



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

**JUN 29 2004**

4APT-APB

Honorable Robert Riley  
Governor of Alabama  
Alabama State Capitol  
600 Dexter Avenue  
Montgomery, AL 36130

Dear Governor Riley:

Fine-particle pollution represents one of the most significant barriers to clean air facing our nation today. These tiny particles – about 1/30<sup>th</sup> the diameter of a human hair – have been scientifically linked to serious human health problems. Their ability to be suspended in air for long periods of time makes them a public health threat far beyond the source of emissions. An important part of our nation's commitment to clean, healthy air deals with reducing levels of this fine particle or PM<sub>2.5</sub> pollution.

In February, your State submitted its recommended boundaries for PM<sub>2.5</sub> attainment and nonattainment areas. We have thoroughly reviewed your recommendations and the technical information you have submitted to support your recommendations. We appreciate the effort your State has made to develop this supporting information. Consistent with the Clean Air Act, this letter is to notify you that based on the information contained in your submittal, EPA intends to make modifications to recommended designations and boundaries in your State.

The detailed enclosure contains a description of areas where EPA intends to modify your State recommendations, and the basis for such modification. Should you have additional information that you wish to be considered by EPA in this process, we request that you provide it to us by September 1.

You will hear from us again in November when EPA takes the final step in the PM<sub>2.5</sub> designation process and determines those areas that are in attainment and meet the fine particle standards and those areas that do not meet them. For areas in attainment, the challenge will be not only to maintain, but also to continue the progress you have made toward clean air. It is a commitment to no backsliding in your State's clean air status for fine particles. EPA will also issue a proposed fine particle implementation rule prior to final designations, which will allow you to proceed with planning to achieve clean air.

The Bush Administration is addressing fine particle pollution with a comprehensive national clean air strategy. This strategy includes EPA's recent rule to reduce pollution from nonroad diesel engines, and the proposed rule to reduce pollution from power plants in the

eastern U.S. These two rules are important components of EPA's efforts to help States and localities meet the more protective national fine-particle and 8-hour ozone air quality standards. Together these rules will help all areas of the country achieve cleaner air.

Should you or your staff have any questions, I invite you to contact Beverly H. Banister, Director, Air Pesticides and Toxics Management Division, at 404/562-9077, or Kay T. Prince, Chief, Air Planning Branch, at 404/562-9026. We look forward to a continued dialogue with you as we work together to implement the PM2.5 standards.

Sincerely,

A handwritten signature in black ink, appearing to read "J. I. Palmer, Jr.", with a large, stylized flourish at the end.

J. I. Palmer, Jr.  
Regional Administrator

Enclosure

cc: Sonny Perdue, Governor of Georgia  
Phil Bredesen, Governor of Tennessee  
James W. Warr, ADEM  
Ron Gore, ADEM  
Daniel E. Shea, Huntsville DAR  
James L. Carroll, Jefferson Co. DHEHS



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4APT-APB

James Warr, Director  
Alabama Department of  
Environmental Management  
1400 Coliseum Boulevard  
Montgomery, AL 36130-2059

Dear Mr. Warr:

Fine-particle pollution represents one of the most significant barriers to clean air facing our nation today. These tiny particles – about 1/30<sup>th</sup> the diameter of a human hair – have been scientifically linked to serious human health problems. Their ability to be suspended in air for long periods of time makes them a public health threat far beyond the source of emissions. An important part of our nation's commitment to clean, healthy air deals with reducing levels of this fine particle or PM2.5 pollution.

In February, your State submitted its recommended boundaries for PM2.5 attainment and nonattainment areas. We have thoroughly reviewed your recommendations and the technical information you have submitted to support your recommendations. We appreciate the effort your State has made to develop this supporting information. Consistent with the Clean Air Act, this letter is to notify you that based on the information contained in your submittal, EPA intends to make modifications to recommended designations and boundaries in your State.

Your Governor was sent a letter today notifying him that EPA is modifying the State's recommendation. This letter contains a more detailed enclosure containing a description of areas where EPA intends to modify your State recommendations, and the basis for such modification. Should you have additional information that you wish to be considered by EPA in this process, we request that you provide it to us by September 1, 2004.

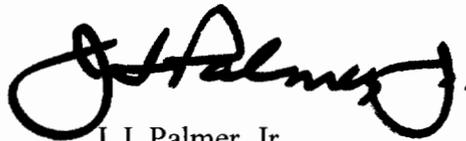
You will hear from us again in November when EPA takes the final step in the PM2.5 designation process and determines those areas that are in attainment and meet the fine particle standards and those areas that do not meet them. For areas in attainment, the challenge will be not only to maintain, but also to continue the progress you have made toward clean air. It is a commitment to no backsliding in your State's clean air status for fine particles. EPA will also issue a proposed fine particle implementation rule prior to final designations, which will allow you to proceed with planning to achieve clean air.

The Bush Administration is addressing fine particle pollution with a comprehensive national clean air strategy. This strategy includes EPA's recent rule to reduce pollution from

nonroad diesel engines, and the proposed rule to reduce pollution from power plants in the eastern U.S. These two rules are important components of EPA's efforts to help States and localities meet the more protective national fine-particle and 8-hour ozone air quality standards. Together these rules will help all areas of the country achieve cleaner air.

Should you or your staff have any questions, I invite you to contact Beverly H. Banister, Director, Air, Pesticides and Toxics Management Division, at 404/562-9077, or Kay T. Prince, Chief, Air Planning Branch, at 404/562-9026. We look forward to a continued dialogue with you as we work together to implement the PM2.5 standards.

