

US EPA ARCHIVE DOCUMENT



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Air Pollution Control Division
9th Floor, L & C Annex, 401 Church Street, Nashville, TN 37243

March 30, 2004

J.I. Palmer, Jr.
Regional Administrator
US EPA, Region IV
Sam Nunn Atlanta Federal Center
61 Forsythe Street, SW
Atlanta, GA 30303

RE: Tennessee Early Action Compact Submittal for March 31, 2004 Milestone

Dear Mr. Palmer:

In accordance with the Early Action Compact (EAC) agreements, you will find enclosed air quality improvement plans for each of the seven (7) EAC Areas in Tennessee. The enclosed documentation is being submitted on behalf of each EAC area. This submittal is for the purpose of complying with the March 31, 2004 deadline to submit local air quality plans defining the measures to be taken to achieve compliance with the 8-hour ozone National Ambient Air Quality Standard no later than December 31, 2007.

Each local plan includes local measures that are specific and can be federally enforceable as either a part of the State Implementation Plan or Transportation Improvement Program no later than December 31, 2004. The documentation supporting each local plan and the modeling analysis are based on local controls demonstrating attainment of the 8-hour standard. The following information is enclosed:

- Chattanooga EAC Air Quality Improvement Plan
for Hamilton, Marion, and Meigs Counties
(Catoosa and Walker County, GA will make separate submittals)
- Knoxville EAC Air Quality Improvement Plan
for Anderson, Blount, Jefferson, Loudon, Knox, Sevier, and Union
Counties

- Nashville EAC Air Quality Improvement Plan for Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson Counties
- Memphis EAC Air Quality Improvement Plan for Fayette, Tipton, and Shelby Counties (Desoto County, MS and Crittenden County, AR are to be submitted separately)
- Tri-Cities EAC Air Quality Improvement Plan for Carter, Hawkins, Sullivan, Unicoi, and Washington Counties
- Haywood County Air Quality Improvement Plan (Attainment)
- Putnam County Air Quality Improvement Plan (Attainment)
- Status of Statewide Measures
- Modeling Analysis Technical Support Documentation (TSD) (ATMOS TSD Final and Appendices A & B)
- Additional Technical Support Documentation (see CD)
 - Nashville EAC Report from UT 032204
 - TDOT VMT Emissions Growth 1999-2030
 - ATMOS Presentation 040212

The 2001-2003 ozone monitoring data shows that both Haywood and Putman Counties have demonstrated attainment for the 8-hour ozone National Ambient Air Quality Standard. Haywood and Putnam Counties recognize the importance of air quality as it relates to the health and welfare of its citizens, and for this reason are volunteering to take additional measures. Their efforts at the local level are an attempt to target citizen behavior through education and outreach.

All of the Early Action Compact areas in Tennessee will be substantially impacted by forthcoming federal measures. The Regional impacts of low sulfur diesel fuel and Heavy-Duty Diesel Engine standards will have significant impacts on regional NO_x and VOC emissions as well as an expected benefit from lowering the gasoline sulfur content beginning in 2004. The change in gasoline sulfur content is expected to make considerable emissions reductions from light and some heavy-duty gasoline powered vehicles. Following the implementation of these federal measures, some of the EAC areas in Tennessee with a minimal amount of local voluntary control measures should be able to achieve attainment of the 8-hour ozone standard by 2007.

J.I. Palmer, Jr.
March 30, 2004
Page 3

Due to time constraints, some documents may not have all of the local signatures. The documents have been signed, we have just not received the originals. They will be forwarded to EPA upon our receipt. I believe this submittal satisfies all requirements of the March 31, 2004 EAC milestone, but if more information is needed do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry R. Stephens". The signature is fluid and cursive, with the first name "Barry" and last name "Stephens" clearly distinguishable.

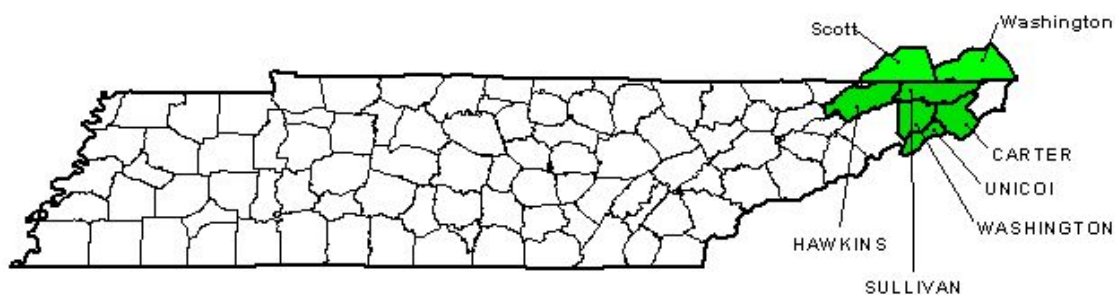
Barry R. Stephens, P.E.
Director
Division of Air Pollution Control

cc: Kay Prince, Karen Borel, Dick Schutt, Clifford Beller, and Kenny Richardson
at EPA Region IV
Local Air Programs
Tennessee Air Pollution Control Board
EAC Signatories

Johnson City-Kingsport-Bristol TN-VA MSA (Tri-Cities)

Local Air Quality Improvement Plan

Tennessee MSA Areas Pre-2000 Census



Johnson City-Kingsport-Bristol MSA Area

The Johnson City-Kingsport-Bristol TN-VA Metropolitan Statistical Area (hereafter referred to as JC-K-B MSA) encompasses two states and seven counties. It includes Carter, Hawkins, Sullivan, Unicoi, and Washington counties in upper East Tennessee, as well as Scott and Washington counties in southwest Virginia. In 2000, this MSA was listed as the 84th largest MSA within the United States.

Carter County, Tennessee

Geography/Topography

Carter County has a land area of 341 square miles and is located in the Appalachian Mountains east of Washington and Sullivan Counties.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Carter County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Carter County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Carter County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

Carter County does not have an ozone monitor.

For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of .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 56,746 persons living in Carter County (see Table 1 C). This indicates a population density of 341.05 persons per square mile. The population of Carter County is approximately 39.9% rural with the remaining 60.1% living in incorporated areas. The largest city in Carter County is Elizabethton (see Table 1 C).

Carter County's population from 1990 through 2000 increased by approximately 10% (51,589 to 56,742). The population is expected to decrease by 5.5% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Carter County represents approximately 12% of the total JC-K-B MSA population (see Table 1 C).

