# Nashville MSA

Local Air Quality Improvement Plan



Nashville MSA Area

The Nashville Metropolitan Statistical Area encompasses eight counties. It includes Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson counties in northern Middle Tennessee. In 2000, this MSA was listed as the 38th largest MSA within the United States.

# **Cheatham County, Tennessee**

## Geography/Topography

Cheatham County has a land area of 302.66 square miles and is located in the rolling terrain of the Middle Grand Division of the state along the Interstate 24 corridor west of Nashville-Davidson County. Most of Cheatham County lies on the western portion of the Highland Rim with the easternmost portion of the county bounding the Central Basin.

#### Meteorological Information

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Cheatham County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

#### **Planning Authority**

The authority for air quality planning for Cheatham County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Cheatham County is performed by the Nashville Area Metropolitan Planning Organization.

#### Air Monitoring

Cheatham County does not have an ozone monitor.

#### Population

Based on projections to 2002 from the 2000 census data, there are 36,986 persons living in Cheatham County (see Table 1 C). This indicates a population density of 122.2 persons per square mile. The population of Cheatham County is approximately 93.2% rural with the remaining 6.8% living in incorporated areas. The largest cities in Cheatham County are Ashland City and Pleasant View (see Table 1 C).

Cheatham County's population from 1990 through 2000 increased by approximately 31.4% (27,327 to 35,912). The population is expected to increase by 38.5% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire Nashville MSA, Cheatham County represents approximately 3% of the total Nashville MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Cheatham County were estimated at .33 ton/day in 1999 which represents approximately 0% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Cheatham County were estimated at 3.95 ton/day in 1999 which represents approximately 3% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Cheatham County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Cheatham County were estimated at 10.92 ton/day in 1999 which represents approximately 4% of the 252 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Cheatham County were estimated at 2.67 ton/day in 1999 which represents approximately 3% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Cheatham County is high. Commuting traffic from Cheatham County into surrounding counties is high.

Commuting Classifications			
Not Significant	0-10%		
Minimal	11-30%		
High	31-50%		
Significant	51% or more		



1999 NEI NOX Contribution (ton/day)



## Summary

Local air pollution emission reductions for Cheatham County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Cheatham County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Cheatham, TN		
Control Measure by	NOx	VOC	CO
Source Category	TPD	TPD	TPD
Area			
-const. Land clear (open burning).	0.000	0.000	0.000
Nonroad Mobile	0.000	0.000	0.000
Onroad Mobile			
-HOV lane expansion	0.000	0.000	0.000
-trip reduction plans	0.000	0.000	0.000
-rideshare programs	0.001	0.001	0.014
-traffic signal synchronization	0.000	0.000	0.000
-roadside assistance program	0.000	0.000	0.000
-new greenways/bikeways	0.007	0.009	0.105
-reduce school bus idling	0.001	0.000	0.001
-improve bus ridership	0.000	0.000	0.000
-new rail service	0.000	0.000	0.000
-land use controls to reduce VMT	0.030	0.010	0.130
-AQAD measures	0.060	0.020	0.270

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# **Davidson County, Tennessee**

## Geography/Topography

Davidson County has a land area of 502.3 square miles and is located in the rolling terrain of the Middle Grand Division of the state along the Interstate 40 corridor nearly midway between Knoxville and Memphis. Davidson County lies almost entirely in the Central Basin, with the western edge of the county bounding the edge of the Highland Rim.

## **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Wilson County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

# **Planning Authority**

The authority for air quality planning for Davidson County resides with the Nashville Metropolitan Government, the Division of Pollution Control. Transportation planning for Davidson County is performed by the Nashville Area Metropolitan Planning Organization.

## **Air Monitoring**

For the 2001-2003 monitoring period, the ozone monitor 471650007 - 1 located in Sumner County shows an 8-hour design value of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

## Population

Based on projections to 2002 from the 2000 census data, there are 570,785 persons living in Davidson County (see Table 1 C). This indicates a population density of 1,134.6 persons per square mile. The population of Davidson County is approximately 4.6% rural with the remaining 95.4% living in incorporated areas. The largest city in Davidson County is Nashville (see Table 1 C).