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J. I. Palmer, Jr.  
Regional Administrator

Enclosure

cc: Carol A. Couch, Commissioner, GAEPD  
Betsy, L. Child, Commissioner, TNDEC  
Ron Gore, ADEM  
Daniel E. Shea, Huntsville DAR  
James L. Carroll, Jefferson Co. DHEHS

**Enclosure for 120 Day Letter  
Justification for Modifications to State Recommendations  
PM 2.5 Nonattainment Areas  
State of Alabama**

Factor 1. Emissions in areas potentially included versus excluded from the nonattainment area:

*The analysis for factor 1 looks at emissions of carbonaceous particles ("carbon"), inorganic particles ("crustal"), SO<sub>2</sub>, and NO<sub>x</sub>. EPA computed a composite emission score for each county by multiplying the county's emissions as a fraction of the metropolitan area emissions for each of these pollutants times a corresponding air quality weighting factor. The air quality weighting factors for each area are given below and reflect the percentages of the total estimated "urban excess" value found as, respectively, carbonaceous particles, miscellaneous inorganic particles ("crustal material"), ammonium sulfate, and ammonium nitrate. These scores add to 100 for the metropolitan area counties. Composite scores were also calculated for counties adjacent to the metropolitan area. Tables presented under factor 1 present the emissions of carbonaceous particles, inorganic particles, SO<sub>2</sub>, and NO<sub>x</sub> and the composite emission scores for the counties in the corresponding metropolitan area and adjacent counties. Metropolitan area counties are in bold. Emissions data indicate the potential for a county to contribute to observed violations, often making the emissions data the most important factor in assessing boundaries of nonattainment areas.*

*"Urban excess" values are derived by comparing urban monitored component concentrations against rural monitored component concentrations. Concentrations of the four PM<sub>2.5</sub> components are obtained from local data if available (or, if necessary, from the nearest available urban site), and are compared to available rural concentrations. The monitoring sites used for this purpose are identified below. Although this information is air quality information, it is presented under Factor 1 due to its integration into the analysis of emissions information.*

Factor 2. Air quality in potentially included versus excluded areas:

*The air quality analysis looks at the annual averaged design value for each area based on data for 2001 to 2003. Counties without monitors are not listed.*

Factor 3. Population density and degree of urbanization including commercial development in included versus excluded areas:

*Tables presented under factor 3 show the 2003 population for each metropolitan area, as well as the population density for each county in that area. Population data indicate the likelihood of population-based emissions that might contribute to violations.*

Factor 4. Traffic and commuting patterns:

*The traffic and commuting analysis looks at the number of commuters in each county who drive to another county within the metropolitan area ("Number"), the percent of total*

*commuters in each county who commute to other counties within the metropolitan area ("percent")\*, as well as the total Vehicle Miles Traveled (VMT) for each county in thousands of miles. A county with numerous commuters is generally an integral part of the area, and would be an appropriate part of the domain of some mobile source strategies, thus warranting inclusion in the nonattainment area.*

*\*Note that the percent of commuters traveling to counties within the metropolitan area is based on the total number of commuters from that county. This total includes commuters who may travel outside the metropolitan area from their county of origin.*

Factor 5. Expected growth:

*The expected growth analysis looks at the percent growth for counties in each metropolitan area from 1990 to 2000.*

Factor 6. Meteorology:

*The meteorology analysis looks at wind data gathered over a ten year period by the National Weather Service. Tables presented under factor 6 list the year round average prevailing wind directions by quadrant for each county in the corresponding metropolitan area. These data show that annual average PM2.5 concentrations are influenced by emissions in any direction at various times, but these data may also suggest that emissions in some directions relative to the violation may be more prone to contribute than emissions in other directions.*

Factor 7. Geography/topography:

*The geography/topography analysis looks at physical features of the land that might have an effect on the airshed, and therefore, the distribution of particulate matter over an area. The State of Alabama has no such features that significantly influenced EPA's recommended nonattainment areas.*

Factor 8. Jurisdictional boundaries:

*The analysis of jurisdictional boundaries looks at the planning and organizational structure of an area to determine if the implementation of controls in a potential nonattainment area can be carried out in a cohesive manner.*

Factor 9. Level of control of emission sources:

*The level of control analysis looks at what controls are currently implemented in each area.*

### 9 Factor Analysis for Birmingham MSA

The following is the 9 factor analysis for Birmingham MSA and surrounding Counties. Alabama's submittal in February 2004, recommended Jefferson County be designated nonattainment for the fine particulate matter (PM<sub>2.5</sub>), based on 2001 - 2003 monitoring data. Based on the following analysis EPA believes that Jefferson, Shelby and Walker Counties should be included in the PM<sub>2.5</sub> nonattainment area. Jefferson County has a violating monitor and the State recommended it as nonattainment. Shelby County is within the MSA, has high PM, SO<sub>x</sub>, NO<sub>x</sub>, and VOC emissions, approximately 52 percent of its commuters commute to Jefferson County, has relatively high population and VMT, and has a power plant within the County. Walker County has high SO<sub>x</sub> and NO<sub>x</sub> emissions from a power plant. We have included in our recommended nonattainment area Walker County that is contiguous to the MSA with a violating monitor, that is generally rural in character, and that contains an identifiable large emitting facility or facilities (e.g., power plants) which we believe contributes to the nearby nonattainment problem. We have included this County in our initial recommendations in order to ensure that a sufficient portion of this County, including such large facilities, is included within the boundaries of the nonattainment area as part of the final designations. We invite you to submit to us a recommendation as to what portion of Walker County, encompassing the large facility or facilities, should be designated nonattainment. Based on the following analysis, EPA agrees that Blount, St. Clair, Calhoun, Talladega, Tuscaloosa and Morgan Counties should be recommended attainment/unclassifiable for PM<sub>2.5</sub>. Blount County has no major sources, has relative low emissions and has the lowest population and VMT in the Birmingham area. St. Clair County has relatively low SO<sub>x</sub> and PM emissions and has a small population. Calhoun County has no major sources, 84 percent of its commuters commute within its County and it is adjacent to the MSA. Talladega County has a small population, an attaining monitor (14.7 DV), low VMT and it is adjacent to the MSA. Tuscaloosa County has no major sources, 89 percent of its commuters commute within its County, has an attaining monitor (11.6 DV) and it is adjacent to the MSA. Morgan County has an attaining monitor, is part of another MSA, 72 percent of its commuters commute within its County and is several Counties away from Jefferson County.