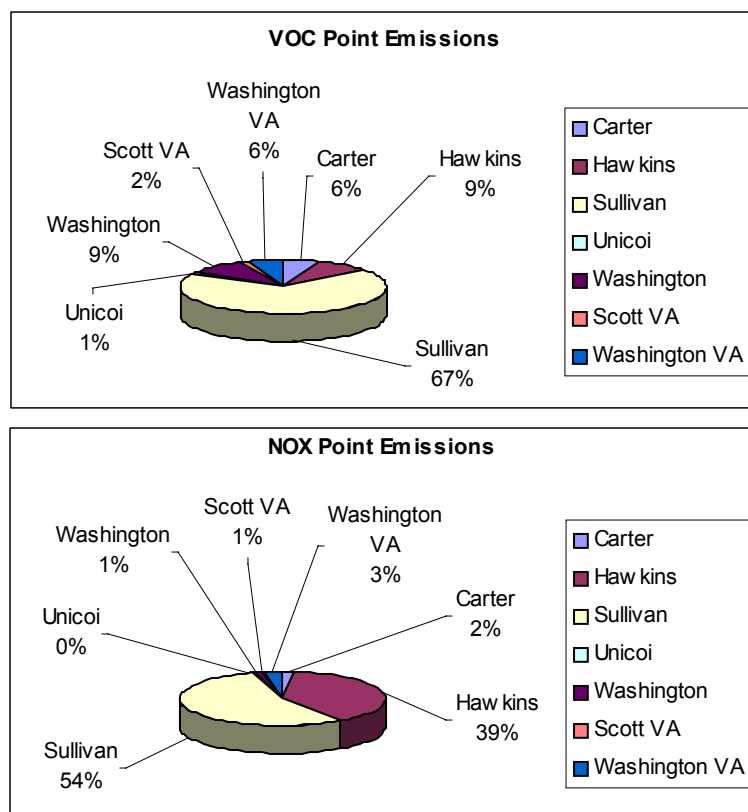
Air Emissions

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

Point source NOX emissions from Carter County were estimated at 1.69 ton/day in 1999 which represents approximately 2% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Carter County were estimated at 8.5 ton/day in 1999 which represents approximately 6% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

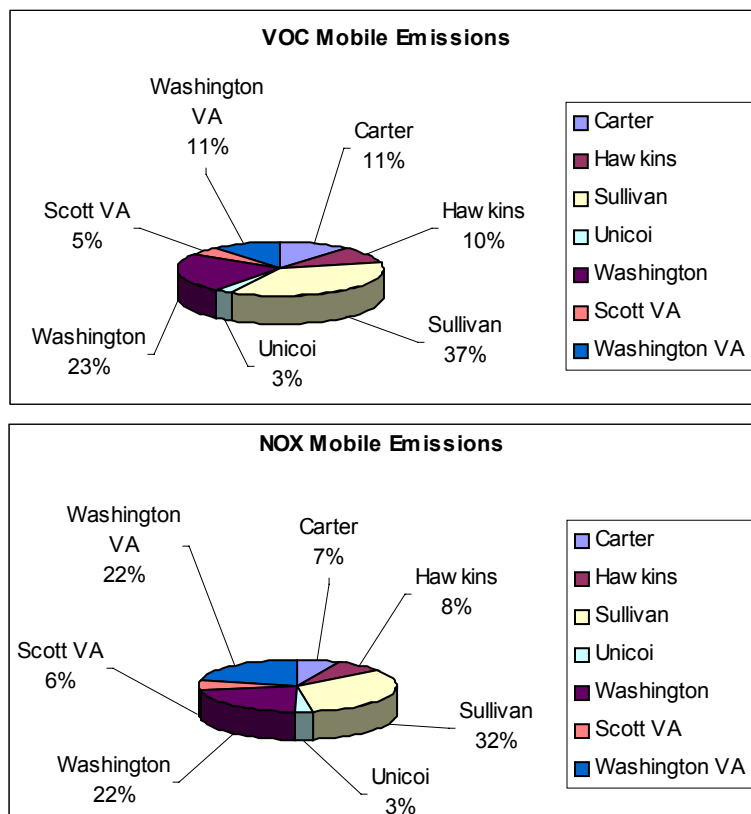


For NOX and VOC control, point sources located within Carter County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous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

Mobile source NOX emissions from Carter County were estimated at 5.22 ton/day in 1999 which represents approximately 7% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Carter County were estimated at 4.1 ton/day in 1999 which represents approximately 11% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

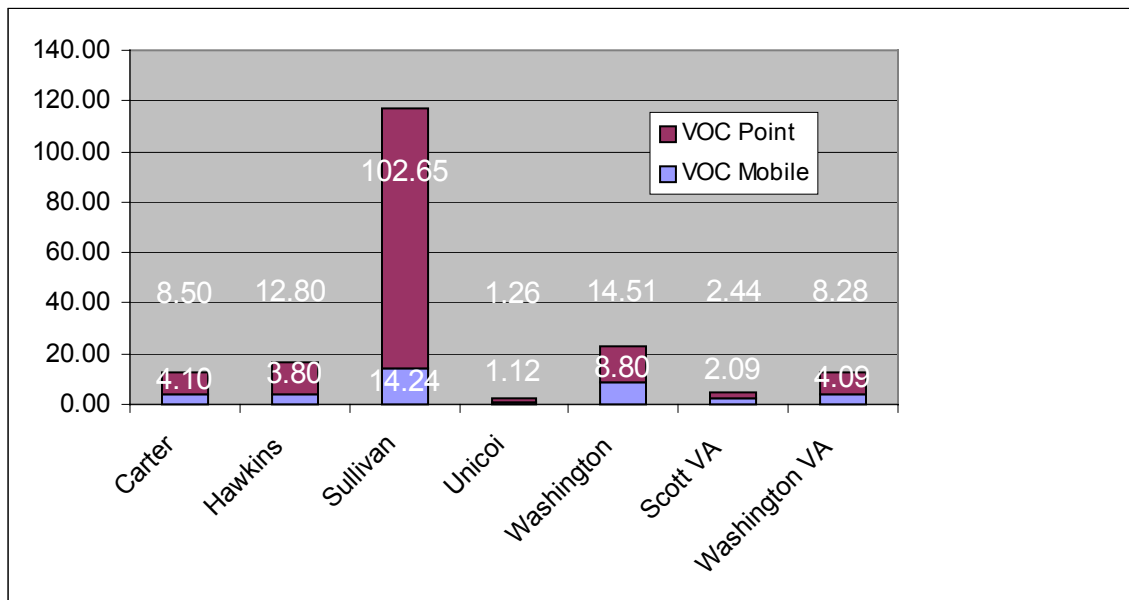
1999 NEI Mobile Source Emissions (ton/day)



