North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

February 29, 2012

Gwendolyn Keyes Fleming
Regional Administrator
USEPA, Region 4
Sam Nunn Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960

Dear Ms. Fleming:

Pursuant to the requirements of the federal Clean Air Act and on behalf of Governor Beverly E. Perdue, I am submitting to you and your colleagues at the U.S. Environmental Protection Agency (EPA) the State of North Carolina's amended recommendations concerning the nonattainment boundary within the Charlotte-Gastonia-Salisbury area for the 2008 8-hour ozone standard. We are recommending the boundaries which are described in the enclosed package because we believe that they are the most effective way to achieve the goals of cleaner air, healthier lives, a stronger economy, and more effective conservation of our land and water. We look forward to discussing these recommendations with you after EPA has had the opportunity to review and comment on them.

The federal Clean Air Act requires EPA to designate areas as attainment or nonattainment following promulgation of a new national ambient air quality standard, such as the 2008 8-hour standard for ozone. North Carolina learned of the need to update the boundary recommendations, due October 28, 2011, on September 29, 2011 during a call with EPA Region 4 staff. Therefore, sufficient time to consult with the local elected officials and other partners was not available prior to the submittal. North Carolina reserved the right to further amend these recommendations based on subsequent dialogue with our partners and analysis of the current data. Based on our previous extensive public discussions for our initial boundary recommendations for the 2008 ozone standard submitted in March 2009, and our analysis of the current ambient air quality data through 2011, we initially recommended the 1997 8-hour ozone nonattainment boundary for the Charlotte-Gastonia-Salisbury metropolitan area be designated as nonattainment for the 2008 8-hour ozone standard and all remaining areas be designated as attainment.

On December 8, 2011, the EPA notified Governor Perdue that they intend to support North Carolina's recommended designation and boundary for the Charlotte-Gastonia-Salisbury area. The EPA also stated that they would work with the State concerning what the appropriate boundary for this area should be. This letter started the 120-day process by which the EPA plans to designate areas as nonattainment. The EPA also indicated in this letter that if North Carolina has additional information that we want EPA to consider it should be submitted by February 29, 2012.

The North Carolina amended recommendation is for all of Mecklenburg County and portions of Cabarrus, Gaston, Iredell, Lincoln, Rowan and Union in the Charlotte-Gastonia-Salisbury metropolitan area be designated as nonattainment for the 2008 8-hour ozone standard and that all remaining areas in the State be designated as attainment.

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North Carolina believes that a smaller area than the nonattainment boundary for the 1997 8-hour ozone standard is appropriate for the Charlotte-Gastonia-Salisbury metropolitan area. At the time areas were designated nonattainment for the 1997 8-hour ozone standard, all of the monitors were violating the standard in the Charlotte-Gastonia-Salisbury area as well as many of the urban areas across the state. A larger nonattainment boundary was needed and proved sufficient to meet the 1997 standard. With the 2008 ozone standard, the Charlotte-Gastonia-Salisbury area is the only area in the state violating the standard and not all of the monitors in this area are in violation. North Carolina has carefully examined the area and determined that a number of townships with rural characteristics with little to no emission sources should be designated attainment.

Ozone pollution is an air quality issue in North Carolina that we are working hard in conjunction with our many local, state, and national partners to solve. Over the past decade North Carolina has implemented substantial, progressive emissions reductions that have resulted in all areas within the state attaining the 1997 8-hour ozone standard. Under the North Carolina legislature's Clean Air Bill of 1999, the State's vehicle inspection and maintenance program was changed to an on-board diagnostic (OBD) program which now covers 48 counties. In addition to implementation of the NOx SIP Call rules, in 2002 North Carolina's General Assembly also enacted the landmark multi-pollutant legislation known as the Clean Smokestacks Act which continues to result in significant sulfur dioxide and nitrogen oxides (NOx) emissions reductions from the State's two largest electric utility companies. As demonstrated by these and other actions, North Carolina is committed to improving air quality.

North Carolina is committed to protecting the health of our citizens, our environment, and our economy. Solving our ozone and other air quality concerns is critical to achieving those goals. Improving air quality is vital to the health of our citizens, our future growth, prosperity and quality of life. We look forward to continuing to work with EPA and all of our other partners on the challenging tasks ahead to establish appropriate boundaries for the Charlotte-Gastonia-Salisbury nonattainment area and to develop strategies to attain the 2008 8-hour ozone standard. More detailed information and supporting data are included in the enclosed amended recommendation package. Thank you for your consideration of these recommendations.

Sincerely,

Dee Freeman

DF:lab

Enclosure

cc: The Honorable Beverly E. Perdue
The Honorable Steve Troxler
The Honorable Gene Conti
The Honorable J. Keith Crisco
Sheila C. Holman

State of North Carolina's

Amended Recommendation on Boundaries

For the 2008 8-Hour Ozone Standard

February 29, 2012
Governor Beverly Perdue

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Introduction

The purpose of this document is to provide the State of North Carolina's amended recommendations on boundaries for the 2008 8-hour ozone standard.

On March 12, 2008, the United States Environmental Protection Agency (EPA) promulgated a revised 8-hour ozone National Ambient Air Quality Standard (NAAQS) of 75 parts per billion (ppb). On March 12, 2009, the State of North Carolina submitted its boundary recommendation based on the ambient air quality data for 2006-2008. However, in September 2009, the EPA announced that they were going to reconsider the 2008 ozone standard and postponed implementation of this standard. It was announced that the reconsideration of the 2008 ozone standard would be withdrawn on September 2, 2011.

The EPA is now moving forward with the implementation of the 2008 ozone standard. Since most states had submitted boundary recommendations in 2009, the EPA has advised states that they will use the boundary recommendations previously submitted and update them based on the 2008-2010 ambient air quality data. The EPA requested states wishing to revise their boundary recommendations to submit them by October 28, 2011. The EPA also agreed to use 2009-2011 ambient air quality data for the designation process if a state planned to certify their 2011 data early.

North Carolina has elected to certify the 2011 ambient air quality data early. Based on the 2009-2011 data, only the Charlotte-Gastonia-Salisbury area is violating the 2008 8-hour ozone standard. In October 2011, North Carolina submitted a revised boundary recommendation, however, and there was little time to go through a full public comment process before October 28, 2011; therefore, the North Carolina Department of Environmental and Natural Resources (NCDENR) recommended the same area that was recommended in 2009 for the Charlotte-Gastonia-Salisbury area. Given the short timeframe provided by EPA in October 2011, North Carolina reserved the right to further amend the recommendation after consulting with the local elected officials and analyzing the current data.

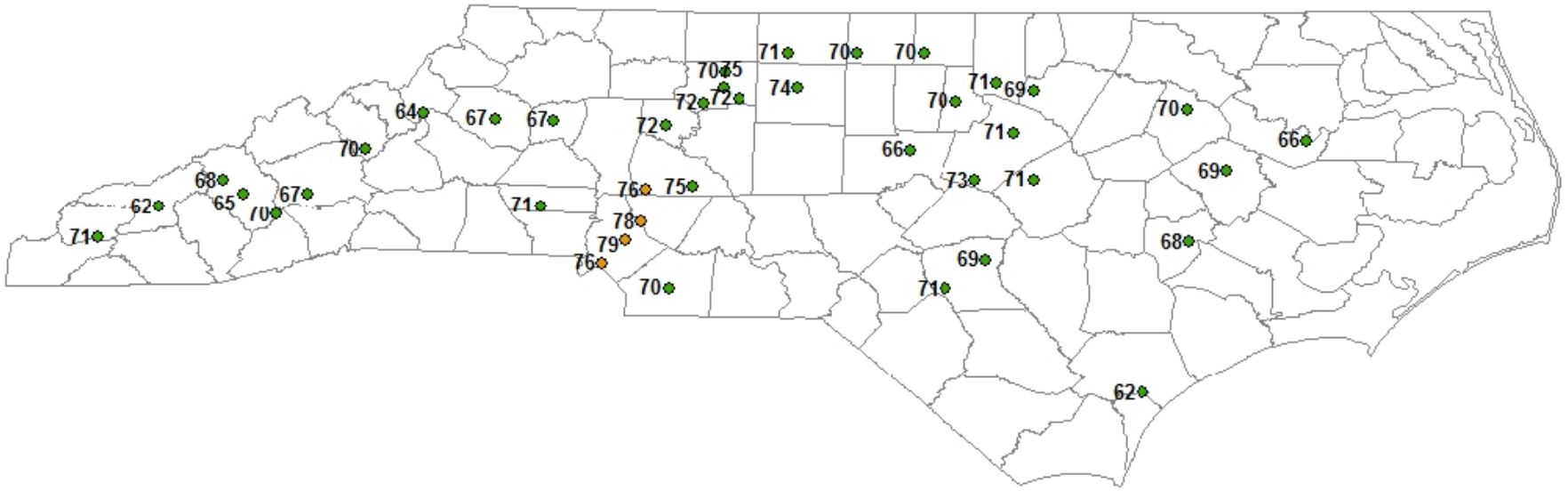
On December 8, 2011, the EPA notified Governor Perdue that they intend to support North Carolina's recommended designation and boundary for the Charlotte-Gastonia-Salisbury area. The EPA also stated that they would work with the State concerning what the appropriate boundary for this area should be. This letter started the 120-day process by which the EPA plans to designate areas as nonattainment. North Carolina has until February 29, 2012, to amend the recommendation as necessary.

Background

The Clean Air Act (CAA) requires the EPA to designate areas as attainment or nonattainment following the promulgation of a new NAAQS. The nonattainment boundaries are to be based on the data collected at the ambient air monitoring stations. The State and local air programs operate the ozone monitoring sites. The data is quality assured, and then submitted to the EPA where it becomes part of a national database. The CAA requires that the monitoring data be evaluated to determine which monitors meet the standard and which monitors violate the standard. For the 8-hour ozone standard, three years worth of data for each monitor is evaluated. The fourth

highest daily maximum 8-hour average ozone value for each of the three years is averaged together, and the resulting average is then compared to the standard. The three-year average is referred to as the design value. With their action on March 12, 2008, the EPA revised the 8-hour ozone standard to 75 ppb. Therefore, a monitored three-year average of 75 ppb meets or attains the standard, while a three-year average of 76 ppb or greater violates the ambient standard.

North Carolina evaluated the ozone monitoring data for the State for the three-year period of 2009-2011, and determined that 4 out of 40 monitors currently violate the 2008 8-hour ozone standard. Figure 1 displays a map of the 2009-2011 8-hour ozone design values for North Carolina. This map and a table used for calculating the respective design values are included in Appendix A. The four violating monitors are all located in the Charlotte-Gastonia-Salisbury metropolitan area.



Statewide 8-Hour Ozone Design Values

2009-2011 8-Hour Ozone Design Values

- Attaining (75 ppb or less)
- Nonattaining (76 ppb or greater)

Figure 1: North Carolina's 2009-2011 8-Hour Ozone Design Values Map

Summary of Recommendation

North Carolina recommends a designation of nonattainment for the 2008 8-hour ozone standard for all of Mecklenburg County, and portions of Cabarrus, Gaston, Iredell, Lincoln, Rowan, and Union Counties. North Carolina recommends a designation of attainment for the 2008 8-hour ozone standard for the remainder of North Carolina. The nonattainment area boundary recommendation for the Charlotte-Gastonia-Salisbury combined statistical area is displayed in Figure 2. Tables 1 and 2 summarize North Carolina's recommendation of areas as nonattainment and attainment, respectively, for the 2008 8-hour ozone NAAQS.

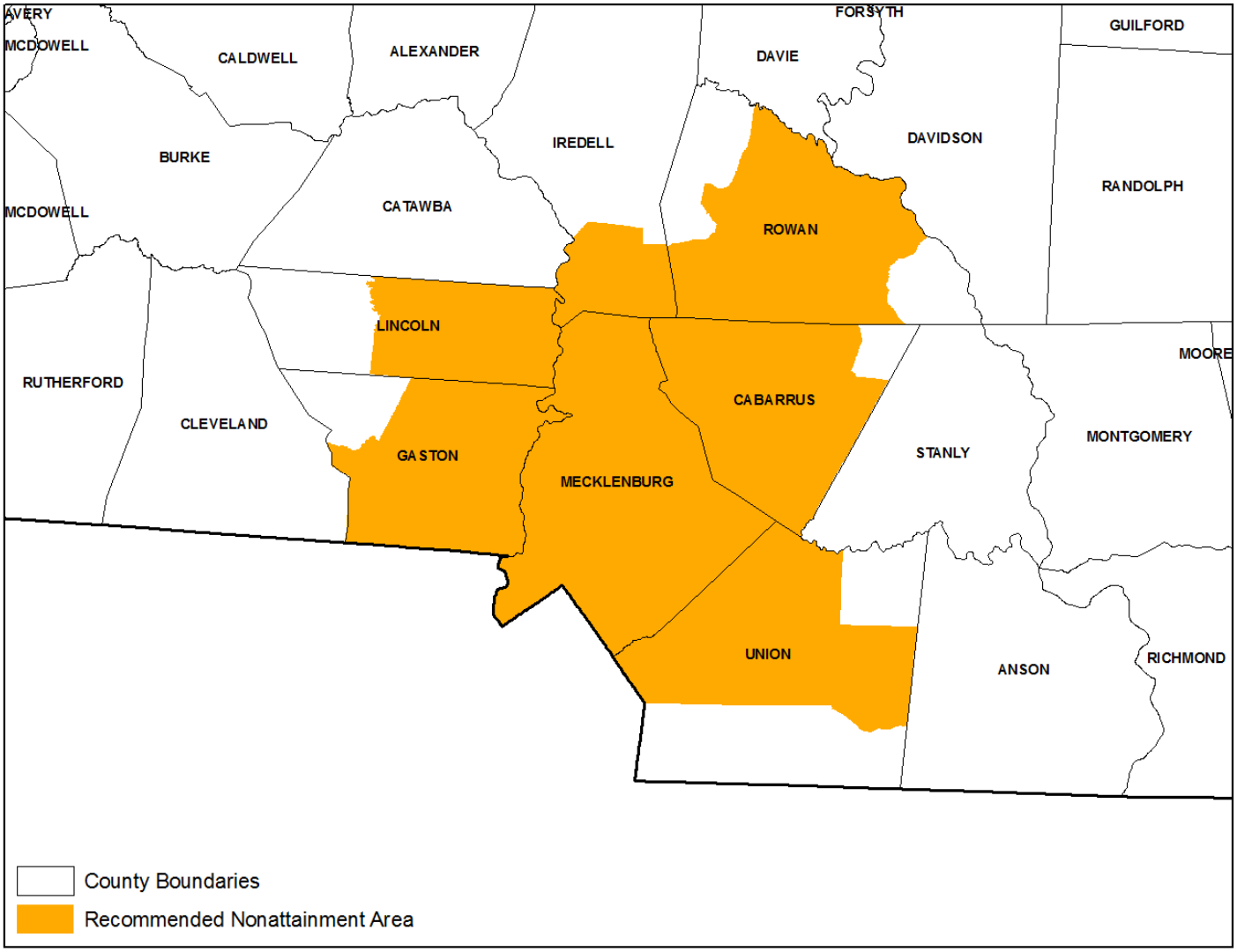


Figure 2: North Carolina's Revised Recommendation For 8-Hour Ozone Nonattainment Area Boundaries

Table 1: North Carolina Boundary Recommendation for 8-Hour Ozone Standard - Nonattainment

Designated Area	Designation Type
Charlotte-Gastonia-Salisbury Area: Cabarrus County (part) Central Cabarrus Township Georgeville Township Harrisburg Township Kannapolis Township Midland Township Mount Pleasant Township New Gilead Township Odell Township Poplar Tent Township Rimertown Township Gaston County (part) Crowders Mountain Township Dallas Township Gastonia Township Riverbend Township South Point Township Iredell County (part) Davidson Township Coddle Creek Township Lincoln County (part) Catawba Springs Township Ironton Township Lincolnton Township Mecklenburg County Rowan County (part) Atwell Township China Grove Township Franklin Township Litaker Township Locke Township Providence Township Salisbury Township Steele Township Unity Township Union County (part) Goose Creek Township Marshville Township Monroe Township Sandy Ridge Township Vance Township	Nonattainment

Table 2: North Carolina Boundary Recommendation for 8-Hour Ozone Standard - Attainment

Designated Area	Designation Type
Alamance County	Attainment
Alexander County	Attainment
Alleghany County	Attainment
Anson County	Attainment
Ashe County	Attainment
Avery County	Attainment
Beaufort County	Attainment
Bertie County	Attainment
Bladen County	Attainment
Brunswick County	Attainment
Buncombe County	Attainment
Burke County	Attainment
Cabarrus County (part)	
Gold Hill Township	Attainment
Caldwell County	Attainment
Camden County	Attainment
Carteret County	Attainment
Caswell County	Attainment
Catawba County	Attainment
Chatham County	Attainment
Cherokee County	Attainment
Chowan County	Attainment
Clay County	Attainment
Cleveland County	Attainment
Columbus County	Attainment
Craven County	Attainment
Cumberland County	Attainment
Currituck County	Attainment
Dare County	Attainment
Davidson County	Attainment
Davie County	Attainment
Duplin County	Attainment
Durham County	Attainment
Edgecombe County	Attainment
Forsyth County	Attainment
Franklin County	Attainment
Gaston County (part)	
Cherryville Township	Attainment
Gates County	Attainment
Graham County	Attainment
Granville County	Attainment

Table 2: North Carolina Boundary Recommendation for 8-Hour Ozone Standard - Attainment

Designated Area	Designation Type
Greene County	Attainment
Guilford County	Attainment
Halifax County	Attainment
Harnett County	Attainment
Haywood County	Attainment
Henderson County	Attainment
Hertford County	Attainment
Hoke County	Attainment
Hyde County	Attainment
Iredell County (part)	
Barringer Township	Attainment
Bethany Township	Attainment
Chambersburg Township	Attainment
Concord Township	Attainment
Cool Springs Township	Attainment
Eagle Mills Township	Attainment
Fallstown Township	Attainment
New Hope Township	Attainment
Olin Township	Attainment
Sharpesburg Township	Attainment
Shiloh Township	Attainment
Statesville Township	Attainment
Turnersburg Township	Attainment
Union Grove Township	Attainment
Jackson County	Attainment
Johnston County	Attainment
Jones County	Attainment
Lee County	Attainment
Lenoir County	Attainment
Lincoln County (part)	
Howards Creek Township	Attainment
North Brook Township	Attainment
Macon County	Attainment
Madison County	Attainment
Martin County	Attainment
McDowell County	Attainment
Mitchell County	Attainment
Montgomery County	Attainment
Moore County	Attainment
Nash County	Attainment
New Hanover County	Attainment
Northampton County	Attainment

Table 2: North Carolina Boundary Recommendation for 8-Hour Ozone Standard - Attainment

Designated Area	Designation Type
Onslow County	Attainment
Orange County	Attainment
Pamlico County	Attainment
Pasquotank County	Attainment
Pender County	Attainment
Perquimans County	Attainment
Person County	Attainment
Pitt County	Attainment
Polk County	Attainment
Randolph County	Attainment
Richmond County	Attainment
Robeson County	Attainment
Rockingham County	Attainment
Rowan County (part)	
Cleveland Township	Attainment
Morgan Township	Attainment
Mount Ulla Township	Attainment
Scotch Irish Township	Attainment
Rutherford County	Attainment
Sampson County	Attainment
Scotland County	Attainment
Stanly County	Attainment
Stokes County	Attainment
Surry County	Attainment
Swain County	Attainment
Transylvania County	Attainment
Tyrrell County	Attainment
Union County (part)	
Buford Township	Attainment
Jackson Township	Attainment
Lanes Creek Township	Attainment
New Salem Township	Attainment
Vance County	Attainment
Wake County	Attainment
Warren County	Attainment
Washington County	Attainment
Watauga County	Attainment
Wayne County	Attainment
Wilkes County	Attainment
Wilson County	Attainment
Yadkin County	Attainment
Yancey County	Attainment

Area Specific Recommendations on Boundaries for 8-hour Ozone Nonattainment

The amended recommendation addresses the designation area boundary criteria laid out in the December 4, 2008 memo from Robert J. Meyers, EPA Principal Deputy Assistant Administrator entitled, "Area Designations for the 2008 Revised Ozone National Ambient Air Quality Standards" (Appendix C). The designation recommendations are also consistent with the methodology behind the establishment of all existing and previous 8-hour ozone nonattainment area boundaries in North Carolina.

The purpose of the remainder of this document is to address the criteria that EPA established for considering boundaries less than the full Core Based Statistical Area (CBSA) or Combined Statistical Area (CSA) for nonattainment designation. The remaining documentation only addresses in detail those areas where North Carolina's amended recommendation is less than the full CBSA or CSA.

Charlotte-Gastonia-Salisbury Metropolitan Area Discussion

EPA's Presumptive 8-Hour Ozone Nonattainment Boundary:

The EPA's presumptive nonattainment boundary would include Anson, Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, and Union Counties.

EPA's October 2011 8-Hour Ozone Nonattainment Boundary:

The EPA's accepted nonattainment boundary would include Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan, and Union Counties, and the Townships of Davidson and Coddle Creek in Iredell County

North Carolina's Revised Recommended 8-Hour Ozone Nonattainment Boundary:

North Carolina's recommended nonattainment boundary includes Mecklenburg County; the Townships of Central Cabarrus, Georgeville, Harrisburg, Kannapolis, Midland, Mount Pleasant, New Gilead, Odell, Poplar Tent and Rimertown in Cabarrus County; the Townships of Crowders Mountain, Dallas, Gastonia, Riverbend and South Point in Gaston County; the Townships of Davidson and Coddle Creek in Iredell County; the Townships of Catawba Springs, Ironton and Lincolnton in Lincoln County; the Townships of Atwell, China Grove, Franklin, Gold Hill, Litaker, Locke, Providence, Salisbury, Steele and Unity Townships in Rowan County; and the Townships of Goose Creek, Marshville, Monroe, Sandy Ridge and Vance in Union County (Figure 3).

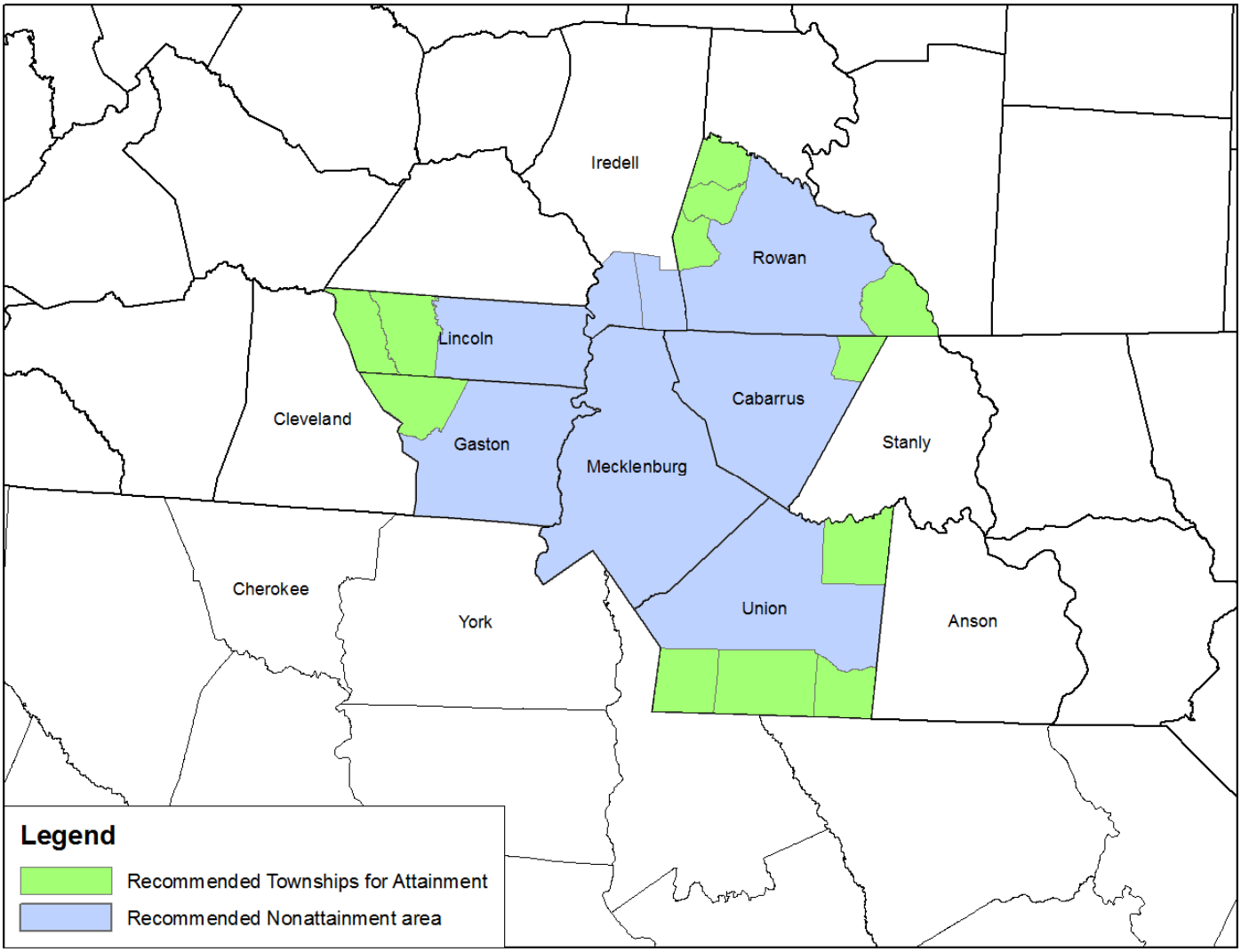


Figure 3: North Carolina's Revised Recommendation for the Charlotte-Gastonia-Salisbury CSA 8-Hour Ozone Nonattainment Area Boundaries

Charlotte-Gastonia-Salisbury CSA 8-Hour Ozone Design Values:

Table 3 below contains the design values for the monitors located in the Charlotte-Gastonia-Salisbury CSA, along with the fourth highest 8-hour average ozone concentrations for 2009 through 2011 which are used to calculate the design values. Figure 4 displays the design values at the monitor locations. Also displayed in Figure 4 are the 2009-2011 design values for Mocksville in Davie County, North Carolina (72 ppb) and Cowpens National Battlefield in Cherokee County, South Carolina (66 ppb). The data from these two monitors support the North Carolina amended boundary recommendation.

Table 3: Charlotte-Gastonia-Salisbury Regional Ozone Design Value Table

Monitoring Sites	County	Annual 4th Highest 8-hr Average			Design Value
		2009	2010	2011	2009-2011
Crouse	Lincoln	0.065	0.072	0.077	0.071
Arrowood	Mecklenburg	0.068	0.078	0.082	0.076
County Line	Mecklenburg	0.071	0.082	0.083	0.078
Garinger (Plaza)	Mecklenburg	0.069	0.082	0.088	0.079
Enochville	Rowan	0.073	0.078	0.078	0.076
Rockwell	Rowan	0.071	0.077	0.077	0.075
Monroe	Union	0.067	0.071	0.073	0.070

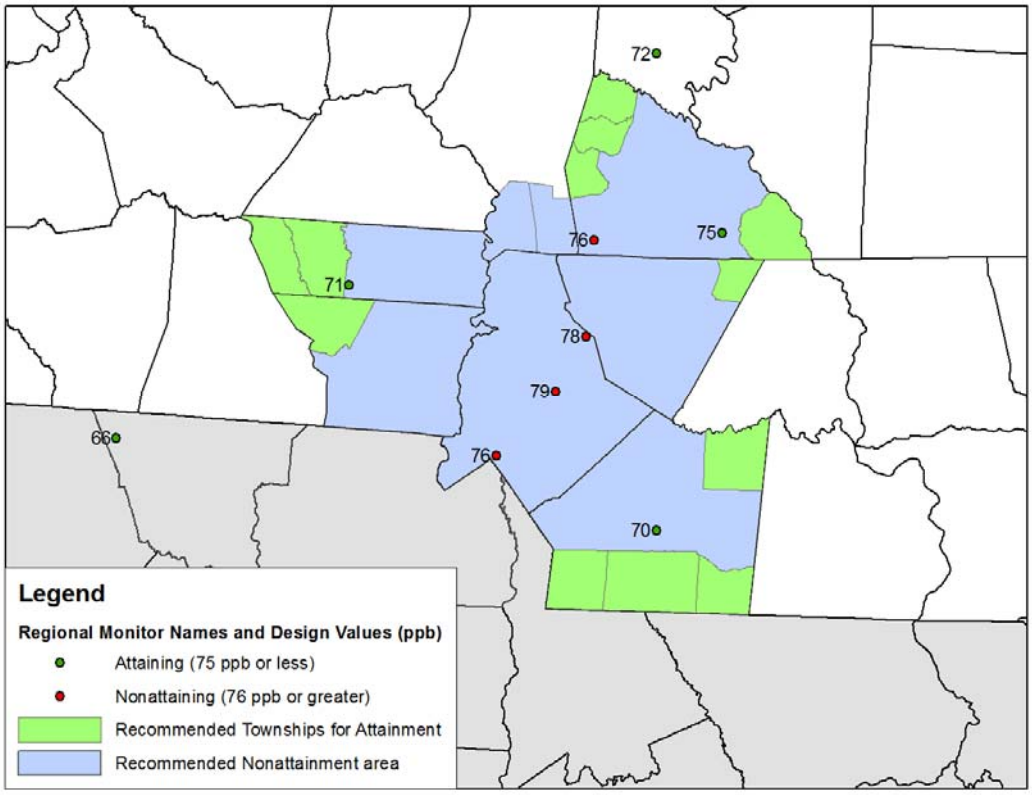


Figure 4: Charlotte-Gastonia-Salisbury Regional 2009-2011 8-Hour Ozone Design Values

Four of the monitors in the Charlotte-Gastonia-Salisbury metropolitan area currently measure the highest ozone values in the State. North Carolina recommends that the whole county of Mecklenburg and the partial counties of Cabarrus, Gaston, Iredell, Lincoln, Rowan, and Union be designated as nonattainment.

All counties within the CSA are discussed below addressing the 9 criteria the EPA identified in their nonattainment boundary guidance (Appendix C).

Anson County

This is a Metropolitan Statistical Area (MSA) county within the Charlotte-Gastonia-Salisbury CSA, and it does not have an ozone monitor located in the county. This is a mostly rural county with low emissions impacts from point sources and commuting traffic into the urbanized core of the CSA. Therefore, North Carolina is recommending no portion of the county be designated as nonattainment.

Air Quality Data*:*

As shown in Figure 4 above, the CSA has 7 monitors with design values ranging from 70 to 79 ppb. The monitor located nearest Anson County is in neighboring Union County in Monroe with a design value of 70 ppb. On days when this monitor has the highest readings, the winds generally are out of the west and southwest. Since Anson County is east of this monitor, the emissions from this county are not expected to impact the air quality on days when this monitor would observe an exceedance of the 2008 ozone standard. Additionally, any area downwind of the Monroe monitor, including Anson County, would be expected to have a design value equal to or lower than 70 ppb.

Emissions Data:

Based on 2010 emissions inventories, Anson County has annual point source emissions of 167 tons and 76 tons of nitrogen oxides (NO_x) and volatile organic compounds (VOCs), respectively. There is one major point source of NO_x in Anson County: the NCEMC Anson plant in Lilesville, emitting 119 tons per year. The NCEMC plant is in the far eastern part of the county and the CSA, and emissions from the plant would have a negligible impact on ozone concentrations within the CSA.

Population Density and Degree of Urbanization*:*

26,948 people live in Anson County. The county is predominantly rural, with all townships having a population density of 121 people per square mile or less. Figure 5 below displays the population density map for the Charlotte-Gastonia-Salisbury CSA. This low population density supports the attainment recommendation.

Traffic and Commuting Patterns*:*

Anson County has 795,460 daily Vehicle Miles Traveled (VMT), according to 2010 data. Anson County contributes less than one-tenth of 1 percent of the commuters who drive into Mecklenburg County to work each day, and ranks the lowest among commuting counties into Mecklenburg. Traffic counts are low compared with the rest of the CSA. Vehicle emissions from this county have a negligible impact on ozone concentrations in the CSA.

Growth Rates and Patterns*:*

The population in Anson County increased by 6.6% from 2000 to 2010, contrary to the 2000 census prediction that the population would decrease by 1.7% during this time period. However, even with the population increase, this is a very modest growth rate compared to the more urban areas of North Carolina and Anson County remains a very rural area. The population is expected to slightly increase from 2010 to 2020 by 1.9%. This county is not expected to grow enough to become a significant contributor to ozone concentrations in the Charlotte-Gastonia-Salisbury CSA.

Meteorology:
Winds across Anson County are climatologically from the southwest. With this climatological wind pattern, the emissions in the county are not expected to impact the ambient air quality in the CSA.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area does not include Anson County and it is not included in North Carolina's recommendations for nonattainment areas under the 2008 8-hour ozone standard.

Level of control of emissions sources*:*
There is one major point source within the county. Mobile sources are another source of NO_x emissions. The combined Federal and state control programs for mobile sources address these emissions. Anson County is not currently subject to a vehicle emissions inspection and maintenance (I/M) program. However, vehicle safety inspections in Anson County require a visual inspection of emissions equipment. Low-sulfur gasoline is required statewide.

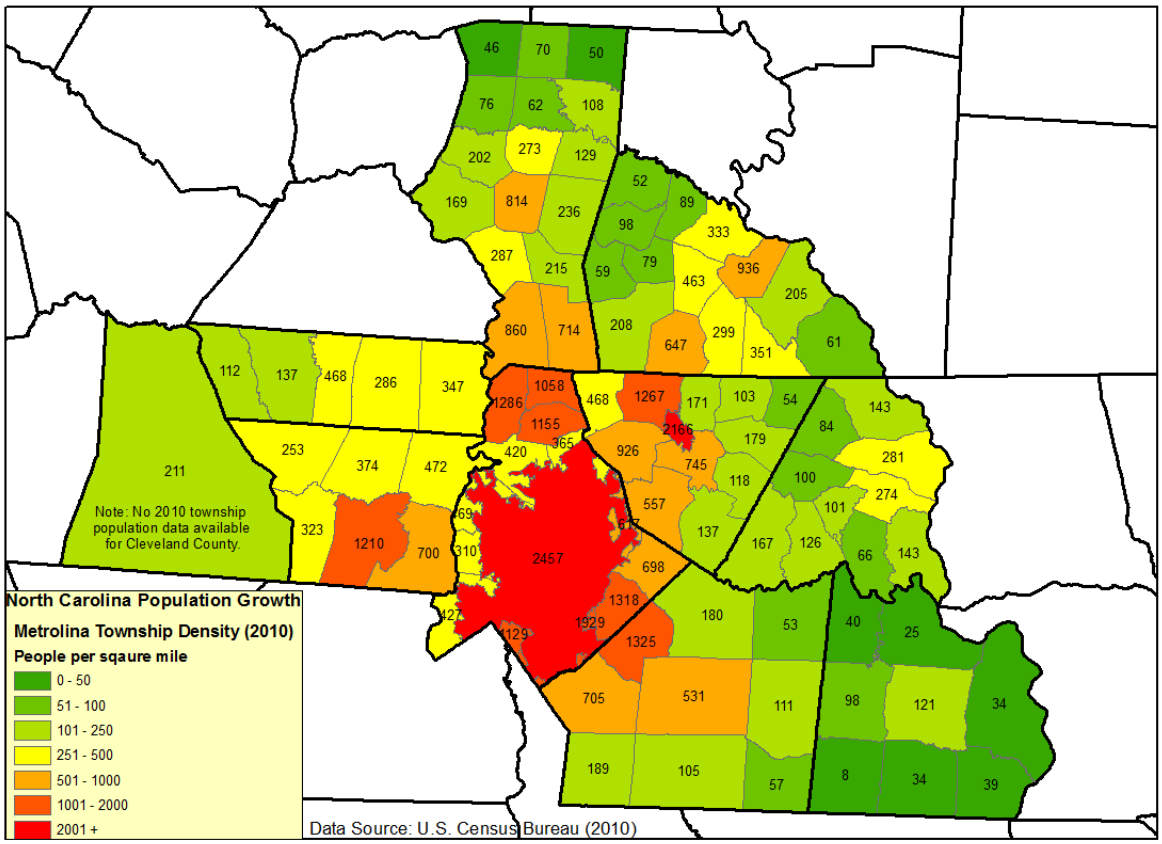


Figure 5. Population Density Map for the Charlotte-Gastonia-Salisbury CSA based on the 2010 Census

Cabarrus County

This is a MSA county within the Charlotte-Salisbury-Gastonia CSA with no ozone monitor located within the county. Most of the eastern portions of Cabarrus County are rural, with the more populated western portions commuting into Mecklenburg County. Therefore, North Carolina is recommending that a smaller portion than the entire county be designated as nonattainment.

The recommendation is that the following townships be designated as nonattainment: Central Cabarrus, Concord, Georgeville, Harrisburg, Kannapolis, Midland, Mount Pleasant, New Gilead, Odell, Poplar Tent, and Rimertown.

Air Quality Data:

As shown in Figure 4 above, the CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. The monitor nearest to Cabarrus County is located at County Line in Mecklenburg County, with a design value of 78 ppb. The closest monitor to Gold Hill Township, the only township NCDENR is recommending to be designated as attainment, is the Rockwell monitor with a design value of 75 ppb. Rockwell is more representative of the ozone values in Gold Hill Township and would be expected to have a design value below the 76 ppb standard.

Emissions Data:

Based on 2010 emissions inventories, Cabarrus County has 315 tons per year of point-source NO_x and the county has 289 tons per year of point-source VOC. There is a significant source of NO_x, 139 tons per year from the Corning, Inc. plant in Midland.

Gold Hill Township has no point sources greater than 10 tons per year of NOx and no VOC point sources. These very small sources would not be expected to contribute significantly to the ozone concentrations in the CSA.

Population Density and Degree of Urbanization:

Based on the 2010 census, 178,011 people live in Cabarrus County, of which 176,580 live in the portion recommended for nonattainment. The western portion of the county is highly populated and centered around a large interstate corridor, while the eastern portion of the county is mostly rural.

The township recommended for attainment has a population density of 54 people per square mile. This low population density supports the attainment recommendation. (Please see Appendix G for maps of population density.)

Traffic and Commuting Patterns:

Cabarrus County has 5.7 million daily VMT, according to 2010 data. Cabarrus County contributes 5.17 percent of the commuters who drive in to Mecklenburg County to work each day, most of which live in the western portion of the county. Cabarrus County ranks number 2 in commuting counties into Mecklenburg. The VMT are expected to increase to 6.5 million by 2015 and 8.1 million by 2025.

Traffic and commuting counts are quite low for Gold Hill Township, with only 0.3% of the county-wide total of commuters traveling into Mecklenburg County, supporting the attainment recommendation. Please see Appendix H for more information about commuting data from Cabarrus County.

Growth Rates and Patterns:
The population in Cabarrus County showed a significant increase between 2000 and 2010, with an increase of 34.7%. By comparison, population grew by only 13% in Gold Hill Township, much lower than the county average. A county-wide increase of 23.4% is expected between 2010 and 2020.

Meteorology:
Winds in Cabarrus County typically come from the southwest on days that ozone monitors in nearby counties exceed the standard. Less frequently, winds from the northeast are observed on days ozone monitors in nearby counties exceed the standard. With the predominant wind direction being from the southwest, Cabarrus County is impacted by emissions and ozone from Mecklenburg County. Emissions generated in the western portions of Cabarrus County drift into Rowan County.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes all of Cabarrus County. North Carolina is recommending the townships of Central Cabarrus, Concord, Georgeville, Harrisburg, Kannapolis, Midland, Mount Pleasant, New Gilead, Odell, Poplar Tent, and Rimertown be designated as nonattainment for the 2008 standard. This is a slight departure from the prior recommendation, but North Carolina believes this deviation is appropriate, given the design value trend at the Rockwell site and the 9-factor analysis.

Level of control of emissions sources:
Cabarrus County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Cleveland County

This is a Micropolitan Statistical Area (MiSA) county within the Charlotte-Gastonia-Salisbury CSA, and it does not have a monitor located in the county. This is a mostly rural county with a low impact from commuting traffic into the urbanized core of the CSA. Therefore, North Carolina is recommending no portion of the county be designated as nonattainment.

Air Quality Data*:*
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 to 79 ppb. The North Carolina monitor located nearest Cleveland County is in neighboring Lincoln County in Crouse with a design value of 71 ppb. On days when this monitor has the highest readings, the winds generally are out of the east. Portions of Cleveland County are

located southwest of this monitor. Since there are no major NOx sources located in Cleveland County and this monitor is attaining the 2008 ozone standard, it is not likely that emissions from this county would significantly contribute to a violation of the 2008 standard in the CSA. There is another monitor located across the state line at Cowpens National Battlefield in South Carolina. The design value at Cowpens is 66 ppb. Ozone design values across Cleveland County likely range from 66-70 ppb.

Emissions Data*:*
Based on 2010 emissions inventories, Cleveland County has annual point source emissions of 150 tons and 224 tons of NO_x and VOC, respectively. There are no major point sources of NO_x or VOC.

Population Density and Degree of Urbanization*:*
Based on the 2010 census, 98,078 people live in Cleveland County. Cleveland County is predominantly a rural county with a population density of 211 people per square mile (see Figure 5). This very low population density supports the attainment recommendation.

Traffic and Commuting Patterns*:*
Cleveland County has 2,678,000 daily VMT, according to 2010 data. Cleveland County contributes less than 0.5 percent of the commuters who drive into Mecklenburg County to work each day. The VMT are expected to increase by 1.5 percent through 2020. Through-traffic (non-commuting) along I-85 and US-74 accounts for the majority of the traffic counts within the county. Vehicle emissions from this county have a negligible impact on ozone concentrations in the CSA.

Growth Rates and Patterns*:*
The population of Cleveland Country grew by 1.7% between 2000 and 2010, with a 2010 population of 98,078. The population in Cleveland County is expected to grow slightly between 2010 and 2020, with an increase of 3.8%. These are very small growth rates compared to other parts of North Carolina. This county is not expected to grow enough to become a significant contributor to ozone concentrations in the Charlotte-Gastonia-Salisbury CSA.

Meteorology:
Winds across Cleveland County are climatologically from the southwest, which makes the ozone monitor located in Lincoln County the downwind monitor. However, there are no major NOx sources located in Cleveland County and the Lincoln County monitor is attaining the 2008 ozone standard. Therefore, it is not likely that emissions from Cleveland County would significantly contribute to a violation of the 2008 ozone standard in the CSA.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area does not include Cleveland County and it is not included in North Carolina's recommendation for nonattainment areas under the 2008 8-hour ozone standard.

Level of control of emissions sources*:*
Cleveland County currently has no major point sources of NO_x or VOC. Mobile sources are another source of NO_x emissions. The combined federal and state control programs for mobile sources address these emissions. Cleveland County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Gaston County

This is a MSA county within the Charlotte-Gastonia-Salisbury CSA, and it does not have an ozone monitor located in the county. This is a high commuter county into the Charlotte area along the I-85 corridor. The northwestern portion of the county is rural, so the recommendation is for a smaller nonattainment area than the entire county.

The recommendation is that the following five townships in the southern and eastern portions of Gaston County be designated as nonattainment: Dallas, Riverbend, Crowders Mountain, Gastonia and South Point.

Air Quality Data:
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. The monitor located closest to Gaston County is in neighboring Lincoln County in Crouse with a design value of 71 ppb. However, on days when this monitor has the highest readings, the winds are generally out of the east. This indicates that the emissions from the northwestern portion of Gaston County are not likely to contribute to the Crouse monitor's highest ozone levels. Since a significant amount of commuter traffic from the southern and eastern townships travel into Mecklenburg County, those five townships may be impacting the ambient air quality data in this CSA. Therefore, North Carolina is recommending that these five townships be designated as nonattainment.

Emissions Data:
Based on 2010 emissions inventories, Gaston County has annual point source emissions of 6,774 tons and 477 tons of NO_x and VOC, respectively. There are some industrial sources in the county, including two electric utility plants owned by Duke Energy, which are subject to the NO_x SIP call, the Clean Air Interstate Rule (CAIR), and the NC Clean Smokestacks Act.

The Cherryville Township located in northwest Gaston County, the township NCDENR is recommending for attainment, has only a few very small NO_x and VOC point sources that would have a negligible impact on the violating monitors in this CSA.

Population Density and Degree of Urbanization:
206,086 people live in Gaston County and 189,586 people live in the five townships recommended as nonattainment, which is 92% of the County's population. The majority of

the townships in Gaston County have population densities greater than 300 people per square mile or higher, with Gastonia being the highest at over 1200 people per square mile (Figure 5).

Cherryville Township has the lowest population density of any Gaston County townships, at 253 people per square mile. NCDENR believes this low population density supports the attainment recommendation. This population density is right at the threshold mentioned in the EPA technical support document provided with the December 2011 letter (Appendix C).

Traffic and Commuting Patterns:
Gaston County has 5.7 million average daily VMT, according to 2010 data. Gaston County contributes 4.97 percent of the commuters who drive into Mecklenburg County to work each day. Gaston ranks number 4 in the commuting counties into Mecklenburg. The VMT are expected to increase to approximately 7.5 million by 2015 and 9.1 million by 2025.

Traffic and commuting counts are very low in Cherryville Township compared to the rest of the county. For Cherryville Township, there were approximately 800 trips to/from Mecklenburg County, which was under 3% of the county total and less than 0.2% of trips to/from Mecklenburg in the entire CSA. Therefore, NCDENR recommends Cherryville Township be designated attainment.

Growth Rates and Patterns:
The population in Gaston County grew approximately 8.26% from 2000 to 2010, and an additional growth of 17.2% is expected between 2010 and 2020. The majority of this growth occurred in the eastern two-thirds of the county, with the largest increases observed in Riverbend and South Point Townships, which border Mecklenburg County.

Cherryville Township's population increased by only 776 people, which corresponds to a 5.2% increase in the township's population density. The low population growth in Cherryville Township supports a designation of attainment.

Meteorology:
Winds across Gaston County are climatologically from the southwest. With this climatological wind pattern, the emissions in the county are more likely to impact northern and eastern portions of the CSA. Commuter traffic emissions as well as those of point sources (especially the two Duke Energy facilities), would have an impact on the air quality of these regions of the CSA.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes all of Gaston County. North Carolina is recommending Cherryville Township be designated attainment. This is a slight departure from the prior recommendation, but North Carolina believes this deviation is

appropriate, given the design value trend at both the Crouse site in Lincoln County and the Cowpens site in northern South Carolina, and the 9-factor analysis.

Level of control of emissions sources:
Gaston County currently has 2 major point sources for NO_x and no major point sources for VOCs. The two major NO_x point sources- Duke Energy's Allen and Riverbend Steam Plants- are subject to the NC Clean Smokestacks Act as well as the NO_x SIP call and CAIR. Mobile sources are another source of NO_x emissions. The combined federal and state control programs for mobile sources address these emissions. Gaston County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Iredell County

This is a MiSA county within the Charlotte-Gastonia-Salisbury CSA, and it does not have an ozone monitor located in the county. This is a high commuter county into the Charlotte area along the I-77 corridor. The northern portion of the county is rural, so the recommendation is for a smaller area than the entire county.

<u>The recommendation is that the two townships in the southern portion of Iredell County, Coddle Creek and Davidson Townships, be designated as nonattainment.</u>

Air Quality Data:
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. The monitor located closest to Iredell County is in neighboring Rowan County in Enochville with a design value of 76 ppb. However, on days when this monitor has the highest readings, the winds are generally out of the southwest, indicating that the emissions from the northern portion of Iredell County are not likely to contribute to the Enochville monitor's high ozone levels since this area is north and west of this monitor. Since a significant amount of commuter traffic from the southern two townships travel into Mecklenburg County, the lower two townships may be impacting the ambient air quality data in this CSA. Therefore, North Carolina is recommending just the two lower townships be designated nonattainment.

Emissions Data:
Based on 2010 emissions inventories, Iredell County has annual point source emissions of 2,114 tons and 916 tons of NO_x and VOC, respectively. There are some industrial sources in the county, including a natural gas pumping station, which is subject to the NO_x SIP call. The natural gas pumping station is located in the recommended nonattainment area.

Population Density and Degree of Urbanization:
159,437 people live in Iredell County and 65,385 people live in the two townships recommended as nonattainment, which is 41% of the County's population. The northern, eastern and western portions of Iredell County have low population density with 11 townships having population densities of 250 people per square mile or less. Statesville, located in central Iredell County, has a population density of 814 people per square mile.

The area being recommended for nonattainment, the two townships in the southern portion of Iredell County, is densely populated, having population density values of 860 and 714 people per square mile.

Traffic and Commuting Patterns:
Iredell County has 5.7 million average daily VMT, according to 2010 data. Iredell County contributes 1.91 percent of the commuters who drive into Mecklenburg County to work each day. Iredell ranks number 5 in the commuting counties into Mecklenburg. The VMT are expected to increase to approximately 7.3 million by 2020. Traffic counts are highest in the southern townships and decline substantially in the next tier of townships.

The southern two townships are covered by the region's Travel Demand Model, which predicts that the VMT in 2010 will be 3 million, 3.4 million by 2015, and 4.1 million in 2025.

Growth Rates and Patterns:
The population in Iredell County grew considerably from 2000 to 2010, increasing by 30%, and an additional growth of 17.2% is expected between 2010 and 2020. The majority of this growth occurred in the two southern townships being recommended for nonattainment. Figure 6 displays the percent growth between 2000 and 2010 for each township. Davidson Township's population growth was 90 percent and Coddle Creek Township's growth was 43 percent. All other townships were less than 40 percent with most being less than 20 percent.

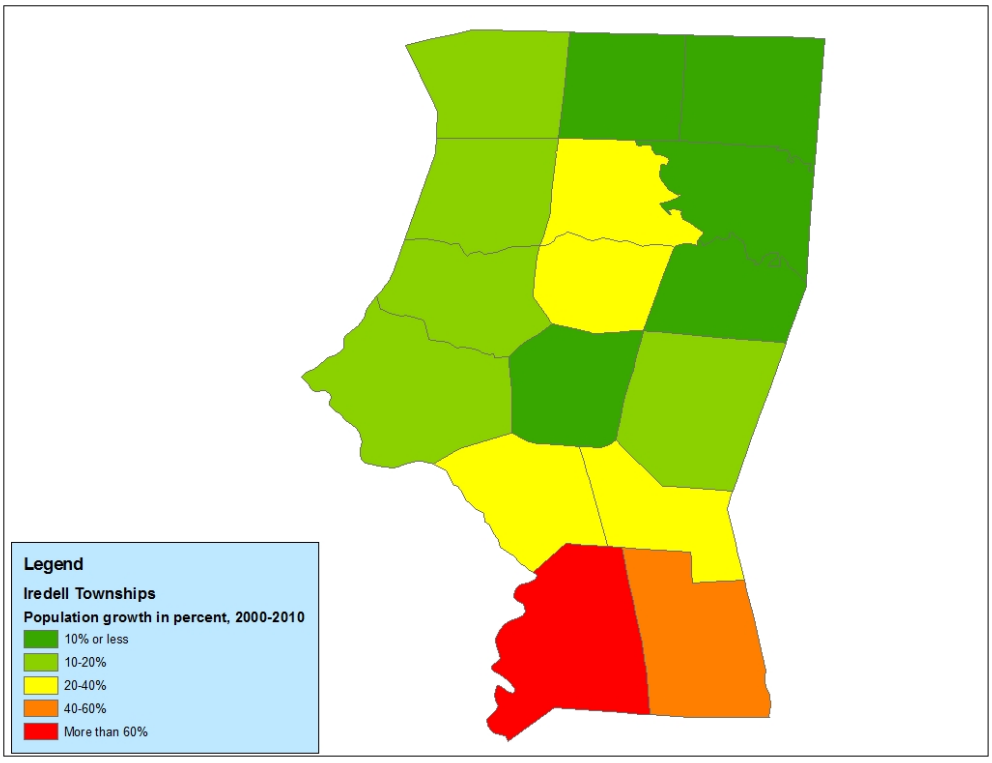


Figure 6. Percent Growth Between 2000 and 2010 for Iredell County

Meteorology:
Winds across Iredell County are climatologically from the southwest. With this climatological wind pattern, the emissions in the county are more likely to impact areas outside of the CSA. However, the commuter traffic emissions from the southern two townships would still impact the air quality in the CSA even with southwest winds. On days when the winds are from the north, the emissions will add to the Charlotte area's pollution. Therefore, North Carolina is recommending just the two lower townships be designated nonattainment.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes the southern portion of Iredell County, and is consistent with North Carolina's recommendation for nonattainment areas under the 2008 8-hour ozone standard.

