributed through a competitive grant process. Both the City of Lowell and the Lowell National Historical Park have been recipients of these funds.
- **Flexible funding:** In some cases funds allocated under the categories of Surface Transportation Program, National Highway System, and Congestion Mitigation Air Quality may be utilized for transit projects. All projects funded under this category are funded with 80% federal/20% state funds. Both CMAQ and STP funds are 100% flexible in that an MPO may elect to allocate any portion of these to transit projects. In addition the state may elect to transfer up to 20% of its Interstate Maintenance funds, 50% of its NHS funds, and 40% of its bridge funds to the STP program. Once transferred, any such funds are as flexible as STP funds.

## 9. **701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects**

In 2008, the Patrick Administration through the Massachusetts Department of Transportation (MassDOT) and the Executive Office of Public Safety and Security (EOPSS), revised the State's regulations for the use of road flaggers and police details on public works projects. The revised regulations now allow for the use of road flaggers instead police details on certain public works projects. MassDOT and EOPSS have developed guidelines outlining when the use of road flaggers is acceptable and when police details are needed. MassDOT intends to apply these guidelines to all transportation projects funded or constructed using state and federal funds. Therefore, any transportation project funded through the Transportation Improvement Program will be subject to the new regulations and guidelines regarding the use of road flaggers or police details during construction.

The Municipal Limitation referenced in the Regulation (701 CMR 7.0) is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with the new regulation. By placing a project on the TIP, the Municipality is acknowledging that 701 CMR 7.00 is applicable to the project, and that construction will be fully compliant with the Regulation.

Additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website:  
[www.massdot.state.ma.us/Highway/flaggers/main.aspx](http://www.massdot.state.ma.us/Highway/flaggers/main.aspx)



**PART B: HIGHWAY AND TRANSIT PROJECT LISTINGS**



# 2012 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 1A / Federal Aid Target Projects

### ► STP - Surface Transportation Program

606042	DUNSTABLE- RETAINING WALL CONSTRUCTION ON ROUTE 113	3	STP	\$ 772,693	\$ 618,154	\$ 154,539	Design at 25%
604809	WESTFORD- RECONSTRUCTION OF ROUTE 110 AT BOSTON ROAD AND CARLISLE ROAD (MINOT'S CORNER)	3	STP	\$ 3,334,039	\$ 2,667,231	\$ 666,808	Total project cost estimate \$3,725,000, design at 25%
STP Subtotal ►				\$ 4,106,732	\$ 3,285,386	\$ 821,346	◀ 80% Federal + 20% Non-Federal

### ► HSIP - Highway Safety Improvement Program

604809	WESTFORD- RECONSTRUCTION OF ROUTE 110 AT BOSTON ROAD AND CARLISLE ROAD (MINOT'S CORNER)	3	HSIP	\$ 390,961	\$ 351,865	\$ 39,096	Total project cost estimate \$3,725,000, design at 25%
No Projects Programmed				\$ -	\$ -	\$ -	
HSIP Subtotal ►				\$ 390,961	\$ 351,865	\$ 39,096	◀ Funding Split Varies by Project Specifications

### ► CMAQ - Congestion Mitigation and Air Quality Improvement Program

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
CMAQ Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

## ► Section 1A / Fiscal Constraint Analysis

Total Federal Aid Target Funds Programmed ►	\$ 4,497,693	\$ 5,040,708	◀ Total	\$ 543,015	Target Funds Available
Total STP Programmed ►	\$ 4,106,732	\$ 4,649,747	◀ Max. STP	\$ 543,015	STP Available
Total HSIP Programmed ►	\$ 390,961	\$ 390,961	◀ Min. HSIP	\$ -	HSIP Minimum Met
Total CMAQ Programmed ►	\$ -	\$ -	◀ Min. CMAQ	\$ -	

## ► Section 1B / Federal Aid Bridge Projects

601845	LOWELL- BRIDGE DEMOLITION, L-15-021 & NEW BRIDGE CONSTRUCTION, L-15-095, UNIVERSITY (TEXTILE) AVENUE OVER THE MERRIMACK RIVER AND NORTHERN CANAL	4	BR-AC	\$ 11,000,000	\$ 8,800,000	\$ 2,200,000	Project advertised in FFY 2010
BR Subtotal ►				\$ 11,000,000	\$ 8,800,000	\$ 2,200,000	◀ 80% Federal + 20% Non-Federal

## ► Section 1C / Federal Aid Non-Target Projects

### ► Earmarks

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Earmarks Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Earmark

### ► Other

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

## ► Section 1D / Federal Aid Major & State Category Projects

### ► IM - Interstate Maintenance

605586	MAINTENANCE & RELATED WORK ON I-495	3	IM	\$ 3,776,000	\$ 3,398,400	\$ 377,600	
No Projects Programmed				\$ -	\$ -	\$ -	
IM Subtotal ►				\$ 3,776,000	\$ 3,398,400	\$ 377,600	◀ 90% Federal + 10% Non-Federal

### ► NHS - National Highway System

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
NHS Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

### ► Other

Lowell Canalway/Riverwalk Development				\$ 1,000,000	800,000.0	200,000.0	FY2011 Public Lands Highway Grant Award
No Projects Programmed				\$ -	\$ -	\$ -	
Other Subtotal ►				\$ 1,000,000	\$ 800,000	\$ 200,000	◀ Funding Split Varies by Funding Source

## ► Section 2A / Non-Federal Projects

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Non-Federal Projects Subtotal ►				\$ -	\$ -	\$ -	◀ 100% Non-Federal

# 2012 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 2B / Non-Federal Bridge Projects

No Projects Programmed				\$ -		\$ -	
No Projects Programmed				\$ -		\$ -	
Non-Federal Bridge Projects Subtotal ►				\$ -		\$ -	◀ 100% Non-Federal

# 2012 Northern Middlesex MPO TIP Summary

	TIP Section 1: ▼	TIP Section 2: ▼	Total of All Projects ▼	
Total ►	\$ 20,273,693	\$ -	\$ 20,273,693	◀ Total Spending in Region
Federal Funds ►	\$ 16,635,651	\$ -	\$ 16,635,651	◀ Total Federal Spending in Region
Non-Federal Funds ►	\$ 3,638,043	\$ -	\$ 3,638,043	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

**2012** Northern Middlesex MPO  
Transportation Improvement Program

FTA Program ▼	Regional Transit Authority ▼	Project Description ▼	Carryover or Earmark Details ▼	Federal Funds ▼	State Match Sources					RTA Funds ▼	Total Cost ▼
					RTACAP ▼	MAP ▼	ITCCAP ▼	TDC ▼	SCA ▼		
5307 ▶	LRTA	Transit and Facility Services	2011	\$ 1,183,463	\$ -	\$ -	\$ -	\$ -	\$ 1,456,018	\$ -	\$ 2,639,481
	LRTA	Preventative Maintenance	2011	\$ 1,145,433	\$ -	\$ -	\$ -	\$ -	\$ 1,145,433	\$ -	\$ 2,290,866
	LRTA	Planning Assistance	2011	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22,500	\$ 112,500
	LRTA	Bus & Bus Facility / Spare Parts	2011	\$ 80,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,000
	LRTA	Bus & Bus Facility / Signs & Shelters	2011	\$ 68,000	\$ 17,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 85,000
	LRTA	Bus & Bus Facilities	2011	\$ 583	\$ 146	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 729
	LRTA	Mid-Life Overhaul	2011	\$ 180,000	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 225,000
	LRTA	Bus & Bus Facilities	2011 = \$447,449	\$ 500,000	\$ 87,720	\$ -	\$ -	\$ 37,280	\$ -	\$ -	\$ 587,720
	LRTA	Bus & Bus Facility Parking Garage (GITC)	N/A	\$ 800,000	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
<b>5307 Subtotal ▶</b>				<b>\$ 4,047,479</b>	<b>\$ 369,866</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 37,280</b>	<b>\$ 2,601,451</b>	<b>\$ 22,500</b>	<b>\$ 7,041,296</b>
5309 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>5309 Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
5310 ▶	LRTA	5 Lift & Radio Equipped Vehicles	N/A	\$ 69,015	\$ -	\$ 212,038	\$ -	\$ -	\$ -	\$ -	\$ 281,053
	<b>5310 Subtotal ▶</b>				<b>\$ 69,015</b>	<b>\$ -</b>	<b>\$ 212,038</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 281,053</b>
5311 ▶	LRTA	Section 18 Rural Assistance	N/A	\$ 7,773	\$ -	\$ -	\$ -	\$ -	\$ 7,773	\$ -	\$ 15,546
	<b>5311 Subtotal ▶</b>				<b>\$ 7,773</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,773</b>	<b>\$ -</b>	<b>\$ 15,546</b>
5316 ▶	LRTA	Tewksbury Saturday Service	N/A	\$ 30,535	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,535	\$ 61,070
	LRTA	Pheasant Lane Mall Saturday Service	N/A	\$ 3,986	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,986	\$ 7,972
	<b>5316 Subtotal ▶</b>				<b>\$ 34,521</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 34,521</b>	<b>\$ 69,042</b>
5317 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>5317 Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
SoGR ▶		No Projects Programmed		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Livability ▶		No Projects Programmed		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TIGER ▶		No Projects Programmed		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Grants Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Other ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Operating Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total ▶</b>				<b>\$ 4,158,788</b>	<b>\$ 369,866</b>	<b>\$ 212,038</b>	<b>\$ -</b>	<b>\$ 37,280</b>	<b>\$ 2,609,224</b>	<b>\$ 57,021</b>	<b>\$ 7,406,937</b>

**Fiscal Constraint Analysis**

Federal Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼	State Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼
FFY 12 / 5307	\$ 852,551	\$ 3,448,108	\$ 2,595,557 Available	RTACAP	\$ 369,866	\$ 369,866	\$ - Available
FFY 12 / 5309	\$ -	\$ -	\$ - Available	MAP	\$ 212,038	\$ 212,038	\$ - Available
				ITCCAP	\$ -	\$ -	\$ - Available
				SCA	\$ 2,609,224	\$ 2,628,794	\$ 19,570 Available
				TDC	\$ 37,280	\$ -	\$ -

# 2013 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 1A / Federal Aid Target Projects

### ► STP - Surface Transportation Program

604964	LOWELL- SIGNAL & INTERSECTION IMPROVEMENTS AT VFW HIGHWAY, BRIDGE STREET & LAKEVIEW AVENUE	4	STP>CMAQ	\$ 1,598,717	\$ 1,278,974	\$ 319,743	Total project cost estimate at FY 2013 YOE \$2,771,600 (\$2,665,000 ), design at 25%
604907	DRACUT- RECONSTRUCTION OF ARLINGTON STREET, FROM BROADWAY ROAD (ROUTE 113) TO METHUEN STREET (APPROX. 7500 FT)	4	STP-AC	\$ 2,256,008	\$ 1,804,806	\$ 451,202	Total project cost estimate at FY 2013 YOE \$6,058,537 (\$5,825,516), design at 25%
STP Subtotal ►				\$ 3,854,725	\$ 3,083,780	\$ 770,945	◀ 80% Federal + 20% Non-Federal

### ► HSIP - Highway Safety Improvement Program

604964	LOWELL- SIGNAL & INTERSECTION IMPROVEMENTS AT VFW HIGHWAY, BRIDGE STREET & LAKEVIEW AVENUE	4	HSIP	\$ 390,961	\$ 351,865	\$ 39,096	Total project cost estimate at FY 2013 YOE \$2,771,600 (\$2,665,000 ), design at 25%
No Projects Programmed				\$ -	\$ -	\$ -	
HSIP Subtotal ►				\$ 390,961	\$ 351,865	\$ 39,096	◀ Funding Split Varies by Project Specifications

### ► CMAQ - Congestion Mitigation and Air Quality Improvement Program

604964	LOWELL- SIGNAL & INTERSECTION IMPROVEMENTS AT VFW HIGHWAY, BRIDGE STREET & LAKEVIEW AVENUE	4	CMAQ	\$ 781,922	\$ 625,538	\$ 156,384	Total project cost estimate at FY 2013 YOE \$2,771,600 (\$2,665,000 ), design at 25%
No Projects Programmed				\$ -	\$ -	\$ -	
CMAQ Subtotal ►				\$ 781,922	\$ 625,538	\$ 156,384	◀ 80% Federal + 20% Non-Federal