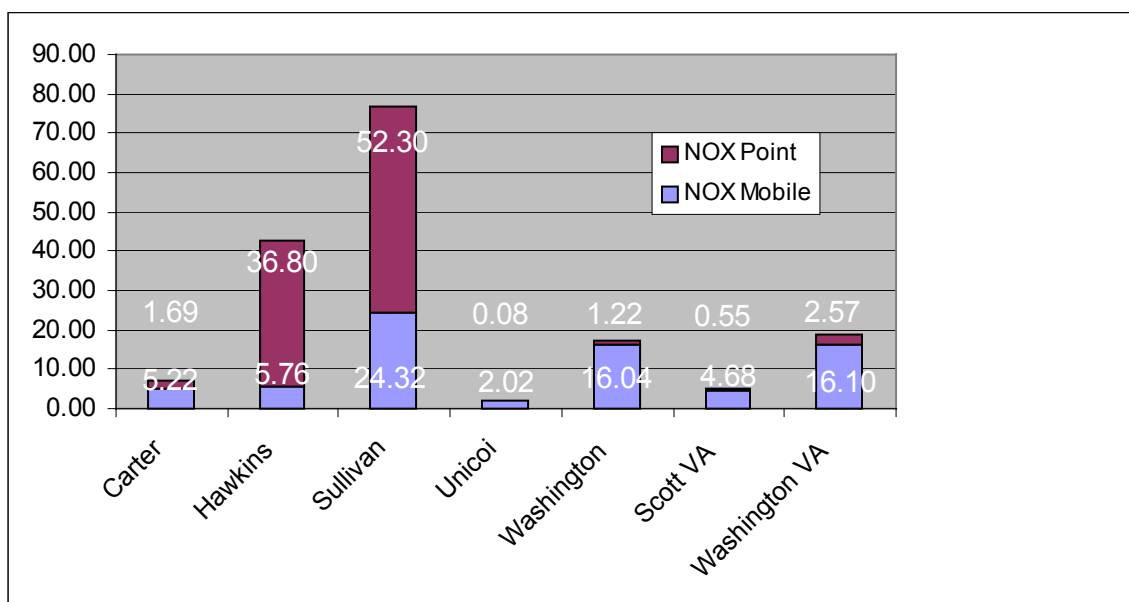
Commuting traffic from surrounding counties into Carter County is minimal. Commuting traffic from Carter County into surrounding counties is significant.

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

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Carter County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Carter 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 Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities 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 at the end of this section.

Hawkins County, Tennessee

Geography/Topography

Hawkins County has a land area of 487 square miles and is located in the ridge and valley terrain of the East Grand Division of the state north of I-81 and just west of the Kingsport area bordering Virginia.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Hawkins County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Hawkins County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Hawkins County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

Hawkins County does not have an ozone monitor.

For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of .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 54,793 persons living in Hawkins County (see Table 1 C). This indicates a population density of 112.6 persons per square mile. The population of Hawkins County is approximately 61.4% rural with the remaining 38.6% living in incorporated areas. The largest city in Hawkins County is Church Hill (see Table 1 C).

Hawkins County's population from 1990 through 2000 increased by approximately 20.1% (44,617 to 53,563). The population is expected to increase by 1.8% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Hawkins County represents approximately 11% of the total JC-K-B MSA population (see Table 1 C).

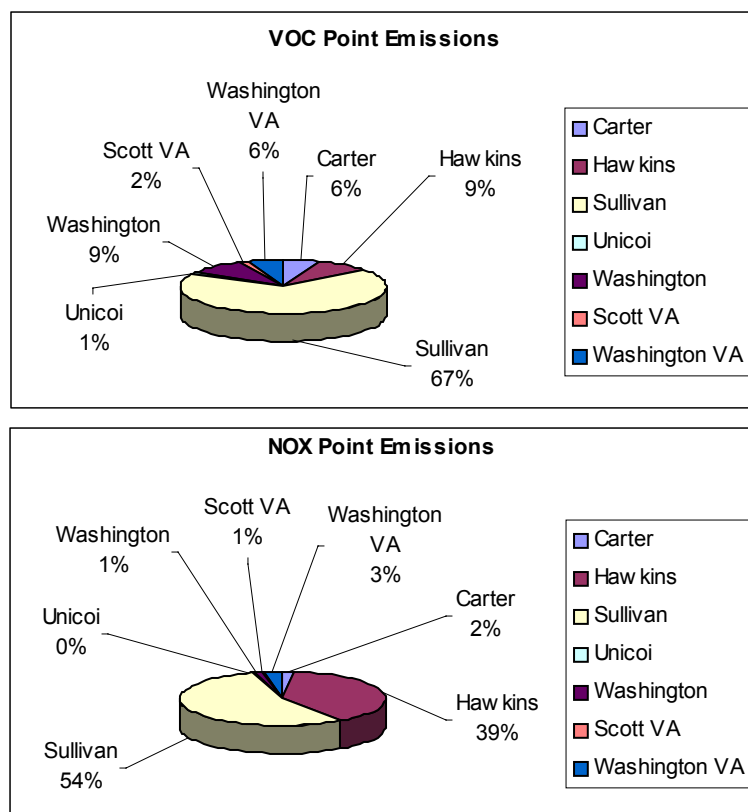
Air Emissions

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

Point source NOX emissions from Hawkins County were estimated at 36.8 ton/day in 1999 which represents approximately 39% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Hawkins County were estimated at 12.8 ton/day in 1999 which represents approximately 9% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

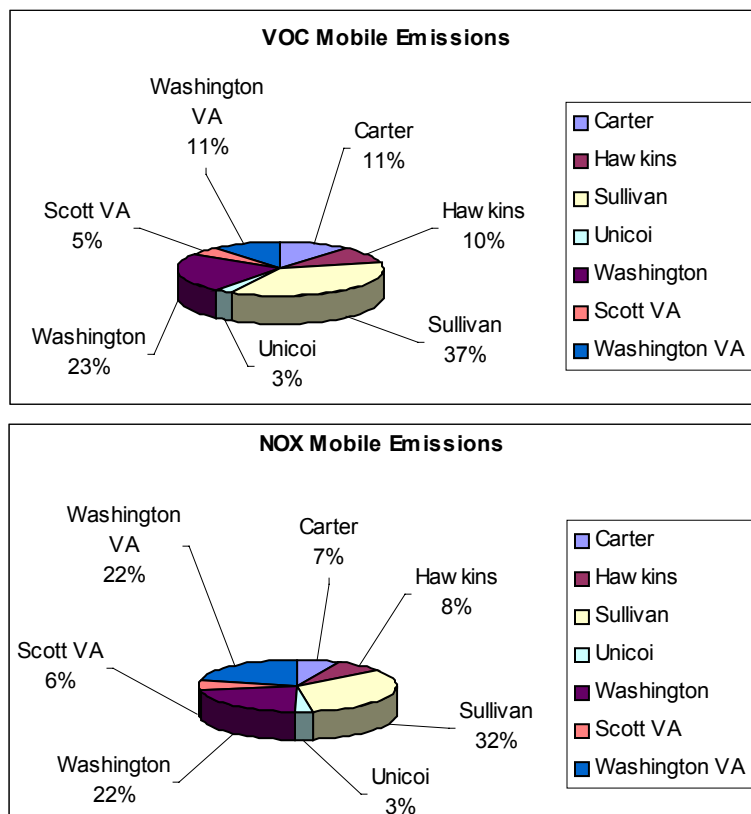


For NOX and VOC control, point sources located within Hawkins County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous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

Mobile source NOX emissions from Hawkins County were estimated at 5.76 ton/day in 1999 which represents approximately 8% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Hawkins County were estimated at 3.8 ton/day in 1999 which represents approximately 10% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

