



Montachusett Metropolitan Planning Organization

May 2005 Endorsement of the

2003 Regional Transportation Plan

and

2005 – 2009 Transportation Improvement Program:

Re-Determination of Air Quality Conformity

Whereas the 1990 Clean Air Act Amendments (CAAA) require Metropolitan Planning Organizations within ozone non-attainment areas 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, the Committee of Signatories representing the Metropolitan Planning Organization (MPO) for the Montachusett Region, in accordance with 23 CFR Part 450 Sections 322 and 324 of the October 28, 1993 Final Rules for Statewide and Metropolitan Planning, hereby endorses the 2003 Regional Transportation Plan (RTP) and the 2005-2009 Transportation Improvement Program (TIP).

Specifically, the MPO for the Montachusett Region has completed its review in 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 implementation of the Montachusett MPO 2003 Regional Transportation Plan (RTP) and the Montachusett MPO 2005-2009 Transportation Improvement Program (TIP) satisfy the conformity criteria specified in both 40 CFR Parts 51 and 93 (August 15, 1997) and 310 CMR 60.03 (December 30, 1994). This conformity determination is based on the air quality documentation contained in this RTP and TIP, together with the supplemental document "Air Quality Conformity Determination for the Montachusett Metropolitan Planning Organization, May 2005." The RTP continues to include all regionally significant, non-exempt projects as contained in the previously endorsed plan, while the TIP reflects these same projects and does not add, delete nor reprogram any such projects across analysis years. Based on the results of the conformity analyses (required due to the designation of the 8-hour ozone non-attainment area standard and subsequent revocation of the 1-hour ozone standard as of June 15, 2005), both the Montachusett Region 2003 Regional Transportation Plan and the Montachusett MPO 2005-2009 Transportation Improvement Program continue to be consistent with the air quality goals of, and in conformity with, the Massachusetts State Implementation Plan.

*John Ziemba, Acting Secretary
Executive Office of Transportation & Construction*

*John Cogliano, Commissioner
Massachusetts Highway Department*

*David Jarvenpaa, Chairman
Montachusett Regional Planning Commission*

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Representative, Sub Region 7*

Date

SIGNED MPO ENDORSEMENT PAGE ON FILE AT MRPC OFFICES

Air Quality Conformity Determination for the Montachusett Metropolitan Planning Organization, May 2005

MPO ENDORSED April 26, 2005

A. INTRODUCTION

The 1990 Clean Air Act Amendments (CAAA) require Metropolitan Planning Organizations within ozone non-attainment areas 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. Conformity is a way to ensure that federal funding and approval goes to those transportation activities that are consistent with air quality goals. Due to changes to the National Ambient Air Quality Standards for ground-level ozone, and since Massachusetts has been found to be in non-attainment for those standards, a re-determination of conformity is required at this time, as required by Federal Regulations 40 CFR Part 93, and the Massachusetts Conformity Regulations (310 CMR 60.03). Additional detailed information regarding regulatory framework, conformity requirements, latest planning assumptions, and conformity consultation procedures can be found in the 2003 Regional Transportation Plan of the Montachusett MPO.

B. BACKGROUND

Eastern Massachusetts has been classified as a “non-attainment area” for ozone (O₃). This area includes all of Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Suffolk, and Worcester counties. With this non-attainment classification, the CAAA require the Commonwealth to reduce its emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x), the two major precursors to ground-level ozone formation, to achieve attainment of the ozone standard.

On September 6, 2002, the Massachusetts Department of Environmental Protection (DEP) submitted to EPA a revision to the Massachusetts State Implementation Plan (SIP) that included a revised one-hour ozone attainment demonstration plan for Eastern Massachusetts. This SIP revision included a 2007 mobile source emission budget for the Eastern Massachusetts Ozone Non-Attainment Area. EPA found this budget adequate for conformity purposes on December 6, 2002.