## ► Section 1A / Fiscal Constraint Analysis

Total Federal Aid Target Funds Programmed ►	\$ 5,027,608	\$ 5,027,608	◀ Total	\$ -	Target Funds Available
Total STP Programmed ►	\$ 3,854,725	\$ 3,854,725	◀ Max. STP	\$ -	STP Available
Total HSIP Programmed ►	\$ 390,961	\$ 390,961	◀ Min. HSIP	\$ -	HSIP Minimum Met
Total CMAQ Programmed ►	\$ 781,922	\$ 781,922	◀ Min. CMAQ	\$ -	CMAQ Minimum Met

## ► Section 1B / Federal Aid Bridge Projects

601845	LOWELL- BRIDGE DEMOLITION, L-15-021 & NEW BRIDGE CONSTRUCTION, L-15-095, UNIVERSITY (TEXTILE) AVENUE OVER THE MERRIMACK RIVER AND NORTHERN CANAL	4	BR-AC	\$ 7,000,000	\$ 5,600,000	\$ 1,400,000	Project advertised in FY 2010
602932	LOWELL- BRIDGE REPLACEMENT, L-15-058, VFW HIGHWAY OVER BEAVER BROOK	4	BR	\$ 5,980,000	\$ 4,784,000	\$ 1,196,000	pre 25% design
BR Subtotal ►				\$ 12,980,000	\$ 10,384,000	\$ 2,596,000	◀ 80% Federal + 20% Non-Federal

## ► Section 1C / Federal Aid Non-Target Projects

### ► Earmarks

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Earmarks Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Earmark

### ► Other

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

## ► Section 1D / Federal Aid Major & State Category Projects

### ► IM - Interstate Maintenance

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
IM Subtotal ►				\$ -	\$ -	\$ -	◀ 90% Federal + 10% Non-Federal

### ► NHS - National Highway System

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
NHS Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

### ► Other

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

# 2013 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 2A / Non-Federal Projects

	No Projects Programmed			\$ -	.	\$ -	
	No Projects Programmed			\$ -	.	\$ -	
Non-Federal Projects Subtotal►				\$ -	.	\$ -	◀100% Non-Federal

## ► Section 2B / Non-Federal Bridge Projects

	No Projects Programmed			\$ -	.	\$ -	
	No Projects Programmed			\$ -	.	\$ -	
Non-Federal Bridge Projects Subtotal►				\$ -	.	\$ -	◀100% Non-Federal

# 2013 Northern Middlesex MPO TIP Summary

	TIP Section 1: ▼	TIP Section 2: ▼	Total of All Projects ▼	
Total ►	\$ 18,007,608	\$ -	\$ 18,007,608	◀ Total Spending in Region
Federal Funds ►	\$ 14,445,183	.	\$ 14,445,183	◀ Total Federal Spending in Region
Non-Federal Funds ►	\$ 3,562,426	\$ -	\$ 3,562,426	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

**2013** Northern Middlesex MPO  
Transportation Improvement Program

FTA Program ▼	Regional Transit Authority ▼	Project Description ▼	Carryover or Earmark Details ▼	Federal Funds ▼	State Match Sources					RTA Funds ▼	Total Cost ▼
					RTACAP ▼	MAP ▼	ITCCAP ▼	TDC ▼	SCA ▼		
5307 ▶	LRTA	Planning Assistance	N/A	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,000	\$ 75,000
	LRTA	Preventative Maintenance	N/A	\$ 952,540	\$ -	\$ -	\$ -	\$ -	\$ 1,417,755	\$ -	\$ 2,370,295
	LRTA	Transit & Transit Facility Services	N/A	\$ 1,183,463	\$ -	\$ -	\$ -	\$ -	\$ 1,183,463	\$ -	\$ 2,366,926
	LRTA	Bus & Bus Facility / Spare Parts	N/A	\$ 80,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,000
	LRTA	Replacement of 4 Cut-a-Way Transit Buses	N/A	\$ 225,720	\$ 31,400	\$ -	\$ -	\$ 25,030	\$ -	\$ -	\$ 257,120
		<b>5307 Subtotal ▶</b>		<b>\$ 2,501,723</b>	<b>\$ 51,400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 25,030</b>	<b>\$ 2,601,218</b>	<b>\$ 15,000</b>	<b>\$ 5,169,341</b>
5309 ▶	LRTA	Replacement of 6 Fixed Route Buses	N/A	\$ 1,474,184	\$ 368,546	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,842,730
		<b>5309 Subtotal ▶</b>		<b>\$ 1,474,184</b>	<b>\$ 368,546</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,842,730</b>
5310 ▶	LRTA	5 Lift & Radio Equipped Vehicles	N/A	\$ 71,086	\$ -	\$ 218,399	\$ -	\$ -	\$ -	\$ -	\$ 289,485
		<b>5310 Subtotal ▶</b>		<b>\$ 71,086</b>	<b>\$ -</b>	<b>\$ 218,399</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 289,485</b>
5311 ▶	LRTA	Section 18 Rural Assistance	N/A	\$ 8,006	\$ -	\$ -	\$ -	\$ -	\$ 8,006	\$ -	\$ 16,012
		<b>5311 Subtotal ▶</b>		<b>\$ 8,006</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 8,006</b>	<b>\$ -</b>	<b>\$ 16,012</b>
5316 ▶	LRTA	Pheasant Lane Mall Saturday Only - Seasonal	N/A	\$ 4,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ 8,200
		<b>5316 Subtotal ▶</b>		<b>\$ 4,100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,100</b>	<b>\$ 8,200</b>
5317 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		<b>5317 Subtotal ▶</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
SoGR ▶		No Projects Programmed		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Livability ▶		No Projects Programmed		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TIGER ▶		No Projects Programmed		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		<b>Grants Subtotal ▶</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Other ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		<b>Operating Subtotal ▶</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
		<b>Total ▶</b>		<b>\$ 4,059,099</b>	<b>\$ 419,946</b>	<b>\$ 218,399</b>	<b>\$ -</b>	<b>\$ 25,030</b>	<b>\$ 2,609,224</b>	<b>\$ 19,100</b>	<b>\$ 7,325,768</b>

**Fiscal Constraint Analysis**

Federal Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼	State Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼
FFY 13 / 5307	\$ 2,501,723	\$ 3,551,551	\$ 1,049,828 Available	RTACAP	\$ 419,946	\$ 419,946	\$ - Available
FFY 13 / 5309	\$ -	\$ -	\$ - Available	MAP	\$ 218,399	\$ 218,399	\$ - Available
				ITCCAP	\$ -	\$ -	\$ - Available
				SCA	\$ 2,609,224	\$ 2,707,657	\$ 98,433 Available
				TDC	\$ 25,030	\$ -	\$ - Available

# 2014 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 1A / Federal Aid Target Projects

### ► STP - Surface Transportation Program

604907	DRACUT- RECONSTRUCTION OF ARLINGTON STREET, FROM BROADWAY ROAD (ROUTE 113) TO METHUEN STREET (APPROX. 7500 FT)	4	STP	\$ 3,802,529	\$ 3,042,023	\$ 760,506	Total project cost estimate at FY 2013 YOY \$6,058,537 (\$5,825,516) , design at 25%
	No Projects Programmed			\$ -	\$ -	\$ -	
STP Subtotal ►				\$ 3,802,529	\$ 3,042,023	\$ 760,506	◀ 80% Federal + 20% Non-Federal

### ► HSIP - Highway Safety Improvement Program

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
HSIP Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Project Specifications

### ► CMAQ - Congestion Mitigation and Air Quality Improvement Program

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
CMAQ Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

## ► Section 1A / Fiscal Constraint Analysis

Total Federal Aid Target Funds Programmed ►	\$ 3,802,529	\$ 4,896,636	◀ Total	\$ 1,094,107	Target Funds Available
Total STP Programmed ►	\$ 3,802,529	\$ 3,723,753	◀ Max. STP	\$ (78,776)	STP Exceeds Maximum
Total HSIP Programmed ►	\$ -	\$ 390,961	◀ Min. HSIP	\$ 390,961	HSIP Minimum Not Met
Total CMAQ Programmed ►	\$ -	\$ 781,922	◀ Min. CMAQ	\$ 781,922	CMAQ Minimum Not Met

## ► Section 1B / Federal Aid Bridge Projects

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
BR Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

## ► Section 1C / Federal Aid Non-Target Projects

### ► Earmarks

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
Earmarks Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Earmark

### ► Other

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

## ► Section 1D / Federal Aid Major & State Category Projects

### ► IM - Interstate Maintenance

606174	CHELMSFORD LOWELL-TEWKSBURY - INTERSTATE MAINTENANCE ,RESURFACING AND RELATED WORK -I-	4	IM	\$ 14,783,040	\$ 13,304,736	\$ 1,478,304	
	No Projects Programmed			\$ -	\$ -	\$ -	
IM Subtotal ►				\$ 14,783,040	\$ 13,304,736	\$ 1,478,304	◀ 90% Federal + 10% Non-Federal

### ► NHS - National Highway System

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
NHS Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

### ► Other

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

## ► Section 2A / Non-Federal Projects

	No Projects Programmed			\$ -	\$ -	\$ -	
	No Projects Programmed			\$ -	\$ -	\$ -	
Non-Federal Projects Subtotal ►				\$ -	\$ -	\$ -	◀ 100% Non-Federal

## ► Section 2B / Non-Federal Bridge Projects

# 2014 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
	No Projects Programmed			\$ -		\$ -	
	No Projects Programmed			\$ -		\$ -	
Non-Federal Bridge Projects Subtotal▶				\$ -		\$ -	◀100% Non-Federal

# 2014 Northern Middlesex MPO TIP Summary

	TIP Section 1: ▼	TIP Section 2: ▼	Total of All Projects ▼	
Total ▶	\$ 18,585,569	\$ -	\$ 18,585,569	◀ Total Spending in Region
Federal Funds ▶	\$ 16,346,759	\$ -	\$ 16,346,759	◀ Total Federal Spending in Region
Non-Federal Funds ▶	\$ 2,238,810	\$ -	\$ 2,238,810	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

**2014** Northern Middlesex MPO  
Transportation Improvement Program

FTA Program ▼	Regional Transit Authority ▼	Project Description ▼	Carryover or Earmark Details ▼	Federal Funds ▼	State Match Sources				RTA Funds ▼	Total Cost ▼
					RTACAP ▼	MAP ▼	TDC ▼	SCA ▼		
5307 ▶	LRTA	Transit and Facility Services	N/A	\$ 1,183,463	\$ -	\$ -	\$ -	\$ 1,183,463	\$ -	\$ 2,366,926
	LRTA	Preventative Maintenance	N/A	\$ 952,540	\$ -	\$ -	\$ -	\$ 1,495,792	\$ -	\$ 2,448,332
	LRTA	Planning Assistance	N/A	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 15,000	\$ 75,000
	LRTA	Bus & Bus Facility / Spare Parts	N/A	\$ 80,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
	LRTA	Replacement of 2 Cut-a-Away Transit Buses	N/A	\$ 184,800	\$ 46,200	\$ -	\$ -	\$ -	\$ -	\$ 231,000
<b>5307 Subtotal ▶</b>				<b>\$ 2,460,803</b>	<b>\$ 66,200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,679,255</b>	<b>\$ 15,000</b>	<b>\$ 5,221,258</b>
\$ -										
5309 ▶	LRTA	Replacement of 3 Fixed Route Buses	N/A	\$ 1,000,000	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ 1,250,000
	<b>5309 Subtotal ▶</b>				<b>\$ 1,000,000</b>	<b>\$ 250,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
5310 ▶	LRTA	5 Lift & Radio Equipped Vehicles	N/A	\$ 73,218	\$ -	\$ 224,951	\$ -	\$ -	\$ -	\$ 298,169
	<b>5310 Subtotal ▶</b>				<b>\$ 73,218</b>	<b>\$ -</b>	<b>\$ 224,951</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
5311 ▶	LRTA	Sec 18 Rural Assistance	N/A	\$ 8,246	\$ -	\$ -	\$ -	\$ 8,246	\$ -	\$ 16,492
	<b>5311 Subtotal ▶</b>				<b>\$ 8,246</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 8,246</b>	<b>\$ -</b>
\$ -										
5316 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>5316 Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
5317 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>5317 Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
SoGR ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Livability ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TIGER ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Grants Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
Other ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Operating Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
<b>Total ▶</b>				<b>\$ 3,542,267</b>	<b>\$ 316,200</b>	<b>\$ 224,951</b>	<b>\$ -</b>	<b>\$ 2,687,501</b>	<b>\$ 15,000</b>	<b>\$ 6,785,919</b>

