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

The table below identifies the counties in Georgia that EPA is designating as "nonattainment" for the 2008 ozone national ambient air quality standards (2008 ozone NAAQS) as part of the Atlanta, Georgia area. 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 boundary for this nonattainment area is provided below.

Table 1: Final Nonattainment Area for the Atlanta, GA Area

Area	Georgia's Recommended Nonattainment Counties	EPA's Nonattainment Counties
Atlanta, GA	Cobb DeKalb Fulton Henry	Bartow Cherokee Clayton Cobb Coweta DeKalb Douglas Fayette Forsyth Fulton Gwinnett Henry Newton Paulding Rockdale

EPA is designating 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 the Atlanta nonattainment area boundary. It relies on EPA's analysis of whether and which monitors are violating the 2008 ozone NAAQS, based on certified air quality monitoring data from 2009-2011, 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 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);

[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.

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))

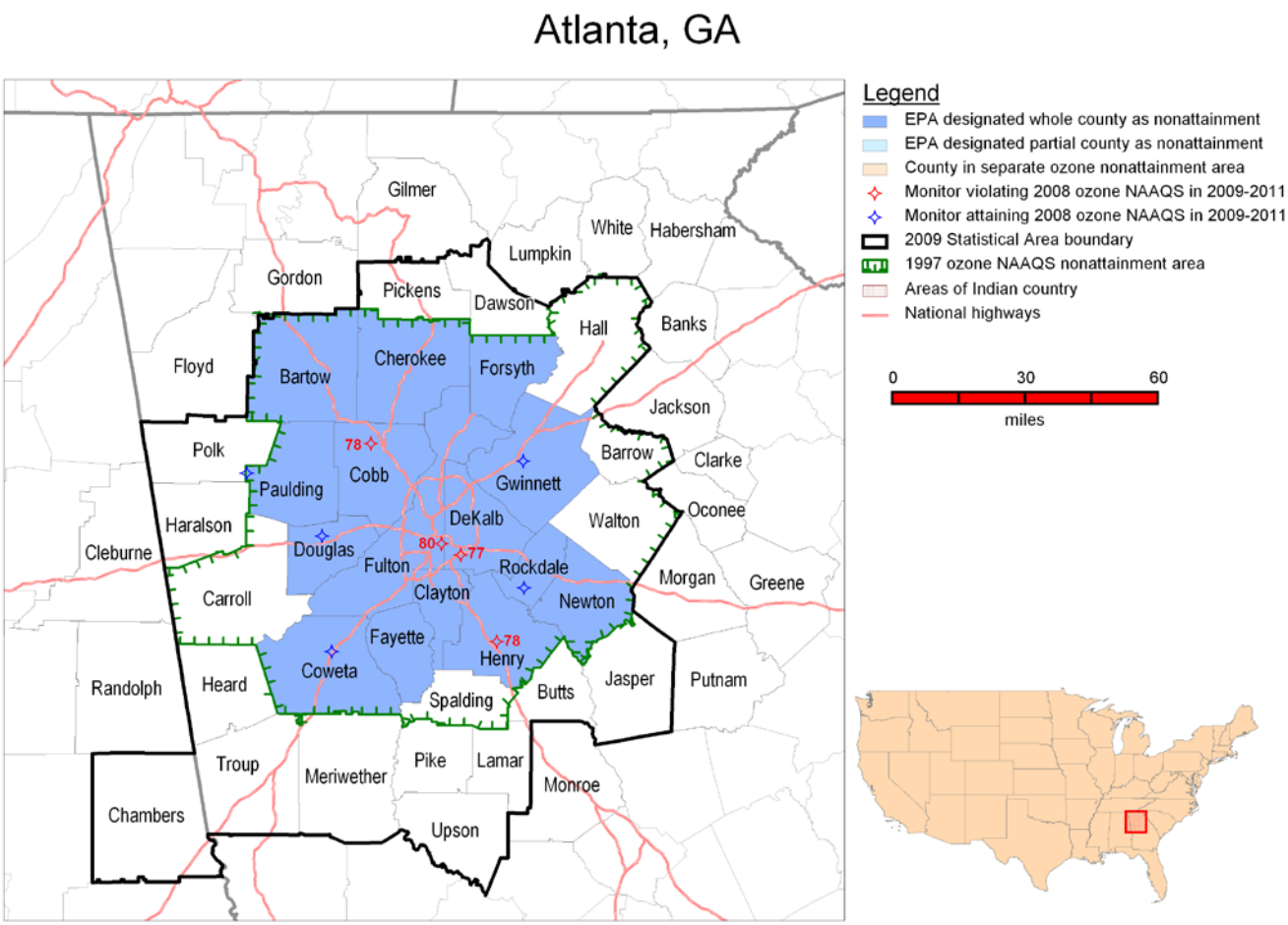
Ground-level ozone generally is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Because NOx and VOC emissions from a broad range of sources over a wide area typically contribute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