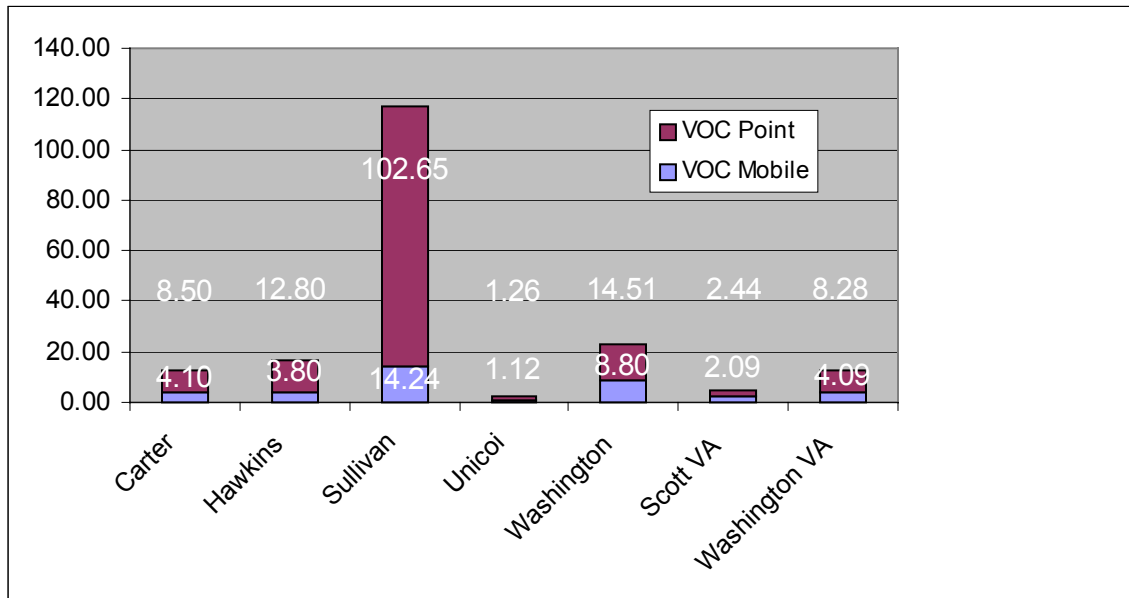
1999 NEI Mobile Source Emissions (ton/day)



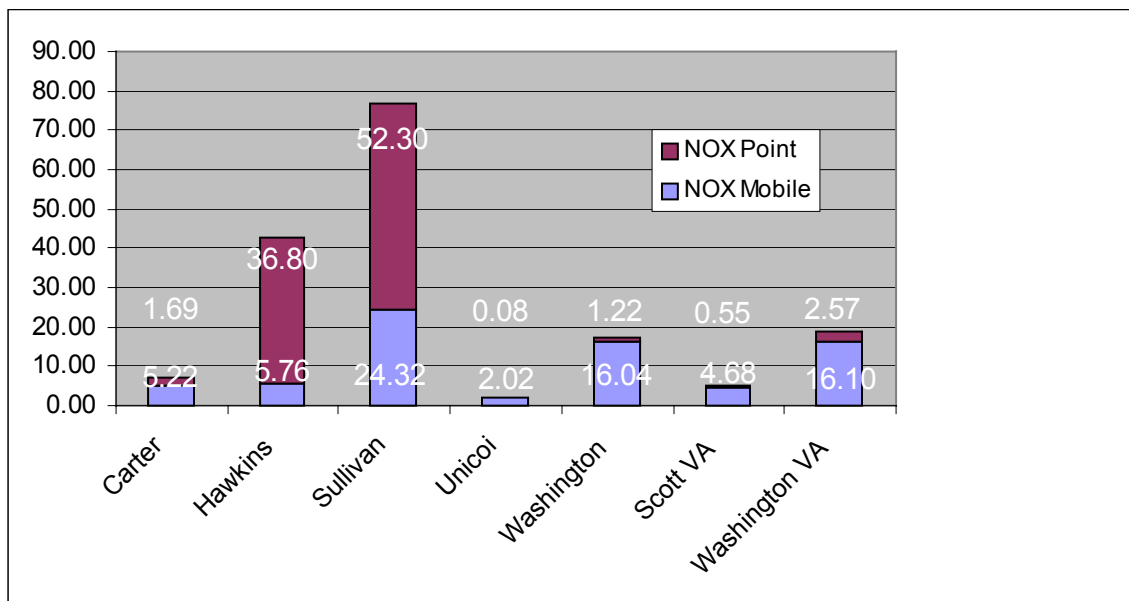
Commuting traffic from surrounding counties into Hawkins County is minimal. Commuting traffic from Hawkins County into surrounding counties is high.

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

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Hawkins County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Hawkins 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 Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities 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 at the end of this section.

Sullivan County, Tennessee

Geography/Topography

Sullivan County has a land area of 413 square miles and is located in the Valley and Ridge region of the Appalachian Mountains in the East Grand Division of the State. Sullivan County is located along the I-81 corridor.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Sullivan County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Sullivan County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Sullivan County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

For the 2001-2003 monitoring period, the ozone monitors located in Sullivan 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 153,051 persons living in Sullivan County (see Table 1 C). This indicates a population density of 371 persons per square mile. The population of Sullivan County is approximately 26.5% rural with the remaining 73.5% living in incorporated areas. The largest cities in Sullivan County are Kingsport and Bristol (see Table 1 C).

Sullivan County's population from 1990 through 2000 increased by approximately 6% (143,819 to 153,048). The population is expected to increase by 2% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Sullivan County represents approximately 32% of the total JC-K-B MSA population (see Table 1 C).

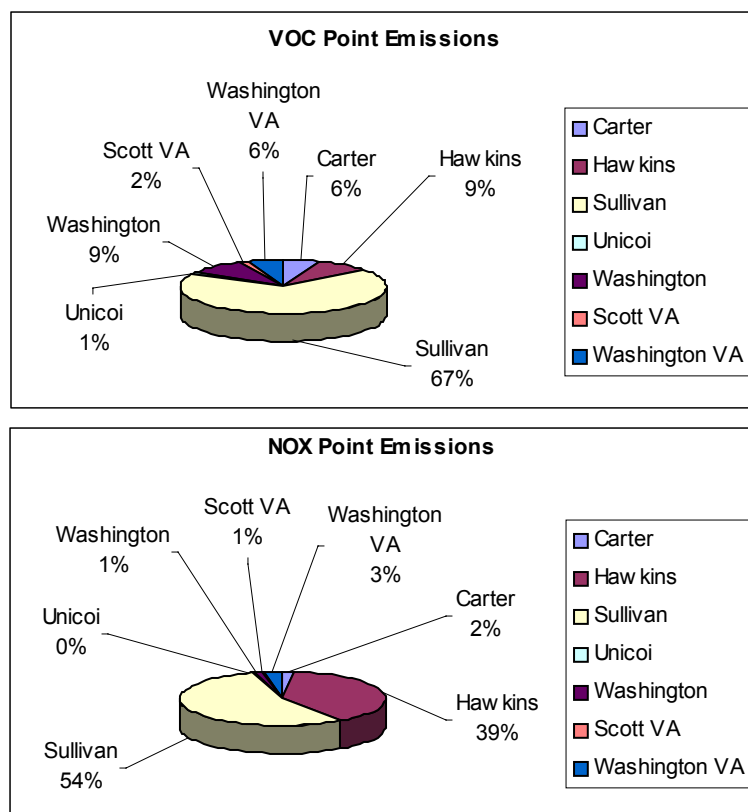
Air Emissions

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

Point source NOX emissions from Sullivan County were estimated at 52.30 ton/day in 1999 which represents approximately 54% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Sullivan County were estimated at 102.65 ton/day in 1999 which represents approximately 67% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