**Fiscal Constraint Analysis**

Federal Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼		State Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼	
FFY 14 / 5307	\$ 2,460,803	\$ 3,658,098	\$ 1,197,295	Available	RTACAP	\$ 316,200	\$ 570,125	\$ 253,925	Available
FFY 14 / 5309	\$ -	\$ -	\$ -	Available	MAP	\$ 224,951	\$ 224,951	\$ -	Available
					SCA	\$ 2,687,501	\$ 2,788,887	\$ 101,386	Available
					TDC	\$ -	\$ -	\$ -	

# 2015 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 1A / Federal Aid Target Projects

### ► STP - Surface Transportation Program

601426	BILLERICA- RECONSTRUCTION OF ALLEN ROAD, FROM ROUTE 3A TO WEBB BROOK ROAD (5,400 FEET)	4	STP-AC	\$ 3,289,169	\$ 2,631,335	\$ 657,834	Total project cost estimate for FY 2015 YOE \$7,056,000 (\$6,300,000), at 75% design
606298	ANDOVER- TEWKSBURY- INTERSECTION & SIGNAL IMPROVEMENTS AT DASCOMB ROAD, EAST STREET & SHAWSHEEN STREET	4	STP	\$ 869,039	\$ 695,231	\$ 173,808	Total project cost estimate for FY 2015 YOE \$1,260,000 (\$1,125,000.) RSA conducted in 2011, at 100% design
STP Subtotal ►				\$ 4,158,208	\$ 3,326,566	\$ 831,642	◀ 80% Federal + 20% Non-Federal

### ► HSIP - Highway Safety Improvement Program

606298	ANDOVER- TEWKSBURY- INTERSECTION & SIGNAL IMPROVEMENTS AT DASCOMB ROAD, EAST STREET & SHAWSHEEN STREET	4	HSIP	\$ 390,961	\$ 351,865	\$ 39,096	Total project cost estimate I \$1,125,000. RSA conducted in 2011.
No Projects Programmed				\$ -	\$ -	\$ -	
HSIP Subtotal ►				\$ 390,961	\$ 351,865	\$ 39,096	◀ Funding Split Varies by Project Specifications

### ► CMAQ - Congestion Mitigation and Air Quality Improvement Program

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
CMAQ Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

## ► Section 1A / Fiscal Constraint Analysis

Total Federal Aid Target Funds Programmed ►	\$ 4,549,169	\$ 5,331,091	◀ Total	\$ 781,922	Target Funds Available
Total STP Programmed ►	\$ 4,158,208	\$ 4,158,208	◀ Max. STP	\$ -	STP Available
Total HSIP Programmed ►	\$ 390,961	\$ 390,961	◀ Min. HSIP	\$ -	HSIP Minimum Met
Total CMAQ Programmed ►	\$ -	\$ 781,922	◀ Min. CMAQ	\$ 781,922	CMAQ Minimum Not Met

## ► Section 1B / Federal Aid Bridge Projects

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
BR Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

## ► Section 1C / Federal Aid Non-Target Projects

### ► Earmarks

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Earmarks Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Earmark

### ► Other

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

## ► Section 1D / Federal Aid Major & State Category Projects

### ► IM - Interstate Maintenance

CHELMSFORD - I-495	4	IM	\$ 9,769,267	\$ 8,792,340	\$ 976,927		
No Projects Programmed				\$ -	\$ -	\$ -	
IM Subtotal ►				\$ 9,769,267	\$ 8,792,340	\$ 976,927	◀ 90% Federal + 10% Non-Federal

### ► NHS - National Highway System

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
NHS Subtotal ►				\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

### ► Other

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Other Subtotal ►				\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

## ► Section 2A / Non-Federal Projects

No Projects Programmed				\$ -	\$ -	\$ -	
No Projects Programmed				\$ -	\$ -	\$ -	
Non-Federal Projects Subtotal ►				\$ -	\$ -	\$ -	◀ 100% Non-Federal

# 2015 Northern Middlesex MPO Transportation Improvement Program

08/11/2011 Draft Released  
09/13/2011 Endorsed

MassDOT Project ID ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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## ► Section 2B / Non-Federal Bridge Projects

No Projects Programmed				\$ -		\$ -	
No Projects Programmed				\$ -		\$ -	
Non-Federal Bridge Projects Subtotal ►				\$ -		\$ -	◀ 100% Non-Federal

# 2015 Northern Middlesex MPO TIP Summary

	TIP Section 1: ▼	TIP Section 2: ▼	Total of All Projects ▼	
Total ►	\$ 14,318,436	\$ -	\$ 14,318,436	◀ Total Spending in Region
Federal Funds ►	\$ 12,470,772	\$ -	\$ 12,470,772	◀ Total Federal Spending in Region
Non-Federal Funds ►	\$ 1,847,664	\$ -	\$ 1,847,664	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

**2015** Northern Middlesex MPO  
Transportation Improvement Program

FTA Program ▼	Regional Transit Authority ▼	Project Description ▼	Carryover or Earmark Details ▼	Federal Funds ▼	State Match Sources				RTA Funds ▼	Total Cost ▼
					RTACAP ▼	MAP ▼	TDC ▼	SCA ▼		
5307 ▶	LRTA	Transit and Facility Services	N/A	\$ 1,183,463	\$ -	\$ -	\$ -	\$ 1,183,463	\$ -	\$ 2,366,926
	LRTA	Preventative Maintenance	N/A	\$ 952,540	\$ -	\$ -	\$ -	\$ 1,576,169	\$ -	\$ 2,528,709
	LRTA	Planning Assistance	N/A	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 15,000	\$ 75,000
	LRTA	Bus & Bus Facility / Spare Parts	N/A	\$ 80,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
	LRTA	Replacement of 2 Cut-a-Way Transit Buses	N/A	\$ 184,800	\$ 46,200	\$ -	\$ -	\$ -	\$ -	\$ 231,000
<b>5307 Subtotal ▶</b>				<b>\$ 2,460,803</b>	<b>\$ 66,200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,759,632</b>	<b>\$ 15,000</b>	<b>\$ 5,301,635</b>
\$ -										
5309 ▶	LRTA	Replacement of 3 Fixed Route Buses	N/A	\$ 1,000,000	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ 1,250,000
	<b>5309 Subtotal ▶</b>				<b>\$ 1,000,000</b>	<b>\$ 250,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
5310 ▶	LRTA	5 Lift & Radio Equipped Vehicles	N/A	\$ 75,415	\$ -	\$ 231,699	\$ -	\$ -	\$ -	\$ 307,114
	<b>5310 Subtotal ▶</b>				<b>\$ 75,415</b>	<b>\$ -</b>	<b>\$ 231,699</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
5311 ▶	LRTA	Sec 18 Rural Assistance	N/A	\$ 8,494	\$ -	\$ -	\$ -	\$ 8,494	\$ -	\$ 16,988
	<b>5311 Subtotal ▶</b>				<b>\$ 8,494</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 8,494</b>	<b>\$ -</b>
\$ -										
5316 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>5316 Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
5317 ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>5317 Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
SoGR ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Livability ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TIGER ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Grants Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
Other ▶		No Projects Programmed	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Operating Subtotal ▶</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
\$ -										
<b>Total ▶</b>				<b>\$ 3,544,712</b>	<b>\$ 316,200</b>	<b>\$ 231,699</b>	<b>\$ -</b>	<b>\$ 2,768,126</b>	<b>\$ 15,000</b>	<b>\$ 6,875,737</b>

**Fiscal Constraint Analysis**

Federal Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼		State Funding Source ▼	Programmed ▼	Available ▼	(+/-) ▼	
FFY 15 / 5307	\$ 2,460,803	\$ 3,767,841	\$ 1,307,038	Available	RTACAP	\$ 316,200	\$ 611,842	\$ 295,642	Available
FFY 15 / 5309	\$ -	\$ -	\$ -	Available	MAP	\$ 231,699	\$ 231,699	\$ -	Available
					SCA	\$ 2,768,126	\$ 2,872,554	\$ 104,428	Available
					TDC	\$ -	\$ -	\$ -	

**Future highway projects identified through the transportation planning process:  
(For informational purposes only - a funding source has not been identified for these projects)**

<b>PROJECT DESCRIPTION</b>	<b>COMMUNITY</b>	<b>PROJECT I.D.#</b>	<b>TOTAL COST</b>
Boston Road/Lexington Road/Glad Valley Drive intersection reconstruction	Billerica	N/A	\$600,000
Yankee Doodle Bike Path design	Billerica	N/A	\$150,000
Yankee Doodle Bike Path construction	Billerica	N/A	\$1,000,000
Reconstruct the intersection of Salem and Andover Roads	Billerica		\$1,600,000
Westford Street reconstruction	Chelmsford	N/A	\$812,000
Nashua Road/Lakeview Ave. reconstruction and intersection improvements	Dracut	602200	\$1,900,000
Hildreth, Sladen and Old Road intersection improvements	Dracut	602201	\$300,000
Lowell Connector improvements/reconstruction	Lowell	604694	\$750,000
Merrimack River Crossing EIS/EA for permanent river crossing	Lowell	N/A	\$1,500,000
East Street reconstruction and related improvements	Tewksbury	N/A	\$1,500,000
Whipple Road reconstruction project	Tewksbury	NA	\$8,600,000
Main Street over Salmon Brook	Dunstable	N/A	\$1,600,000
Intersection improvements at Route 110 and Tadmuck Road	Westford	N/A	\$600,000
Rehabilitation of Boston Road	Billerica	605178	\$6,810,735



## **PART C: FEDERAL REQUIREMENTS**



## **1. Certification of the 3C Planning Process**

This will certify that the Comprehensive, Continuing, Cooperative Transportation Planning Process for Fiscal Years 2011 and 2012 being undertaken by the Northern Middlesex Metropolitan Planning Organization is addressing major issues facing the region and is being conducted in accordance with the requirements of:

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

The currently endorsed Unified Planning Work Program, Regional Transportation Plan, and Transportation Improvement Program, together with any amendments, were developed in accordance with FHWA/FTA regulations governing the implementation of SAFETEA-LU, and EPA regulations governing the implementation of the Clean Air Act Amendments of 1990, and fully incorporate the applicable requirements of the Civil Rights Act of 1964 and the Americans with Disabilities Act of 1990.

## **2. Certification of Private Enterprise Participation in the Transportation Planning Process**

The Metropolitan Planning Organization (MPO) for the Northern Middlesex region, a part of the Boston Urbanized area, hereby certifies that the local process for the involvement of the private sector in transportation planning activities has been followed.

## **3. Certification of Air Quality Conformity**

In accordance with Section 176(c) (4) of the Clean Air Act as amended in 1990, the MPO for the Northern Middlesex region has completed its review and hereby certifies that the 2012-2015 Transportation Improvement Program has been developed from a conforming transportation plan and conforms with 40 CFR Parts 51 and 93 (August 15, 1997) and 310 CMR 60.03 issued on December 30, 1994. All of the projects within the NMCOG TIP are included in the Regional Transportation Plan, and all Plan projects that require work to be started within the time frame of the TIP are included in the TIP.

As the projects in the TIP come from the conforming regional transportation plan, and all regionally significant projects for 2012-2015(both federal and non-federal aid) are programmed in the TIP, the same air quality analysis utilized for the RTP can be used for the TIP. Therefore, this TIP, in combination with the TIPs from other MPOs in the nonattainment area, is found to be in conformance.

#### 4. Certification of Compliance with the Regional Public Participation Plan

In accordance with the requirements of SAFETEA-LU and the Clean Air Act Amendments, the Northern Middlesex Metropolitan Planning Organization hereby certifies that this document was prepared in accordance with the Public Participation Plan developed by the Northern Middlesex MPO in May 1994 and most recently revised in February 2010. A copy of the Public Participation Plan is contained in Appendix B.

#### 5. Regional Financial Summary

The TIP must be a financially constrained document, and must also be consistent with the Regional Transportation Plan and planning process. The TIP must be updated at least every four years. Approval responsibility rests with the Metropolitan Planning Organization and the Governor. Table 1 outlines the federal spending levels for each fiscal year for the highway program as well as the region’s programming target. Table 2 contains similar information for the transit program.

