

Albany-Schenectady-Troy 8-Hour Ozone Non-Attainment Area Transportation/Air Quality Conformity Determination

**Capital District Transportation Committee (CDTC)
2010-2015 TIP and 2030 *New Visions* Transportation Plan**

**Adirondack/Glens Falls Transportation Council (A/GFTC)
2010-2015 TIP and 2030 Long Range Plan**

**12 Year Capital Program of Transportation Projects
for Montgomery, Greene, and Schoharie Counties**

Prepared by:

NYSDOT Environmental Analysis Bureau, CDTC, and A/GFTC

in association with

NYSDOT Regions 1, 2, and 9

June 4, 2010

**Capital District
Air Quality Conformity Determination**

Table of Contents

<u>Report Section</u>	<u>Page</u>
Introduction	1
Attainment / Non-Attainment Status	1
Emissions Test for Transportation Conformity	3
Use of Latest Planning Assumptions	3
Consultation	6
Transportation Demand Modeling Requirements	6
Consistency of TIP and Plan	9
Regionally Significant Non-Federal Projects	9
Latest Emission Model	9
Regional Emissions Analysis	9
Public Involvement	10
Evidence of MPO Resolutions	10
Statement of Conformity with the SIP	11

APPENDICES

- Appendix A - Description of Project Scopes for Non-Exempt Projects in CDTC Model
- Appendix B - CDTC STEP Model Results
- Appendix C - Emission Rates for Individual Links in CDTC STEP Model
- Appendix D – Donut Area Emissions Analysis
- Appendix E - Documentation of CDTC STEP Model and Planning Assumptions
- Appendix F - Evidence of Public Notice
- Appendix G - Signed MPO Resolutions

TRANSPORTATION / AIR QUALITY CONFORMITY DETERMINATION FOR THE ALBANY-SCHENECTADY-TROY 8-HOUR OZONE NON-ATTAINMENT AREA

**For the Capital District Transportation Committee (CDTC) 2010-2015 TIP
and 2030 *New Visions* Transportation Plan, the Adirondack/Glens Falls
Transportation Council (A/GFTC) 2010-2015 TIP and 2030 Long Range Plan,
and the 12 Year Capital Program of Transportation Projects
in Montgomery, Greene, and Schoharie Counties**

Introduction

The Clean Air Act requires the United States Environmental Protection Agency to establish the national ambient air quality standards (NAAQS) for various criteria air pollutants. Areas where air quality monitoring shows a violation of the NAAQS are designated “non-attainment.” By law the New York State Department of Environmental Conservation (NYSDEC) is required to produce a plan, known as the *State Implementation Plan (SIP)* that details how sufficient emission reductions, including reductions in the mobile source sector, will be achieved to meet the NAAQS.

All non-attainment areas are subject to a provision in CAA §176(c) known as *transportation conformity*. The intent of the transportation conformity process is to fully coordinate transportation and air quality planning to ensure the implementation of Transportation Plans, Programs and Projects will not 1) cause or contribute to any new violation of the NAAQS, 2) increase the frequency or severity of any existing NAAQS violations, or 3) delay timely attainment of the NAAQS or any required interim emissions reductions or other milestones in any area.

The CDTC and A/GFTC have recently developed new 2010-2015 Transportation Improvement Programs and the New York State Department of Transportation (NYSDOT) has developed new Capital Programs of Transportation Projects. The approval of new transportation plans and programs requires and update the current transportation / air quality conformity determination that was approved by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) on March 22, 2010.

This report presents the results of the regional emissions analysis and describes the process and methods undertaken by A/GFTC, CDTC and the New York State Department of Transportation Regions 1, 2, and 9 to demonstrate air quality conformity for the entire seven county non-attainment area.

Attainment / Non-Attainment Status

The Albany-Schenectady-Troy metropolitan non-attainment area consists of Saratoga, Schenectady, Albany, Rensselaer, Montgomery, Greene, and Schoharie Counties and is classified as a Clean Air Act

Subpart 1 Basic non-attainment area for the 8-hour ozone standard. The area is classified as attainment for all other Clean Air Act criteria pollutants.