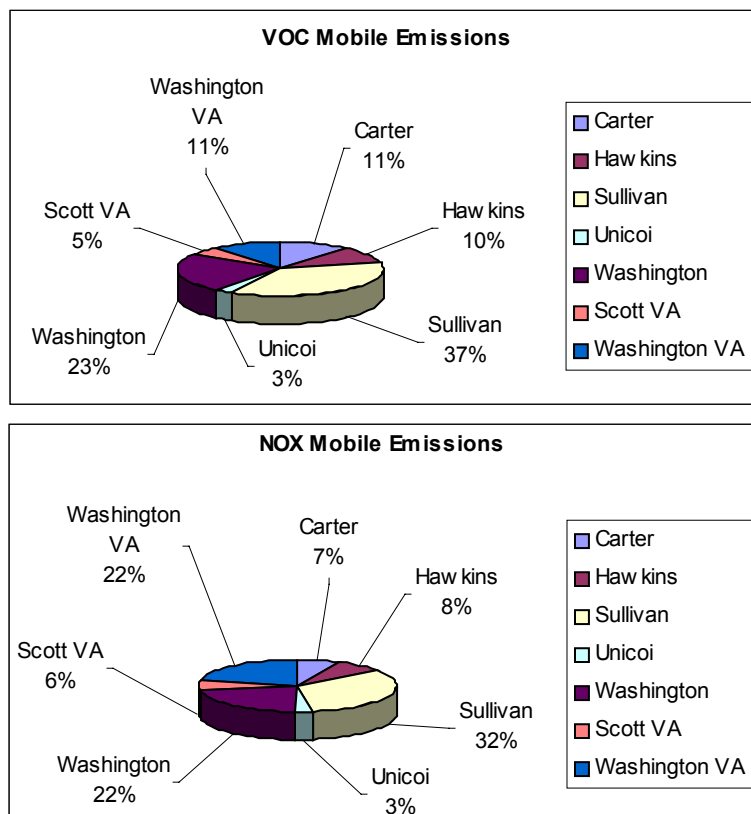


For NOX and VOC control, point sources located within Sullivan County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for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

Mobile source NOX emissions from Sullivan County were estimated at 24.32 ton/day in 1999 which represents approximately 32% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Sullivan County were estimated at 14.24 ton/day in 1999 which represents approximately 37% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

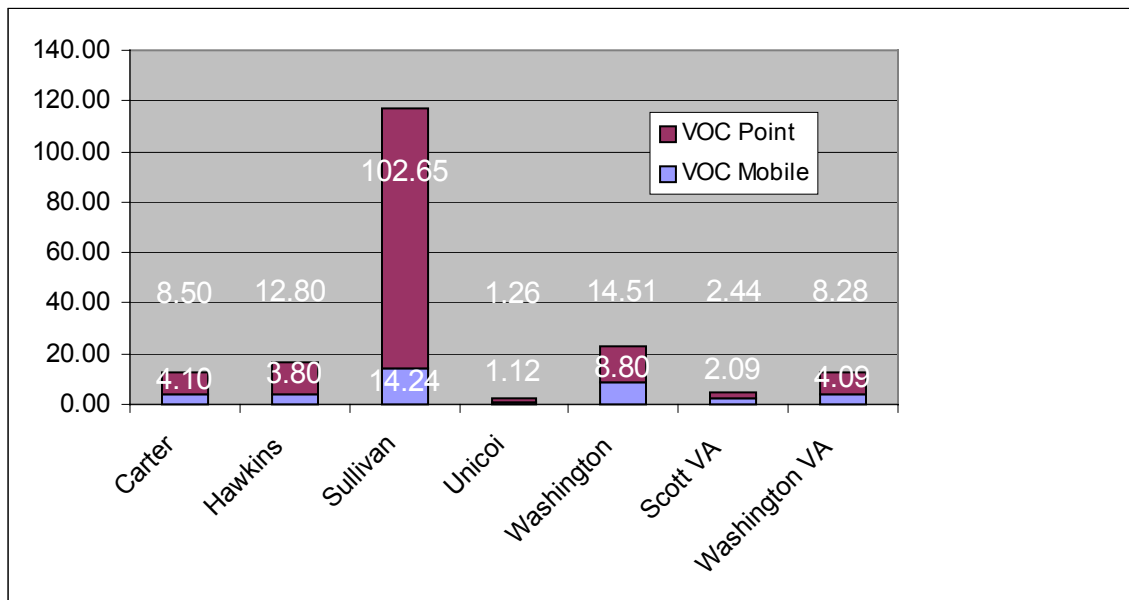
1999 NEI Mobile Source Emissions (ton/day)



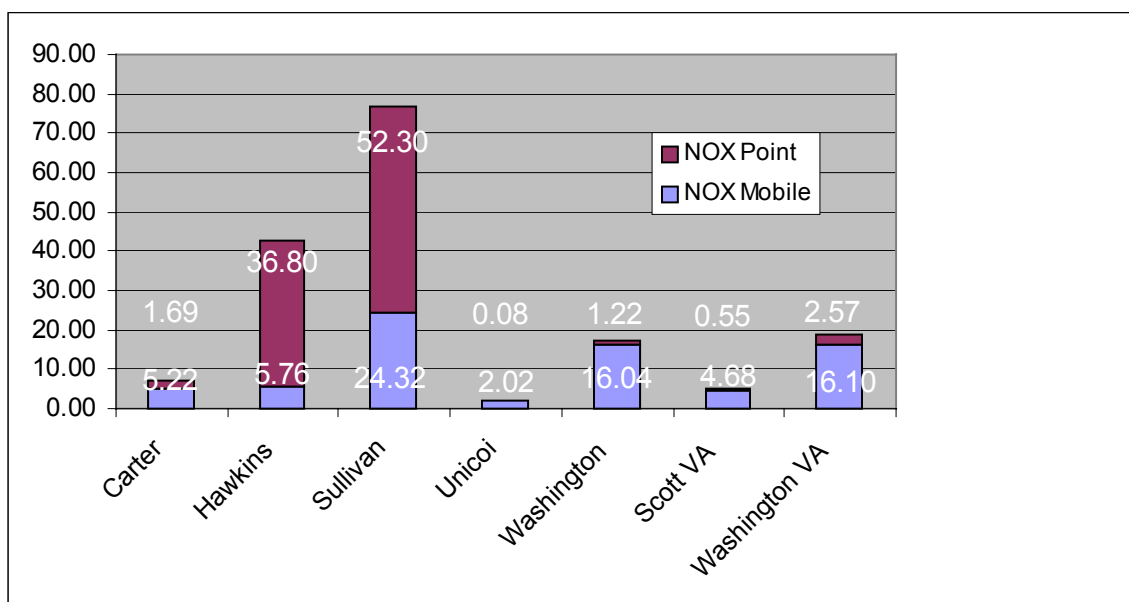
Commuting traffic from surrounding counties into Sullivan County is high.
Commuting traffic from Sullivan County into surrounding counties is minimal.