Title 23 CFR section 450.324 and 310 CMR 60.03(9) requires the TIP to be “financially constrained by year to include a financial plan that demonstrates which projects can be implemented using the current revenue sources and which projects are to be implemented using proposed revenue sources (while the existing transportation system is being adequately operated and maintained).” Moreover, regulations have further defined financial constraint so as to exclude a state’s unspent federal balances. Projects can only be programmed up to an amount that the Congress is expected to allow the state to spend in any individual fiscal year.

The financial plan contained herein is financially constrained, and indicates that the Northern Middlesex Metropolitan Planning Organization’s Transportation Improvement Program reflects the highway program emphasis on maintenance and operations of the current roadway and bridge system, with the ability to provide for additional capital improvements. Only projects for which funds can be expected have been included.

**TABLE 1**  
**Federal Highway Funding Totals by Funding Category**  
(with state match)

<b>FEDERAL AID CATEGORY</b>	<b>FFY 12</b>	<b>FFY 13</b>	<b>FFY 14</b>	<b>FFY 15</b>
Surface Transportation Program	\$4,649,747	\$3,854,725	\$3,723,753	\$4,158,208
CMAQ	\$0	\$781,922	\$781,922	\$781,922
HSIP	\$390,961	\$390,961	\$390,961	\$390,961
Interstate Maintenance	-0-	-0-	\$0	\$0
Bridge	\$16,000,000	\$7,000,000	\$0	\$0
Total	\$20,497,693	\$12,027,608	\$3,802,529	\$4,549,169

**TABLE 2**  
**Federal Transit Funding Totals by Funding Category**  
(Does not include matching funds)

<b>FEDERAL AID CATEGORY</b>	<b>FFY 12</b>	<b>FFY 13</b>	<b>FFY 14</b>	<b>FFY 15</b>
Section 5307	\$3,448,108	\$3,551,551	\$3,658,098	\$3,767,841
Section 5309-Capital	0	0	0	\$0
Section 5310-Capital Assistance	\$69,015	\$71,086	\$73,218	\$75,415
Section 5311-Operating	\$7,773	\$8,006	\$8,246	\$8,494
JARC (amount reflects potential Maximum Award)	\$222,227	\$228,894	\$235,761	\$242,833

**TABLE 3**  
**Status of FFY 2011 Transit Projects**

<b>FFY</b>	<b>RTA</b>	<b>PROJECT</b>	<b>DESCRIPTION</b>	<b>FUNDING CATEGORY</b>	<b>FEDERAL AMOUNT</b>	<b>TOTAL AMOUNT</b>	<b>ANTICIPATED IMPLEMENTATION</b>
2011	LRTA	Capital Assistance	Bus and bus facilities	FY '09 §5309 carryover	\$1,150,000	\$1,437,500	MA-04-0041 Ongoing
2011	LRTA	Capital Assistance	Bus and bus facilities	FY '09 §5309 carryover	\$225,720	\$282,150	MA-04-0042 Pending
2011	LRTA	Operating Assistance	Transit and Facility Services	§5307	\$1,183,463	\$2,366,926	MA-90-X588 Ongoing
2011	LRTA	Planning Assistance	NMCOG contract	§5307	\$ 60,000	\$ 75,000	MA-90-X610 Pending
2011	LRTA	Capital Assistance	Preventive Maintenance	§5307	\$658,655	\$823,319	MA-90-X610 Pending
2011	LRTA	Capital Assistance	Bus and facilities/spare parts	§5307	\$ 80,000	\$100,000	MA-90-X610 Pending
2011	LRTA	Operating Assistance	Section 18 rural assistance	§5311	\$ 7,773	\$15,546	Pending
2011	LRTA	Capital Assistance	5 lift and radio equipped vehicles	§5310	\$90,600	453,000	MAP 37 Ongoing
2011	LRTA	Capital Assistance	Bus and bus facilities	FY '10 §5307 carryover	\$439,893	\$879,786	Pending
2011	LRTA	Capital Assistance (Nashua)	Bus and bus facilities	FY 10 §5307 carryover	\$581	\$726	MA-90-X610 Pending
2011	LRTA	JARC	Expanded Holiday service	Boston UZA	\$36,704	\$73,408	Ongoing
2011	LRTA	JARC	Tewksbury Saturday service	Boston UZA	\$30,535	\$61,070	Ongoing
2011	LRTA	JARC	Pheasant Lane Mall Saturday only Seasonal	Boston UZA	\$3,986	\$7,972	Ongoing
2011	LRTA	Capital Assistance	Supervisory Vehicle	§5307	\$28,000	\$35,000	MA-90-X603 Complete

**TABLE 4:  
FTA FUNDING FOR FFY 2012**

<b>FTA FUNDING PROGRAM</b>	<b>ESTIMATED FOR FFY 2012</b>	<b>PROGRAMMED TIP AMOUNTS FOR FFY 2012</b>	<b>BALANCE FOR FFY 2012</b>
Section 5307			
5307 Operating Assistance	\$1,183,463	\$1,183,463	-0-
5307 Planning	\$90,000	\$90,000	-0-
5307 Capital Assistance	\$1,181,134	\$1,181,134	-0-
5307 Preventive Maintenance	\$1,145,433	\$1,145,433	-0-
Subtotal	\$3,630,030	\$3,630,030	-0-
Capital carryover	\$447,449	\$447,449	-0-
Total	\$4,047,479	\$4,047,479	-0-
Section 5309			
5309 Capital	0	0	-0-
Subtotal	0	0	-0-
Capital carryover '11	0	0	-0-
Subtotal	0	0	-0-
Total	0	0	-0-
Section 5310			
Programmed	\$69,015	\$69,015	-0-
Total	\$69,015	\$69,015	-0-
Section 5311			
Programmed	\$7,773	\$7,773	-0-
Total	\$7,773	\$7,773	-0-
JARC			
Programmed	\$34,521	\$34,521	-0-
Total	\$34,521	\$34,521	-0-
<b>GRAND TOTALS</b>	<b>\$4,158,788</b>	<b>\$4,158,788</b>	<b>-0-</b>

**TABLE 5:  
FTA FUNDING FOR FFY 2013**

<b>FTA FUNDING PROGRAM</b>	<b>ESTIMATED FOR FFY 2013</b>	<b>PROGRAMMED TIP AMOUNTS FOR FFY 2013</b>	<b>BALANCE FOR FFY 2013</b>
Section 5307			
5307 Planning	\$60,000	\$60,000	-0-
5307 Capital Assistance/ Bus and facilities/ spare parts	\$80,000	\$80,000	-0-
5307 Operating Assistance	\$1,183,463	\$1,183,463	-0-
5307 Capital Assistance /Preventive Maintenance	\$952,540	\$952,540	
5307 Capital Assistance/ replacement of 4 cut-a-way buses	\$225,720	\$225,720	
subtotal	\$2,501,723	\$2,501,723	-0-
Capital carryover	0	0	-0-
subtotal	0	0	-0-
Total	\$2,501,723	\$2,501,723	-0-
Section 5309			
5309 Capital	\$1,474,184	\$1,474,184	-0-
subtotal	\$1,474,184	\$1,474,184	-0-
Capital carryover	0	0	-0-
subtotal	0	0	-0-
Total	\$1,474,184	\$1,474,184	-0-
Section 5310			
5310 Capital Assistance	\$71,086	\$71,086	-0-
Total	\$71,086	\$71,086	-0-
Section 5311			
5311 Operating Assistance	\$8,006	\$8,006	-0-
Total	\$8,006	\$8,006	-0-
Section 5316			
5316 Operating Assistance	\$4,100	\$4,100	-0-
Total	\$4,100	\$4,100	-0-
<b>GRAND TOTALS</b>	<b>\$4,059,099</b>	<b>\$4,059,099</b>	<b>-0-</b>

**TABLE 6:  
FTA FUNDING FOR FFY 2014**

<b>FTA FUNDING PROGRAM</b>	<b>ESTIMATED FOR FFY 2014</b>	<b>PROGRAMMED TIP AMOUNTS FOR FFY 2014</b>	<b>BALANCE FOR FFY 2014</b>
Section 5307			
5307 Planning	\$60,000	\$60,000	-0-
5307 Capital Assistance	\$80,000	\$80,000	-0-
5307 Operating Assistance	\$1,183,463	\$1,183,463	-0-
5307 Capital Assistance /Preventive Maintenance	\$952,540	\$952,540	
5307 Capital Assistance/ replacement of 2 cut-a-way buses	\$184,800	\$184,800	
subtotal	\$2,460,803	\$2,460,803	-0-
Capital carryover	0	0	-0-
subtotal	0	0	-0-
Total	\$2,460,803	\$2,460,803	-0-
Section 5309			
5309 Capital	\$1,000,000	\$1,000,000	-0-
subtotal	\$1,000,000	\$1,000,000	-0-
Capital carryover	0	0	-0-
subtotal	\$1,000,000	\$1,000,000	-0-
Total	\$1,000,000	\$1,000,000	-0-
Section 5310			
5310Capital Assistance	\$73,218	\$73,218	-0-
Total	\$73,218	\$73,218	-0-
Section 5311			
5311 Operating Assistance	\$8,246	\$8,246	-0-
Total	\$8,246	\$8,246	-0-
<b>GRAND TOTALS</b>	<b>\$3,542,267</b>	<b>\$3,542,267</b>	<b>-0-</b>

**TABLE 7:  
FTA FUNDING FOR FFY 2015**

<b>FTA FUNDING PROGRAM</b>	<b>ESTIMATED FOR FFY 2015</b>	<b>PROGRAMMED TIP AMOUNTS FOR FFY 2015</b>	<b>BALANCE FOR FFY 2014</b>
Section 5307			
5307 Planning	\$60,000	\$60,000	-0-
5307 Capital Assistance	\$80,000	\$80,000	-0-
5307 Operating Assistance	\$1,183,463	\$1,183,463	-0-
5307 Capital Assistance /Preventive Maintenance	\$952,540	\$952,540	
5307 Capital Assistance/ replacement of 2 cut-a-way buses	\$184,800	\$184,800	
subtotal	\$2,460,803	\$2,460,803	-0-
Capital carryover	0	0	-0-
subtotal	0	0	-0-
Total	\$2,460,803	\$2,460,803	-0-
Section 5309			
5309 Capital	\$1,000,000	\$1,000,000	-0-
subtotal	\$1,000,000	\$1,000,000	-0-
Capital carryover	0	0	-0-
subtotal	0	0	-0-
Total	\$1,000,000	\$1,000,000	-0-
Section 5310			
5310 Capital Assistance	\$57,415	\$57,415	-0-
Total	\$57,415	\$57,415	-0-
Section 5311			
5311 Operating Assistance	\$8,494	\$8,494	-0-
Total	\$8,494	\$8,494	-0-
<b>GRAND TOTALS</b>	<b>\$3,544,712</b>	<b>\$3,544,712</b>	<b>-0-</b>

The overall TIP, and each fiscal year contained herein, is financially constrained to the annual federal apportionment reasonably expected to be available during the appropriate time frame. Projections of federal resources are based upon the apportionments of the federal authorizations contained in SAFETEA-LU, as allocated to the region by the state or as allocated among the various MPOs according to federal formulae or MPO agreement and adjusted to reflect obligational authority or priority. The projects programmed for this region meet the funding estimates of federal funds available in each year as shown in Table 9. These estimates were provided by the Massachusetts Department of Transportation and refined as part of the State Transportation Improvement Program development process and the MOU for the Statewide Road and Bridge Program.