Davidson County's population from 1990 through 2000 increased by approximately 11.5% (511,194 to 569,891). The population is expected to increase by 0.8% between 2000 and 2010 (see Table 1B).

Based on the 2002 population data for the entire Nashville MSA, Davidson County represents approximately 45% of the total Nashville MSA population (see Table 1 C).

## **Air Emissions**

Point source NOX emissions from Davidson County were estimated at 32.64 ton/day in 1999 which represents approximately 32% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Davidson County were estimated at 49.08 ton/day in 1999 which represents approximately 33% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Davidson County are subject to PSD requirements, CTG RACT requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS).

Mobile source NOX emissions from Davidson County were estimated at 109.71 ton/day in 1999 which represents approximately 43% of the 252 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Davidson County were estimated at 53.65 ton/day in 1999 which represents approximately 50% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Davidson County is high. Commuting traffic from Davidson County into surrounding counties is minimal.

Commuting Classifications			
Not Significant	0-10%		
Minimal	11-30%		
High	31-50%		
Significant	51% or more		



## Summary

Local air pollution emission reductions for Davidson County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Davidson County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Davidson, TN		
Control Measure by	NOx	VOC	CO
Source Category	TPD	TPD	TPD
Area			
-const. Land clear (open burning).	0.111	0.423	3.000
Nonroad Mobile	0.000	0.000	0.000
Onroad Mobile			
-HOV lane expansion	0.012	0.015	0.174
-trip reduction plans	0.040	0.051	0.578
-rideshare programs	0.001	0.001	0.014
-traffic signal synchronization	0.091	0.110	0.679
-roadside assistance program	0.031	0.031	0.333
-new greenways/bikeways	0.010	0.012	0.140
-reduce school bus idling	0.007	0.001	0.007
-improve bus ridership	0.010	0.012	0.140
-new rail service	0.021	0.037	0.420
-land use controls to reduce VMT	0.260	0.110	1.340
-AQAD measures	0.510	0.220	2.680

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# **Dickson County, Tennessee**

## Geography/Topography

Dickson County has a land area of 489.87 square miles and is located in the rolling terrain of the Middle Grand Division of the state west of Interstate 40 corridor and west of Nashville-Davidson County. Dickson County is entirely in the Highland Rim physiographic province.

## **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Dickson County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

## **Planning Authority**

The authority for air quality planning for Dickson County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Dickson County is performed by the Nashville Area Metropolitan Planning Organization.

## **Air Monitoring**

Dickson County does not have an ozone monitor.

## Population

Based on projections to 2002 from the 2000 census data, there are 44,231 persons living in Dickson County (see Table 1 C). This indicates a population density of 90.3 persons per square mile. The population of Dickson County is approximately 68.8% rural with the remaining 31.2% living in incorporated areas. The largest city in Dickson County is Dickson (see Table 1 C).

Dickson County's population from 1990 through 2000 increased by approximately 22.4% (35,266 to 43,156). The population is expected to increase by 24.2% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire Nashville MSA, Dickson County represents approximately 3% of the total Nashville MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Dickson County were estimated at .95 ton/day in 1999 which represents approximately 1% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Dickson County were estimated at 9.94 ton/day in 1999 which represents approximately 7% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Dickson County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Dickson County were estimated at 11.41 ton/day in 1999 which represents approximately 5% of the 252 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Dickson County were estimated at 3.73 ton/day in 1999 which represents approximately 4% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Dickson County is minimal. Commuting traffic from Dickson County into surrounding counties is high.

Commuting Classifications			
Not Significant	0-10%		
Minimal	11-30%		
High	31-50%		
Significant	51% or more		



1999 NEI NOX Contribution (ton/day)



## Summary

Local air pollution emission reductions for Dickson County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Dickson County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Di	ckson, TN	
Control Measure by	NOx	VOC	CO
Source Category	TPD	TPD	TPD
Area			
-const. Land clear (open burning).	0.000	0.000	0.000
Nonroad Mobile	0.000	0.000	0.000
Onroad Mobile			
-HOV lane expansion	0.000	0.000	0.000
-trip reduction plans	0.000	0.000	0.000
-rideshare programs	0.001	0.001	0.014
-traffic signal synchronization	0.008	0.015	0.080
-roadside assistance program	0.000	0.000	0.000
-new greenways/bikeways	0.007	0.009	0.105
-reduce school bus idling	0.001	0.000	0.001
-improve bus ridership	0.000	0.000	0.000
-new rail service	0.000	0.000	0.000
-land use controls to reduce VMT	0.030	0.020	0.160
-AQAD measures	0.060	0.030	0.330

