

**Conformity Analysis and Determination Report for the
Cabarrus-Rowan MPO, the Gaston Urban Area MPO,
and the Mecklenburg-Union MPO 2030 Long Range
Transportation Plans and the FY 2004-2010
Transportation Improvement Programs and for Non-
MPO Areas of Lincoln County, Iredell County, Gaston
County, and Union County areas
(8-Hour Ozone, and CO (Mecklenburg County Only))**

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USDOT Conformity Finding

Prepared by:

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The Cabarrus-Rowan Metropolitan Planning Organization,
The Gaston Urban Area Metropolitan Planning Organization,
The Mecklenburg-Union Metropolitan Planning Organization,
And
The NCDOT Transportation Planning Branch

In cooperation with:

The North Carolina Department of Environment and Natural Resources
Division of Air Quality

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**Conformity Analysis and Determination Report for the
Cabarrus-Rowan MPO, the Gaston Urban Area MPO, and
the Mecklenburg-Union MPO 2030 Long Range
Transportation Plans and the FY 2004-2010 Transportation
Improvement Programs and for Non-MPO Areas of
Lincoln County, Iredell County, Gaston County, and Union
County
(8-Hour Ozone, and CO (Mecklenburg County Only))**

Executive Summary

The purpose of this report is to comply with the provisions of the Clean Air Act Amendments of 1990 and the Transportation Equity Act for the 21st Century (TEA-21). It demonstrates that the financially constrained long-range transportation plan and the transportation improvement program (TIP) eliminates or reduces violation of the national ambient air quality standards (NAAQS) in the nonattainment area that includes:

The Cabarrus-Rowan Metropolitan Planning Organization (CRMPO);
The Gaston Urban Area Metropolitan Planning Organization (GUAMPO);
The Mecklenburg-Union Metropolitan Planning Organization (MUMPO);
The portion of the Lake Norman Rural Planning Organization in Western Gaston County, Lincoln County, and Southern Iredell County; and
The portion of the Rocky River Rural Planning Organization in Eastern and Southern Union County.

The plan accomplishes the intent of the North Carolina State Implementation Plan (SIP). This conformity determination is based on a regional emissions analysis that uses the transportation network approved by each of the above-named Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs) for the 2030 long-range transportation plan, and the emissions factors developed by the North Carolina Department of Environment and Natural Resources (DENR). This area is henceforth defined as the Metrolina nonattainment area. Based on this analysis, 2030 Long-Range Transportation Plans for CRMPO, GUAMPO, and MUMPO, and their respective Transportation Improvement Programs conform to the purpose of the North Carolina SIP. The FY 2004-2010 TIP is a subset of the 2030 Long-Range Transportation Plans (LRTPs). The LRTP has a 20-year planning horizon. The conformity determination for the RPOs during the TIP years is specifically addressed by the North Carolina Department of Transportation (NCDOT). The projects in the TIP outside the MPO areas conform to the purpose of the North Carolina SIP.

Mecklenburg County was originally declared nonattainment for carbon monoxide (CO) on March 3, 1978. Mecklenburg County was declared nonattainment for ozone on November 15, 1990. Following the Clean Air Act Amendments of 1990, the USEPA designated Mecklenburg County as a moderate nonattainment area for ozone and “not-classified” for CO. Mecklenburg County was re-designated as a maintenance area for ozone on July 5, 1995 and for CO on September 18, 1995.

Gaston County was declared nonattainment for ozone on November 15, 1990. Gaston County was re-designated as a maintenance area for ozone on July 5, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established. In April 2004, the USEPA declared the entire Metrolina area as moderate nonattainment for eight-hour ozone. The complete Metrolina nonattainment region also includes the Rock Hill, Fort Mill Area Transportation Study (RFATS) an MPO comprising the urbanized (eastern) half of York County, SC. In an Interagency Consultation meeting on October 4, 2004, RFATS stated it will do conformity separately from NC. The IC partners agreed with this approach. A formal notice from RFATS to this effect was dated 3/30/2005. EPA guidance allows NC and SC to work independently.

The conformity determination is based on the following Long Range Transportation Plans (LRTPs):

2030 Transportation Plan for the Cabarrus-Rowan MPO

2030 Transportation Plan for the Gaston Urban Area MPO

2030 Transportation Plan for the Mecklenburg/Union MPO.

Each plan has three analysis years: 2010, 2020, and 2030. Each analysis year includes expected population and employment data and roadway and transit projects that should be open for travel during the specified horizon year. The plans are fiscally constrained: funding sources for roadway and transit projects are identified.

DENR prepared base and future emissions factors for the vehicle fleet using Mobile 6.2. These rates were applied to projections of VMT from the Metrolina model. VMT normalization was necessary to match the Mecklenburg and Gaston County VMT with the HPMS VMT that was used to develop the budgets. Only Gaston and Mecklenburg Counties had emissions budgets. These are one hour ozone emissions budgets and in accordance with 93.109(e). The one-hour budgets must be used for the eight hour conformity determinations until EPA determines eight hour SIP budgets are adequate.

Table ES-1 contains a summary of results from the Gaston County budget comparison, and Table ES-2 provides the same summary for Mecklenburg County. In every horizon year for every pollutant, the emissions expected from the

implementation of the long-range plan are less than the emissions budgets for Mecklenburg County and Gaston County adopted in the Maintenance Plan and established in the SIP. None of the remaining counties in the nonattainment area have emissions budgets at this time. For the nonattainment area as a whole, prescribed interim tests were performed for NO_x and VOC, in lieu of budget comparisons. Table ES-3 provides a summary of the interim test results. Details are included in Section 5 of the report.