In accordance with the Clean Air Act Amendments of 1990, the U.S. Environmental Protection Agency (EPA) designated Albany, Schenectady, Saratoga, Rensselaer, Montgomery, and Greene Counties as Marginal non-attainment for the 1-hour ozone standard in 1991. The area was classified as attainment for all other applicable national ambient air quality standards. An area is defined as marginal non-attainment for the 1-hour ozone standard when the area's monitored design value (i.e. the fourth highest daily 1-hour maximum value during the previous three year period) is between 0.121 parts per million (ppm) and 0.138 ppm. The Albany-Schenectady-Troy area has not experienced a monitored violation of the 1-hour ozone standard since 1989 and the current design value for 1-hour ozone in this area is 0.115 ppm.

On July 16, 1997 EPA concluded the 1-hour standard did not adequately protect the public from the adverse health effects of ground level ozone. In establishing the new 8-hour standard, EPA set the standard at 0.08 parts per million (ppm) and defined the new standard as a "concentration-based" form. Specifically, the design value for 8-hour ozone is the 3-year average of the annual 4th-highest daily maximum 8-hour ozone concentrations. An area will attain the standard when the 3-year average of the annual 4th-highest daily maximum 8-hour concentrations is less than or equal to 0.08 ppm.

Effective June 15, 2004 the United States Environmental Protection Agency (EPA) classified Saratoga, Schenectady, Albany, Rensselaer, Montgomery, Greene, and Schoharie Counties as a Clean Air Act Subpart 1 Basic non-attainment area for the 8-hour ozone standard. This designation was based on the results of ambient air monitoring data collected by the New York State Department of Environmental Conservation from 2001-2003. This data established an 8-hour ozone "design value" of 0.087 ppm for the area. Based on monitoring data for the period 2007-2009, the 8-hour ozone design value for the area is 0.075 ppm.

On June 15, 2005, the one-hour ozone standard was revoked. At that time, EPA determined that upon the revocation of the one-hour standard, only the 8-hour ozone standard and its associated requirements would apply to the transportation conformity process.

On December 22, 2006, the U.S. Court of Appeals for the District of Columbia Circuit both upheld and rejected certain aspects of EPA's framework for implementing the State Implementation Plan (SIP) requirements under Clean Air Act (CAA) Title I Part D for 8-hour ozone non-attainment areas. A key result of the court decision involved the continued implementation of emission control strategies in areas such as Albany-Schenectady-Troy, NY that were previously designated non-attainment for the 1-hour ozone standard under CAA Part D Subpart II and are now designated non-attainment for the 8-hour ozone standard under CAA Part D Subpart I.

Generally speaking, SIP requirements under Subpart I are less stringent than those under Subpart II. The "anti-backsliding" provision, CAA Section 172(e), provides that in the event "[EPA] relaxes a [primary National Ambient Air Quality Standard] after November 15, 1990, [EPA] shall...provide for controls applicable to areas designated non-attainment before such relaxation." In the subject court case, the DC Circuit specifically concluded that transportation conformity requirements for areas designated non-attainment for the 1-hour ozone standard under Subpart II

constitute “controls” under Section 172(e). The DC Circuit Court decision states that “EPA is required by statute to keep in place measures intended to constrain ozone levels – even ones that apply to outdated standards – in order to prevent backsliding.”

Therefore, the transportation conformity requirements that previously applied to 1-hour ozone non-attainment areas such as the Albany-Schenectady-Troy 1-hour ozone non-attainment area may remain “applicable requirements.” Therefore, this conformity determination and associated analyses address the transportation conformity requirements that apply to both the six county Albany-Schenectady-Troy Marginal 1-hour ozone areas and to the seven county Albany-Schenectady-Troy Subpart 1 (Basic) 8-hour ozone non-attainment area per 40 CFR Part 93 and 6 NYCRR Part 240.