Level of control of emissions sources:
Iredell County currently has 2 major point sources for NO_x and two major point sources for VOCs. The natural gas pumping station, located in Davidson Township, is subject to the NO_x SIP Call and has taken permit limits to address the requirements of the NO_x SIP Call. The other large NO_x source is a glass manufacturer located just outside of the recommended nonattainment area, which burns only natural gas, a lower emitting fossil fuel. Mobile sources are another source of NO_x emissions. The combined federal and state control programs for mobile sources address these emissions. Iredell County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Lincoln County

This is a MiSA county within the Charlotte-Gastonia-Salisbury CSA. There is a monitor located within the county, at the Crouse site near Lincolnton. The 2009-2011 Design Value for the Crouse site was 71 ppb, which is lower than the 75 ppb standard. The increasing population along and east of Highway 321, many of whom commute into the Charlotte area, combined with the moderate commuting traffic along Highway 321, indicates the necessity to include at least a portion of this county in the nonattainment boundary recommendation. The western portion of the county is rural, so the recommendation is for a smaller area than the entire county.

<u>The recommendation is that the three townships in the central and eastern portion of Lincoln County- Catawba Springs, Ironton and Lincolnton Townships- be designated as nonattainment.</u>

Air Quality Data:
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. The monitor located within Lincoln County, in Crouse, has a design value of 71 ppb. On days where the greater Charlotte area has its highest ozone days, winds are generally from the southwest. The eastern townships may be impacting the ambient air quality in this CSA. The Crouse monitor experiences higher ozone when winds are blowing

generally out of the east, from the general direction of downtown Charlotte. The two western townships are downwind of the monitor on the higher ozone days, and would be expected to have even lower ozone values than are recorded at the Crouse monitor. Therefore, North Carolina is recommending just the three eastern townships be designated nonattainment.

Emissions Data:
Based on 2010 emissions inventories, Lincoln County has annual point source emissions of 130 tons and 403 tons of NO_x and VOC, respectively. There are no major sources of NO_x emissions and only one major VOC source within the county.

The two western townships, Howards Creek and North Brook, contain no NO_x or VOC point sources. This supports the attainment recommendation for these two townships.

Population Density and Degree of Urbanization:
Based on the 2010 census, 78,265 people live in Lincoln County and 63,437 people live in the three townships recommended as nonattainment, which is 81% of the County's population. The eastern three townships within Lincoln County, where Lincolnton and Catawba Springs are located, are densely populated, with population values of 468, 286, and 347 people per square mile. This more densely populated area is located in the three eastern townships being recommended for nonattainment.

The western two townships have low population densities of 112 and 137 people per square mile. This very low population density supports the attainment recommendation.

Traffic and Commuting Patterns:
Lincoln County has 2.3 million average daily VMT, according to 2010 data. Lincoln County contributes approximately 1.49 percent of the commuters who drive into Mecklenburg County to work each day. Lincoln ranks number 6 in the commuting counties into Mecklenburg. The VMT are expected to increase to approximately 2.7 million by 2015 and 3.4 million by 2025. A significant amount of commuter traffic from the three eastern townships travels into Mecklenburg County. Therefore, the eastern townships may be impacting the ambient air quality data in this CSA and NCDENR recommends the three eastern townships be designated nonattainment.

Traffic and commuting is very low in the two western townships. Commuter traffic into Mecklenberg from the two western townships was an estimated 230 trips, which was less than 3% of the county total and less than 0.4% of the CSA total.

Growth Rates and Patterns:
The population in Lincoln County grew considerably from 2000 to 2010, increasing by 22%, and an additional growth of 20% is expected between 2010 and 2020. The majority of this growth occurred in the eastern half of the county. The population of the eastern-most township, Catawba Springs, increased by nearly 7,700 people from 2000 to 2010, which corresponds to an increase in population density of over 53%. Conversely, the two townships recommended for attainment, Howards Creek and North Brook, only grew by

1,313 and 665 people, respectively, from 2000 to 2010; this corresponds to a respective increase in population density of 17% and 13.1% for these two townships.

Meteorology:
Winds across Lincoln County are climatologically from the southwest. With this climatological wind pattern, the emissions in eastern portions of the county are more likely to impact areas over the far-northern portions of the CSA. Additionally, the commuter traffic emissions from the central and eastern three townships could impact the air quality in the CSA. Therefore, North Carolina is recommending the three central and eastern townships be designated nonattainment.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes all of Lincoln County. North Carolina is recommending only the townships of Catawba Springs, Ironton and Lincolnton be designated nonattainment. This is a slight departure from the prior recommendation, but North Carolina believes this deviation is appropriate, given the design value trend at the Crouse site in Lincolnton and the 9-factor analysis.

Level of control of emissions sources:
Lincoln County has one major point VOC source and no major NO_x sources. Since North Carolina is NO_x limited with respect to ozone formation, controlling man-made VOC sources does not reduce ozone concentrations. Therefore, the level of control for this VOC source should not be of consideration for nonattainment boundary designation. Mobile sources are another source of NO_x emissions, but the combined federal and state control programs for mobile sources address these emissions. Lincoln County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Mecklenburg County

This is a MSA county within the Charlotte-Salisbury-Gastonia CSA with three violating monitors. The entire county is considered urban or suburban, with high volumes of traffic commuting within and into the county from surrounding counties within the CSA. Therefore, North Carolina is recommending that all of Mecklenburg County be designated nonattainment.

Air Quality Data
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. Three monitors are located within the city of Charlotte, in Mecklenburg County. All three of these monitors are violating the 2008 8-hour ozone standard. The Arrowood monitor has a design value of 76 ppb, the Garinger High School monitor has a design value of 79 ppb, and the County Line monitor has a design value of 78 ppb.

Emissions Data:
Based on 2010 emissions inventories, Mecklenburg County has 208 tons per year of point-source NO_x and 198 tons per year of point-source VOC. There are no major point sources of NO_x or VOC within Mecklenburg County. (Please see Appendix F for more NO_x and VOC point source information.) Although there are no major point sources located in Mecklenburg County, this county has the highest amount of mobile source emissions in the State. These emissions contribute significantly to the ozone concentrations in the county.

Population Density and Degree of Urbanization:
Mecklenburg County has the highest population of any county in the CSA. 919,628 people live in Mecklenburg County as of 2010. The city of Charlotte has the highest population density of any township within the CSA, at over 2400 people per square mile. The lowest population densities within Mecklenburg County are within the townships immediately bordering Charlotte to the north and west. The lowest population density of these townships is 310 people per square mile. Since all townships within Mecklenburg County are above 250 people per square mile, it supports a designation of nonattainment. (Please see Appendix G for maps of population density.)

Traffic and Commuting Patterns:
Mecklenburg County has 32.4 million daily VMT, according to 2010 data. 71 percent of the commuting traffic to Mecklenburg County originates in Mecklenburg County, with the remaining 29 percent originating from surrounding counties within the CSA. Heavily-traveled roadways are observed throughout the county, in addition to high volumes of through traffic from Interstates 85 and 77. Please see Appendix H for more information about commuting in Mecklenburg County and the Charlotte-Gastonia-Salisbury CSA.

Growth Rates and Patterns:
The population in Mecklenburg County increased by 31% between 2000 and 2010. The population of Mecklenburg County is projected to grow by 19% between 2010 and 2020.

Meteorology:
Winds across Mecklenburg County vary somewhat on days with high ozone, depending on which of the three monitors is the highest; winds are generally out of the north on days where the Arrowood monitor is high, and winds are generally out of the south and west on days where the County Line monitor is high. Winds can be out of the north, south or west on days where the Garinger monitor is high, but rarely out of the east. This suggests that the ozone concentrations in Mecklenburg County are being impacted by precursor emissions originating from Mecklenburg County, which supports a designation of nonattainment for the whole County. Please see Appendix I for more information.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes all of Mecklenburg County, and is consistent with North Carolina's recommendation for nonattainment areas under the 2008 standard.

Level of control of emissions sources:
Mecklenburg County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Rowan County

This is a MiSA county within the Charlotte-Salisbury-Gastonia CSA with an attaining monitor located in the southeastern portion of the county and a violating monitor located in the southwestern portion of the county. The far northwestern and far southeastern portions of the county are rural. Therefore, North Carolina is recommending that a smaller portion than the entire county be designated as nonattainment.

The recommendation is the following nine townships be designated nonattainment: Atwell, China Grove, Franklin, Gold Hill, Litaker, Locke, Providence, Salisbury, Steele and Unity.

Air Quality Data
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. The monitors within Rowan County are located in the towns of Enochville (design value of 76 ppb) and Rockwell (design value of 75 ppb). The Mocksville monitor, located in Davie County just north of Rowan County, has a design value of 72 ppb. Interpolating between the Enochville and Mocksville monitors, the northwestern townships (Scotch Irish, Cleveland, Mount Ulla) would be expected to have a design value below 76 ppb. Morgan Township is typically downwind of the Rockwell monitor on days when ozone exceedances are observed, and would be expected to have a design value lower than the Rockwell design value.

Emissions Data:
Based on 2010 emissions inventories, Rowan County has 1,853 tons per year of point-source NO_x and the county has 1,418 tons per year of point-source VOC. There are several major sources of both NO_x and VOC throughout the county.

There is one major source of VOC emissions within the townships NCDENR is recommending for attainment. This source is located in Cleveland Township and emits approximately 211 tons of VOC per year. Since North Carolina is NO_x limited with respect to ozone formation, controlling man-made VOC sources does not reduce ozone concentrations. There are no sources of NO_x greater than 10 tons per year within the townships recommended for attainment. These very small NOx sources would not be expected to contribute significantly to the ozone concentrations in the CSA.

Population Density and Degree of Urbanization:
Based on the 2010 census, 138,428 people live in Rowan County, of which 128,675 live in the portion recommended for nonattainment. The far northwestern and far eastern townships in the county are mostly rural with population densities less than 100 people per square mile. Conversely, the areas recommended for nonattainment in general have a significantly higher population density and are more urban in nature (see Figure 5).

The four townships recommended to be designated attainment have population density ranging from 52 to 98 people per square mile. This very low population density supports the attainment recommendation.

Traffic and Commuting Patterns:
Rowan County has 5.3 million daily VMT, according to 2010 data. Rowan County contributes 0.96 percent of the commuters who drive in to Mecklenburg County to work each day, most of which live in the central and south-central portions of the county. Rowan County ranks number 8 in commuting counties into Mecklenburg. The VMT is expected to increase to 5.7 million by 2015 and 6.9 million in 2025.

The far northwestern and far eastern townships in the county have very low traffic counts and would have little impact on ozone concentrations in the CSA. Morgan, Mount Ulla and Scotch Irish Townships collectively account for approximately 98 trips to Mecklenburg County, which represents about 2% of the total from Rowan County and 0.02% from the entire CSA.

Growth Rates and Patterns:
The population in Rowan County increased slightly between 2000 and 2010 (5.9%). The townships recommended for attainment showed a combined population growth of 466 people during this time. Of these, Mount Ulla Township had the highest growth- 295 people, corresponding to an increase in population density of 21%. Cleveland and Scotch Irish Townships increased 4% in population density, while Morgan Township actually decreased slightly in population. The population of Rowan County is projected to grow only 6.5% between 2010 and 2020.

Meteorology:
Winds across Rowan County are climatologically from the southwest on days with high ozone. With this climatological wind pattern, the emissions from the northwestern and far eastern townships within the county have only slight impacts on the air quality within the CSA, especially given the lack of point sources and limited vehicle emissions within these townships.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes all of Rowan County. North Carolina is recommending the townships of Atwell, China Grove, Franklin, Gold Hill,

Litaker, Locke, Providence, Salisbury, Steele and Unity be designated nonattainment. This is a slight departure from the prior recommendation, but North Carolina believes this deviation is appropriate, given the design value trends of the Mocksville and Rockwell monitors, and the 9-factor analysis.

Level of control of emissions sources:
Rowan County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Stanly County
This is a MiSA county within the Charlotte-Gastonia-Salisbury CSA, and it does not have a monitor located in the county. This is a mostly rural county with a low impact on commuting traffic into the urbanized core of the CSA. Therefore, North Carolina is recommending no portion of the county be designated as nonattainment.

Air Quality Data*:*
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 to 79 ppb. The monitor located nearest Stanly County is in neighboring Rowan County in Rockwell with a design value of 75 ppb. Winds on the highest ozone days at the Rockwell monitor typically blow from the southwest or northeast, and any emissions from Stanly County would have a negligible impact The other monitor on the eastern side of the CSA is Monroe, which has a design value of 70 ppb, well below the 2008 ozone standard. On days when the Monroe monitor has the highest ozone readings, the winds are generally out of the west and southwest.

Emissions Data*:*
Based on 2010 emissions inventories, Stanly County has annual point source emissions of 273 tons and 424 tons of NO_x and VOC, respectively. There is one major VOC point source and no major sources of NO_x emissions in Stanly County. Since Stanly County is located south and east of the Rockwell monitor and the four violating monitors, and there are no large NO_x sources located in this county, any emissions from Stanly County would have a negligible impact on the air quality in the CSA.

Population Density and Degree of Urbanization*:*
Based on the 2010 census, 60,585 people live in Stanly County. Stanly County is a predominantly rural area with most of the county having a population density of 167 people or less per square mile. Two townships in and around Albemarle are the only semi-populous areas of the county with population densities of 274 and 281 people per square mile. (Figure 5).

Traffic and Commuting Patterns*:*
Stanly County has 1,330,630 daily VMT, according to 2010 data. Stanly County contributes less than 1 percent of the commuters who drive into Mecklenburg County to work each day. Traffic counts are low compared with the rest of the CSA (See Appendix H).

Growth Rates and Patterns*:*
The population in Stanly County increased slightly from 2000 to 2010 by a rate of 4%, with a further population increase of 7.3% expected from 2010 to 2020. This is a very modest growth rate compared to the more urban areas of North Carolina and Stanly County remains predominantly a rural area. This county is not expected to grow enough to become a significant contributor to ozone exceedances in the Charlotte-Gastonia-Salisbury CSA.

Meteorology:
Winds across Stanly County are climatologically from the southwest. With this climatological wind pattern, the emissions in the county are not expected to impact the air quality in the CSA.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area does not include Stanly County and it is not included in North Carolina's recommendations for nonattainment areas under the 2008 8-hour ozone standard.

Level of control of emissions sources:
Stanly County currently has one major VOC point source and no major NOx sources. Since North Carolina is NOx limited with respect to ozone formation, controlling man-made VOC sources does not reduce ozone concentrations. Therefore, the level of control for this VOC source should not be of consideration for nonattainment boundary designation. Mobile sources are another source of NOx emissions. The combined federal and state control programs for mobile sources address these emissions. Stanly County has a vehicle emissions I/M program. Low-sulfur gasoline is required statewide.

Union County

This is a MSA county within the Charlotte-Salisbury-Gastonia CSA with an attaining monitor located in the central portion of the county. Most of the eastern and southern portions of Union County are rural, with higher population densities in the western portions commuting into Mecklenburg County. Therefore, North Carolina is recommending that a portion of the county be designated as nonattainment.

The township of Marshville was considered to be recommended for attainment, but a 50-ton point source of NO_x as well as a nonattainment request from elected officials has led NCDENR to recommend Marshville Township nonattainment.

<u>The recommendation is that the following townships be designated nonattainment - Goose Creek, Marshville, Monroe, Sandy Ridge and Vance.</u>

Air Quality Data
As shown in Figure 4 above, this CSA has 7 monitors with design values ranging from 70 ppb to 79 ppb. The monitor within Union County is located in the city of Monroe, with a design value of 70 ppb. The Monroe monitor experiences higher ozone primarily when winds are blowing from the west and southwest, from downtown Charlotte. The southern and western townships are downwind of the monitor on the higher ozone days, and would be expected to have even lower ozone values than are recorded at the Monroe monitor. Therefore, North Carolina is recommending that the five townships near and upwind of the Monroe monitor be included as nonattainment.

Emissions Data:
Based on 2010 emissions inventories, Union County has 212 tons per year of point-source NO_x and the county has 506 tons per year of point-source VOC. The only major source is located in Marshville Township with 135 tons per year of VOC and 50 tons per year of NO_x. This source is located in the area North Carolina is recommending be designated as nonattainment.

Population Density and Degree of Urbanization:
201,292 people live in Union County as 2010, of which 173,775 people live in the portion recommended for nonattainment. The eastern and southern portion of the county is mostly rural; all four townships that NCDENR is recommending be designated attainment have population densities of 189 people per square mile or less. The area recommended for nonattainment is more urbanized with three of the six townships having a population density of greater than 500 people per square mile. (Please see Appendix G for maps of population information).

Traffic and Commuting Patterns:
Union County has 5.2 million daily VMT, according to 2010 data. Union County contributes 6.84 percent of the commuters who drive in to Mecklenburg County to work each day, most of which live in the western portion of the county. Union County ranks number 1 in commuting counties into Mecklenburg. The VMT are expected to increase to 6.5 million in 2015 and 8.7 million in 2025. There is a significant amount of commuter traffic from the northern and western townships into Mecklenburg County. These townships (Monroe, Sandy Ridge, Vance and Goose Creek) may be impacting the ambient air quality data in the CSA. The 4 townships recommended for attainment have lower traffic counts compared to the 5 townships that are recommended for nonattainment. Of the 4 townships to be excluded, Jackson Township had an estimated 1563 trips to/from Mecklenburg County, which was 4.1% of the county total and 0.3% of the trips from the entire CSA. Traffic to/from Mecklenburg for the 3 other townships (Buford, Lanes Creek, and New Salem) was even less.

Growth Rates and Patterns:
The population in Union County showed a significant increase between 2000 and 2010, with an increase of 60.5%. Most of the increases were focused over the townships of Monroe, Vance, Goose Creek and Sandy Ridge. Vance Township's population increased by 27,237 from 2000 to 2010, corresponding to a 109% increase in population density. Sandy Ridge

Township increased in population by 29,245, a 181% increase in population density. The townships recommended for attainment collectively increased by 5,144 people during this time. A county-wide increase in population of 26% is expected between 2010 and 2020.

Meteorology:
Winds across Union County are climatologically from the southwest or northeast. With this climatological wind pattern, the point source emissions from the eastern and southern portions of the county have no significant impact on the degradation of the air quality within the CSA. However, the commuting traffic from the western portion of the county could impact the air quality.

Geography/Topography:
There are no special geography or topography issues to consider in this region.

Jurisdictional Boundaries:
The existing 1997 8-hour ozone standard nonattainment area includes all of Union County. North Carolina is recommending only the townships of Goose Creek, Marshville, Monroe, Sandy Ridge and Vance be designated nonattainment. This is a slight departure from the prior recommendation, but North Carolina believes this deviation is appropriate, given the design value trend at the Monroe monitor and the 9-factor analysis.

Level of control of emissions sources:
Union County currently has 1 major source of VOC's producing 136 tons per year, which is located in the recommended nonattainment boundary. NOx emissions are from minor sources and from mobile sources, and the combined federal and state control programs will address these emissions. Union County currently has a vehicle emissions I/M program and low-sulfur gasoline is required statewide.

Appendix A

North Carolina's 2009-2011 8-Hour Ozone Design Values Map & Table

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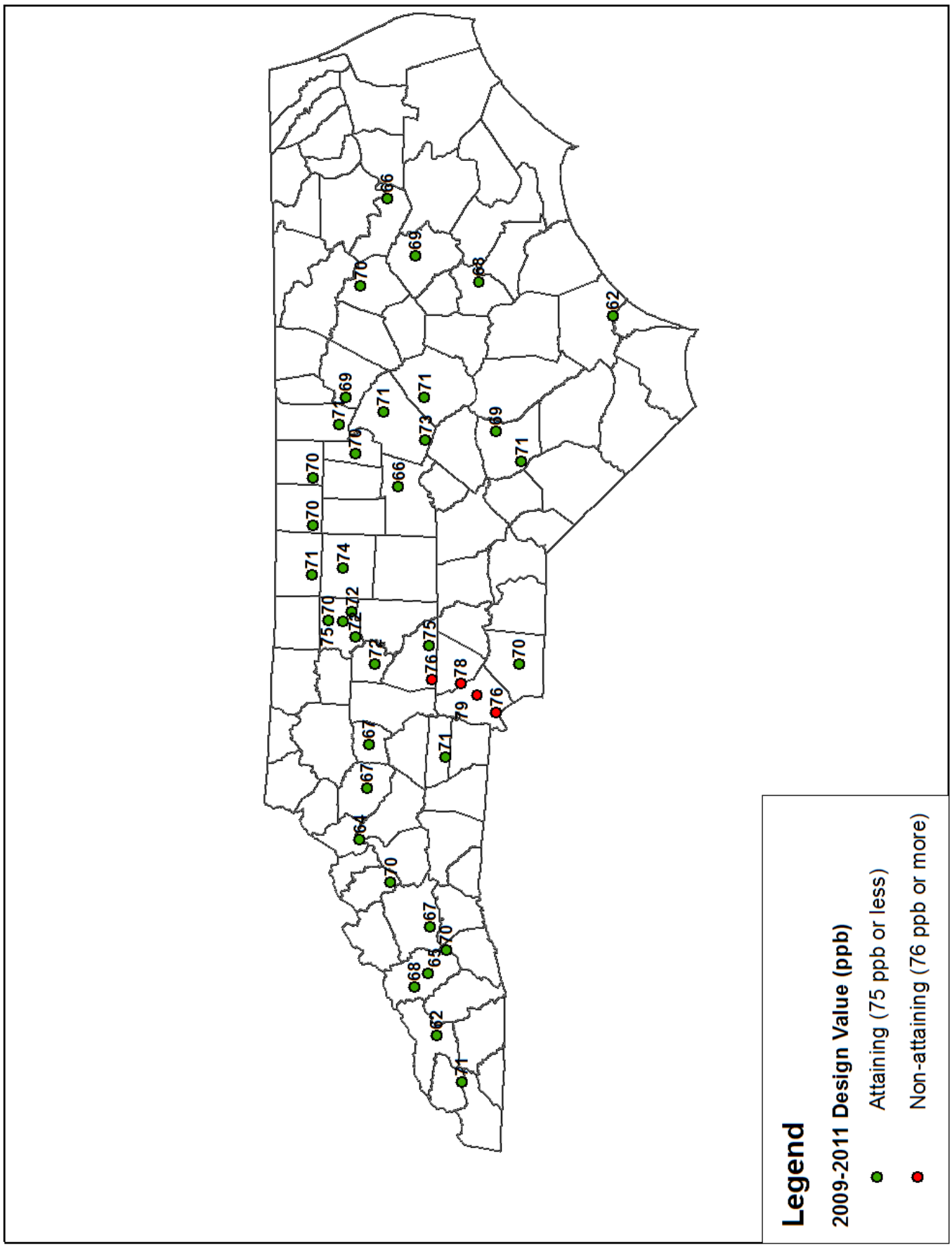
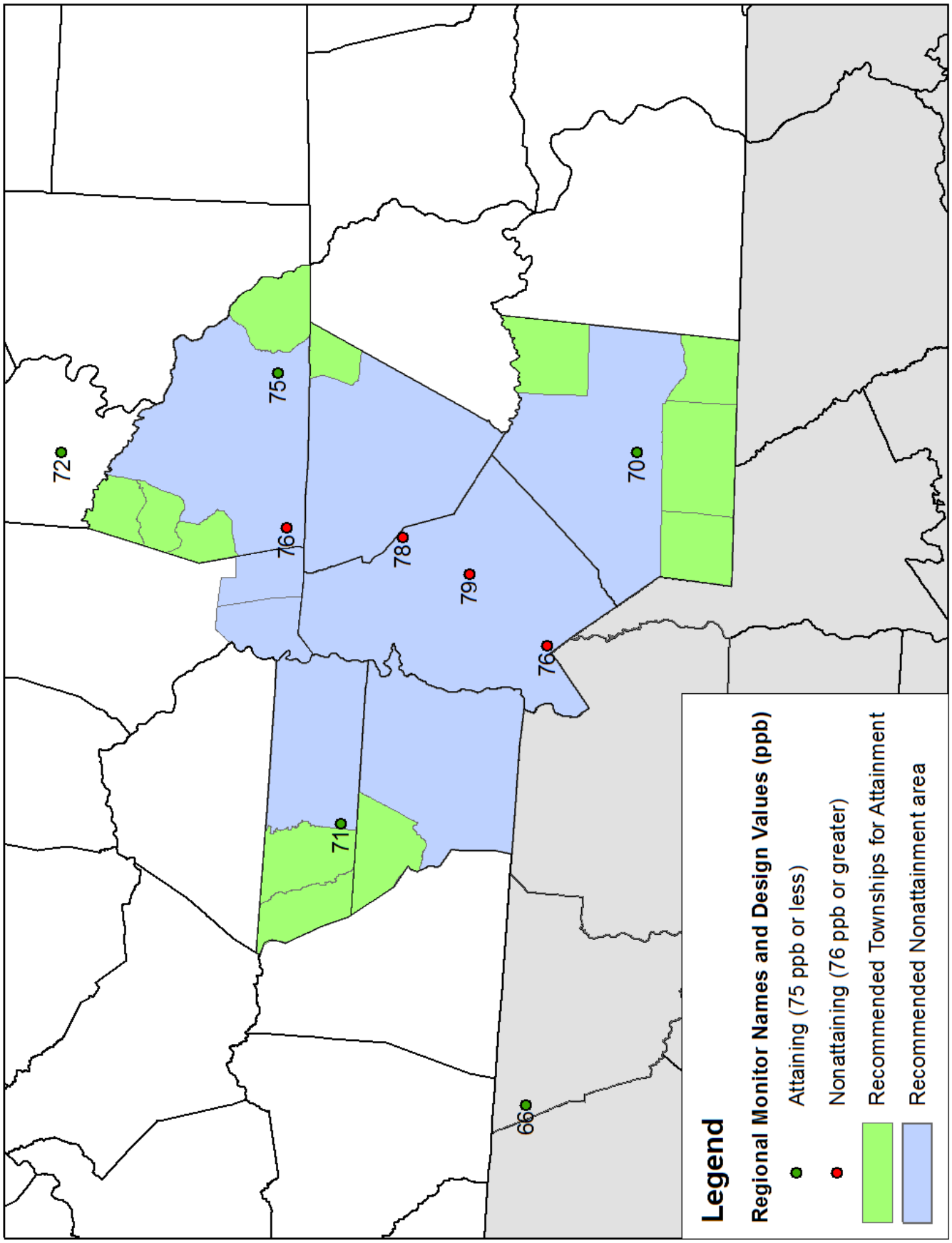
Monitoring Sites	AIRS ID	2009	2010	2011	09-11
Waggin Trail	37-003-0004	0.063	0.071	0.067	0.067
Linville	37-011-0002	0.061	0.071	0.062	0.064
Bent Creek	37-021-0030	0.064	0.071	0.067	0.067
Lenoir	37-027-0003	0.064	0.071	0.066	0.067
Cherry Grove	37-033-0001	0.067	0.073	0.070	0.070
Pittsboro	37-037-0004	0.063	0.070	0.067	0.066
Wade	37-051-0008	0.065	0.071	0.073	0.069
Golfview	37-051-1003	0.066	0.073	0.076	0.071
Cooleemee	37-059-0002	0.068			
Mocksville	37-059-0003		0.072	0.072	0.072
Durham Armory	37-063-0015	0.066	0.074	0.070	0.070
Leggett	37-065-0099	0.066	0.072	0.072	0.070
Hattie Ave.	37-067-0022	0.068	0.081	0.076	0.075
Shiloh Church	37-067-0028	0.066	0.076	0.068	0.070
Clemmons	37-067-0030	0.062	0.081	0.074	0.072
Union Cross	37-067-1008	0.066	0.078	0.074	0.072
Franklinton	37-069-0001	0.064	0.071	0.072	0.069
Joanna Bald	37-075-0001	0.066	0.075	0.074	0.071
Butner	37-077-0001	0.068	0.074	0.072	0.071
Mendenhall	37-081-0013	0.072	0.076	0.076	0.074
Waynesville	37-087-0004	0.060	0.070	0.065	0.065
Frying Pan	37-087-0035	0.066	0.075	0.070	0.070
Purchase Knob	37-087-0036	0.065	0.072	0.067	0.068
Barnet Knob	37-099-0005	0.063			
W. Johnston	37-101-0002	0.066	0.074	0.074	0.071
Lenoir College	37-107-0004	0.064	0.069	0.071	0.068
Crouse	37-109-0004	0.065	0.072	0.077	0.071
Jamesville	37-117-0001	0.064	0.070	0.066	0.066
Garinger	37-119-0041	0.069	0.082	0.088	0.079
Arrowood	37-119-1005	0.068	0.078	0.082	0.076
County Line	37-119-1009	0.071	0.082	0.083	0.078
Castle Hayne	37-129-0002	0.060	0.062	0.064	0.062

Monitoring Sites	AIRS ID	2009	2010	2011	09-11
Bushy Fork	37-145-0003	0.065	0.074	0.072	0.070
Pitt County Ag Center	37-147-0006	0.066	0.069	0.074	0.069
Bethany	37-157-0099	0.068	0.074	0.071	0.071
Rockwell	37-159-0021	0.071	0.077	0.077	0.075
Enochville	37-159-0022	0.073	0.078	0.078	0.076
Bryson	37-173-0002	0.060	0.066	0.060	0.062
Monroe	37-179-0003	0.067	0.071	0.073	0.070
Millbrook	37-183-0014	0.068	0.071	0.074	0.071
Fuquay-Varina	37-183-0016	0.069	0.073	0.078	0.073
Mt. Mitchell	37-199-0004	0.066	0.074	0.071	0.070

South Carolina Monitor Data Used in Amended Boundary Recommendation

Monitoring Sites	AIRS ID	2009	2010	2011	09-11
Cowpens National Battlefield	37-145-0003	0.057	0.072	0.070	0.066





Appendix B

Local Government and Public Comments Received

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Table of Contents

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From: Phil Conrad
To: Boothe, Laura;
cc: SVC_DENR.DAQ.publiccomments; Connie Cunningham;
Subject: RE: Ozone Non-Attainment Boundary
Date: Tuesday, February 07, 2012 4:47:37 PM

We would like to add the following as an addendum to our comments:

- The total combined population of the rural townships mentioned below, in Cabarrus and Rowan counties is less than 3 percent of the total population of our MPO area.
- Both the Cabarrus County and Rowan County Land Use Plans identify the areas in these rural townships for agriculture and open space use, minimal to no utility expansion, low septic suitability due to poor soils, partial restrictive watershed coverage, and very limited, low density residential growth.
- There are no capacity-adding highway projects to be built thru the Long Range Transportation Plan or the State's Transportation Improvement Program (STIP) for these rural townships in the future.

Thank you again for the opportunity to provide input.

Phil Conrad
Cabarrus-Rowan MPO

From: Phil Conrad [mailto:pconrad@mblsolution.com]
Sent: Thursday, February 02, 2012 11:15 AM
To: 'daq.publiccomments@ncdenr.gov'
Subject: Ozone Non-Attainment Boundary

Ms. Boothe:

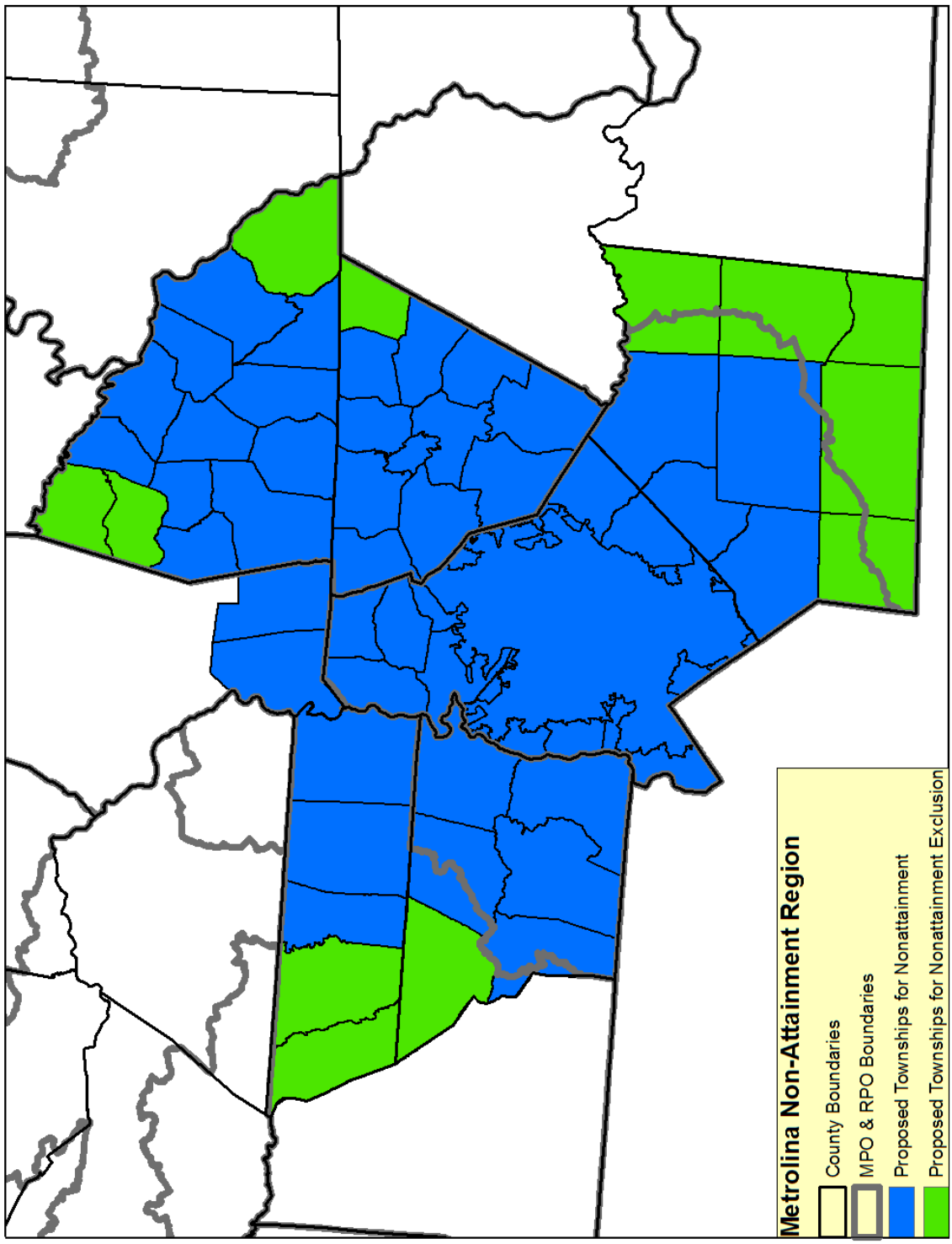
Thank you for the opportunity to comment on the proposed non-attainment boundary for the federal 8 hour ozone standard (.075 ppb). As you know, the Cabarrus-Rowan Transportation Advisory Committee discussed this issue at their January 25th meeting and voted to support the option presented by NC DENR for exempting several rural townships in Cabarrus and Rowan counties from the proposed non-attainment boundary (see attached). We believe these townships should no longer be subject to the non-attainment status and requirements, due to their low density and minimal population growth over the past 10 years, negligible traffic volumes and inter-county commuting, and proximity to attaining monitors in southeastern Rowan and southern Davie counties. We believe these factors qualify these areas for consideration of ozone attainment status.

If you should have any questions regarding our endorsement, please do not hesitate to contact our office.

Sincerely,

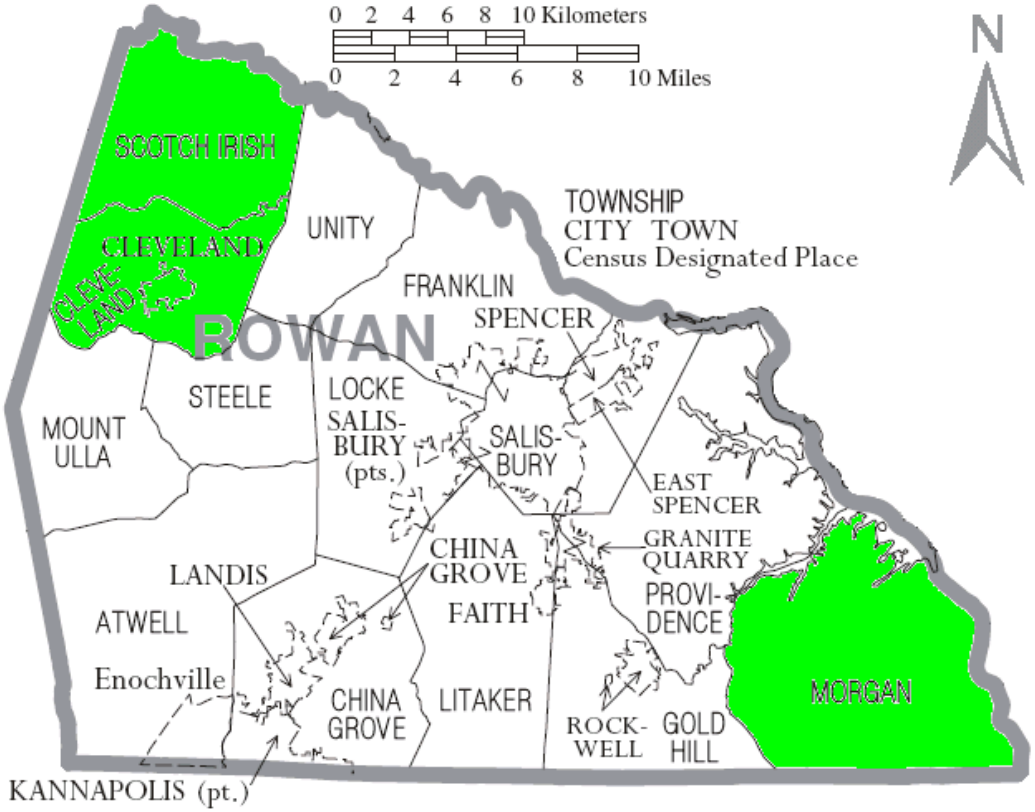
Phil Conrad
Cabarrus-Rowan MPO
135 Cabarrus Avenue East
Concord, North Carolina 28025
704-795-7528
704-795-7529 fax
www.crmpo.org

Townships Considered for NAA Exclusion



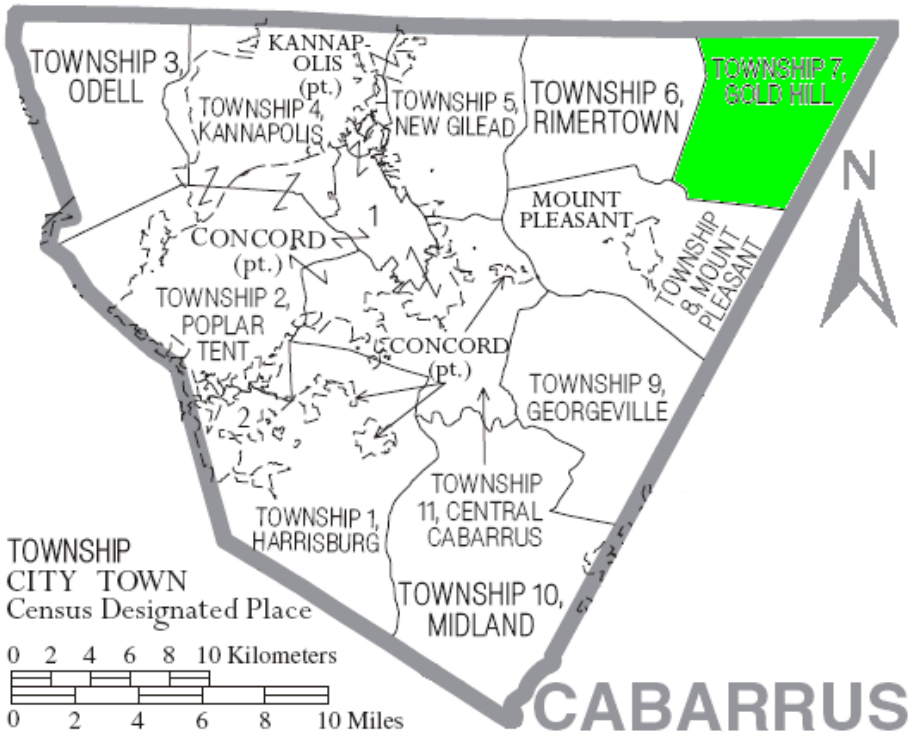
Rowan County

- **Scotch Irish, Cleveland, and Morgan townships**



Cabarrus County

- **Gold Hill township**



From: Joey Raczkowski
To: SVC_DENR.DAQ.publiccomments;
Subject: Comments from Iredell County Government
Date: Friday, January 20, 2012 5:34:32 PM
Attachments: Iredell County March 2010.pdf

Good afternoon,

After attending the public comment meeting in Cornelius on January 18, 2012, it is abundantly clear that the nonattainment boundaries being considered indicate no changes that would affect Iredell County.

In March of 2010, the Iredell County Board of Commissioners adopted a resolution that, in part, addressed their opposition to any changes nonattainment boundary. Given the duration of time that has elapsed while the decision to consider changes to the nonattainment boundary is being considered, I wanted to ensure that the resolution is remains as an active record of public and elected official comment concerning this issue.

Should you have any questions, please do not hesitate to contact me.

Joey Raczkowski, AICP, CZO
Director, Iredell County Planning, Development, and Transportation Services Dept.
349 N. Center Street - PO Box 788
Statesville, NC 28687
T: 704/832-2322
F: 704/928-2025

Post Office Box 788
Statesville, North Carolina 28687
Phone (704) 878-3058
Fax (704) 878-3053
www.co.iredell.nc.us

IREDELL COUNTY BOARD OF COMMISSIONERS

COPY

TO:
- ☐ The Honorable Richard Burr
- ☐ The Honorable Virginia Foxx
- ☐ The Honorable Kay Hagan
- ☐ The Honorable Patrick McHenry

COPY

FROM: Marvin Norman, Chairman, Iredell County Board of Commissioners

SUBJECT: U.S. EPA's Proposed Rule on National Ambient Air Quality Standards For Ozone

DATE: May 18, 2010

Attached, please find documentation indicating that Iredell County, the Towns of Mooresville, Troutman, Harmony, as well as the City of Statesville, along with the Iredell County Farm Bureau, Inc., and the Iredell County Farmland Preservation Advisory Board have all adopted a resolution in reference to the above subject matter. On behalf of all the interested parties, I respectfully ask that you review the resolution and consider the recommendations and requests.

Your attention to this matter is appreciated.

Godfrey Williams, Chairman
Marvin Norman, Vice Chairman
Steve Johnson
Scott Keadle
Ken Robertson

Post Office Box 788
Statesville, North Carolina 28687
Phone (704) 878-3058
Fax (704) 878-3053
www.co.iredell.nc.us

IREDELL COUNTY BOARD OF COMMISSIONERS

Resolution
In Response to US EPA's Proposed Rule on National Ambient Air Quality Standards (NAAQS) for Ozone

WHEREAS, the local governments of Iredell County support good air quality and recognize its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

WHEREAS, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health; and

WHEREAS, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology; and

WHEREAS, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

WHEREAS, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

WHEREAS, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Nonroad Diesel Rule
- The Light-Duty Vehicle Tier 2 Rule
- The Heavy Duty Diesel Rule
- The proposed rules for Locomotive and Marine Vessels and for Small Spark Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards, show that **451** counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that **248** (including Rowan) are projected to remain in nonattainment in 2020 if the standard is established at .065 ppm, and that **99** (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm; and

WHEREAS, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs (thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

WHEREAS, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

WHEREAS, there is inadequate federal support available at present, in the form of federal control measures and programs, Congestion Mitigation/Air Quality (CMAQ) funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

WHEREAS, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship.

NOW THEREFORE, BE IT RESOLVED that the Iredell County Board of Commissioners hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards; and

BE IT FURTHER RESOLVED that the EPA not expand the range of any current nonattainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

BE IT FURTHER RESOLVED, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measures to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

Adopted this 2nd day of March 2010.

IREDELL COUNTY BOARD OF COMMISSIONERS

Marvin Naumor

Attest: Jean C. Morr

IREDELL COUNTY Established 1788

Town of Mooresville
NORTH CAROLINA

TELEPHONE
704-663-3800

POST OFFICE BOX 878
MOORESVILLE, NORTH CAROLINA 28115

Town of Mooresville
Resolution
In Response to US EPA's Proposed Rule on
National Ambient Air Quality Standards (NAAQS) for Ozone

WHEREAS, the local governments of Iredell County support good air quality and recognize its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

WHEREAS, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health; and

WHEREAS, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology; and

WHEREAS, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

WHEREAS, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

WHEREAS, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Nonroad Diesel Rule
- The Light-Duty Vehicle Tier 2 Rule
- The Heavy Duty Diesel Rule
- The proposed rules for Locomotive and Marine Vessels and for Small Spark-Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards,

show that **451** counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that **248** (including Rowan) are projected to remain in non-attainment in 2020 if the standard is established at .065 ppm, and that **99** (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm; and

WHEREAS, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs (thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

WHEREAS, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

WHEREAS, there is inadequate federal support available at present, in the form of federal control measures and programs, Congestion Mitigation/Air Quality (CMAQ) funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

WHEREAS, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship;

NOW THEREFORE, BE IT RESOLVED that the Town of Mooresville Board of Commissioners hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards; and

BE IT FURTHER RESOLVED that the EPA not expand the range of any current non-attainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

BE IT FURTHER RESOLVED, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measures to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

ADOPTED this 1st day of March, 2010.

C Mag
Mayor

Janet Pope
Town Clerk

MOORESVILLE INCORPORATED 1873 NORTH CAROLINA

Irvitman

Resolution 08-10

In Response to US EPA's Proposed Rule on National Ambient Air Quality Standards (NAAQS) for Ozone

WHEREAS, the local governments of Iredell County support good air quality and recognize its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

WHEREAS, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health; and

WHEREAS, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology; and

WHEREAS, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

WHEREAS, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

WHEREAS, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Nonroad Diesel Rule
- The Light-Duty Vehicle Tier 2 Rule
- The Heavy Duty Diesel Rule
- The proposed rules for Locomotive and Marine Vessels and for Small Spark-Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards,

show that **451** counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that **248** (including Rowan) are projected to remain in non-attainment in 2020 if the

317

standard is established at .065 ppm, and that 99 (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm; and

WHEREAS, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs (thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

WHEREAS, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

WHEREAS, there is inadequate federal support available at present, in the form of federal control measures and programs, Congestion Mitigation/Air Quality (CMAQ) funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

WHEREAS, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship;

NOW THEREFORE, BE IT RESOLVED that the Board of Aldermen of the Town of Troutman hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards; and

BE IT FURTHER RESOLVED that the EPA not expand the range of any current non-attainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

BE IT FURTHER RESOLVED, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measures to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

ADOPTED this 11th day of March, 2010.

Mayor Elbert H. Richardson

Town Clerk, Kimberly H. Davis
Town of Troutman

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Harmony, NC

Resolution
In Response to US EPA's Proposed Rule on
National Ambient Air Quality Standards (NAAQS) for Ozone

WHEREAS, the local governments of Iredell County support good air quality and recognize its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

WHEREAS, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health; and

WHEREAS, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology; and

WHEREAS, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

WHEREAS, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

WHEREAS, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Nonroad Diesel Rule
- The Light-Duty Vehicle Tier 2 Rule
- The Heavy Duty Diesel Rule
- The proposed rules for Locomotive and Marine Vessels and for Small Spark Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards, show that **451** counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that **248** (including Rowan) are projected to remain in nonattainment in 2020 if the standard is established at .065 ppm, and that **99** (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm; and

WHEREAS, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs (thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

WHEREAS, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

WHEREAS, there is inadequate federal support available at present, in the form of federal control measures and programs, Congestion Mitigation/Air Quality (CMAQ) funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

WHEREAS, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship.

NOW THEREFORE, BE IT RESOLVED that the Town of Harmony hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards; and

BE IT FURTHER RESOLVED that the EPA not expand the range of any current nonattainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

BE IT FURTHER RESOLVED, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measures to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

Adopted this 5th day of April, 2010.

TOWN OF HARMONY BOARD OF ALDERMEN

John Ray Campbell

Attest: Melinda T Felts

RESOLUTION NO. 04-10

CITY OF STATESVILLE

RESOLUTION IN RESPONSE TO US EPA'S PROPOSED RULE ON NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) FOR OZONE

WHEREAS, the local governments of Iredell County support good air quality and recognize its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

WHEREAS, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health; and

WHEREAS, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology; and

WHEREAS, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

WHEREAS, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

WHEREAS, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Non-road Diesel Rule
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- The proposed rules for Locomotive and Marine Vessels and for Small Spark-Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards, show that 451 counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that 248 (including Rowan) are projected to remain in non-attainment in 2020 if the standard is established at .065 ppm, and that 99 (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm; and

WHEREAS, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs (thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

WHEREAS, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

WHEREAS, there is inadequate federal support available at present, in the form of federal control measures and programs, Congestion Mitigation/Air Quality (CMAQ)

funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

WHEREAS, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship;

NOW THEREFORE, BE IT RESOLVED that the City of Statesville hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards; and

BE IT FURTHER RESOLVED that the EPA not expand the range of any current non-attainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

BE IT FURTHER RESOLVED, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measures to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

Adopted this the 15th day of March, 2010.

ATTEST:

R. Lynn Smyth
R. Lynn Smyth, Deputy City Clerk

City of Statesville

Constantine H. Kutteh, Mayor

Town of Love Valley

May 10th, 2010

Mr. Marvin Norman
Vice Chairman Iredell County Board of Commissioners
P.O. Box 788
Statesville, NC
28687

Dear Mr. Norman:

On May 10th, 2010, the Love Valley Town Council approved a resolution regarding the Environmental Protection Agency's proposed rules on national ambient air quality standards for ozone.

Sincerely,

Ana Kennedy
Town Clerk

IREDELL COUNTY FARM BUREAU INC.

Resolution
In Response to US EPA'S Proposed Rule on
National Ambient Air Quality Standards (NAAQS) for Ozone

Whereas, Iredell County Farm Bureau supports good air quality and recognizes its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

Whereas, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health: and

Whereas, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology: and

Whereas, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

Whereas, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

Whereas, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Nonroad Diesel Rule
- The Light-Duty Vehicle Tier 2 Rule
- The Heavy Duty Diesel Rule
- The proposed rules for Locomotive and Marine Vessels and for Small Spark Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards, show that **451** counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that **248** (including Rowan) are projected to remain in nonattainment in 2020 if the standard is established at .065 ppm, and that **99** (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm: and

Whereas, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs(thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

Whereas, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

Whereas, there is inadequate federal support available at present, in the form of federal control measurers and programs, Congestion Mitigation/Air Quality (CMAQ) funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

Whereas, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship.

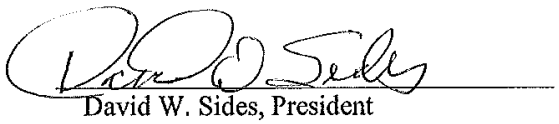
Now Therefore, Be It Resolved that the Iredell County Farm Bureau, Inc .hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards: and

Be It Further Resolved, that the EPA not expand the range of any current nonattainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

Be It Further Resolved, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measurers to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

Adopted this 1st day of April 2010.

Iredell County Farm Bureau Inc.