**TABLE 8**  
**FFY 2012-2015 Transportation Improvement Program Financial Plan**  
**For the Northern Middlesex**  
**Metropolitan Planning Organization**

<b>FISCAL YEAR</b>	<b>FEDERAL TARGET</b>	<b>FEDERAL AMOUNT PROGRAMMED WITH REGIONAL TARGET FUNDS (FHWA RELATED CATEGORIES ONLY)</b>
2012	\$5,040,708	\$4,497,693
2013	\$5,027,608	\$3,854,725
2014	\$4,896,636	\$3,802,529
2015	\$5,331,091	\$4,549,169

**TABLE 9**  
**PROJECTS COUNTED TOWARD THE FFY 2012-2015 FEDERAL AID REGIONAL TARGETS**

<b>FISCAL YEAR</b>	<b>PROJECT DESCRIPTION</b>	<b>COMMUNITY</b>	<b>PROJECT I.D.</b>	<b>AMOUNT PROGRAMMED</b>
<b>2012</b>	Rt.113 Retaining Wall	Dunstable	606042	\$772,693
<b>2012</b>	Rt. 110 Minot's Corner	Westford	604809	\$3,725,000
<b>TOTAL</b>				<b>\$4,497,693</b>
<b>2013</b>	VFW Highway at Bridge St, and Lakeview Ave.	Lowell	604964	2,771,600
<b>2013</b>	Arlington St.	Dracut	604907	\$2,256,008
<b>TOTAL</b>				<b>\$2,286,768</b>
<b>2014</b>	Arlington St.	Dracut	604907	\$3,802,529
<b>TOTAL</b>				<b>\$4,571,426</b>
<b>2015</b>	Allen Road	Billerica	601426	\$3,289,169
<b>2015</b>	East St & Shawsheen St.	Tewksbury	606298	\$1,260,000
<b>TOTAL</b>				<b>\$4,549,169</b>

Financial constraint of the total state program will be depicted in the FFY 2012-2015 State Transportation Improvement Program. Funding levels for Fiscal Years 2012-2015 have been developed cooperatively between the State and regional members of the MPO, as part of the MPO process in TIP development, and in accordance with the MOU for the Statewide Road and Bridge program.

The financial plan contained herein is fiscally constrained and indicates that the Northern Middlesex Metropolitan Planning Organization's Transportation Improvement Program reflects the highway program emphasis on the maintenance and operation of the current roadway and bridge system, with the ability to provide additional capital improvements.

## **6. System Preservation, Operations and Maintenance**

Since the enactment of ISTEA in 1991, fiscal constraint has encompassed operation and maintenance of the system, as well as capital projects. Outside the transportation planning process, there also is a Federal requirement that states adequately maintain projects constructed under the Federal-aid Highway Program. System level operating and maintenance costs and revenues must be reflected in the financial plan that accompanies and supports the TIP/STIP. Estimated regional operating and maintenance expenditures for FY 2012 are provided in Tables 10-12 based upon past expenditures for SFY 2009, SFY 2010, and SFY 2011.

**TABLE 10**  
**SUMMARY OF NON FEDERAL AID OPERATING AND MAINTENANCE EXPENDITURES**  
**FOR THE NORTHERN MIDDLESEX REGION**

<b>Section I – Non Federal Aid Maintenance Projects: State Bond Funds</b>				
<b>Program Group/ Sub Group</b>	<b>SFY 2009 NFA Expenditures</b>	<b>SFY 2010 NFA Expenditures</b>	<b>SFY 2011 NFA Expenditures</b>	<b>Estimated SFY 2012 NFA Expenditures</b>
<b>01- Bridge Repair and Replacement</b>				
New Bridge (Excluded)	----	----	----	
Bridge Replacement (Excluded)	----	----	----	
Bridge reconstruction/rehab	\$442,296	\$17,675,893	\$13,981,412	
Drawbridge maintenance	\$90,990	\$141,167	\$152,649	
Structure maintenance	\$2,089,999	\$5,790,420	\$4,940,022	
<b>02 – Bridge Painting</b>				
Painting –Structural	\$49,812	\$0	\$0	
<b>03 – Roadway Reconstruction</b>				
Highway relocation (Excluded)	----	----	----	
Highway reconstruction: Added Capacity (Excluded)	----	----	----	
New Construction (Excluded)	----	----	----	
Highway reconstruction - restoration and rehab	\$62,498	\$8,820	\$0	
Highway reconstruction – No added capacity	\$0	\$0	\$0	
Highway reconstruction – Minor widening	\$0	\$0	\$0	
<b>04 – Roadway Resurfacing</b>				
Resurfacing	\$419,860	\$406,463	\$431,477	
<b>05 – Intersection and Safety</b>				
Impact Attenuators	\$20,825	\$12,512	\$11,747	
Safety Improvements	\$5,037	\$0	\$0	
Traffic Signals	\$220,362	\$45,827	\$32,783	
<b>06 – Signs and Lighting</b>				
Lighting and Electrical	\$46,366	\$55,642	\$24,457	
Sign installation/upgrading	\$22,172	\$47,644	\$42,718	
Structural Signing	\$22,835	\$0	\$130	
<b>07 – Guard rail</b>				
Guard rail and fencing	\$78,171	\$109,438	\$127,141	
<b>08 – Maintenance</b>				
Catch Basin Cleaning	\$152,806	\$263,226	\$198,946	
Crack Sealing	\$15,416	\$0	\$17,798	
Landscape and Roadside Development	\$88,907	\$0	\$21,603	
Mowing and Spraying	\$2,619	\$0	\$5,089	
Pavement Marking	\$143,516	\$142,137	\$115,947	
Sewer and Water	\$29,094	\$0	\$16,847	
Process/Recycle/Trnsprt Soils	\$0	\$0	\$0	
Contract Hwy Maint.	\$	\$0	\$187,299	

<b>Section I – Non Federal Aid Maintenance Projects: State Bond Funds</b>				
<b>Program Group/ Sub Group</b>	<b>SFY 2008 NFA Expenditures</b>	<b>SFY 2009 NFA Expenditures</b>	<b>SFY 2010NFA Expenditures</b>	<b>Estimated SFY 2011 NFA Expenditures</b>
<b>09 – Facilities</b>				
Chemical Storage Sheds	\$4,790	\$0	\$456,328	\$0
Vertical Construction	\$0	\$0	\$0	\$0
10 – Bikeways (Excluded)				
<b>11 – Other</b>				
Miscellaneous/No Prequal	\$17,983	\$64,015	\$50,867	\$0
Asbestos	\$0	\$0	\$0	\$0
Demolition	\$0	\$0	\$0	\$0
Drilling and Boring	\$0	\$0	\$4,236	\$0
<b>Section I Total</b>	<b>\$4,026,355</b>	<b>\$24,763,204</b>	<b>\$20,831,645</b>	<b>0</b>

<b>Section II – Non Federal Aid Highway Operations – State Operating Budget Funding</b>				
12- Snow and Ice Operations and Materials	\$3,065,363	\$2,905,936	\$4,093,721	0
13 – District Maintenance (mowing, litter management, sight distance clearing, etc.)	\$691,003	\$703,728	\$694,097	0
<b>Section II Total</b>	<b>\$3,756,366</b>	<b>\$3,609,644</b>	<b>\$4,787,818</b>	<b>0</b>
<b>Grand Total NFA</b>	<b>\$7,782,721</b>	<b>\$28,372,868</b>	<b>25,619,464</b>	<b>0</b>

**TABLE 11  
SUMMARY OF FEDERAL AID OPERATING AND MAINTENANCE EXPENDITURES  
FOR THE NORTHERN MIDDLESEX REGION**

<b>Section I – Federal Aid Maintenance Projects</b>				
<b>Program Group/ Sub Group</b>	<b>SFY 2009 NFA Expenditures</b>	<b>SFY 2010 Federal Aid Expenditures</b>	<b>SFY 2011 Federal Aid Expenditures</b>	<b>Estimated SFY 2012 Federal Aid Expenditures</b>
<b>01- Bridge Repair and Replacement</b>				
New Bridge (Excluded)	----	----	----	
Bridge Replacement (Excluded)	----	----	----	
Bridge reconstruction/rehab	\$203,199	\$1,866,086	\$1,891,382	
Structure maintenance	\$0	\$0	\$0	\$0
<b>02 – Bridge Painting</b>				
Painting –Structural	\$0	\$0	\$0	\$0
<b>03 – Roadway Reconstruction</b>				
Highway relocation (Excluded)	----	----	----	----
Highway reconstruction: Added Capacity (Excluded)	----	----	----	----
New Construction (Excluded)	----	----	----	----
Highway restoration and rehabilitation	0	0	0	0
Highway reconstruction – No added capacity	\$498,386	\$498,881	\$0	\$0
Highway reconstruction – Minor wid	\$1,371,765	\$1,502,587	\$2,349,646	\$0
Highway reconstruction – Major wid	\$0	\$0	\$0	\$0
<b>Section I – Federal Aid Maintenance Projects</b>				
<b>Program Group/ Sub Group</b>	<b>SFY 2008NFA Expenditures</b>	<b>SFY 2009 Federal Aid Expenditures</b>	<b>SFY 2010 Federal Aid Expenditures</b>	<b>Estimated SFY 2011 Federal Aid Expenditures</b>
<b>04 – Roadway Resurfacing</b>				
Resurfacing	\$3,324,072	\$210,709	\$981,773	\$0
<b>05 – Intersection and Safety</b>				
Impact Attenuators	\$3,446	\$0	\$0	\$0
Safety Improvements	\$0	\$0	\$0	\$0
Traffic Signals	\$1,159,906	\$166,496	\$33,824	\$0
<b>06 – Signs and Lighting</b>				
Lighting and Electrical	\$0	\$0	\$0	\$0
Sign installation/upgrading	\$44,951	\$4,422	\$0	\$0
Structural Signing	\$0	\$0	\$0	\$0
<b>07 – Guard rail</b>				
Guard rail and fencing	\$53,934	\$0	\$105	\$0
<b>08 – Maintenance</b>				
Contract Highway Maintenance	\$1,220	\$0	\$2,336	\$0
Landscape and Roadside development	\$5,347	\$0	\$0	\$0
Pavement Marking	\$35	\$0	\$0	\$0
Catch Basin Cleaning	\$0	\$0	\$0	\$0
<b>09 – Facilities</b>				
Vertical Construction	\$0	\$0	\$364	\$0
<b>10 – Bikeways (Excluded)</b>				
<b>11 – Other</b>				
Intelligent Transportation Systems	\$28,669	\$112,696	\$122,570	\$0
Miscellaneous/No Prequal	\$62,107	\$16,753	\$2,972	\$0

Reclamation	\$9,052	\$0	\$0	\$0
Drilling & Boring	\$0	\$0	\$483	\$0
Unknown			\$13,298	\$0
Demolition	\$0	\$0	\$0	\$0
Utilities	\$0	\$0	\$0	\$0
Marine Construction	\$0	\$0	\$2,659	\$0
<b>Section I Total</b>	<b>\$6,766,087</b>	<b>\$4,378,630</b>	<b>\$5,401,413</b>	<b>\$0</b>

<b>Section II – Federal Aid Highway Operations</b>				
<b><i>II - Other</i></b>				
ITS Operations –I-93 HOV Lane Operation and Towing	\$0	\$0	\$0	\$0
ITS Operations – Traffic Operations Center (South Boston)	\$0	\$0	\$0	\$0
<b>Section II Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Grand Total FA</b>	<b>\$6,766,087</b>	<b>\$4,378,630</b>	<b>\$5,401,413</b>	<b>\$0</b>

**TABLE 12: OPERATING AND MAINTENANCE SUMMARY TABLE FOR  
THE LOWELL REGIONAL TRANSIT AUTHORITY**

**STATE FISCAL YEAR 2012**

The numbers below represent actual numbers for the previous year, the current year budget/forecast approved by the LRTA Advisory Board, and projections for the out-years as used in the Program Preview meetings with the State. These numbers indicate that there are sufficient revenues projected to meet the operating needs of the LRTA.

