Georgia
Area Designations for the
2008 Ozone National Ambient Air Quality Standards

The table below identifies the area and associated counties in Georgia that EPA intends to designate as nonattainment for the 2008 ozone national ambient air quality standards (2008 NAAQS). In accordance with section 107(d) of the Clean Air Act, EPA must designate an area "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 analysis supporting the intended boundaries for the nonattainment areas is provided below.

Intended Nonattainment Areas in Georgia

Area	Georgia's Recommended Nonattainment Counties	EPA's Intended Nonattainment Counties
Atlanta-Sandy Springs-Gainesville, GA	Cobb DeKalb Fulton Henry	Barrow Bartow Cherokee Clayton Cobb Coweta DeKalb Douglas Fayette Forsyth Fulton Gwinnett Henry Newton Paulding Rockdale Spalding Walton

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

The analysis below provides the basis for intended Atlanta nonattainment area boundary. 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] 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.

1. Air quality data (including the design value calculated for each Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitors in the area); *See* 40 CFR part 58
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);
5. Jurisdictional boundaries (e.g., counties, air districts, existing nonattainment areas, Indian country, metropolitan planning organizations (MPOs))

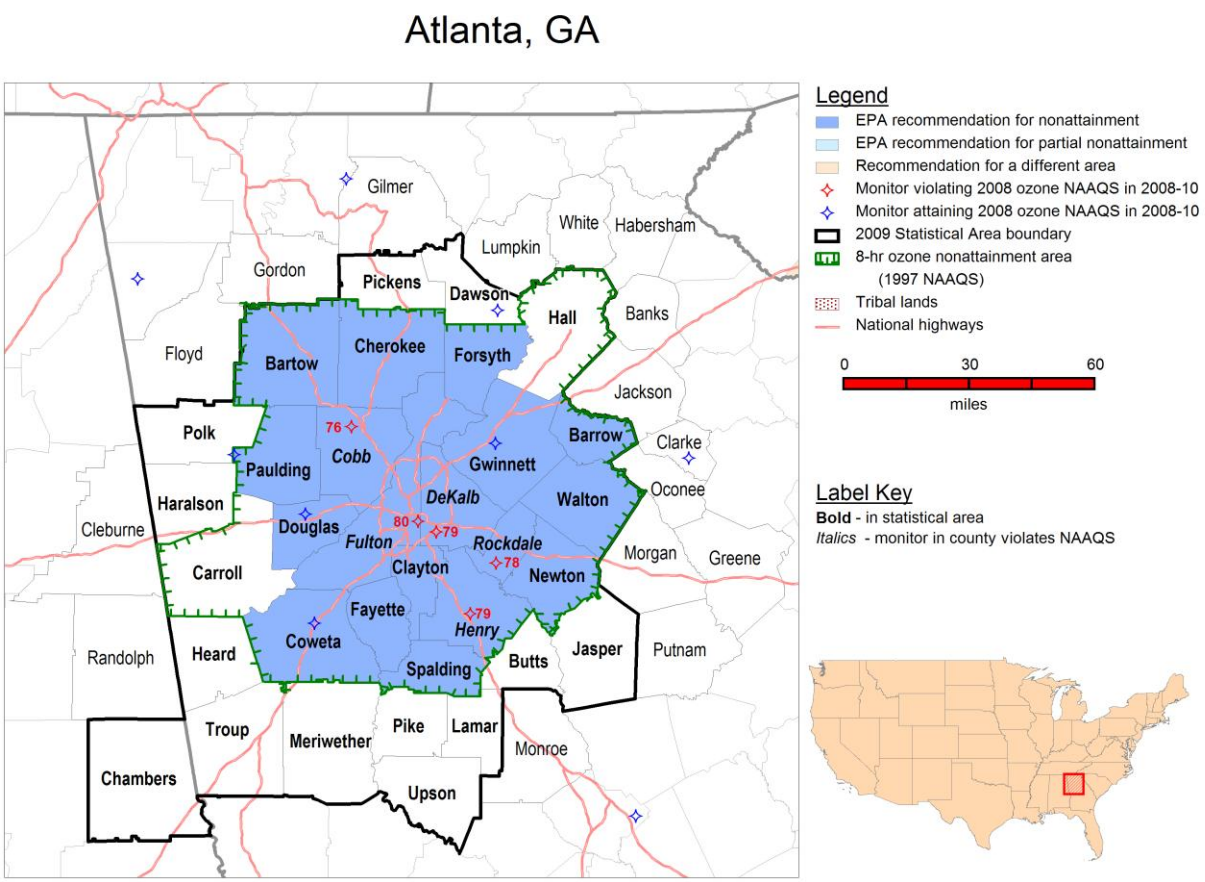
Ground-level ozone generally is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Because NOx and VOC emissions from a broad range of sources over a wide area typically contribute 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 Atlanta-Sandy Springs-Gainesville, GA