David W. Sides, President

Iredell County Farmland Preservation Advisory Board

Resolution
In Response to US EPA's Proposed Rule on
National Ambient Air Quality Standards (NAAQS) for Ozone

WHEREAS, the local governments of Iredell County support good air quality and recognize its contribution to human health, and have voluntarily undertaken a number of measures to promote air quality; and

WHEREAS, the Clean Air Act requires the US Environmental Protection Agency (EPA) to periodically review standards for ozone in light of scientific research on the impact of this pollutant on human health; and

WHEREAS, the most recent review of this research prompted EPA to propose changes to the NAAQS for ozone, including a revised 8-hour primary standard in the range of .070 to .060 parts per million (ppm), applicable nationwide, and a second standard to protect crops and vegetation, measured using a different methodology; and

WHEREAS, a hemispheric rise in background ozone levels has resulted in background levels in the United States and Canada estimated to range from .020 to .050 ppm (or higher); and

WHEREAS, establishing a primary standard of .060 ppm closely approaches the higher of these estimated background levels, and would place virtually every urbanized county, and many rural counties, in the United States in non-attainment of the standard; and

WHEREAS, EPA's own estimates, considering implementation of the expected emissions reductions from federal programs by 2020 including:

- The Clean Air Interstate Rule
- The Clean Air Mercury Rule
- The Clean Air Visibility Rule
- The Clean Air Nonroad Diesel Rule
- The Light-Duty Vehicle Tier 2 Rule
- The Heavy Duty Diesel Rule
- The proposed rules for Locomotive and Marine Vessels and for Small Spark Ignition Engines, and
- An estimate of State-level mobile and stationary source controls that were projected to be needed to attain pre-existing PM 2.5 and ozone standards, show that **451** counties in the United States (among those having monitors), including Lincoln and Union, are projected to remain in non-attainment in 2020 if the standard is established at .060 ppm, that **248** (including Rowan) are projected to remain in nonattainment in 2020 if the standard is established at .065 ppm, and that **99** (including Mecklenburg) are projected to remain in non-attainment in 2020 if the standard is established at .070 ppm; and

WHEREAS, non-attainment status carries serious ramifications for economic investment and job development, potentially making it harder for Iredell County's 20 permitted industries to grow, and potentially pushing jobs into areas of attainment but increasing the travel of workers to reach those jobs (thereby potentially resulting in increased traffic congestion and motor vehicle emissions); and

WHEREAS, measures to attain such significantly lowered standards impose additional expense on local governments, employers, and families, at a time of extreme economic hardship; and

WHEREAS, there is inadequate federal support available at present, in the form of federal control measures and programs, Congestion Mitigation/Air Quality (CMAQ) funds, air quality grant programs through EPA, other federal grants-in-aid, or tax relief to support the implementation of measures that would be needed to attain any of the proposed standards, but particularly those of .069 and below; and

WHEREAS, EPA is considering an accelerated timeline for attainment of the new standards, again in a time of great economic hardship.

NOW THEREFORE, BE IT RESOLVED that the Iredell County Farmland Preservation Advisory Board hereby requests that EPA refrain from adopting a primary standard of .069 ppm or lower, that any secondary standard adopted be consistent with the primary standard both in level and methodology of calculation, and that EPA consider a differential between "background" levels and the impact of normal human enterprise in establishing the standards; and

BE IT FURTHER RESOLVED that the EPA not expand the range of any current nonattainment areas for these revisions of the standard, nor adopt an accelerated time line for attainment at a time of economic hardship; and

BE IT FURTHER RESOLVED, that the United States Congress make available adequate funding to ensure that local governments, employers, and citizens are not forced to assume the full cost of measures to attain any adopted National Ambient Air Quality Standards, primary or secondary, for ozone.

Adopted this 8th day of April 2010.

IREDELL COUNTY FARMLAND PRESERVATION ADVISORY BOARD

James A. Dobson, Jr.

Attest:

mecklenburg-union MUMPO metropolitan planning organization

600 East Fourth Street
Charlotte, NC 28202
704-336-2205
www.mumpo.org

February 7, 2012

Laura Boothe, Attainment Planning Branch Supervisor
North Carolina Department of Environment & Natural Resources
Division of Air Quality
1641 Mail Service Center
Raleigh, North Carolina 27699-1641

Subject: Comments on Ozone Boundary Recommendations

Dear Ms. Boothe:

On behalf of the Mecklenburg-Union Metropolitan Planning Organization (MUMPO) Technical Coordinating Committee (TCC), I want to thank the Division of Air Quality for allowing this opportunity to comment on the ozone nonattainment boundary options presented in Charlotte and Cornelius on January 18, 2012.

Due to the lack of time for MUMPO to evaluate the new options defined by NCDAQ, we have not been able to receive policy direction on this very important topic. While we would prefer to recommend the October 2011 boundaries, and to state that the data for changing the existing boundaries are inconclusive, we cannot do so without offering this topic to elected officials.

The process timeline has been so truncated that it is not possible to get direction from elected officials before the announced close of the comment period, February 10. The original notice for the public meetings apparently went to our elected officials in December, 2011. Based on the attendance at the public meetings on January 18, it was evident that most elected public officials did not grasp the significance of these meetings.

Staff had only a six-day notice of the public meetings, receiving an e-mail on January 12, 2012. Many of our TCC members are active partners with NCDAQ with regard to issues such as SIPs and transportation conformity, yet we were not informed of the new options defined by NCDAQ prior to NCDAQ's presentation at the public meetings.

Due to the possible implications (environmental, economic, and political) resulting from excluding certain Townships versus keeping the current nonattainment boundary for the 2008 standard, MUMPO reserves the right to submit comments after February 10. We will send comments to EPA and NCDAQ, pending direction from MUMPO Board.

Sincerely:

William S. Coxe (TWC)

William S. Coxe, Chair
Technical Coordinating Committee, Mecklenburg-Union MPO

CHARLOTTE CORNELIUS DAVIDSON HUNTERSVILLE INDIAN TRAIL MATTHEWS MECKLENBURG COUNTY MINT HILL MONROE NCDOT
PINEVILLE STALLINGS UNION COUNTY WAXHAW WEDDINGTON WESLEY CHAPEL WINGATE

RESOLUTION TO REMAIN IN THE METROLINA OZONE AIR QUALITY NONATTAINMENT AREA BOUNDARY

WHEREAS, the Marshville Town Council understands the current nonattainment boundary established for the 1997 air quality standard includes the counties of: Mecklenburg, Union, Cabarrus, Rowan, Gaston, Lincoln, and the southern portion of Iredell; and

WHEREAS, since the ozone air quality has much improved in the Metrolina nonattainment region since the implementation of the 1997 air quality standard the NCDAQ is discussing shrinking the boundary by excluding certain Townships from the nonattainment boundary; and

WHEREAS, despite however justifiable the removal of certain Townships from the proposed nonattainment area may be, reservations exist due to the likelihood of a revision to the ozone standard in 2013-14, the fate of the 1997 standard, and conformity of the various Townships that make up the Metrolina Nonattainment area; and

WHEREAS, to remain in the nonattainment area boundary qualifies the Town of Marshville for possible CMAQ grant dollars; and

WHEREAS, the Marshville Town Council recognizes that to remain in the nonattainment area boundary is in the best interest for the Town of Marshville at this time.

NOW, THEREFORE, BE IT RESOLVED that I, Franklin Deese, Mayor and the Members of the Town Council of Marshville do hereby express our desire to opt to remain in the Metrolina Nonattainment Area Boundary.

This Resolution shall be entered upon the permanent Minutes of the Town Council.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the Town of Marshville to be affixed this the 6 day of February, 2012

Franklin D. Deese, Mayor

Attest: Tonya Johnson, Town Clerk

TOWN OF MARSHVILLE CORPORATE SEAL UNION COUNTY, NC

From:	Elaine Powell
To:	SVC_DENR.DAQ.publiccomments;
cc:	Witcraft, Nick; June Blotnick; kminn@salisburypost.com;
Subject:	Public Comments on ozone boundary recommendations
Date:	Sunday, January 29, 2012 4:09:03 PM

Dear Nick,

I am concerned that excluding the proposed townships will only encourage sprawl that could potentially make the air quality worse.
If this proposal goes forward, I would like to request a public hearing, since air quality is such an important issue. I don't know if you have rules about where you have to hold the public hearings, but if possible I hope that each one will be close to a medical facility where medical professionals (pulmonologists, respiratory therapists, etc.) can attend.

For all of the work that you do to protect our air, I thank you.

Sincerely,
Elaine Powell
Mecklenburg County

MECKLENBRG COUNTY
Board of County Commissioners

February 22, 2012

Ms. Gwendolyn Keyes Fleming
Regional Administrator
USEPA, Region 4
Sam Nunn Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960

Re: Ozone Nonattainment Boundary Recommendation
Charlotte-Gastonia-Salisbury, NC-SC Nonattainment Area

Dear Ms Fleming:

Pursuant to the requirements of the federal Clean Air Act, the Mecklenburg County Board of Commissioners submits to you and your colleagues at the U.S. Environmental Protection Agency (EPA) the County's recommendations concerning the boundaries within our region of areas that should be designated non-attainment for the March 12, 2008 8-hour ozone standard. We are recommending the boundaries described below because we believe that they are the most effective way to achieve the goals of cleaner air, healthier lives and a stronger economy.

At its February 21, 2012 meeting the Board received boundary recommendations from its citizen advisory board, the Mecklenburg County Air Quality Commission (MCAQC). Our MCAQC reviewed and discussed in depth the proposed eight-hour ozone non-attainment boundary recommendations from the North Carolina Division of Air Quality and the South Carolina Bureau of Air Quality and USEPA's December 8, 2011 response to each state's recommendation. The eight-hour ozone non-attainment designation for the Charlotte-Mecklenburg region is one of the most critical air quality issues facing the region and the County believes it is very important to address this issue aggressively.

<u>The motion below was approved by the Mecklenburg County Board of Commissioners on February 21, 2012:</u>

> "The Board of County Commissioners for Mecklenburg County, North Carolina, believes the EPA has appropriately considered the factors to determine boundaries for the local nonattainment area, and supports and endorses the following boundary conclusions from EPA's December 8, 2011 response letters to North Carolina and South Carolina as follows:

PEOPLE ● PRIDE ● PROGRESS ● PARTNERSHIPS
600 East Fourth Street • Charlotte, North Carolina, 28202-2835 • (704) 336-2472 • Fax (704) 336-0306
www.co.mecklenburg.nc.us

the EPA has preliminarily concluded that the following North Carolina counties should be included as part of the Charlotte-Gastonia-Salisbury, NC SC nonattainment area: Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan and Union Counties in their entireties, and a portion of Iredell County;

and

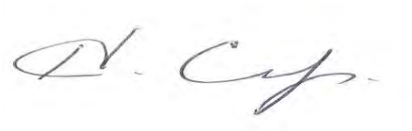
the EPA has preliminarily concluded that the urbanized portion of York County, South Carolina, and the Catawba Indian Nation Reservation should be included as part of the Charlotte-Gastonia- Salisbury, NC-SC nonattainment area;

and further

the Board of County Commissioners for Mecklenburg County, North Carolina, believes that the northern "finger" of Lancaster County, South Carolina should be included as part of the Charlotte-Gastonia- Salisbury, NC-SC nonattainment area. This area, which contains the US 521 business corridor has and continues to experience substantial urbanization and contributes significant emissions towards ozone nonattainment. Prior to making any designation, EPA should conduct an analysis and evaluation of this area's affect on our ozone levels."

Mecklenburg County is committed to protecting the health of our citizens, our environment, and our economy. Solving our ozone and other air quality problems is critical to achieving those goals. Improving air quality is critical to the health of our citizens, our future growth, prosperity and quality of life. We look forward to continuing to working with EPA, the states, our neighboring counties and all of our other partners on the challenging tasks ahead to attain the 2008 8-hour ozone standard.

Sincerely,



Harold Cogdell, Jr.
Chairman

cc Mecklenburg Board of County Commissioners
Anthony Foxx, Mayor, City of Charlotte
Kris Knudsen, MCAQC
Don Willard, MCAQ
Sheila Holman, NCDAQ
Myra Reece, SCBAQ

Appendix C

U. S. EPA Guidance and Correspondence

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC - 4 2008

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Area Designations for the 2008 Revised Ozone National Ambient Air Quality Standards

FROM: Robert J. Meyers
Principal Deputy Assistant Administrator

TO: Regional Administrators, Regions I-X

This memorandum provides information on the timeline for designating areas for the purpose of implementing the 2008 revised primary and secondary ozone National Ambient Air Quality Standards (NAAQS). In addition, this memorandum identifies important factors states and tribes should consider in making recommendations for area designations. Please share this information with the state and tribal agencies in your Region.

The U.S. Environmental Protection Agency (EPA) revised the ozone NAAQS on March 12, 2008 (73 FR 16436; March 27, 2008). The new primary ozone standard was lowered from 0.08 parts per million (ppm) to a level of 0.075 ppm based on numerous epidemiological studies conducted during the past decade in which many of the health effects associated with ozone exposure were identified. These studies showed health effects at and below the level of the 0.08 ppm standard, which was promulgated in 1997. Prolonged (i.e., 8-hour) exposure to ozone is associated with increased mortality and a range of serious morbidity health effects, including aggravation of a variety of respiratory symptoms and lung impairment, asthma attacks, respiratory hospital admissions and emergency department visits, and cardiovascular problems. In March 2008, EPA also strengthened the secondary ozone standard to provide increased protection against adverse public welfare effects including impacts on vegetation and forested ecosystems. EPA made the secondary standard identical in all respects to the revised primary standard.

Section 107(d) of the Clean Air Act (CAA) governs the process for area designations following the establishment of new or revised NAAQS. Under section 107(d), states are required to submit recommendations on designations for their areas to EPA not later than one year after the promulgation of a new or revised standard. If, after careful consideration of the recommendations, EPA intends to promulgate a designation that deviates from a state recommendation, EPA must notify the state at least 120 days prior to promulgating the final designation, and EPA must provide the state an opportunity to demonstrate why the potential

modification is inappropriate. The CAA requires EPA to complete the designation process within two years of promulgation of a new or revised NAAQS unless the Administrator has insufficient information to make these decisions. In such a case, EPA may take up to an additional year to make the designations. While the language of section 107 specifically addresses states, EPA intends to follow the same process for tribes to the extent practicable, pursuant to section 301(d) of the CAA and the Tribal Authority Rule, or TAR (see 63 FR 7254).

Accordingly, state designation recommendations for the 2008 revised ozone standards should be submitted to the Administrator no later than March 12, 2009. Areas should be identified as attainment, nonattainment, or unclassifiable on the basis of available information. We will notify states by letter no later than November 12, 2009 if we plan to modify a state's recommendation. In order to consider public input in the designation process, we plan to provide a 30-day public comment period immediately following issuance of EPA's response letters to the states and tribes; we anticipate the comment period would conclude in mid-December 2009. If a state or tribe has additional information that they want EPA to consider with respect to a designation recommendation EPA plans to modify, we would request such information be submitted by January 12, 2010. This will ensure that EPA can fully consider any such information as we move forward to issue designations by March 12, 2010. Because the 2008 revised primary and secondary ozone NAAQS are identical, EPA expects that each area will have the same designation and boundary for both standards.

We recommend that states and tribes identify violating areas using the most recent three consecutive years of quality-assured, certified air quality data. In most cases, we expect these to be data from 2005-2007 or 2006-2008 (if these 2006-2008 data have been certified more quickly than is required) that are stored in the EPA Air Quality System (AQS).1 In general, violations are identified using data from Federal reference method (FRM) and Federal equivalent method (FEM) monitors that are sited and operated in accordance with 40 CFR Part 58. Special Purpose Monitors (SPM) using an FRM or FEM which have operated for more than 24 months are eligible for comparison to the relevant NAAQS, subject to the requirements given in the October 17, 2006 Revision to Ambient Air Monitoring Regulations (71 FR 61236). Procedures for using the air quality data to determine whether a violation has occurred are given in 40 CFR Part 50 Appendix P, as revised on March 27, 2008 (73 FR 16511). We expect to base the final designations in March 2010 on the most recent quality-assured data which would be from 2006-2008 or 2007-2009.

Air quality monitoring data affected by exceptional events may be excluded from use in identifying a violation if they meet the criteria for exclusion, as specified in the Final Rule on the Treatment of Data Influenced by Exceptional Events (72 FR 13560; March 22, 2007). We recently issued a direct final rule to provide schedules for flagging exceptional event data and submitting documentation specifically for ozone data collected from 2005 through 2009 that are used in the designations process for the 2008 ozone NAAQS. (See 73 FR 58042; October 6, 2008). These schedules reflect our interest in assuring that the exceptional events claims can be fully considered by EPA in the final designations.

[1] This information is available on EPA's website at www.epa.gov/ttn/airs/airsaqs/.

Section 107(d)(1) of the CAA defines an area as nonattainment if it is violating the NAAQS or if it is contributing to a violation in a nearby area. Ground-level ozone and ozone precursor emissions are pervasive and readily transported. Therefore, EPA believes it is important to examine ozone-contributing emissions across a relatively broad geographic area. Accordingly, we recommend that the Core Based Statistical Area (CBSA) or Combined Statistical Area (which includes 2 or more adjacent CBSA's) associated with the violating monitor(s) serve as the starting point or "presumptive" boundary for evaluating the geographic boundaries of an ozone nonattainment area. CBSA is a collective term that refers to both metropolitan and micropolitan statistical areas, which are distinguished based on population size.[2] Each CBSA consists of a county or counties containing at least one urban core plus adjacent counties that have a high degree of social and economic integration with the urban core as measured by commuting ties.[3] EPA recommends starting with this presumption because the factors used to establish the CBSAs and CSAs are similar to the factors EPA plans to consider in determining whether a nearby area is contributing to the violation(s) of the standard. EPA used this same conceptual approach in the designations process for the 1997 ozone NAAQS.[4,5] Where a violating monitor is not located in a CBSA or CSA, we recommend that the boundary of the county containing the monitor serve as the starting point for considering the extent of the nonattainment area.

EPA believes that each potential nonattainment area should be evaluated on a case-by-case basis and recognizes that these area-specific analyses conducted by states, tribes, and/or EPA may support nonattainment area boundaries that are larger or smaller than the presumptive area starting point. As a framework for area-specific analyses, we recommend that states and tribes base their boundary recommendations on an evaluation of the 9 factors listed in attachment 2. These factors are consistent with those used in the designations process for the 1997 ozone standard and are factors EPA plans to consider in evaluating and making decisions on the nonattainment area boundaries for the 2008 ozone standards. Additionally, states and tribes may

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[2] The Office of Management and Budget (OMB) delineates CBSAs (metropolitan and micropolitan statistical areas) and CSAs. OMB adopted new standards for defining metropolitan and micropolitan statistical areas on December 27, 2000 (65 FR 82229). A micropolitan statistical area has a population of at least 10,000 but less than 50,000. A metropolitan statistical area has a population of at least 50,000.

[3] For lists of the CBSAs and CSAs and their geographic components see www.census.gov/population/www/metroareas/metrodef.html. EPA recommends using the most recent available updated lists of the statistical areas. The lists are updated annually to reflect the most recent Census Bureau population estimates.

[4] Memorandum from John S. Seitz, Director of Office of Air Quality Planning and Standards to Air Directors, Regions I-X, "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards," March 23, 2000.

[5] In addition, CAA section 107(d)(4) established the consolidated metropolitan statistical area or metropolitan statistical area as the presumptive boundary for the most polluted areas that were designated nonattainment by operation of law in 1991 for the 1-hour ozone NAAQS.

identify and evaluate other relevant factors or circumstances specific to a particular area.

In addition to nearby areas with sources contributing to nonattainment, ozone concentrations in a local area may be affected by long-range transport of ozone and its precursors (notably nitrogen oxides). In certain parts of the country, such as the eastern United States, ozone is a widespread problem. Where this is the case, the CAA does not require that all contributing areas be designated nonattainment, only the nearby areas. Regional strategies, such as those employed in the Ozone Transport Region and EPA's NO_x SIP Call are needed to address the long-range transport component of ozone nonattainment, while the local component must be addressed through local planning in and around the designated nonattainment area.

This memorandum provides EPA's current views on how boundaries should be determined for ozone designations. The guidance is not binding on states, tribes, the public, or EPA. Issues concerning nonattainment area boundaries will be addressed in EPA's action to designate areas under the 2008 ozone standard. When EPA promulgates designations, those determinations will be binding on states, tribes, the public, and EPA as a matter of law. Ozone nonattainment areas will be classified at the time of designation. The approach EPA will use to classify nonattainment areas under the 2008 revised ozone NAAQS will be established through a separate notice-and-comment rulemaking. Information related to the designations for the 2008 revised ozone NAAQS will be provided on EPA's website at www.epa.gov/ozonedesignations.

Attachment 1 is a timeline of important dates in the designation process for the revised 2008 ozone NAAQS designation process. Attachment 2 provides the list of nine factors that EPA plans to consider in evaluating and making decisions on nonattainment area boundaries.

Staff in EPA's Office of Air Quality Planning and Standards are available for assistance and consultation throughout the designation process. Questions on this guidance may be directed to Carla Oldham at 919-541-3347.

Attachments (2)

cc: Air Division Directors, Regions I-X
Greg Green, OAQPS
Bill Harnett, OAQPS
Brian McLean, OAP
Margo Oge, OTAQ
Stephen D. Page, OAQPS
Peter Tsirigotis, OAQPS
Richard Wayland, OAQPS
Lydia Wegman, OAQPS

MENT

ATTACHMENT 1

TIMELINE FOR REVISED 2008 OZONE NAAQS DESIGNATION PROCESS*	
Milestone	**Date**
EPA promulgated revised ozone NAAQS	March 12, 2008
State and tribal recommendations due for ozone designations	No later than March 12, 2009
EPA notifies states and tribes concerning any modifications to their recommendations (120-day letters).	No later than November 12, 2009 (120 days prior to final designations)
EPA publishes public notice of state recommendations and EPA's proposed modifications and initiates 30-day public comment period.	Mid-November 2009
End of 30-day public comment period.	Mid-December 2009
States and Tribes submit additional information to demonstrate why an EPA modification is inappropriate.	No later than January 12, 2010
EPA promulgates final ozone designations.	No later than March 12, 2010

* This schedule assumes EPA has sufficient information to promulgate designations within 2 years. In the event EPA determines that insufficient information is available to do so, the designation process could be extended up to one year, but no later than March 12, 2011.

ATTACHMENT 2

Factors EPA Plans to Consider in Determining Nonattainment Area Boundaries in Designations for the 2008 Ozone NAAQS

EPA recommends that the Core Based Statistical Area (CBSA) or Combined Statistical Area (CSA) (which includes 2 or more adjacent CBSA's) serve as the starting point or "presumptive" boundary for considering what should be the geographic boundaries of an ozone nonattainment area.[6] Where a violating monitor is not located in a CBSA or CSA, we recommend that the boundary of the county containing the monitor serve as the presumptive boundary for the nonattainment area. As a framework for area-specific analyses to support nonattainment area boundary recommendations and final boundary determinations, we recommend an evaluation of the 9 factors listed below:

- Air quality data
- Emissions data (location of sources and contribution to ozone concentrations)
- Population density and degree of urbanization (including commercial development)
- Traffic and commuting patterns
- Growth rates and patterns
- Meteorology (weather/transport patterns)
- Geography/topography (mountain ranges or other air basin boundaries)
- Jurisdictional boundaries (e.g., counties, air districts, existing nonattainment areas, Reservations, metropolitan planning organizations (MPOs))
- Level of control of emission sources

Analysis of these factors may support nonattainment boundaries that are either larger or smaller than the presumptive boundary. EPA plans to consider these factors, along with any other relevant information, in determining whether to make modifications to the boundary recommendations from states and tribes. The factors listed above, while generally comprehensive, are not intended to be exhaustive. States and tribes may submit additional information they believe is relevant for EPA to consider. In general, a state's or tribe's demonstration supporting their boundary recommendation for an area should show that: 1) violations are not occurring in nearby portions that are excluded from the recommended area, and 2) the excluded nearby portions do not contain emission sources that contribute meaningfully to the observed violations. While states are not bound to use the approach outlined here, EPA plans to evaluate a state recommendation and determine whether to modify such recommendation based on the above factors and any other information the Agency determines is relevant.

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[6] For lists of the CBSAs and CSAs and their geographic components see www.census.gov/population/www/metroareas/metrodef.html.

NCDENR
North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue, Governor

Dee Freeman, Secretary

March 12, 2009

A. Stanley Meiburg
Regional Administrator
USEPA, Region 4
Sam Nunn Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960

Dear Mr. Meiburg:

Pursuant to the requirements of the federal Clean Air Act and on behalf of Governor Beverly E. Perdue, I am submitting to you and your colleagues at the U.S. Environmental Protection Agency (EPA) the State of North Carolina's recommendations concerning the boundaries within our State of areas that either attain or do not attain the March 12, 2008 8-hour standard for ozone. We are recommending the boundaries which are described in the enclosed package because we believe that they are the most effective way to achieve the goals of cleaner air, healthier lives, a stronger economy, and more effective conservation of our land and water. We look forward to discussing these recommendations with you after EPA has had the opportunity to review and comment on them.

The federal Clean Air Act requires EPA to designate areas as attainment or nonattainment following promulgation of a new national ambient air quality standard (NAAQS), such as the March 12, 2008 8-hour standard for ozone. EPA has asked states for their recommendations for nonattainment boundaries by March 12, 2009.

Development and submittal of the State's recommendations on appropriate nonattainment boundaries are the first steps in the process of addressing the revised ozone NAAQS. We understand that if EPA intends to designate areas that differ from the State's recommendations, EPA is required to notify the State by no later than 120 days prior to the final designations which would be no later than November 12, 2009. In addition, it is our understanding that EPA plans to provide a 30-day public comment period immediately following issuance of its response letters to the states in order to consider public input in the designation process. The comment period will conclude in mid-December 2009. EPA must then provide the State an opportunity to demonstrate why modifications to a state's recommendations are inappropriate. EPA has established January 12, 2010, as the deadline for such State response. At that time, my staff anticipates providing supplemental information including consideration of the 2009 ozone season monitoring data and EPA's implementation rule currently scheduled to be released in August 2009.

In developing the recommendations, staff in the Division of Air Quality, North Carolina Department of Environment and Natural Resources (DENR), consulted with staff from the Department of Commerce, Department of Transportation, and Department of Agriculture and Consumer Services. In addition, my staff conducted meetings with elected officials and public meetings around the State on draft staff recommendations and EPA presumptive boundaries in December 2008 and January 2009, and held a public comment period through February 9, 2009. Through this process, staff sought comments from local officials, metropolitan planning organizations, environmental organizations, business, industry, and the

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general public. The recommendations prepared for your review include consideration of the comments received.

Based on our extensive public discussions and analysis, we are recommending that 24 entire counties and parts of 17 counties in ten areas of the state be designated as nonattainment for the 8-hour ozone standard, one area be designated unclassifiable and all remaining areas be designated as attainment. The State's proposal reflects a regional approach that, we believe, will target areas that need our best efforts in order to achieve the goals listed above.

Ozone pollution is a serious problem in North Carolina that we are working hard in conjunction with our many local, state, and national partners to solve. Over the past decade North Carolina has implemented substantial, progressive emissions reductions that have resulted in almost statewide attainment of the 1997 8-hour ozone standard in all areas of the State except the Charlotte Metro area. Under the North Carolina legislature's Clean Air Bill of 1999, the State's vehicle inspection and maintenance program was changed to an on-board diagnostic (OBD) program which now covers 48 counties. In addition to implementation of the NOx SIP Call rules, in 2002 North Carolina's General Assembly also enacted the landmark multipollutant legislation known as the Clean Smokestacks Act (CSA) which continues to result in significant sulfur dioxide (SO2) and nitrogen oxides (NOx) emissions reductions from the State's two largest electric utility companies. As demonstrated by these and other actions, North Carolina is committed to improving air quality. The State has and will continue to use its statutory authority to implement controls in the State as warranted, regardless of whether the emission sources are located within the boundary of a nonattainment area.

North Carolina is committed to protecting the health of our citizens, our environment, and our economy. Solving our ozone and other air quality problems is critical to achieving those goals. Improving air quality is critical to the health of our citizens, our future growth, prosperity and quality of life. We look forward to continuing to work with EPA and all of our other partners on the challenging tasks ahead to establish appropriate boundaries for nonattainment areas and to develop strategies to attain the 2008 8-hour ozone standard. More detailed information and supporting data are included in the enclosed recommendation package. Thank you for your consideration of these recommendations.

Sincerely,

Dee Freeman

Dee Freeman
Secretary

DF:jb

Enclosure

c: The Honorable Beverly E. Perdue
The Honorable Steve Troxler
The Honorable Gene Conti
The Honorable J. Keith Crisco
B. Keith Overcash

Table 1: North Carolina – Ozone (8-Hour Standard)

Designated Area	Designation Type	Classification Type
Snow Bird Mountains – Joyce Kilmer-Slickrock Wilderness Area: Graham County Above 4000 feet elevation in the Snow Bird Mountains range Joyce Kilmer-Slickrock Wilderness Area boundary Cherokee County Above 4000 feet elevation in the Snow Bird Mountains range	Nonattainment	
Great Smoky Mountains National Park: Haywood County Park boundary Swain County Park boundary	Nonattainment	
Great Balsam Mountains – Shining Rock Wilderness Area: Buncombe County Above 4000 feet elevation in this mountain range Haywood County Above 4000 feet elevation in this mountain range Shinning Rock Wilderness Area boundary Henderson County Above 4000 feet elevation in this mountain range Jackson County Above 4000 feet elevation in this mountain range Transylvania County Above 4000 feet elevation in this mountain range	Nonattainment	

Table 1: North Carolina – Ozone (8-Hour Standard)

Designated Area	Designation Type	Classification Type
Black Mountains: Buncombe County Above 4000 feet elevation in this mountain range Madison County Above 4000 feet elevation in this mountain range McDowell County Above 4000 feet elevation in this mountain range Yancey County Above 4000 feet elevation in this mountain range	Nonattainment	
Hickory-Lenoir-Morganton Area: Alexander County Burke County Unifour Metropolitan Planning Organization boundary Caldwell County Unifour Metropolitan Planning Organization boundary Catawba County	Nonattainment	
Charlotte-Gastonia-Salisbury Area: Cabarrus County Gaston County Iredell County Davidson Township Coddle Creek Township Lincoln County Mecklenburg County Rowan County Union County	Nonattainment	

Table 1: North Carolina – Ozone (8-Hour Standard)

Designated Area	Designation Type	Classification Type
Greensboro-Winston-Salem-High Point Area: Alamance County Davidson County Forsyth County Guilford County Caswell County Davie County Orange County Burlington-Graham Metropolitan Planning Organization boundary Randolph County High Point Metropolitan Planning Organization boundary Rockingham County	Nonattainment	
Raleigh-Durham-Cary Area: Chatham County Baldwin Township Center Township New Hope Township Williams Township Durham County Franklin County Granville County Johnston County Capital Area Metropolitan Planning Organization boundary Orange County Outside Burlington-Graham Metropolitan Planning Organization boundary Person County Wake County	Nonattainment	
Fayetteville Area: Cumberland County	Nonattainment	

Table 1: North Carolina – Ozone (8-Hour Standard)

Designated Area	Designation Type	Classification Type
Rocky Mount Area: Edgecombe County Nash County	Nonattainment	
Greenville Area: Pitt County	Unclassifiable	
Rest of State	Attainment	

NCDENR
North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue, Governor

Dee Freeman, Secretary

October 28, 2011

Gwendolyn Keyes Fleming
Regional Administrator
USEPA, Region 4
Sam Nunn Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960

Dear Ms. Fleming:

Pursuant to the requirements of the federal Clean Air Act and on behalf of Governor Beverly E. Perdue, I am submitting to you and your colleagues at the U.S. Environmental Protection Agency (EPA) the State of North Carolina's revised recommendations for boundaries delineating the areas in the State that either attain or do not attain the March 12, 2008 8-hour standard for ozone. We believe the boundaries described in the enclosed package are the most effective way to achieve the goals of the Clean Air Act. We look forward to discussing these recommendations with you after EPA has had the opportunity to review and comment on them.

The federal Clean Air Act requires EPA to designate areas as attainment or nonattainment following promulgation of a new national ambient air quality standard. The EPA has asked states for their recommendations for nonattainment boundaries by October 28, 2011. Please note that North Carolina plans to certify its 2011 ambient air quality data for ozone by the end of 2011 so that this data may be used in determining nonattainment boundaries for the March 12, 2008 8-hour standard for ozone.

Based on extensive public discussion of our initial boundary recommendations for the 2008 ozone standard submitted in March 2009 and analysis of the current ambient air quality data through 2011, we are recommending that six entire counties and one partial county in the Charlotte-Gastonia-Salisbury metropolitan area be designated as nonattainment for the 2008 8-hour ozone standard and all remaining areas be designated as attainment. The proposed nonattainment area is consistent with the area that was designated nonattainment for the 1997 8-hour ozone standard. North Carolina was able to attain the 1997 8-hour ozone standard using this recommended nonattainment boundary area.

North Carolina learned of the need to update the boundary recommendations in a call with EPA Region 4 staff on September 29, 2011. As a result, the state has not had sufficient time to consult with local elected officials and other partners prior to this submittal. North Carolina reserves the right to further amend these recommendations as we have the opportunity to do that over the

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coming weeks. Any changes in the state's recommendations will be communicated during the 120 day process that will follow EPA's response to these initial recommendations.

North Carolina has been working hard to address ozone pollution in conjunction with our many local, state, and national partners. Over the past decade, North Carolina has implemented substantial, progressive emissions reductions that have resulted in attainment of the 1997 8-hour ozone standard statewide. Under the North Carolina legislature's Clean Air Bill of 1999, the State's vehicle inspection and maintenance program was changed to an on-board diagnostic (OBD) program that now covers 48 counties. In addition to implementation of the NOx SIP Call rules, in 2002 North Carolina's General Assembly also enacted the landmark multi-pollutant legislation known as the Clean Smokestacks Act which continues to result in significant sulfur dioxide and nitrogen oxides (NOx) emissions reductions from the State's two largest electric utility companies. As demonstrated by these and other actions, North Carolina is committed to improving air quality.

North Carolina believes that good air quality is vital to the health of our citizens, the state's environment, and future economic growth and quality of life. We look forward to continuing to work with EPA and our other partners to develop strategies to attain the 2008 8-hour ozone standard. More detailed information and supporting data are included in the enclosed recommendation package. Thank you for your consideration of these recommendations.

Sincerely,

Dee Freeman
Secretary

DF:lab

Enclosure

c: The Honorable Beverly E. Perdue
The Honorable Steve Troxler
The Honorable Gene Conti
The Honorable J. Keith Crisco
Sheila C. Holman

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC - 8 2011

The Honorable Beverly Perdue
Governor of North Carolina
State Capitol
20301 Mail Service Center
Raleigh, North Carolina 27699-0301

Dear Governor Perdue:

Thank you for your recommendations dated March 12, 2009, and October 28, 2011, on air quality designations for the revised 2008 National Ambient Air Quality Standards for ozone throughout North Carolina. I appreciate the information North Carolina shared with the U.S. Environmental Protection Agency as we move forward to improve ozone air quality. This letter is to notify you of the EPA's preliminary response to North Carolina's recommendations and to inform you of our approach for completing the designations for the revised ozone standards.

On March 12, 2008, the EPA revised its national ambient air quality standards for ground-level ozone to provide increased protection of public health and the environment. The EPA lowered the primary 8-hour ozone standard from 0.08 parts per million (ppm) to 0.075 ppm to protect against health effects associated with ozone exposure, including a range of serious respiratory illnesses and increased premature death from heart or lung disease. The EPA revised the secondary 8-hour ozone standard, making it identical to the primary standard, to protect against welfare effects, including impacts on sensitive vegetation and forested ecosystems.

History shows us that better health and cleaner air go hand-in-hand with economic growth. Working closely with the states and tribes, the EPA is implementing the standards using a common sense approach that improves air quality and minimizes the burden on state and local governments. As part of this routine process, the EPA is working with the states to identify areas in the country that meet the standards and those that need to take steps to reduce ozone pollution. Within one year after a new or revised air quality standard is established, the Clean Air Act requires the Governor of each state to submit to the EPA a list of all areas in the state, with recommendations for whether each area meets the standard. As a first step in implementing the 2008 ozone standards, the EPA asked states to submit their designation recommendations, including appropriate area boundaries, by March 12, 2009. In September 2009, the EPA announced it was reconsidering the 2008 ozone standards. The EPA later took steps to delay the designation process for the 2008 ozone standards pending outcome of the reconsideration. However, in September 2011, the Office of Management and Budget returned to the EPA, the draft final rule addressing the reconsideration of the 2008 ozone standards. On September 22, 2011, the EPA restarted the implementation effort by issuing a memorandum to clarify for state and local agencies the status of the 2008 ozone standards and to outline plans for moving forward to implement them. The EPA indicated that it would proceed with initial area designations for the 2008 standards, and planned to use the recommendations states made in 2009 as updated by the most current, certified air quality data from 2008-2010. While the EPA did not request that states submit updated designation recommendations, the

EPA provided the opportunity for states to do so. Thank you for the October 28, 2011, updated designation recommendation from North Carolina based on the assessment of preliminary 2009-2011 air quality data.

As required by the Clean Air Act, the EPA will designate an area as nonattainment if it is violating the 2008 ozone standards or contributing to a violation of the standards in a nearby area. Consistent with designations for previous ozone standards, the EPA intends to designate an area as unclassifiable/attainment if there are certified, quality-assured air quality monitoring data showing the area is meeting the ozone standards or there are no monitoring data for the area, and the EPA has not made a determination that the area is contributing to a violation in a nearby area.

After considering North Carolina's October 28, 2011, ozone designation recommendations for the Greensboro-Winston Salem-High Point Area, which was based on preliminary 2009-2011 air quality data, as well as other relevant technical information, the EPA intends to designate the Greensboro-Winston Salem-High Point Area as unclassifiable/attainment. In order for the EPA to consider 2009-2011 air quality data in the final designation decisions for this area, North Carolina must submit certified, quality assured 2009-2011 air quality monitoring data for the area to the EPA by February 29, 2012.

Next, after considering North Carolina's March 12, 2009, and October 28, 2011, ozone designation recommendations and other relevant technical information, including 2008-2010 air quality data, the EPA intends to support North Carolina's recommended area designations and boundaries for all other areas including the Charlotte-Gastonia-Salisbury Area. The EPA has preliminarily concluded that the following North Carolina counties should be included as part of the Charlotte-Gastonia-Salisbury, NC-SC nonattainment area: Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan and Union Counties in their entireties, and a portion of Iredell County. The enclosed Technical Support Document provides a detailed analysis to support our preliminary decisions. The EPA intends to designate all other areas of the state as unclassifiable/attainment.

The EPA will continue to work with state officials regarding the appropriate boundary for the Charlotte-Gastonia-Salisbury Area. If North Carolina has additional information that you would like the EPA to consider, please submit it to us by February 29, 2012. The EPA will also make its preliminary designation decisions and supporting documentation available to the general public for review and comment. We will be announcing a 30-day public comment period shortly in the *Federal Register*. After considering additional information we receive, the EPA plans to promulgate final ozone designations in spring of 2012.

The EPA is committed to working with the states and tribes to share the responsibility of reducing ozone air pollution. Current and upcoming federal standards and safeguards, including pollution reduction rules for power plants, vehicles and fuels, will assure steady progress to reduce ozone-forming pollution and will protect public health in communities across the country. We look forward to a continued dialogue with you and your staff as we work together to implement the 2008 ozone standards. Should you have any questions regarding this matter, please do not hesitate to contact me at (404) 562-8357 or

have a member of your staff contact Beverly H. Banister, Director, Air, Pesticides and Toxics Management Division at (404) 562-9077.

Sincerely,

Gwendolyn Keyes Fleming
Regional Administrator

Enclosure

cc: Dee Freeman, Secretary
North Carolina Department of Environmental and Natural Resources (NCDENR)

Sheila Holman, Director
Division of Air Quality, NCDENR

David Brigman, Director
Western North Carolina Regional Air Quality Agency

Robert R. Fulp, Director
Forsyth County Environmental Affairs Department

Don R. Willard, Director
Air Quality, Land Use & Environmental Services Agency
Mecklenburg County

Gina McCarthy, Assistant Administrator for Air and Radiation
Stephen D. Page, Director, Office of Air Quality Planning and Standards

North Carolina
Area Designations for the
2008 Ozone National Ambient Air Quality Standards

The table below identifies the areas and associated counties or parts of counties in North Carolina that EPA intends to designate as nonattainment for the 2008 ozone national ambient air quality standards (2008 ozone NAAQS). In accordance with section 107(d) of the Clean Air Act, EPA must designate an area (county or part of a county) "nonattainment" if it is violating the 2008 ozone NAAQS or if it is contributing to a violation of the 2008 ozone NAAQS in a nearby area. The technical analyses supporting the boundaries for the individual nonattainment areas are provided below.

Intended Nonattainment Areas in North Carolina

Area	North Carolina's Recommended Nonattainment Counties	EPA's Intended Nonattainment Counties
Charlotte-Gastonia-Salisbury, NC-SC *	Cabarrus Gaston Iredell (partial) Lincoln Mecklenburg Rowan Union	Cabarrus Gaston Iredell (partial) Lincoln Mecklenburg Rowan Union

* Charlotte-Gastonia-Salisbury, NC-SC is a multi-jurisdictional nonattainment area that includes Indian Country. Table 1 below identifies the counties in the other state and for the area of Indian country that EPA intends to designate as part of the nonattainment area.

EPA intends to designate the remaining counties in North Carolina that are not listed in the table above as "unclassifiable/attainment" for the 2008 ozone NAAQS.

The analysis below provides the basis for intended nonattainment area boundaries. It relies on our analysis of whether and which monitors are violating the 2008 ozone NAAQS, based on certified air quality monitoring data from 2008-2010 and an evaluation of whether nearby areas are contributing to such violations. EPA has evaluated contributions from nearby areas based on a weight of evidence analysis considering the factors identified below.

EPA issued guidance on December 4, 2008 that identified these factors as ones EPA would consider in determining nonattainment area boundaries and recommended that states consider these factors in making their designations recommendations to EPA.[1]

1. Air quality data (including the design value calculated for each Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitors in the area);
2. Emissions and emissions-related data (including location of sources and population, amount of emissions and emissions controls, and urban growth patterns);
3. Meteorology (weather/transport patterns);
4. Geography and topography (mountain ranges or other basin boundaries);

[1] The December 4, 2008 guidance memorandum "Area Designations for the 2008 Revised Ozone National Ambient Air Quality Standards" refers to 9 factors. In this technical support document we have grouped the emissions-related factors together under the heading of "Emissions and Emissions-Related Data," which results in 5 categories of factors.

5. Jurisdictional boundaries (e.g., counties, air districts, existing nonattainment areas, Indian country, metropolitan planning organizations (MPOs))

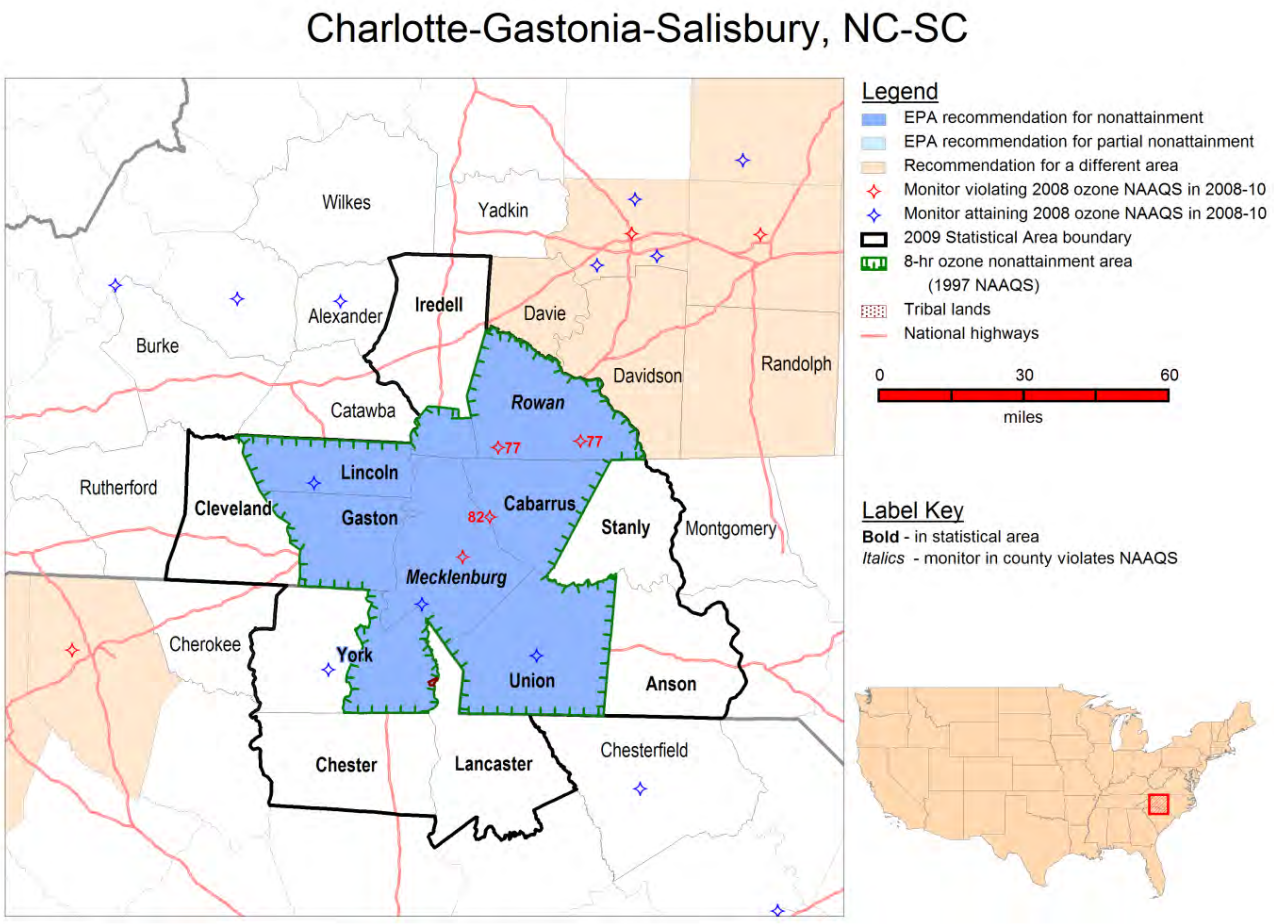
Ground-level ozone generally is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Because NOx and VOC emissions from a broad range of sources over a wide area typically contribute to violations of the ozone standards, EPA believes it is important to consider whether there are contributing emissions from a broad geographic area. Accordingly, EPA chose to examine the 5 factors with respect to the larger of the Combined Statistical Area (CSA) or Core Based Statistical Area (CBSA) associated with the violating monitor(s).[2] All data and information used by EPA in this evaluation are the latest available to EPA and/or provided to EPA by states or tribes.

In EPA's designations guidance for the 2008 ozone NAAQS EPA recommended examining CSA/CBSAs because certain factors used to establish CSAs and CBSAs are similar to the factors EPA is using in this technical analysis to determine if a nearby area is contributing to a violation of the 2008 ozone NAAQS. Congress required a similar approach in 1990 for areas classified as serious or above for the 1-hour ozone standard and EPA used the same basic approach in the designation process for the 1997 ozone NAAQS. Where a violating monitor is not located in a CSA or CBSA, EPA's guidance recommended using the boundary of the county containing the violating monitor as the starting point for considering the nonattainment area's boundary.

[2] Lists of CBSAs and CSAs and their geographic components are provided at www.census.gov/population/www/metroareas/metrodef.html . The lists are periodically updated by the Office of Management and Budget. EPA used the most recent update, based on 2008 population estimates, issued on December 1, 2009 (OMB Bulletin No. 10-02).

Technical Analysis for Charlotte-Gastonia-Salisbury, NC-SC

Figure 1 is a map of the Charlotte-Gastonia-Salisbury, NC-SC intended nonattainment area. The map provides other relevant information including the locations and design values of air quality monitors, county and other jurisdictional boundaries, the CSA boundary, and national highways.



For purposes of the 1997 8-hour ozone NAAQS, this area was designated nonattainment. The boundary for the nonattainment area for the 1997 ozone NAAQS included the entire counties of Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan, Union Counties, in their entireties, and a portion of Iredell County in North Carolina; the Catawba Indian Nation Reservation[3]; and a portion of York County, in South Carolina.

In March 2009, North Carolina recommended that the counties of Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan, Union, and a portion of Iredell (Davidson and Coddle Creek Townships) be designated as "nonattainment" for the 2008 8-hour ozone standard based on air quality data from 2006-

[3] The Catawba Indian Nation Reservation is located within the South Carolina portion of the bi-state Charlotte nonattainment area. Generally air quality State Implementation Plans (SIPs) do not apply in Indian country throughout the United States. However, for purposes of the Catawba Indian Nation Reservation in Rock Hill, the South Carolina SIP does apply within the Reservation. Pursuant to the Catawba Indian Claims Settlement Act, S.C. Code Ann. 27-16-120, "all state and local environmental laws and regulations apply to the [Catawba Indian Nation] and Reservation and are fully enforceable by all relevant state and local agencies and authorities."

2008. Additionally, in March 2009, South Carolina recommended that the portion of York County encompassed by the boundaries of the Rock Hill-Fort Mill Area Transportation Study (RFATS) Metropolitan Planning Organization (MPO) and the contiguous area encompassing the York ozone monitoring station (45-091-0006) be designated as "nonattainment" for the 2008 8-hour ozone standard based on air quality data from 2006-2008. In October 2011, North Carolina submitted an update to their 2009 recommendation and did not make revisions to their previous recommendation. Additionally, in October 2011, South Carolina submitted an amendment to their 2009 recommendation, and based on preliminary air quality data from 2009-2011, revised their recommendation to "attainment" designations for each county in the State, including York County, for the 2008 8-hour ozone standard. These data are from Federal Reference Method (FRM) monitors or Federal Equivalent Method (FEM) monitors sited and operated in accordance with 40 CFR Part 58. (Letters from Dee Freeman, North Carolina Environmental Secretary to A. Stanley Meiburg, Acting Regional Administrator-EPA Region 4 and Gwendolyn Keyes Fleming, Regional Administrator-EPA Region 4 regarding the initial and updated nonattainment boundary recommendations for the 2008 8-hour ozone standard for North Carolina (October 28, 2011 and March 12, 2009, respectively); Letter from Mark Sanford, South Carolina Governor to A. Stanley Meiburg, Acting Regional Administrator-EPA Region 4 regarding initial nonattainment boundary recommendations for the 2008 8-hour ozone standard for South Carolina (March 12, 2009); Letter from Robert W. King, Jr., Deputy Commissioner of the South Carolina Environmental Quality Control to Gwendolyn Keyes Fleming, Regional Administrator-EPA Region 4 regarding updated nonattainment boundary recommendations for the 2008 8-hour ozone standard for South Carolina (October 11, 2011)).

After considering these recommendations and based on EPA's technical analysis described below, EPA intends to designate six whole counties and one partial county in North Carolina; the Catawba Indian Nation Reservation, and one partial county in South Carolina (identified in Table 1 below) as "nonattainment" for the 2008 ozone NAAQS as part of the Charlotte-Gastonia-Salisbury nonattainment area.

Table 1. State's Recommended, Tribe's Recommended and EPA's Intended Designated Nonattainment Counties for Charlotte-Gastonia-Salisbury, NC-SC

Charlotte-Gastonia-Salisbury, NC-SC	State- or Tribe-Recommended Nonattainment Counties	EPA Intended Nonattainment Counties
Catawba Indian Nation	None	Catawba Indian Nation Reservation
North Carolina	Cabarrus Gaston Iredell (partial) Lincoln Mecklenburg Rowan Union	Cabarrus Gaston Iredell (partial) Lincoln Mecklenburg Rowan Union
South Carolina	None	York (partial)

Factor Assessment

Factor 1: Air Quality Data

For this factor, we considered 8-hour ozone design values (in parts per billion (ppb)) for air quality monitors in counties in the Charlotte-Gastonia-Salisbury, NC-SC area based on data for the 2008-2010 period (i.e., the 2010 design value, or DV), which are the most recent years with fully-certified air quality data. A monitor's DV is the metric or statistic that indicates whether that monitor attains a specified air quality standard. The 2008 ozone NAAQS are met at a monitor when the annual fourth-highest daily maximum 8-hour average concentration, averaged over 3 years is 75 ppb or less. A DV is only valid if minimum data completeness criteria are met. See 40 CFR part 50 Appendix P. Where several monitors are located in a county (or a designated nonattainment area or maintenance area), the DV for the county or area is determined by the monitor with the highest level.

The 2010 DVs for the ozone NAAQS for counties in the Charlotte-Gastonia-Salisbury, NC-SC CSA and nearby surrounding area are shown in Table 2.

Table 2. Air Quality Data.**

County	State Recommended Nonattainment?	2008-2010 Design Value (ppb)
Mecklenburg, NC	**Yes**	**82**
Lincoln, NC	Yes	72
Rowan, NC	**Yes**	**77**
Union, NC	Yes	72
York, SC	No	67

**Bolded counties are those violating the 2008 ozone NAAQS.

Mecklenburg and Rowan Counties in North Carolina show violations of the 2008 ozone NAAQS, therefore these counties are included in the nonattainment area. A county (or partial county) must also be designated nonattainment if it contributes to a violation in a nearby area. Each county without a violating monitor that is located near a county with a violating monitor has been evaluated, as discussed below, based on the five factors and other relevant information to determine whether it contributes to the nearby violation.