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

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Sullivan County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Sullivan 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 Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities 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 at the end of this section.

Unicoi County, Tennessee

Geography/Topography

Unicoi County has a land area of 186 square miles and is located in the Appalachian Mountains Ridge region of the East Grand Division of the State. It is located in the southeast portion of the MSA, and is in the elevated terrain of the Cherokee National Forest.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Unicoi County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Unicoi County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Unicoi County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

Unicoi County does not have an ozone monitor. For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of .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 17,740 persons living in Unicoi County (see Table 1 C). This indicates a population density of 95 persons per square mile. The population of Unicoi County is approximately 45.8% rural with the remaining 54.2% living in incorporated areas. The largest city in Unicoi County is Erwin (see Table 1 C).

Unicoi County's population from 1990 through 2000 increased by approximately 7% (16,534 to 17,667). The population is expected to increase by 2% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Unicoi County represents approximately 4% of the total JC-K-B MSA population (see Table 1 C).

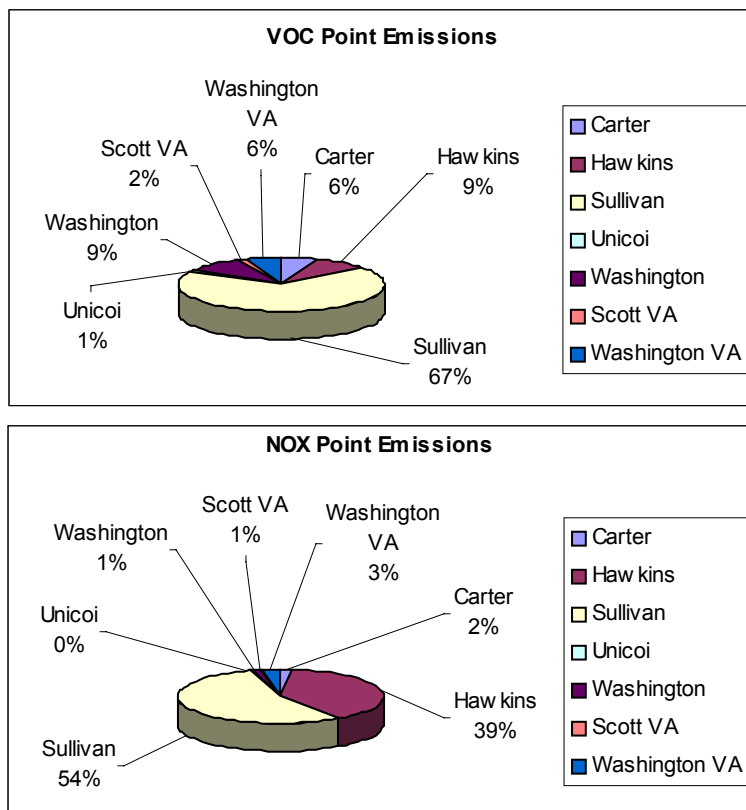
Air Emissions

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

Point source NOX emissions from Unicoi County were estimated at 0.08 ton/day in 1999 which represents approximately less than one percent of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Unicoi County were estimated at 1.26 ton/day in 1999 which represents approximately 1% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

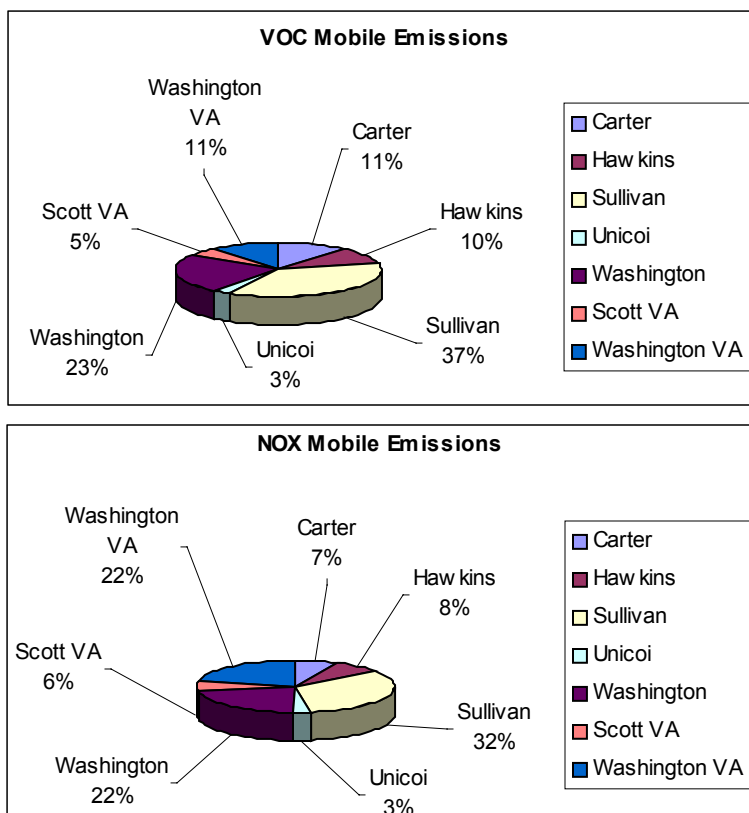


For NOX and VOC control, point sources located within Unicoi County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous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

Mobile source NOX emissions from Unicoi County were estimated at 2.02 ton/day in 1999 which represents approximately 3% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Unicoi County were estimated at 1.12 ton/day in 1999 which represents approximately 3% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