Figure 1 is a map of the Atlanta-Sandy Springs-Gainesville, GA area intended nonattainment area. The map identifies the locations and design values of air quality monitors, county and other jurisdictional boundaries, the nonattainment boundary for the 1997 8-hour ozone NAAQS and major transportation arteries.



For purposes of the 1997 8-hour ozone NAAQS EPA designated the following 20 counties nonattainment in their entirety: Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding, and Walton.

In March 2009, Georgia recommended that the 20 counties previously designated nonattainment for the 1997 8-hour ozone NAAQS and a portion of Heard County be designated as "nonattainment" for the 2008 ozone NAAQS based on air quality data from 2006-2008. Georgia provided an update to the original recommendation in October 2011 based on preliminary air quality data from 2009-2011. In its updated recommendation, Georgia recommended that only 4 counties (i.e., Cobb, DeKalb, Fulton and Henry) be designated "nonattainment" for the 2008 ozone NAAQS. These data are from FEM monitors sited and operated in accordance with 40 CFR Part 58. (Georgia Department of Natural Resources (GDNR) letters dated March 12, 2009 and October 25, 2011).

After considering these recommendations and based on EPA's technical analysis described below, EPA intends to designate 18 counties in Georgia (identified in Table 1 below) as "nonattainment" for the 2008 ozone NAAQS as part of the Atlanta-Sandy Springs-Gainesville nonattainment area. EPA is not intending to include Carroll and Hall Counties in the nonattainment area. These counties were designated as part of the previous nonattainment area for the 1997 ozone NAAQS.

Table 1. State's Recommended and EPA's Intended Designated Nonattainment Counties for Atlanta-Sandy Springs-Gainesville, GA.

Atlanta-Sandy Springs-Gainesville, GA	State-Recommended Nonattainment Counties	EPA Intended Nonattainment Counties
Georgia	Cobb DeKalb Fulton Henry	Barrow Bartow Cherokee Clayton Cobb Coweta DeKalb Douglas Fayette Forsyth Fulton Gwinnett Henry Newton Paulding Rockdale Spalding Walton

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 Atlanta-Sandy Springs-Gainesville, GA 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 with monitors in the Atlanta-Sandy Springs-Gainesville, GA area and nearby surrounding area are shown in Table 2. (Counties not identified do not have monitors)

Table 2. Air Quality Data.

County*	State Recommended Nonattainment?	2008-2010 Design Value (ppb)
Cobb, GA	**Yes**	**76**
Coweta, GA	No	68
DeKalb, GA	**Yes**	**79**
Douglas, GA	No	75
Fulton, GA	**Yes**	**80**
Gwinnett, GA	No	74
Henry, GA	**Yes**	**79**
Paulding, GA	No	70
Rockdale, GA	**No**	**78**

*Counties with violating monitors are shown in bold.

Cobb, DeKalb, Fulton, Henry and Rockdale Counties show a violation 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. Bartow, Clayton, Cherokee, Coweta, Douglas, Fayette, Forsyth, Gwinnett, Newton, Paulding, Spalding and Walton Counties are next to counties with violating monitors. A small portion of Carroll County connects to a county with a violating monitor, however, Carroll County is adjacent to three other counties with attaining monitors of closer proximity. Hall County is adjacent to two counties with attaining monitors and Barrow County is adjacent to a county with an attaining monitor.

Factor 2: Emissions and Emissions-Related Data

EPA evaluated emissions of ozone precursors nitrogen oxide (NOx) emissions total, and volatile organic compounds (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 in the Atlanta-Sandy Springs-Gainesville, GA-AL CSA that we considered for inclusion in the Atlanta-Sandy Springs-Gainesville, GA area.

Table 3. Total 2008 NOx and VOC Emissions.