In 2004, EPA adopted a new 8-hour ozone standard to replace the previous 1-hour standard. The new standard is violated if the three-year average of the fourth-highest 8-hour ozone concentration at any one monitoring location equals or exceeds 0.85 parts per million of ozone. On April 15, 2004, EPA announced the 8-hour ozone non-attainment area designations, which went into effect on June 15, 2004. All of Massachusetts, Connecticut, and Rhode Island, and parts of New Hampshire and Maine, are classified as being in non-attainment. Massachusetts has two moderate non-attainment areas under the 8-hour ozone standard: the Boston-Lawrence-Worcester (Eastern Massachusetts) Area, and the Springfield (Western Massachusetts) Area. Concurrent with those designations, EPA announced that the 1-hour ozone standard would be revoked as of June 15, 2005. Conformity determinations made under the 1-hour standard, including the determination currently in effect for Eastern Massachusetts, would lapse upon its revocation; therefore, new

conformity determinations based on the 8-hour standard for metropolitan area long-range transportation plans and TIPs must be in place by June 15, 2005 to avoid a conformity lapse and a resulting potential delay or loss of federal transportation funding.

C. CONFORMITY DETERMINATIONS

In 2003, air quality analyses were conducted on behalf of all the 2003 Regional Transportation Plans, the purposes of which were to evaluate the RTPs' air quality impacts on the State Implementation Plan. Conformity determinations were performed to ensure that all regionally significant projects were included in the RTPs.

Accordingly, the Executive Office of Transportation found the emission levels from the 2003 Regional Transportation Plan updates to be in conformance with the SIP. The Montachusett MPO certified that all activities outlined in the 2003 Montachusett Regional Transportation Plan:

- *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*
- *will not delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area*

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.

CATEGORY IA

<u>TCM</u>	<u>Action</u>	<u>Status</u>
Improved Public Transit	<ul style="list-style-type: none"> • operating assistance for commuter rail • operating assistance for fixed route & special service in Fitchburg & Leominster • operating assistance for fixed route & special service in Gardner • capital improvements for vehicle acquisition • provision of special services transportation/subsidy in Ayer & Lancaster 	<ul style="list-style-type: none"> • Continuing • Continuing • Continuing • On going • On going
Park & Ride, Fringe Lots	provision of commuter parking at Ayer, Fitchburg, Gardner, Leominster, Littleton, Shirley & Searstown Mall	<ul style="list-style-type: none"> • On going; expansion of Leominster & Fitchburg; Searstown Mall no longer used.
Employer Based Carpool & Vanpool	<ul style="list-style-type: none"> • implementation of carpool incentive program w/firms of 100 or more employees • implementation of carpool incentive program w/firms of 500 or more employees • implementation of employer sponsored transit usage promotion w/firms of 100 or more employees 	<ul style="list-style-type: none"> • Discontinued • Discontinued • Discontinued

	• implementation of employer provided commuter parking availability w/firms of 100 or more employees	• Discontinued
Variable Work Hours	• implementation of variable work hours/flex time programs w/firms of 100 or more employees	• Discontinued
Traffic Flow Improvements	• reconstruction and realignment of Rt. 31, Ashby	• Completed

CATEGORY IB

<u>TCM</u>	<u>Action</u>	<u>Status</u>
Improved Public Transit	• provision of special services transportation/subsidy in Ashburnham, Shirley & Winchendon	• Expanded to include Ashburnham, Fitchburg, Gardner, Hardwick, Hubbardston, Leominster, Littleton, Lunenburg, Sterling, Templeton, Westminster; not Shirley & Winchendon
Traffic Flow Improvements	<ul style="list-style-type: none"> • intersection & signalization improvements at 9 locations in Leominster • reconstruction & intersection improvements to Main St, Fitchburg • reconstruction of 4.7 mile segment of Rt. 2 in Fitchburg & Westminster • reconstruction & signalization improvements to Main St, Gardner 	<ul style="list-style-type: none"> • Completed • Completed • Completed • Completed

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 NOx 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

The conformity test is to show consistency with the emissions budgets set forth in the SIP. Specific information regarding the analysis methods, latest planning assumptions, and consultation procedures are all detailed in the 2003 RTP. The estimated emissions for the Eastern Massachusetts Ozone Nonattainment Area include all the following MPOs:

- 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 Economical Development Commission*

* These regions are considered to be MPOs for planning purposes.

Horizon years for transportation model and emissions analysis have been established following 40 CFR 93.106(a) of the Federal Conformity Regulations. The years for which the model(s) were run are shown below:

- 1990 - Milestone Year - This year was established as the original base year in the SIP for calculation of emission reductions of VOCs, NOx and CO (This year has become outdated and is no longer represented in the modeling).
- 2000 - Milestone Year – This year is currently being used by the statewide travel demand model as the new base year for calculation of emission reductions of VOCs and NOx.
- 2007 - Milestone Year
- 2010 - Milestone Year – Attainment year
- 2015 - Analysis Year
- 2025 - Horizon Year – last forecast year of transportation plan

Conformity is demonstrated by showing consistency with the mobile source emission budget for the Eastern Massachusetts Ozone Non-attainment Area.