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# **Robertson County, Tennessee**

#### Geography/Topography

Robertson County has a land area of 476.47 square miles and is located in the rolling terrain of the Middle Grand Division of the state east of Interstate 24 corridor and north of Nashville-Davidson County. Robertson County is located in the Highland Rim physiographic province of the state; it's northern border forms part of the state line with Kentucky.

#### **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Robertson County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

## **Planning Authority**

The authority for air quality planning for Robertson County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Robertson County is performed by the Nashville Area Metropolitan Planning Organization.

## **Air Monitoring**

Robertson County does not have an ozone monitor.

#### Population

Based on projections to 2002 from the 2000 census data, there are 57,446 persons living in Robertson County (see Table 1 C). This indicates a population density of 120.6 persons per square mile. The population of Robertson County is approximately 57.8% rural with the remaining 42.2% living in incorporated areas. The largest city in Robertson County is Springfield (see Table 1 C).

Robertson County's population from 1990 through 2000 increased by approximately 30.6% (41,690 to 54,433). The population is expected to increase by 16% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire Nashville MSA, Robertson County represents approximately 4.5% of the total Nashville MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Robertson County were estimated at .84 ton/day in 1999 which represents approximately 1% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Robertson County were estimated at 8.10 ton/day in 1999 which represents approximately 6% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Robertson County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Robertson County were estimated at 20.68 ton/day in 1999 which represents approximately 8% of the 252 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Robertson County were estimated at 5.27 ton/day in 1999 which represents approximately 5% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Robertson County is minimal. Commuting traffic from Robertson County into surrounding counties is significant.

Commuting Classifications			
Not Significant	0-10%		
Minimal	11-30%		
High	31-50%		
Significant	51% or more		



1999 NEI NOX Contribution (ton/day)



# Summary

Local air pollution emission reductions for Robertson County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Robertson County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Robertson, TN		
Control Measure by	NOx	VOC	CO
Source Category	TPD	TPD	TPD
Area -const. Land clear (open burning).	0.000	0.000	0.000
Nonroad Mobile	0.000	0.000	0.000
Onroad Mobile			
-HOV lane expansion	0.000	0.000	0.000
-trip reduction plans	0.000	0.000	0.000
-rideshare programs	0.001	0.001	0.014
-traffic signal synchronization	0.005	0.008	0.050
-roadside assistance program	0.000	0.000	0.000
-new greenways/bikeways	0.007	0.009	0.105
-reduce school bus idling	0.001	0.000	0.001
-improve bus ridership	0.000	0.000	0.000

0.000

0.060

0.120

0.000

0.020

0.030

0.000

0.210

0.430

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

-new rail service

-AQAD measures

-land use controls to reduce VMT

# **Rutherford County, Tennessee**

#### Geography/Topography

Rutherford County has a land area of 619 square miles and is located in the rolling terrain of the Middle Grand Division of the state along the Interstate 24 southeast of Nashville. Rutherford County lies in the center of the Central Basin physiographic province of the state.

#### **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Rutherford County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

## **Planning Authority**

The authority for air quality planning for Rutherford County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Rutherford County is performed by the Nashville Area Metropolitan Planning Organization.

#### Air Monitoring

For the 2001-2003 monitoring period, the ozone monitor 471650007 - 1 located in Sumner County shows an 8-hour design value of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

## Population

Based on projections to 2002 from the 2000 census data, there are 194,934 persons living in Rutherford County (see Table 1 C). This indicates a population density of 315 persons per square mile. The population of Rutherford County is approximately 24.7% rural with the remaining 75.3% living in incorporated areas. The largest cities in Rutherford County are Murfreesboro and Smyrna (see Table 1 C).

Rutherford County's population from 1990 through 2000 increased by approximately 52% (119,722 to 182,023). The population is expected to increase by 18% between 2000 and 2010 (see Table 1 C).