Area	EPA Recommendation	State Recommendation
Birmingham, AL	<b>Full Counties:</b> Jefferson, Shelby and Walker	<b>Full Counties:</b> Jefferson

The following is a brief summary of the 9 criteria for the Birmingham MSA and surrounding Counties . These analyses were based on existing available data.

**Factor 1:** Emissions in areas potentially included versus excluded from the nonattainment area.

The following table has 2001 PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and NH<sub>3</sub> emissions in tons, and weighted emissions scores for the Birmingham Area and surrounding counties. The MSA counties are in **bold**.

**Birmingham MSA and Surrounding Counties Emissions**

County	PM	SO2	NOX	VOC	NH3	Weighted Emissions Score	Cumulative Weighted Emissions Score
<b>Jefferson</b>	<b>12,772</b>	<b>56,703</b>	<b>69,364</b>	<b>44,782</b>	<b>1,198</b>	<b>50.3</b>	<b>27.5</b>
<b>Shelby</b>	<b>8,780</b>	<b>126,125</b>	<b>42,095</b>	<b>9,650</b>	<b>386</b>	<b>40.9</b>	<b>91.2</b>
<b>St Clair</b>	<b>976</b>	<b>1,087</b>	<b>7,159</b>	<b>4,673</b>	<b>1,395</b>	<b>4.8</b>	<b>96.0</b>
<b>Blount</b>	<b>937</b>	<b>454</b>	<b>3,054</b>	<b>2,781</b>	<b>4,049</b>	<b>3.9</b>	<b>99.9</b>
Walker	3,916	59,256	23,982	4,750	1,491	19.2	
Tuscaloosa	2,065	5,183	11,252	14,752	915	12.8	
Morgan	2,386	10,949	12,012	17,639	2,183	11.0	
Etowah	2,193	11,850	8,487	7,089	1,842	9.9	
Calhoun	2,000	2,271	7,115	9,452	1,098	9.5	
Talladega	1,968	12,270	8,593	6,065	769	9.1	
Dallas	1,505	3,296	4,124	3,670	411	6.2	
Cullman	1,459	1,004	5,433	6,612	8,408	6.0	
Marshall	1,294	1,525	4,749	7,283	4,275	5.5	
Autauga	1,069	2,569	4,897	3,099	249	5.3	
Lawrence	1,429	2,422	5,981	2,946	1,649	5.3	
Elmore	1,014	517	4,443	4,368	326	4.8	
Chilton	777	486	3,621	3,260	300	4.3	
Bibb	613	189	1,260	1,433	169	3.8	
Winston	574	320	1,547	3,311	1,336	3.4	
Marion	567	450	2,835	3,151	742	3.1	
Fayette	456	306	1,246	1,509	346	2.8	
Coosa	408	152	791	1,410	102	2.4	
Hale	430	156	2,373	1,462	215	2.3	
Perry	415	218	589	799	166	2.3	

Based on the analysis for this factor, there appears to be emissions in Shelby and Walker, Counties that contribute to the air quality in Jefferson County, resulting in a violating monitor there.

**Factor 2:** Air quality in potentially included versus excluded areas.

**Birmingham MSA and Surrounding Counties Design Value (DV)**

County	2001-2003 DV
<b>Jefferson</b>	<b>18.0</b>
<b>Shelby</b>	<b>14.4</b>
Walker	12.8
Tuscaloosa	11.6

**Morgan	17.6
Etowah	14.8
Talladega	14.7

Jefferson County has 6 monitors, only one monitor exceeded the PM2.5 standard (North Birmingham/Wylam). Shelby, Walker, Tuscaloosa, Etowah, and Talladega counties all have monitors that show attainment of the PM2.5 standard.

\*\* Morgan County has a violating monitor, however, the Decatur, Alabama, fine particulate matter (PM2.5) monitoring site (AQS #01-103-0010) began operating in January 1999, and was terminated in August 2001. A new site (AQS # 01-103-0011) was selected in the Decatur area and monitoring began in August 2001. The State of Alabama requested and received Region 4 concurrence for these network design changes. The changes were approved due to a local diesel source impacting the initial monitoring site. The data from the initial monitoring site was left in the Air Quality System (AQS) database and is in the current calculations for the Decatur area. Data sets from each of the sites are incomplete when considered individually. When the data sets are combined the calculations demonstrate the Decatur area to be below the level of the PM2.5 NAAQS.

**Factor 3:** Population density and degree of urbanization including commercial development in included versus excluded areas.

The following table has the populations for the counties in the Birmingham MSA and adjacent Counties.