County*	State Recommended Nonattainment?	NOx (tpy)	VOC (tpy)
Barrow	**No**	**1,765**	**2,291**
Bartow	**No**	**31,560**	**6,165**
Butts	No	1,231	1,200
Carroll	No	3,757	4,617
Chambers, AL	No	1,408	1,644
Cherokee	**No**	**4,908**	**6,189**
Clayton	**No**	**16,105**	**9,528**
Cobb	**Yes**	**20,874**	**22,494**
Coweta	**No**	**15,852**	**3,723**
Dawson	No	626	1,058
DeKalb	**Yes**	**17,356**	**22,937**
Douglas	**No**	**3,368**	**3,968**
Fayette	**No**	**2,732**	**3,556**
Forsyth	**No**	**3,823**	**5,753**
Fulton	**Yes**	**28,630**	**31,707**
Gwinnett	**No**	**18,569**	**24,506**
Hall	No	5,756	8,815
Haralson	No	1,116	2,118
Heard	No	15,093	1,177
Henry	**Yes**	**7,584**	**6,015**
Jasper	No	526	850
Lamar	No	656	858
Meriwether	No	1,481	1,369
Newton	**No**	**3,307**	**4,248**
Paulding	**No**	**2,780**	**3,037**
Pickens	No	888	1,366
Pike	No	412	661
Polk	No	1,429	2,279
Rockdale	**No**	**2,483**	**2,961**
Spalding	**No**	**1,828**	**2,862**
Troup	No	2,966	4,232
Upson	No	926	1,897
Walton	**No**	**2,245**	**3,137**
	Areawide:	224,040	199,218

*Counties that EPA intends to designate as nonattainment are shown in bold.

NOx Emissions: Bartow, Clayton, Cobb, Coweta, DeKalb, Fulton, Gwinnett and Heard Counties have over 15,000 tons of NOx emissions annually. Bartow, Clayton, Coweta and Heard Counties have over 60 percent of NOx emissions coming from point sources.

Barrow, Carroll, Cherokee, Douglas, Fayette, Forsyth, Hall, Henry, Newton, Paulding, Rockdale, Spalding, Troup and Walton Counties have between 1,700 and 8,000 tons of NOx emissions annually.

Barrow, Butts, Carroll, Chambers, Cherokee, Cobb, Dawson, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Haralson, Henry, Jasper, Lamar, Meriwether, Newton, Paulding, Pickens, Pike, Poke, Rockdale, Spalding Troup, Upson and Walton Counties have over 30 percent of NOx emissions being emitted by mobile sources.

VOC Emissions: Cobb, DeKalb, Fulton and Gwinnett Counties have over 20,000 tons of VOC emissions annually. Barrow, Bartow, Butts, Carroll, Cherokee, Clayton, Cobb, Coweta, Dawson, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Hall, Henry, Lamar, Meriwether, Newton, Paulding, Pickens, Pike, Rockdale, Spalding Troup, and Walton Counties have over 30 percent of VOC emissions being emitted by mobile sources.

Barrow, Bartow, Butts, Carroll, Chambers, Cherokee, Clayton, Cobb, Coweta, Dawson, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Haralson, Henry, Jasper, Lamar, Meriwether, Newton, Paulding, Pickens, Pike, Poke, Rockdale, Spalding Troup, Upson and Walton Counties have over 30 percent of VOC emissions being emitted by area sources.

Based upon this factor and the close proximity to counties with violating monitors, the following counties could not be excluded from consideration: Barrow, Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, Spalding and Walton.

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 counties with violating monitors. 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)
Barrow	**No**	**69,367**	**426**	**22,806**	**49**
Bartow	**No**	**100,157**	**213**	**23,456**	**31**
Butts	No	23,655	125	3,926	20
Carroll	No	110,527	219	22,526	26
Chambers, AL	No	34,215	57	-2,347	-6
Cherokee	**No**	**214,346**	**493**	**70,603**	**49**
Clayton	**No**	**259,424**	**1,797**	**21,056**	**9**
Cobb	**Yes**	**688,078**	**1,996**	**75,436**	**12**
Coweta	**No**	**127,317**	**285**	**37,168**	**41**
Dawson	No	22,330	104	6,031	37