<b>Operating Revenue</b>	<b>SFY 2012</b>	<b>SFY 2013</b>	<b>SFY 2014</b>	<b>SFY 2015</b>	<b>SFY 2016</b>
Farebox	\$1,095,557	\$1,122,946	\$1,151,019	\$1,179,975	\$1,199,500
Section 5307	\$1,900,000	\$2,189,403	\$2,244,138	\$2,300,242	\$2,257,500
Section 5311	-0-	-0-	-0-	-0-	-0-
CMAQ/TDM	-0-	-0-	-0-	-0-	-0-
Fully Funded*	-0-	-0-	-0-	-0-	-0-
Jobs Access/ Reverse Commute	\$158,979	\$35,544	\$4,244	-0-	-0-
Advertising	\$92,250	\$94,556	\$96,920	\$99,343	\$103,317
Interest Income	\$37,750	\$39,544	\$40,382	\$42,267	\$44,380
Rental Income	\$1,000,875	\$1,033,472	\$1,043,809	\$1,064,904	\$1,096,511
State Contract Assistance**	\$2,609,224	\$2,609,224	\$2,687,501	\$2,768,126	\$2,851,170
Local Assessment	\$2,161,142	\$2,215,170	\$2,270,549	\$2,327,313	\$2,385,496
Other: operation and maintenance of No. Billerica station and other miscellaneous revenues	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
<b>TOTAL</b>	<b>\$9,095,777</b>	<b>\$9,419,906</b>	<b>\$9,578,562</b>	<b>\$9,822,170</b>	<b>\$9,977,874</b>

<b>Operating Expenses***</b>	<b>SFY 2012</b>	<b>SFY 2013</b>	<b>SFY 2014</b>	<b>SFY 2015</b>	<b>SFY 2016</b>
<b>TOTAL</b> (see description below)	<b>\$9,095,777</b>	<b>\$9,419,906</b>	<b>\$9,578,562</b>	<b>\$9,822,170</b>	<b>\$9,977,874</b>

\* Federally funded refers to contract work, often to Human Service Agencies

\*\* Operating assistance provided by the State

\*\*\* Description of Operating Expenses: Salaries and wages; fringe benefits; legal, accounting and professional services; promotion/marketing; insurance; equipment leases and rentals; real property leases and rentals; non-capitalized maintenance/repair; fuel costs; tire costs; office supplies and equipment; interest expense; utilities; management fees; travel and training; and other miscellaneous expense items.

**7. Regionally Significant Transportation Projects**

There are six regionally significant projects in Northern Middlesex; the Rt. 110 Minot's Corner Intersection Improvement project in Westford, the Middlesex Turnpike phase III in Bedford and Billerica, the I-93 Tri-Town Interchange, "Lowell Junction," in Tewksbury, Andover and Wilmington, The I-495 ramps at exit 32 in Westford, The I-495 add a lane project in Lowell, Tewksbury, Chelmsford and Lowell, and the replacement of the Rourke Bridge in Lowell. However of these six projects only one, the Minot's corner project in Westford, is programmed in the FY 2012-2015 Transportation Improvement program for the Northern Middlesex region.

**8. Statewide Infrastructure Projects**

The following projects are statewide in nature. For informational purposes, the project listing is provided in Table 13 below. This information will also appear in the FFY 2012-2015 Massachusetts State Transportation Improvement Program.

**TABLE 13:  
STATEWIDE INFRASTRUCTURE ITEMS FOR FFY 2012-2015**

	<i>FFY 2012</i>		<i>FFY 2013</i>		<i>FFY 2014</i>		<i>FFY 2015</i>	
	Federal Funds	Total Cost	Federal Funds	Total Cost	Federal Funds	Total Cost	Federal Funds	Total Cost
Statewide Infrastructure Program	\$4,800,000	\$6,000,000	\$4,800,000	\$6,000,000	\$4,800,000	\$6,000,000	\$4,800,000	\$6,000,000
Statewide Safety Program	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Statewide HSIP Program	\$4,500,000	\$5,000,000	\$4,500,000	\$5,000,000	\$4,500,000	\$5,000,000	\$4,500,000	\$5,000,000
Statewide Safe Routes to Schools Program	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
Statewide CMAQ	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000
Statewide Transportation Enhancements	\$2,800,000	\$3,500,000	\$2,800,000	\$3,500,000	\$2,800,000	\$3,500,000	\$2,800,000	\$3,500,000
Statewide Recreational Trails	\$950,000	\$1,187,500	\$626,400	\$783,000	\$626,400	\$783,000	\$626,400	\$783,000
Statewide ITS Including	\$7,680,000	\$9,600,000	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000
Statewide Design And ROW	\$1,600,000	\$2,000,000	\$1,600,000	\$2,000,000	\$1,600,000	\$2,000,000	\$1,600,000	\$2,000,000
Statewide Interstate Maintenance	\$69,500,000	\$77,222,222	\$67,500,000	\$75,000,000	\$67,500,000	\$75,000,000	\$67,500,000	\$75,000,000
Statewide NHS Preservation	\$9,600,000	\$12,000,000	\$9,600,000	\$12,000,000	\$9,600,000	\$12,000,000	\$9,600,000	\$12,000,000
Statewide Railroad Grade Crossings	\$2,400,000	\$3,000,000	\$400,000	\$500,000	\$400,000	\$500,000	\$400,000	\$500,000
Statewide Transit	\$20,000,000	\$25,000,000	\$0	\$0	\$0	\$0	\$0	\$0
Statewide stormwater retrofits	\$8,000,000	\$10,000,000	\$8,000,000	\$10,000,000	\$8,000,000	\$10,000,000	\$8,000,000	\$10,000,000
Statewide Bridge Repl./ Rehab program	\$98,000,000	\$122,500,000	\$97,186,662	\$121,483,328	\$97,186,662	\$121,483,328	\$97,186,662	\$121,483,328
Statewide Bridge Inspection	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000	\$5,000,000	\$6,250,000
Statewide Bridge Preservation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Award adjustments, change orders, pv changes Etc	\$35,000,000	\$43,750,000	\$35,000,000	\$43,750,000	\$35,000,000	\$43,750,000	\$35,000,000	\$43,750,000
Planning	\$18,400,000	\$23,000,000	\$18,400,000	\$23,000,000	\$18,400,000	\$23,000,000	\$18,400,000	\$23,000,000
DBE, CEPO MISC programs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Regional Major Infrastructure	\$0	\$0	\$17,500,000	\$21,875,000	\$32,000,000	\$40,000,000	\$32,000,000	\$40,000,000
<b>Total Statewide Infrastructure Items:</b>	<b>\$ 296,730,000</b>	<b>\$359,759,722</b>	<b>\$286,413,062</b>	<b>\$347,141,327</b>	<b>\$281,413,062</b>	<b>\$340,891,327</b>	<b>\$300,913,062</b>	<b>\$365,266,327</b>

## 9. TEA-21 Projects

The following projects were contained in TEA-21 as either a High Priority project or under Section 3030. The Route 3 Transportation Improvement Project has been programmed in previous TIP documents. The Lowell-Nashua-Manchester Commuter Rail Extension will be programmed in the New Hampshire STIP. It is mentioned here for informational purposes.

- Route 3 North Transportation Improvement Project from Route 128/I-95 in Massachusetts to the New Hampshire state line: contained in TEA-21 as a High Priority Project for \$6.15 million
- Extension of the MBTA Commuter Rail from Lowell, Massachusetts to Nashua, Manchester and Concord, New Hampshire- contained in Section 3030 of TEA-21 with no funding amount specified.

## 10. Previously Advertised Projects

Table 14 below provides a listing of projects advertised by Mass Highway from 1990 to 2009 for the Northern Middlesex region.

**TABLE 14  
PREVIOUSLY ADVERTISED PROJECTS IN THE NORTHERN MIDDLESEX REGION**

COMMUNITY	PROJECT DESCRIPTION	AD DATE	BID AMOUNT
Tewksbury	Intersection improvements at East St.& Livingston St.	2/19/11	\$743,547
Tewksbury	River Road Roadway reconstruction	9/11/10	\$4,412,896
Tyngsborough	Relocation of Pawtucket Boulevard	9/18/10	\$7,172,662
Lowell	University Ave. Bridge	9/18/11	\$32,448,620
Pepperell	Reconstruct Mill Street Bridge	7/10/10	\$2,036,514
Chelmsford	Parkhurst Road (ARRA)	6/26/10	\$2,106,153
Lowell	Route 38 Resurfacing	9/19/09	\$2,839,920
Westford	Intersection signal installation at Rt. 110 and Rt. 225 (ARRA)	6/20/09	\$2,458,181
Lowell	Rehabilitation of 6 Rt. I-495 Bridges	11/22/08	\$34,392,000
Lowell	Improvements to Hunts Falls and Rotary Bridges over the Merrimack River	9/27/08	\$10,844,655
Tyngsborough	Rehabilitation of Rt. 113 and 3A bridges over the Merrimack River	9/27/08	\$16,394,304
Lowell	Morton St Bridge over B&M railroad	9/20/08	\$2,316,137
Westford	Intersection Improvements at Rt. 110 and Powers Rd.	9/6/08	\$2,458,181
Lowell	Reconstruction of Thorndike, Gorham and Central St	9/22/07	\$3,516,924
Lowell	Signal and Intersection improvements at Rt. 110, Plain St and Pearl St.	8/25/07	\$512,840
Chelmsford/Lowell/Westford	Bruce Freeman Rail Trail	4/7/07	\$4,238,998
Westford	I 495 Resurfacing	2/27/07	\$6,668,617
Lowell	Bridge betterment Wood St. ext. over the	10/28/06	

	Merrimack River		
<b>COMMUNITY</b>	<b>PROJECT DESCRIPTION</b>	<b>AD DATE</b>	<b>BID AMOUNT</b>
Billerica	Andover Road Bridge	09/21/06	\$807,812
Billerica	Concord Road improvements	07/02/05	\$401,160
Chelmsford	Princeton Street Bridge	08/06/05	\$2,147,700
Chelmsford	I-495 resurfacing	03/01/06	\$2,809,882
Chelmsford	Resurfacing of the Lowell Connector	06/12/06	\$518,400
Chelmsford	Intersection improvements at Dalton Road/ Rt. 4 and Parkhurst Road/Route 4	09/22/06	\$266,688
Pepperell	Groton Street Bridge over the Nashua River	09/11/06	\$4,953,560
Dracut	Lakeview Avenue	08/27/05	\$2,629,920
Billerica	Route 4 Bridge over the Concord River	09/24/05	\$4,229,715
Chelmsford	Route 4 intersection improvements at Parkhurst Road and at Dalton Road	09/30/05	\$1,745,437
Billerica	Concord Road reconstruction, Phase 1	9/04	\$3,822,222
Tewksbury	Intersection improvements at Main and Shawsheen	7/04	\$1,279,244
Dracut	Lakeview Avenue Bridge over canal	8/07/04	\$574,422
Westford	I-495 ramp/Boston Road intersection improvements	9/03	1,200,000
Lowell	Aiken Street Bridge over the Northern Canal	2/02	640,000
Lowell	Resurfacing of the Lowell Connector	09/25/06	\$800,000
Lowell, Chelmsford, Westford	Bruce Freeman Bike Path	9/29/01	2,721,400
Chelmsford	Central Square Improvements	9/22/01	
Lowell	Lincoln Street Bridge reconstruction	6/17/00	2,716,589
Tyngsborough	Construction of temporary bridge over the Merrimack River	6/1/02	4,822,082
Billerica	River Street Bridge replacement	6/9/01	2,151,957
Chelmsford, Lowell Tewksbury	I-495 resurfacing	9/23/02	1,719,721
Billerica	George Brown Bridge	2/10/01	6,212,160
Lowell	School Street Bridge	11/11/00	2,903,641
Tewksbury, Andover, Wilmington	Resurfacing and related work on a section of I-93	12/18/93	\$3,598,828
Tewksbury, Andover, Methuen	Sign replacement and updating on I-93	5/12/90	554,414
Billerica, Bedford, Burlington, Chelmsford	Resurfacing and related work on a section of Route 3	11/09/91	1,678,434
Billerica	Safety improvements at three locations	11/03/90	1,204,519
Billerica	Concord Road Bridge over Route 3	5/18/91	1,086,946
Billerica	Resurfacing and related work on Route 129	12/31/93	368,362
Billerica	Pollard Street Bridge over Concord River	12/24/94	1,691,407
Billerica	Resurfacing and related improvements on a section of Route 4	12/31/93	244,158
Billerica, Chelmsford	Resurfacing and related improvements on	10/19/96	436,756