Factor 2: Emissions and Emissions-Related Data

EPA evaluated emissions of ozone precursors (NOx and VOC) and other emissions-related data that provide information on areas contributing to violating monitors.

Emissions Data

EPA evaluated county-level emission data for NOx and VOC derived from the 2008 National Emissions Inventory (NEI), version 1.5. This is the most recently available NEI. (See http://www.epa.gov/ttn/chief/net/2008inventory.html) Significant emissions levels in a nearby area indicate the potential for the area to contribute to observed violations. We will also consider any additional information we receive on changes to emissions levels that are not reflected in recent inventories. These changes include emissions reductions due to permanent and enforceable emissions controls that will be in place before final designations are issued and emissions increases due to new sources. The precursor emission source-category percentages used below and throughout the document were derived from emissions data from the 2008 NEI version 1.5 referenced above.

Table 3 shows emissions of NOx and VOC (given in tons per year (tpy)) for violating and nearby counties that we considered for inclusion in the Charlotte-Gastonia-Salisbury, NC-SC area.

Table 3. Total 2008 NOx and VOC Emissions.

County	State Recommended Nonattainment?	NOx (tpy)	VOC (tpy)
Anson, NC	No	1,241	1,123
Cabarrus, NC	Yes	5,361	9,074
Chester, SC	No	2,652	1,780
Cleveland, NC	No	3,393	4,799
Gaston, NC	Yes	13,002	7,326
Iredell, NC	Yes (partial)	10,261	10,815
Lancaster, SC	No	1,626	2,744
Lincoln, NC	Yes	2,097	3,320
Mecklenburg, NC	Yes	27,275	33,412
Rowan, NC	Yes	7,117	9,834
Stanly, NC	No	1,935	2,986
Union, NC	Yes	5,190	7,748
York, SC	No	7,031	11,840
	Areawide:	88,179	106,802

VOCs and NOx are the primary contributors to ozone formation. Source category emissions data indicate that mobile sources, area sources and point sources are all contributors to NOx emissions in the Charlotte-Gastonia-Salisbury, NC-SC Area; mobile sources and area sources are the primary contributors to VOC emissions in the Charlotte-Gastonia-Salisbury, NC-SC Area. Thus, significant increases in population, vehicles miles traveled would indicate a county with contribution in the Area. The emissions profile for this area indicates that population-related factors are a driver for ozone formation in this area.

NOx Emissions: The profile reveals that mobile emissions make up 55 percent of the total NOx emissions in the Charlotte-Gastonia-Salisbury, NC-SC Area and area sources make up nine percent. The total of both mobile and area sources makes up 64 percent of the total NOx emissions in the Charlotte-Gastonia-Salisbury, NC-SC Area. Point source emissions make up 20 percent of the total NOx emissions for the Charlotte-Gastonia-Salisbury, NC-SC Area.

Mecklenburg, Gaston, Iredell, Rowan, and York Counties have the largest amounts of total NOx emissions in the CSA with 31 percent, 15 percent, 12 percent, and 8 percent, (for both Rowan and York) respectively. The highest percentage of NOx emissions for Mecklenburg, Iredell, and Rowan and York are from mobile sources, with 19 percent, 8 percent, and 4 percent of their total NOx emissions, respectively. For Gaston, the highest percentage of NOx emissions comes from point sources, with 9 percent of their total NOx emissions, respectively.

VOC Emissions: The profile reveals that mobile emissions make up 42 percent of the total VOC emissions in the Charlotte-Gastonia-Salisbury, NC-SC Area and area sources make up 38 percent. The total of both mobile and area sources makes up 80 percent of the total VOC emissions in the Charlotte-Gastonia-Salisbury, NC-SC Area.

Mecklenburg, York, Iredell, Rowan, and Cabarrus counties have the largest amounts of total VOC emissions in the CSA with 31 percent, 11 percent, 10 percent, 9 percent, and 8 percent, respectively.

The highest percentage of VOC emissions for Mecklenburg comes from Area sources with 14 percent of their total VOC emissions. The highest percentage of VOC emissions for Iredell, Cabarrus, and Rowan is comes from mobile sources with 6 percent for Iredell and 5 percent for both Cabarrus and Rowan. Mecklenburg County's VOC emissions for mobile sources are 13 percent. York County, emissions primarily are from point and area sources.

Mecklenburg, Iredell, Rowan, Cabarrus, Gaston, and York Counties indicate contribution to nonattainment in the Charlotte-Gastonia-Salisbury, NC-SC Area based on emissions data.

Population density and degree of urbanization

EPA evaluated the population and vehicle use characteristics and trends of the area as indicators of the probable location and magnitude of non-point source emissions. These include ozone-creating emissions from on-road and off-road vehicles and engines, consumer products, residential fuel combustion, and consumer services. Areas of dense population or commercial development are an indicator of area source and mobile source NOx and VOC emissions that may contribute to ozone formation. Rapid population or vehicle miles travelled (VMT) growth (see below) in a county on the urban perimeter signifies increasing integration with the core urban area, and indicates that it may be appropriate to include the area associated with the area source and mobile source emissions as part of the nonattainment area. Table 4 shows the population, population density, and population growth information for each county in the area.

Table 4. Population and Growth.

County	State Recommended Nonattainment?	2010 Population	2010 Population Density (1000 pop/sq mi)	Absolute change in population (2000-2010)	Population % change (2000-2010)
Anson, NC	No	26,948	0.05	1,637	+6%
Cabarrus, NC	Yes	178,011	0.49	45,793	+35%
Chester, SC	No	33,140	0.06	(968)	-3%
Cleveland, NC	No	98,078	0.21	1,607	+2%
Gaston, NC	Yes	206,086	0.57	15,310	+8%
Iredell, NC	Yes (partial)	159,437	0.27	35,828	+29%
Lancaster, SC	No	76,652	0.14	15,259	+25%
Lincoln, NC	Yes	78,265	0.25	14,176	+22%
Mecklenburg, NC	Yes	919,628	1.67	218,914	+31%
Rowan, NC	Yes	138,428	0.26	7,753	+6%
Stanly, NC	No	60,585	0.15	2,339	+4%
Union, NC	Yes	201,292	0.31	75,733	+60%
York, SC	No	226,073	0.32	60,368	+36%
	Areawide:	2,402,623	0.36	493,749	+26%

Sources: U.S. Census Bureau population estimates for 2010 as of August 4, 2011 (http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_PL_GCTPL2.STO5&prodType=table)

Mecklenburg County has the largest population and is the most densely populated of all CSA counties with a population of 919,628 and 1,670 people/square mile. All counties previously designated counties for the 1997 8-hour Charlotte nonattainment area have population densities above 250 people/square mile (Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Union, and York Counties). Additionally, the population growth for these same counties is 22 percent and above.

Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, and Union Counties in North Carolina and York County in South Carolina indicate contribution to nonattainment in the Charlotte-Gastonia-Salisbury, NC-SC Area based on population and population density.

Traffic VMT data and commuting patterns

EPA evaluated the total VMT for each county in the area. In combination with the population/population density data and the location of main transportation arteries (see above), this information helps identify the probable location of non-point source emissions. A county with high VMT is generally an integral part of an urban area and indicates the presence of motor vehicle emissions that may contribute to ozone formation that contributes to nonattainment in the area. Rapid population or VMT growth in a county on the urban perimeter signifies increasing integration with the core urban area, and indicates that the associated area source and mobile source emissions may be appropriate to include in the nonattainment area. Table 5 shows traffic data, including total 2008 VMT data. .

Table 5. Traffic and VMT Data.

County	State Recommended Nonattainment?	2008 VMT (million miles)
Anson, NC	No	287
Cabarrus, NC	Yes	1,982
Chester, SC	No	562
Cleveland, NC	No	1,230
Gaston, NC	Yes	2,347
Iredell, NC	Yes (partial)	2,558
Lancaster, SC	No	656
Lincoln, NC	Yes	805
Mecklenburg, NC	Yes	11,315
Rowan, NC	Yes	1,816
Stanly, NC	No	605
Union, NC	Yes	1,791
York, SC	No	2,002
	Areawide:	27,956

*** MOBILE model VMT are those inputs into the NEI version 1.5.

Cabarrus, Gaston, Iredell, Mecklenburg, Rowan, Union, and York Counties VMT are the highest where each county have VMT greater than 1,790 million miles. These traffic data support a preliminary conclusion that Cabarrus, Gaston, Iredell, Mecklenburg, Rowan, Union, and York Counties contribute to nonattainment in the Charlotte-Gastonia-Salisbury, NC-SC.

Factor 3: Meteorology (weather/transport patterns)

For this factor, EPA analyzed 30-years of National Weather Service (NWS) wind speed and wind direction data collected at the Charlotte/Douglas International Airport (NWS Station 13881) to help determine transport patterns and source contributions. EPA assessed wind direction and speed for the 2008-2010 "ozone season" (March through October) in the Charlotte CSA. These analyses were conducted to better understand the fate and transport of precursor emissions contributing to ozone formation. EPA's analysis of the NWS data indicate predominate south, north, and south-southwest component for the Charlotte CSA.

Factor 4: Geography/topography (mountain ranges or other air basin boundaries)

The geography/topography analysis evaluates the physical features of the land that might affect the airshed and, therefore, the distribution of ozone over the area.

The Charlotte-Gastonia-Salisbury, NC-SC area does not have any geographical or topographical barriers significantly limiting air pollution transport within its air shed. Therefore, this factor did not play a significant role in this evaluation.

Factor 5: Jurisdictional boundaries

Once we identified the general areas we anticipated we would recommend should be included in the nonattainment area, we then considered existing jurisdictional boundaries for the purposes of providing a clearly defined legal boundary and to help identify the areas appropriate for carrying out the air quality planning and enforcement functions for nonattainment areas. Examples of jurisdictional boundaries include existing/prior nonattainment area boundaries for ozone or other urban-scale pollutants, county lines, air district boundaries, township boundaries, area covered by a MPOs, state lines, Reservation boundaries, and urban growth boundary. Where existing jurisdictional boundaries were not adequate or appropriate to describe the nonattainment area, other clearly defined and permanent landmarks or geographic coordinates were considered.

The Charlotte-Gastonia-Salisbury, NC-SC area has previously established nonattainment boundaries associated with the both the 1-hour ozone and 1997 8-hour ozone NAAQS. The Charlotte nonattainment boundary for the 1-hour ozone NAAQS included Mecklenburg County, North Carolina in its entirety. Whereas the Charlotte nonattainment boundary for the 1997 8-hour ozone NAAQS included Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan and Union Counties in North Carolina in their entireties, a portion of Iredell County, North Carolina, a portion of York County, South Carolina, and the Catawba Indian Nation Reservation. The States have recommended a different boundary for the 2008 ozone NAAQS. In South Carolina's October 2011 letter, they revised their boundary recommendations to attainment statewide as a result of the most current air quality data which indicates attainment of the 2008 8-hour ozone standard. The presence of a violating monitor is not the only factor considered in nonattainment boundaries. However, a consideration of the other factors was not presented in their October 2011 letter.

The Charlotte-Gastonia-Salisbury area also includes an area of Indian country. As defined at 18 U.S.C. 1151, "Indian country" refers to: "(a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same." EPA recognizes the sovereignty of tribal governments, and has attempted to take the desires of the tribes into account in establishing appropriate nonattainment area boundaries. As mentioned earlier, The Catawba Indian Nation Reservation is located within the South Carolina portion of the bi-state Charlotte nonattainment area. Generally air quality State Implementation Plans (SIPs) do not apply in Indian country throughout the United States. However, for purposes of the Catawba Indian Nation Reservation in Rock Hill, the South Carolina SIP does apply within the Reservation. Pursuant to the Catawba Indian Claims Settlement Act, S.C. Code Ann. 27-16-120, ``all state and local environmental laws and regulations apply to the [Catawba Indian Nation] and Reservation and are fully enforceable by all relevant state and local agencies and authorities."

Conclusion

Based on the assessment of factors described above, EPA has preliminarily concluded that the following counties should be included as part of the Charlotte-Gastonia-Salisbury, NC-SC nonattainment area because they are either violating the 2008 ozone NAAQS or contributing to a violation in a nearby area: Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan and Union Counties in North Carolina in their entireties, a portion of Iredell County, North Carolina, a portion of York County, South Carolina, and the Catawba Indian Nation Reservation. All of these counties and the Catawba Indian Nation Reservation are included in the Charlotte nonattainment area for the 1997 ozone NAAQS. The air quality monitors in Mecklenburg and Rowan Counties, North Carolina indicate violations of the 2008 ozone NAAQS based on 2010 DVs, therefore these counties are preliminarily included in the nonattainment area. Cabarrus, Gaston, Lincoln, and Union Counties in North Carolina in their entireties, a portion of Iredell County, North Carolina, a portion of York County, South Carolina, and the Catawba Indian Nation Reservation are nearby counties that do not have violating monitors, but EPA has preliminarily concluded that these areas contribute to the ozone concentrations in violation of the 2008 ozone NAAQS through emissions from point sources and non-point sources (e.g., vehicles and other small area sources). Gaston, Iredell, Mecklenburg, Rowan, and York have the highest NOx emissions in the area. Cabarrus, Iredell, Mecklenburg, Rowan, and York have among the highest VOC emissions in the area. Lincoln and Union ranked relatively high for emissions-related data such as population, and population density; commuting; meteorology, and jurisdictional boundaries.

Appendix D

North Carolina's Vehicle Emissions Testing (OBD) and Safety Inspection Map

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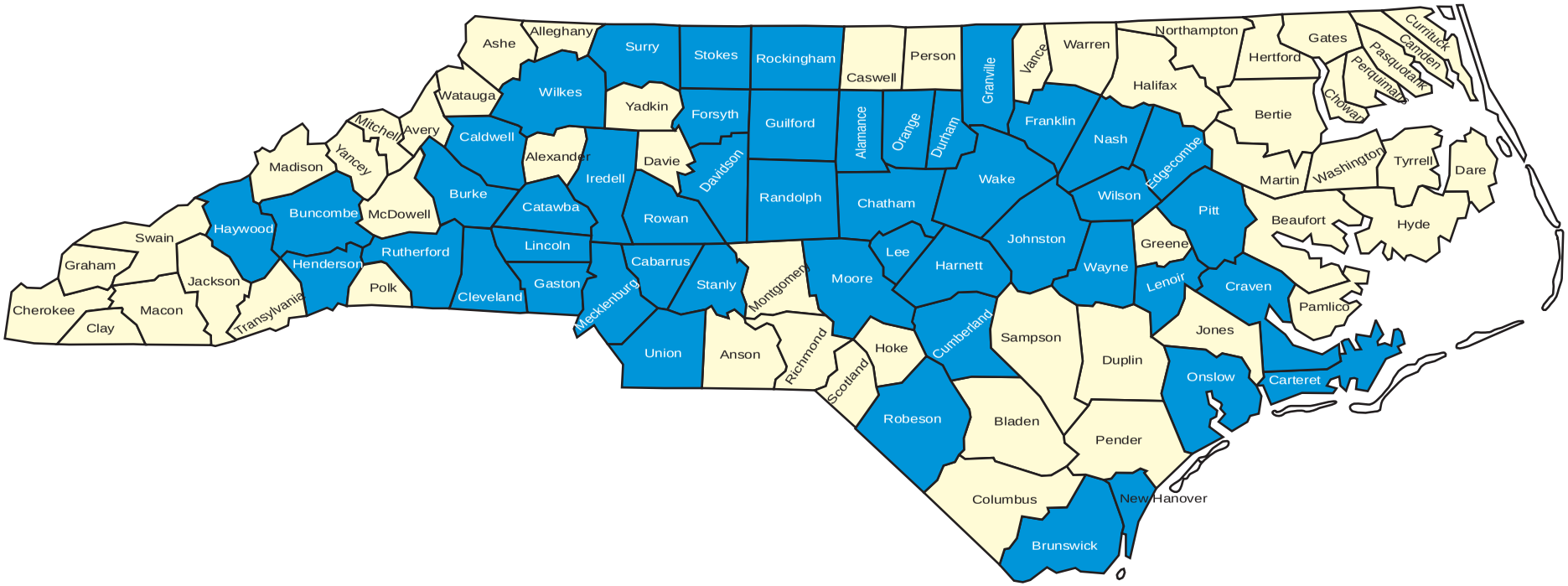
Emissions Testing and Safety Inspections for Motor Vehicles



Emissions testing (OBD) and safety inspections required for cars and light-duty trucks

Safety inspections only required for cars and trucks

*In all 100 counties, cars and light-duty trucks are required to get an annual safety inspection if they are less than 35 years old. In the blue-shaded counties, 1996 and newer cars and light-duty trucks also are required to get an annual emissions inspection (OBD).

Note: Not to scale
October 2008

Appendix E

North Carolina's Jurisdictional Information

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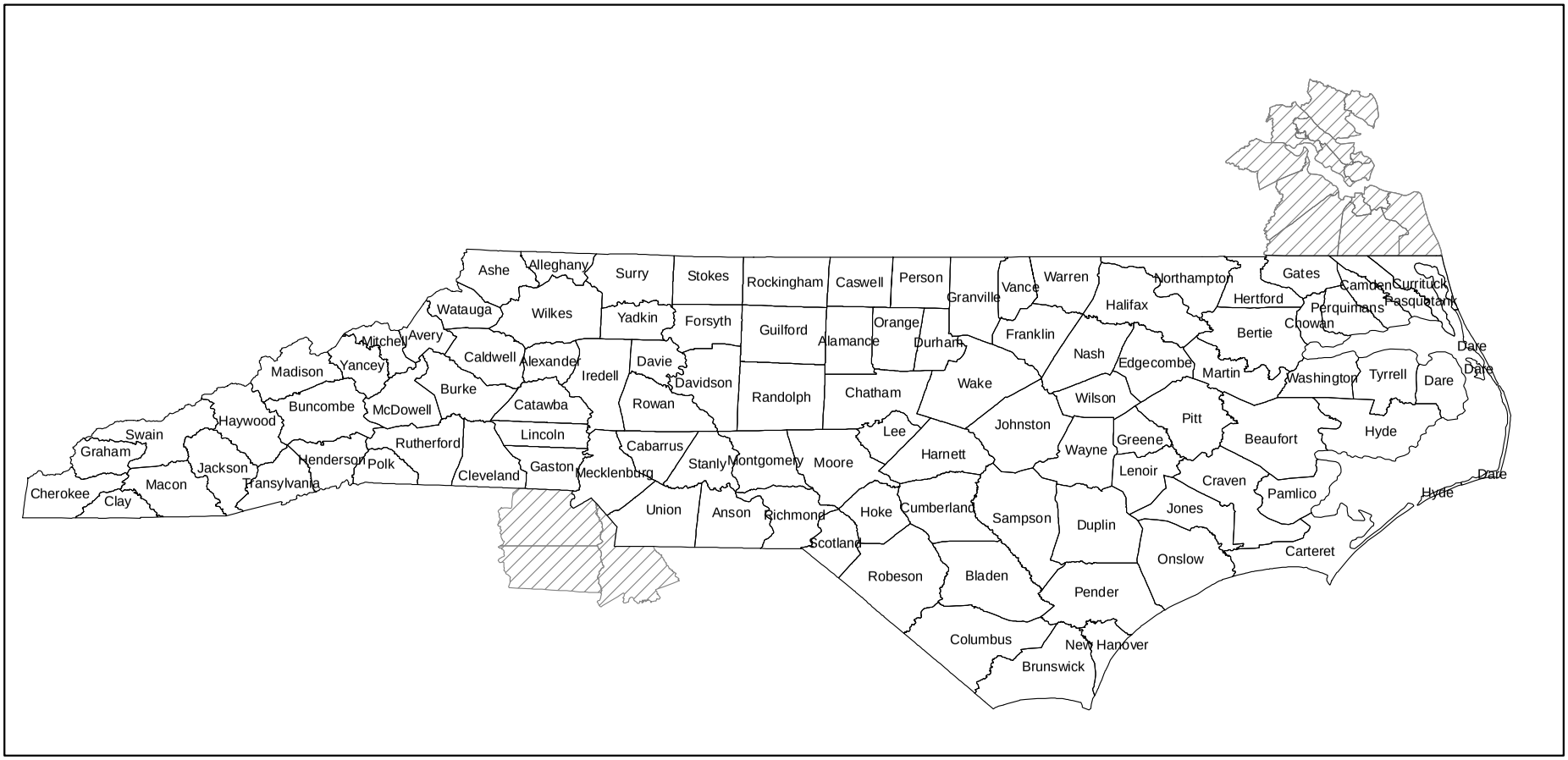
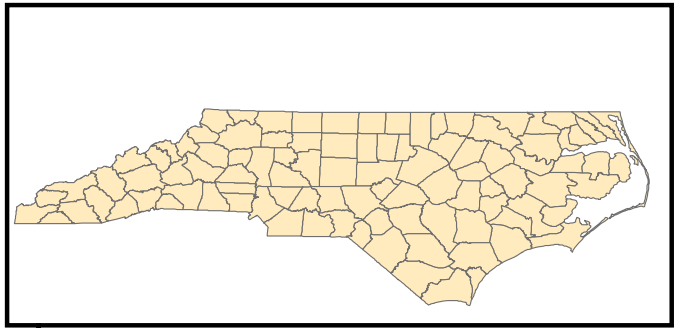
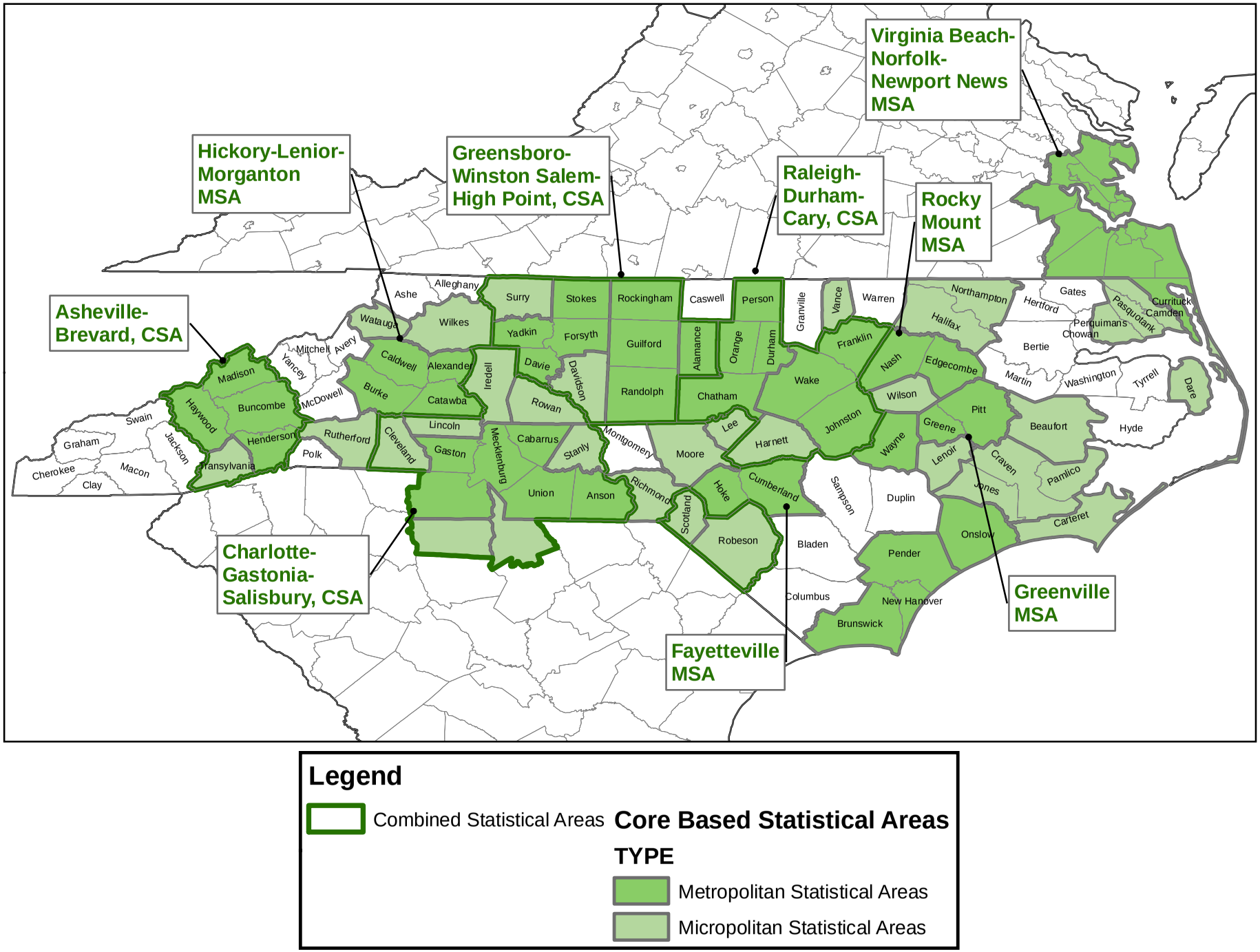




State of North Carolina
County Identification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Hickory-Lenior-Morganton MSA
Greensboro-Winston Salem-High Point, CSA
Raleigh-Durham-Cary, CSA
Rocky Mount MSA
Asheville-Brevard, CSA
Charlotte-Gastonia-Salisbury, CSA
Fayetteville MSA
Greenville MSA
Alleghany
Ashe
Surry
Stokes
Rockingham
Caswell
Person
Granville
Vance
Warren
Northampton
Hertford
Gates
Currituck
Camden
Pasquotank
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Chowan
Halifax
Watauga
Wilkes
Yadkin
Forsyth
Guilford
Alamance
Orange
Durham
Franklin
Nash
Edgecombe
Bertie
Martin
Washington
Tyrrell
Dare
Hyde
Beaufort
Pitt
Greene
Wilson
Wake
Johnston
Wayne
Lenoir
Craven
Pamlico
Jones
Carteret
Onslow
Pender
New Hanover
Brunswick
Duplin
Sampson
Harnett
Lee
Moore
Montgomery
Randolph
Chatham
Davie
Davidson
Rowan
Iredell
Mitchell
Avery
Yancey
Madison
Caldwell
Alexander
Burke
Catawba
McDowell
Buncombe
Haywood
Swain
Graham
Jackson
Henderson
Rutherford
Polk
Transylvania
Cherokee
Clay
Macon
Lincoln
Cleveland
Gaston
Mecklenburg
Cabarrus
Stanly
Union
Anson
Richmond
Scotland
Hoke
Cumberland
Robeson
Bladen
Columbus
Legend
Combined Statistical Areas
Core Based Statistical Areas
TYPE
Metropolitan Statistical Areas
Micropolitan Statistical Areas

2010 Census Population Data By Township And County

County Name	Federal ID Code	Township Names	Township Population	County Population
Anson County				**26948**
	3700790064	Ansonville township	1698	
	3700790452	Burnsville township	1942	
	3700791356	Gulledge township	2238	
	3700791732	Lanesboro township	6015	
	3700791808	Lilesville township	3366	
	3700792140	Morven township	2065	
	3700793876	Wadesboro township	9118	
	3700793996	White Store township	506	
Cabarrus County				**178011**
	3702593284	Township 1, Harrisburg	24424	
	3702593356	Township 2, Poplar Tent	35668	
	3702593380	Township 3, Odell	12348	
	3702593436	Township 4, Kannapolis	42072	
	3702593488	Township 5, New Gilead	4067	
	3702593532	Township 6, Rimertown	2636	
	3702593572	Township 7, Gold Hill	1431	
	3702593604	Township 8, Mount Pleasant	5607	
	3702593644	Township 9, Georgeville	3458	
	3702593688	Township 10, Midland	6241	
	3702593696	Township 11, Central Cabarrus	21937	
	3702593716	Township 12, Concord	18122	
Cleveland County				**98078**
	No township information available			
Gaston County				**206086**
	3707190644	Cherryville township	16500	
	3707190844	Crowders Mountain township	15821	
	3707190872	Dallas township	21436	
	3707191216	Gastonia township	85249	
	3707192692	Riverbend township	26596	
	3707193048	South Point township	40484	
Iredell County				**159437**
	3709790160	Barringer township	6533	
	3709790240	Bethany township	7277	
	3709790616	Chambersburg township	11344	
	3709790708	Coddle Creek township	32599	
	3709790744	Concord township	6999	
	3709790770	Cool Springs township	3912	
	3709790884	Davidson township	32786	
	3709790944	Eagle Mills township	1912	
	3709791076	Fallstown township	8736	
	3709792244	New Hope township	1662	
	3709792400	Olin township	1840	
	3709792912	Sharpesburg township	2622	
	3709792924	Shiloh township	8705	
	3709793104	Statesville township	26460	
	3709793788	Turnersburg township	3880	
	3709793824	Union Grove township	2170	
Lincoln County				**78265**
	3710990560	Catawba Springs township	22548	
	3710991552	Howards Creek township	8988	
	3710991596	Ironton township	20744	
	3710991824	Lincolnton township	20145	
	3710992300	North Brook township	5840	

2010 Census Population Data By Township And County

County Name	Federal ID Code	Township Names	Township Population	County Population
Mecklenburg County				**919628**
	3711993268	Township 1, Charlotte	731424	
	3711993320	Township 2, Berryhill	3812	
	3711993392	Township 3, Steel Creek	8831	
	3711993492	Township 5, Providence	10575	
	3711993516	Township 6, Clear Creek	21423	
	3711993564	Township 7, Crab Orchard	4869	
	3711993600	Township 8, Mallard Creek	4088	
	3711993636	Township 9, Deweese	21932	
	3711993668	Township 10, Lemley	24801	
	3711993700	Township 11, Long Creek	11204	
	3711993720	Township 12, Paw Creek	6563	
	3711993736	Township 13, Morning Star	33650	
	3711993740	Township 14, Pineville	7479	
	3711993748	Township 15, Huntersville	28977	
Rowan County				**138428**
	3715990100	Atwell township	12428	
	3715990660	China Grove township	24501	
	3715990692	Cleveland township	2817	
	3715991160	Franklin township	12322	
	3715991256	Gold Hill township	11278	
	3715991840	Litaker township	11867	
	3715991880	Locke township	14149	
	3715992128	Morgan township	3424	
	3715992172	Mount Ulla township	1692	
	3715992584	Providence township	9985	
	3715992812	Salisbury township	28205	
	3715992860	Scotch Irish township	1820	
	3715993112	Steele township	1725	
	3715993828	Unity township	2215	
Stanly County				**60585**
	3716790048	Almond township	3326	
	3716790264	Big Lick township	5125	
	3716790596	Center township	5857	
	3716791032	Endy township	1944	
	3716791196	Furr township	9915	
	3716791416	Harris township	6480	
	3716792296	North Albemarle township	14046	
	3716792680	Ridenhour township	3029	
	3716793028	South Albemarle township	8225	
	3716793800	Tyson township	2638	
Union County				**201292**
	3717990432	Buford township	10323	
	3717991264	Goose Creek township	14773	
	3717991624	Jackson township	11012	
	3717991736	Lanes Creek township	2650	
	3717992004	Marshville township	8523	
	3717992108	Monroe township	52310	
	3717992280	New Salem township	3532	
	3717992836	Sandy Ridge township	45672	
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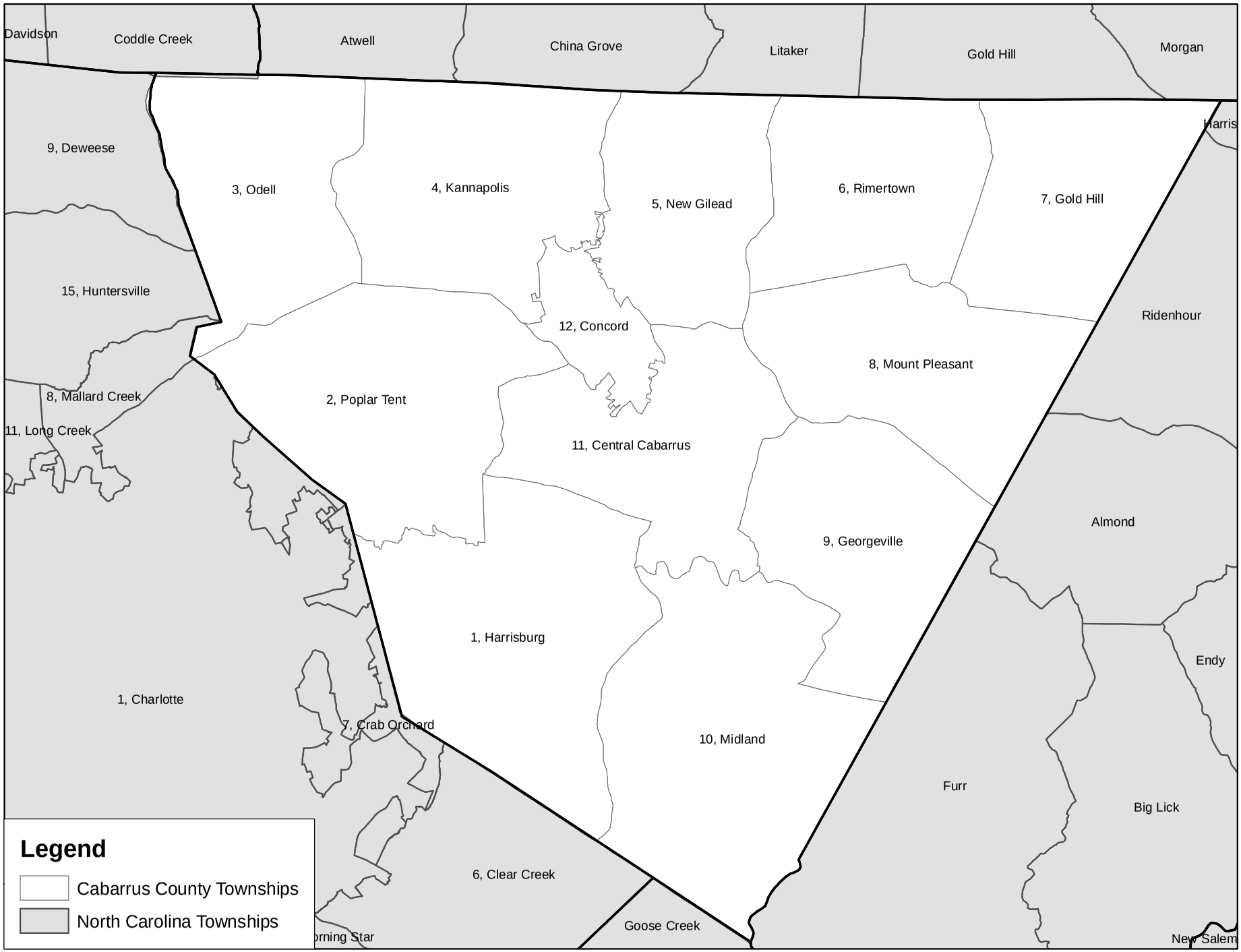
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Coddle Creek
Atwell
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Litaker
Gold Hill
Morgan
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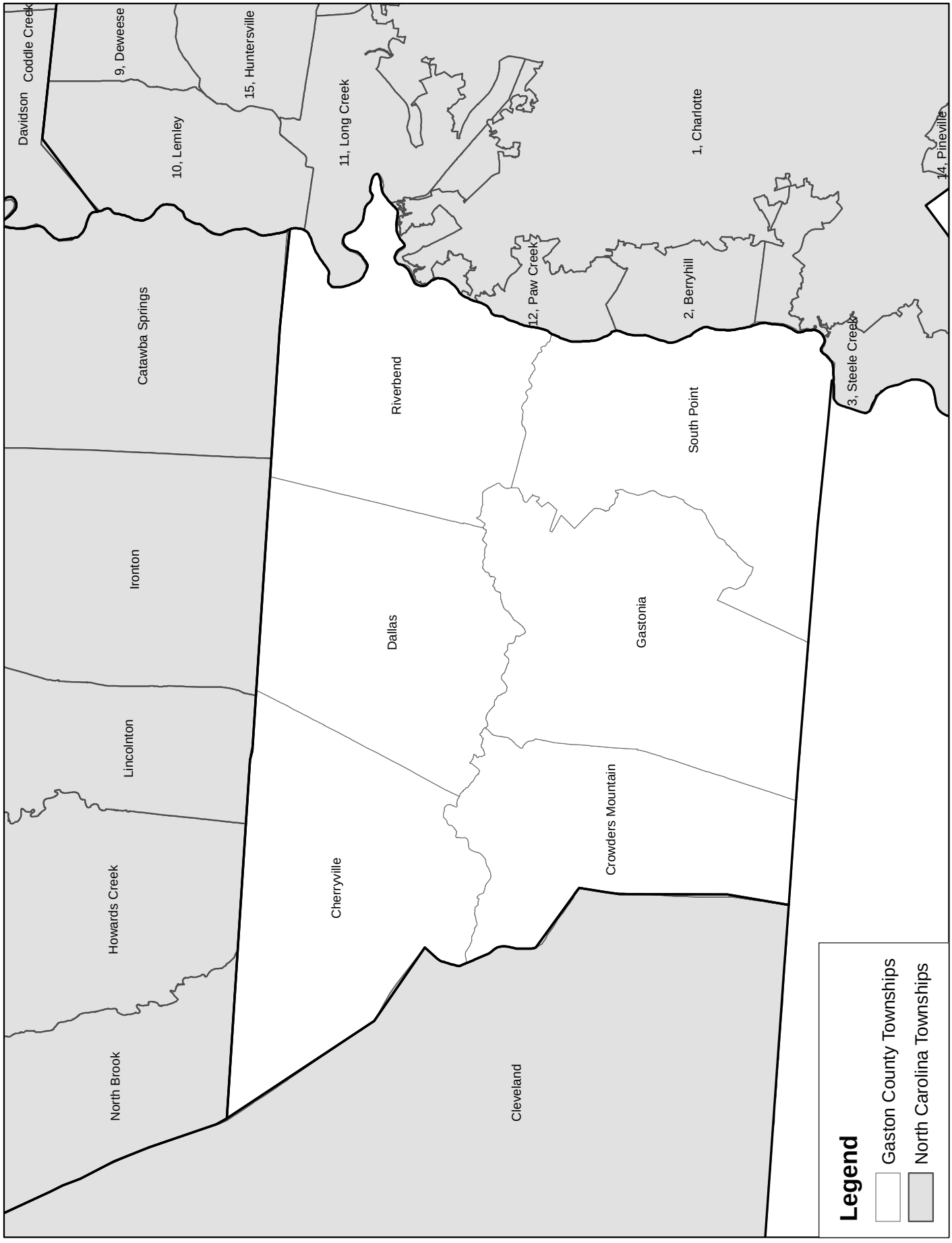
9, Deweese
3, Odell
4, Kannapolis
5, New Gilead
6, Rimertown
7, Gold Hill
15, Huntersville
12, Concord
Ridenhour
8, Mount Pleasant
2, Poplar Tent
8, Mallard Creek
11, Long Creek
11, Central Cabarrus
Almond
9, Georgeville
1, Harrisburg
Endy
1, Charlotte
7, Crab Orchard
10, Midland
Furr
Big Lick
6, Clear Creek
Goose Creek
New Salem
Legend
Cabarrus County Townships
North Carolina Townships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15, Huntersville
10, Lemley
11, Long Creek
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12, Paw Creek
2, Berryhill
3, Steele Creek
Catawba Springs
Riverbend
South Point
Ironton
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Gastonia
Lincolnton
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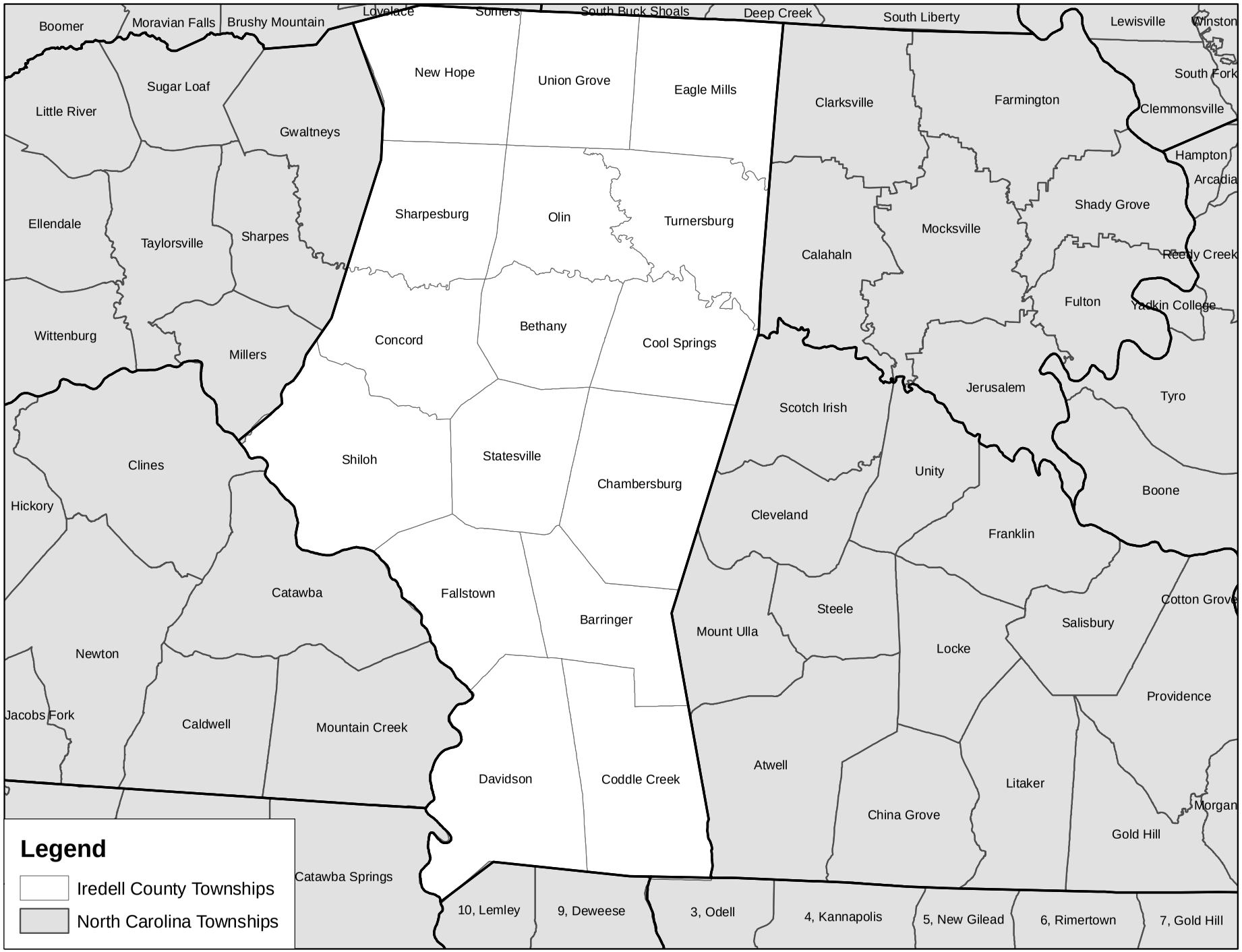
Howards Creek
Cherryville
North Brook
Cleveland
Legend
Gaston County Townships
North Carolina Townships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Lewisville
Winston
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Little River
Gwaltneys
New Hope
Union Grove
Eagle Mills
Clarksville
Farmington
South Fork
Clemmonsville
Hampton
Arcadia
Shady Grove
Ellendale
Taylorsville
Sharpes
Sharpesburg
Olin
Turnersburg
Mocksville
Calahaln
Reedy Creek
Fulton
Yadkin College
Wittenburg
Millers
Concord
Bethany
Cool Springs
Jerusalem
Tyro
Scotch Irish
Clines
Shiloh
Statesville
Chambersburg
Unity
Boone
Hickory
Cleveland
Franklin
Catawba
Fallstown
Barringer
Steele
Cotton Grove
Salisbury
Mount Ulla
Newton
Locke
Providence
Jacobs Fork
Caldwell
Mountain Creek
Atwell
Litaker
Davidson
Coddle Creek
China Grove
Morgan
Gold Hill
Catawba Springs
10, Lemley
9, Deweese
3, Odell
4, Kannapolis
5, New Gilead
6, Rimertown
7, Gold Hill
Legend
Iredell County Townships
North Carolina Townships

Fallstown
Davidson
10, Lemley
15, Huntersville
11, Long Creek
1, Charlotte
12, Paw Creek
Catawba
Mountain Creek
Catawba Springs
Riverbend
South Point
Clines
Caldwell
Ironton
Dallas
Gastonia
Newton
Lincolnton
Hickory
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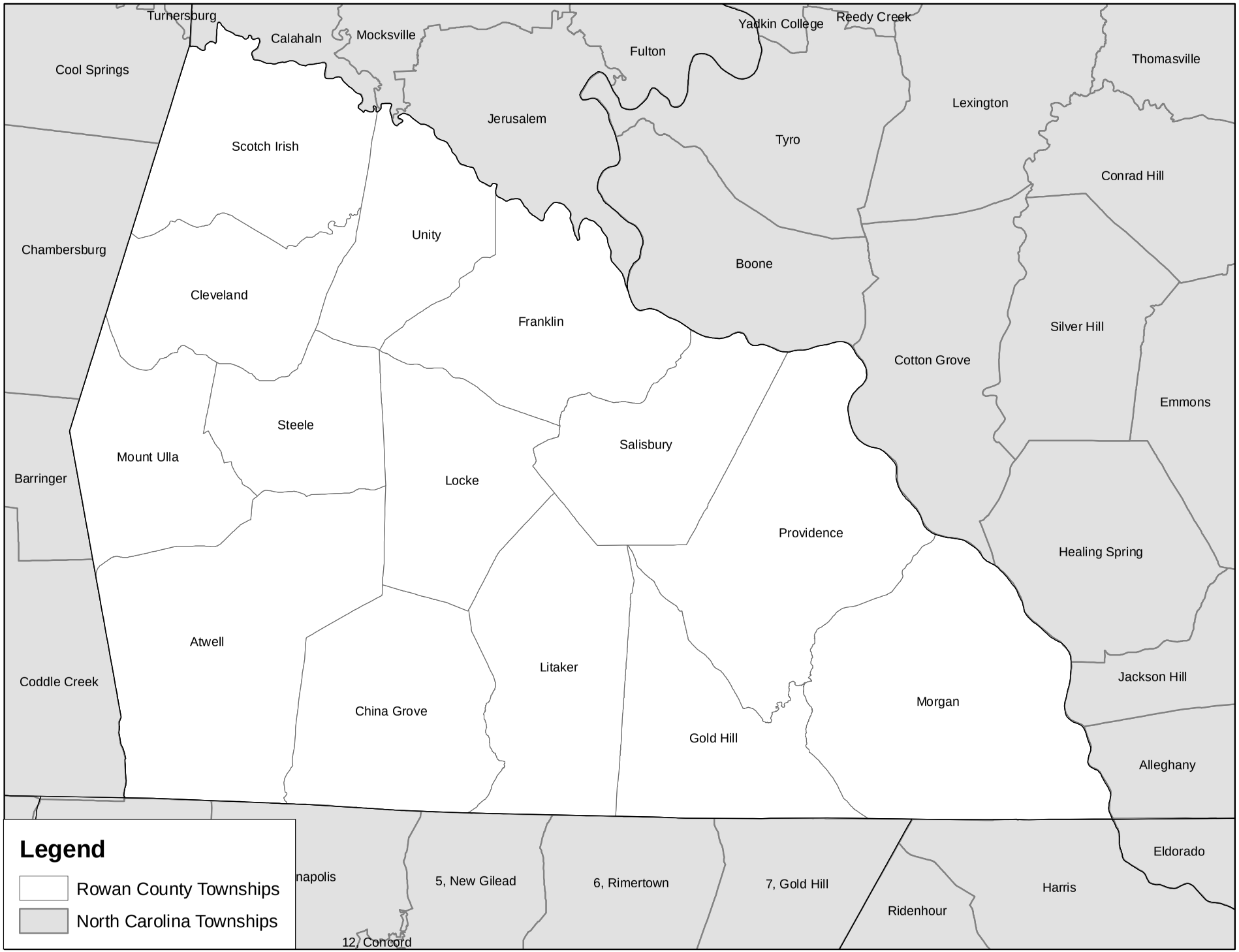
North Carolina Townships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Chambersburg
Boone
Cleveland
Franklin
Silver Hill
Cotton Grove
Emmons
Steele
Salisbury
Mount Ulla
Barringer
Locke
Providence
Healing Spring
Atwell
Litaker
Coddle Creek
Jackson Hill
Morgan
China Grove
Gold Hill
Alleghany
Eldorado
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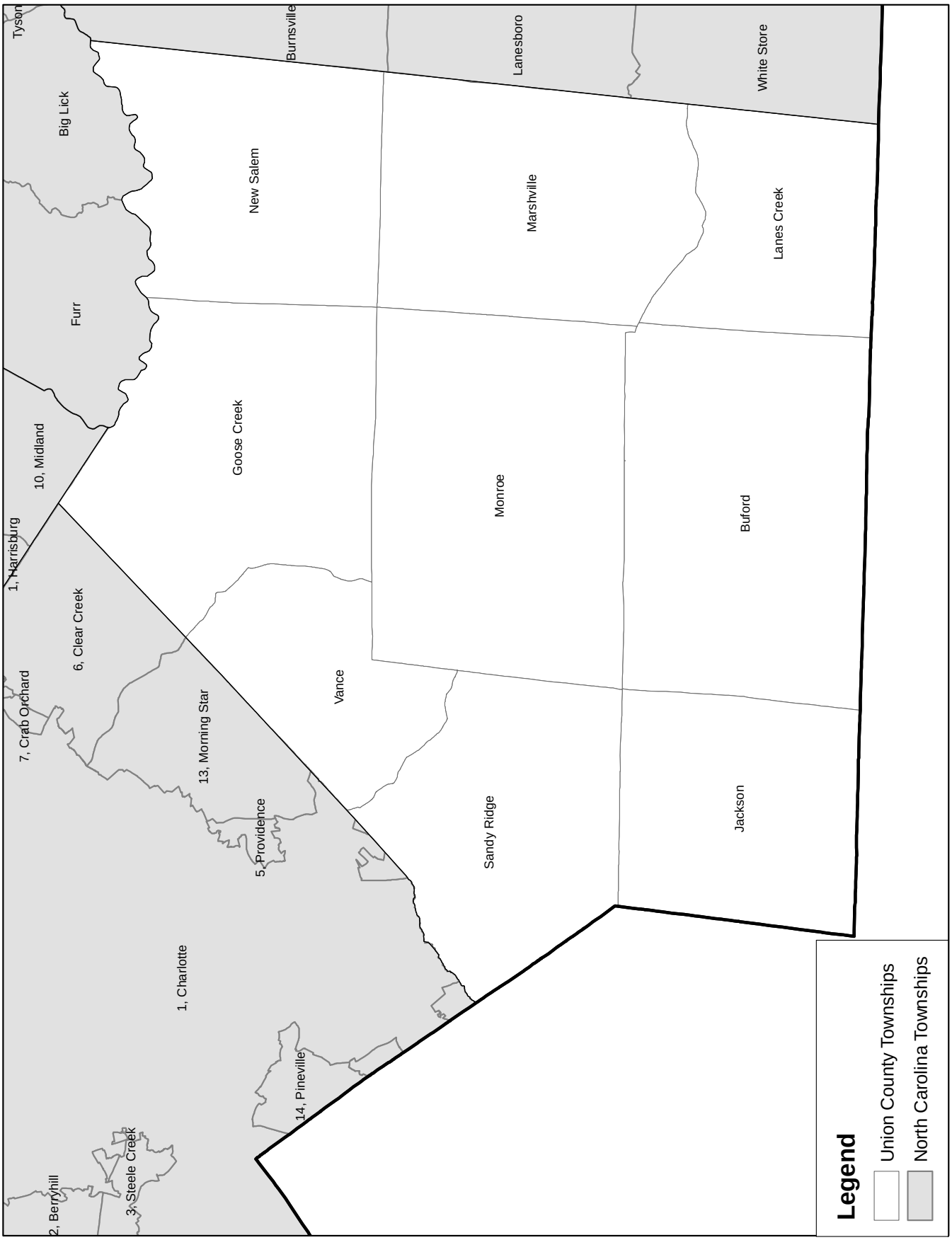
Rowan County Townships
North Carolina Townships