DeKalb	**Yes**	**691,893**	**2,546**	**23,078**	**3**
Douglas	**No**	**132,403**	**661**	**39,700**	**43**
Fayette	**No**	**106,567**	**536**	**14,494**	**16**
Forsyth	**No**	**175,511**	**709**	**75,013**	**75**
Fulton	**Yes**	**920,581**	**1,721**	**103,429**	**13**
Gwinnett	**No**	**805,321**	**1,844**	**208,978**	**35**
Hall	No	179,684	419	38,805	28
Haralson	No	28,780	102	2,947	11
Heard	No	11,834	39	749	7
Henry	**Yes**	**203,922**	**627**	**82,342**	**68**
Jasper	No	13,900	37	2,413	21
Lamar	No	18,317	99	2,347	15
Meriwether	No	21,992	43	-535	-2
Newton	**No**	**99,958**	**358**	**37,074**	**59**
Paulding	**No**	**142,324**	**452**	**59,329**	**71**
Pickens	No	29,431	127	6,072	26
Pike	No	17,869	81	4,071	30
Polk	No	41,475	133	3,226	8
Rockdale	**No**	**85,215**	**645**	**14,657**	**21**
Spalding	**No**	**64,073**	**320**	**5,591**	**10**
Troup	No	67,044	150	8,121	14
Upson	No	27,153	83	-462	-2
Walton	**No**	**83,768**	**254**	**22,207**	**36**
	Areawide:	5,618,431	Average 536	1,034,307	874

*Counties that EPA intends to designate as nonattainment are shown in bold.

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).

Cobb, DeKalb, Fulton and Gwinnett Counties are the most populated with each county having over 650,000 population and a population density of over 1,700 people per square mile. Bartow, Carroll, Cherokee, Clayton, Coweta, Douglas, Fayette, Forsyth, Hall, Henry and Paulding Counties have over a 100,000 population. Barrow, Cherokee, Douglas, Fayette, Forsyth, Hall, Henry, Newton, Paulding, Rockdale and Spalding Counties have between 300 and 750 people per square mile. Barrow, Butts, Clayton, Douglas, Fayette, Lamar, Rockdale and Spalding Counties are 200 square miles or less in size.

Gwinnett County had a population growth over 200,000 between 2000 and 2010. Cherokee, Cobb, Forsyth, Fulton, Henry and Paulding Counties had over 59,000 population growth between 2000 and 2010.

Forsyth, Henry, Newton and Paulding Counties had a population growth rate over 50 percent between 2000 and 2010. Barrow, Cherokee, Coweta, Dawson, Douglas, Gwinnett and Walton Counties had a population growth rate over 30 percent between 2000 and 2010.

Based upon this factor and the close proximity to counties with violating monitors, the following counties could not be excluded from consideration: Barrow, Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, Spalding and Walton.

Traffic VMT data and commuting patterns

EPA evaluated the commuting patterns of residents in the area, as well as the total VMT for each county. 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 and/or a high number of commuters 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 total 2008 VMT.

Table 5. Traffic and VMT Data

County*	State Recommended Nonattainment?	2008 VMT** (million miles)
Barrow	**No**	**552**
Bartow	**No**	**1,663**
Butts	No	302
Carroll	No	1,117
Chambers, AL	No	419
Cherokee	**No**	**1,813**
Clayton	**No**	**2,600**
Cobb	**Yes**	**6,601**
Coweta	**No**	**1,297**
Dawson	No	190
DeKalb	**Yes**	**7,410**
Douglas	**No**	**1,520**
Fayette	**No**	**1,028**
Forsyth	**No**	**1,310**
Fulton	**Yes**	**11,414**
Gwinnett	**No**	**7,064**
Hall	No	1,507
Haralson	No	339
Heard	No	105
Henry	**Yes**	**2,153**
Jasper	No	129
Lamar	No	232
Meriwether	No	290
Newton	**No**	**1,021**
Paulding	**No**	**1,112**
Pickens	No	297
Pike	No	145
Polk	No	365
Rockdale	**No**	**960**
Spalding	**No**	**588**
Troup	No	879
Upson	No	252
Walton	**No**	**720**

Areawide:	57,394

*Counties that EPA intends to designate as nonattainment are shown in bold.
**MOBILE model VMTs are those inputs into the NEI version 1.5.

Cobb, DeKalb and Fulton Counties had over six billion VMT in 2008. Bartow, Carroll, Cherokee, Clayton, Coweta, Douglas, Fayette, Forsyth, Gwinnett, Hall, Henry, Newton and Paulding Counties had over a billion VMT in 2008.