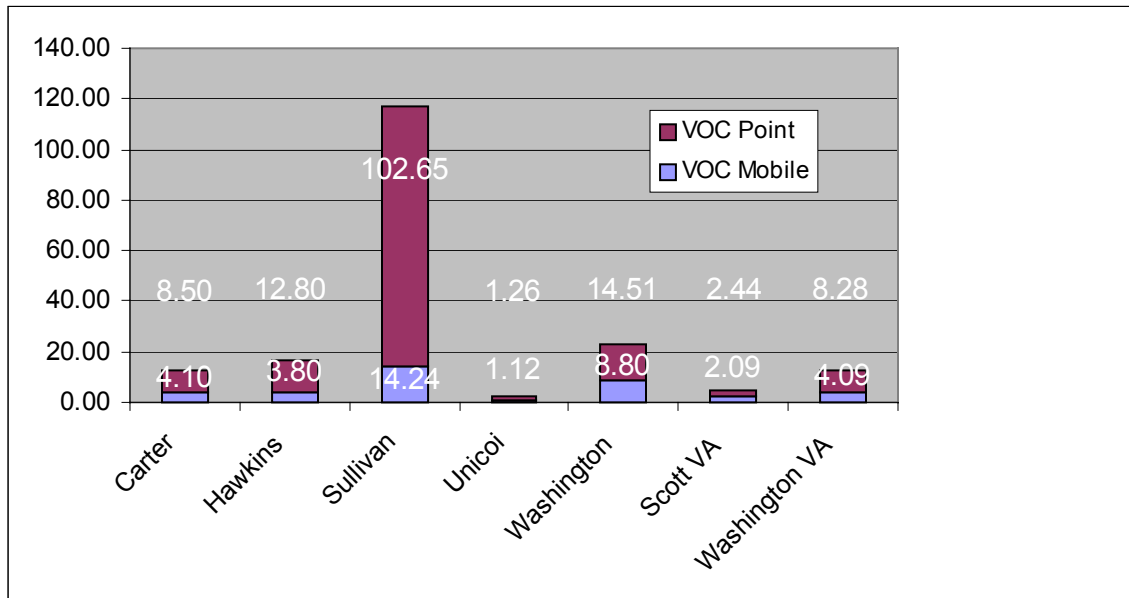
1999 NEI Mobile Source Emissions (ton/day)



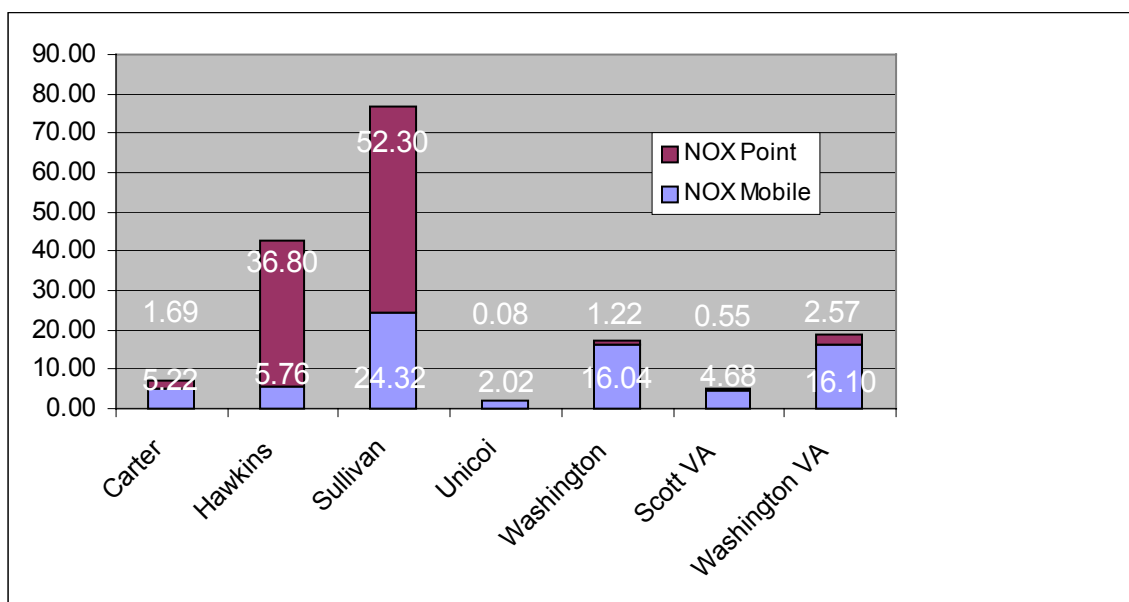
Commuting traffic from surrounding counties into Unicoi County is minimal. Commuting traffic from Unicoi County into surrounding counties is high.

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

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Unicoi County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Unicoi 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 Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities 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 at the end of this section.

Washington County, Tennessee

Geography/Topography

Washington County has a land area of 326 square miles and is located in the Valley and Ridge region of the East Grand Division of the State. It is located in the southeast portion of the MSA, and the southeast portion of the county is in elevated terrain within the boundary of the Cherokee National Forest.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Washington County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Washington County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Washington County is performed by the Tennessee Department of Environment and Conservation.

Air Monitoring

Carter County does not have an ozone monitor. For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values 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 109,019 persons living in Washington County (see Table 1 C). This indicates a population density of 334 persons per square mile. The population of Washington County is approximately 32.6% rural with the remaining 67.4% living in incorporated areas.

Washington County's population from 1990 through 2000 increased by approximately 16% (92,621 to 107,198). The population is expected to increase by 8% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Washington County represents approximately 23% of the total JC-K-B MSA population (see Table 1 C).

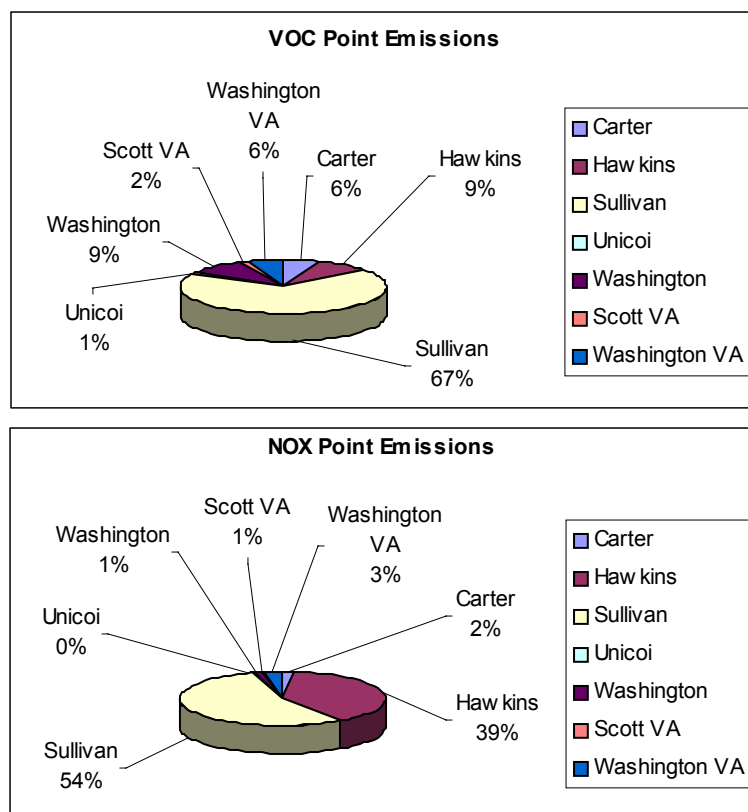
Air Emissions

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

Point source NOX emissions from Washington County were estimated at 1.22 ton/day in 1999 which represents approximately 1% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Washington County were estimated at 14.51 ton/day in 1999 which represents approximately 9% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