Tyson
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Lanesboro
White Store
Big Lick
New Salem
Marshville
Lanes Creek
Furr
Goose Creek
Monroe
Buford
10, Midland
1, Harrisburg
6, Clear Creek
7, Crab Orchard
13, Morning Star
Vance
5, Providence
Sandy Ridge
Jackson
1, Charlotte
14, Pineville
3, Steele Creek
2, Berryhill
Legend
Union County Townships
North Carolina Townships

Appendix F

North Carolina's 2010 NO_x and VOC Emissions Data Maps and Tables

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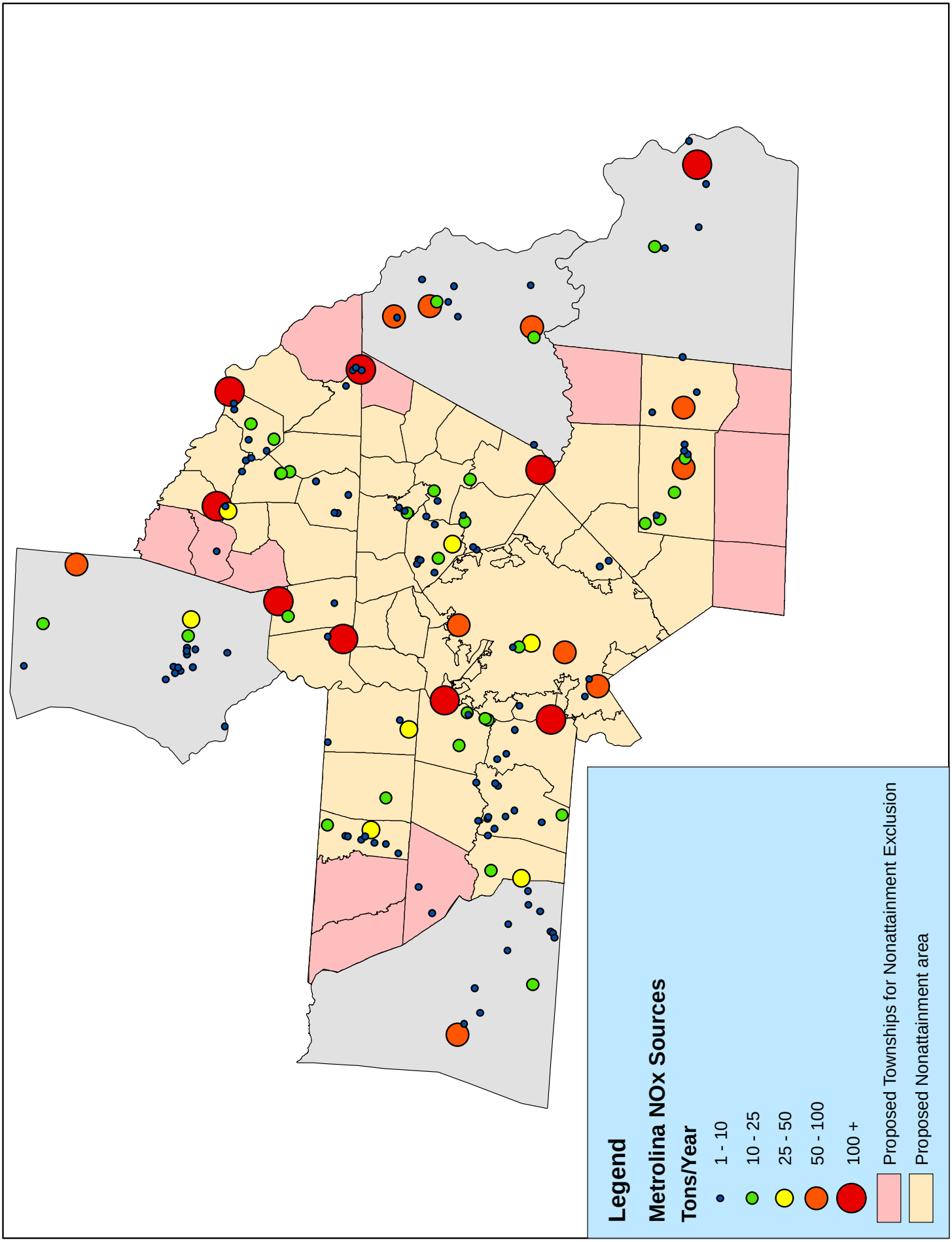
Legend
Metrolina NOx Sources
Tons/Year
1 - 10
10 - 25
25 - 50
50 - 100
100 +
Proposed Townships for Nonattainment Exclusion
Proposed Nonattainment area

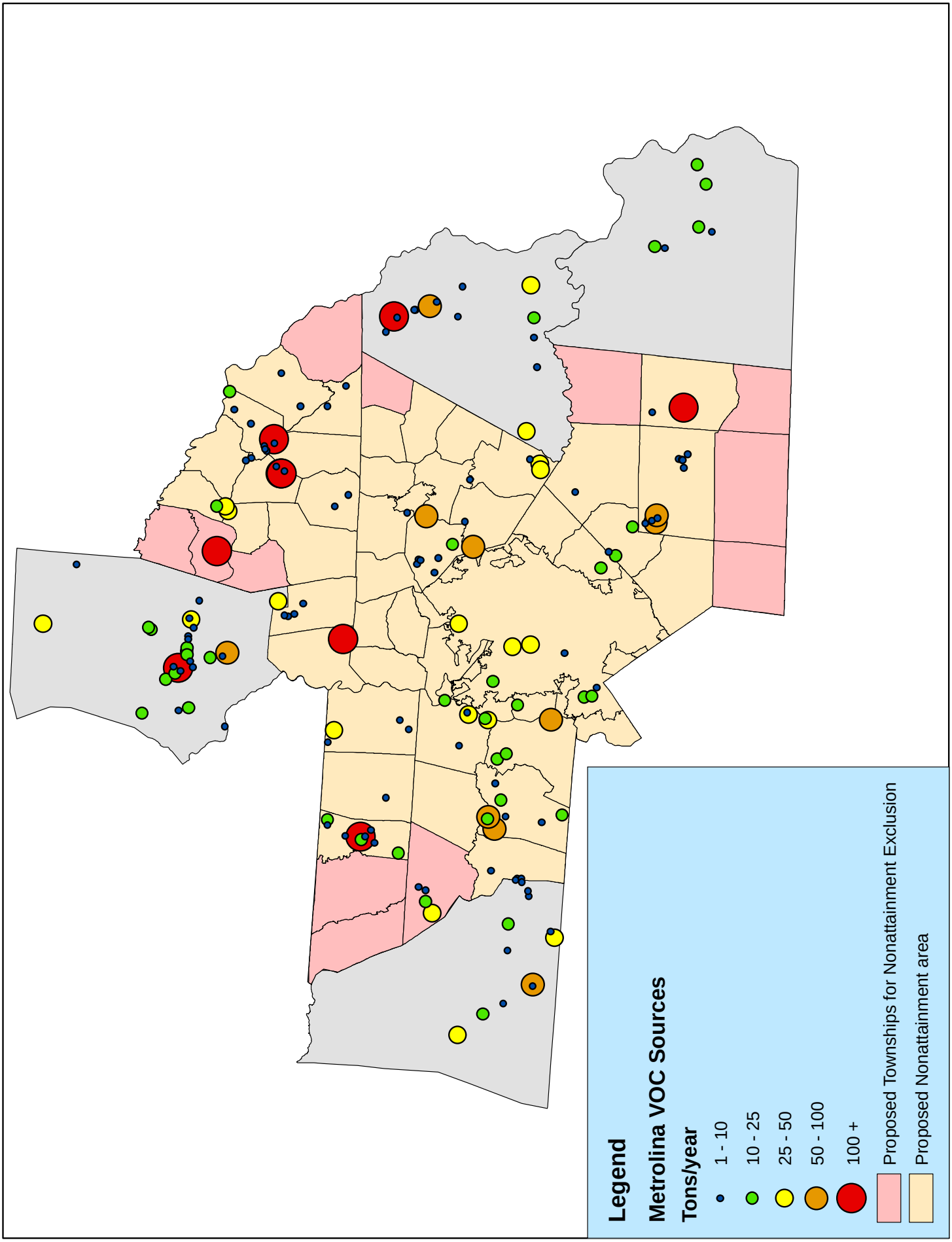
Legend
Metrolina VOC Sources
Tons/year
1 - 10
10 - 25
25 - 50
50 - 100
100 +
Proposed Townships for Nonattainment Exclusion
Proposed Nonattainment area

Table 1. Facilities in Anson County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Wade Manufacturing Co - Wadesboro	5 Tons	
Triangle Brick Co - Wadesboro	7.4 Tons	
Valley Protein Inc - Wadesboro Div	21.1 Tons	
NCEMC - Anson Plant	118.8 Tons	
B.V. Hedrick Gravel and Sand Company		0.3 Tons (2009)
The Quikrete Companies - Peachland Plt		1.8 Tons (2008)
Hornwood Inc		5.0 Tons (2008)
CP&L - Blewett Hydroelectric Plant		7.4 Tons (2006)
Total Reported Emissions	**152.3**	
Total Assumed Emissions		**14.5**
Grand Total	**166.8**	

Table 2. Facilities in Anson County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Triangle Brick Co - Wadesboro	3.2 Tons	
Wade Manufacturing Co - Wadesboro	12.7 Tons	
Valley Protein Inc - Wadesboro Div	13.1 Tons	
NCEMC - Anson Plant	24 Tons	
B.V. Hedrick Gravel and Sand Company		0.0 Tons (2009)
The Quikrete Companies - Peachland Plt		0.1 Tons (2008)
Coffing Hoists		6.6 Tons (2007)
Hornwood Inc		16.0 Tons (2008)
Total Reported Emissions	**53.0**	
Total Assumed Emissions		**22.7**
Grand Total	**75.7**	

Table 3. Facilities in Cabarrus County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Carolina Counters Corporation	0.1 Tons	
Technicon Acoustics	0.2 Tons	
Berenfield Containers SE Ltd	1.1 Tons	
Philip Morris USA Inc., Cabarrus Manufacturing Facility	3.3 Tons	
S & D Coffee, Inc.	4.9 Tons	
Piedmont Natural Gas - Concord Compressor Station	5.8 Tons	
BFI Waste Systems of North America, CMS Landfill V	39.6 Tons	
Corning Incorporated	138.5 Tons	
Southern Concrete Materials - Concord Plant		0.0 Tons (2006)

Table 3. Facilities in Cabarrus County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
McGee Brothers Company, Inc.		0.0 Tons (2009)
Concrete Supply Company, Concord Plant		0.1 Tons (2008)
Thomas Concrete Company, Inc., Concord Plant		0.2 Tons (2008)
WSACC-Lower Rocky River Pump Station		0.4 Tons (2007)
Thomas Concrete of Carolina, Inc. - Harrisburg Plant		0.4 Tons (2008)
Rinker Materials Concrete Pipe Division		0.4 Tons (2008)
Johnson Concrete Company, Piedmont Block Division		0.6 Tons (2006)
Americhem, Inc.		1.5 Tons (2008)
Gelder Thompson Asphalt Plant - Midland ** INACTIVE **		2.0 Tons (2006)
Vulcan Construction Materials LP - Gold Hill		2.2 Tons (2008)
Blythe Construction, Inc., Plant No. 2		2.4 Tons (2009)
Coddle Creek WTP ** INACTIVE **		2.5 Tons (2006)
Ferebee Asphalt Corporation		2.9 Tons (2007)
Galvan Industries, Inc.		3.2 Tons (2006)
Greif Packaging, LLC - Southeastern Packaging		3.4 Tons (2007)
Perdue Farms Incorporated, Concord		7.5 Tons (2008)
Blythe Brothers Asphalt Co., LLC - Concord Plant		7.8 Tons (2007)
CMC - Northeast, Inc.		9.9 Tons (2003)
Chemical Specialties, Inc.		10.7 Tons (2007)
WSACC - Rocky River Regional WWTP		13.9 Tons (2008)
Martin Marietta Materials, Inc. - Bonds Quarry		14.0 Tons (2007)
Concord City Generating Plant #2		15.0 Tons (2007)
Concord City Generating Plant #1		20.0 Tons (2007)
Total Reported Emissions	**193.5**	
Total Assumed Emissions		**121.0**
Grand Total	**314.5**	

Table 4. Facilities in Cabarrus County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Technicon Acoustics	0 Tons	
Philip Morris USA Inc., Cabarrus Manufacturing Facility	0.3 Tons	
Carolina Counters Corporation	2.3 Tons	
Piedmont Natural Gas - Concord Compressor Station	6.5 Tons	
BFI Waste Systems of North America, CMS Landfill V	24.4 Tons	
Corning Incorporated	27.6 Tons	
S & D Coffee, Inc.	68.5 Tons	
Berenfield Containers SE Ltd	94 Tons	

Table 4. Facilities in Cabarrus County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Thomas Concrete of Carolina, Inc. - Harrisburg Plant		0.0 Tons (2008)
Johnson Concrete Company, Piedmont Block Division		0.0 Tons (2006)
Rinker Materials Concrete Pipe Division		0.0 Tons (2008)
Thomas Concrete Company, Inc., Concord Plant		0.0 Tons (2008)
Coddle Creek WTP ** INACTIVE **		0.1 Tons (2006)
Vulcan Construction Materials LP - Gold Hill		0.1 Tons (2008)
Builders FirstSource-Atlantic Group, Inc.		0.2 Tons (2009)
Galvan Industries, Inc.		0.2 Tons (2006)
Greif Packaging, LLC - Southeastern Packaging		0.2 Tons (2007)
Americhem, Inc.		0.2 Tons (2008)
Gelder Thompson Asphalt Plant - Midland ** INACTIVE **		0.3 Tons (2006)
Perdue Farms Incorporated, Concord		0.4 Tons (2008)
CMC - Northeast, Inc.		0.6 Tons (2003)
Morton Custom Plastics, Inc., A Wilbert Company		0.7 Tons (2008)
Concord City Generating Plant #2		0.8 Tons (2007)
Martin Marietta Materials, Inc. - Bonds Quarry		1.1 Tons (2007)
Concord City Generating Plant #1		1.1 Tons (2007)
Blythe Construction, Inc., Plant No. 2		2.0 Tons (2009)
WSACC - Rocky River Regional WWTP		4.4 Tons (2008)
Ferebee Asphalt Corporation		4.5 Tons (2007)
Blythe Brothers Asphalt Co., LLC - Concord Plant		6.2 Tons (2007)
Chemical Specialties, Inc.		6.9 Tons (2007)
Whitley Handle, Inc.		35.5 Tons (2007)
Total Reported Emissions	**223.6**	
Total Assumed Emissions		**65.5**
Grand Total	**289.1**	

Table 5. Facilities in Cleveland County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Chemetall Foote Corporation Kings Mountain	0.5 Tons	
NC Municipal Power Agency No. 1-Shelby Plant	0.6 Tons	
Rock Tenn CP, LLC	1.9 Tons	
Baldor Electric Company	2.3 Tons	
Cunningham Brick Company, Inc.	6.5 Tons	
CNA Holdings, Inc.; Ticona Polymers Shelby Plant	16.4 Tons	
PPG Industries Fiber Glass Products Inc	84.6 Tons	
Blachford RP Corporation/Kings Mountain Plant		0.0 Tons (2006)

Table 5. Facilities in Cleveland County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
STI Kings Plush, Inc. ** INACTIVE **		0.0 Tons (2007)
Case Farms, LLC - Feed Mill		0.1 Tons (2008)
Concrete Supply Company, Portable Plant		0.1 Tons (2009)
Ellis Lumber Company, Inc.		0.4 Tons (2007)
Dicey Fabrics, Inc.		0.4 Tons (2009)
Kings Mountain Minerals, Inc. - Patterson		0.5 Tons (2008)
Kings Mountain Minerals, Inc. - Battleground		1.1 Tons (2008)
Kings Mountain Minerals, Inc. - Moss Plant		2.0 Tons (2008)
Asphalt Paving of Shelby, Inc.		2.2 Tons (2007)
CVG Acquisition, LLC - Kings Mountain Plant		2.5 Tons (2006)
IMC-MetalsAmerica, LLC		2.5 Tons (2009)
Eaton Corporation Transmission Division		5.2 Tons (2009)
Cleveland Regional Medical Center		5.4 Tons (2009)
Rea Contracting (Kings Mountain)		6.7 Tons (2007)
Spectrum Dyed Yarns, Inc., Kings Mountain Pla ** INACTIVE **		8.5 Tons (2008)
Total Reported Emissions	**112.8**	
Total Assumed Emissions		**37.6**
Grand Total	**150.4**	

Table 6. Facilities in Cleveland County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
NC Municipal Power Agency No. 1-Shelby Plant	0 Tons	
Rock Tenn CP, LLC	0.7 Tons	
Cunningham Brick Company, Inc.	1 Tons	
Chemetall Foote Corporation Kings Mountain	6 Tons	
Baldor Electric Company	18 Tons	
Curtiss-Wright Controls, Inc.	18.2 Tons	
PPG Industries Fiber Glass Products Inc	36.9 Tons	
CNA Holdings, Inc.; Ticona Polymers Shelby Plant	79.8 Tons	
Kings Mountain Minerals, Inc. - Patterson		0.0 Tons (2008)
Dicey Fabrics, Inc.		0.0 Tons (2009)
Concrete Supply Company, Portable Plant		0.0 Tons (2009)
Kings Mountain Minerals, Inc. - Battleground		0.1 Tons (2008)
Kings Mountain Minerals, Inc. - Moss Plant		0.1 Tons (2008)
IMC-MetalsAmerica, LLC		0.2 Tons (2009)
Cleveland Regional Medical Center		0.3 Tons (2009)
Eaton Corporation Transmission Division		0.4 Tons (2009)

Table 6. Facilities in Cleveland County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Spectrum Dyed Yarns, Inc., Kings Mountain Pla ** INACTIVE **		0.5 Tons (2008)
Asphalt Paving of Shelby, Inc.		1.6 Tons (2007)
STI Kings Plush, Inc. ** INACTIVE **		2.3 Tons (2007)
Ellis Lumber Company, Inc.		3.0 Tons (2007)
Rea Contracting (Kings Mountain)		3.2 Tons (2007)
Blachford RP Corporation/Kings Mountain Plant		3.9 Tons (2006)
Performance Fibers Operations, Inc. - Shelby		5.1 Tons (2006)
CVG Acquisition, LLC - Kings Mountain Plant		43.1 Tons (2006)
Total Reported Emissions	**160.6**	
Total Assumed Emissions		**63.8**
Grand Total	**224.4**	

Table 7. Facilities in Gaston County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
NC Municipal Power Agency No. 1-Gastonia Plant 1	0.5 Tons	
NC Municipal Power Agency No. 1-Gastonia Plant 2	0.6 Tons	
NC Municipal Power Agency No. 1 - Gastonia Prime Power Park	1.3 Tons	
Modern Polymers, Inc.	3.2 Tons	
Daimler Trucks North America, LLC - Mt. Holly Plant	4 Tons	
Lubrizol Advanced Materials, Inc.	5.3 Tons	
Affinia Group, Inc., Wix Filtration Corp. - Allen Plant	6.3 Tons	
City of Gastonia - Long Creek WWTP	6.6 Tons	
American & Efird Plants #5 & #15	11.1 Tons	
FMC Corporation - Lithium Division	20.3 Tons	
Valley Proteins, Inc. dba Carolina By-Products - Gastonia	23.3 Tons	
Duke Energy Carolinas, LLC - Riverbend Steam Station	1,538.2 Tons	
Duke Power Company, LLC - Allen Steam Station	5,045.6 Tons	
Concrete Supply, North Gastonia Plant		0.0 Tons (2008)
J. Charles Saunders Company		0.3 Tons (2007)
Parker Hannifan Corporation		0.4 Tons (2009)
Pharr Yarns I-85 Complex		0.6 Tons (2009)
NC Municipal Power Agency No. 1 - Cherryville City Hall Unit		0.7 Tons (2009)
Keystone Powdered Metal Company		1.0 Tons (2008)
Gaston Community College		1.0 Tons (2009)
Orograin - Gastonia		1.1 Tons (2008)
Stabilus, Inc.		1.4 Tons (2007)

Table 7. Facilities in Gaston County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Apex Tool Group (Gastonia Operations)		2.0 Tons (2006)
Gastonia Components & Logistics, LLC		2.1 Tons (2008)
Chemtura Corporation		2.2 Tons (2008)
NC Municipal Power Agency No. 1 - Gastonia Freightliner		2.2 Tons (2008)
Spartan Dyers, Inc., Sterling Division		3.6 Tons (2006)
Pharr Yarns, Inc., Space Dye Plant		4.0 Tons (2009)
Pharr Yarns Complex 46		6.7 Tons (2009)
Firestone Fibers & Textiles Company, LLC		8.0 Tons (2009)
Caromont Health, Gaston Memorial Hospital		9.2 Tons (2008)
New NGC, Inc. d/b/a National Gypsum Company		11.5 Tons (2009)
Buckeye Mt. Holly, LLC		15.9 Tons (2008)
Firestone Fibers and Textiles Company, Kings Mountain Plant		34.0 Tons (2006)
Total Reported Emissions	**6666.3**	
Total Assumed Emissions		**107.9**
Grand Total	**6774.2**	

Table 8. Facilities in Gaston County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
NC Municipal Power Agency No. 1-Gastonia Plant 2	0 Tons	
NC Municipal Power Agency No. 1-Gastonia Plant 1	0 Tons	
NC Municipal Power Agency No. 1 - Gastonia Prime Power Park	0.2 Tons	
City of Gastonia - Long Creek WWTP	0.2 Tons	
Gatza Marble Products	3.8 Tons	
Lubrizol Advanced Materials, Inc.	4.5 Tons	
FMC Corporation - Lithium Division	5.8 Tons	
Valley Proteins, Inc. dba Carolina By-Products - Gastonia	10 Tons	
Duke Energy Carolinas, LLC - Riverbend Steam Station	17.9 Tons	
Daimler Trucks North America, LLC - Mt. Holly Plant	35.2 Tons	
Modern Polymers, Inc.	38.9 Tons	
American & Efird Plants #5 & #15	38.9 Tons	
Duke Power Company, LLC - Allen Steam Station	69.9 Tons	
Affinia Group, Inc., Wix Filtration Corp. - Allen Plant	81.2 Tons	
NC Municipal Power Agency No. 1 - Cherryville City Hall Unit		0.0 Tons (2009)
Pharr Yarns I-85 Complex		0.0 Tons (2009)
NC Municipal Power Agency No. 1 - Gastonia Freightliner		0.1 Tons (2008)
Gaston Community College		0.1 Tons (2009)

Table 8. Facilities in Gaston County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Spartan Dyers, Inc., Sterling Division		0.2 Tons (2006)
Apex Tool Group (Gastonia Operations)		0.2 Tons (2006)
Conitex-Sonoco, USA Inc. ** INACTIVE **		0.4 Tons (2005)
Chemtura Corporation		0.4 Tons (2008)
Caromont Health, Gaston Memorial Hospital		0.5 Tons (2008)
Keystone Powdered Metal Company		2.3 Tons (2008)
New NGC, Inc. d/b/a National Gypsum Company		2.9 Tons (2009)
Orograin - Gastonia		3.8 Tons (2008)
Firestone Fibers & Textiles Company, LLC		4.2 Tons (2009)
Firestone Fibers and Textiles Company, Kings Mountain Plant		5.9 Tons (2006)
Parker Hannifan Corporation		6.0 Tons (2009)
LNS Turbo, Inc. - Kings Mountain		8.3 Tons (2006)
Buckeye Mt. Holly, LLC		9.4 Tons (2008)
Pharr Yarns, Inc., Space Dye Plant		10.4 Tons (2009)
Pharr Yarns Complex 46		11.1 Tons (2009)
Bradington-Young LLC, Cherryville Plant		11.4 Tons (2007)
J. Charles Saunders Company		11.4 Tons (2007)
Gastonia Components & Logistics, LLC		13.0 Tons (2008)
Stabilus, Inc.		68.5 Tons (2007)
Total Reported Emissions	**306.5**	
Total Assumed Emissions		**170.5**
Grand Total	**477.0**	

Table 9. Facilities in Iredell County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
CEMEX Construction Materials Atlantic, LLC - Statesville	0 Tons	
Southeastern Concrete Products of NC, LLC	0.2 Tons	
Star Milling Company	0.2 Tons	
Bartlett Milling Company, LP, Statesville Flour Mill	0.5 Tons	
NC Municipal Power Agency No. 1-Statesville	0.6 Tons	
NC Municipal Power Agency No.1, Statesville Delivery #3 Unit	0.9 Tons	
Engineered Sintered Components	1.3 Tons	
Elmer's Products, Inc.	1.5 Tons	
Kewaunee Scientific Equipment Corporation	2.6 Tons	
BestSweet, Inc.	3.4 Tons	
3A Composites USA Inc.	4.5 Tons	
Mocaro Dyeing & Finishing, Inc.	5.6 Tons	

Table 9. Facilities in Iredell County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Maymead Materials, Inc. - Statesville Plant	6.2 Tons	
Armstrong Hardwood Flooring Company - Statesville Plant	7.7 Tons	
Statesville Brick Company	9.4 Tons	
Iredell Transmission, LLC	40.8 Tons	
Tyson Foods, Inc. Harmony	83 Tons	
Cardinal Fg Flat Glass Plant	752.3 Tons	
Transcontinental Gas Pipe Line Company, LLC - Station 150	1,109.3 Tons	
Snider Tire, Inc.		0.0 Tons (2007)
Ready Mixed Concrete Company, Mooresville Plant #91		0.0 Tons (2008)
Ready Mixed Concrete Company, Statesville Plant #90		0.0 Tons (2007)
D&F Consolidated, Inc. dba Car-Mel Products, Inc.		0.0 Tons (2009)
Donwalt Industries, Inc. ** INACTIVE **		0.0 Tons (2006)
Carolina CAT		0.1 Tons (2008)
Warlick Paint Company, Inc.		0.1 Tons (2007)
Troutman Chair Company		0.2 Tons (2008)
G & M Milling Company, Inc.		0.2 Tons (2008)
Southern States Cooperative, Inc., Statesville Fertilizer		0.4 Tons (2006)
City of Statesville, Statesville Raw Water Pu ** INACTIVE **		0.5 Tons (2008)
Land O'Lakes Purina Feed, LLC - Statesville Mill		0.8 Tons (2008)
Merchants Metals, Inc. ** INACTIVE **		0.9 Tons (2004)
Carris Reels of North Carolina, Inc.		0.9 Tons (2008)
ASMO North Carolina, Inc.		0.9 Tons (2006)
Union Grove Moulding & Millwork, Inc.		1.2 Tons (2006)
Glen Raven Technical Fabrics, LLC - Statesvil ** INACTIVE **		1.6 Tons (2007)
J C Steele & Sons, Inc.		1.8 Tons (2006)
Lake Norman Regional Medical Center		2.9 Tons (2007)
JPS Composite Materials Corporation - Statesville Plant		3.3 Tons (2007)
International Paper - Statesville Container		3.7 Tons (2006)
Godfrey Lumber Company, Inc.		3.8 Tons (2008)
City of Statesville, Fourth Creek Wastewater ** INACTIVE **		4.6 Tons (2006)
City of Statesville, Water Treatment Plant ** INACTIVE **		4.7 Tons (2006)
Gulistan Carpet ** INACTIVE **		8.2 Tons (2004)
NGK Ceramics USA, Inc.		11.8 Tons (2006)
G & G Lumber Company, Inc.		13.0 Tons (2009)
L. Gordon Iron & Metal Company		20.7 Tons (2009)
Total Reported Emissions	**2030.0**	
Total Assumed Emissions		**86.3**
Grand Total	**2116.3**	

Table 10. Facilities in Iredell County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Bartlett Milling Company, LP, Statesville Flour Mill	0 Tons	
NC Municipal Power Agency No. 1-Statesville	0 Tons	
Southeastern Concrete Products of NC, LLC	0 Tons	
Star Milling Company	0 Tons	
NC Municipal Power Agency No.1, Statesville Delivery #3 Unit	0 Tons	
BestSweet, Inc.	0.2 Tons	
General Microcircuits, Inc.	0.5 Tons	
Iredell County Landfill	2 Tons	
LIAT, LLC - Jasper Library Furniture - Plant 1	2.3 Tons	
Mocaro Dyeing & Finishing, Inc.	4.3 Tons	
Maymead Materials, Inc. - Statesville Plant	4.9 Tons	
Tyson Foods, Inc. Harmony	5 Tons	
Statesville Brick Company	5.2 Tons	
Cabinet Makers, Inc.	10.3 Tons	
Armstrong Hardwood Flooring Company - Statesville Plant	15.6 Tons	
Kewaunee Scientific Equipment Corporation	17.7 Tons	
3A Composites USA Inc.	24.6 Tons	
Iredell Transmission, LLC	30.3 Tons	
Cardinal Fg Flat Glass Plant	37.7 Tons	
Engineered Sintered Components	62 Tons	
Elmer's Products, Inc.	115.9 Tons	
Transcontinental Gas Pipe Line Company, LLC - Station 150	302.4 Tons	
City of Statesville, Statesville Raw Water Pu ** INACTIVE **		0.0 Tons (2008)
Land O'Lakes Purina Feed, LLC - Statesville Mill		0.0 Tons (2008)
Southern States Cooperative, Inc., Statesville Fertilizer		0.0 Tons (2006)
Carris Reels of North Carolina, Inc.		0.0 Tons (2008)
Somers Lumber and Manufacturing, Inc.		0.1 Tons (2008)
Lake Norman Regional Medical Center		0.1 Tons (2007)
Hexagon Polymers Compounding NC, Inc.		0.1 Tons (2006)
Merchants Metals, Inc. ** INACTIVE **		0.1 Tons (2004)
Godfrey Lumber Company, Inc.		0.3 Tons (2008)
Sonoco Corrflex Graphics, LLC		0.4 Tons (2008)
Union Grove Moulding & Millwork, Inc.		0.4 Tons (2006)
Bay State Milling Company		0.7 Tons (2009)
Snider Tire, Inc.		0.9 Tons (2007)
EGA Products, Inc.		1.5 Tons (2008)
Glen Raven Technical Fabrics, LLC - Statesvil ** INACTIVE **		1.7 Tons (2007)
NGK Ceramics USA, Inc.		1.8 Tons (2006)

Table 10. Facilities in Iredell County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
International Paper - Statesville Container		2.2 Tons (2006)
McCombs Steel Company		2.8 Tons (2009)
Pneu-Mech Systems Manufacturing, Inc.		3.7 Tons (2007)
Engineered Polymer Solutions, D/B/A Valspar		3.7 Tons (2006)
D&F Consolidated, Inc. dba Car-Mel Products, Inc.		4.6 Tons (2009)
Warlick Paint Company, Inc.		4.6 Tons (2007)
L. Gordon Iron & Metal Company		5.4 Tons (2009)
Custom Products, Inc.		6.7 Tons (2009)
Carolina CAT		7.3 Tons (2008)
Troutman Chair Company		10.1 Tons (2008)
JPS Composite Materials Corporation - Statesville Plant		13.6 Tons (2007)
WFP, a Division of Kent Lumber Companies, Inc ** INACTIVE **		15.2 Tons (2005)
The Emerson Group, Inc.		17.8 Tons (2007)
J C Steele & Sons, Inc.		20.2 Tons (2006)
ASMO North Carolina, Inc.		20.7 Tons (2006)
Pro-Build East, LLC ** INACTIVE **		22.6 Tons (2007)
Mack Molding Company		24.9 Tons (2006)
Gulistan Carpet ** INACTIVE **		28.3 Tons (2004)
Donwalt Industries, Inc. ** INACTIVE **		32.8 Tons (2006)
G & G Lumber Company, Inc.		37.8 Tons (2009)
Total Reported Emissions	**640.9**	
Total Assumed Emissions		**293.1**
Grand Total	**934.0**	

Table 11. Facilities in Lincoln County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Wireway/Husky Systems	0 Tons	
CPI Packaging, Inc.	0.2 Tons	
Cataler North America Corporation	13.2 Tons	
Mohican Mills, Inc.	17.3 Tons	
Duke Energy Corporation LCTS	42.2 Tons	
VT LeeBoy, Inc.		0.1 Tons (2009)
NC Municipal Power Agency No. 1 -Lincolnton High School Unit		0.6 Tons (2009)
McMurray Fabrics, Inc.		1.1 Tons (2006)
Textile Piece Dyeing Co., Inc.		2.5 Tons (2009)
Blythe Construction, Inc., Plant No. 8		3.3 Tons (2007)

Table 11. Facilities in Lincoln County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
HOF Textiles, Inc.		4.1 Tons (2007)
Rea Contracting (Denver)		4.8 Tons (2007)
Lincolnton Wastewater Treatment Plant		5.2 Tons (2006)
South Fork Industries, Inc.		6.1 Tons (2007)
NFP Holdings, LLC		8.7 Tons (2005)
McMurray Fabrics, Inc. - Lincolnton		9.7 Tons (2007)
The Timken Company, Lincolnton Bearing Plant		10.5 Tons (2007)
Total Reported Emissions	**72.9**	
Total Assumed Emissions		**56.7**
Grand Total	**129.6**	

Table 12. Facilities in Lincoln County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Cataler North America Corporation	1.6 Tons	
Duke Energy Corporation LCTS	2.2 Tons	
Mohican Mills, Inc.	13.3 Tons	
Wireway/Husky Systems	31 Tons	
CPI Packaging, Inc.	277.2 Tons	
NC Municipal Power Agency No. 1 -Lincolnton High School Unit		0.0 Tons (2009)
McMurray Fabrics, Inc.		0.1 Tons (2006)
Lincolnton Wastewater Treatment Plant		0.1 Tons (2006)
RSI Home Products		0.9 Tons (2007)
NFP Holdings, LLC		1.4 Tons (2005)
The Timken Company, Lincolnton Bearing Plant		1.7 Tons (2007)
Rea Contracting (Denver)		2.7 Tons (2007)
South Fork Industries, Inc.		2.9 Tons (2007)
Blythe Construction, Inc., Plant No. 8		3.1 Tons (2007)
Textile Piece Dyeing Co., Inc.		7.3 Tons (2009)
VT LeeBoy, Inc.		12.1 Tons (2009)
HOF Textiles, Inc.		22.5 Tons (2007)
McMurray Fabrics, Inc. - Lincolnton		22.8 Tons (2007)
Total Reported Emissions	**325.3**	
Total Assumed Emissions		**77.6**
Grand Total	**402.9**	

Table 13. Facilities in Mecklenburg County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Cargill, Inc.	23.6 Tons	
Frito-Lay, Incorporated	62.4 Tons	
Gerdau Ameristeel US Inc. Charlotte Steel Mill Div	77.6 Tons	
Cognis Corporation	5.3 Tons	
Exopack Advanced Coatings	6.5 Tons	
Emerald Carolina Chemical, LLC	4.6 Tons	
Charlotte Pipe & Foundry Company, Inc.	23.4 Tons	
BMWNC, Inc.	3.2 Tons	
Industrial Container Services -NC, LLC (Charlotte)	1.4 Tons	
Total Reported Emissions	**207.9**	
Total Assumed Emissions		**0**
Grand Total	**207.9**	

Table 14. Facilities in Mecklenburg County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Americh Corporation	10.3 Tons	
Cargill, Inc.	4.3 Tons	
Frito-Lay, Incorporated	9.4 Tons	
Gerdau Ameristeel US Inc. Charlotte Steel Mill Div	30.7 Tons	
Cognis Corporation	24.2 Tons	
Exopack Advanced Coatings	18.8 Tons	
Emerald Carolina Chemical, LLC	12.7 Tons	
Charlotte Pipe & Foundry Company, Inc.	31.3 Tons	
Motiva Enterprises LLC - Motiva Charlotte Complex	22.6 Tons	
BMWNC, Inc.	0.1 Tons	
Industrial Container Services -NC, LLC (Charlotte)	33.4 Tons	
Total Reported Emissions	**197.6**	
Total Assumed Emissions		**0**
Grand Total	**197.6**	

Table 15. Facilities in Rowan County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Cansorb Industries, Inc.	0.1 Tons	
NC Municipal Power Agency No. 1 - Landis Delivery No. 2 Unit	1 Tons	
Carolina Perlite Company, Inc.	1.3 Tons	
Magna Composites LLC - Salisbury Operations	3.2 Tons	

Table 15. Facilities in Rowan County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Rowan Regional Medical Center	7.2 Tons	
Daimler Trucks North America - Cleveland Plant	7.5 Tons	
Akzo Nobel Surface Chemistry LLC.	12.6 Tons	
Norandal USA Inc	16.8 Tons	
Boral Bricks Inc - Salisbury Plant	21.1 Tons	
Performance Fibers Operations, Inc. - Salisbury Plant	28.4 Tons	
Plant Rowan County	116.1 Tons	
Carolina Stalite Company	435.4 Tons	
Duke Power Company, LLC - Buck Steam Station	1,144.5 Tons	
Concrete Supply Company - Salisbury Plant		0.0 Tons (2009)
C & H Frameworks, Inc		0.1 Tons (2007)
Goodman Millwork, Inc.		0.1 Tons (2006)
Centurion Medical Products Corporation		0.2 Tons (2009)
Old Carolina Brick Gold Hill		0.2 Tons (2009)
Johnson Concrete Company, Inc., Central Division		0.2 Tons (2007)
Associated Asphalt Salisbury, Inc.		0.3 Tons (2006)
Perma-flex Roller Technology - Salisbury, LLC		0.3 Tons (2006)
W A Brown and Son Inc - Plant 2		0.3 Tons (2007)
Kannapolis Water Treatment Plant ** INACTIVE **		0.3 Tons (2008)
Parker Hannifin Corporation ** INACTIVE **		0.5 Tons (2009)
Southern States Cooperative, Inc. - Barber Feed Mill		0.5 Tons (2009)
Wingfoot Commercial Tire Systems, LLC		1.0 Tons (2006)
Carolina Perlite, Inc.		1.3 Tons (2007)
Hitachi Metals North Carolina, Ltd.		2.0 Tons (2008)
HBD Industries Inc.		2.1 Tons (2009)
Innospec Performance Chemicals U.S. Company		2.1 Tons (2006)
APAC-Atlantic, Inc., Salisbury Plant # 69		2.2 Tons (2007)
Pinnacle Corrugated LLC		2.3 Tons (2008)
Packaging Corporation Of America		2.3 Tons (2007)
Old Carolina Brick Company		2.9 Tons (2009)
Rea Contracting (Kannapolis)		6.3 Tons (2007)
Cronland Lumber Co., Inc.		7.3 Tons (2009)
Indopco, Inc. dba Henkel,		10.1 Tons (2008)
Taylor Clay Products, Inc.		13.0 Tons (2006)
Total Reported Emissions	**1795.2**	
Total Assumed Emissions		**57.9**
Grand Total	**1853.1**	

Table 16. Facilities in Rowan County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
NC Municipal Power Agency No. 1 - Landis Delivery No. 2 Unit	0 Tons	
Carolina Perlite Company, Inc.	0.1 Tons	
Carolina Stalite Company	0.2 Tons	
Rowan Regional Medical Center	0.3 Tons	
Baja Products Ltd.	1.2 Tons	
Boral Bricks Inc - Salisbury Plant	1.4 Tons	
Athena Marble Inc.	2 Tons	
Plant Rowan County	14.2 Tons	
Duke Power Company, LLC - Buck Steam Station	17 Tons	
Magna Composites LLC - Salisbury Operations	28.8 Tons	
Performance Fibers Operations, Inc. - Salisbury Plant	34.6 Tons	
Akzo Nobel Surface Chemistry LLC.	135.2 Tons	
Daimler Trucks North America - Cleveland Plant	211.3 Tons	
Norandal USA Inc	800.4 Tons	
Kannapolis Water Treatment Plant ** INACTIVE **		0.0 Tons (2008)
Old Carolina Brick Gold Hill		0.0 Tons (2009)
Carolina Perlite, Inc.		0.0 Tons (2007)
Southern States Cooperative, Inc. - Barber Feed Mill		0.0 Tons (2009)
Centurion Medical Products Corporation		0.0 Tons (2009)
Hitachi Metals North Carolina, Ltd.		0.1 Tons (2008)
Pinnacle Corrugated LLC		0.1 Tons (2008)
Innospec Performance Chemicals U.S. Company		0.2 Tons (2006)
Old Carolina Brick Company		0.2 Tons (2009)
Associated Asphalt Salisbury, Inc.		0.6 Tons (2006)
Salisbury Millwork, Inc. ** INACTIVE **		0.7 Tons (2009)
Taylor Clay Products, Inc.		0.9 Tons (2006)
Parker Hannifin Corporation ** INACTIVE **		1.1 Tons (2009)
APAC-Atlantic, Inc., Salisbury Plant # 69		1.4 Tons (2007)
Cronland Lumber Co., Inc.		1.9 Tons (2009)
Packaging Corporation Of America		2.0 Tons (2007)
Rea Contracting (Kannapolis)		2.2 Tons (2007)
Wingfoot Commercial Tire Systems, LLC		2.4 Tons (2006)
W A Brown and Son Inc - Plant 2		2.5 Tons (2007)
Perma-flex Roller Technology - Salisbury, LLC		2.7 Tons (2006)
B & E Custom Cabinets, Inc.		2.7 Tons (2008)
Johnson Concrete Company, Inc., Central Division		3.4 Tons (2007)
McKenzie Sports Products, Inc.		4.5 Tons (2005)
CMH Manufacturing Inc. d/b/a Schult Homes - Plant 957		4.5 Tons (2009)
HBD Industries Inc.		6.2 Tons (2009)

Table 16. Facilities in Rowan County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Goodman Millwork, Inc.		6.3 Tons (2006)
Indopco, Inc. dba Henkel,		124.3 Tons (2008)
Total Reported Emissions	**1246.7**	
Total Assumed Emissions		**170.9**
Grand Total	**1417.6**	

Table 17. Facilities in Stanly County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
American Fiber & Finishing, Inc.	0.3 Tons	
J. T. Russell & Sons, Inc.	5.8 Tons	
Michelin Aircraft Tire Company	7.3 Tons	
Enterprise Rendering Company	12.1 Tons	
H W Culp Lumber Co, Inc	63.2 Tons	
IAC Albemarle, LLC.	77.2 Tons	
Carolina Stalite Company	77.7 Tons	
Preformed Line Products Company		0.0 Tons (2006)
Hanson Pipe & Products - Oakboro		0.0 Tons (2008)
Concrete Supply Company Albemarle Plant		0.0 Tons (2008)
Eudy's Cabinet Shop, Inc.		0.1 Tons (2007)
NC Municipal Power Agency No. 1 - Albemarle Hospital Unit		0.6 Tons (2009)
Fiber Composites, LLC		0.8 Tons (2008)
NC Municipal Power Agency No. 1, Albemarle Prime Power Park		1.0 Tons (2008)
Stanly Regional Medical Center		1.7 Tons (2008)
Piedmont Natural Gas - Monroe Compressor Station		2.1 Tons (2007)
Gentry Mills, Inc.		2.2 Tons (2009)
C K Earnhardt & Son, Inc.		3.3 Tons (2008)
J. T. Russell & Sons, Inc. - Albemarle		17.1 Tons (2007)
Total Reported Emissions	**243.6**	
Total Assumed Emissions		**28.9**
Grand Total	**272.5**	

Table 18. Facilities in Stanly County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
American Fiber & Finishing, Inc.	0 Tons	
Carolina Stalite Company	0.5 Tons	
Smith Novelty Company, Inc.	0.6 Tons	

Enterprise Rendering Company	2.4 Tons	
J. T. Russell & Sons, Inc.	3.2 Tons	
Michelin Aircraft Tire Company	47.4 Tons	
IAC Albemarle, LLC.	98.5 Tons	
H W Culp Lumber Co, Inc	200.5 Tons	
Piedmont Natural Gas - Monroe Compressor Station		0.0 Tons (2007)
NC Municipal Power Agency No. 1, Albemarle Prime Power Park		0.0 Tons (2008)
NC Municipal Power Agency No. 1 - Albemarle Hospital Unit		0.0 Tons (2009)
Stanly Regional Medical Center		0.2 Tons (2008)
C K Earnhardt & Son, Inc.		0.2 Tons (2008)
Hanson Pipe & Products - Oakboro		0.4 Tons (2008)
J. T. Russell & Sons, Inc. - Albemarle		1.4 Tons (2007)
Fiber Composites, LLC		1.5 Tons (2008)
Preformed Line Products Company		1.8 Tons (2006)
Gentry Mills, Inc.		2.2 Tons (2009)
CMH Manufacturing Inc. d/b/a Schult Homes - Plant 958		2.2 Tons (2008)
CMH Manufacturing, Inc. - Clayton Homes #933 ** INACTIVE **		2.7 Tons (2006)
Southern Pipe, Inc.		2.7 Tons (2007)
The Huck Group Inc. ** INACTIVE **		3.8 Tons (2006)
Rusco Fixture Company, Inc.		7.9 Tons (2006)
Eudy's Cabinet Shop, Inc.		43.5 Tons (2007)
Total Reported Emissions	**353.1**	
Total Assumed Emissions		**70.5**
Grand Total	**423.6**	

Table 19. Facilities in Union County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Cedar Valley Finishing Company, Inc.	0.2 Tons	
BonaKemi USA, Inc.	0.2 Tons	
Radiator Specialty Company	1.3 Tons	
OMNOVA Solutions, Inc.	3.6 Tons	
Hanson Brick East, LLC, dba Hanson Brick-Monroe	11.8 Tons	
Tyson Foods, Inc., Monroe Processing Plant and Feed Mill	18.6 Tons	
ATI Allvac - Bakers Plant	19.1 Tons	
Bakery Feeds	50.1 Tons	
Concrete Supply Company Matthews Plant		0.0 Tons (2009)
Concrete Supply Company - Monroe Plant		0.0 Tons (2009)
Conn-Selmer Ludwig Facility, Plant 3		0.0 Tons (2008)
Thomas Concrete of Carolinas, Inc., Monroe Plant		0.1 Tons (2009)

Table 19. Facilities in Union County reporting NOx Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Hudson Bros. Trailer Mfg., Inc.		0.2 Tons (2007)
DUCO-SCI, Inc.		0.2 Tons (2008)
Frontier Communications Monroe Central Office ** INACTIVE **		0.2 Tons (2005)
Ready Mixed Concrete Company - Plant 102 - Indian Trail		0.3 Tons (2006)
Caledonian Alloys, Inc.		0.3 Tons (2007)
Charlotte Pipe and Foundry Company - Plastics Division		0.3 Tons (2006)
NC Municipal Power Agency No. 1 - Monroe Middle School Unit		0.7 Tons (2009)
Decore-ative Specialties, Inc.		0.9 Tons (2008)
Carolina Wood Products of Marshville, Inc.		1.7 Tons (2009)
Archer Daniels Midland Company, Golden Grain & Feeds, Inc.		1.9 Tons (2008)
Yale Security Inc., Norton Door Controls		2.7 Tons (2009)
Boggs Paving, Inc. ** INACTIVE **		7.0 Tons (2005)
Edwards Wood Products, Inc.		7.4 Tons (2007)
Pilgrim's Pride Corporation of Virginia, Inc.		8.0 Tons (2009)
Consolidated Metco, Inc.		17.3 Tons (2008)
ATI Allvac - Monroe Plant		58.7 Tons (2009)
Total Reported Emissions	**104.9**	
Total Assumed Emissions		**107.9**
Grand Total	**212.8**	

Table 20. Facilities in Union County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Cedar Valley Finishing Company, Inc.	0 Tons	
Radiator Specialty Company	0.5 Tons	
ATI Allvac - Bakers Plant	0.7 Tons	
BonaKemi USA, Inc.	0.7 Tons	
Tyson Foods, Inc., Monroe Processing Plant and Feed Mill	1 Tons	
Hanson Brick East, LLC, dba Hanson Brick-Monroe	1.5 Tons	
Challenge Golf	13 Tons	
OMNOVA Solutions, Inc.	58.8 Tons	
Darnel, Inc.	90.8 Tons	
Bakery Feeds	135.5 Tons	
Pilgrim's Pride Corporation of Virginia, Inc.		0.0 Tons (2009)
NC Municipal Power Agency No. 1 - Monroe Middle School Unit		0.0 Tons (2009)
Ready Mixed Concrete Company - Plant 102 - Indian Trail		0.0 Tons (2006)
DUCO-SCI, Inc.		0.1 Tons (2008)

Table 20. Facilities in Union County reporting VOC Emissions for Calendar Year 2010

Facility Name	Reported Amount (2010)	Additional Assumed Amount (year)
Carolina Wood Products of Marshville, Inc.		0.1 Tons (2009)
Archer Daniels Midland Company, Golden Grain & Feeds, Inc.		0.2 Tons (2008)
Oro Manufacturing Company		0.6 Tons (2009)
Consolidated Metco, Inc.		0.9 Tons (2008)
Vanguard Pai Lung		0.9 Tons (2009)
Caledonian Alloys, Inc.		1.0 Tons (2007)
McGee Corporation		2.6 Tons (2008)
Conn-Selmer Ludwig Facility Plant 2		2.8 Tons (2007)
Conn-Selmer Ludwig Facility, Plant 3		2.9 Tons (2008)
ATI Allvac - Monroe Plant		3.8 Tons (2009)
Decore-ative Specialties, Inc.		4.0 Tons (2008)
Hudson Bros. Trailer Mfg., Inc.		4.4 Tons (2007)
Colfax Pump Group, IMO Pump Division		5.0 Tons (2008)
Boggs Paving, Inc. ** INACTIVE **		5.5 Tons (2005)
Edwards Wood Products, Inc.		6.7 Tons (2007)
Yale Security Inc., Norton Door Controls		7.7 Tons (2009)
Charlotte Pipe and Foundry Company - Plastics Division		8.7 Tons (2006)
AEP Industries, Inc.		12.0 Tons (2008)
Nina Plastics ** INACTIVE **		134.2 Tons (2006)
Total Reported Emissions	**302.5**	
Total Assumed Emissions		**204.1**
Grand Total	**506.6**	

Appendix G

North Carolina and
Charlotte-Gastonia-Salisbury CSA
2010 Population Maps and Tables

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US Census Population Data for 2000 and 2010 and

