

**Rocky Mount Urban Area
Transportation Conformity Pre-Analysis Consensus Plan
(8-Hour Ozone)**

June 9, 2008 (version 1)

*Revised:
August 20, 2008*

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MPO:

- Rocky Mount Urban Area MPO

Donut Areas:

- Rural Portion of Nash County outside of the MPO area
- Rural Portion of Edgecombe County outside of the MPO area

The following pollutants will be included in this conformity determination:

- 8-hour ozone

Nash County and Edgecombe County

The Rocky Mount Urban Area MPO is proposing the following plan and procedures to conduct a transportation conformity analysis. This plan is being submitted to the interagency consultation partners for soliciting consensus before commencement of a full-scale transportation conformity analysis. The plans and procedures may be revised as the Rocky Mount Urban Area MPO proceeds with the analysis. Notification of changes will be made to the interagency consultation partners.

Rocky Mount Urban Area 2035 Multi-Modal Long Range Transportation Plan (LRTP), and 2009-2015 Metropolitan Transportation Improvement Program (MTIP)

1. **Existing Land Use and Demographics:** The City of Rocky Mount is located approximately 50 miles east of Raleigh, NC and 115 miles south of Richmond, VA near the Interstate 95 and US Highway 64 interchange. The City straddles the county line between Edgecombe and Nash Counties. The most prominent land feature is the Tar River, which falls as the Piedmont area of NC transforms into the broad level areas of the Coastal Plain of NC. The City covers approximately 37 square miles and includes approximately 58,000 people (15th largest City in NC). The City's population has grown at 1 to 1.3% per year for the last ten years. The surrounding counties are largely rural with an economy based on agriculture; whereas, the City has a diverse economy based on industry and business. The

Rocky Mount Land Use Plan promotes a balanced approach to growth including revitalization of the downtown area, redevelopment of under utilized areas within the City’s core, and development of areas around the periphery of the City.

2. **Model (Baseline) Year:** 2005 for the MPO
3. **MTIP Years:** 2009-2015 for both the MPO and the RPO
4. **LRTP Horizon Year:** 2035 for the MPO and 2009-2015 for the RPO using the STIP
5. **LRTP Travel Demand Intermediate Years:** 2015 and 2025
6. **Transportation Conformity Analysis Years (8-Hour Ozone):**
Baseline: 2005, 2015, 2025 and 2035

The table below summarizes air quality conformity analysis methods and years for the different parts of the Ozone Non-Attainment Area. Specific conformity year information is listed following the table.

County	Area Model Status	Area Emissions Budget Status	Emissions Analysis Source	Emission Comparison Years			
				2015	2017 ¹	2025	2035 Horizon
Edgecombe	modeled area	O3-Yes	TDM	O3	O3	O3	O3
	rural area	O3-Yes	rural spreadsheet	O3	O3	O3	O3
Nash	modeled area	O3-Yes	TDM	O3	O3	O3	O3
	rural area	O3-Yes	rural spreadsheet	O3	O3	O3	O3

Footnotes for Table:

¹ O3 MVEB comparison by interpolation

The attainment year for RM is 2005 and that year has passed so a model run and comparison is not required

Additional table notes and explanations:

County: 8-Hour Ozone: The Rocky Mount Urban Area Ozone Maintenance Area consists of two whole counties (Edgecombe and Nash). This area also includes two donut areas represented by the NCDOT in cooperation with the Upper Coastal Plain RPO.

Model Status: The Rocky Mount Urban Area MPO MAB boundaries in Edgecombe and Nash Counties are covered by the TDM. NCDOT will analyze the parts of Edgecombe and Nash Counties outside the model boundary using the NCDOT rural spreadsheet.

Emission Analysis Source: The VMT and speeds for the regional emissions analysis (REA) will be derived from the TDM. The NCDOT rural spread sheet will be used to derive VMT and speeds for the donut areas outside of the MPO MAB.

Emission Analysis Years: The Rocky Mount Urban Area has a State Implementation Plan (SIP) for the 8-hour ozone standard. The EPA approved the SIP for the Rocky Mount Urban Area thereby redesignating it from an 8-hour Non-Attainment Area to an Attainment (or Maintenance) Area effective on January 5, 2007.

Emission Comparison Years: 8-Hour Ozone (SIP): 2015 (modeled-compare to 2008 MVEB), 2017 (interpolated between 2015 and 2025-compare to 2017 MVEB), 2025 (modeled-compare to 2017 MVEB) and 2035 (modeled-compare to 2017 MVEB).