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 NAAQS 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, GA

Figure 1 is a map of the Atlanta, GA 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).

On December 9, 2011, EPA initiated the 120 day consultation process by notifying Georgia that based on EPA's technical analysis of the 33-county Atlanta-Sandy Springs-Gainesville CSA, EPA intended to designate 18 counties in Georgia (identified in Table 2 below) as "nonattainment" for the 2008 ozone NAAQS as part of the Atlanta, GA nonattainment area. In this December 2011 letter, EPA also requested that if the Georgia wished to provide additional information on EPA's intended designation or to use early certified 2011 monitoring data for designation, they should provide comments or early certify by February 29, 2012.

Table 2. State's Recommended and EPA's Intended Designated Nonattainment Counties for the Atlanta, GA from December 9, 2011.

Atlanta, 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***

****bold italics*** represent counties that were not included in the final boundary for nonattainment area.

On February 29, 2012, Georgia provided an update to their October 2011 recommendation. This update was based on certified air quality data from 2009-2011, and was provided in response to EPA's preliminary boundary determination for the Atlanta-Sandy Springs-Gainesville CSA. After considering Georgia's recommendation and additional technical information, and based on EPA's reevaluation of the 18 counties as described below, EPA is designating 15 counties in Georgia as "nonattainment" for the 2008 ozone NAAQS as part of the Atlanta, GA nonattainment area.

EPA originally started with the CSA or CBSA areas for evaluating what areas violate and contribute to violations of the ozone NAAQS, and for final determinations refined its evaluation based on additional technical information provided by the states and tribes. After considering the recommendations and additional technical information for the Atlanta, GA Area, and based on EPA's reevaluation of the 18 counties as described below, EPA is designating 15 counties as "nonattainment" for the 2008 ozone NAAQS as part of the Atlanta, GA nonattainment area.

Factor Assessment

Factor 1: Air Quality Data

For this factor, EPA considered 8-hour ozone design values (in parts per billion (ppb)) for air quality monitors in counties in the Atlanta-Sandy Springs-Gainesville CSA, based on data for the 2009-2011 period (i.e., the 2011 design value), which are the most recent years with fully-certified air quality data. It should be noted that for EPA's December 9, 2011, technical analysis EPA only had certified monitoring data for the 2008-2010 period for the Atlanta-Sandy Springs-Gainesville CSA to consider. The 2008-2010 monitor data indicated one additional violating monitor which EPA considered for the development of the preliminary boundary determination for the Atlanta, GA nonattainment area.

A monitor's design value 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 design value 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 design value for the county or area is determined by the monitor with the highest level.

The 2011 design values for the ozone NAAQS for counties with monitors in the Atlanta-Sandy Springs-Gainesville CSA are shown in Table 3. (Counties not identified do not have monitors)

Table 3. Air Quality Data.

County*	State Recommended Nonattainment?	2009-2011 Design Value (ppb)
Cobb, GA	**Yes**	**78**
Coweta, GA	No	67
DeKalb, GA	**Yes**	**77**
Douglas, GA	No	74
Fulton, GA	**Yes**	**80**
Gwinnett, GA	No	75
Henry, GA	**Yes**	**78**
Paulding, GA	No	71
Rockdale, GA	No	75

*Counties with violating monitors are shown in bold.