#### **Birmingham MSA and Surrounding Counties Population & Area**

County	Population 2002	Percent in MSA	Population Density 2002
<b>Jefferson</b>	<b>661,153</b>	<b>71</b>	<b>594</b>
<b>Shelby</b>	<b>153,832</b>	<b>16</b>	<b>193</b>
<b>St Clair</b>	<b>67,215</b>	<b>7</b>	<b>106</b>
<b>Blount</b>	<b>59,968</b>	<b>6</b>	<b>82</b>
Walker	70,655		89
Tuscaloosa	166,512		126
Morgan	111,725		192
Etowah	103,105		193
Calhoun	111,616		183
Talladega	80,638		109

Of the MSA population, 87 percent resides in Jefferson County (661,153) and Shelby County (153,832). Blount and St. Clair Counties have a much lower population and population

density than Jefferson and Shelby Counties.

**Factor 4:** Traffic and commuting patterns.

Commuting Information - Following is an analysis of the commuting in the Birmingham MSA and adjacent Counties.

Jefferson County, an MSA county, has a total of 288,136 commuters.

- Commuters who remain in Jefferson County 265,661 (92%)

Shelby County, an MSA county, has a total of 70,873 commuters.

- Commuters from Shelby County to Jefferson County 37,119 (52%)
- Commuters who remain in Shelby County: 32,573 (46%)

St. Clair County has a total of 27,773 commuters.

- Commuters from St. Clair County to Jefferson County 12,870 (46%)
- Commuters who remain in St. Clair County: 10,648 (38%)

Blount County has a total of 22,255 commuters.

- Commuters from Blount County to Jefferson County 9,669 (43%)
- Commuters who remain in Blount County: 8,966 (40%)

Walker County has a total of 27,448 commuters.

- Commuters from Walker County to Jefferson County 6,746 (25%)
- Commuters who remain in Walker County: 17,293 (63%)

Tuscaloosa County has a total of 73,292 commuters.

- Commuters from Tuscaloosa County to Jefferson County 4,385 (6%)
- Commuters who remain in Tuscaloosa County: 65,331 (89%)

Morgan County has a total of 49,769 commuters.

- Commuters who remain in Morgan County: 36,005 (72%)

Etowah County has a total of 42,636 commuters.

- Commuters from Etowah County to Jefferson County 1,658 (4%)
- Commuters who remain in Etowah County: 32,181 (75%)

Calhoun County has a total of 47,181 commuters.

- Commuters from Calhoun County to Jefferson County 842 (2%)
- Commuters who remain in Calhoun County: 39,856 (84%)

Talladega County has a total of 31,443 commuters.

- Commuters from Talladega County to Jefferson County 2,292 (7%)

- Commuters who remain in Talladega County: 20,563 (65%)

The following Counties have significant commuters commuting to Jefferson County on a percentage basis: Shelby (52%), Walker (25%), St. Clair (46%) and Blount County (43%). Although a relatively high percentage of commuters in Blount and St. Clair Counties go to Jefferson County, they only contribute 3% and 4% respectively.

#### **Birmingham MSA and Surrounding Counties VMT**

County	VMT 2002	VMT Growth 02-10
<b>Jefferson</b>	<b>8,242</b>	<b>3,485</b>
<b>Shelby</b>	<b>1,449</b>	<b>345</b>
<b>St. Clair</b>	<b>1,111</b>	<b>-331</b>
<b>Blount</b>	<b>594</b>	<b>134</b>
Walker	851	212
Tuscaloosa	2,430	176
Morgan	1,296	816
Etowah	1,235	500
Calhoun	1,525	431
Talladega	801	39

Jefferson County has over 70% of the VMT in the MSA

#### **Factor 5: Expected growth.**

The following table has the population and population growth figures for the Birmingham MSA and Surrounding Counties.

#### **Birmingham MSA and Surrounding Counties Population/Growth**

County	Population	Growth 90-00	Percent Growth
<b>Jefferson</b>	<b>661,153</b>	<b>10,522</b>	<b>2</b>
<b>Shelby</b>	<b>153,832</b>	<b>43,935</b>	<b>44</b>
<b>St. Clair</b>	<b>67,215</b>	<b>14,733</b>	<b>29</b>
<b>Blount</b>	<b>59,968</b>	<b>11,776</b>	<b>30</b>
Walker	70,655	3,043	4
Tuscaloosa	166,512	14,353	10
Morgan	111,725	11,021	11
Etowah	103,105	3,619	4
Calhoun	111,616	-3,785	-3
Talladega	80,638	6,214	8

Blount County had one of the higher population growth (30 percent) in the MSA, however, its population (59,968) is small compared to that of the entire CMSA (942,168) or to either Jefferson County (661,153) and Shelby County (153,832). St. Clair County had a fairly high population growth (29 percent), its population (67,215) is small compared to that of the entire CMSA (942,168) and is only one-tenth the population of Jefferson County (661,153) and less than half the population of Shelby County (153,832). Shelby County had a high population growth (44 percent).

**Factor 6: Meteorology.**

Not a significant factor in the analyses.

**Factor 7: Geography/topography.**

Not a significant factor in the analyses.

**Factor 8 Jurisdictional boundaries.**

The Birmingham 8-hour ozone nonattainment area consist of Jefferson and Shelby Counties.

**Factor 9 Level of control of emission sources.**

Reasonable Available Control Technology for VOC has been in place since 1979  
 Stage 1 Vapor Recovery has been in place since 1990  
 1-Hour Attainment Demonstration required further NO<sub>x</sub> reductions from electric generating plants Gorgas and Miller, totaling 68.2 tons per day of NO<sub>x</sub> reductions (seasonal).

