

**To:** Transportation Committee  
**From:** Timothy Malone, Principal Planner  
 Jennifer Carrier, CRCOG - Director of Transportation Planning  
**Date:** October 7, 2016  
**Subject:** ***Air Quality Conformity Analysis***

The Connecticut Department of Transportation has asked us to endorse the new Air Quality Conformity Resolution for our FFY2015-2018 Transportation Improvement Program (TIP) and 2015 Long Range Transportation Plan (LRTP). A summary of the Air Quality Conformity Analysis (AQCA) report is attached. The AQCA is updated every six months to a year in order to incorporate new projects from the State Transportation Improvement Program (STIP). For this update, CTDOT has also transitioned to the new Environmental Protection Agency (EPA) required emissions modeling software: MOVES2014a.

The State performs the AQCA on a statewide basis, with all LRTPs and TIP projects in the state analyzed together. This is due to overlap between planning region boundaries and the two air quality analysis districts in the state.

The September 2016 analysis shows that the State’s LRTPs and TIPs are within the approved 2009 motor vehicle emissions budgets. The table below shows the results for the Greater Connecticut Ozone “Moderate” Nonattainment Area, which includes the CRCOG region:

***Greater CT Ozone "Moderate" Nonattainment Area (emissions in tons per day)***

Year	RESULTS		BUDGET		DIFFERENCE	
	VOC	NOx	VOC	NOx	VOC	NOx
2017	15.99	21.99	26.30	49.20	-10.31	-27.21
2025	11.39	11.87	26.30	49.20	-14.91	-37.33
2035	6.70	6.94	26.30	49.20	-19.60	-42.26
2040	6.17	6.49	26.30	49.20	-20.13	-42.71

VOC: Hydrocarbons or Volatile Organic Compounds  
 NOX: Nitrogen Oxides

CRCOG is required to have a 30-day public comment period for the AQCA that includes a public hearing. The comment period is now open and will end on 11/14/2016. The public hearing will be held at 11:30am on 11/14/2016 at MIRA. The Policy Board will consider a resolution approving the AQCA on 11/16/2016.

# *Air Quality Conformity Analysis*

for the FFY 2015-2018 TIP & the 2015 Regional Transportation Plan  
**SUMMARY**

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Each regional planning agency (including CRCOG) is required to demonstrate that their Regional Transportation Plan and Transportation Improvement Program (TIP) do not violate the federal Clean Air Act. This demonstration requires tests for several types of pollutants, for several different analysis years, and for several different analysis areas or districts as explained below. For reasons also described below, the State performs a statewide analysis, with all Plans and TIP projects in the state analyzed together.

**Types of Pollutants.** The air quality analysis includes calculations of vehicle emissions of two types of pollutants:

1. Hydrocarbons (HC or VOC-Volatile Organic Compounds)
2. Nitrogen Oxides (NOx)

**Emissions Test.** Under conformity rules provided by the U.S. Environmental Protection Agency, a test is applied to determine if the TIP and the Transportation Plan violate the Clean Air Act. In December 2010, the EPA informed the CT Department of Environmental Protection that the 2009 Motor Vehicle Emissions Budgets (MVEB) were adequate determiners of future transportation conformity. Therefore, the future year emissions are compared to the 2009 MVEB to determine compliance.

**Test:** VOC and NOX emissions from transportation sources must be less than the 2009 motor vehicle emissions budgets

<b>2009 emissions budget:</b>	VOC	26.30 tons/day
	NOx	49.20 tons/day

**Air Quality Analysis Districts.** The federal air quality districts for ozone are shown in the figure to the right. For ozone analysis purposes, CRCOG is part of the Greater Connecticut district. The Greater Connecticut district includes other planning regions in addition to the Capitol Region. It uses county boundaries and includes the following counties: Hartford, Tolland, Litchfield, Windham, and New London.

Since the air quality districts overlap many regional planning districts, the emissions analysis must be coordinated to include the TIPs and transportation plans of several regions. The Connecticut Department of Transportation performs this coordination role. Each region submits its draft TIP and long range plan to the DOT. The DOT in turn combines the TIPs and the transportation plans for all appropriate regions to analyze the emissions impacts on each air quality district.

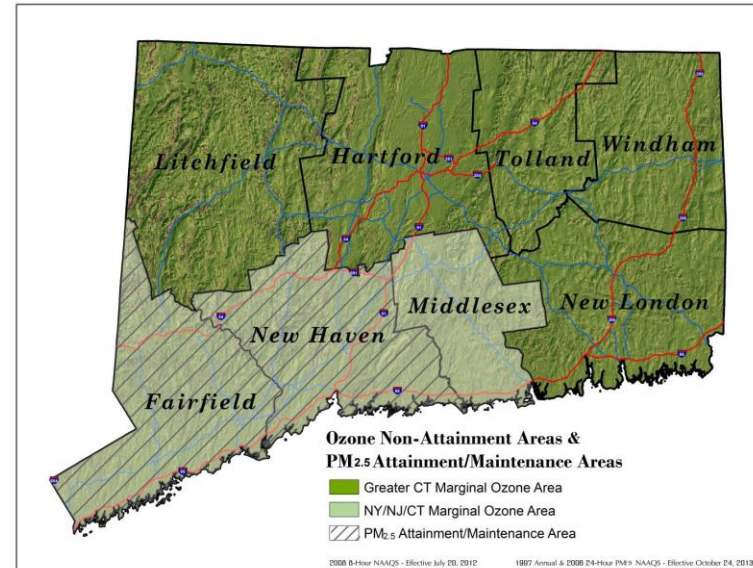


Figure 1. Note: This map incorrectly identifies both non-attainment areas as "marginal". As of June 2016, both are "moderate".

## Findings & Conclusions

The data provided by the Connecticut Department of Transportation indicate that the Capitol Region's long range plan and TIP, when combined with all other regional plans and TIPs in the relevant air quality district, pass the test required under current conformity rules. The Region is in conformity with the federal Clean Air Act and the Connecticut SIP. Provided below is a summary of the results. Actual emissions estimates and comparisons are provided in Table 1.

**Test:** VOC and NOX emissions from transportation sources must be less than the 2009 transportation emissions budgets.  
 Future emissions of VOC and NOx are below the 2009 emissions budget.

**Quantitative Analysis by Connecticut DOT.** The quantitative analysis required for this demonstration was performed by CTDOT in cooperation with the regional planning agencies. This cooperative effort is required because the federal air quality districts overlap Connecticut's regional planning districts as explained above. The results are presented in the table below.

### *Greater CT Ozone "Moderate" Nonattainment Area*

*(emissions in tons per day)*

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	VOC	NOx	VOC	NOx	VOC	NOx
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