<b>COMMUNITY</b>	<b>PROJECT DESCRIPTION</b>	<b>AD DATE</b>	<b>BID AMOUNT</b>
	a section of Route 3A		
Billerica	Treble Cove Road Bridge over Route 3	12/13/91	998,216
Billerica	Replacement of Gray Street Bridge over the B&M railroad	10/16/93	995,700
Billerica	Reconstruction of Tower Farm Road and a section of Route 3A	12/18/93	547,880
Billerica	Safety improvements at Boston Road, Pollard and Floyd Sts.	12/16/95	1,288,323
Burlington to Tyngsborough	Traffic sign replacement along Route 3	11/18/95	1,973,279
Chelmsford	Micro resurfacing on a section of Route 110	12/7/96	249,864
Chelmsford, Lowell	Sign replacement along the Lowell Connector	8/13/94	460,218
Chelmsford, Lowell, Tyngsborough, Westford	Resurfacing and related work along Route 3	10/26/91	6,482,642
Chelmsford	Reconstruction of the Princeton Street Bridge over the B&M	2/8/97	1,071,252
Chelmsford, Lowell	Safety improvements at 4 locations	7/14/90	\$944,430
Chelmsford, Lowell	Resurfacing and related work on a section of Route 3A	11/1/97	287,982
Chelmsford, Tyngsborough	Resurfacing and related work on a section of Route 3A	1/25/97	808,803
Chelmsford	Safety improvements at Vinal Square	10/23/93	152,205
Chelmsford, Lowell, Tewksbury and Westford	Bridge betterment at 12 locations on I-495	8/11/90	1,792,200
Chelmsford	Rest Area construction on I-495 northbound	12/27/97	1,988,299
Chelmsford	Traffic safety improvements and signals at the intersection of North Road and Princeton Blvd.	11/5/94	494,965
Chelmsford	Bridge betterment at 4 locations on I-495	8/15/92	1,327,837
Chelmsford	Construction of Rest Area on I-495 southbound	10/31/98	3,165,573
Dracut	Phineas Street Bridge replacement over Beaver Brook	9/25/93	1,875,761
Dracut	Intersection improvements- Bridge St./Cross/and Marsh Hill Road	12/9/95	\$670,000
Dracut/Methuen	Resurfacing and related work on Route 110	12/2/95	243,172
Dracut	Resurfacing and related work on Route 113	11/14/92	737,413
Dracut, Lowell	Resurfacing and related work on Route 110	8/1/92	451,596
Pepperell/Groton	Bridge replacement on Route 119/111 over the Nashua River	12/27/97	1,915,897
Pepperell, Groton, Littleton	Resurfacing of a section of Route 119	11/27/93	\$1,553,350
Westford, Littleton	Resurfacing and related work on I-495	8/25/07	\$7,426,540

Westford, Littleton	Bridge betterment-- 3 bridges on I-495	8/18/90	442,485
<b>COMMUNITY</b>	<b>PROJECT DESCRIPTION</b>	<b>AD DATE</b>	<b>BID AMOUNT</b>
Westford, Littleton	Resurfacing on Powers Road	12/21/91	242,290
Lowell, Tewksbury	Reconstruction of a section of Route 38	12/18/93	852,216
Lowell	Resurfacing - the Lowell Connector and Industrial Avenue	8/13/94	99,772
Lowell	Traffic signal improvements at VFW Highway and Aiken Street	10/03/92	154,637
Lowell	Safety improvements at three locations on Route 38	12/25/93	446,706
Lowell	Lundberg Street Bridge replacement M	12/31/94	1,179,626
Lowell	Plain Street Bridge replacement	12/12/92	813,949
Lowell	YMCA Drive/Hale Street Bridge replacement over the railroad	12/24/94	1,448,503
Lowell	Reconstruction and widening of a section of Pawtucket Blvd.	4/28/90	3,429,541
Lowell	Wilder Street Bridge reconstruction	12/2/95	391,258
Lowell	Safety improvements at 2 locations	9/26/92	246,970
Lowell	Roadway reconstruction and signalization at three locations	3/21/98	720,075
Lowell	Safety improvements at 2 locations	8/21/92	\$200,357
Lowell	Safety improvements at Monument Sq.	5/29/93	731,248
Lowell	Installation of signals and related work at 3 locations	12/28/91	299,857
Lowell	Reconstruction of School Street viaduct	10/17/92	5,047,576
Lowell	Bridge Street Bridge over Merrimack	12/26/98	2,720,266
Lowell	Jefferson Street Bridge replacement	2/21/98	248,246
Lowell	Aiken Street Bridge reconstruction	1/4/97	7,012,976
Lowell	Walker Street Bridge reconstruction	5/30/92	146,560
Lowell	Moody Street Bridge rehab over the Western Canal	12/25/93	292,700
Lowell	Rourke Bridge rehab over the Merrimack River	8/29/92	189,500
Lowell	Bridge Street Bridge rehab	11/26/94	2,081,543
Lowell	Resurfacing and related work on a section of the VFW Highway and Route 113	12/24/94	1,724,035
Lowell	Boylston St. Bridge replacement over the B&M	9/14/96	1,146,397
Lowell	Safety improvements at the intersection of Rogers Street and Nesmith Street	10/7/95	223,924
Lowell	Safety improvements at the intersection of Aiken St./Lakeview and W. Sixth St.	8/31/91	\$152,927
Pepperell	Reconstruct Driveways, wheelchair ramps and sidewalks on Main Street	7/21/90	49,866
Pepperell	Replace Prescott Street Bridge over the Nissitissitt River	5/1/93	586,956
Tewksbury	Traffic signal update at 2 locations on	5/18/91	260,342

	Route 38		
<b>COMMUNITY</b>	<b>PROJECT DESCRIPTION</b>	<b>AD DATE</b>	<b>BID AMOUNT</b>
Tewksbury	Safety improvements at the intersection of Main Street and Pleasant Street	5/18/91	278,392
Tewksbury	Bridge Deck replacement on the Route 38 over the B&M	10/13/90	919,951
Tewksbury	Roadway reconstruction on a section of Route 133	3/1/97	1,395,367
Tewksbury	Route 38 Bridge replacement over the Shawsheen River	12/30/95	814,649
Tewksbury	Resurfacing and related work on a section of Route 38	9/10/94	258,947
Tyngsborough	Resurfacing of a section of Middlesex Road	12/17/94	280,315
Tyngsborough	Reconstruction of the intersections of Middlesex Road with Kendall Road and Westford Road	8/21/93	318,449
Tyngsborough	Resurfacing and related work on a section of Route 3A	9/30/95	283,099
Tyngsborough	Roadway reconstruction and related work on a section of Lakeview Avenue and Parham Road	12/24/94	1,068,591
Tyngsborough	Locust Avenue Bridge repair over Route 3	4/8/95	\$323,739
Tyngsborough	Signalization of the intersection of Westford Road/Dunstable Road and Middlesex Road and Locust Ave.	5/10/97	254,994
Westford	Safety improvements and signalization at the intersection of Route 40, Depot Street and Tyngsborough Road	3/9/94	260,502
Westford	Reconstruction of Route 110	3/03/90	880,674
Westford	Graniteville Road Bridge replacement	7/13/91	156,400

## **11. Air Quality Conformity Determination**

### **Northern Middlesex MPO**

#### **FFY 2012-2015 Transportation Improvement Program**

##### **Background**

The Commonwealth of Massachusetts is classified as serious nonattainment for ozone, and is divided into two nonattainment areas. The Eastern Massachusetts ozone nonattainment area includes Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Suffolk, and Worcester counties. Berkshire, Franklin, Hampden, and Hampshire counties comprise the Western Massachusetts ozone nonattainment area. With these classifications, the 1990 Clean Air Act Amendments (CAAA) required the Commonwealth to reduce its emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx), the two major precursors to ozone formation to achieve attainment of the ozone standard.

In 2002, the cities of Lowell, Waltham, Worcester and Springfield were re-designated to attainment for carbon monoxide with EPA-approved limited maintenance plans. In 1996, the communities of Boston, Cambridge, Chelsea, Everett, Malden, Medford, Quincy, Revere, and Somerville were classified as attainment for carbon monoxide (CO). Air quality conformity analysis must still be completed in these communities, as they have a carbon monoxide maintenance plan approved into the State Implementation Plan (SIP). The year 2010 carbon monoxide motor vehicle emission budget established for the Boston CO attainment area with a maintenance plan is 228.33 tons of carbon monoxide per winter day.

The CAAA also required Metropolitan Planning Organizations (MPOs) within nonattainment areas to perform conformity determinations prior to the approval of their Regional Transportation Plans (RTPs) and Transportation Improvement Programs (TIPs). Periodically, air quality analyses are conducted on all the RTPs, the purposes of which are to evaluate the RTPs' air quality impacts on the SIP. Conformity determinations are then performed to ensure that all regionally significant projects are included in the RTPs and the TIPs, and that they meet the air quality goals of the SIP. The Federal Highway Administration (FHWA) – in consultation with the Environmental Protection Agency (EPA New England) and the Massachusetts Department of Environmental Protection (DEP) – confirm and approve these conformity determinations (more details and background of major conformity milestones in recent years are provided in the Northern Middlesex MPO 2012 Regional Transportation Plan).

Previously, the Massachusetts Department of Transportation found the emission levels from the 2007 Regional Transportation Plans – as well as from the more recent 2011-2014 TIPs – to be in conformance with the SIP. Each MPO had certified (and continues to certify) that all activities outlined in its RTP and its TIP:

- will not cause or contribute to any new violation of any standard in any area;
- will not increase the frequency or severity of any existing violation of any standard in any area; and,
- will not delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area.

Key elements of this FY 2012–2015 TIP related to air quality conformity are as follows:

- This TIP is financially constrained, and all projects in the TIP come from the conforming Northern Middlesex MPO 2012 Regional Transportation Plan.

- All regionally significant projects included in the TIP have been included in the air quality analysis for the conforming Plan. These projects are of the same design and concept as presented in the RTP.
- Because projects in the TIP come from the conforming RTP, *and* all regionally significant RTP projects for 2012 through 2015 (both Federal and Non-Federal Aid) are programmed in the TIP, the same air quality analysis used for the RTP can be used for the TIP.
- Therefore, same set of analysis results are being used in both this TIP and the Northern Middlesex MPO 2012 RTP for determinations of air quality conformity.
- Therefore, this TIP, in combination with the TIPs from the other MPOs in the nonattainment area, demonstrates air quality conformity.

### **Timely Implementation of Transportation Control Measures**

Transportation Control Measures (TCMs) have been required in the SIP in revisions submitted to EPA in 1979 and 1982. All SIP TCMs have been accomplished through construction or through implementation of ongoing programs. All of the projects have been included in the Region's Transportation Plan (present of past) as recommended projects or projects requiring further study.

DEP submitted to EPA its strategy of programs to show Reasonable Further Progress of a 15% reduction of VOCs in 1996 and the further 9% reduction of NO<sub>x</sub> toward attainment of the National Ambient Air Quality Standards (NAAQS) for ozone in 1999. Within that strategy there are no specific TCM projects. The strategy does call for traffic flow improvements to reduce congestion and, therefore, improve air quality. Other transportation-related projects that have been included in the SIP control strategy are listed below:

- *Enhanced Inspection and Maintenance Program*
- *California Low Emission Vehicle Program*
- *Reformulated Gasoline for On- and Off-Road Vehicles*
- *Stage II Vapor Recovery at Gasoline Refueling Stations*
- *Tier I Federal Vehicle Standards*

### **Air Quality Conformity Analysis**

On April 2, 2008, EPA found that the 2008 and 2009 motor vehicle emissions budgets (MVEBs) in the January 31, 2008 Massachusetts 8-hour ozone State Implementation Plan revision were adequate for transportation conformity purposes. The submittal included 2008 and 2009 MVEBs for the Boston-Lawrence-Worcester (Eastern Massachusetts) and Springfield (Western Massachusetts) 8-hour ozone nonattainment areas. Massachusetts submitted these budgets as part of the 8-hour ozone attainment demonstration and reasonable further progress plan for both nonattainment areas, and as a result of EPA's adequacy finding, these budgets were required to be used for conformity determinations. EPA later determined (in 2010) that only the most recent MVEBs - 2009 - be used for future conformity determinations.

In 2010, air quality analyses were conducted on behalf of all the 2011-2014 Regional Transportation Improvement Programs (TIPs), the purposes of which were to evaluate the TIPs' air quality impacts on the SIP. Conformity determinations were performed to ensure that all regionally significant projects were included in the TIPs. The Massachusetts Department of Transportation found the emission levels from the 2011-2014 TIPs to be in conformance with the SIP. On November 15, 2010, EPA confirmed that both the Eastern and Western Massachusetts Non-Attainment areas collectively demonstrated transportation conformity, with concurrence from Massachusetts DEP on 11/23/10. On December 22, 2010, FHWA and FTA determined that the TIPs were in conformity with the Clean Air Act and the EPA conformity regulations (40 CFR Part 51).