Tier II National Fuel Standard (starting 2004)

NO<sub>x</sub> SIP Call requires large reductions in NO<sub>x</sub> emissions from major utilities, large industrial boilers, gas turbines and cement kilns (seasonal). As a result Gaston, Gorgas and Miller power plants have/will install the following controls:

Miller Units 1 & 2 Selective Catalytic Reduction (SCR)

Gaston Units 1 - 4 overfire air

Gaston Unit 5 advanced low NO<sub>x</sub> burners

The following controls are being or have been placed on Gorgas and Miller power plants to meet the requirements of the Birmingham attainment SIP:

Gorgas Unit 10 SCR

Gorgas Units 6, 7, and 8 low NO<sub>x</sub> burners

### Miller Units 3&4 SCR

There is only one significant NOX source in St. Clair County, a cement kiln (National Cement Co. 1,851 tpy), which is implementing significant controls which have been determined to be reasonable and highly cost effective to meet the Alabama's NOX SIP requirements.

### 9 Factor Analysis for Columbus MSA

The following is the 9 factor analysis for Columbus MSA and surrounding Counties. Alabama's submittal in February 2004, recommended that Russell County be designated nonattainment for the fine particulate matter (PM<sub>2.5</sub>), based on 2001 - 2003 monitoring data. Georgia's submittal in June 2004, recommended that Harris, Muscogee and Chattahoochee Counties be designated attainment for PM<sub>2.5</sub>. Based on the following analysis EPA recommends that Lee and Russell counties in Alabama, and Harris, and Muscogee Counties in Georgia, should be included in the PM<sub>2.5</sub> nonattainment area. Lee County is adjacent to the MSA, has high VMT and a large population. Russell County has a violating monitor and the State recommended it as nonattainment. Harris County has relatively high NO<sub>x</sub> and VOC emissions and relatively high VMT. Muscogee County has high NO<sub>x</sub> and VOC emissions, high VMT and a large population. Based on the following analysis, EPA agrees with the recommendation that Barbour, Chambers, Montgomery, Elmore and Tallapoosa Counties in Alabama, and Chattahoochee, Troup, Stewart, Meriwether, Sumter Counties in Georgia, should be attainment/unclassifiable for PM<sub>2.5</sub> based on low emissions, low VMT and low population.

Area	EPA Recommendation	State Recommendation
Columbus, GA	Lee and Russell Counties in Alabama and Harris and Muscogee Counties in Georgia	Russell County, Alabama

The following is a brief summary of the 9 criteria for the Columbus MSA and surrounding Counties . These analyses were based on existing available data.

**Factor 1:** Emissions in areas potentially included versus excluded from the nonattainment area.

The following table has 2001 PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and NH<sub>3</sub> emissions in tons, and weighted emissions scores for the Columbus Area and surrounding counties. The MSA counties are in **bold**.

**Columbus MSA and Surrounding Counties Emissions**

County	PM	SO <sub>2</sub>	NO <sub>x</sub>	VOC	NH <sub>3</sub>	Weighted Emissions Score	Cumulative Weighted Emissions Score
<b>Russell, AL</b>	<b>1,344</b>	<b>2,550</b>	<b>5,718</b>	<b>4,434</b>	<b>179</b>	<b>35.1</b>	<b>35.1</b>
<b>Harris, GA</b>	<b>590</b>	<b>104</b>	<b>2,856</b>	<b>1,748</b>	<b>128</b>	<b>26.8</b>	<b>61.9</b>
<b>Muscogee, GA</b>	<b>513</b>	<b>803</b>	<b>5,965</b>	<b>9,476</b>	<b>323</b>	<b>25.4</b>	<b>87.3</b>
<b>Chattahoochee, GA</b>	<b>208</b>	<b>43</b>	<b>387</b>	<b>482</b>	<b>15</b>	<b>12.7</b>	<b>100</b>
Troup, GA	1,194	422	12,277	8,223	382	48.7	

Montgomery, AL	1,421	6,292	10,454	14,966	973	43.3
Lee, AL	1,043	1,425	5,125	7,474	333	42.8
Barbour, AL	874	419	2,208	2,529	497	41.6
Sumter, GA	2,578	1,725	1,726	2,262	847	40.5
Meriwether, GA	844	190	1,866	3,006	167	33.7
Elmore, AL	1,014	517	4,443	4,368	326	30.8
Tallapoosa, AL	679	655	1,993	3,230	263	26.5
Chambers, AL	579	527	2,350	2,882	124	23.9
Stewart, GA	429	32	360	464	189	23.3
Taylor, GA	398	76	966	622	833	18.3
Macon, AL	412	223	2,242	1,871	133	17.1
Talbot, GA	288	70	903	520	74	15.9
Marion, GA	314	32	328	517	470	15.4
Bullock, AL	273	93	407	570	214	12.7
Webster, GA	303	128	358	201	114	12.6
Schley, GA	192	14	195	290	163	8.4

Based on the analysis for this factor, there appear to be emissions in Lee County, Alabama, that contribute to the violation in Russell County.

**Factor 2:** Air quality in potentially included versus excluded areas.

**Columbus MSA and Surrounding Counties Design Value (DV)**

County	2001-2003 DV
<b>Russell, AL</b>	<b>15.3</b>
<b>Muscogee, GA</b>	<b>14.7</b>
Montgomery, AL	14.2

Muscogee and Montgomery Counties have monitors that show attainment of the PM2.5 standard while Russell County is violating the standard.