Based upon this factor, the following counties could not be excluded from consideration: Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton and Paulding.

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 Atlanta International Airport 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 Atlanta-Sandy Springs-Gainesville, Georgia Area. 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 east, northwest and west direction, component for the Atlanta-Sandy Springs-Gainesville, Georgia Area.

The predominant winds in the Atlanta-Sandy Springs-Gainesville, Georgia Area blow from the east, northwest and west direction, indicating counties from east (Coweta, Douglas and Paulding), northwest (Bartow) and west (Barrow, Gwinnett, Newton and Walton) direction could not be excluded for contributing to violations at the monitors in Cobb, DeKalb, Fulton, Henry and Rockdale Counties.

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 Atlanta-Sandy Springs-Gainesville, GA 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, Areas of Indian Country, 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 Atlanta-Sandy Springs-Gainesville, GA area has previously established nonattainment boundaries associated with the both the 1-hour and the 1997 8-hour ozone NAAQS. The Atlanta nonattainment boundary for the 1-hour ozone NAAQS included 13 counties in Georgia in their entireties: Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale. Whereas the Atlanta nonattainment boundary for the 1997 8-hour ozone NAAQS included 20 counties in Georgia in their entireties: Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding, and Walton. The EPA recommended Atlanta-Sandy Springs- Gainesville, GA nonattainment boundary for the 2008 ozone NAAQS differs from the previous nonattainment boundary for the 1997 ozone NAAQS by the exclusion of Carroll and Hall Counties. The State has recommended a different boundary for the 2008 ozone NAAQS.

Conclusion

Based on the assessment of factors described above, EPA has preliminarily concluded that the following counties should be included as part of the Atlanta-Sandy Springs-Gainesville, GA nonattainment area because they are either violating the 2008 ozone NAAQS or contributing to a violation in a nearby area: Barrow, Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, Spalding, and Walton in Georgia. All of these counties are included in the Atlanta nonattainment area for the 1997 ozone NAAQS. The air quality monitors in Cobb, DeKalb, Fulton, Henry and Rockdale Counties in Georgia indicate violations of the 2008 ozone NAAQS based on 2010 DVs, therefore these counties are preliminarily included in the nonattainment area. Barrow, Bartow, Cherokee, Clayton, Coweta, Douglas, Fayette, Forsyth, Gwinnett, Newton, Paulding, Spalding, and Walton Counties in Georgia 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 as summarized below. Two additional counties (i.e., Carroll and Hall Counties, Georgia) are included in the nonattainment area for the 1997 ozone NAAQS but are not being included in the preliminary 2008 ozone area. The EPA is not recommending including these two counties in the nonattainment area because both counties: had over 30 percent reduction in NOx and VOC emissions; less than 30 percent population growth between 2000 and 2010; distance from counties with violating monitors limits the impact due to meteorological conditions and both counties have several attaining monitors between them and a violating monitor. Carroll County has a small portion connecting to a county with a violating monitor; however, Carroll County is adjacent to three other counties with attaining monitors of closer proximity. Hall County is not adjacent to any county with a violating monitor but is adjacent to two counties with attaining monitors.

Barrow County: is adjacent to a county with an attaining monitor; has 1765 tons of NOx emissions and 2,291 tons of VOC emissions annually; 65 percent of NOx emissions are being emitted by mobile sources, 48 percent of VOC emissions by area sources and 43 percent emitted by mobile sources; there are 426 people per square mile with a county size of only 163 square miles; has a 2010 population of 69,367 with a growth rate 49 percent between 2000 and 2010.

Bartow County: is adjacent to county with a violating monitor; has 31,560 tons of NOx emissions and 6,165 tons of VOC emissions annually; 81 percent of NOx emissions are being emitted by point sources, 45 percent of VOC emissions by mobile sources and 37 percent of VOC emissions by area sources; has a 2010 population over 100,000; has over a billion VMT in 2008.

Cherokee County: is adjacent to county with a violating monitor, has 4,908 tons of NOx emissions and 6,189 tons of VOC emissions annually; 65 percent of NOx emissions are being emitted by mobile

sources, 35 percent of VOC emissions by mobile sources and 42 percent of VOC emissions by area sources; has a 2010 population of 214,346; there are 493 people per square mile; had a 57 percent population growth between 2000 and 2010; had over a billion VMT in 2008.