Emissions Test for Transportation Conformity

A motor vehicle emissions budget (MVEB) is not required in the State Implementation Plan (SIP) for marginal 1-hour ozone non-attainment areas. A MVEB has not been established as part of the applicable SIP for the 8 hour ozone standard. Per 40 CFR 93.119(b)(2) of the new federal transportation conformity regulation, marginal 1-hour and basic subpart 1 8-hour non-attainment areas may choose between two interim emissions reductions tests to demonstrate conformity.

40 CFR Part 93.119(b)(2)(i) allows Marginal 1-hour and Basic Subpart 1 8-hour ozone non-attainment areas to demonstrate conformity when emissions predicted in the “action” scenario are not greater than emissions predicted in the “baseline” scenario, and this can be reasonably expected to be true in the periods between analysis years. This test is also referred to as the “build-no-greater-than-no-build” test. 40 CFR Part 93.119(b)(2)(ii) allows marginal 1-hour areas to demonstrate conformity when the “action” scenario emissions are less or equal to than 1990 emissions, and allows 8-hour areas to demonstrate conformity when the “action” scenario emissions are less than or equal to 2002 emissions. These tests are commonly referred to as the “no-greater-than-baseline year” emissions tests.

For this conformity determination, the build-no-greater-than-no-build emissions test has been utilized to demonstrate conformity for both the 1-hour and 8-hour Albany-Schenectady-Troy non-attainment areas per 40 CFR Part 93.119(b)(2)(i). To meet the requirements under 40 CFR Part 93.109(c)(4)(i), the ozone precursors volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are examined in the regional emissions analysis.

Use of Latest Planning Assumptions

CDTC’s Systematic Traffic Evaluation and Planning (STEP) travel demand model network includes the Town of Moreau, Saratoga County which is within the A/GFTC planning boundary. Therefore, CDTC’s analysis appropriately incorporates the 2010-2015 A/GFTC TIP and 2030 Long Range Plan into the regional emissions analysis for the Albany-Schenectady-Troy non-attainment area. The A/GFTC TIP and Plan include no non-exempt transportation projects in the Town of Moreau.

In addition, there are no non-exempt projects in the NYSDOT Capital Program of Projects in Greene, Montgomery, and Schoharie Counties.

The regional emissions analysis is based upon the latest planning assumptions in place at the time the analysis began (May 1, 2010) as described below.

1. Estimates of current and future population employment, travel and congestion

The basic 2000 Census population and household values have proved to be remarkably consistent with forecasts prepared by the Capital District Regional Planning Commission (CDRPC) and used by CDTC in the New Visions 2030 Plan. CDTC commissioned CDRPC to produce new growth forecasts for population, households and employment consistent with the 2000 Census. The forecasts were most recently published in the Effects of Alternative Development Scenarios in the Capital District, September 1, 2005. CDRPC forecasts, going out to 2040, re-affirm previous forecasts with the continued forecast for a slow population growth and a slowing of the rate in outer years.

CDTC updated and calibrated the regional travel demand forecasting model. This work is documented in the report *Systematic Transportation Evaluation And Planning Model: The CDTC STEP Model; Validation of the CDTC STEP Model*, April 2010 (see Appendix E). The report provides a stronger documentation of the CDTC Model in base year 2000; provides a validation of the model against year 2007 counts; and also re-examines the issue of VMT growth. CDTC revised its methodology for estimating daily VMT from a peak hour model in a way that is consistent with NYSDOT Environmental Science Bureau suggested practice. Growth in travel is based on CDRPC forecasts of population, households and employment. The result is a stronger agreement between the model and HPMS estimates of daily VMT.

CDTC concluded that daily VMT has been growing faster than peak hour VMT; and believes that some of the CDTC New Visions policies will moderate growth in peak hour VMT, but will not moderate growth in daily VMT. As a result, CDTC has modified model forecasts of daily VMT that show faster daily VMT growth than previously, while reaffirming the integrity of its peak hour VMT forecasts.