**Factor 3:** Population density and degree of urbanization including commercial development in included versus excluded areas.

The following table has the populations for the Counties in the Columbus MSA and adjacent Counties.

**Columbus MSA and Surrounding Counties Population & Area**

County	Population 2002	Percent in MSA	Population Density 2002
<b>Russell, AL</b>	<b>49,415</b>	<b>18</b>	<b>77</b>
<b>Harris, GA</b>	<b>25,092</b>	<b>9</b>	<b>54</b>
<b>Muscogee, GA</b>	<b>185,948</b>	<b>67</b>	<b>861</b>

<b>Chattahoochee, GA</b>	<b>15,440</b>	<b>6</b>	<b>62</b>
Troup, GA	59,767		144
Montgomery, AL	223,346		283
Lee, AL	118,123		194
Barbour, AL	28,826		33
Sumter, GA	33,247		69
Meriwether, GA	22,623		45
Elmore, AL	68,771		111
Tallapoosa, AL	40,946		57
Chambers, AL	36,251		61
Stewart, GA	5,040		11

Lee County is adjacent to Russell County and its population (118,123) is about two and half times that of Russell County (49,415).

**Factor 4:** Traffic and commuting patterns.

Commuting Information - Following is an analysis of the commuting in the Columbus MSA and adjacent Counties.

Russell County, AL has a total of 19,859 commuters.

- Commuters who remain in Russell County 7,051 (36%)

Harris County, GA has a total of 11,811 commuters.

- Commuters from Lee County to Russell County 214 (2%)
- Commuters who remain in Harris County 2,867 (24%)

Muscogee County, GA has a total of 82,977 commuters.

- Commuters from Muscogee County to Russell County 2,479 (3%)
- Commuters who remain in Muscogee County 71,862 (87%)

Chattahoochee County, GA has a total of 8,538 commuters.

- Commuters who remain in Chattahoochee County 5,482 (64%)

Troup County, GA has a total of 26,339 commuters.

- Commuters who remain in Troup County 22,074 (84%)

Montgomery County, AL has a total of 96,943 commuters.

- Commuters who remain in Montgomery County 90,943 (94%)

Lee County, AL has a total of 52,119 commuters.

- Commuters who remain in Lee County 35,549 (68%)
- Commuters from Lee County to Russell County 2,682 (5%)

Barbour County, AL has a total of 10,023 commuters.

- Commuters who remain in Barbour County: 8,370 (84%)
- Commuters from Lee County to Russell County 335 (3%)

Sumter County, GA has a total of 13,963 commuters.

- Commuters who remain in Sumter County 11,652 (83%)

Meriwether County, GA has a total of 8,893 commuters.

- Commuters who remain in Meriwether County 4,114 (46%)

Elmore County, AL has a total of 28,143 commuters.

- Commuters who remain in Elmore County 9,415 (33%)

Tallapoosa County, AL has a total of 17,009 commuters.

- Commuters who remain in Tallapoosa County 12,125 (71%)

Chambers County, AL has a total of 15,480 commuters.

- Commuters who remain in Chambers County 9,281 (60%)

Stewart County, GA has a total of 1,892 commuters.

- Commuters who remain in Stewart County 965 (51%)

There are no Counties that have significant commuters commuting to Russell County.

#### **Columbus MSA and Surrounding Counties VMT**

County	VMT 2002	VMT Growth 02-10
<b>Russell, AL</b>	<b>671</b>	<b>276</b>
<b>Harris, GA</b>	<b>547</b>	<b>-207</b>
<b>Muscogee, GA</b>	<b>1,594</b>	<b>534</b>
<b>Chattahoochee, GA</b>	<b>56</b>	<b>160</b>
Troup, GA	1,454	-839
Montgomery, AL	2,565	642
Lee, AL	1,119	457
Barbour, AL	431	-129
Sumter, GA	405	-62
Meriwether, GA	271	138
Elmore, AL	615	168
Tallapoosa, AL	502	-56
Chambers, AL	378	-44
Stewart, GA	75	47

Over 50% of the VMT in the MSA is in Muscogee County, Georgia. As noted above, none of the adjacent Counties have appreciable commuting into the MSA.

**Factor 5: Expected growth.**

The following table has the population and population growth figures for the Columbus MSA and surrounding Counties.

**Columbus MSA and Surrounding Counties Population/Growth**

County	Population 2002	Growth 90-00	Percent Growth
Russell, AL	49,415	2,896	6
Harris, GA	25,092	5,907	33
Muscogee, GA	185,948	7,013	4
Chattahoochee, GA	15,440	-2,052	-12
Troup, GA	59,767	3,243	6
Montgomery, AL	223,346	14,425	7
Lee, AL	118,123	27,946	32
Barbour, AL	28,826	3,621	14
Sumter, GA	33,247	2,972	10
Meriwether, GA	22,623	123	1
Elmore, AL	68,771	16,664	34
Tallapoosa, AL	40,946	2,649	7
Chambers, AL	36,251	-293	-1
Stewart, GA	5,040	-402	-7

Harris County, Georgia has large growth on a percentage basis.

**Factor 6: Meteorology.**

A wind analysis using wind data from the Columbus, Georgia Airport was completed to evaluate the predominant wind direction(s) in Phenix City over the 3-year period on all days. There is a large easterly component to the winds during the 3-year time period., but there is not sufficient information to use meteorology as a deciding factor for an annual average..

**Factor 7: Geography/topography**

Not a significant factor in the analyses.

**Factor 8 Jurisdictional boundaries.**

Not a significant factor in the analyses.