North Carolina Office of State Budget and Management Projections for 2020

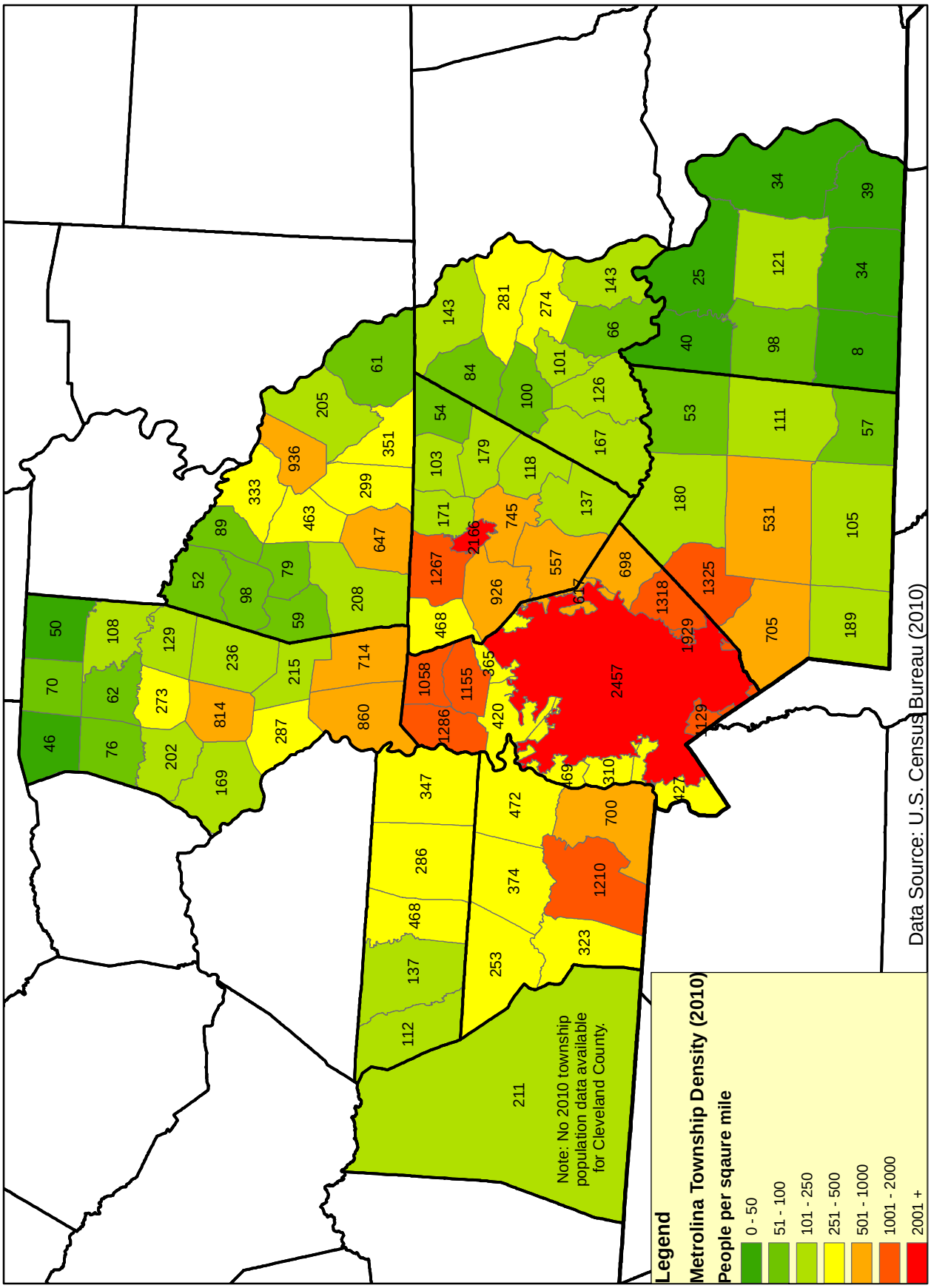
County	2000 Census Population	2010 Census Population	2020 Projected Population	2000 Census Population Density (per sq mile)	2010 Census Population Density (per sq mile)	2020 Projected Population Density (per sq mile)	2000-2010 % Population Growth	2010-2020 Projected % Population Growth
Anson	25275	26948	27454	48	51	52	6.6	1.9
Cabarrus	131063	178011	219629	362	492	607	35.8	23.4
Cleveland	96287	98078	101830	207	211	219	1.9	3.8
Gaston	190365	206086	219737	535	579	617	8.3	6.6
Iredell	122660	159437	186868	214	278	326	30.0	17.2
Lincoln	63780	78265	93628	214	263	314	22.7	19.6
Mecklenburg	695454	919628	1097084	1328	1756	2094	32.2	19.3
Rowan	130340	138428	147491	255	271	288	6.2	6.5
Stanly	58100	60585	64986	147	153	164	4.3	7.3
Union	123677	201292	253693	196	319	402	62.8	26.0
Statewide	8049313	9535483	11062090	166	196	228	18.5	16.0

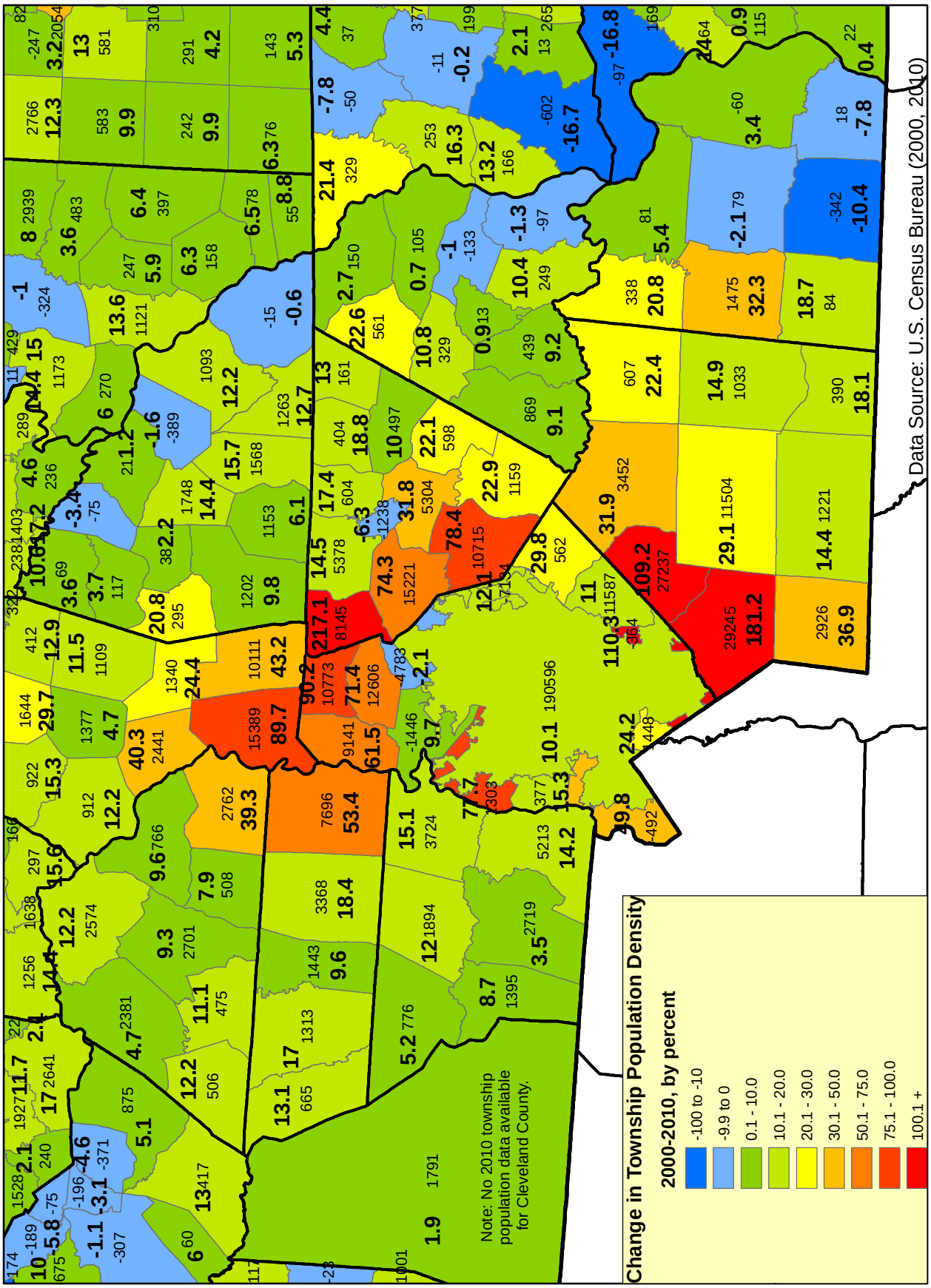
2000 & 2010 Census Population Data By Township And County

County Name	Federal ID Code	Township Names	2000		2010		Percent Change
			Township Population	County Population	Township Population	County Population	
Anson County				**25275**		**26948**	**6.6**
	3700790064	Ansonville township	1617		1698		5.0
	3700790452	Burnsville township	1604		1942		21.1
	3700791356	Gulledge township	2580		2238		*-13.3*
	3700791732	Lanesboro township	4540		6015		32.5
	3700791808	Lilesville township	3426		3366		*-1.8*
	3700792140	Morven township	2047		2065		0.9
	3700793876	Wadesboro township	9039		9118		0.9
	3700793996	White Store township	422		506		19.9
Cabarrus County				**131063**		**178011**	**35.8**
	3702593284	Township 1, Harrisburg	13709		24424		78.2
	3702593356	Township 2, Poplar Tent	20447		35668		74.4
	3702593380	Township 3, Odell	4203		12348		193.8
	3702593436	Township 4, Kannapolis	36694		42072		14.7
	3702593488	Township 5, New Gilead	3463		4067		17.4
	3702593532	Township 6, Rimertown	2232		2636		18.1
	3702593572	Township 7, Gold Hill	1270		1431		12.7
	3702593604	Township 8, Mount Pleasant	5110		5607		9.7
	3702593644	Township 9, Georgeville	2860		3458		20.9
	3702593688	Township 10, Midland	5082		6241		22.8
	3702593696	Township 11, Central Cabarrus	16633		21937		31.9
	3702593716	Township 12, Concord	19360		18122		*-6.4*
Cleveland County				**96287**		**98078**	**1.9**
	No township information available for 2010						
Gaston County				**190365**		**206086**	**8.3**
	3707190644	Cherryville township	15724		16500		4.9
	3707190844	Crowders Mountain township	14426		15821		9.7
	3707190872	Dallas township	19542		21436		9.7
	3707191216	Gastonia township	82530		85249		3.3
	3707192692	Riverbend township	22872		26596		16.3
	3707193048	South Point township	35271		40484		14.8
Iredell County				**122660**		**159437**	**30.0**
	3709790160	Barringer township	5193		6533		25.8
	3709790240	Bethany township	5633		7277		29.2
	3709790616	Chambersburg township	10235		11344		10.8
	3709790708	Coddle Creek township	22488		32599		45.0
	3709790744	Concord township	6077		6999		15.2
	3709790770	Cool Springs township	3500		3912		11.8
	3709790884	Davidson township	17397		32786		88.5
	3709790944	Eagle Mills township	1856		1912		3.0
	3709791076	Fallstown township	6295		8736		38.8
	3709792244	New Hope township	1460		1662		13.8
	3709792400	Olin township	1574		1840		16.9
	3709792912	Sharpesburg township	2449		2622		7.1
	3709792924	Shiloh township	7793		8705		11.7
	3709793104	Statesville township	25083		26460		5.5
	3709793788	Turnersburg township	3558		3880		9.1
	3709793824	Union Grove township	2069		2170		4.9
Lincoln County				**63780**		**78265**	**22.7**
	3710990560	Catawba Springs township	14852		22548		51.8
	3710991552	Howards Creek township	7675		8988		17.1
	3710991596	Ironton township	17376		20744		19.4
	3710991824	Lincolnton township	18702		20145		7.7
	3710992300	North Brook township	5175		5840		12.9
Mecklenburg County				**695454**		**919628**	**32.2**
	3711993268	Township 1, Charlotte	540828		731424		35.2
	3711993320	Township 2, Berryhill	3435		3812		11.0
	3711993392	Township 3, Steel Creek	9323		8831		*-5.3*
	3711993492	Township 5, Providence	10939		10575		*-3.3*
	3711993516	Township 6, Clear Creek	20861		21423		2.7
	3711993564	Township 7, Crab Orchard	12003		4869		*-59.4*
	3711993600	Township 8, Mallard Creek	8871		4088		*-53.9*
	3711993636	Township 9, Deweese	11159		21932		96.5
	3711993668	Township 10, Lemley	15660		24801		58.4
	3711993700	Township 11, Long Creek	12650		11204		*-11.4*
	3711993720	Township 12, Paw Creek	5260		6563		24.8
	3711993736	Township 13, Morning Star	22063		33650		52.5
	3711993740	Township 14, Pineville	6031		7479		24.0
	3711993748	Township 15, Huntersville	16371		28977		77.0

2000 & 2010 Census Population Data By Township And County

County Name	Federal ID Code	Township Names	2000		2010		Percent Change
			Township Population	County Population	Township Population	County Population	
Rowan County				**130340**		**138428**	**6.2**
	3715990100	Atwell township	11226		12428		10.7
	3715990660	China Grove township	23348		24501		4.9
	3715990692	Cleveland township	2700		2817		4.3
	3715991160	Franklin township	12301		12322		0.2
	3715991256	Gold Hill township	10015		11278		12.6
	3715991840	Litaker township	10299		11867		15.2
	3715991880	Locke township	12401		14149		14.1
	3715992128	Morgan township	3439		3424		*-0.4*
	3715992172	Mount Ulla township	1397		1692		21.1
	3715992584	Providence township	8892		9985		12.3
	3715992812	Salisbury township	28594		28205		*-1.4*
	3715992860	Scotch Irish township	1751		1820		3.9
	3715993112	Steele township	1687		1725		2.3
	3715993828	Unity township	2290		2215		*-3.3*
Stanly County				**58100**		**60585**	**4.3**
	3716790048	Almond township	2997		3326		11.0
	3716790264	Big Lick township	4686		5125		9.4
	3716790596	Center township	5954		5857		*-1.6*
	3716791032	Endy township	1931		1944		0.7
	3716791196	Furr township	9046		9915		9.6
	3716791416	Harris township	6330		6480		2.4
	3716792296	North Albemarle township	13941		14046		0.8
	3716792680	Ridenhour township	2468		3029		22.7
	3716793028	South Albemarle township	8358		8225		*-1.6*
	3716793800	Tyson township	2389		2638		10.4
Union County				**123677**		**201292**	**62.8**
	3717990432	Buford township	9102		10323		13.4
	3717991264	Goose Creek township	11321		14773		30.5
	3717991624	Jackson township	8086		11012		36.2
	3717991736	Lanes Creek township	2260		2650		17.3
	3717992004	Marshville township	7490		8523		13.8
	3717992108	Monroe township	40806		52310		28.2
	3717992280	New Salem township	2925		3532		20.8
	3717992836	Sandy Ridge township	16427		45672		178.0
	3717993860	Vance township	25260		52497		107.8


Legend
Metrolina Township Density (2010)
People per sqaure mile
0 - 50
51 - 100
101 - 250
251 - 500
501 - 1000
1001 - 2000
2001 +
Note: No 2010 township population data available for Cleveland County.
Data Source: U.S. Census Bureau (2010)


Change in Township Population Density
2000-2010, by percent
-100 to -10
-9.9 to 0
0.1 - 10.0
10.1 - 20.0
20.1 - 30.0
30.1 - 50.0
50.1 - 75.0
75.1 - 100.0
100.1 +
Note: No 2010 township population data available for Cleveland County.
Data Source: U.S. Census Bureau (2000, 2010)

Appendix H

Vehicle Miles Traveled, Commuting Data, and Traffic Patterns for the Charlotte-Gastonia-Salisbury, North Carolina CSA

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Travel Demand Model (TDM) Runs for the Charlotte-Gastonia-Salisbury Area

County	2010	2015	2025
Cabarrus	5690	6514	8140
Gaston	6663	7479	9148
Iredell (partial)	3007	3393	4068
Lincoln	2315	2680	3418
Mecklenburg	32386	35935	42310
Rowan	5262	5717	6943
Union	5293	6481	8712

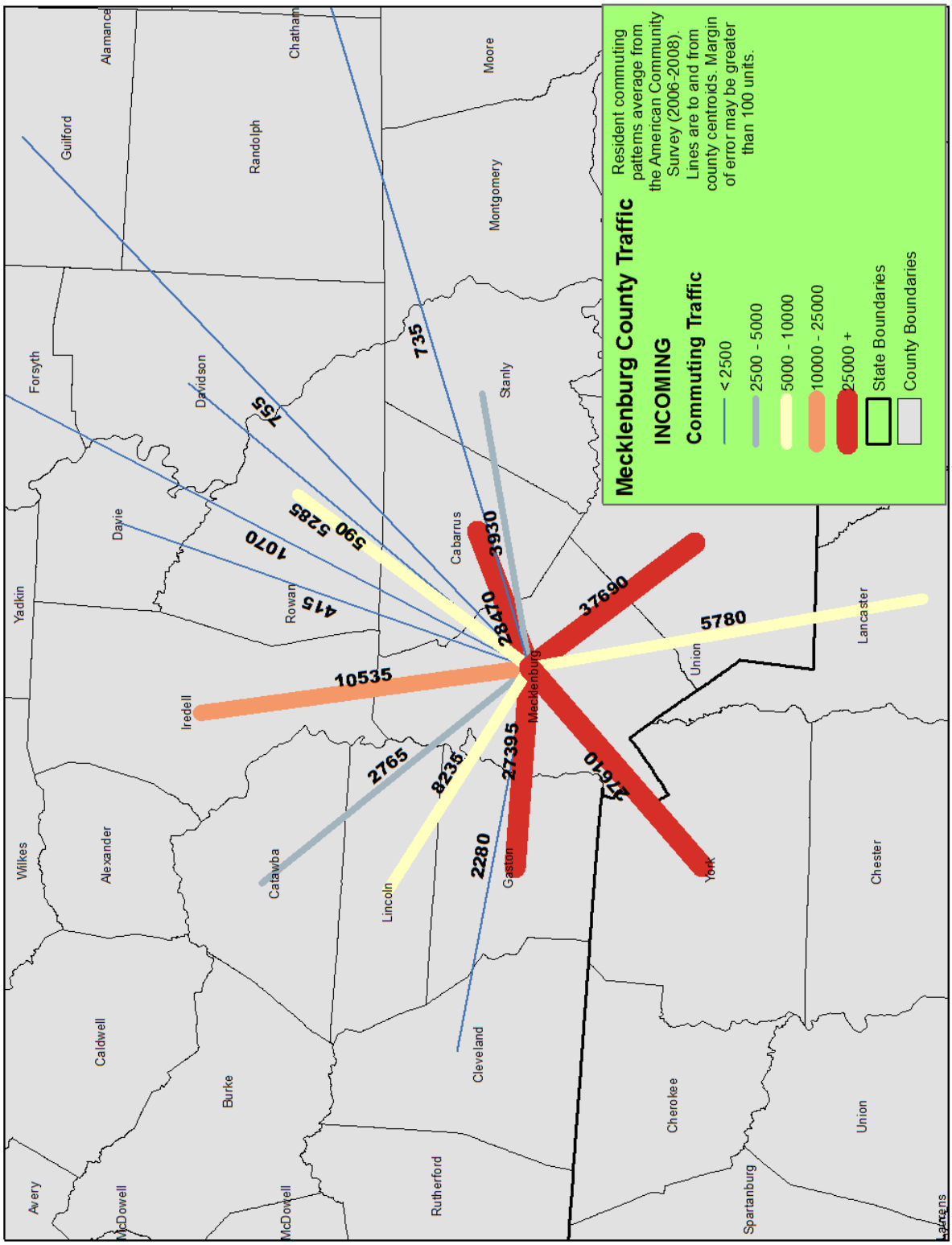
*Total miles per 1000 cars

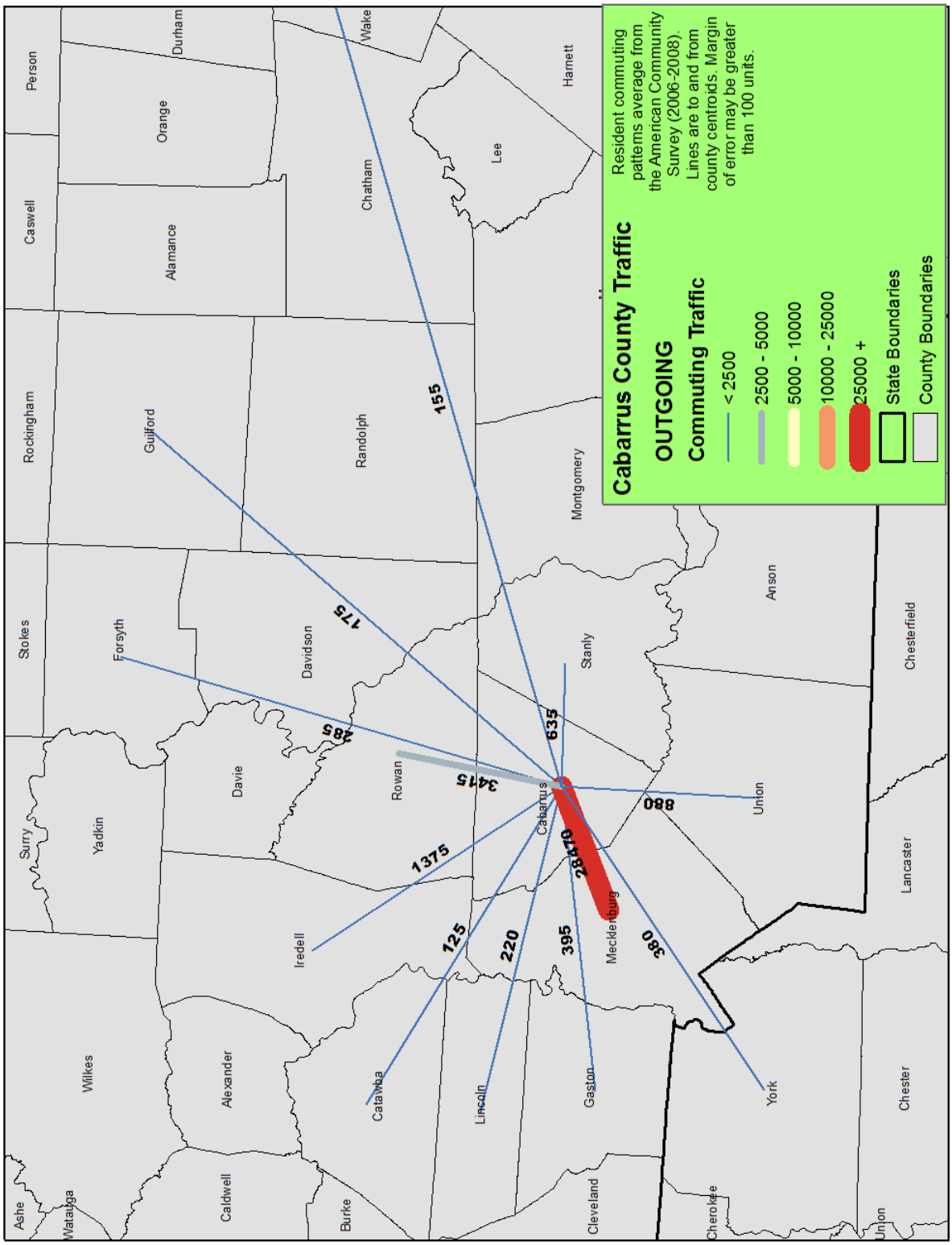
Highway Performance Monitoring System (HPMS) Runs for the Charlotte-Gastonia-Salisbury Area

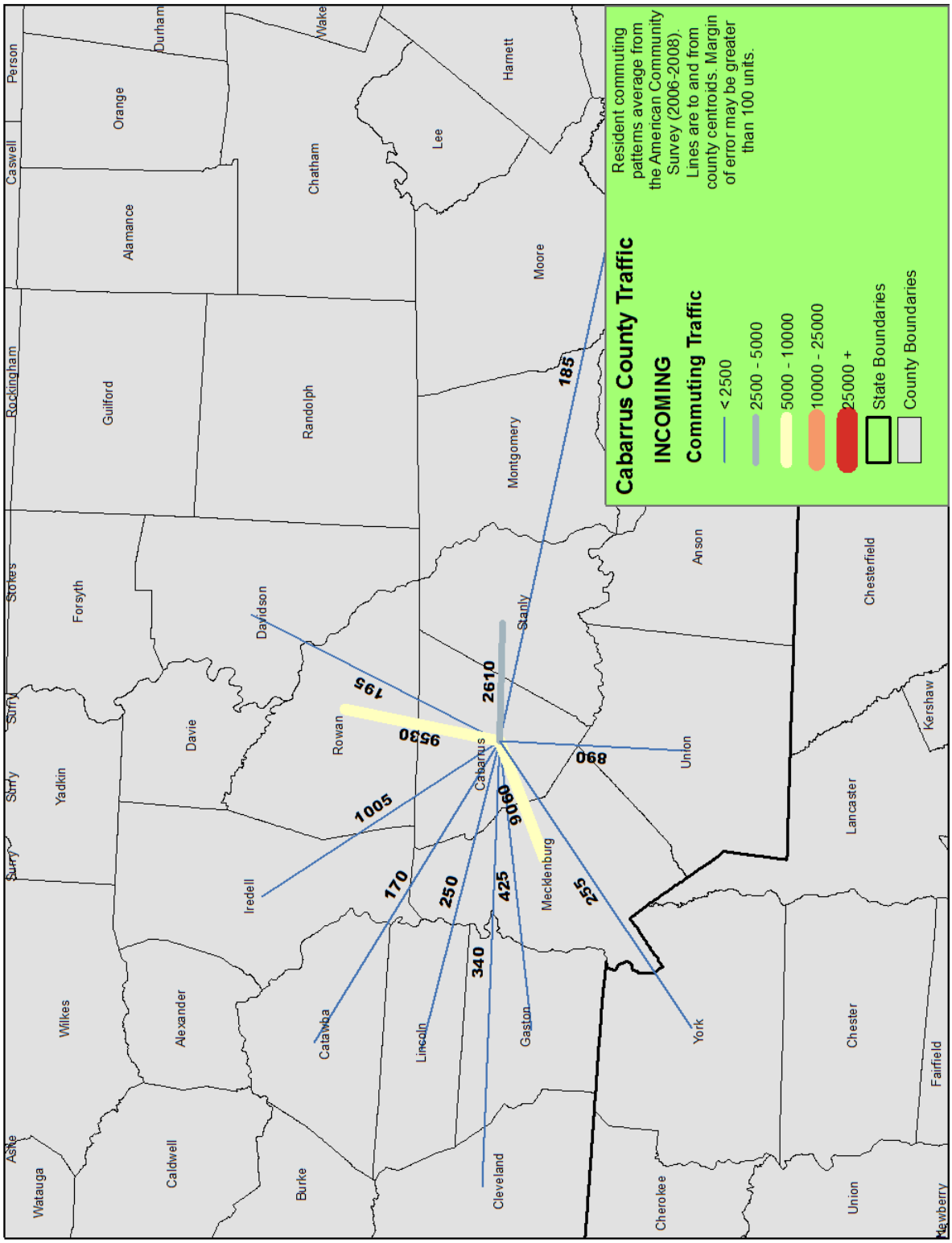
County	2010	2020
Anson	796	944
Cleveland	2678	3088
Iredell (whole)	5718	6237
Stanley	1331	1496

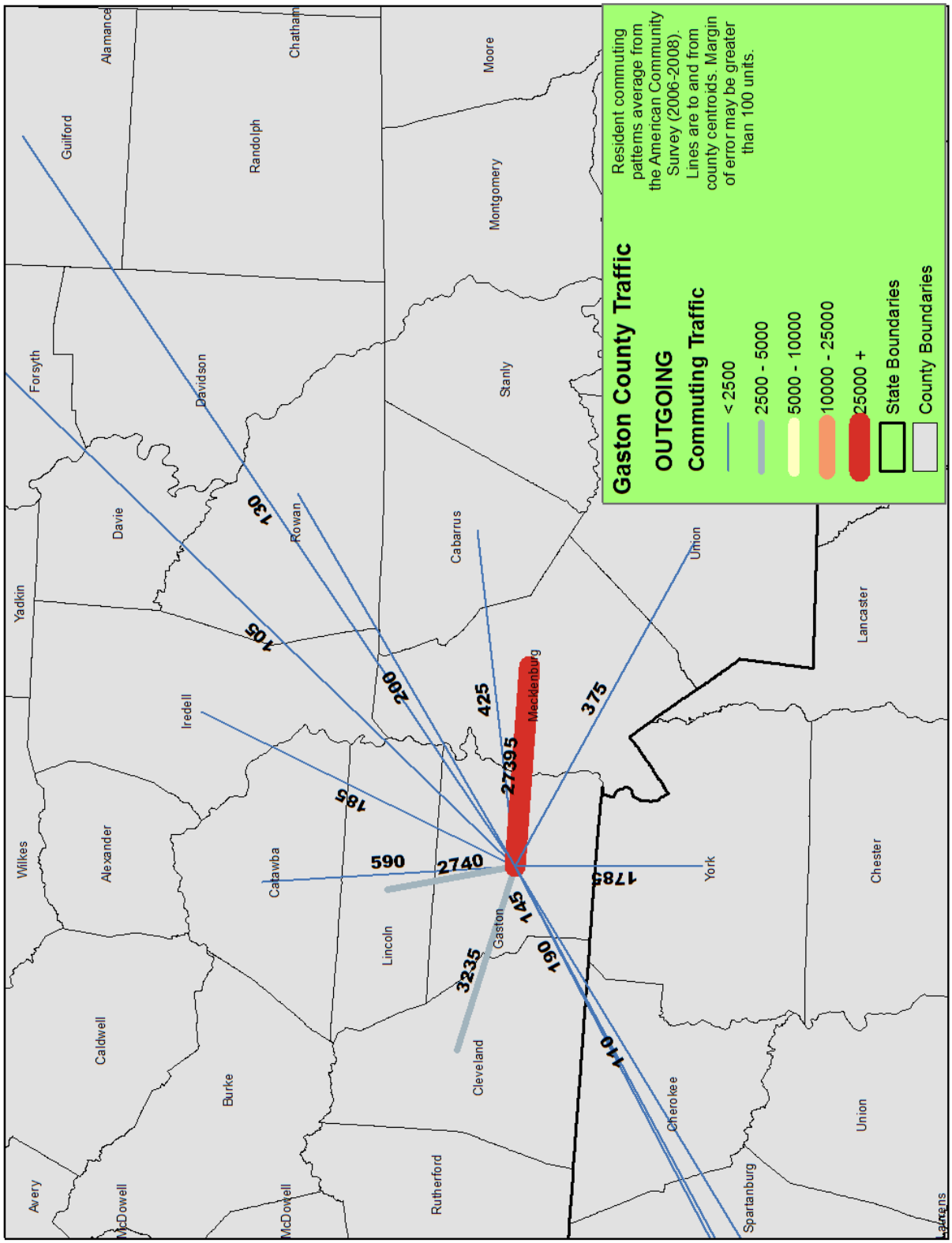
*Total miles per 1000 cars

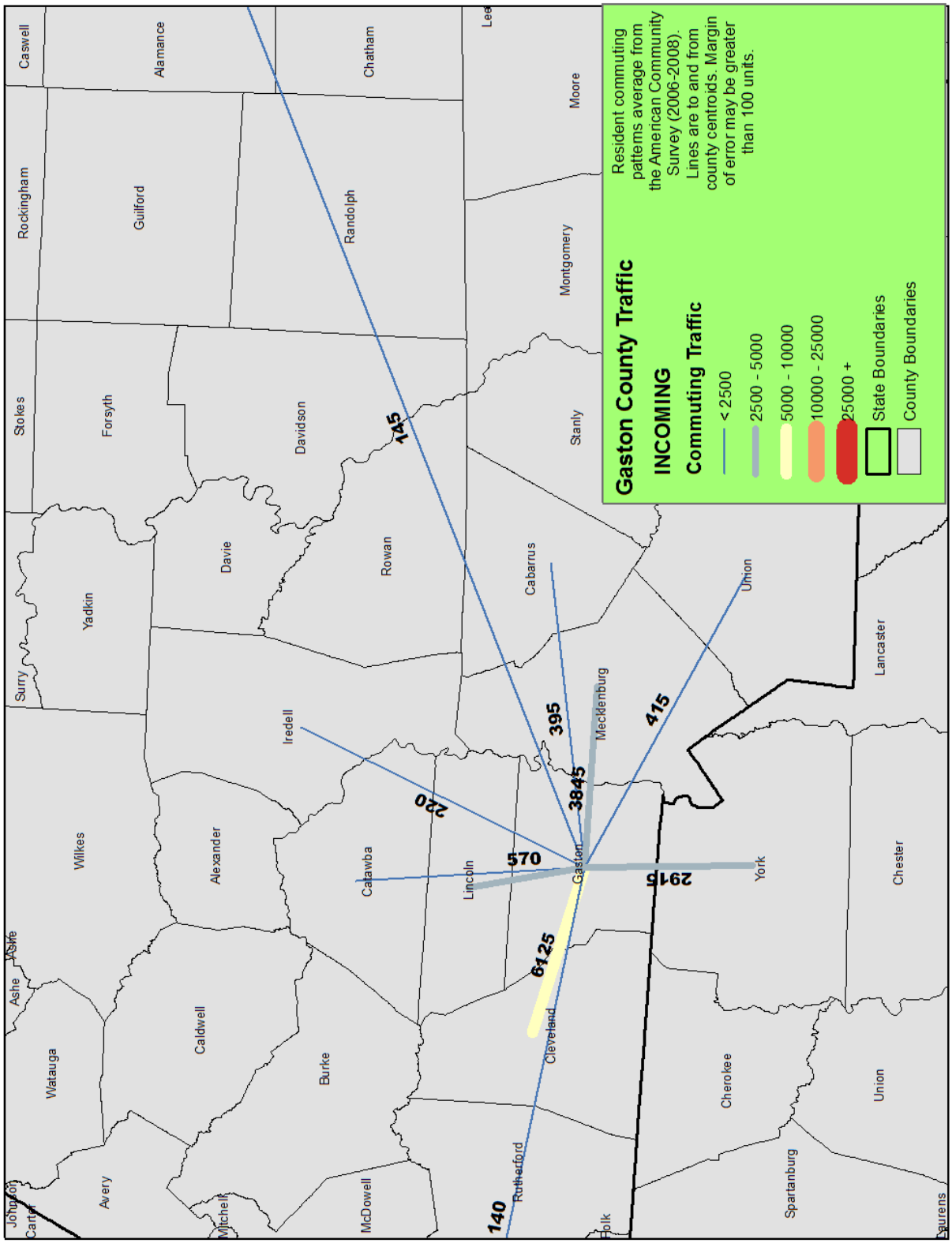
Commuting Data from the 2006-2008 US Census American Community Survey

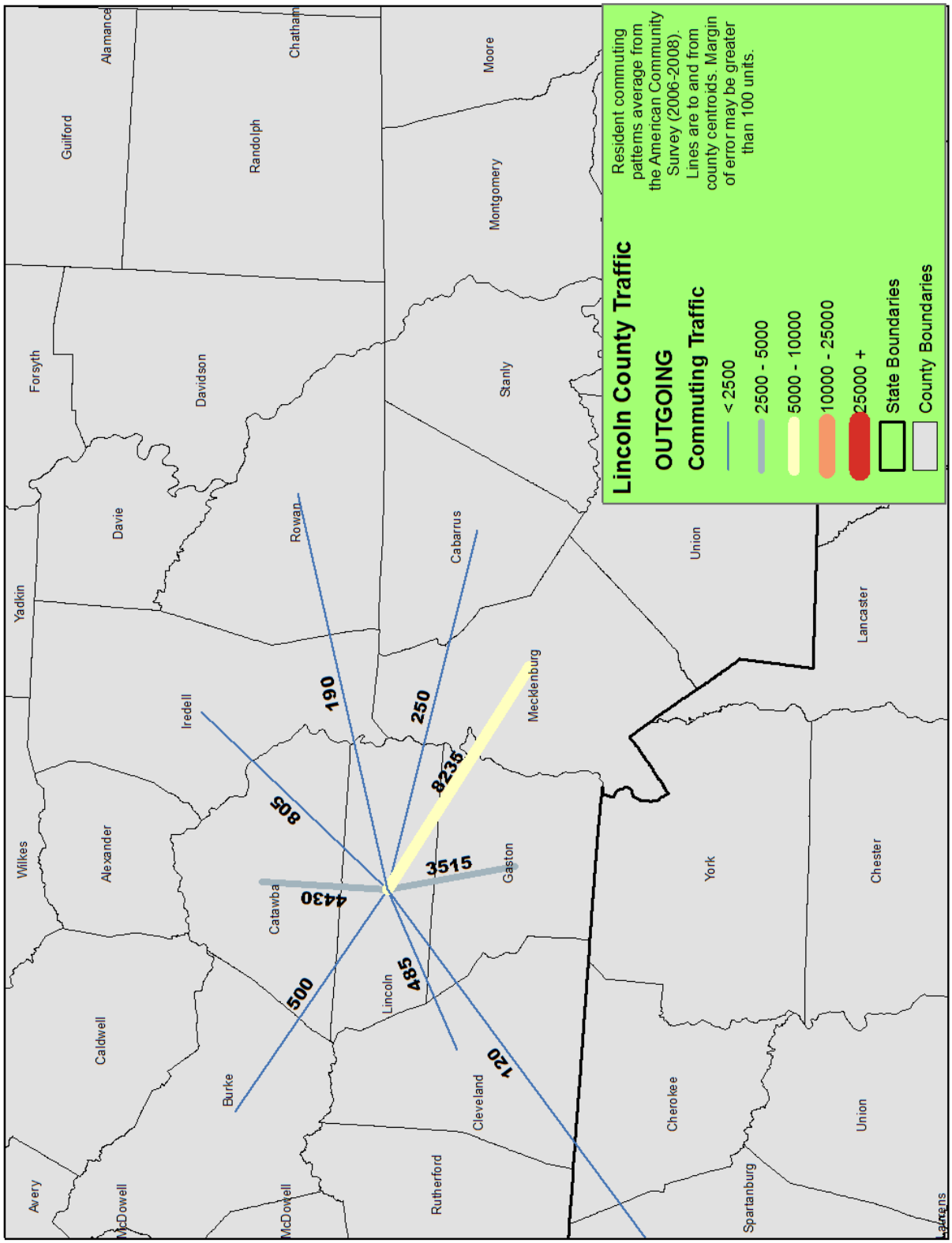

Mecklenburg County Traffic
INCOMING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
735
755
590
5285
1070
415
28470
3930
37690
5780
10535
2765
8235
27395
2280
21610
Alamance
Chatham
Guilford
Randolph
Moore
Montgomery
Forsyth
Davidson
Stanly
Davie
Cabarrus
Yadkin
Rowan
Union
Lancaster
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Caldwell
Burke
Cleveland
Cherokee
Union
Avery
McDowell
Rutherford
Spartanburg

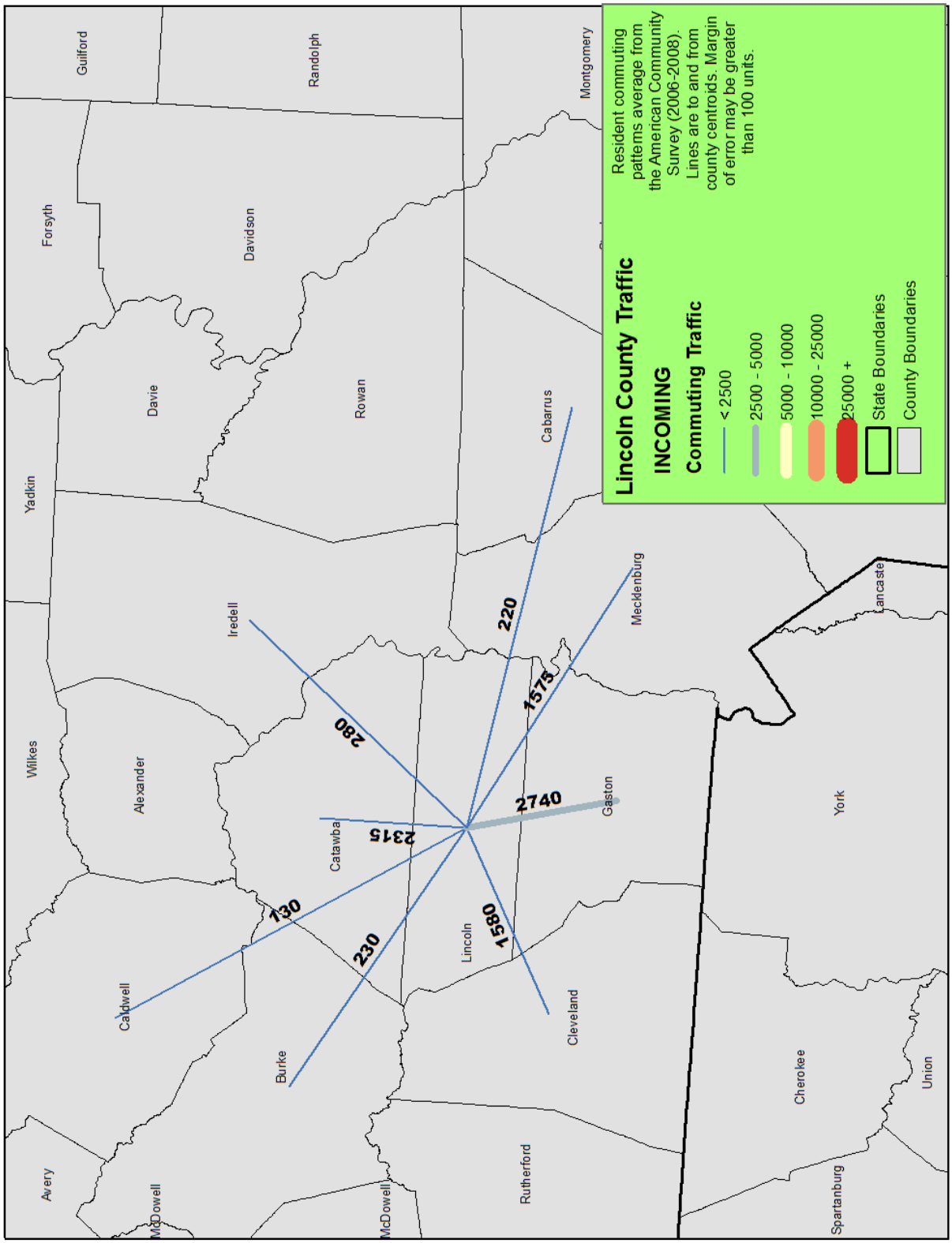

Cabarrus County Traffic
OUTGOING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
155
175
485
3415
635
880
28470
1375
125
220
395
380
Person
Durham
Wake
Caswell
Orange
Chatham
Lee
Harnett
Alamance
Rockingham
Guilford
Randolph
Montgomery
Stokes
Forsyth
Davidson
Stanly
Anson
Chesterfield
Surry
Yadkin
Davie
Rowan
Cabarrus
Union
Lancaster
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Ashe
Watauga
Caldwell
Burke
Cleveland
Cherokee
Union

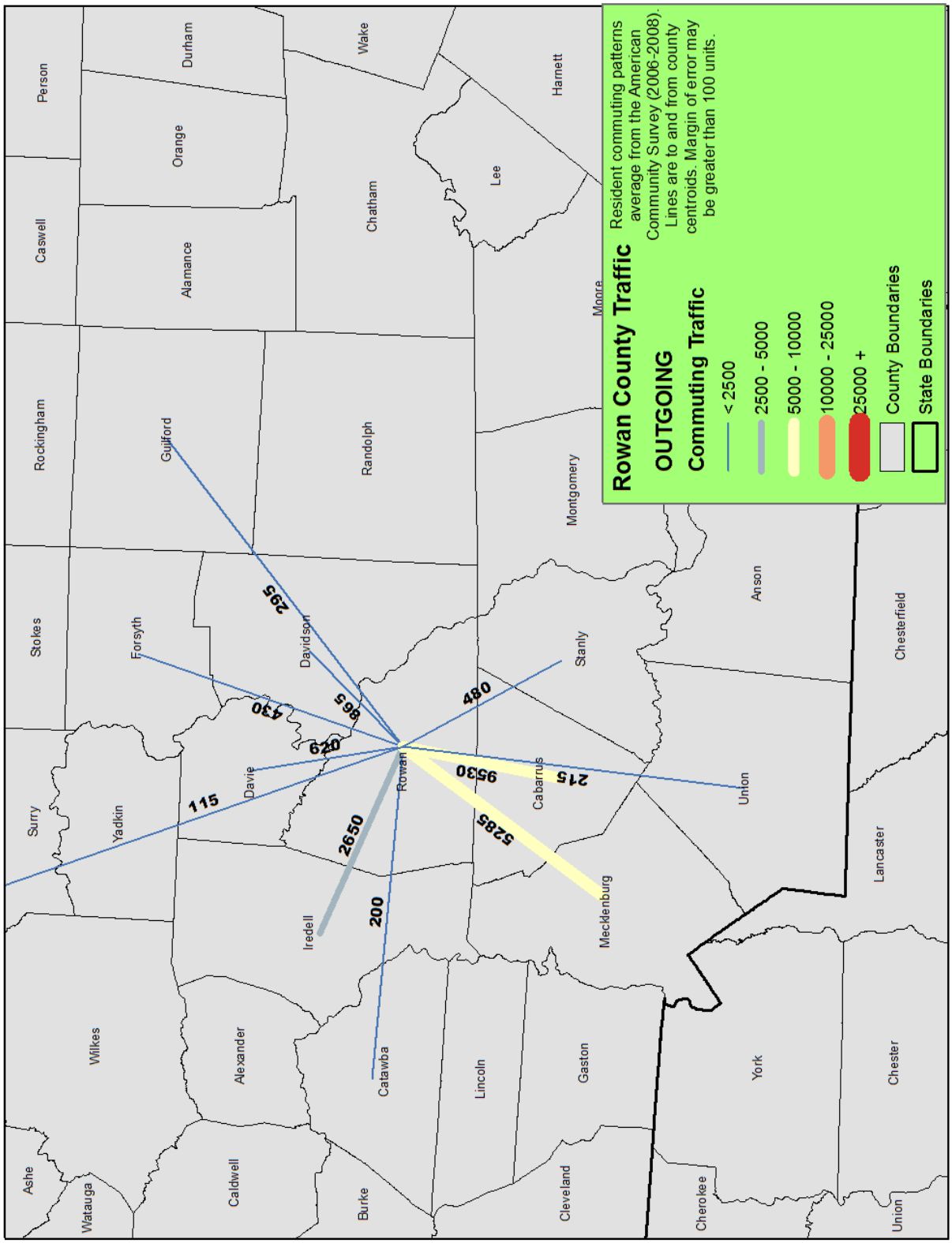

Cabarrus County Traffic
INCOMING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
2610
9530
9060
1005
890
425
340
250
195
185
170
255
Cabarrus
Rowan
Mecklenburg
Iredell
Davidson
Stanly
Union
Montgomery
Moore
Randolph
Guilford
Rockingham
Forsyth
Stokes
Surry
Yadkin
Davie
Alamance
Orange
Person
Caswell
Durham
Wake
Chatham
Lee
Harnett
Anson
Chesterfield
Kershaw
Lancaster
Chester
Fairfield
Union
Newberry
York
Gaston
Lincoln
Cleveland
Catawba
Alexander
Wilkes
Ashe
Watauga
Caldwell
Burke
Cherokee

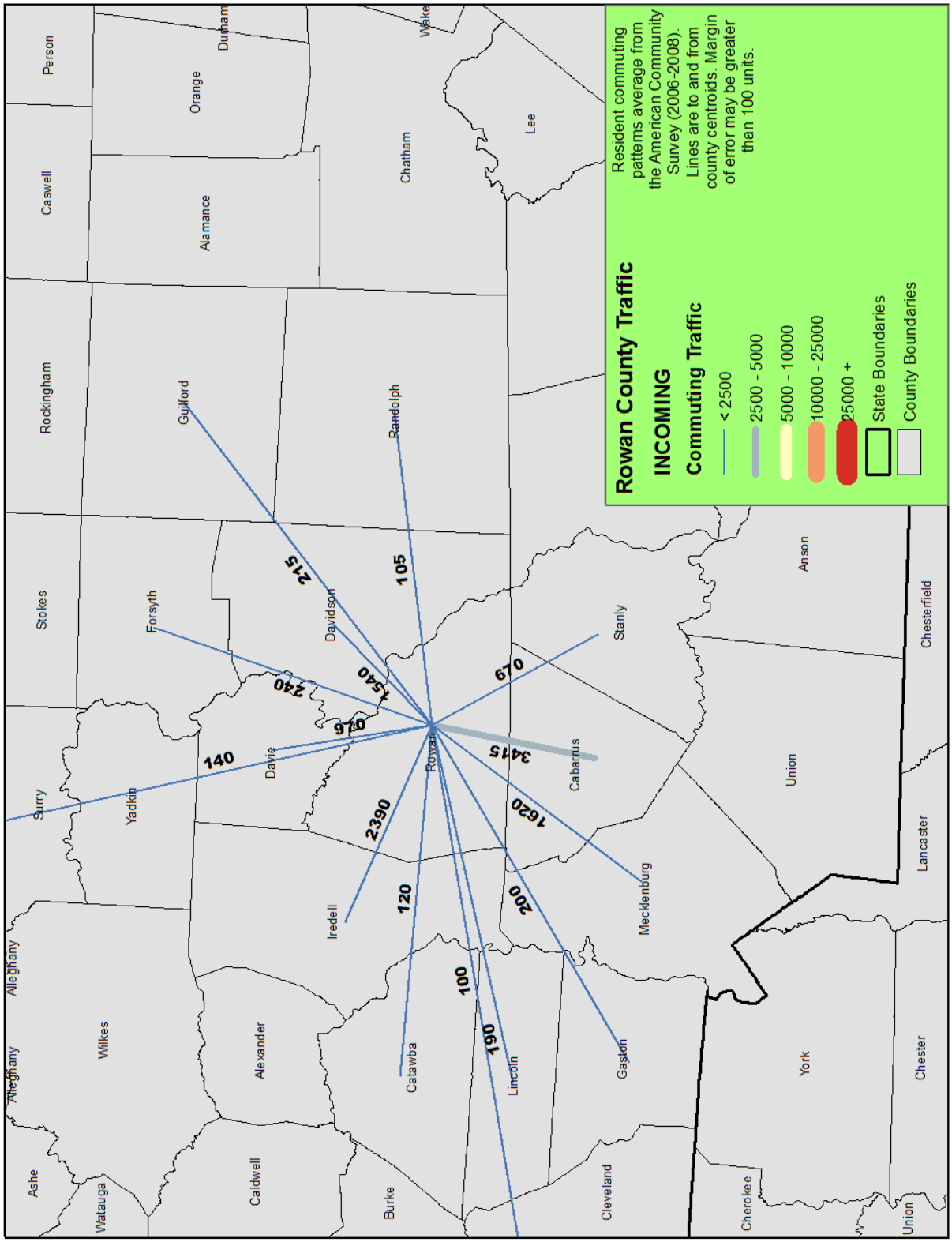

Gaston County Traffic
OUTGOING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
Alamance
Guilford
Randolph
Chatham
Moore
Montgomery
Stanly
Forsyth
Davidson
Davie
Yadkin
Rowan
Cabarrus
Union
Lancaster
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Caldwell
Burke
Cleveland
Cherokee
Union
Avery
McDowell
McDowell
Rutherford
Spartanburg
Laurens
130
105
200
425
27395
375
185
590
2740
1785
145
190
3235
110

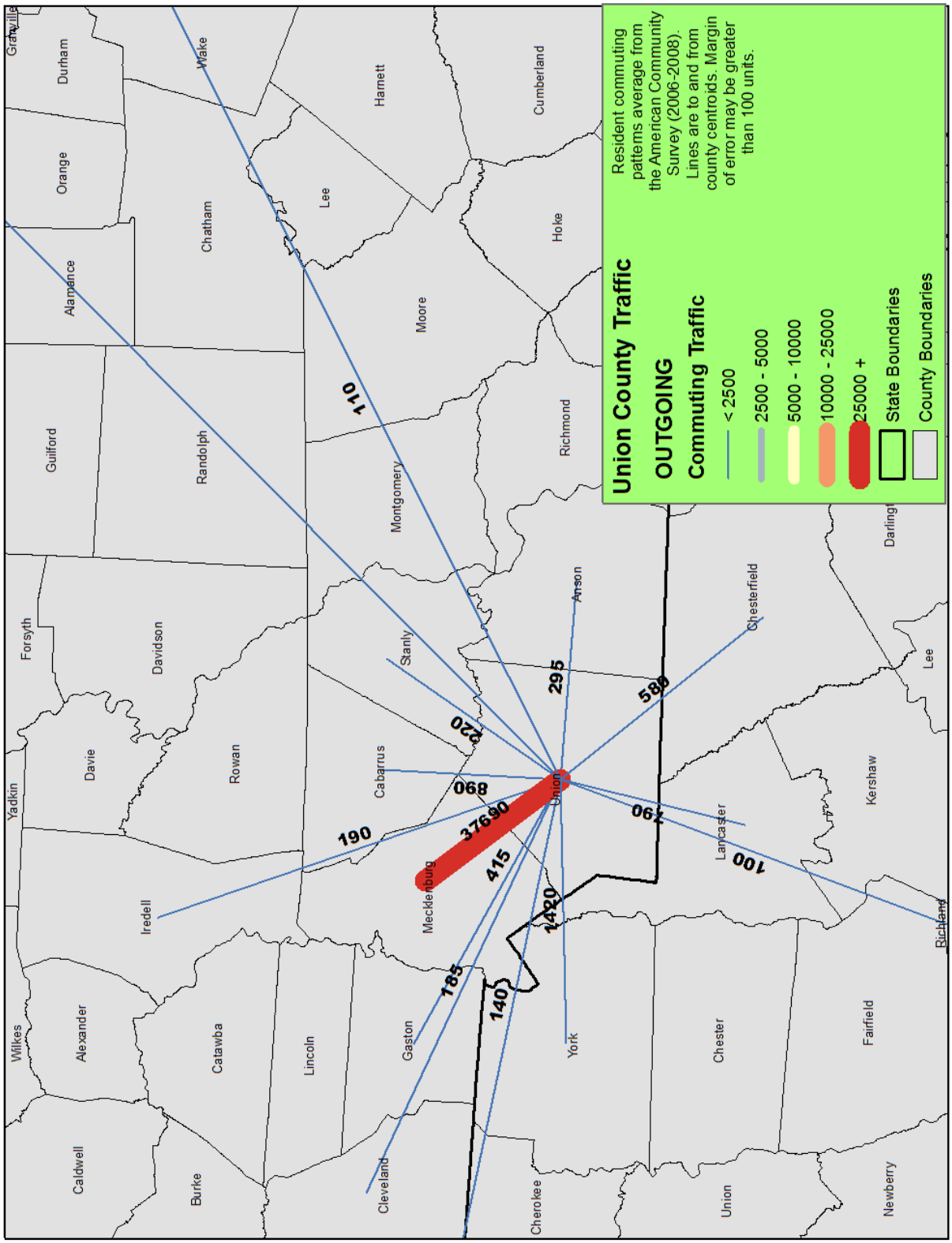

Gaston County Traffic
INCOMING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
145
395
415
3845
220
570
2915
6125
140
Caswell
Alamance
Chatham
Rockingham
Guilford
Randolph
Moore
Stokes
Forsyth
Davidson
Montgomery
Stanly
Surry
Yadkin
Davie
Rowan
Cabarrus
Union
Lancaster
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Ashe
Watauga
Caldwell
Burke
Cleveland
Cherokee
Union
Avery
McDowell
Rutherford
Spartanburg
Polk
Laurens