2. Transit Operating Policies and Ridership Trends

Year 2000 Census results showed the transit share of regional journey to work trips is at 3.4%. This percentage is consistent with CDTC's regional travel demand model, the CDTC STEP Model. Although CDTC has used its Mode Choice Model to evaluate different transit investment scenarios, the STEP Model is based on vehicle trips and implicitly estimates transit ridership in its trip generation forecasts. For future forecasts, the STEP Model assumes that transit fares will stay at current values after adjusting for inflation. It is assumed that under the implementation of the New Visions Plan, transportation and land use actions called for in the Plan will result in stable transit ridership. CDTC VMT forecasts assume that without the New Visions Plan ("No Build"), transit disinvestment will lead to declines in ridership comparable to the declining trends of the 1990s, when ridership was as low as 30% less than recent ridership. See Appendix E.

3. Transit service and fare changes, road and bridge tolls

The most current transit fares and network operating conditions were input to the modeling structure used in generating transit ridership (modal shares). The transit operator for the Capital District is the Capital District Transportation Authority (CDTA). The current fare structure is summarized in the following table:

Fare Type	Current Fare
Base Fare	\$1.50 - U.S. coins and \$1-dollar bills are accepted
Suburban Shuttle System	\$1.50
Senior/Disabled Half Fare	\$0.75 (All the time)
Day Card, providing one day of unlimited use	\$4.00
<i>Swiper</i>	\$55 (5-day) \$65 (7-day)
31 Day Rolling Swiper	\$65.00
Half Fare <i>Swiper</i>	\$27.50 (5-day) \$32.50 (7-day)
31 Day Rolling Half Fare Swiper	\$32.50
Ten Trip Pass	\$13.00
STAR service	\$2.50

4. Status of TCM Implementation

The applicable SIP does not include any TCMs for the Albany-Schenectady-Troy non-attainment area. Therefore, this requirement does not apply to this conformity determination. In addition, nothing in the CDTC TIP and Plan, the A/GFTC TIP and Plan or the Capital Program of Transportation Projects in Greene, Montgomery, or Schoharie Counties will interfere with the timely implementation of TCMs in other areas.

5. Other key information

To perform a regional emissions analysis for the non-urbanized donut area portion of the Albany-Schenectady Troy non-attainment area, the most recently available Highway Performance Monitoring System (HPMS)-based estimates of VMT in Greene, Montgomery, and Schoharie Counties were utilized. A seasonal adjustment factor of 1.16 was applied to the rural interstates and expressways and an adjustment of 1.12 was applied to all other facilities. Straight line interpolation (between the 2007 HPMS-based DVMT value and the 2033 projected value from historical regression) was used to calculate daily VMT (DVMT) for analysis years 2015, 2025, and 2030.

The previously reported HPMS-based DVMT inventory for 2002 was used for the 2002 base year analysis. Since the functional class (FC) shares in the original 2002 inventory were based on 1990 Census Urbanized Area Boundaries, these shares were reapportioned by FC consistent with the functional class shares based on the 2000 Census Urbanized Area Boundaries.

Since the donut area has no travel demand model speed estimates, speeds used in the New York State Implementation Plan for Air Quality for each HPMS functional class in the non-urbanized portion of New York State were utilized in the emissions analysis.

To estimate regional emissions for the conformity analysis, NYSDOT's MOBILE 6.2 emission factor tables dated July 2008 were applied to the DVMT and average daily speeds for each functional class to estimate VOC and NOx and other air emissions.

The estimated emissions from the donut area were combined with CDTC's emissions estimates for the 2002 base and 2015, 2025, and 2030 "build" and "no-build" scenarios.

Since there are no non-exempt or regionally significant projects in the 12 Year Capital Program of Transportation Projects in Greene, Montgomery or Schoharie Counties, the build and no-build scenarios were equal in the "donut area" in each future analysis year.