List of Specific Conformity Years (8-Hour Ozone SIP)

- Baseline: 2005 – Note that for this conformity determination, the Air Quality Conformity Baseline Year is 2005 while the base year for the Rocky Mount model is also 2005.
- Horizon: 2035
- SIP MVEB Years: 2008 and 2017
- Emission Comparison Years:
 - NO_x, – 2015, 2017, 2025 and 2035
 - VOC-no MVEB comparisons due to EPA insignificance finding

7. Non-attainment / Maintenance Counties: Edgecombe and Nash

8. Land Use Demographics Projections / Forecast: Demographic information from the 2000 United States Census was used to make land use projections. The Census data was supplemented by housing, employment, and population data of the Rocky Mount Urban Area collected in 2001 as part of the Travel Demand Model development. Census data, historical records and trends for Rocky Mount gathered from the Census Bureau and the North Carolina Employment Security Commission were used to make the socio-economic projections for population and employment levels for the years 2015, 2025, and 2035 using the base year (2005) inventory.

9. Travel Demand Model (or Rural Spreadsheet):

Modeling tools for the area designated Ozone Non-Attainment (Nash and Edgecombe Counties) include the TransCad model for the Rocky Mount Urban Area and NCDOT rural spreadsheet. The TransCad model covers the City of Rocky Mount, the Town of Nashville, and portions of Nash and Edgecombe Counties. The NCDOT rural spreadsheet model will be used for the portions of Nash and Edgecombe Counties not covered by the TransCad model. The rural spreadsheet incorporates the vehicle miles traveled (VMT) from the Universe file and historical trends to project the VMT in the horizon years at the county level. The spreadsheet calculates speed based on a method originally developed by the Texas Transportation Institute (TTI) but modified by NCDOT. Speeds generated by the spreadsheet are incorporated into the MOBILE6.2 emissions program. Then, emission factors developed by MOBILE6.2 are imported into the spreadsheet and multiplied by forecasted VMT to generate emission. The travel demand model is being created in TransCad. It is a four-step model and encompasses 1 MPO and portions of 1 RPO. A multitude of land use and demographic data was collected as input into the model. The model's base year (year of data collection) for calibration is 2005.

10. Modal Split / Mode Choice: N/A

11. VMT Adjustments: (not applicable for the 8-hour ozone standard)

12. Motor Vehicle Emissions Budgets:

The Rocky Mount Urban Area (Edgecombe and Nash Counties) is maintenance for the 8-hour ozone standard.

- 8-Hour Ozone SIP: The conformity determination for the Rocky Mount Urban Area will be based on the 8-hour ozone SIP MVEBs. The current SIP has MVEBs for 2008 and 2017. The LRTP year of 2015 will be compared to the 2008 SIP MVEB and the LRTP years of 2017, 2025 and 2035 will be compared to the 2017 SIP MVEB. See the chart provided below for details:

NOx: Current 8- hour Ozone SIP (tons/day)				
Area	Comparison Year			
	2015	2017	2025	2035
Edgecombe	3.03	1.53	1.53	1.53
Nash	10.77	5.03	5.03	5.03

Attainment Date: 2005

No SIP MVEB's were provided for VOC's in the Rocky Mount Area's 8-hr

<i>j. Speeds:</i>	From TDM and Rural spreadsheet
<i>k. Vehicle Age Distribution:</i>	Based on 2006 2007 vehicle registration data provided by NCDOT.
<i>l. I/M Program:</i>	OBD for 2005 and beyond
<i>m. Anti-tampering Applicability:</i>	Applies to vehicles 35 years and newer <ul style="list-style-type: none"> ▪ 2015 run: 1981 and newer ▪ 2025 run: 1991 and newer ▪ 2035 run: 2001 and newer
<i>n. RVP*:</i>	9.0 for summer *RVP - Reid Vapor Pressure is a measure of gasoline volatility
<i>o. Strategies:</i>	None
<i>p. I/M Fraction:</i>	Will be based on 2005 accident data from NCDOT, unless 2006 data becomes available in the near future, in which case we will use the latest data. A table will be provided by area and year.
<i>q. Evaluation Month:</i>	July for NOx.
<i>r. VMT:</i>	TDM and rural spreadsheet
<i>s. Diesel Sulfur Content:</i>	June, 2006 – May, 2010 use 43 ppm June, 2010 – 2015 use 11 ppm Based on USEPA Technical Guidance on the Use of MOBILE6.2 for Emission Inventory Preparation (August 2004)

16. Emissions analysis units, conversion factors, significant figures, rounding and truncating conventions:

- Units= Kilograms or Grams
- Grams to tons conversion factor = Divide x grams by 907184.7 to get tons
- Round to 2 decimal places

17. CMAQ Projects: C-4969A, C-4969B, and C-4969C – Sidewalks
C-4970A, C-4970B, C-4970C, C-4970D, and C-4970E – Intersection Improvements

18. Regionally Significant Projects (Federal or Non-Federal):

All regionally significant projects including, at a minimum, all principal arterial highways as outlined in the Conformity Regulations (40 CFR 93.101).

This identification will be complete for both the MPO and rural area by 07/31/08.

19. Exempt Projects:

All exempt projects in the MTIP will be identified according to specifications outlined in the Conformity Regulations (40 CFR 93.126). This will be complete for both the MPO and rural area by 07/31/08.

20. Conformity Schedule:

See attached.