Based on 2009-2011 monitoring data, Cobb, DeKalb, Fulton and Henry Counties show a violation of the 2008 ozone NAAQS, therefore these counties are included in the Atlanta, GA nonattainment area. Rockdale County showed a violation based on 2008-2010 monitoring data with a design value of 78 ppb, however, as indicated in Table 3 above the Rockdale County monitoring is attaining the 2008 8-hour ozone NAAQS at a design value of 75 based on more recent 2009-2011 data.

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 to determine whether it contributes to the nearby violation. EPA started with the CSA or CBSA for evaluating what areas violate and contribute to violations of the ozone NAAQS.

Factor 2: Emissions and Emissions-Related Data

EPA evaluated emissions of ozone precursors (i.e, NOx and VOC emissions), 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. EPA also considered any additional information we received on changes to emissions levels that are not reflected in recent inventories.

As mentioned above, EPA received additional information from the State of Georgia for the preliminary boundary determination for the Atlanta, GA nonattainment area, and this information was considered for this final designations. While additional information was provided for meteorological data (and is discussed below), Georgia did not provide any additional emissions-related data for EPA to consider. Georgia noted in its supplemental information that the State used the same data source for emissions-related information but that the State took a slightly different approach for use of this information. In summary, in addition to the factors that EPA identified that the Agency would use to make boundary determination, Georgia also considered: (1) NOx and VOC emission density (tons/mile^2); and (2) county percent contribution to the total CSA.

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 4 shows emissions of NOx and VOC (given in tons per year (tpy)) for Atlanta-Sandy Springs-Gainesville, GA-AL CSA that EPA considered for inclusion in the Atlanta, GA nonattainment area.

Table 4. 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 each 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, however, it should be noted that the majority of NOx emissions in Clayton County are from Hartsfield-Jackson Atlanta International Airport.

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

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

VOC Emissions: Cobb, DeKalb, Fulton and Gwinnett Counties each 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 from 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, Polk, Rockdale, Spalding, Troup, Upson and Walton Counties have over 30 percent of VOC emissions from area sources.

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 precursor 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 5 shows the population, population density, and population growth information for each county in the Area.

Table 5. Population and Growth.

County*	State Recommended Nonattainment?	2010 Population	2010 Population Density (people/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		

*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.ST05&prodType=table%20as%20of%208/4/11%20and%20estimation%20of%20the%20area%20of%20U.S.%20Counties%20based%20on%20County%20Land%20Area%20(line%2019)).

Cobb, DeKalb, Fulton and Gwinnett Counties are the most populated with each county having over 650,000 people 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.

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

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 6 shows total 2008 VMT and number of county workers for each county in the area.

Table 6. Traffic and Commuting Patterns.

County	State Recommended Nonattainment?	2008 Annual VMT* (million miles)	Number of County Workers** (2009 data)	Percent of County Workers that Work in Counties with Violating Monitors**
Barrow	No	552	27,984	18.45%
Bartow	**No**	**1,663**	**40,442**	**32.13%**
Butts	No	302	8,600	29.3%
Carroll	No	1,117	44,866	26.4%
Chambers, AL	No	419	13,683	NA
Cherokee	**No**	**1,813**	**90,016**	**54.11%**
Clayton	**No**	**2,600**	**102,824**	**50.99%**
Cobb	**Yes**	**6,601**	**299,994**	**76.70%**
Coweta	**No**	**1,297**	**49,840**	**29.66%**
Dawson	No	190	8,651	26.4%
DeKalb	**Yes**	**7,410**	**284,581**	**73.95%**
Douglas	**No**	**1,520**	**51,578**	**52.33%**
Fayette	**No**	**1,028**	**48,773**	**34.91%**
Forsyth	**No**	**1,310**	**66,136**	**42.94%**
Fulton	**Yes**	**11,414**	**365,927**	**75.01%**
Gwinnett	**No**	**7,064**	**313,622**	**41.30%**
Hall	No	1,507	66,551	13.9%
Haralson	No	339	10,279	18.0%
Heard	No	105	4,254	13.2%
Henry	**Yes**	**2,153**	**80,649**	**57.91%**
Jasper	No	129	4,299	9.3%
Lamar	No	232	6,794	16.7%
Meriwether	No	290	8,316	14.5%
Newton	**No**	**1,021**	**37,693**	**35.43%**
Paulding	**No**	**1,112**	**56,066**	**56.97%**
Pickens	No	297	12,295	27.2%
Pike	No	145	6,355	14.8%
Polk	No	365	**15,875**	**16.9%**
Rockdale	**No**	**960**	**34,865**	**44.18%**
Spalding	No	588	26,889	30.16%
Troup	No	879	26,708	10.0%
Upson	No	252	11,742	11.9%
Walton	No	720	33,112	21.93%
Areawide		57,394	2,260,259	