**Factor 9** Level of control of emission sources.

Reasonable Available Control Technology for VOC has been in place since 1979

Stage 1 Vapor Recovery has been in place since 1990

NOx SIP Call requires large reductions in NOx emissions from major utilities, large industrial boilers, gas turbines and cement kilns (seasonal for Macon, Tallapoosa, Chambers, Elmore and Lee Counties).

Tier II National Fuel Standard (starting 2004)

**9 Factor Analysis for Chattanooga Area**

The Chattanooga MSA contains the following Tennessee counties: Marion and Hamilton; and the following Georgia Counties: Dade, Walker, and Catoosa. Based on air quality data for 2001-2003, the monitor with the highest design value in Hamilton County has a design value of 16.1 and the monitor in Walker County has a design value of 15.6. No other counties in the MSA contain ambient air monitors. The State of Tennessee recommended as nonattainment the county of Hamilton and the State of Georgia recommended as nonattainment the county of Walker. The States have recommended that all other counties be designated attainment. The State of Tennessee submitted some justification for this recommendation, however, they indicated that the detailed emission information would be provided at a later date. EPA is modifying the State of Tennessee’s recommendation and will review the additional information during the 120 day period following the notification letter.

EPA has received some information from the State of Tennessee that Marion (MSA) County should be designated attainment for the PM2.5 standard and no justification from the State of Georgia indicating that any other counties should be included or excluded from the Chattanooga PM2.5 nonattainment area. Adjacent counties with significant emissions include McMinn and Roane Counties which are attached to the Knoxville nonattainment area and Floyd County which is a separate nonattainment area.

Additionally we have included in our recommended nonattainment area Jackson County, AL, that is adjacent to the Chattanooga MSA, that is generally rural in character, and that contains an identifiable large emitting facility or facilities (e.g., power plants) which we believe contribute to the nearby nonattainment problem. We have included this county in our initial recommendations in order to ensure that a sufficient portion of this county, including such large facilities, is included within the boundaries of the nonattainment area as part of the final designations. We invite you to submit to us a recommendation as to what portion of this adjacent county, encompassing the large facility or facilities, should be designated nonattainment. Therefore EPA is modifying the States’ recommendations to include all of the counties in the MSA and the adjacent county of Jackson, Alabama.

Area	EPA Recommendation	States Recommendations
Chattanooga TN-GA	Full counties: Marion, Hamilton, TN; Dade, Walker, Catoosa, GA; Jackson, AL	Full counties: Hamilton and Walker

**Factor 1:** Emissions in areas potentially included versus excluded from the nonattainment area.

The following table contains the 2001 PM2.5, SOx, NOx, VOC, and ammonia emissions in tons and weighted emissions scores for the counties in the Chattanooga MSA and some adjacent counties. (MSA counties are in bold.)

County	PM	SOx	NOx	VOC	Amm	Weighted Emissions Score	Cumulative Weighted Emissions Score
<b>Hamilton</b>	<b>1,498</b>	<b>5,300</b>	<b>20,048</b>	<b>27,150</b>	<b>1,022</b>	<b>49.5</b>	<b>49.5</b>
<b>Walker</b>	<b>856</b>	<b>632</b>	<b>2,798</b>	<b>4,516</b>	<b>958</b>	<b>17.9</b>	<b>67.4</b>
<b>Marion</b>	<b>679</b>	<b>477</b>	<b>3,156</b>	<b>2,640</b>	<b>501</b>	<b>14.1</b>	<b>81.5</b>
<b>Catoosa</b>	617	167	3,085	3,601	680	11.9	93.4
<b>Dade</b>	302	107	2,415	1,574	285	6.5	99.9
Roane	4967	92331	30865	4300	285	296.9	
Jackson, AL	4389	44333	31502	4742	1494	176.1	
Floyd, GA	10057	31821	22736	7139	976	154.0	
McMinn	3348	10216	10829	5546	1268	73.3	
Whitfield, GA	2732	1747	7283	7386	991	54.2	
Rhea	1405	302	2625	3643	149	31.2	
Loudon	804	4035	5899	5338	360	24.3	
DeKalb, AL	1193	741	4776	5867	5765	21.3	
Bradley	1233	419	4230	7551	1916	21.1	
Warren	1164	1189	1869	3675	446	20.7	
Monroe	743	154	2387	3420	554	16.4	
Gordon, GA	872	200	3645	4019	2630	15.8	
Fannin, GA	614	65	887	1266	283	14.2	
Franklin	644	482	2100	2929	1512	13.4	
Chattooga, GA	450	1228	1834	1634	197	11.7	
Murray, GA	576	130	2067	1700	910	11.4	
Polk	295	2066	900	949	553	11.3	
Cherokee, NC	428	143	921	1753	111	10.6	
Grundy	202	164	1000	1150	1170	4.8	
Bledsoe	203	31	475	528	335	4.5	
Meigs	198	112	885	871	118	4.3	
Sequatchie	140	22	304	591	173	3.4	
Van Buren	118	178	291	320	74	3.3	

Based on the analysis for this factor there appears to be emissions in all MSA counties and the adjacent county of Jackson, AL, which show a potential to contribute. Other adjacent counties with large emissions (McMinn and Roane, TN and Floyd, GA) are included in other nonattainment areas.

**Factor 2:** Air quality in potentially included versus excluded areas.

The following table contains the 2001-2003 PM<sub>2.5</sub> Design Values for all Chattanooga MSA Counties and adjacent counties. (MSA counties are in bold.)