Consultation

The Interagency Consultation Group (ICG) concurred with the proposed classifications of all projects in the proposed CDTC and A/GFTC TIPs and Plans on April 21, 2010. The ICG concurred with the proposed classifications of all projects in the Capital Program of Transportation Projects in Greene, Montgomery, and Schoharie Counties on May 22, 2010. The draft regional emissions analysis and supporting documentation are currently undergoing interagency review.

Transportation Demand Modeling Requirements

The CDTC STEP Model was used to evaluate the benefits of the subject projects, including emissions benefits. CDTC's Systematic Traffic Evaluation and Planning (STEP) model is used to estimate travel volumes and resulting congestion (VMT and speed). Using VISUM software, the regional STEP model directly generates PM peak hour VMT and speed data attendant to existing and future land use, traffic, and highway network conditions for Albany, Rensselaer, Saratoga, and Schenectady Counties. Twenty four-hour VMT estimates were generated by modeling four separate hours of the day: PM peak, AM peak, mid day peak, and night time peak. The results of these four assignments were then expanded to 24 hours using hourly factors.

1. Classification of Projects per 40 CFR Part 93.126 and 93.127

The exempt, non-exempt, or regionally significant classifications of all transportation projects in the non-attainment area project are based on the specific highway and transit project types defined by the exemption criteria in the federal transportation conformity rules and guidance. As part of the

interagency review process, the Interagency Consultation Group (ICG) concurred that the classification of projects into exempt and non-exempt categories was completed in accordance with appropriate federal regulations.

2. *The horizon years must be defined*

Analysis years were defined per 40 CFR Part 93.119(g)(1) as follows:

- 2002 – 8-hour ozone area base year (for informational purposes only)
- 2015 – First analysis year may be no more than five years from date of the conformity determination
- 2025 – Intermediate analysis years may be no more than ten years apart
- 2030 – New Visions Plan horizon year and AGFTC Plan horizon year per 40 CFR Part 93.119(g)(1)

3. *“No-build” scenario*

In order to evaluate the impact of the TIP on emissions, the impacts of a “no-build” scenario were evaluated. The no-build scenario is a hypothetical scenario that would result if the TIP and the 2030 New Visions Plan and all non-exempt projects were not implemented. The networks used for the 2015, 2025 and 2030 “no-build” scenarios assume projects in the TIP and the Plan as well as all non-exempt projects would not be implemented. Travel demand for the year 2015, 2025 and 2030 “no-build” scenarios was simulated using Capital District Regional Planning Commission (CDRPC) official forecasts of households and employment, and CDTC forecasts of trip generation. As described above, the non urbanized donut area emissions are based on the most recent estimates of county-wide VMT based on HPMS data.

4. *“Action” or “build” scenario*

All projects in the 2010-2015 CDTC TIP and 2030 New Visions Plan, the 2010-2015 A/GFTC TIP and 2030 Long Range Plan, and applicable Capital Programs that could be accommodated in the modeling process were included in the conformity analysis “build” scenario networks. Therefore, this analysis includes not only the effect of the non-exempt and regionally significant projects but also a number of exempt projects that produce system performance benefits and can be modeled. For a detailed description of the coding of non-exempt and other projects in CDTC’s travel demand modeling process, please refer to Appendix A.

The year 2015 TIP network includes projects from the 2010-2015 TIP; the 2025 and 2030 TIP/ Plan networks include all TIP projects, including those scheduled in the post 5 year period of the TIP. For build conditions for 2015, 2025 and 2030, travel demand forecasts were prepared that were consistent with achievements expected from implementation of the *New Visions* plan. With the implementation of the *New Visions* plan, increases in daily vehicle travel will be dampened from the trend forecast of travel. This will occur through a combination of substitution of communication for travel, increased carpooling, increased bus, bike, and/or walk travel, and shorter trip lengths (due to urban investment and land use planning).