*MOBILE model VMTs are those inputs into the NEI version 1.5.
**Source: U.S. Census Bureau http://onthemap.ces.census.gov/

Cherokee, Clayton, Douglas and Paulding Counties have over 50 percent of work force working in counties with violating monitors. Bartow, Fayette, Forsyth, Gwinnett and Rockdale have over 30 percent of work force working in counties with violating monitors.

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

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 2009-2011 "ozone season" (March through October) in the Atlanta-Sandy Springs-Gainesville, GA-AL 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 east, northwest and west direction, component for the Atlanta, GA area.

The predominant winds in the Atlanta-Sandy Springs-Gainesville, GA-AL CSA blow from the east, northwest and west direction, indicating counties from east , northwest and west direction could not be excluded for contributing to violations at the monitors in Cobb, DeKalb, Fulton and Henry Counties.

EPA received additional meteorological information from the State of Georgia for the preliminary boundary determination for the Atlanta, GA nonattainment area, and this information was considered for this final designation. Georgia provided a supplemental meteorological analysis to correlate wind speed and wind direction with monitored ozone exceedances at the four violating monitors in the Atlanta-Sandy-Springs-Gainesville, GA-AL CSA, plus the Conyers monitor (i.e., located in Rockdale County) which was no longer violating based on 2009-2011 monitoring data. Georgia used this analysis to identify counties that are upwind and may be contributing ozone exceedances. EPA evaluated Georgia's meteorological information and found that all of the counties that EPA is considering for inclusion in the nonattainment area boundary are upwind of a monitor with measured exceedances at some point during the 2009-2011 timeframe. These data helped inform the final nonattainment area designation.

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 air shed and, therefore, the distribution of ozone over the area.

The Atlanta-Sandy Springs-Gainesville, GA-AL CSA 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 EPA identified the general areas that the Agency anticipated would be included in the nonattainment area, EPA 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 an MPO, 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, GA area has previously established nonattainment boundaries associated with both the 1-hour and the 1997 8-hour ozone NAAQS. The Atlanta, GA 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, GA 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. EPA concluded based on the factors mentioned above that a different boundary from that used for the 1-hour ozone and 1997 8-hour ozone NAAQS was warranted. EPA's final boundary for the 2008 8-hour ozone NAAQS is based on county boundary lines, and differs from the 1997 8-hour ozone boundary for the Atlanta, Georgia nonattainment area by the exclusion of Barrow, Carroll, Hall, Spalding and Walton Counties.

Conclusion

On December 9, 2011, EPA notified Georgia that EPA intended to designate 18 counties in Georgia as nonattainment for the 2008 ozone NAAQS as part of the Atlanta, GA nonattainment area. These 18 counties consisted of the 20 counties currently included in Atlanta's 1997 ozone NAAQS nonattainment boundary minus two counties, Carroll and Hall Counties. 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. 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.