Based on the 2002 population data for the entire Nashville MSA, Rutherford County represents approximately 15% of the total MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Rutherford County were estimated at 3.33 ton/day in 1999 which represents approximately 3% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Rutherford County were estimated at 27.53 ton/day in 1999 which represents approximately 19% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Rutherford County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Rutherford County were estimated at 34.64 ton/day in 1999 which represents approximately 14% of the 252.01 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Rutherford County were estimated at 13.17 ton/day in 1999 which represents approximately 11% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Rutherford County is minimal. Commuting traffic from Rutherford County into surrounding counties is high.

Commuting Classifications			
Not Significant	0-10%		
Minimal	11-30%		
High	31-50%		
Significant	51% or more		



1999 NEI NOX Contribution (ton/day)



# Summary

Local air pollution emission reductions for Rutherford County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Rutherford County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Rutherford, TN		
Control Measure by	NOx	VOC	CO
Source Category	TPD	TPD	TPD
Area			
-const. Land clear (open burning).	0.000	0.000	0.000
Nonroad Mobile	0.000	0.000	0.000
Onroad Mobile			
-HOV lane expansion	0.005	0.006	0.071
-trip reduction plans	0.000	0.000	0.000
-rideshare programs	0.001	0.001	0.014
-traffic signal synchronization	0.038	0.050	0.305
-roadside assistance program	0.000	0.000	0.000
-new greenways/bikeways	0.007	0.009	0.105
-reduce school bus idling	0.003	0.000	0.002
-improve bus ridership	0.000	0.000	0.000
-new rail service	0.000	0.000	0.000
-land use controls to reduce VMT	0.090	0.030	0.360
-AQAD measures	0.170	0.060	0.720

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# Sumner County, Tennessee

## Geography/Topography

Sumner County has a land area of 529 square miles and is located in the rolling terrain of the Middle Grand Division of the state northeast of Nashville. The northern portion of Sumner County is on the Highland Rim, while the southern portion of the county lies within the Central Basin.

#### **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Sumner County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

## **Planning Authority**

The authority for air quality planning for Sumner County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Sumenr County is performed by the Nashville Areas Metropolitan Planning Organization.

#### **Air Monitoring**

For the 2001-2003 monitoring period, the ozone monitor 471650007 - 1 located in Sumner County shows an 8-hour design value of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

## Population

Based on projections to 2002 from the 2000 census data, there are 136,170 persons living in Sumner County (see Table 1 C). This indicates a population density of 257 persons per square mile. The population of Sumner County is approximately 30.6% rural with the remaining 69.4% living in incorporated areas. The largest cities in Sumner County are Hendersonville and Gallatin (see Table 1 C).

Sumner County's population from 1990 through 2000 increased by approximately 25.8% (103,702 to 130,449). The population is expected to increase by 21.3% between 2000 and 2010 (see Table 1 C).

Based on the 2002 population data for the entire Nashville MSA, Sumner County represents approximately 11% of the total MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Sumner County were estimated at 58.38 ton/day in 1999 which represents approximately 59% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Sumner County were estimated at 22.97 ton/day in 1999 which represents approximately 16% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Sumner County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Sumner County were estimated at 19.66 ton/day in 1999 which represents approximately 8% of the 252.01 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Sumner County were estimated at 9.40 ton/day in 1999 which represents approximately 9% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Sumner County is minimal. Commuting traffic from Sumner County into surrounding counties is significant.

Commuting Classifications			
Not Significant	0-10%		
Minimal	11-30%		
High	31-50%		
Significant	51% or more		



1999 NEI NOX Contribution (ton/day)



## Summary

Local air pollution emission reductions for Sumner County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Sumner County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Summer, TN		
Control Measure by	NOx	VOC	CO
Source Category	TPD	TPD	TPD
Area			
-const. Land clear (open burning).	0.000	0.000	0.000
Nonroad Mobile	0.000	0.000	0.000
Onroad Mobile			
-HOV lane expansion	0.000	0.000	0.000
-trip reduction plans	0.000	0.000	0.000
-rideshare programs	0.001	0.001	0.014
-traffic signal synchronization	0.033	0.038	0.225
-roadside assistance program	0.000	0.000	0.000
-new greenways/bikeways	0.007	0.009	0.105
-reduce school bus idling	0.003	0.000	0.003
-improve bus ridership	0.000	0.000	0.000
-new rail service	0.000	0.000	0.000
-land use controls to reduce VMT	0.040	0.020	0.210
-AQAD measures	0.080	0.040	0.410