The TIP network used in the analysis assumes that all TIP projects are implemented. All non-exempt projects were modeled, as well as a number of exempt projects that will affect intersection capacities. Projects programmed in the post five year network were not included in the year 2015 TIP network, but were included in the 2025 and 2030 build networks. For build conditions for years 2015, 2025 and 2030, travel demand forecasts were prepared that were consistent with achievements expected from implementation of the *New Visions* plan. CDTC's model network includes projects in the Town of Moreau within the A/GFTC planning boundary. There are no non-exempt projects scheduled for construction in Moreau during the time period of the *New Visions* Plan. For additional detail regarding the coding of non-exempt and other projects in the CDTC STEP model, refer to *Appendix A*.

In order to evaluate the impact of the CDTC TIP on emissions, the impacts of a "no-build" scenario were evaluated. The no-build scenario is a hypothetical scenario that would result if the TIP were not implemented. The networks used for the 2015, 2025 and 2030 "no-build" scenarios assume projects in the TIP would not be implemented.

There are no non-exempt or regionally significant projects scheduled for future construction in Montgomery, Greene, or Schoharie Counties. Therefore, future year "action" scenarios emissions are equal to the future year "no-build" scenarios in "donut area" portion of the regional emissions analysis.

Consistency of TIP and Plan

None of the projects in the 2010-2015 CDTC and A/GFTC TIP or Statewide Transportation Improvement Program are anticipated to interfere with the implementation of any project in the New Visions Plan or the A/GFTC Long Range Plan, and vice versa. All applicable projects were consolidated into one regional emissions analysis that captures the effects of implementing all transportation system improvements in each applicable future analysis year (i.e. 2015, 2025 and 2030).

Regionally Significant Non-Federal Projects

There are no regionally significant non-federal transportation projects scheduled for construction in the Capital District non-attainment area.

Latest Emissions Model

In order to conduct the required regional emissions analyses for the Albany-Schenectady-Troy ozone non-attainment area, emission factor tables developed by the NYSDOT Environmental Science Bureau were used. The emission factors were generated using the EPA motor vehicle emissions model, MOBILE6.2. The modeling inputs and parameters used to develop the emission factor tables are the most recent inputs for established in consultation with the New York State Department of Environmental Conservation (NYSDEC) and the New York State Air Quality Conformity Interagency Consultation Group (ICG). Specific modeling inputs and parameters used to develop these emission factor tables are described below:

Evaluation Month - The month of July (i.e., summertime conditions) was specified in the VOC and NOx emission factor input files.

Vehicle Registration Distribution - Year 2002 registration data were used to model the 2002 base year. Year 2007 registration data were used to model all future analysis years.

Vehicle Mileage Accumulation Rate – The EPA default mileage accumulation rate data (provided with the MOBILE6.2 model) were used for all analysis years.

I/M Programs - NYSDEC inspection and maintenance (I/M) program data were used in the emission modeling. The NYSDEC file, NYVIPup.d, contains data for the Upstate New York I/M program. This file was used for modeling all future analysis years. No I/M program was in place in the Rochester Area in the 2002 base year.

Anti-Tampering Program - The anti-tampering program data described in the table below was used to model all analysis years:

ANTI-TAMPERING PROGRAM DATA	
Parameter	Years 2002 – 2035
Beginning calendar year	1984
Earliest model year	(Current yr – 25 yrs)
Final model year	(Current yr – 2 yrs)
Light-duty vehicles subject to inspection	LDGV, LDGT1, LDGT2, LDGT3, LDGT4
Heavy-duty vehicles subject to inspection	HDGV2B, HDGV3, HDGV4
Annual or biennial	Annual
Compliance rate	98%
Component inspections (see MOBILE6.2 User’s Guide)	All except tailpipe lead deposit test

Fuel Program and Fuel RVP- Average and maximum fuel sulfur levels and fuel Reid Vapor Pressure (RVP) levels as provided by NYSDEC in Spring 2009 were specified in the input files (as listed in the below).