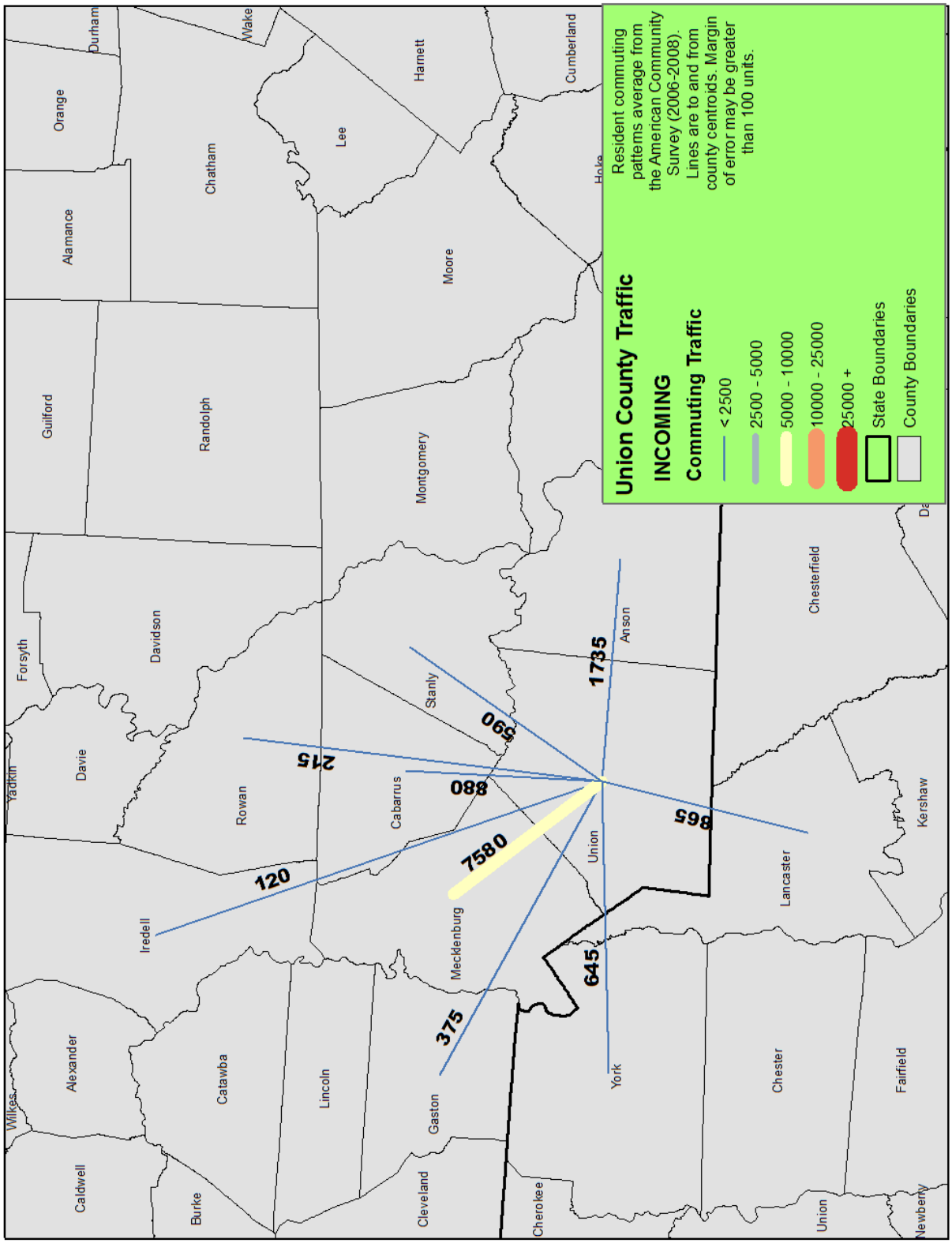

Lincoln County Traffic
OUTGOING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
190
250
8235
805
3515
4430
500
485
120
Alamance
Guilford
Randolph
Chatham
Moore
Montgomery
Forsyth
Davidson
Stanly
Yadkin
Davie
Rowan
Cabarrus
Union
Lancaster
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Gaston
York
Chester
Caldwell
Burke
Lincoln
Cleveland
Cherokee
Union
Avery
McDowell
McDowell
Rutherford
Spartanburg
Laurens

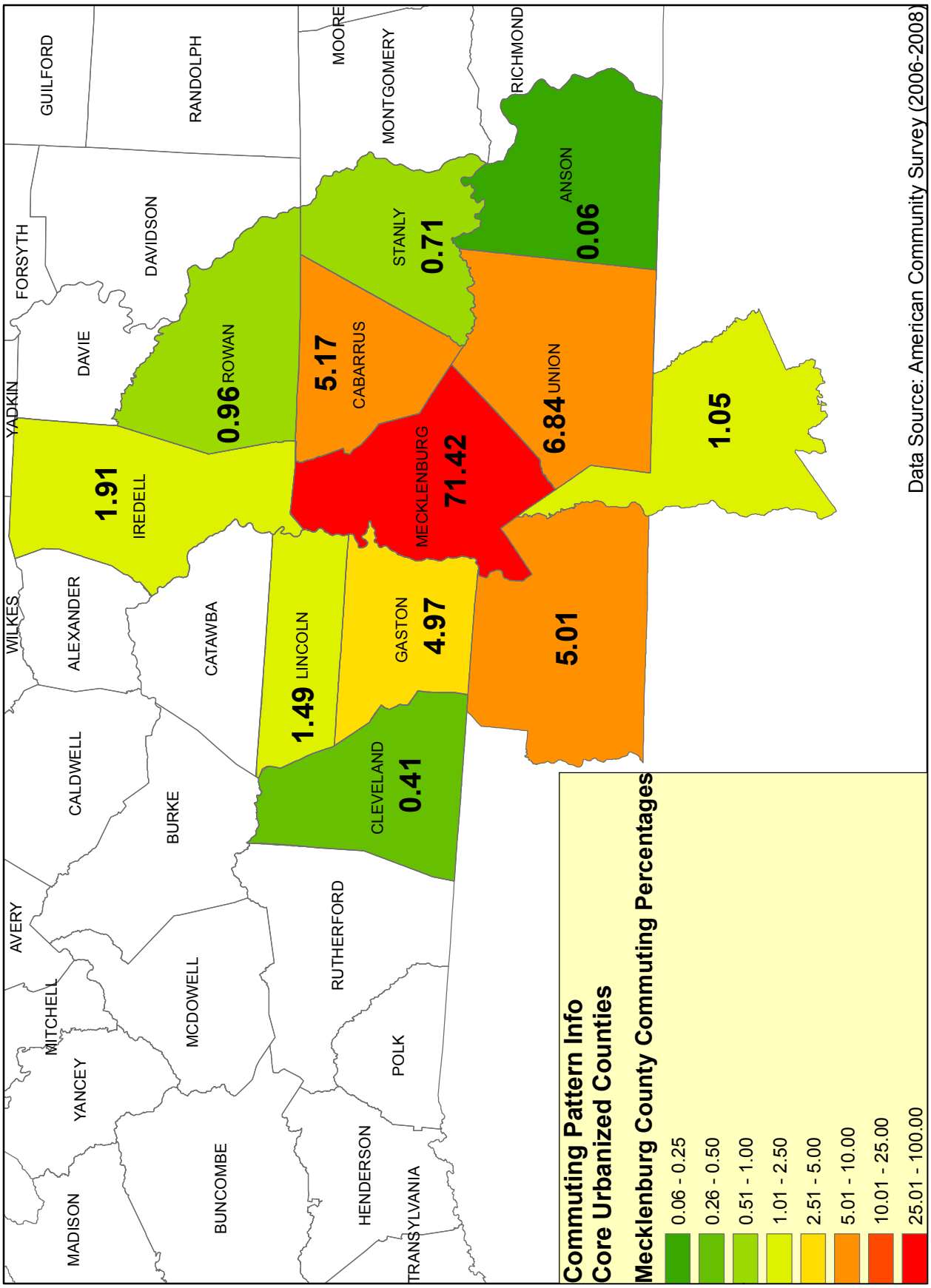

Lincoln County Traffic
INCOMING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
220
1575
280
2740
2315
130
230
1580
Guilford
Randolph
Montgomery
Forsyth
Davidson
Davie
Rowan
Cabarrus
Yadkin
Iredell
Mecklenburg
Lancaster
Wilkes
Alexander
Catawba
Gaston
York
Caldwell
Burke
Lincoln
Cleveland
Avery
McDowell
Rutherford
Cherokee
Union
Spartanburg


Rowan County Traffic
OUTGOING
Commuting Traffic
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
County Boundaries
State Boundaries
295
865
430
620
480
115
2650
200
9530
5285
215
Person
Durham
Wake
Harnett
Orange
Caswell
Alamance
Chatham
Lee
Moore
Rockingham
Guilford
Randolph
Montgomery
Stokes
Forsyth
Davidson
Stanly
Anson
Chesterfield
Surry
Yadkin
Davie
Rowan
Cabarrus
Union
Lancaster
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Ashe
Watauga
Caldwell
Burke
Cleveland
Cherokee
Union


Rowan County Traffic
INCOMING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
Person
Durham
Wake
Orange
Caswell
Alamance
Chatham
Lee
Rockingham
Guilford
Randolph
Stokes
Forsyth
Davidson
Stanly
Anson
Chesterfield
Surry
Yadkin
Davie
Rowan
Cabarrus
Union
Lancaster
Iredell
Mecklenburg
Alleghany
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Ashe
Watauga
Caldwell
Burke
Cleveland
Cherokee
Union
215
105
1540
240
670
140
3415
2390
1620
120
200
100
190


Union County Traffic
OUTGOING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
37690
1420
890
710
589
415
295
220
190
185
140
790
100
Granville
Durham
Wake
Orange
Chatham
Lee
Harnett
Cumberland
Hoke
Alamance
Moore
Guilford
Randolph
Richmond
Montgomery
Forsyth
Davidson
Stanly
Anson
Chesterfield
Yadkin
Davie
Rowan
Cabarrus
Union
Lancaster
Kershaw
Iredell
Mecklenburg
Wilkes
Alexander
Catawba
Lincoln
Gaston
York
Chester
Fairfield
Caldwell
Burke
Cleveland
Cherokee
Union
Newberry


Union County Traffic
INCOMING
Commuting Traffic
< 2500
2500 - 5000
5000 - 10000
10000 - 25000
25000 +
State Boundaries
County Boundaries
Resident commuting patterns average from the American Community Survey (2006-2008). Lines are to and from county centroids. Margin of error may be greater than 100 units.
1735
590
215
880
865
7580
120
645
375
Durham
Wake
Orange
Chatham
Lee
Harnett
Cumberland
Alamance
Moore
Guilford
Randolph
Montgomery
Forsyth
Davidson
Stanly
Anson
Chesterfield
Yadkin
Davie
Rowan
Cabarrus
Union
Kershaw
Lancaster
Iredell
Mecklenburg
Alexander
Catawba
Lincoln
Gaston
York
Chester
Fairfield
Wilkes
Caldwell
Burke
Cleveland
Cherokee
Union
Newberry


GUILFORD
RANDOLPH
MOORE
MONTGOMERY
RICHMOND
FORSYTH
DAVIDSON
STANLY
0.71
ANSON
0.06
YADKIN
DAVIE
ROWAN
0.96
CABARRUS
5.17
UNION
6.84
1.05
IREDELL
1.91
MECKLENBURG
71.42
WILKES
ALEXANDER
CATAWBA
LINCOLN
1.49
GASTON
4.97
5.01
CLEVELAND
0.41
CALDWELL
BURKE
AVERY
MITCHELL
YANCEY
MCDOWELL
RUTHERFORD
POLK
MADISON
BUNCOMBE
HENDERSON
TRANSYLVANIA
Data Source: American Community Survey (2006-2008)
Commuting Pattern Info
Core Urbanized Counties
Mecklenburg County Commuting Percentages
0.06 - 0.25
0.26 - 0.50
0.51 - 1.00
1.01 - 2.50
2.51 - 5.00
5.01 - 10.00
10.01 - 25.00
25.01 - 100.00

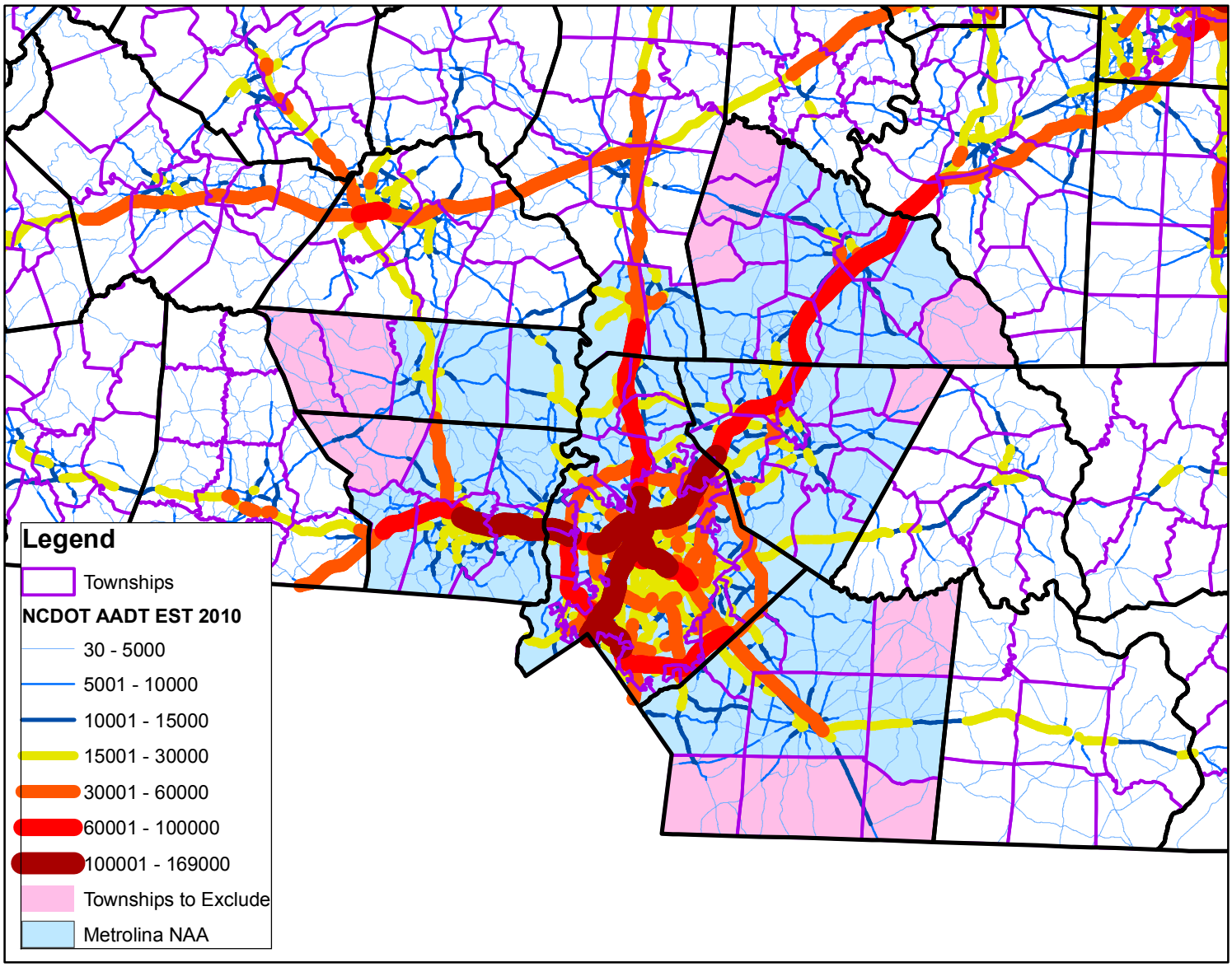
Township Commuting Estimates from the Travel Demand Model

County	Township	Estimated Trips to Mecklenburg County	% of County Total	% of CSA total
Cabarrus	Gold Hill	85.9	0.30%	0.02%
Gaston	Cherryville	807.3	2.95%	0.16%
Lincoln	Howards Creek	177.8	2.16%	0.03%
Lincoln	North Brook	53.4	0.65%	0.01%
Rowan	Morgan	39.4	0.75%	0.01%
Rowan	Mount Ulla	53.5	1.01%	0.01%
Rowan	Scotch Irish	6.4	0.12%	0.00%
Union	Buford	896.3	2.38%	0.18%
Union	Jackson	1563.2	4.15%	0.31%
Union	Lanes Creek	57.0	0.15%	0.01%
Union	New Salem	398.8	1.06%	0.08%

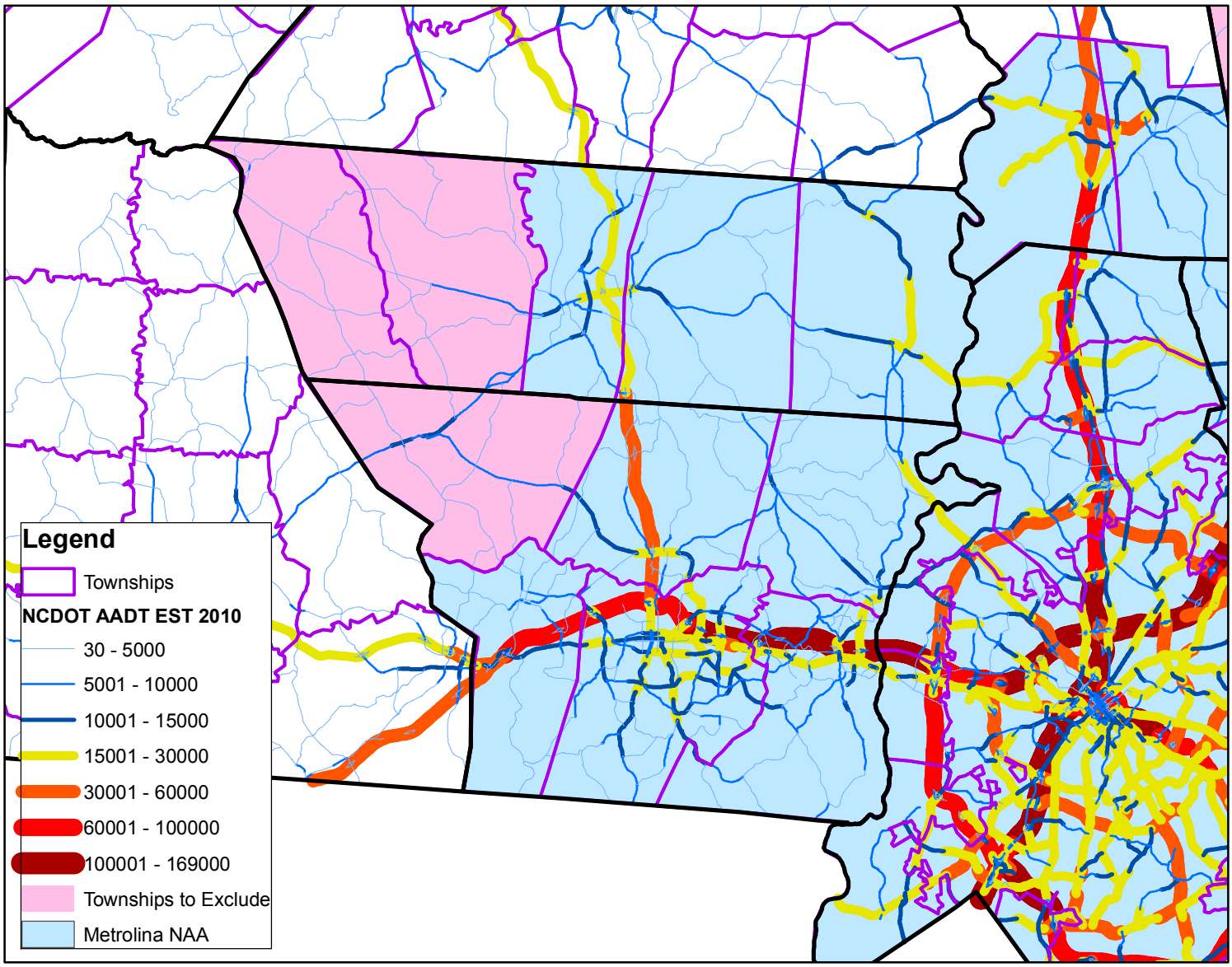
2010 Average Annual Daily Traffic (AADT) Count Maps

Source: NCDOT
http://www.ncdot.org/doh/preconstruct/tpb/traffic_survey/

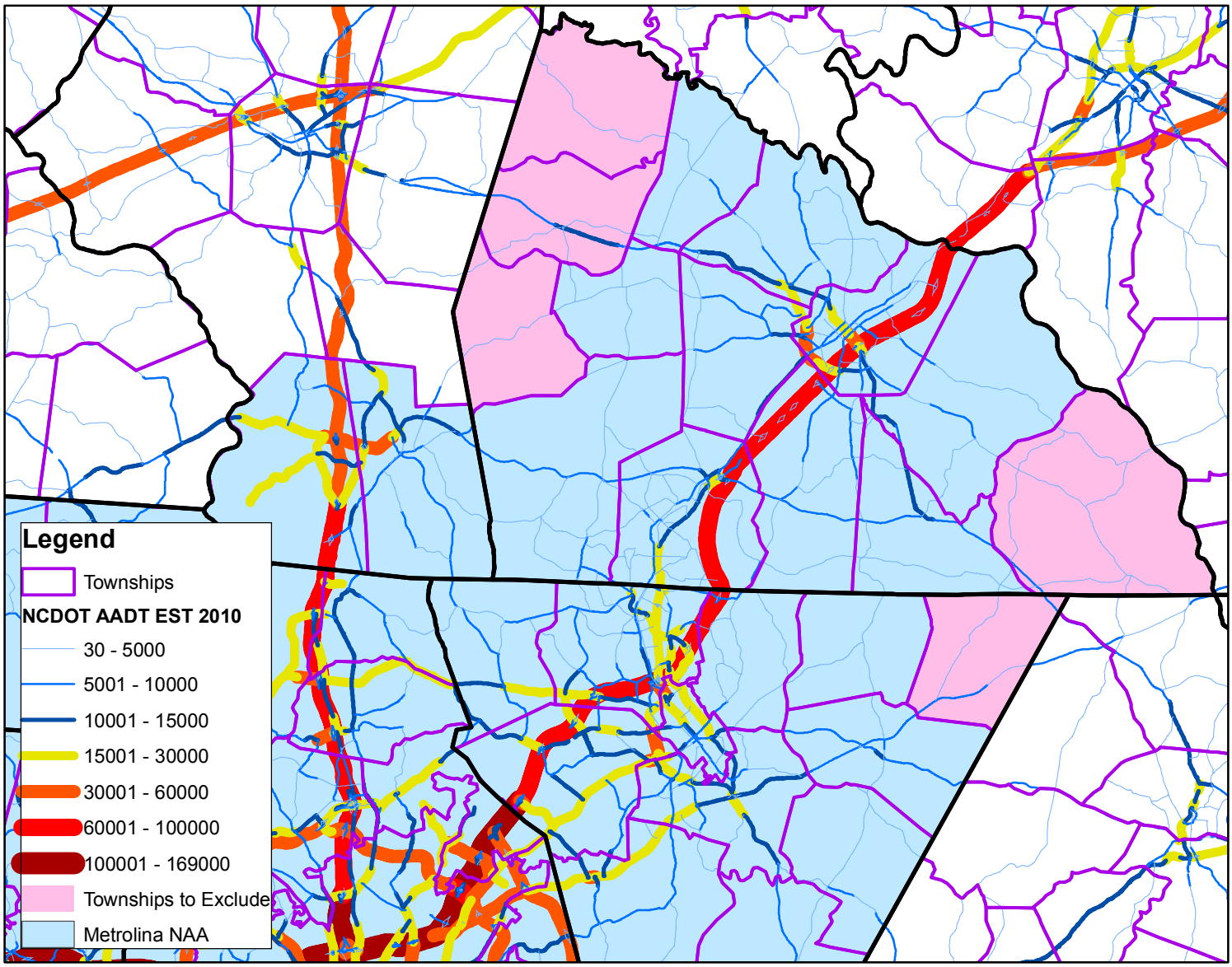
Metrolina Estimated Average Annual Daily Traffic 2010



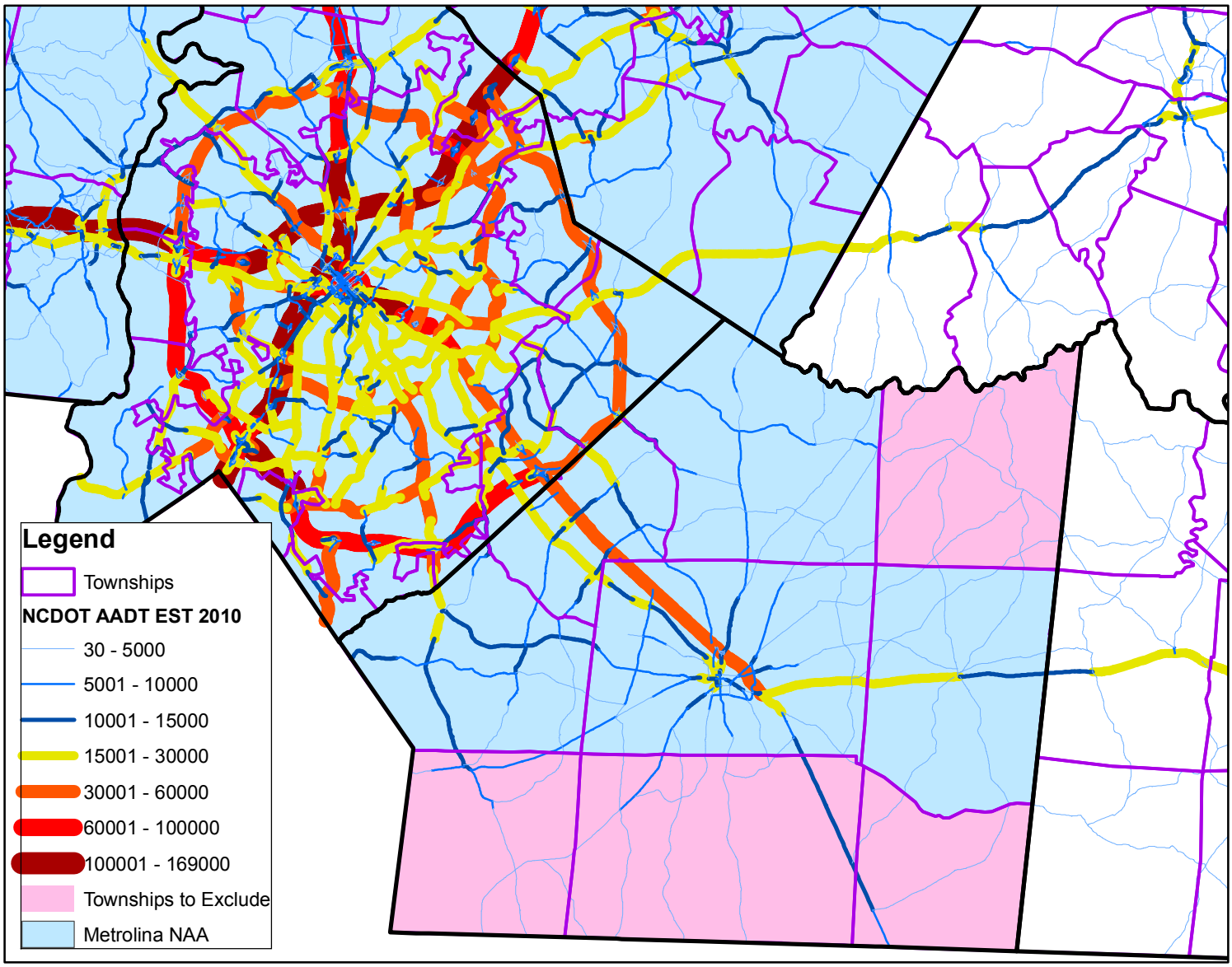
Metrolina Estimated Average Annual Daily Traffic 2010



Metrolina Estimated Average Annual Daily Traffic 2010



Metrolina Estimated Average Annual Daily Traffic 2010



Appendix I

Backward Wind Trajectories and Wind Roses at the Charlotte-Gastonia-Salisbury Area Monitors on High Ozone Days

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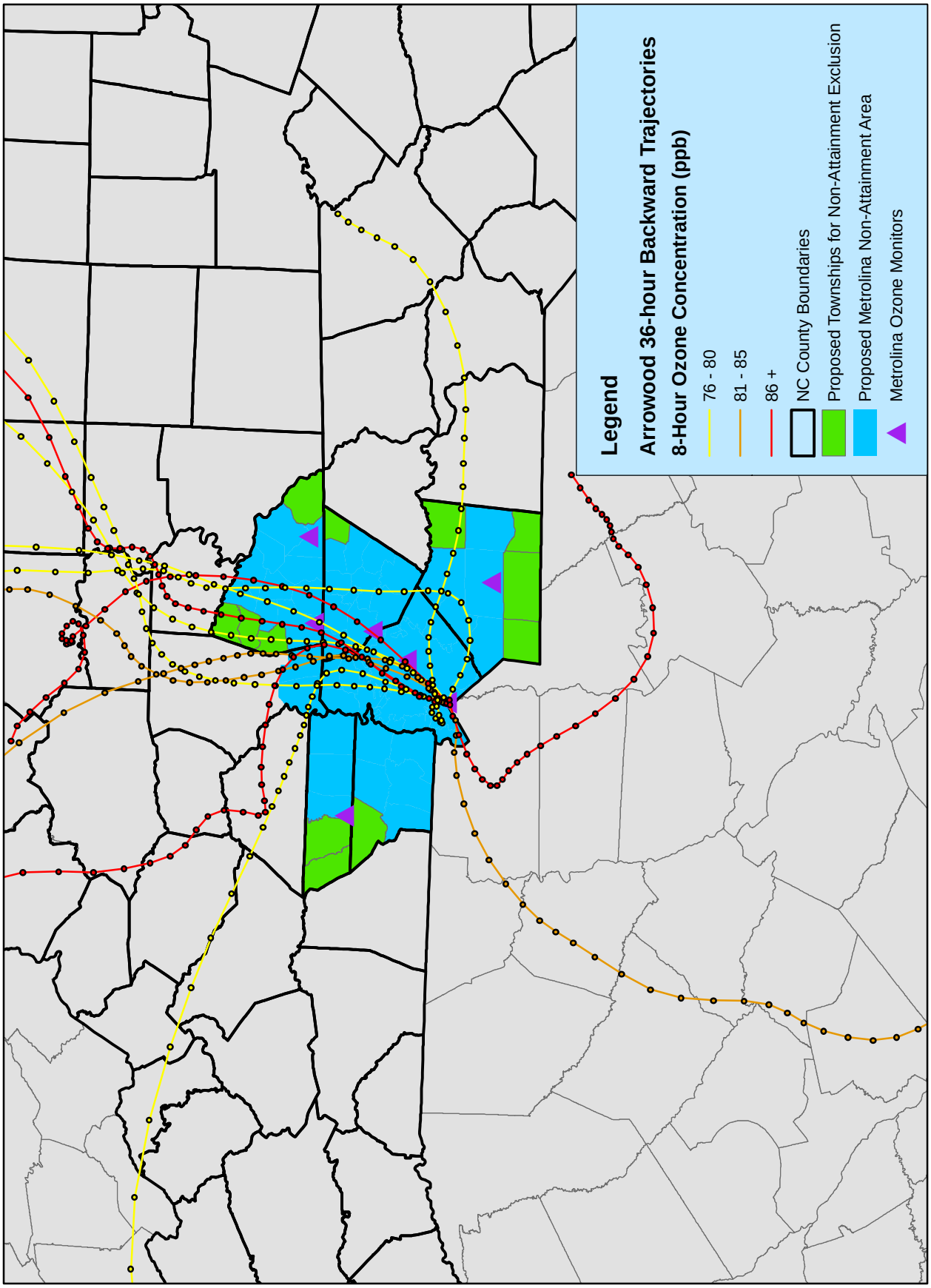
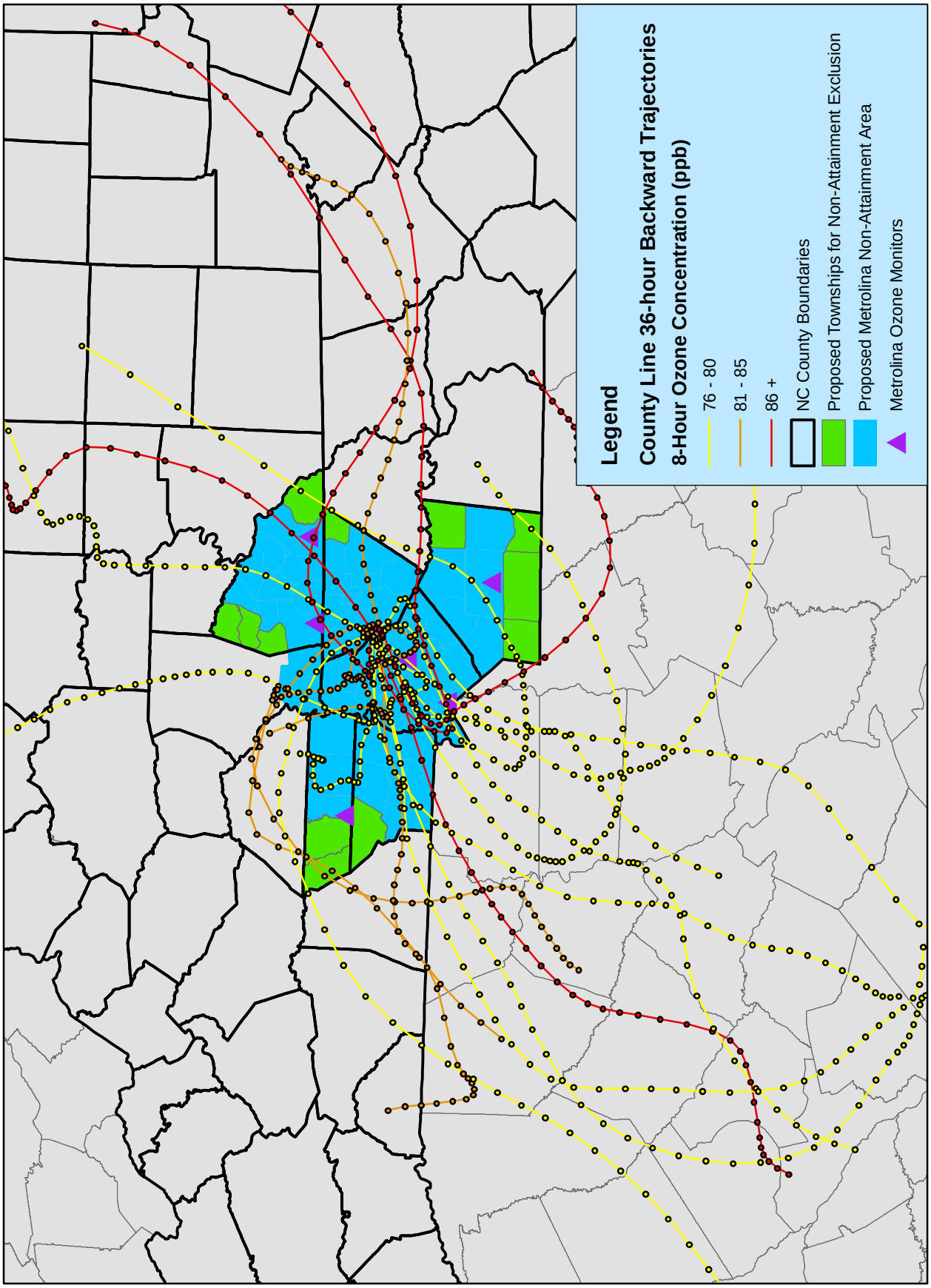
Backward Trajectories for Nonattainment Boundary Designations

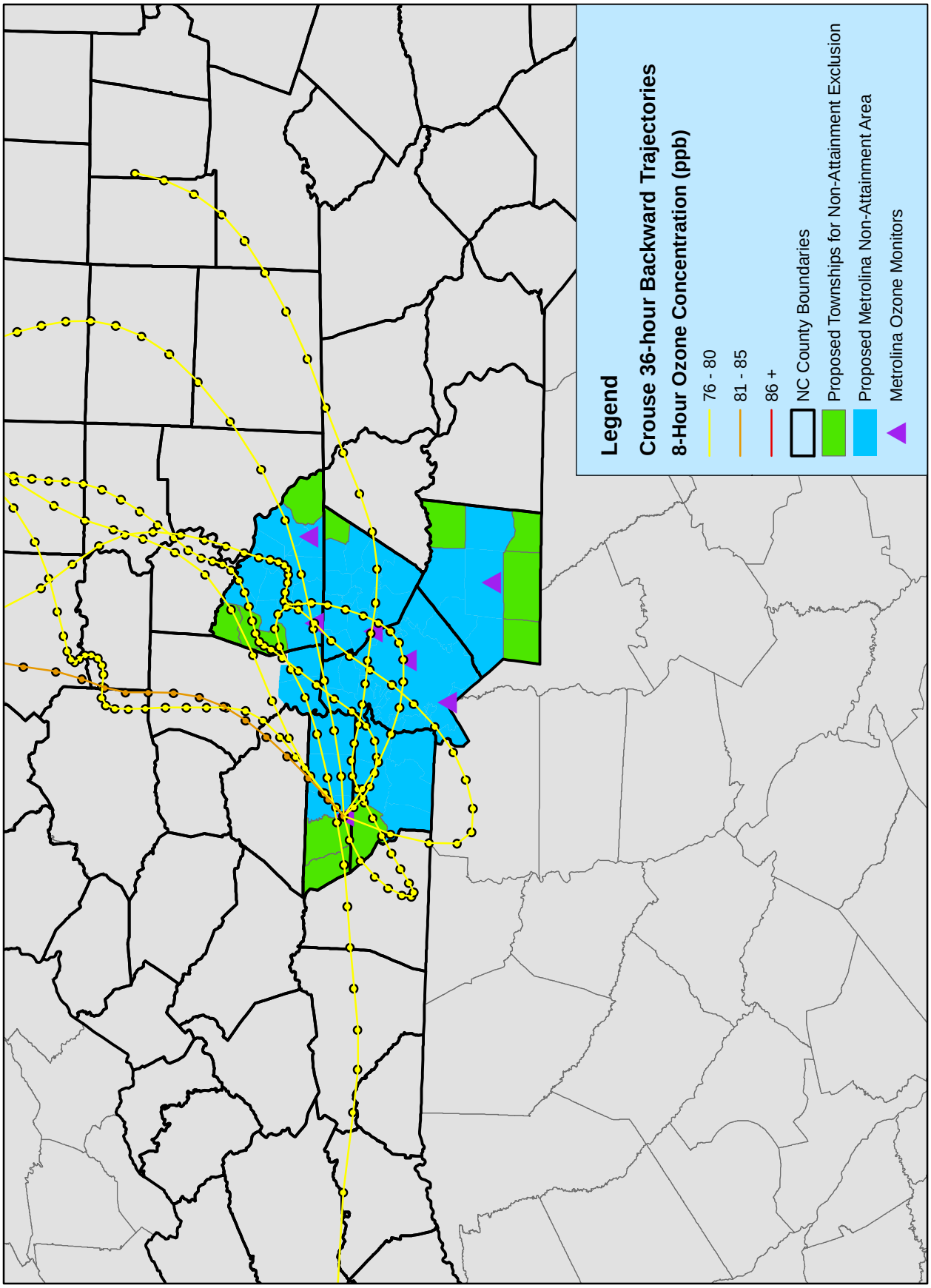
- Due to the 4-dimensional nature of the transport of an air parcel by the wind in the lower troposphere, a 2-dimensional (x,y) array displaying the wind field to determine the origin or source of an air parcel is insufficient. To more accurately assess the source region of an air parcel, both the spatial (x,y,z) and time components of an air parcel's transport must be considered. Trajectories incorporate both the spatial and temporal (time changing) characteristics of an air parcel's movement.
- Backward trajectories (or back trajectories) begin at a known end point (i.e. an air quality monitor location) and are run backwards in time to determine the origin of the air parcel that is at the desired end point. The time length of the backwards tracking can vary according to one's interest, and the initial source or origin of the parcel is linked to the length of time the air parcel is tracked backwards.
- For NCDAQ's ozone nonattainment boundary studies, trajectories were run backward to assess the path an air parcel took in arriving at the monitored end point for all monitors and all days at and above the .076 ppb standard. The NOAA Air Resources Laboratories (ARL) Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) Model was used to calculate the back trajectories.
- Trajectories are run with the ARL HYSPLIT model using the Eta archived data (EDAS), available in the native ARL format from the ARL HYSPLIT site. THE EDAS data has a grid resolution of 40 km, the greatest horizontal and vertical resolution of any data available for download on the HYSPLIT site. Over highly complex terrain (e.g. mountains) the data used in the model may not be sufficient to capture the actual elevation of the trajectory end point. Also, the longer the trajectory run, the greater the uncertainty the air parcel is being adequately represented in the model becomes. Atmospheric processes that take place in the 'real' atmosphere but are ignored or approximated in the model will increase uncertainty for long trajectory runs.
- Back trajectory heights originate at 10m, 500m, and 1000m. The duration of trajectories is 36 hours, which allows enough time to sufficiently determine the

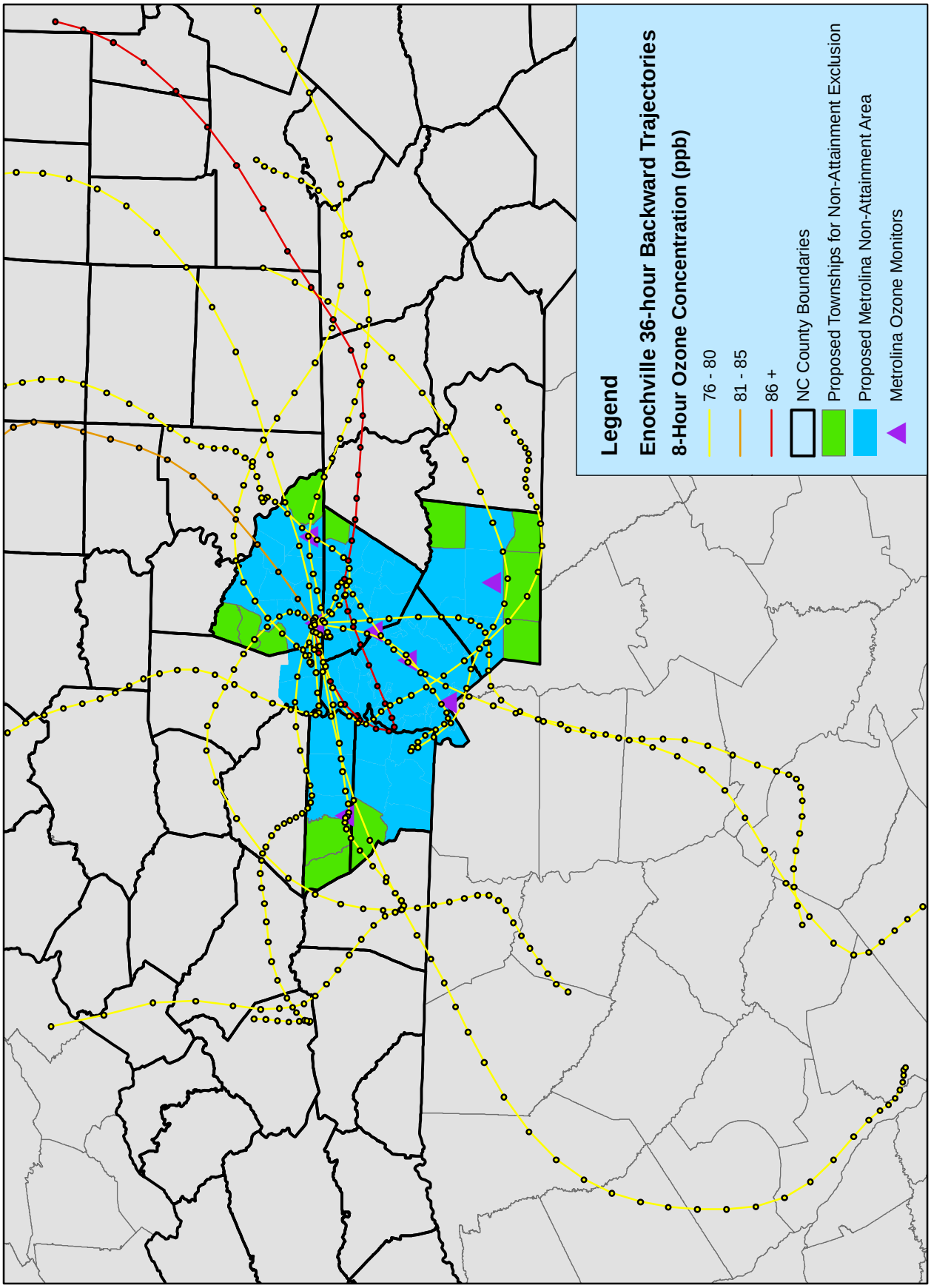
most significant source regions for the air parcel while limiting the amount of uncertainty that comes with longer duration trajectories. For simplicity, only the 10m back trajectories are shown. The 500m and 1000m backward trajectories did not differ significantly.

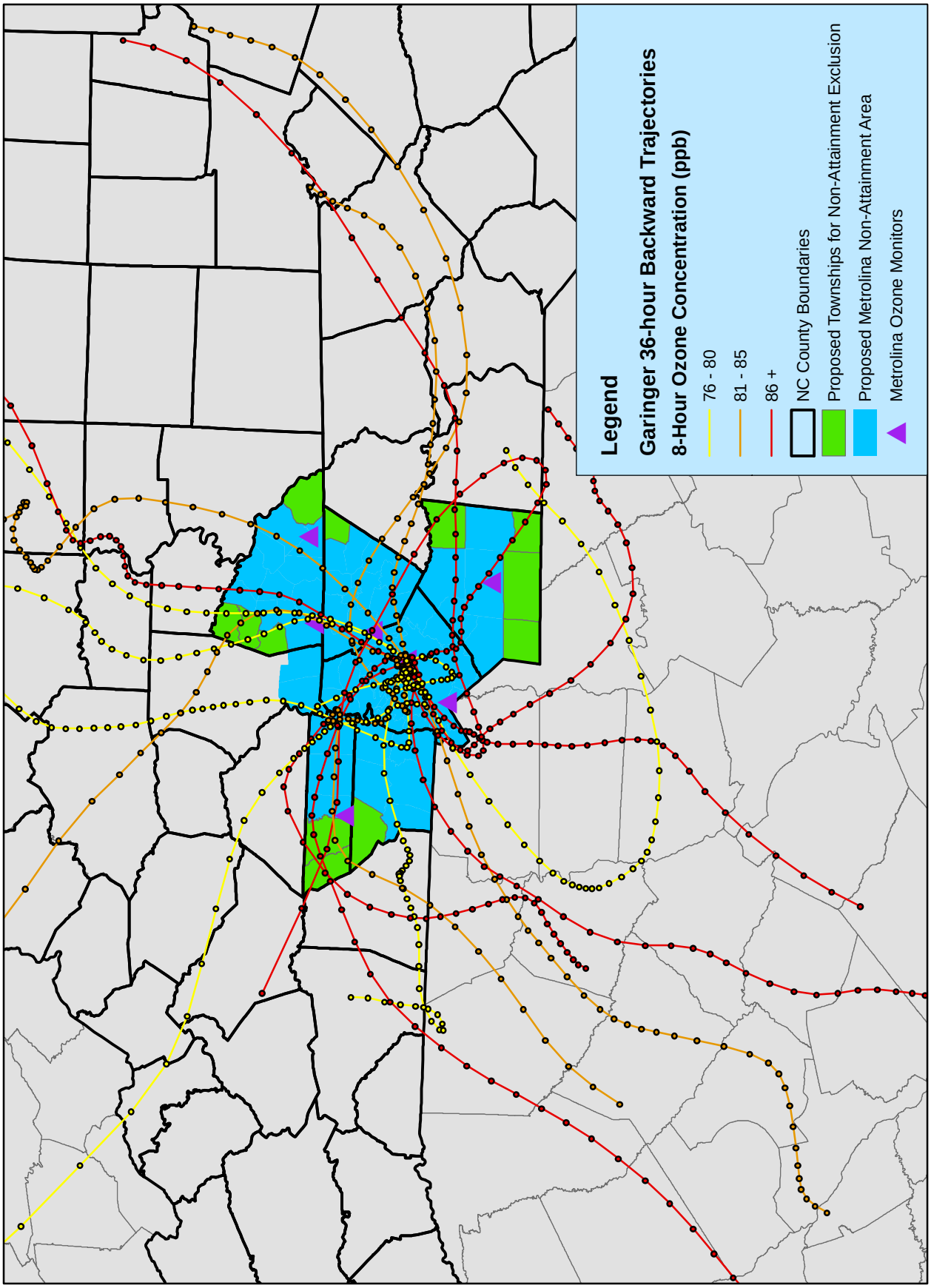
- The end time of the back trajectories for non-Ridge Top monitors is 2000 UTC (1600 EDT) on the day of the exceedance. Due to the highly variable nature of exceedance times at the Ridge Top locations, the end time of the trajectories is set to be the fourth hour following the start time of the 8-hour average making up the exceedance. For example, if an exceedance at a Ridge Top location was 1200UTC (0800EDT), the end time for the trajectory would be 1500UTC (1100EDT). Similarly, if the start time of the exceedance was 2200UTC (1800EDT), the end time of the trajectory would be 0100UTC (2200EDT) on the following day. The majority of exceedances at the Ridge Tops encompass the midnight hour and do in fact span 2 calendar days.