County	2001-2003 design value
<b>Hamilton</b>	16.1
<b>Walker</b>	15.6
Roane	14.2
Floyd, GA	15.7
McMinn	14.6
Loudon	15.4 *
DeKalb, AL	14.7

\* Incomplete data that is not sufficient to determine attainment/nonattainment. Data substitution does not apply.

Based on this factor, Hamilton County, TN and Walker and Floyd Counties in GA are violating the PM 2.5 standard. Catoosa County, GA is located between violating monitors in Hamilton and Walker Counties.

**Factor 3:** Population density and degree of urbanization including commercial development in included versus excluded areas.

The following table contains the populations for the counties in the Chattanooga MSA and some adjacent counties. Urban population figures were not available. (MSA counties are in bold.)

County	2002 Population	Percent of MSA Population (2002)	2002 Population Density (people/mile <sup>2</sup> )
<b>Hamilton</b>	309,321	65.7	570
<b>Walker</b>	61,949	13.2	139
<b>Marion</b>	27,654	5.9	55
<b>Catoosa</b>	56,341	12.0	348
<b>Dade</b>	15,615	3.3	90
Roane	52,316		145
Jackson, AL	54,035		50
Floyd, GA	92,606		181
McMinn	50,051		116
Whitfield, GA	87,037		300

Based on the analysis for this factor, there appears to be population sufficient to indicate a

contribution by the following MSA counties: Hamilton, Walker, and Catoosa. The five adjacent counties also have population with a potential to contribute.

**Factor 4:** Traffic and commuting patterns.

Commuting Information

**Hamilton** has a working population of 146, 824  
 –Commuters who remain in Hamilton: 133,644 (91%)

**Marion** has a working population 11766.  
 –Commuters who remain in Marion: 5596 (48%)  
 –Commuters from Marion to Hamilton: 4271

**Dade** has a working population of 6983.  
 –Commuters who remain in Dade: 2363  
 –Commuters from Dade to Hamilton:3091 (44%)  
 –Commuters from Dade to Walker: 747

**Catoosa** has a working population of 26710.  
 –Commuters who remain in Catoosa: 7167  
 –Commuters from Catoosa to Hamilton: 12320 (46%)  
 –Commuters from Catoosa to Walker:1937

**Walker** has a working population of 27223.  
 –Commuters who remain in Walker: 11244 (41%)  
 –Commuters from Walker to Hamilton: 9098

**Whitfield, GA** has a working population of 38,909  
 –Commuters who remain in Whitfield: 33,796 (87%)  
 –Remaining commuters do not commute to the Chattanooga MSA

**DeKalb, AL** has a working population of 7798  
 –Commuters who remain in DeKalb: 5179 (66%)  
 –Remaining commuters do not commute to the Chattanooga MSA

The following table contains the vehicle miles traveled (thousand miles) for the counties in the Chattanooga MSA and some adjacent counties with significant weighted emissions scores. (MSA counties are in bold.)

County	2002 VMT (thousand miles/year)
<b>Hamilton</b>	3,743

<b>Walker</b>	742
<b>Marion</b>	654
<b>Catoosa</b>	810
<b>Dade</b>	512
Roane	784
Jackson, AL	786
Floyd, GA	948
McMinn	787
Whitfield, GA	1423

Based on the analysis for this factor the VMT for all MSA counties indicate a potential to contribute. Although Whitfield County has a relatively high VMT, none of the commuters go to the Chattanooga MSA.

**Factor 5: Expected growth.**

The following table has the population and population growth figures for the Chattanooga MSA and some adjacent counties with significant weighted emissions scores. (MSA counties are in bold.)

County	2002 Population	Growth (90-00)	% Growth (90-00)
<b>Hamilton</b>	309,321	22360	8
<b>Walker</b>	61,949	2713	5
<b>Marion</b>	27,654	2916	12
<b>Catoosa</b>	56,341	10818	25
<b>Dade</b>	15,615	2007	15
Roane	52,316	4683	10
Jackson, AL	54,035	6130	13
Floyd, GA	92,606	9314	11
McMinn	50,051	6632	16
Whitfield, GA	87,037	11063	15

Based on the analysis for this factor, there appears to be significant growth on a percentage basis in Catoosa County that indicates a contribution to the air quality in the Chattanooga MSA.

**Factor 6: Meteorology.**

This factor did not play a significant role in the decision making process.

**Factor 7: Geography/topography**

The Chattanooga area does not have any geographical or topographical boundaries limiting its airshed.

**Factor 8** Jurisdictional boundaries.

Hamilton and Meigs Counties, TN and Catoosa County, GA were designated nonattainment for the 8-hour ozone standard on April 15, 2004.

This factor did not play a significant role in the decision making process.

**Factor 9** Level of control of emission sources.

Sources in the Chattanooga area are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guidelines Reasonable Available Control Technology (CTG RACT) - (Hamilton County only), Maximum Achievable Control Technology (MACT) for Hazardous Air Pollutants (HAP), New Source Performance Standards (NSPS), and the NO<sub>x</sub> SIP call.

This factor did not play a significant role in the decision making process.

**DeKalb and Etowah Counties Analyses**

Based on incomplete monitoring data and data substitution not being a viable alternative, it is EPA's position that DeKalb and Etowah Counties be designated as unclassifiable. These two counties had monitoring data for 2000-2002 that was violating and have incomplete data for 2001-2003. Applying the data substitution policy will not confirm attainment. There is no distinction, regulatorily between attainment and unclassifiable.

<b>Area</b>	<b>EPA Recommendation</b>	<b>State Recommendation</b>
De Kalb County Etowah County	De Kalb County Etowah County	