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# Williamson County, Tennessee

#### Geography/Topography

Williamson County has a land area of 583 square miles and is located in the rolling terrain of the Middle Grand Division of the state along the Interstate 65 corridor south of Nashville. Williamson County is divided by both Highland Rim and Central Basin physiography. The eastern portion of the county is within the Central Basin, while the western portion is on the Highland Rim.

#### **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Williamson County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

#### **Planning Authority**

The authority for air quality planning for Williamson County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Williamson County is performed by the Nashville Area Metropolitan Planning Organization.

## **Air Monitoring**

For the 2001-2003 monitoring period, the ozone monitor 471650007 - 1 located in Sumner County shows an 8-hour design value of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

## Population

Based on projections to 2002 from the 2000 census data, there are 136,889 persons living in Williamson County (see Table 1 C). This indicates a population density of 217 persons per square mile. The population of Williamson County is approximately 29.3% rural with the remaining 70.7% living in incorporated areas. The largest cities in Williamson County are Franklin and Brentwood (see Table 1 C).

Williamson County's population from 1990 through 2000 increased by approximately 54.8% (81,797 to 126,638). The population is expected to increase by 21.3% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire Nashville MSA, Williamson County represents approximately 10.8% of the total Nashville MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Williamson County were estimated at 1.42 ton/day in 1999 which represents approximately 1% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Williamson County were estimated at 14.12 ton/day in 1999 which represents approximately 10% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Williamson County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Williamson County were estimated at 24.23 ton/day in 1999 which represents approximately 10% of the 252 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Williamson County were estimated at 10.28 ton/day in 1999 which represents approximately 10% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Williamson County is high. Commuting traffic from Williamson County into surrounding counties is high.

Commuting Classifications				
Not Significant	0-10%			
Minimal	11-30%			
High	31-50%			
Significant	51% or more			



1999 NEI NOX Contribution (ton/day)



# Summary

Local air pollution emission reductions for Williamson County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Williamson County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

	Will	iamson, TN	N	
Control Measure by	NOx	VOC	CO	
Source Category	TPD	TPD	TPD	
Area				
-const. Land clear (open burning).	0.000	0.000	0.000	
Nonroad Mobile	0.000	0.000	0.000	
Onroad Mobile				
-HOV lane expansion	0.000	0.000	0.000	
-trip reduction plans	0.013	0.017	0.193	
-rideshare programs	0.001	0.001	0.014	
-traffic signal synchronization	0.018	0.023	0.143	
-roadside assistance program	0.000	0.000	0.000	
-new greenways/bikeways	0.007	0.009	0.105	
-reduce school bus idling	0.003	0.000	0.002	
-improve bus ridership	0.000	0.000	0.000	
-new rail service	0.000	0.000	0.000	
-land use controls to reduce VMT	0.050	0.020	0.260	
-AQAD measures	0.110	0.040	0.510	

# Emission Reductions for the AS-4 EAC Attainment Strategy Quantification of Control Measures

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# Wilson County, Tennessee

#### Geography/Topography

Wilson County has a land area of 571 square miles and is the rolling terrain of the Middle Grand Division of the state along the Interstate 40 corridor nearly midway between Knoxville and Memphis. Wilson County lies entirely within the Central Basin physiography of Middle Tennessee.

#### **Meteorological Information**

Wind data from Nashville for the period of record from 1988 through 1992 was determined to be representative for Wilson County. The predominate wind direction and speed is from the south at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 88.7 F, while the mean low is 69.5 F. The mean July precipitation is 3.8 inches. The period of record for this data is from 1971 through 2000.

## **Planning Authority**

The authority for air quality planning for Wilson County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Wilson County is performed by the Nashville Area Metropolitan Planning Organization.