Clayton County: is adjacent to county with a violating monitor; has 16,105 tons of NOx emissions and 9,528 tons of VOC emissions annually; 63 percent of NOx emissions are being emitted by point sources, 32 percent of VOC emissions by mobile sources and 34 percent of VOC emissions by area sources; has a 2010 population of 259,424; there are 1,797 people per square mile with a county size of only 144 square miles; had over two billion VMT in 2008.

Coweta County: is adjacent to county with a violating monitor; has 15,852 tons of NOx emissions and 3,723 tons of VOC emissions annually; 79 percent of NOx emissions are being emitted by point sources, 37 percent of VOC emissions by mobile sources and 45 percent of VOC emissions by area sources; had a 2010 population of 127,317; had a population growth rate of 41 percent between 2000 and 2010; had over a billion VMT in 2008.

Douglas County: is adjacent to county with a violating monitor; has 3,368 tons of NOx emissions and 3,968 tons of VOC emissions annually; 75 percent of NOx emissions are being emitted by mobile sources, 45 percent of VOC emissions by mobile sources and 49 percent of VOC emissions by area sources; had a 2010 population of 132,403; has a population density of 661 people per square mile with a county size of only 200 square miles; had a 43 percent population growth rate between 2000 and 2010; over a billion VMT in 2008.

Fayette County: is adjacent to county with a violating monitor; has 2,732 tons of NOx emissions and 3,556 tons of VOC emissions annually; 64 percent of NOx emissions are being emitted by mobile sources, 37 percent of VOC emissions by mobile sources and 50 percent of VOC emissions by area sources; has a 2010 population of over a 106,567; has a population density of 536 people per square mile with a county size of only 199 square miles; over a billion VMT in 2008.

Forsyth County: is adjacent to county with a violating monitor; has 3,823 tons of NOx emissions and 5,753 tons of VOC emissions annually; 60 percent of NOx emissions are being emitted by mobile sources, 50 percent of VOC emissions by area sources and 29 percent of VOC emissions by mobile sources; had a 2010 population of 175,511; has a population density of 709 people per square mile; had a 75 percent population growth between 2000 and 2010; over a billion VMT in 2008.

Gwinnett County: is adjacent to county with a violating monitor; has 18,569 tons of NOx emissions and 24,506 tons of VOC emissions annually; 60 percent of NOx emissions are being emitted by mobile sources, 34 percent of VOC emissions by mobile sources and 47 percent of VOC emissions by area sources; had a 2010 population of 805,321; has a population density of 1,844 people per square mile; population growth rate of 35 percent between 2000 and 2010; had seven billion VMT in 2008.

Newton County: is adjacent to county with a violating monitor; has 3,307 tons of NOx emissions and 4,248 tons of VOC emissions annually; 67 percent of NOx emissions are being emitted by mobile sources, 49 percent of VOC emissions by mobile sources and 37 percent of VOC emissions by area sources; had a 2010 population of 99,958; has a population density of 358 people per square mile; 59 percent population growth between 2000 and 2010; over a billion VMT in 2008.

Paulding County: is adjacent to county with a violating monitor; has 2,780 tons of NOx emissions and 3,037 tons of VOC emissions annually; 66 percent of NOx emissions are being emitted by mobile

sources, 47 percent of VOC emissions by mobile sources and 44 percent of VOC emissions by area sources; had a 2010 population of 142,324; has a population density of 452 people per square mile; 71 percent population growth between 2000 and 2010; over a billion VMT in 2008.

Spalding County: is adjacent to county with a violating monitor; has 1,828 tons of NOx emissions and 2,862 tons of VOC emissions annually; 71 percent of NOx emissions are being emitted by mobile sources, 41 percent of VOC emissions by mobile sources and 46 percent of VOC emissions by area sources; had a 2010 population of 64,073; 10 percent population growth between 2000-2010 with a county size of only 200 people per square mile.

Walton County: is adjacent to county with a violating monitor; has 2,245 tons of NOx emissions and 3,137 tons of VOC emissions annually; 69 percent of NOx emissions are being emitted by mobile sources, 43 percent of VOC emissions by mobile sources and 44 percent of VOC emissions by area sources; had a 2010 population of 83,768; a population growth rate of 36 percent between 2000 and 2010.