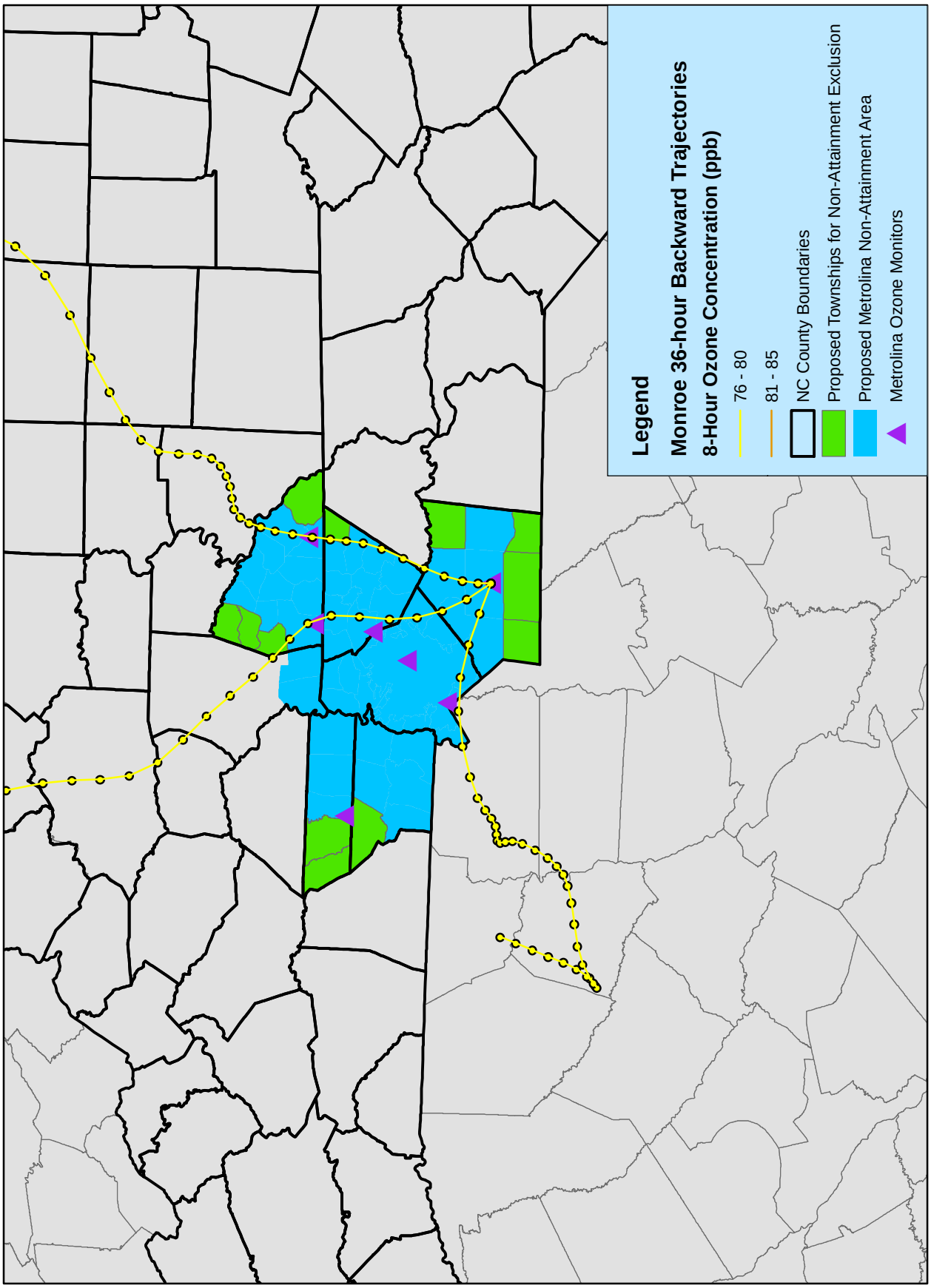

Legend
Arrowood 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
86 +
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors

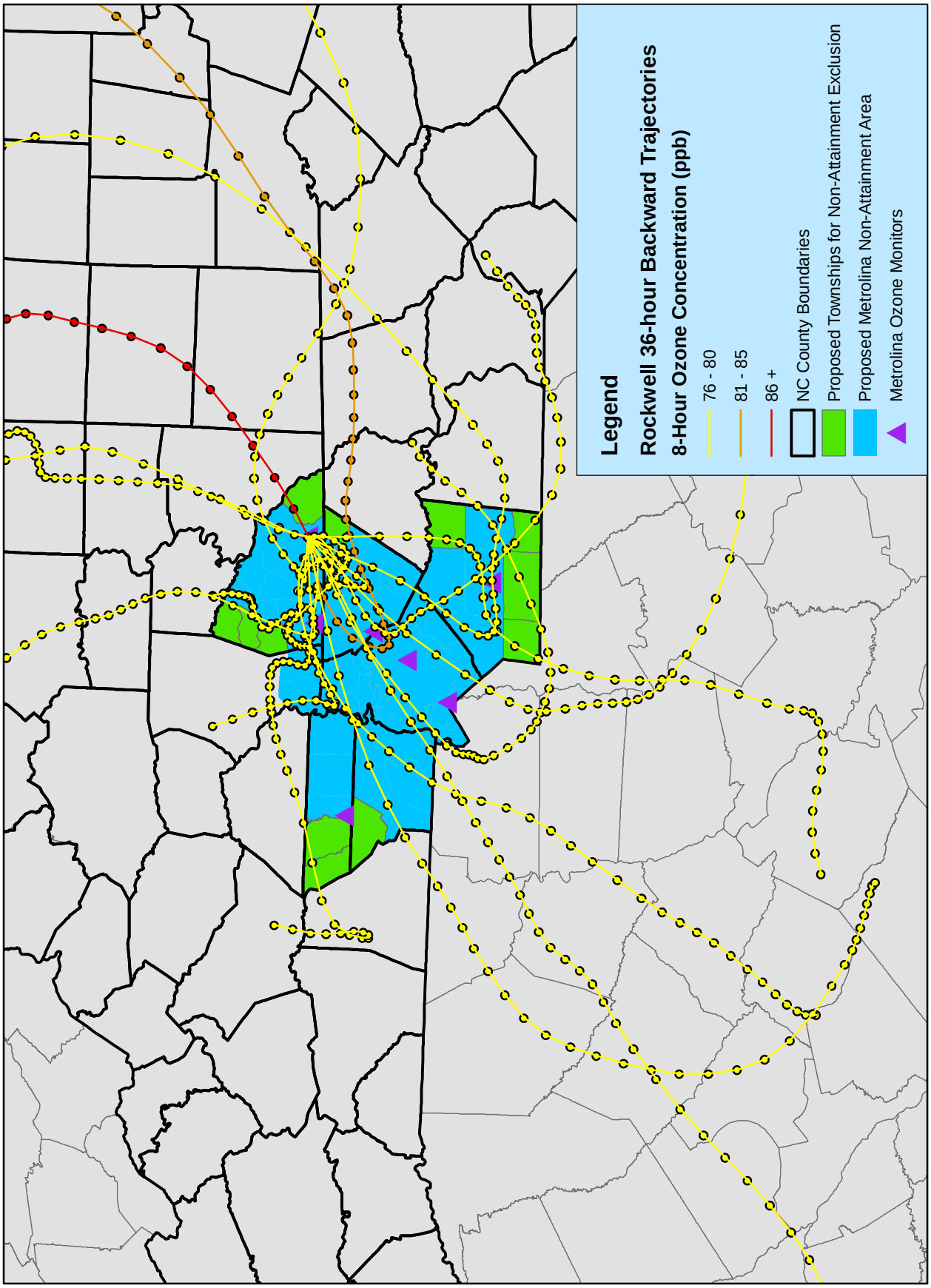

Legend
County Line 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
86 +
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors


Legend
Crouse 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
86 +
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors


Legend
Enochville 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
86 +
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors


Legend
Garinger 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
86 +
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors


Legend
Monroe 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors


Legend
Rockwell 36-hour Backward Trajectories
8-Hour Ozone Concentration (ppb)
76 - 80
81 - 85
86 +
NC County Boundaries
Proposed Townships for Non-Attainment Exclusion
Proposed Metrolina Non-Attainment Area
Metrolina Ozone Monitors

Wind Roses on Days with Ozone at or above 70 ppb

To get a more robust wind rose from 2009-2011, wind data for days with ozone down to 70 ppb was included in the dataset. Wind data is from 12z to 23z (7AM to 6PM) on days when ozone was at or above 70 ppb.

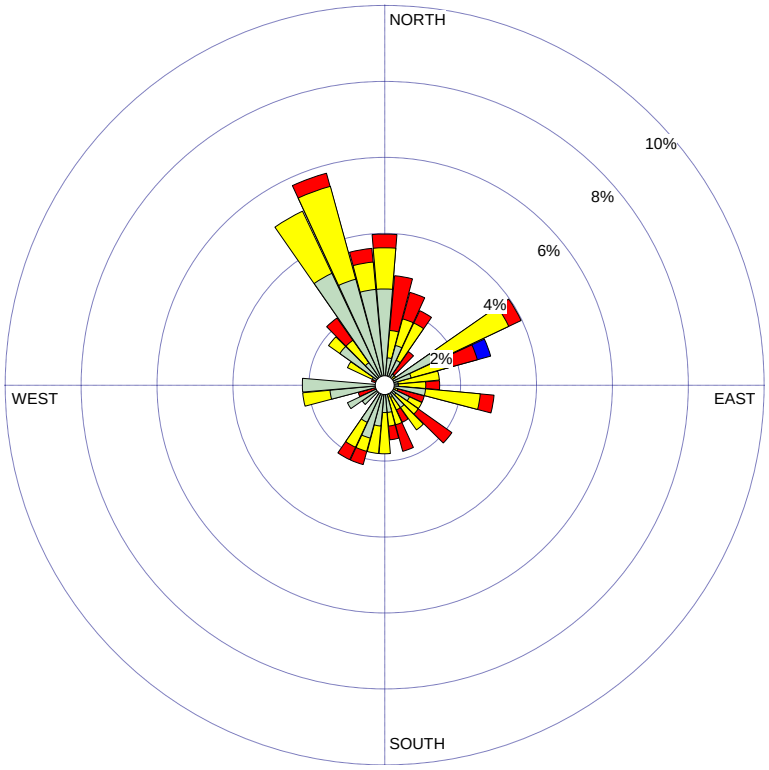
For reference, wind roses from 2006 to 2008 are also included.

WIND ROSE PLOT:

Arrowood wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 29.60%

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
12z to 23z winds No variable winds Station - KCLT	**Start Date: 7/14/2009 - 12:00** **End Date: 9/2/2011 - 23:00**	MODELER:	NCDENR
	CALM WINDS: **29.60%**	TOTAL COUNT: **277 hrs.**	
	AVG. WIND SPEED: **3.48 Knots**	DATE: **2/15/2012**	PROJECT NO.:

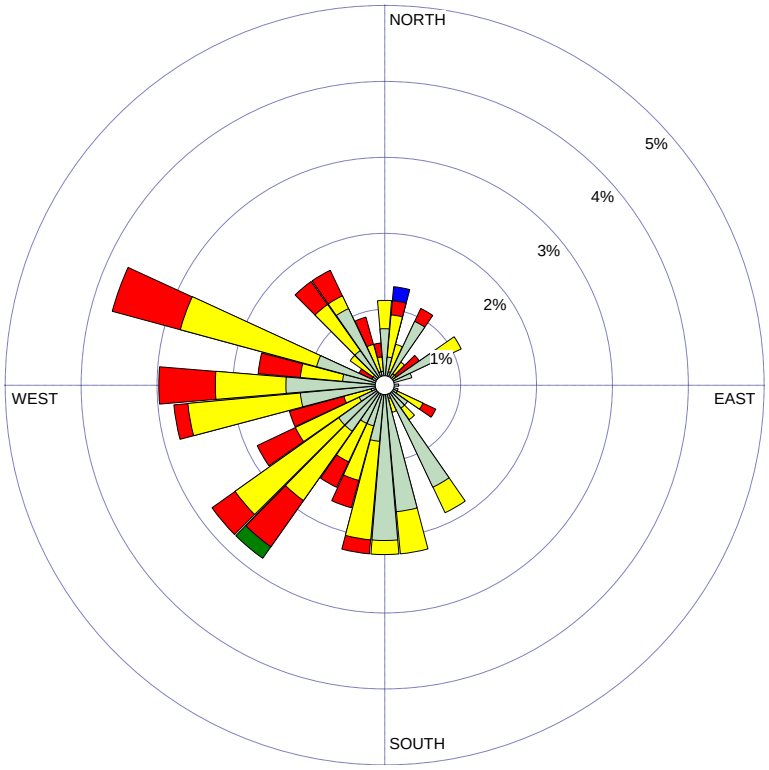
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

County Line wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 53.70%

COMMENTS: 12z to 23z winds No variable winds Station - KJQF	DATA PERIOD: **Start Date: 6/2/2009 - 12:00** **End Date: 9/14/2011 - 23:00**	COMPANY NAME:	
		MODELER:	NCDENR
	CALM WINDS: **53.70%**	TOTAL COUNT: **539 hrs.**	
	AVG. WIND SPEED: **2.36 Knots**	DATE: **2/15/2012**	PROJECT NO.:

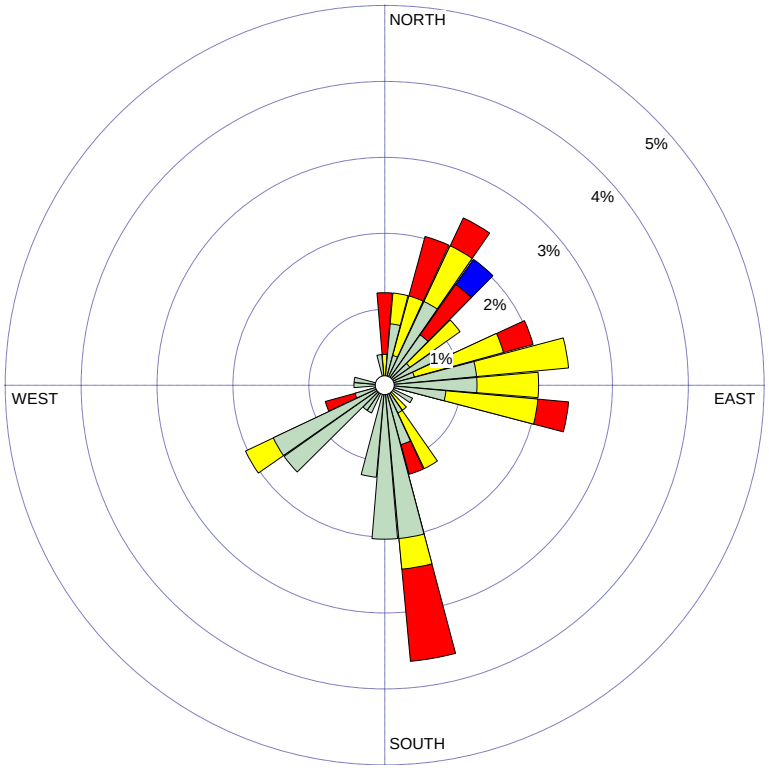
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Crouse wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 63.56%

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
12z to 23z winds No variable winds Station - KAKH	**Start Date: 4/2/2010 - 12:00** **End Date: 9/2/2011 - 23:00**	MODELER:	NCDENR
	CALM WINDS: **63.56%**	TOTAL COUNT: **247 hrs.**	
	AVG. WIND SPEED: **1.77 Knots**	DATE: **2/15/2012**	PROJECT NO.:

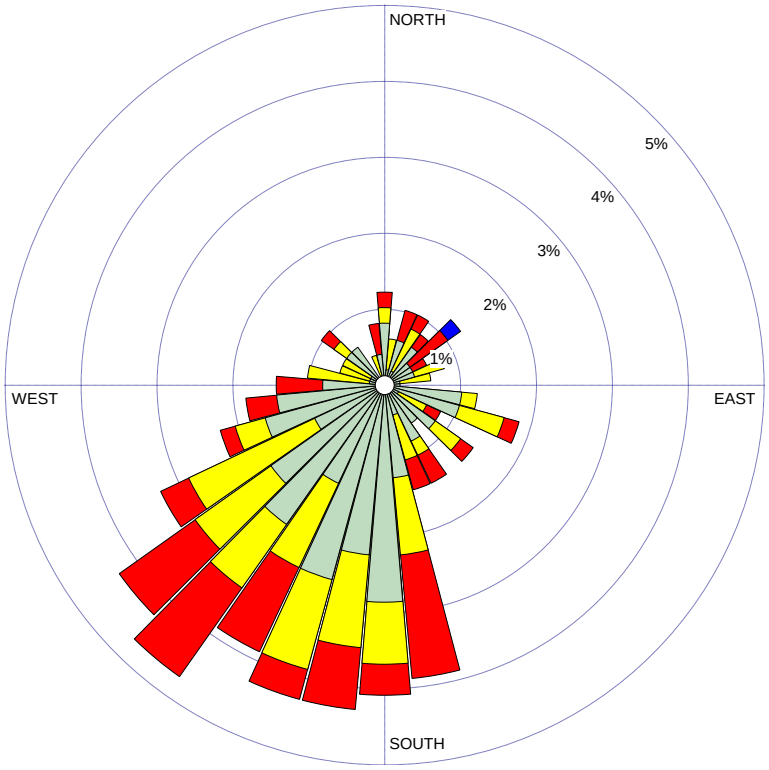
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Enochville wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 39.92%

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
12z to 23z winds No variable winds Station - KRUQ	**Start Date: 4/18/2009 - 12:00** **End Date: 9/14/2011 - 23:00**	MODELER:	NCDENR
	CALM WINDS: **39.92%**	TOTAL COUNT: **491 hrs.**	
	AVG. WIND SPEED: **3.01 Knots**	DATE: **2/15/2012**	PROJECT NO.:

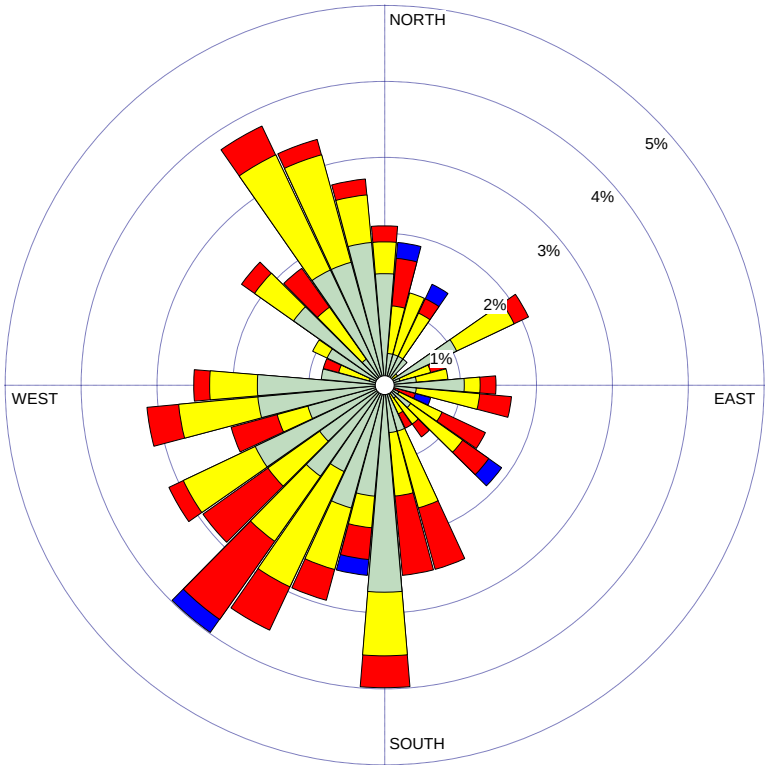
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Garinger wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 27.82%

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
12z to 23z winds No variable winds Station - KCLT	**Start Date: 6/25/2009 - 12:00** **End Date: 9/14/2011 - 23:00**	MODELER:	NCDENR
	CALM WINDS: **27.82%**	TOTAL COUNT: **478 hrs.**	
	AVG. WIND SPEED: **3.74 Knots**	DATE: **2/15/2012**	PROJECT NO.:

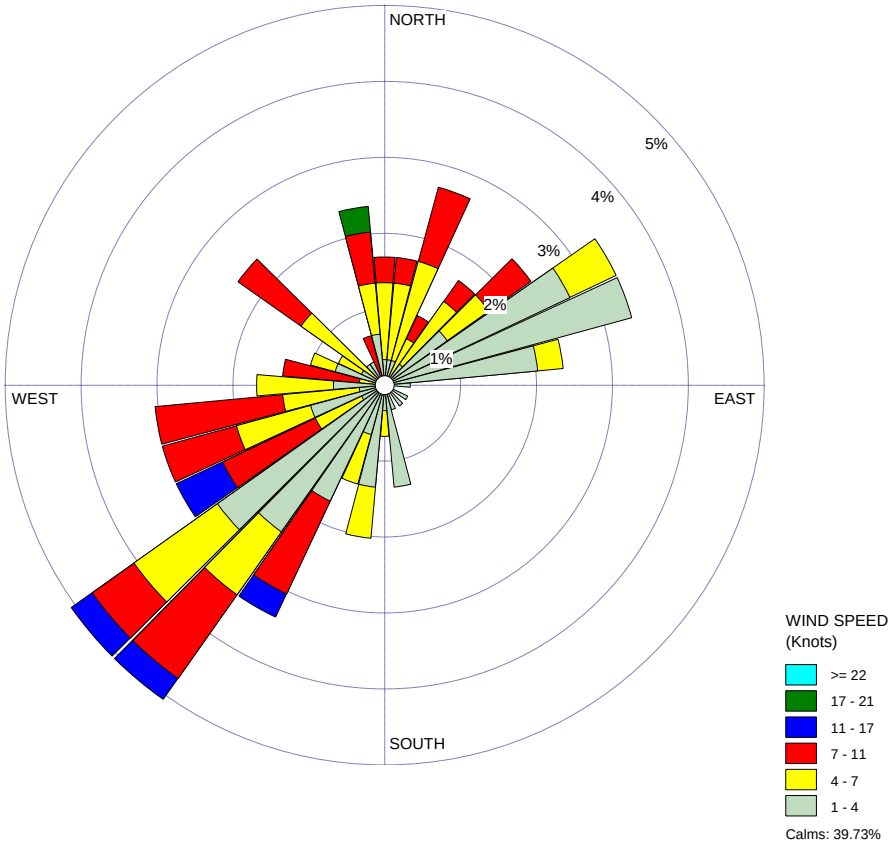
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Monroe wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
12z to 23z winds No variable winds Station - KEKQ	**Start Date: 6/22/2009 - 12:00** **End Date: 9/13/2011 - 23:00**	MODELER:	
	CALM WINDS: **39.73%**	TOTAL COUNT: **297 hrs.**	
	AVG. WIND SPEED: **3.30 Knots**	DATE: **2/15/2012**	PROJECT NO.:

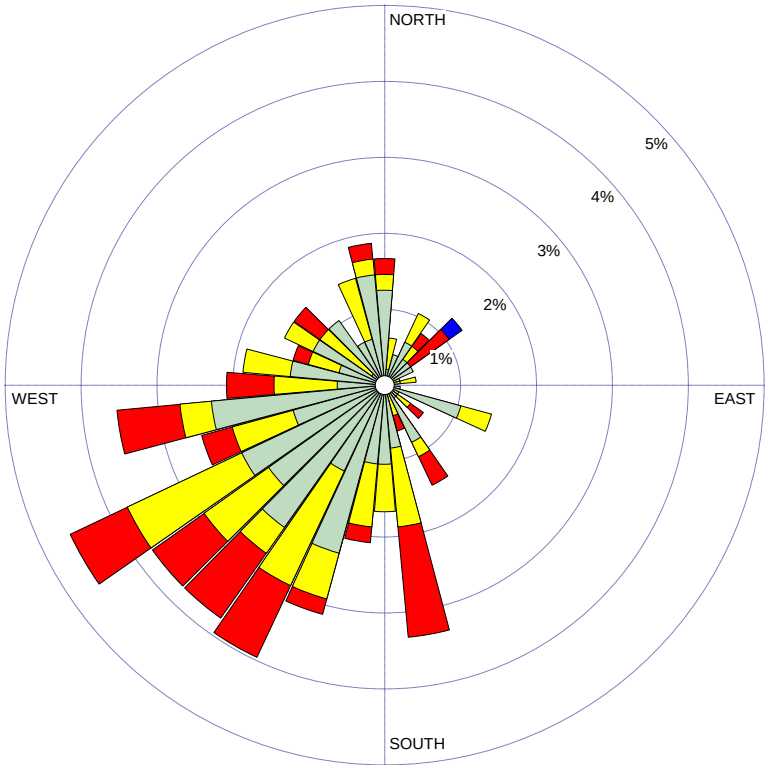
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Rockwell wind rose for days >= 70ppb
2009-2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

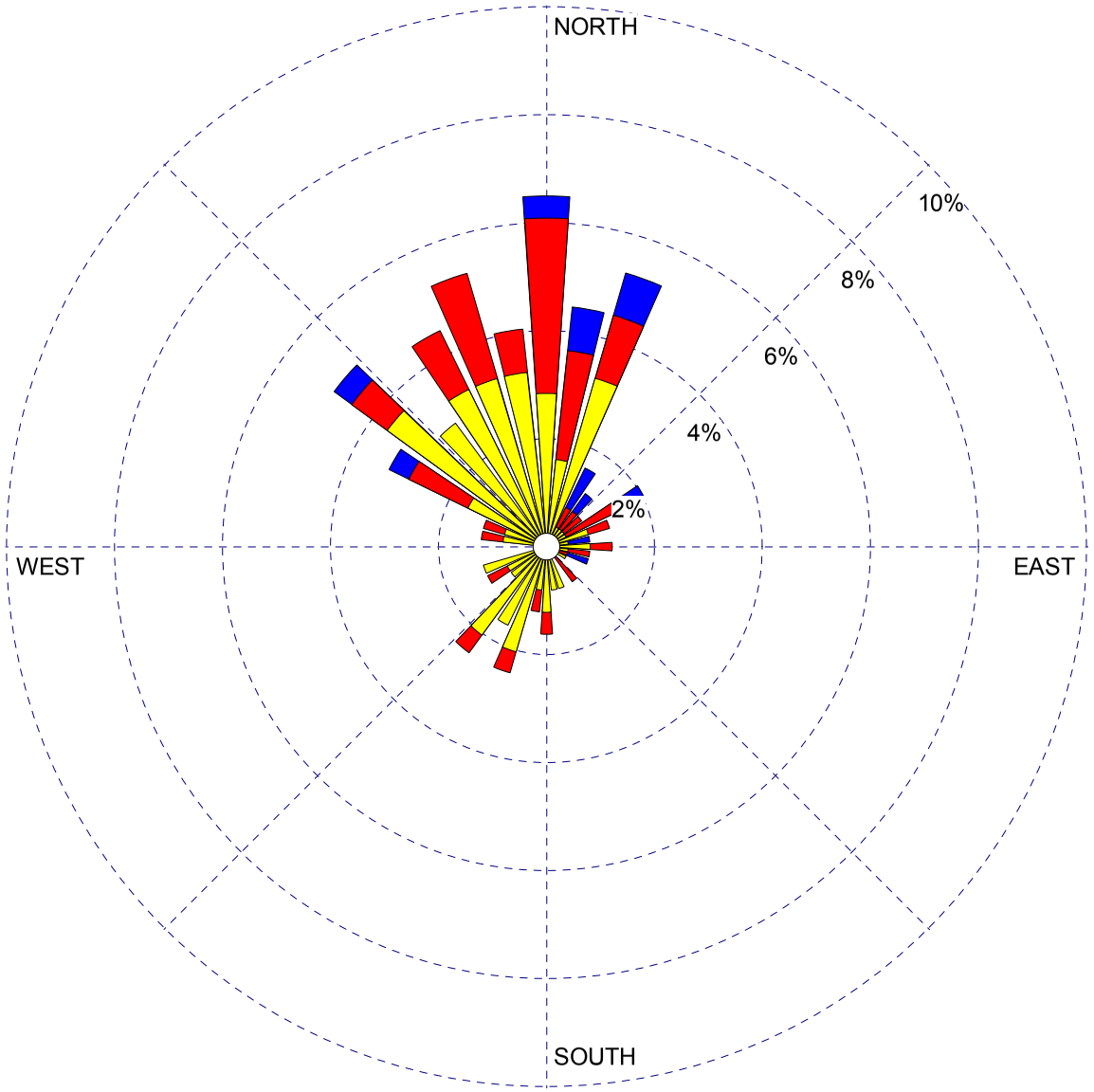
Calms: 42.07%

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
12z to 23z winds No variable winds Station - KRUQ	**Start Date: 6/2/2009 - 12:00** **End Date: 9/14/2011 - 23:00**	MODELER:	NCDENR
	CALM WINDS: **42.07%**	TOTAL COUNT: **481 hrs.**	
	AVG. WIND SPEED: **2.79 Knots**	DATE: **2/15/2012**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:
Arrowood
Ozone >=76 ppb

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:
600-1900 EST
No Variable winds

DATA PERIOD:
2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:
247 hrs.

CALM WINDS:
30.77%

AVG. WIND SPEED:
3.68 Knots

COMPANY NAME:
NCDENR

MODELER:
NCW

DATE:
10/16/2008

PROJECT NO.:

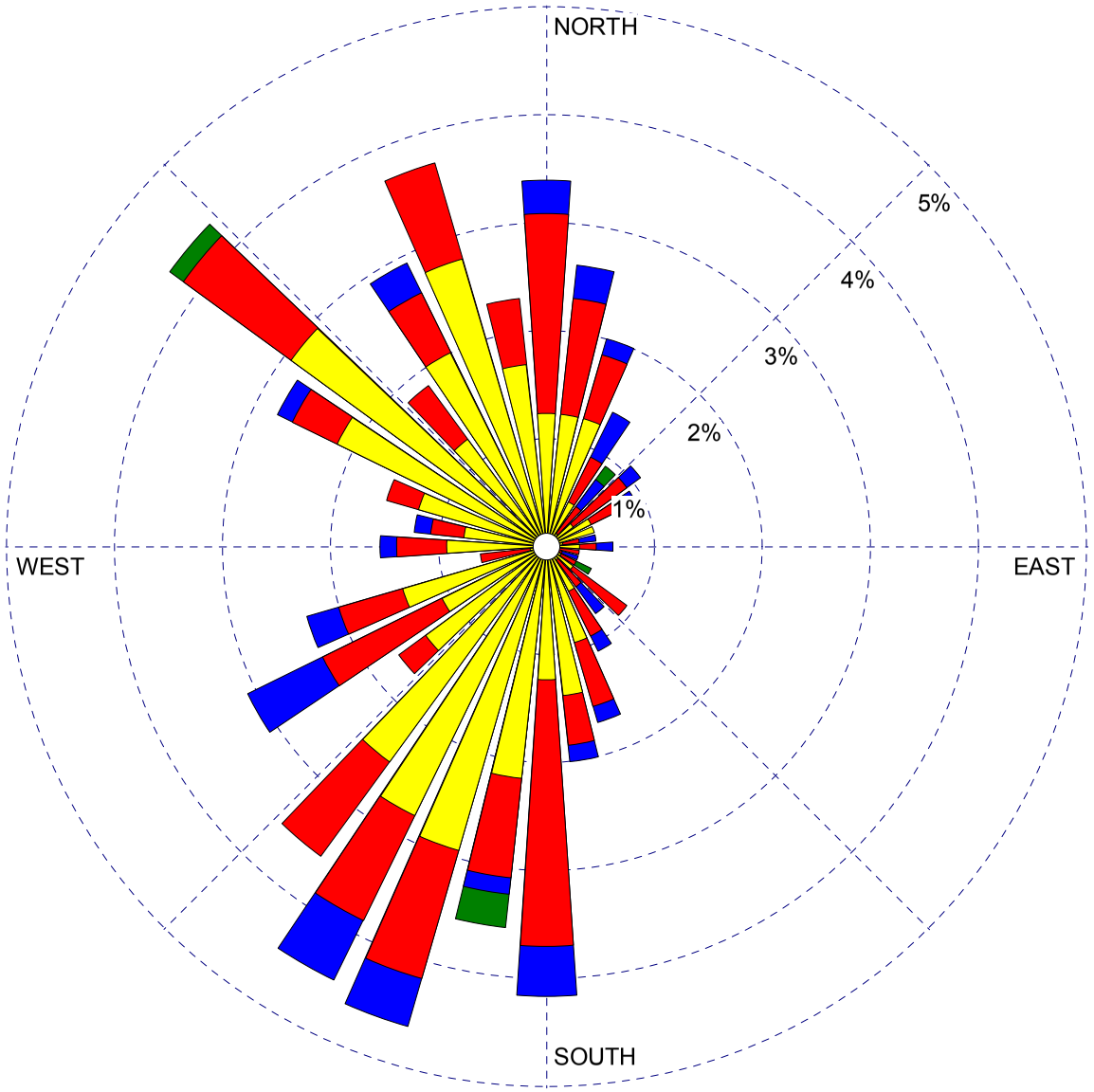
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

County Line
Ozone >=76 ppb

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Met Station:KCLT
600-1900 EST
No Variable winds

DATA PERIOD:

2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:	CALM WINDS:
650 hrs.	**28.46%**

AVG. WIND SPEED:

4.00 Knots

COMPANY NAME:

NCDENR

MODELER:

NCW

DATE:

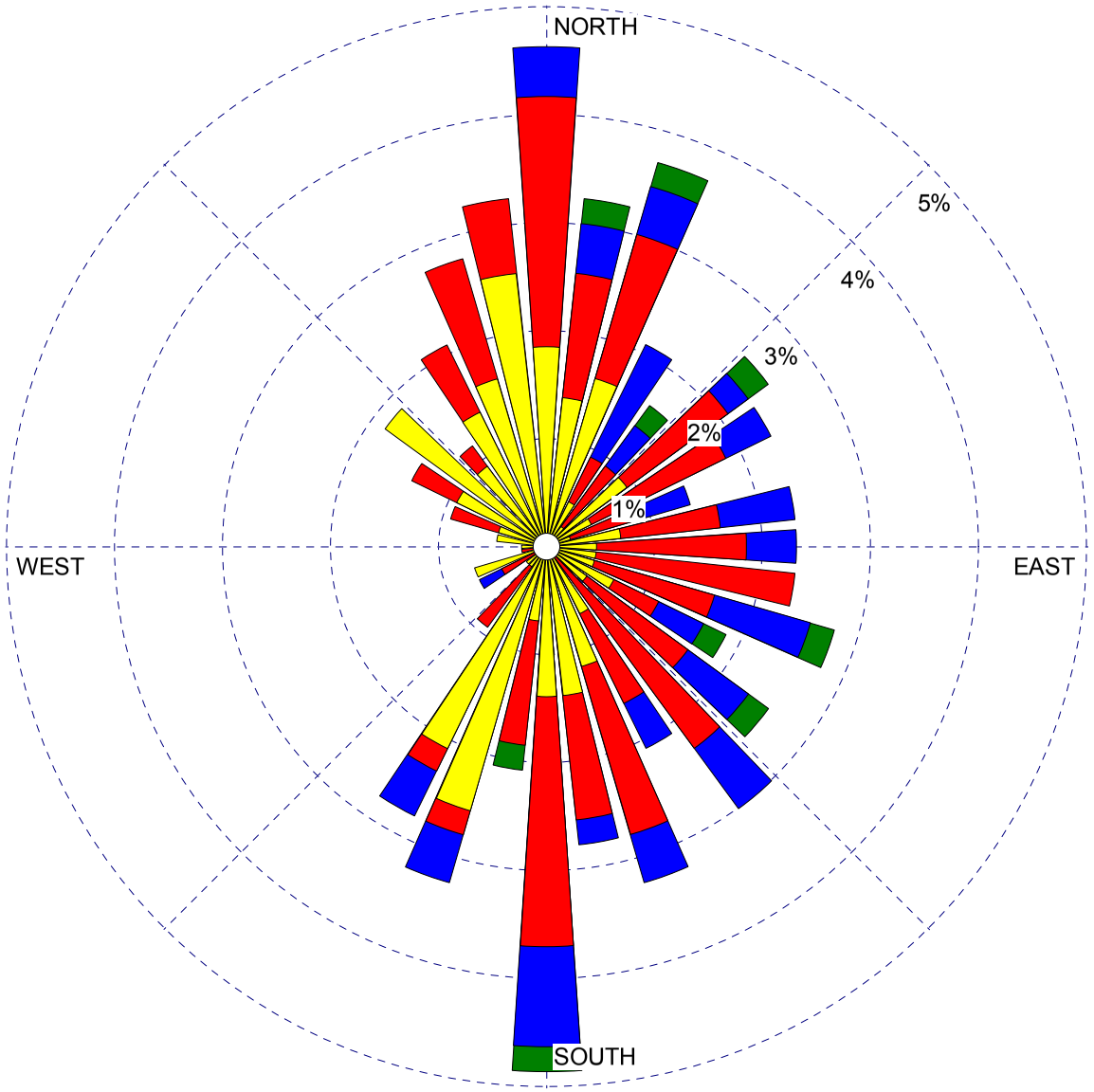
10/17/2008

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:
Crouse
Ozone >=76 ppb

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:
Met Station:KCLT
600-1900 EST
No Variable winds

DATA PERIOD:
2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:
433 hrs.

CALM WINDS:
23.56%

AVG. WIND SPEED:
4.84 Knots

COMPANY NAME:
NCDENR

MODELER:
NCW

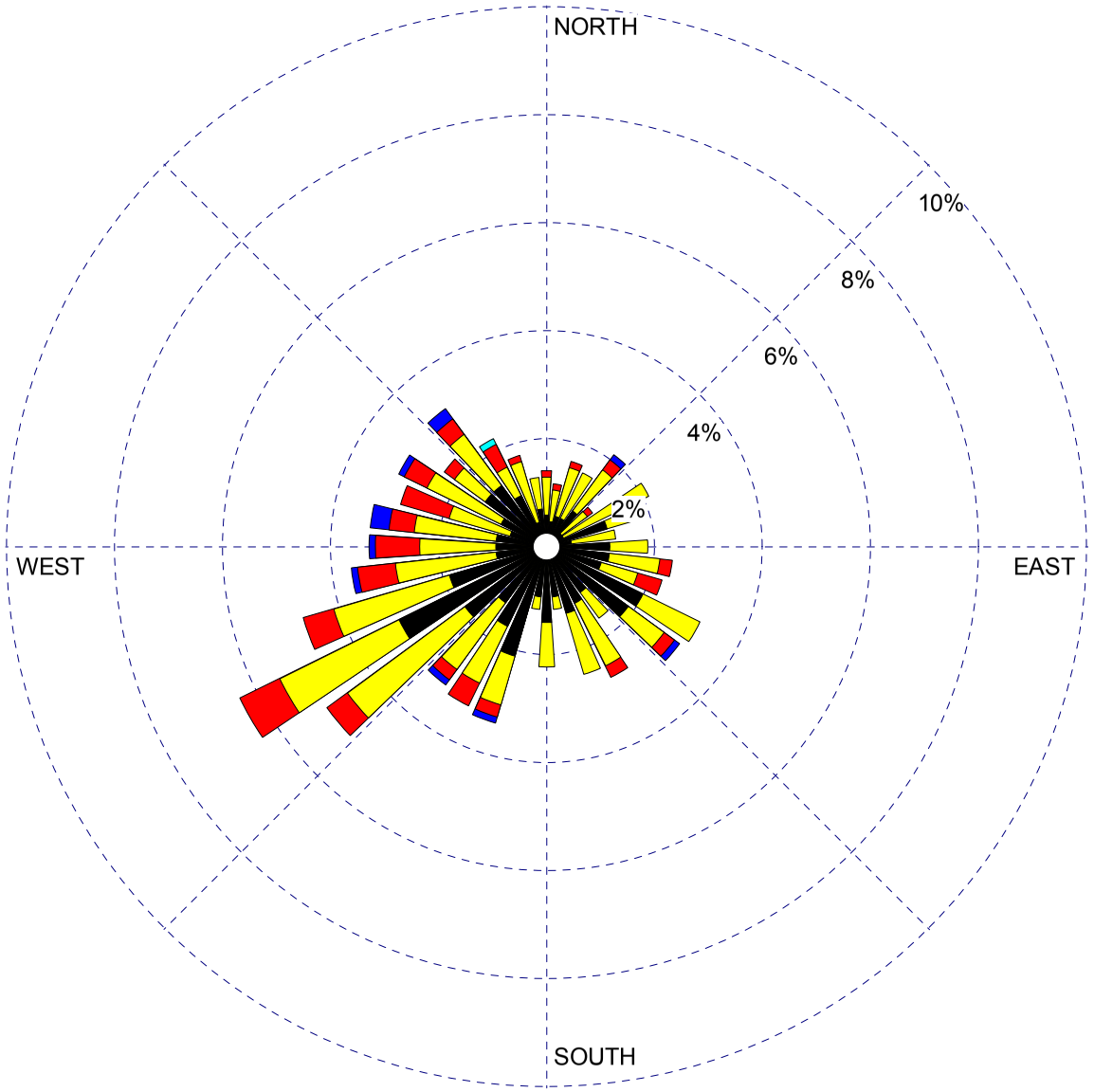
DATE:
10/17/2008

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:
Enochville
Ozone >=76 ppb

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:
Met Station:SALI
600-1900 EST
No Variable winds

DATA PERIOD:
2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:
854 hrs.

CALM WINDS:
9.25%

AVG. WIND SPEED:
2.89 Knots

COMPANY NAME:
NCDENR

MODELER:
NCW

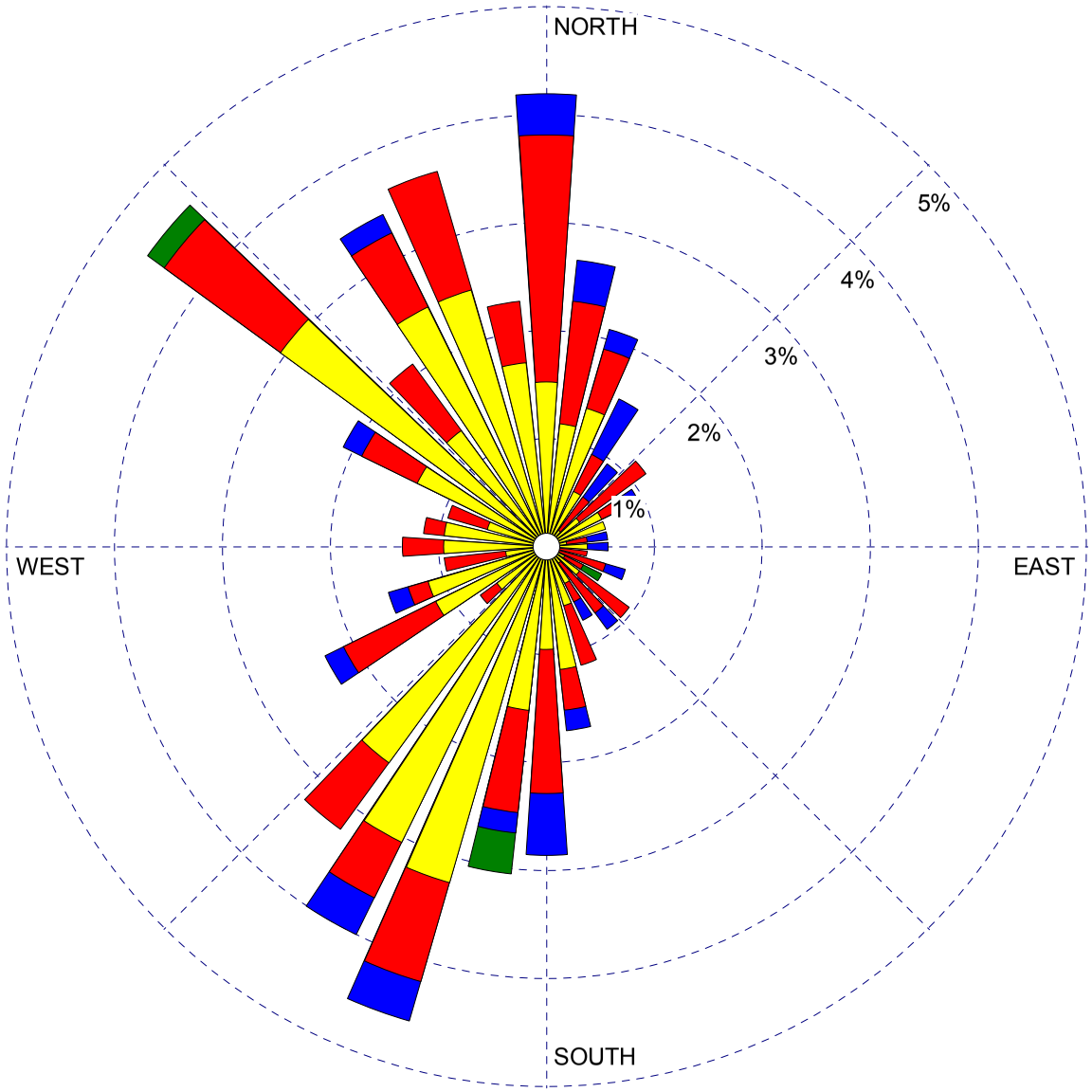
DATE:
10/17/2008

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:
Garinger
Ozone >=76 ppb

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:
Met Station:KCLT
600-1900 EST
No Variable winds

DATA PERIOD:
2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:
526 hrs.

CALM WINDS:
32.89%

AVG. WIND SPEED:
3.70 Knots

COMPANY NAME:
NCDENR

MODELER:
NCW

DATE:
10/17/2008

PROJECT NO.:

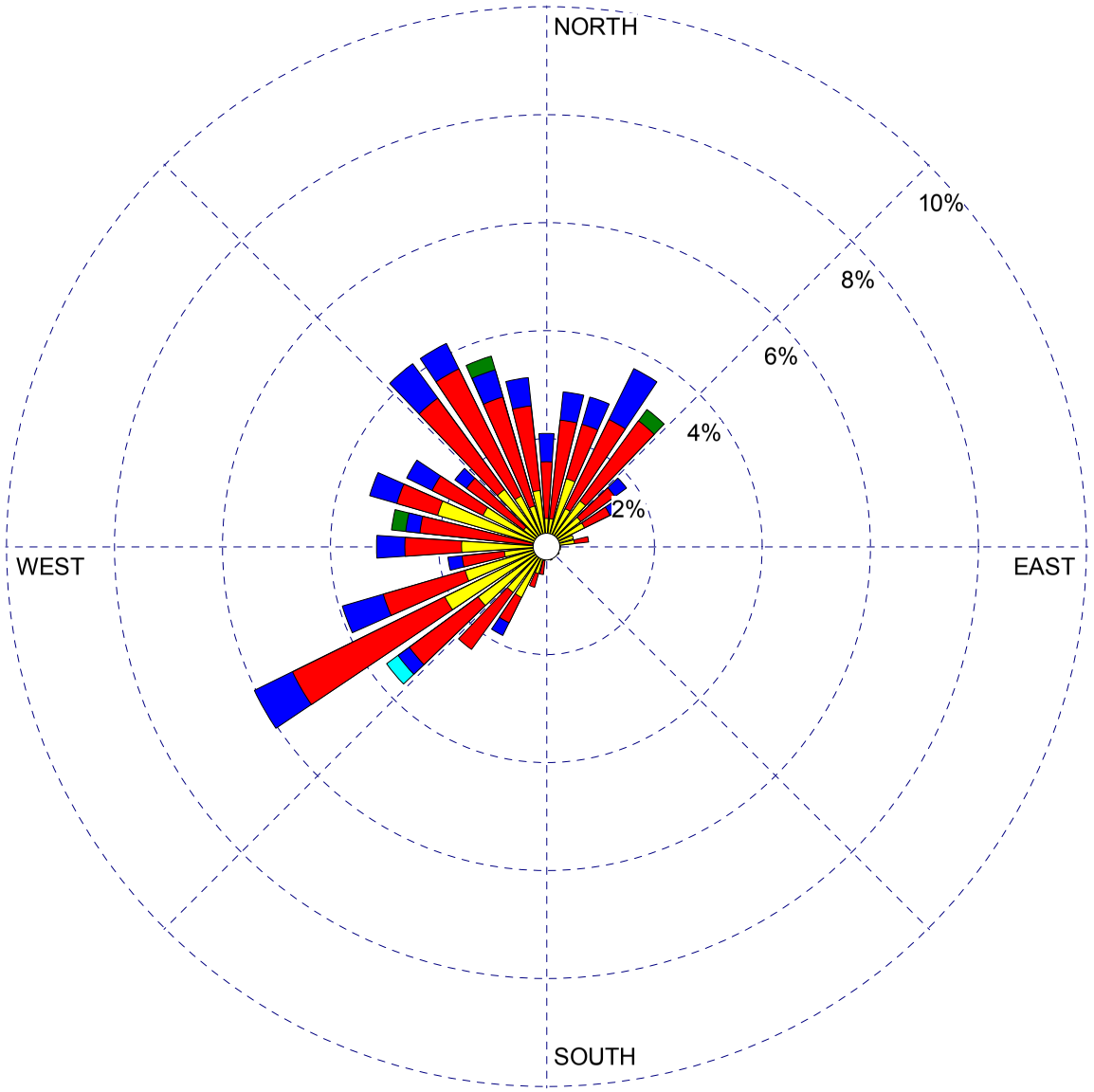
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Monroe
Ozone >=76 ppb

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Met Station:KEQY
600-1900 EST
No Variable winds

DATA PERIOD:

2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:	CALM WINDS:
382 hrs.	**29.06%**

AVG. WIND SPEED:

4.48 Knots

COMPANY NAME:

NCDENR

MODELER:

NCW

DATE:

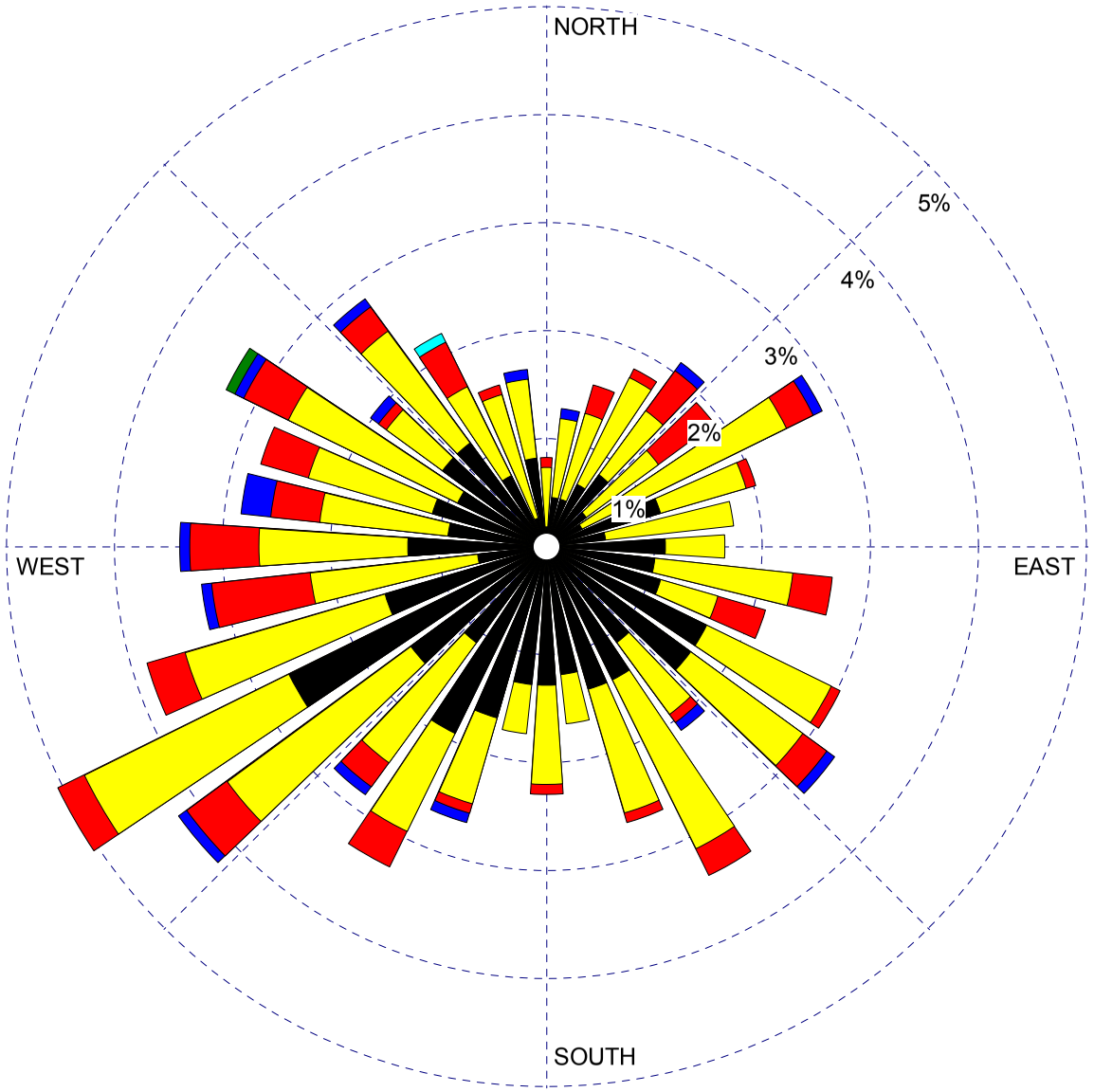
10/16/2008

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:
Enochville
Ozone >=76 ppb

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:
Met Station:SALI
600-1900 EST
No Variable winds

DATA PERIOD:
2006-2008
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT:
1092 hrs.

CALM WINDS:
9.71%

AVG. WIND SPEED:
2.94 Knots

COMPANY NAME:
NCDENR

MODELER:
NCW

DATE:
10/17/2008

PROJECT NO.:

WRPLOT View - Lakes Environmental Software