The conformity test is to show consistency with the emissions budgets set forth in the SIP. Additional specific information regarding the analysis and modeling methods, latest planning assumptions, and consultation procedures are all detailed in the Northern Middlesex MPO 2012 RTP. The emissions from the following MPOs have been combined to show conformity with the SIP for the Eastern Massachusetts Ozone Nonattainment Area:

- Cape Cod MPO
- Central Massachusetts MPO
- Merrimack Valley MPO
- Boston MPO
- Montachusett Region MPO
- Northern Middlesex MPO
- Old Colony MPO
- Southeastern Region MPO
- Martha's Vineyard Commission\*
- Nantucket Planning and Economic Development Commission\*

\* These regions do not contain any official urbanized areas, but are considered to be MPOs for planning purposes.

The milestone and analysis year transportation model networks are composed of projects proposed in this 2012-2015 TIP. Projects in these networks consist of all in-place “regionally significant” projects that can reasonably be expected to be completed by a given analysis/horizon year with consideration of available funding commitments. This project group would include, but not be limited to, regionally significant projects where at least one of the following steps has occurred within the past three years:

- Comes from the first year of a previously conforming TIP,
- Completed the NEPA process, or
- Currently under construction or are undergoing right-of-way acquisition

A complete listing of future regionally significant projects for the entire Eastern Massachusetts Ozone Non-Attainment Area is provided below

**Regionally Significant Projects Included in the Regional Transportation Models for the Eastern Massachusetts Ozone Non-Attainment Area**

<b>Analysis Year</b>	<b>Community</b>	<b>Description of Projects Under Construction – Boston Region</b>
2016	Bedford, Burlington	Middlesex Turnpike Improvements Phases 1 and 2
2016	Bellingham	Pulaski Boulevard
2016	Boston	Fairmount Line Improvements, including new stations
2016	Boston	East Boston Haul Road/Chelsea Truck Route (new grade separated roadway)
2016	Concord, Lincoln	Route 2/Crosby's Corner (grade separation)
2016	Danvers	Route 128/Route 35 and Route 62
2016	Hudson	Route 85 (capacity improvements from Marlborough TL to Rt 62)
2016	Marshfield	Route 139 Widening (to 4 lanes between School St. and Furnace St.)
2016	Quincy	Quincy Center Concourse, Phase 2 (new roadway: Parking Way to Hancock
2016	Randolph to Wellesley	Route 128 Additional Lanes
2016	Somerville	Assembly Square Orange Line Station

2016	Somerville	Assembly Square Roadways (new and reconfigured)
2016	Weymouth, Hingham, Rockland	South Weymouth Naval Air Station Access Improvements
2016	Regionwide	1000 Additional Park and Ride Spaces
<b>Analysis Year</b>	<b>Community</b>	<b>Description of Recommended Plan Projects– Boston Region</b>
2016	Beverly	Beverly Station Commuter Rail Parking Garage
2016	Boston	Conley Haul Road
2016	Salem	Salem Station Commuter Rail Parking Garage Expansion
2016	Somerville, Cambridge, Medford	Green Line Extension to Medford Hillside/Union Square
2016	Weymouth	Route 18 Capacity Improvements
2020	Bedford, Burlington, Billerica	Middlesex Turnpike Improvements Phase 3 – widening Plank St. to Manning
2020	Boston	Sullivan Square/Rutherford Avenue Improvements
2020	Hanover	Route 53 Final Phase (widening to 4 lanes between Rt 3 and Rt 123)
2020	Salem	Bridge Street (widening to 4 lanes between Flint and Washington St.)
2020	Somerville, Medford	Green Line Extension to Mystic Valley Parkway (Route 16)
2025	Canton	I-95 (NB)/Dedham Street Ramp/Dedham Street Corridor (new ramp with widening on Dedham St. from I-95 to University Ave.)
2025	Canton	I-95/I-93 Interchange (new direct connect ramps)
2025	Newton, Needham	Needham Street/Highland Avenue (includes widening Charles River Bridge)
2025	Woburn	Montvale Avenue (widening between Central St. to east of Washington St.)
2025	Woburn	New Boston Street Bridge (reestablish connection over MBTA Lowell line)
2035	Braintree	Braintree Split - I-93/Route 3 Interchange
2035	Framingham	Route 126/135 Grade Separation
2035	Reading, Woburn, Stoneham	I-93/I-95 Interchange (new direct connect ramps)
2035	Revere, Malden, Saugus	Route 1 (widening from 4 to 6 lanes between Copeland Circle and Rt. 99)
2035	Wilmington	Tri-Town Interchange (new “Lowell Junction” interchange on I-93 between Route 125 and Dascomb Rd.)
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description - Cape Cod Region</b>
2020	Barnstable	Yarmouth Rd. /Rt 28 (widening to 4 lanes) with Hyannis Access Improvements
2025	Bourne	Route 6 Exit 1 WB on-ramp changes and interchange improvements
2035	Bourne	Route 25 Access Ramp widening / Belmont Circle two-way travel
2035	Capewide	Daily Passenger Rail Service: Hyannis to Buzzard’s Bay, Middleborough
2035	Mashpee	Mashpee Rotary Ring Roads (connectors, Great Neck Rd, Routes 28 and 151)
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description - Central Massachusetts Region</b>
2016	Northborough	Rt 20 Church to South, signal coordination in corridor
2016	Shrewsbury/Worcester	Rt 9 Bridge over Lake Quinsigamond: widening, additional lane each direction
2016	Auburn	Rt 12/20 to Auburn TL capacity improvements and raised median
2016	Worcester	Lincoln/Highland/Pleasant Streets intersection corridor improvements, minor widening, select signal coordination
2016	Worcester	Route 20 Widening to a consistent 4 lanes
2020	Charlton, Oxford	Route 20 Widening to a consistent 4 lanes
2025	Westborough, Hopkinton	I-90/I-495 and I-495/Rt 9 Interchange Improvements (CD or frontage roads)
2035	Worcester	Route 122/122A Madison St/Chandler St. Kelley Square to Pleasant St: various improvements and signal coordination
2035	Worcester	I-290 Hope Ave. (to full interchange and roundabout at Webster and Hope)
2035	Millbury, Sutton	Route 146 Improvements: Route 122A to Central Turnpike
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Martha’s Vineyard Region</b>
n/a	n/a	none
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Merrimack Valley Region</b>
2016	Amesbury	Route 110 from I-495 to I-95 (widen from 2 lanes to 4)
2020	Newburyport, Amesbury	I-95 over Merrimack River (Whittier Bridge widening from 6 to 8 lanes)
2020	Methuen	Route 110/113 (Methuen Rotary – new interchange ramps at I-93)

2025	Lawrence, North Andover	Route 114 (widening from I-495 to Waverly Road)
2035	Andover	Tri-Town Interchange (new “Lowell Junction” interchange on I-93 between Route 125 and Dascomb Rd.) and I-93 widening to 4 lanes in each direction from new interchange/current “lane drop” area to I-495.
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Montachusett Region</b>
2016	Fitchburg/Westminster	New Wachusett Commuter Rail Station
2016	Ayer to South Acton	Fitchburg Line Commuter Rail Improvements (double track)
2020	Leominster	Route 13 Hawes St. to Prospect St. (some widening, new signals, etc)
2025	Athol	New Interchange on Route 2 at South Athol Road
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Nantucket Region</b>
n/a	n/a	none
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Northern Middlesex Region</b>
2016	Westford	Route 110 Minot’s Corner to Nixon widen to 4 lanes
2020	Billerica	Middlesex Turnpike Improvements Phase 3 – widening Plank St. to Manning
2035	Tewksbury	Tri-Town Interchange (new “Lowell Junction” interchange on I-93 between Route 125 and Dascomb Rd.) and I-93 widening to 4 lanes in each direction from new interchange/current “lane drop” area to I-495.
2035	Westford	I-495 at Boston Road (Exit 32) widening of on and off ramps
2035	Lowell, Tewksbury, Chelmsford, and Westford	I-495 Additional travel lane each direction between Exits 32 and 35 and between Exits 37 and 40
2035	Lowell	Wood Street, Rourke Bridge: new bridge, widening and corridor improvements
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Old Colony Region</b>
2016	Abington	Route 18 - Widening to 4 Lanes from Route 139 to Highland Rd.
2020	Brockton	Route 123 - Widen from Route 24 to Angus Beaton Drive
2020	Bridgewater	Route 24 - Add Northbound Slip Ramp from Route 104 WB to Route 24 NB
2020	Plymouth	Route 3 - Add Northbound on-Ramp at Long Pond Road (Exit 5)
2020	Plymouth	Long Pond Road Bridge widening (Exit 5)
2025	Brockton	Main Street, Warren Avenue, Spring Street, West Elm Street, Belmont Street - Reestablish Two-Way Circulation
2025	West Bridgewater	Route 106 - Widening from 2 to 4 Lanes between Route 24 and Route 28
2035	Plymouth	Route 3 – Add NB Off-ramp to Plimouth Plantation Hwy (Exit 4)
2035	Plymouth	Route 25 - Add New Interchange Before Exit 1 and connect to Bourne Road
2035	West Bridgewater	Route 28, Route 106, Central Square Signal and intersection coordination
<b>Analysis Year</b>	<b>Community</b>	<b>Project Description – Southeastern Massachusetts Region</b>
2016	Fall River, Somerset	New Brightman Street Bridge - capacity improvements to 4 lane divided facility
2016	Fall River	Route 79/Davol Street (interchange improvements and new traffic circulation)
2016	Freetown	Route 24 - New Interchange (Exit 8 ½)
2016	Mansfield	Route 140 / I-495 New Southbound On-Ramp
2020	Dartmouth	Route 6 (Faunce Corner Rd) / I-195 Interchange - Bridge Widening to 5 Lanes
2035	Taunton	Route 24 / 140 - Interchange Reconstruction

Using the latest planning assumptions, the Massachusetts Department of Transportation, Office of Transportation Planning, in coordination with MPO staff, estimated the emissions for VOC and NOx for all MPOs in Eastern Massachusetts through a combination of the statewide and Boston Region travel demand models. The VOC mobile source emission budget for 2009 and beyond for the Eastern Massachusetts Nonattainment Area has been set at 63.50 tons per summer day and the 2009 (and beyond) mobile source budget for NOx is 174.96 tons per summer day. As shown in Tables 1 and 2, the results of the air quality analysis demonstrate that the VOC and NOx emissions from all Action scenarios are less than the VOC and NOx emissions budgets for the Eastern Massachusetts Nonattainment Area:

**TABLE 17**  
**VOC Emissions Estimates for the Eastern Massachusetts Ozone Nonattainment Area**  
**(all emissions in tons per summer day)**

<b>Year</b>	<b>Northern Middlesex MPO Action Emissions</b>	<b>Eastern MA Action Emissions</b>	<b>Budget</b>	<b>Difference (Action – Budget)</b>
2010	n/a	64.974	n/a	n/a
2016	1.8838	36.232	63.50	-27.268
2020	1.6655	32.386	63.50	-31.114
2025	1.5510	30.988	63.50	-32.512
2035	1.5914	31.063	63.50	-32.437

**TABLE 38**  
**NOx Emissions Estimates for the Eastern Massachusetts Ozone Nonattainment Area**  
**(all emissions in tons per summer day)**

<b>Year</b>	<b>Northern Middlesex MPO Action Emissions</b>	<b>Eastern MA Action Emissions</b>	<b>Budget</b>	<b>Difference (Action – Budget)</b>
2010	n/a	178.925	n/a	n/a
2016	3.4034	66.219	174.96	-108.741
2020	2.1967	45.188	174.96	-129.772
2025	1.6347	36.521	174.96	-138.439
2035	1.4122	29.038	174.96	-145.922

In summary, this TIP is derived from the conforming 2012 Regional Transportation Plan, and the conformity determination analysis has been prepared in accordance with EPA’s final conformity regulations. The air quality analyses outlined in this document demonstrate that the implementation of the TIP satisfies the conformity criteria where applicable and is consistent with the air quality goals in the Massachusetts SIP.

Specifically, the Northern Middlesex MPO has found the emission levels from this FY 2012-2015 TIP – in combination with the emission levels from the other MPOs in its nonattainment area – demonstrate conformity with the SIP, the Clean Air Act, and the EPA conformity regulations (40 CFR part 51).

**APPENDIX A: PUBLIC PARTICIPATION PLAN**