FUEL SULFUR AND RVP LEVELS				
Upstate New York Counties				
Year(s)	Season	Fuel Sulfur Levels (ppm)		RVP (psi)
		Average	Maximum	
2002	Summer	297.0	1000.0	8.3
	Winter	293.0	1000.0	12.1
2014, 2027	Summer	30.0	80.0	8.6
	Winter	30.0	80.0	12.5

Gasoline fuel oxygenate data were also specified in the input files (as listed in the Table below).

GASOLINE FUEL OXYGENATE DATA				
Upstate New York Counties				
Year(s)	Season	Oxygenate Type	Oxygenate Content (% by volume)	Market Share Fraction of Oxygenate
2002	Summer	MTBE	1.74%	1.00
	Winter	MTBE	1.37%	1.00
2014, 2027	Summer/Winter	Ethanol	5%	1.00

Temperature and Humidity - For the summer season, county-specific hourly temperatures and relative humidity levels as verified by NYSDEC in Spring 2009 were used in the modeling.

Diesel Sale Fractions - Diesel sale fractions for NYSDOT Region 1 were used in the modeling. Year 2002 diesel fractions were used to model the 2002 base year. Year 2007 diesel sale fractions were used to model all future analysis years.

Vehicle Start Distribution - County-specific vehicle start distribution data as received from NYSDEC in Spring 2009 were used in the modeling.

VMT by Hour - County-specific VMT data (allocated by hour of day) as verified by NYSDEC in Spring 2009 were used in the modeling.

Low-Emission Vehicle (LEV) Standards - The following files were used to model the effects of implementing California's LEV I/LEV II programs in New York State:

- L2CERT.d – Specifies the LEV II 50,000-mile certification standards
- L2EVAP.d – Specifies the phase-in schedule for the LEV II evaporative emission standards
- L2EXH.d – Specifies the phase-in schedule for the LEV II exhaust emission standards
- LEV2.d – Provides fleet penetration fractions for light-duty gasoline vehicles under the LEV I/LEV II programs

Weighted emissions by vehicle type - The emission factors for each individual vehicle type were weighted according to the NYSDOT Region 1 vehicle distributions by roadway functional class and then summed to obtain composite emission factors. NYSDOT developed the vehicle distribution data in 2004 using the most recently available traffic count data.

These model inputs include the latest existing and future emissions control programs included in NYSDEC's statewide mobile source emission inventory, and the latest MOBILE6.2 input assumptions for the existing and future vehicle fleets traveling on roadways in the Albany- Schenectady-Troy non-attainment area. The MOBILE6.2 input and external data files are available by contacting the NYSDOT Environmental Science Bureau.

CDTC has developed a post processor program that calculates total emissions for any given traffic assignment. Emission rates for VOC and NOx from the NYSDOT emission factor tables are coded into look-up tables used by the STEP Model. For any given traffic assignment, emissions are calculated for each link on the network based on assigned traffic VMT, functional class, total link operating speed, year of analysis and the corresponding emission rate. Based on HPMS (Highway Performance Monitoring System) data, additional local VMT and corresponding emissions were added to the modeled VMT and emissions.

The Model covers a 24-hour day including AM and PM peak hours. The daily (24-hour) VMT is then seasonally adjusted to provide an estimate of typical daily summer traffic. The seasonal adjustment factors used are calculated based on average summer factors taken from NYSDOT's Work Week Seasonal Adjustment Factor Tables utilizing Continuous Count Site Data over the past twenty years. Factor Group 30, representing traffic patterns minimally affected by the seasons, is used for all roadway classes within the Capital District Area, except for rural interstates. In order to factor the daily VMT from the Model which is calibrated to represent a mid-week day in September, the average of the summer month factors (June, July, and August) is divided by the September factor. Thus, a factor is derived to factor from the daily modeled VMT of September to typical daily summer traffic. Factor group 40 was assumed for rural interstates. VMT was increased by eleven percent for rural interstates and by four percent for all other roads to reflect summer traffic volumes.