Georgia's February 29, 2012, supplemental technical analysis was submitted to EPA in response to EPA's December 9, 2011, notification that it intended to designate 18 counties in Georgia as nonattainment for the 2008 ozone NAAQS as part of the Atlanta, GA nonattainment area. In their February 29, 2012, response Georgia provided a detailed analysis that considered; certified air quality monitoring data for 2009-2011, a review of factors similar to EPA's and a robust meteorological analysis of wind patterns occurring during ozone exceedance events in the 2009-2011 timeframe. After considering Georgia's analysis and based on EPA's reevaluation, EPA is designating 15 counties in the 33-county Atlanta-Sandy Springs-Gainesville CSA as nonattainment for the 2008 ozone NAAQS as part of the Atlanta, GA nonattainment area.

EPA is not finalizing a nonattainment designation for Carroll and Hall counties, mentioned above, and three additional counties (i.e., Barrow, Spalding and Walton) which EPA originally listed in its December 9, 2011, notification of the intended nonattainment boundary for the Atlanta, GA area. EPA is not including these three counties in the nonattainment area for the following reasons. First, Barrow and Walton Counties are of sufficient distance from the nearest counties with violating monitors (based on 2009-2011 design values) such that it is unlikely that emissions in these counties contribute to the violations at those monitors. Local meteorological conditions and the existence of several attaining monitors between each of those counties and the nearest violating monitor further support that impacts from these counties are unlikely. Second, of the 18 counties identified in EPA's December 9, 2011, letter to Georgia, Barrow, Spalding, and Walton Counties are the least populated, among the four with the lowest population densities and lowest VMT. Third, the number of workers residing in Barrow, Spalding, and Walton Counties that work in counties with violating monitors range from 38 to 61 percent below the next highest county with workers who residing in an attaining county but work in a violating county. Finally, Georgia's February 29, 2012, response shows that for all exceedances at the McDonough monitor in Henry County, which is the closest violating monitor to Spalding County, the wind direction was from the northwest which indicates that Spalding County emissions likely did not contribute to the violations at the McDonough monitor. Therefore, EPA has determined that Barrow, Spalding, and Walton Counties are unlikely to contribute to violations in the Atlanta-Sandy Springs-Gainesville CSA, and should not be included in the Atlanta, GA nonattainment area.

Based on the assessment of factors described above, EPA has concluded that the following counties should be included as part of the Atlanta, GA nonattainment area because they are either violating the 2008 ozone NAAQS or contributing to a violation in a nearby area: Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding and Rockdale in Georgia. The air quality monitors in Cobb, DeKalb, Fulton and Henry Counties in Georgia indicate violations of the 2008 ozone NAAQS based on 2009-2011 design values, therefore these counties are included in the nonattainment area. Bartow, Cherokee, Clayton, Coweta, Douglas, Fayette, Forsyth, Gwinnett, Newton, Paulding and Rockdale Counties in Georgia are nearby counties that do not have violating monitors, but EPA has concluded that these areas contribute to the ozone concentrations in violation of the 2008 ozone NAAQS as summarized below.

Bartow County: 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; 32 percent of workers work in counties with violating monitors.

Cherokee County: 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; 54 percent of workers work in counties with violating monitors.

Clayton County: 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 (the majority are from Hartsfield-Jackson Atlanta International Airport), 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; 51 percent of workers work in counties with violating monitors.

Coweta County: 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; 30 percent of workers work in counties with violating monitors.

Douglas County: 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; 52 percent of workers work in counties with violating monitors.

Fayette County: 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; 35 percent of workers work in counties with violating monitors.

Forsyth County: 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; 43 percent of workers work in counties with violating monitors.

Gwinnett County: 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; 41 percent of workers work in counties with violating monitors.

Newton County: 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; 35 percent of workers work in counties with violating monitors.

Paulding County: 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; 57 percent of workers work in counties with violating monitors.

Rockdale County: has 2,483 tons of NOx emissions and 2,961 tons of VOC emissions annually; 64 percent of NOx emissions are being emitted by mobile sources, 39 percent of VOC emissions by mobile sources and 47 percent of VOC emissions by area sources; had a 2010 population of 85,215; has a population density of 645 people per square mile; 44 percent of workers work in counties with violating monitors.