#### Air Monitoring

For the 2001-2003 monitoring period, the ozone monitor 471650007 - 1 located in Sumner County shows an 8-hour design value of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

## Population

Based on projections to 2002 from the 2000 census data, there are 93,079 persons living in Wilson County (see Table 1 C). This indicates a population density of 163 persons per square mile. The population of Wilson County is approximately 46.1% rural with the remaining 53.9% living in incorporated areas. The largest cities in Wilson County are Lebanon and Mt. Juliet (see Table 1 C).

Wilson County's population from 1990 through 2000 increased by approximately 30.6% (67,999 to 88,809). The population is expected to increase by 21.4% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire Nashville MSA, Wilson County represents approximately 7.3% of the total MSA population (see Table 1 C).

# **Air Emissions**

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Wilson County were estimated at 2.57 ton/day in 1999 which represents approximately 3% of the 101 ton/day of overall NOX point source emissions from the Nashville MSA (see Table 1 D).

Point source VOC emissions from Wilson County were estimated at 9.38 ton/day in 1999 which represents approximately 6% of the 145 ton/day of overall VOC point source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Point Source Emissions (ton/day)

For NOX and VOC control, point sources located within Wilson County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS). Mobile source NOX emissions from Wilson County were estimated at 20.76 ton/day in 1999 which represents approximately 8% of the 252 ton/day of overall NOX mobile source emissions from the Nashville MSA (see Table 1 D).

Mobile source VOC emissions from Wilson County were estimated at 8.0 ton/day in 1999 which represents approximately 8% of the 106 ton/day of overall VOC mobile source emissions from the Nashville MSA (see Table 1 D).



# 1999 NEI Mobile Source Emissions (ton/day)

Commuting traffic from surrounding counties into Wilson County is high. Commuting traffic from Wilson County into surrounding counties is significant.

Commuting Classifications				
Not Significant	0-10%			
Minimal	11-30%			
High	31-50%			
Significant	51% or more			



1999 NEI NOX Contribution (ton/day)



## Summary

Local air pollution emission reductions for Wilson County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Wilson County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Nashville EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Nashville EAC is: 82.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Nashville Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

Emission Reductions for the AS-4 EAC Attainment Strategy
Quantification of Control Measures

W		
NOx	VOC	CO
TPD	TPD	TPD
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.001	0.001	0.014
0.015	0.018	0.105
0.000	0.000	0.000
0.007	0.009	0.105
0.002	0.000	0.002
0.000	0.000	0.000
0.021	0.037	0.420
0.050	0.020	0.210
0.110	0.030	0.430
	V NOx TPD 0.000 0.000 0.000 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.002 0.000 0.002 0.000 0.021 0.050 0.110	Wilson, TN   NOx VOC   TPD TPD   0.000 0.000   0.000 0.000   0.000 0.000   0.000 0.000   0.000 0.000   0.001 0.001   0.015 0.018   0.002 0.000   0.002 0.000   0.002 0.000   0.021 0.037   0.050 0.020   0.110 0.030

Please see Table 7-4b on page 7-19 of the Modeling Analysis Technical Support Document for additional details and further discussion.

# **Nashville MSA**

Figure 1 A Nashville MSA Wind Rose



Figure 1 B Nashville MSA 1999 NEI VOC and NOX Emissions (ton/day)



# Table 1 A Nashville MSA Ozone Design Values (ppm)

County	Site Name		1999 2001 Design Value PPM	2000 2002 Design Value PPM	2001 2003 Design Value PPM
Davidson	1015 Trinity Lane	470370011 - 1	0.076	0.071	0.071
Davidson	Percy Priest	470370026 - 1	0.087	0.080	0.077
Rutherford	Eagleville Puckett's Farm	471490101 - 1	0.086	0.084	0.080
Sumner	Rockland Recreation Area-Old Hickory Dam	471650007 - 1	0.093	0.088	0.086
Sumner	Cottontown Wright's Farm	471650101 - 1	0.090	0.087	0.082
Williamson	Fairview Middle School Crow Cut Road	471870106 - 1	0.088	0.087	0.084
Wilson	Cedars Of Lebanon State Park	471890103 - 1	0.087	0.085	0.082