Regional emissions analysis

In each analysis year, VOC and NOx emissions in the build/action scenario are less than or equal to corresponding emissions in the no-build scenario. Therefore, the regional emissions analysis demonstrates that the CDTC 2010-2015 TIP and 2030 *New Visions* Plan, 2010-2015 A/GFTC TIP and 2025 Long Range Plan, and 12 Year Capital Programs of Transportation Projects in Greene, Montgomery, and Schoharie Counties conform to the New York State Implementation Plan for the 1-hour and 8-hour ozone standard. The following two tables summarize the regional emissions. The first table summarizes the air quality impacts for the four counties of Albany, Rensselaer, Saratoga and Schenectady. This is the area included in the CDTC STEP Model analysis. The second table summarizes air quality impacts for all seven counties in the non-attainment area, including the four counties in the CDTC STEP Model area (Albany, Rensselaer, Saratoga and Schenectady Counties), and the three counties in the donut area (Greene, Montgomery, and Schoharie Counties).

Air Quality Impact of the CDTC 2010-2015 TIP, the CDTC <i>New Visions</i> Plan, the A/GFTC 2010-2015 TIP, the A/GFTC 2030 Long Range Plan on the Four Counties of Albany, Rensselaer, Saratoga and Schenectady					
Scenario	Volatile Organic Compounds (VOCs) Emissions		Nitrogen Oxides (NO_x) Emissions		Daily Vehicle Miles Traveled (Thousands)
	kg/day	tons/day	kg/day	tons/day	
Year 2002*	25,287	27.9	39,289	43.3	21,214
Year 2015 No-build	8,238	9.1	10,657	11.7	23,850
Year 2015 with 2010-2015 TIP and New Visions Plan	8,134	9.0	10,631	11.7	23,750
Year 2025 No-build	5,242	5.8	5,179	5.7	25,865
Year 2025 with 2010-2015 TIP and New Visions Plan	4,963	5.5	5,021	5.5	25,051
Year 2030 No-build	5,420	6.0	4,153	4.6	27,061
Year 2030 with 2010-2015 TIP and New Visions Plan	5,034	5.5	3,944	4.3	25,759

Air Quality Impact of the CDTC 2010-2015 TIP, the CDTC <i>New Visions</i> Plan, the A/GFTC 2010-2015 TIP, the A/GFTC 2030 Long Range Plan and the Capital Program of Transportation Projects in Montgomery, Greene, and Schoharie Counties; Total Impact for the Seven County Area					
Scenario	Volatile Organic Compounds (VOCs) Emissions		Nitrogen Oxides (NO_x) Emissions		Daily Vehicle Miles Traveled (Thousands)
	kg/day	tons/day	kg/day	tons/day	
Year 2002*	33,503	37.0	54,227	59.8	27,738
Year 2015 No-build	11,628	12.8	14,648	16.1	33,037
Year 2015 with 2010-2015 TIP and New Visions Plan	11,524	12.7	14,622	16.1	32,937
Year 2025 No-build	7,562	8.4	7,336	8.1	37,081
Year 2025 with 2010-2015 TIP and New Visions Plan	7,283	8.1	7,178	7.9	36,267
Year 2030 No-build	7,866	8.7	5,867	6.5	39,291
Year 2030 with 2010-2015 TIP and New Visions Plan	7,480	8.2	5,658	6.2	37,989

The regional emissions analysis is presented in further detail in *Appendices B - D*.

Public Involvement

A public review of the Albany-Schenectady-Troy conformity determination will be administered by CDTC, A/GFTC, and NYSDOT in June and July of 2010. Evidence of public notice will be included in the final conformity determination Appendix F.

Evidence of MPO Resolution

The applicable signed CDTC and A/GFTC Policy Board resolutions will be included in Appendix G of the final conformity determination.

Statement of Conformity with the SIP

The attached documentation and information summarized herein demonstrate that all transportation plans and programs in the Albany-Schenectady-Troy 8-hour Ozone Non-Attainment Area are in conformity with the SIP, in accordance with the transportation conformity rules published by EPA and NYSDEC.