Table ES-4 contains a cross-reference index for the report.

Table ES- 1 Gaston County Emissions Comparison Summary

Gaston County Emissions Comparison Summary (tons/day)¹				
Year	NO_x		VOC	
	Confor- mity	SIP Budget	Confor- mity	SIP Budget
2005	8.4	8.7	4.6	5.7
2010	5.1	8.7	3.6	5.7
2020	2.1	8.7	2.5	5.7
2030	1.8	8.7	2.6	5.7

¹To obtain kilograms per day, multiply tons per day by 907.18.

Table ES- 2 Mecklenburg County Emissions Comparison Summary

Mecklenburg County Emissions Comparison Summary (tons/day)¹						
Year	CO		NO_x		VOC	
	Confor- mity	SIP Budget	Confor- mity	SIP Budget	Confor- mity	SIP Budget
2005	302.92	419.62	31.6	33.0	18.4	25.9
2010	250.79	419.62	19.5	33.0	14.2	25.9
2015 ^{2,3}	237.00	470.18	-----	-----	-----	-----
2020	221.24	470.18	8.1	33.0	9.5	25.9
2030	253.99	470.18	6.9	33.0	9.3	25.9

¹To obtain kilograms per day, multiply tons per day by 907.18.

²Conformity estimates for the year 2015 were obtained by interpolating between the transportation plan emissions for 2010 and 2020

³New proposed budget comparison for CO only, in anticipation of budget being deemed adequate.

Table ES- 3. Regional Interim Emissions Comparison Summary

Metrolina Region Future year emissions less than base year emissions and Build emissions are less than No-Build emissions (kg/day)						
	NOx			VOC		
	Confor- mity	Build < Base year	Build < No- Build	Confor- mity	Build < Base year	Build < No- Build
Base year 2002	104,565			66,994		
Future year 2010 Build	53,425	Yes	Yes	39,899	Yes	Yes
2010 No-Build	53,487			40,836		
2020 Build	23,858	Yes	Yes	25,916	Yes	Yes
2020 No-Build	23,876			27,657		
2030 Build	19,148	Yes	Yes	25,473	Yes	Yes
2030 No-Build	19,811			27,183		

Table ES- 4. Cross-Reference Index

Cross-Reference Index for Conformity Determination Report for the Metrolina MPOs 2030 Long-Range Transportation Plan, and Non-MPO area				
	Page Number or Appendix			
Conformity Requirement	CRMPO	GUAMPO	MUMPO	Non-MPO Area
MPO's formal finding of conformity.	App. O	App. O	App. O	App. O
Table of Contents.	Pages iv through viii			
The purpose of this report is to comply with the requirements of the CAAA, TEA-21, and 40 CFR 51 and 93.	Page 1-2	Page 1-2	Page 1-2	Page 1-2
The former and current classification of the airshed and the pollutants for which the airshed was classified as nonattainment.	Page 2-1	Page 2-1	Page 2-1	Page 2-1
The date a county was redesignated to a Maintenance Area.	-----	Page 2-1, App. B	Page 2-1, App. A App. B,	-----
The emissions expected from implementation of the long-range plan are equal to, or less than, the emissions budget for counties with budgets adopted in the Maintenance Plan and established in the SIP.	Page 2, 4	Page 2, 3, 4	Page 2, 3, 4	Page 2, 4
The adopted long-range plan is fiscally constrained (§93.108).	Page 3-2, 3-9	Page 3-2, 3-9	Page 3-2, 3-9	Page 3-2, 3-6
The latest planning assumptions were used in the conformity analysis of the long-range plan (§93.110).	Page 3-6	Page 3-6	Page 3-6	Page 3-6
The latest emissions model was used in the conformity analysis of the long-range plan (§93.111).	Page 4-1	Page 4-1	Page 4-1	Page 4-1
Conformity determined according to §93.105 and the MUMPO public involvement procedures.	Page 6-1	Page 6-1	Page 6-1	Page 6-1
Dates of the Technical Coordinating Committee review of the conformity determination and the recommendation.	App. L, O	App. L, O	App. L, O	App. L, O
SIP emissions budget comparison demonstrates conformity of the adopted long-range transportation plan.	Page 7-1	Page 4-13, 7-1	Page 4-11, 4-12, 7-1	Page 5-1, 5-2
	App. D		App. D	App. D

Cross-Reference Index for Conformity Determination Report for the Metrolina MPOs
2030 Long-Range Transportation Plan, and Non-MPO area

	Page Number or Appendix			
Conformity Requirement	CRMPO	GUAMPO	MUMPO	Non-MPO Area
Listing of projects in each analysis year (both highway and transit).		App. D		
Explanation of the VMT Normalization Method.	Page 4-2, App. G	Page 4-2, App. G	Page 4-2, App. G	Page 4-2, App. G
Analysis of “donut area” projects.	Page 4-11			
Off-model analysis performed.	Page 4-4			
Significant comments of reviewing agencies addressed by the MPO, or a statement that no significant comments were received.	App. J, M, N			
Emissions Calculations.	App. H, I			
Mobile input files.	App. E			