The Executive Office of Transportation, Office of Transportation Planning estimated the emissions for VOC and NOx for all areas and all MPOs (emissions for the Boston Region were estimated by MPO staff and were included in the final totals). The VOC mobile source emission budget for 2007 for the Eastern Massachusetts Ozone Nonattainment Area has been set at 86.700 tons per summer day and the 2007 mobile source budget for NOx is 226.363 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 Ozone Nonattainment Area*:

TABLE 1
VOC Emissions Estimates for the Eastern Massachusetts Ozone Non-attainment Area
(all emissions in tons per summer day)

Year	Montachusett Region Action Emissions	Eastern MA Action Emissions	Budget	Difference (Action – Budget)
2000	n/a	166.545	n/a	n/a
2007	3.4986	83.471	86.700	- 3.229
2010	2.6355	63.401	86.700	-23.299
2015	1.7665	42.401	86.700	- 44.299
2025	1.3566	33.438	86.700	- 53.262

TABLE 2
NOx Emissions Estimates for the Eastern Massachusetts Ozone Non-attainment Area
(all emissions in tons per summer day)

Year	Montachusett Region Action Emissions	Eastern MA Action Emissions	Budget	Difference (Action – Budget)
2000	n/a	287.877	n/a	n/a
2007	9.4010	224.870	226.363	- 1.493
2010	6.7321	165.367	226.363	-60.996
2015	3.2322	84.881	226.363	- 141.482
2025	1.3957	41.646	226.363	- 184.717

D. CONCLUSION

The Montachusett Region MPO has conducted an air quality analysis of the 2003 Montachusett Regional Transportation Plan and its latest conformity determination. The purpose of the analysis is to evaluate the air quality impacts of the Plan on the SIP. The analysis evaluates the change in ozone precursor emissions (VOCs, and NOx) due to the implementation of the 2003 Montachusett Regional Transportation Plan. The modeling procedures and assumptions used in this air quality analysis follow guidance from EPA and the Commonwealth and are consistent with all present and past procedures used by the Massachusetts DEP to develop and amend the SIP.

The EOT has found the emission levels from all areas and all MPOs in Eastern Massachusetts – including from the 2003 Montachusett Regional Transportation Plan – to be in conformance with the SIP according to conformity criteria. Specifically, the following conditions are met:

- The VOC emissions for the Action (build) scenarios are less than the 2007 VOC mobile source emission budget for analysis years 2007 through 2025.
- The NOx emissions for the Action (build) scenario are less than the 2007 NOx mobile source emission budget for analysis years 2007 through 2025.

In accordance with Section 176(c)(4) of the Clean Air Act as amended in 1990, the MPO for the Montachusett Region has completed its review and hereby certifies that the 2003 Montachusett Regional Transportation Plan and its latest conformity determination conditionally conforms with 40 CFR Part 93, and 310 CMR 60.03, and is consistent with the air quality goals in the Massachusetts State Implementation Plan.

Public Participation Procedures

Title 23 CFR Section 450.324 and 310 CMR 60.03(6)(h) require that the development of the Regional Transportation Plan, TIP, and related certification documents provide an adequate opportunity for public review and comment. Section 450.316(b) also establishes the outline for MPO public participation programs. The Montachusett MPO's public participation program was formally adopted in February 1995. The development and adoption of this program conforms to the requirements of the sections cited above. It guarantees public access to the RTP and all supporting documentation, provides for public notification of the availability of the RTP 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 RTP and related certification documents by the MPO.

On April 27, 2005 and April 28, 2005, legal notices were placed in the Fitchburg-Leominster *Sentinel & Enterprise* and the Gardner *News*, respectively, informing the public of its right to comment on this conformity determination. During the 30-day public comment period, any comments received were incorporated into this Plan. This allowed ample opportunity for public comment and MPO review of the draft document. The Montachusett MPO has endorsed the 2005 air quality conformity determination subject to receipt of substantive negative comment during the public comment period (none is expected). These procedures comply with the associated federal requirements.