# Table 1 B Nashville MSA Population Growth Data

County	Population 1990	Population 2000	PERCENT CHANGE 1990 - 2000	Population 2002	Area in Square Miles	2002 Pop. Density (Sq. Mile)	Projection 2010	% Growth 2000 - 2010
Cheatham	27,327	35,912	31.4	36,986	302.66	122.2	49,721	38.5
Davidson	511,194	569,891	11.5	570,785	502.26	1136.4	574,279	0.8
Dickson	35,266	43,156	22.4	44,231	489.87	90.3	53,594	24.2
Robertson	41,690	54,433	30.6	57,446	476.47	120.6	63,121	16.0
Rutherford	119,722	182,023	52.0	194,934	618.91	315.0	215,417	18.3
Sumner	103,702	130,449	25.8	136,170	529.3	257.3	158,227	21.3
Williamson	81,797	126,638	54.8	136,889	582.68	234.9	153,589	21.3
Wilson	67,999	88,809	30.6	93,079	570.57	163.1	107,792	21.4
TOTALS	988,697	1,231,311		1,270,520			1,375,740	

County		Population
Cheatham		36,986
*Ashland City	( 3,641)	
*Pleasant View	(2,934)	
Davidson		570,785
*Nashville	(396,683)	
Dickson		44,231
*Dickson	(12,244)	
Robertson		57,446
*Springfield	(14,329)	
Rutherford		194,934
*Murfreesboro	(68,816)	
*Smyrna	(25,569)	
Sumner		136,170
*Gallatin	(23,230)	
*Hendersonville	(40,620)	
Williamson		136,889
*Franklin	(41,842)	
*Brentwood	(23,445)	
Wilson		93,079
*Lebanon	(20,235)	
*Mt. Juliet	(12,366)	
TOTALS		1,270,520

# Table 1 C Nashville MSA 2002 Population Estimates

# Table 1 D Nashville MSA 1999 NEI VOC and NOX Emissions *(ton/day)*

		VOC				
County	Mobile	Point	Total	Mobile	Point	Total
Cheatham	2.67	3.95	6.61	10.92	0.33	11.25
Davidson	53.65	49.08	102.73	109.71	32.64	142.35
Dickson	3.73	9.94	13.67	11.41	0.95	12.36
Robertson	5.27	8.10	13.37	20.68	0.84	21.52
Rutherford	13.17	27.53	40.70	34.64	3.33	37.97
Sumner	9.40	22.97	32.37	19.66	58.38	78.04
Williamson	10.28	14.12	24.40	24.23	1.42	25.65
Wilson	8.00	9.38	17.38	20.76	2.57	23.33
TOTAL	106.17	145.06	251.23	252.01	100.46	352.47

## Summary Attainment Demonstration For The Nashville Area

The attainment and screening tests and additional corroborative analyses indicate that the Nashville EAC area will be in attainment of the 8-hour ozone standard by 2007. Good modeling results and good representation of typical 8-hour ozone conducive meteorological conditions by the simulation periods provide a sound basis for the application of the model-based tests. Variations in the selection of days or the radius of influence assumptions employed in the application of the attainment test do not alter the outcome of the modeled attainment test. There are no locations within a subdomain encompassing the Nashville EAC area for which high ozone concentrations (greater than any near a monitor) are consistently simulated. The values of the simulated ozone exposure metrics indicate a significant reduction in 8-hour ozone for the 2007 AS-4 control measures simulation - approximately 60 percent for each of the exposure-type metrics. Estimates of modeling system noise also suggest that, relative to the 2007 baseline simulation, the simulated ozone reductions associated with the AS-4 control measures are meaningful within the context of the simulation – that is, the measures are expected to result in meaningful further ozone reductions by 2007, compared to the baseline values.

All of the monitoring sites in the Nashville area have future-year estimated design values for 8-hour ozone that are less than 84 ppb. The areawide 2007 EDV for this site is 82 ppb if the 2000-2002 design value is used, 80 ppb if the 2001-2003 design value is used, and 84 ppb if a meteorologically adjusted design value is used. Use of a meteorologically adjusted DV that is higher than observed supports a finding of modeled attainment.

Please see the complete Weight Of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Document (TSD) for details.

Attachment 1