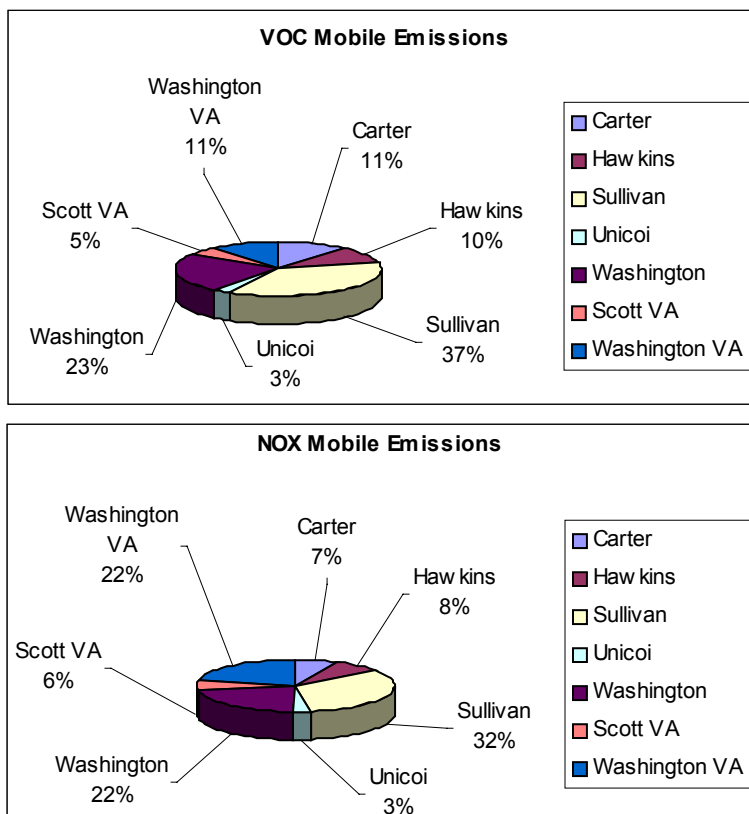


For NOX and VOC control, point sources located within Washington County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for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

Mobile source NOX emissions from Washington County were estimated at 16.04 ton/day in 1999 which represents approximately 22% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Washington County were estimated at 8.80 ton/day in 1999 which represents approximately 23% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

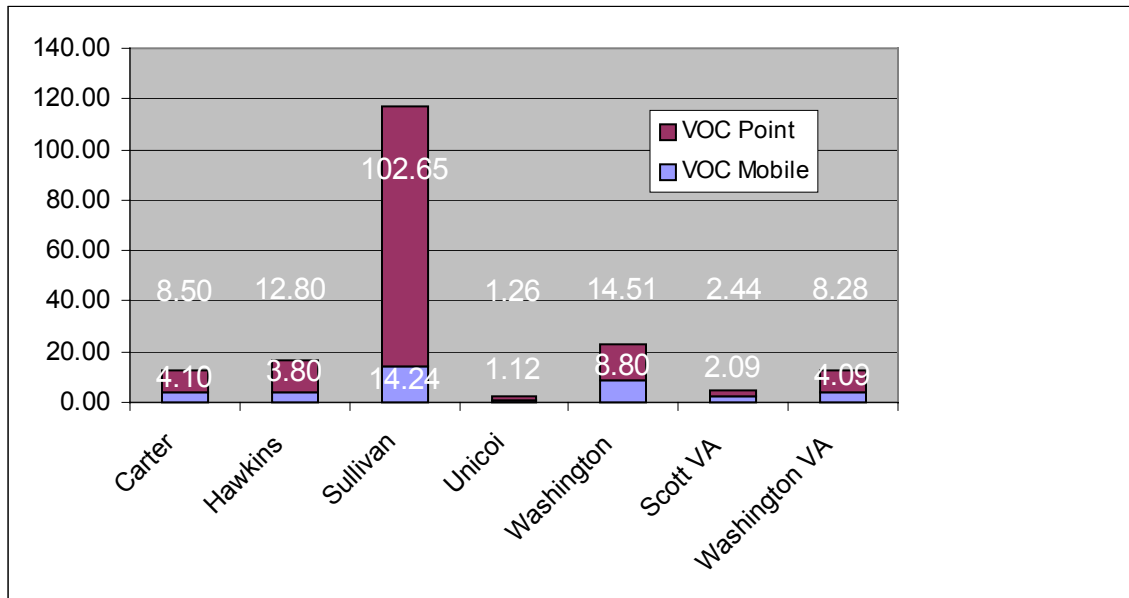
1999 NEI Mobile Source Emissions (ton/day)



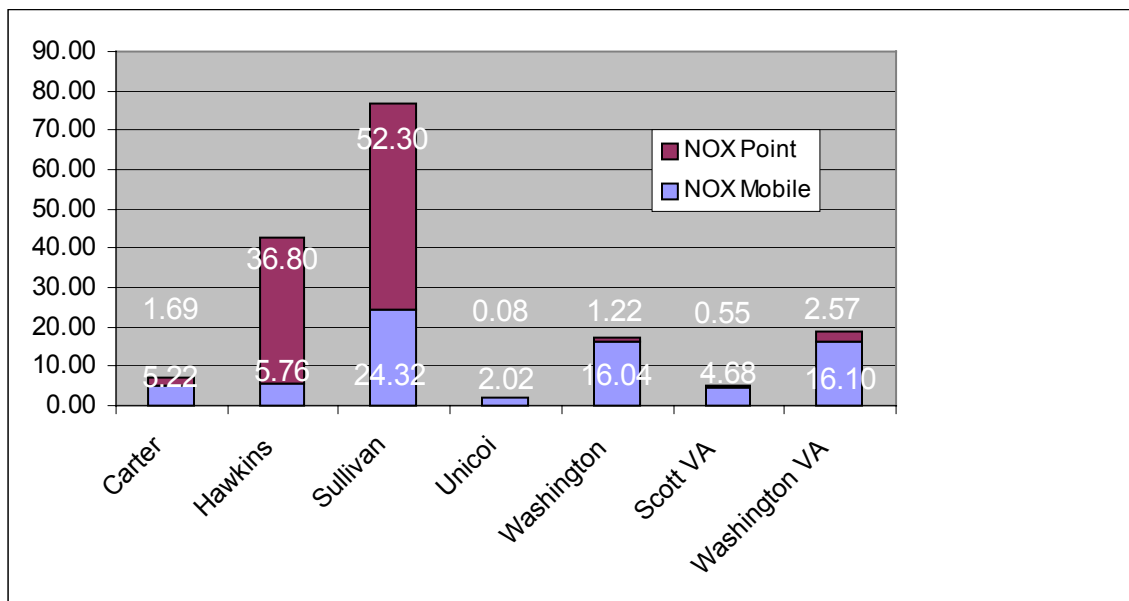
Commuting traffic from surrounding counties into Washington County is minimal. Commuting traffic from Washington County into surrounding counties is high.

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

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Washington County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Washington 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 Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities 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 at the end of this section.

US EPA ARCHIVE DOCUMENT

Figure 1 A
JC-K-B MSA
Wind Rose

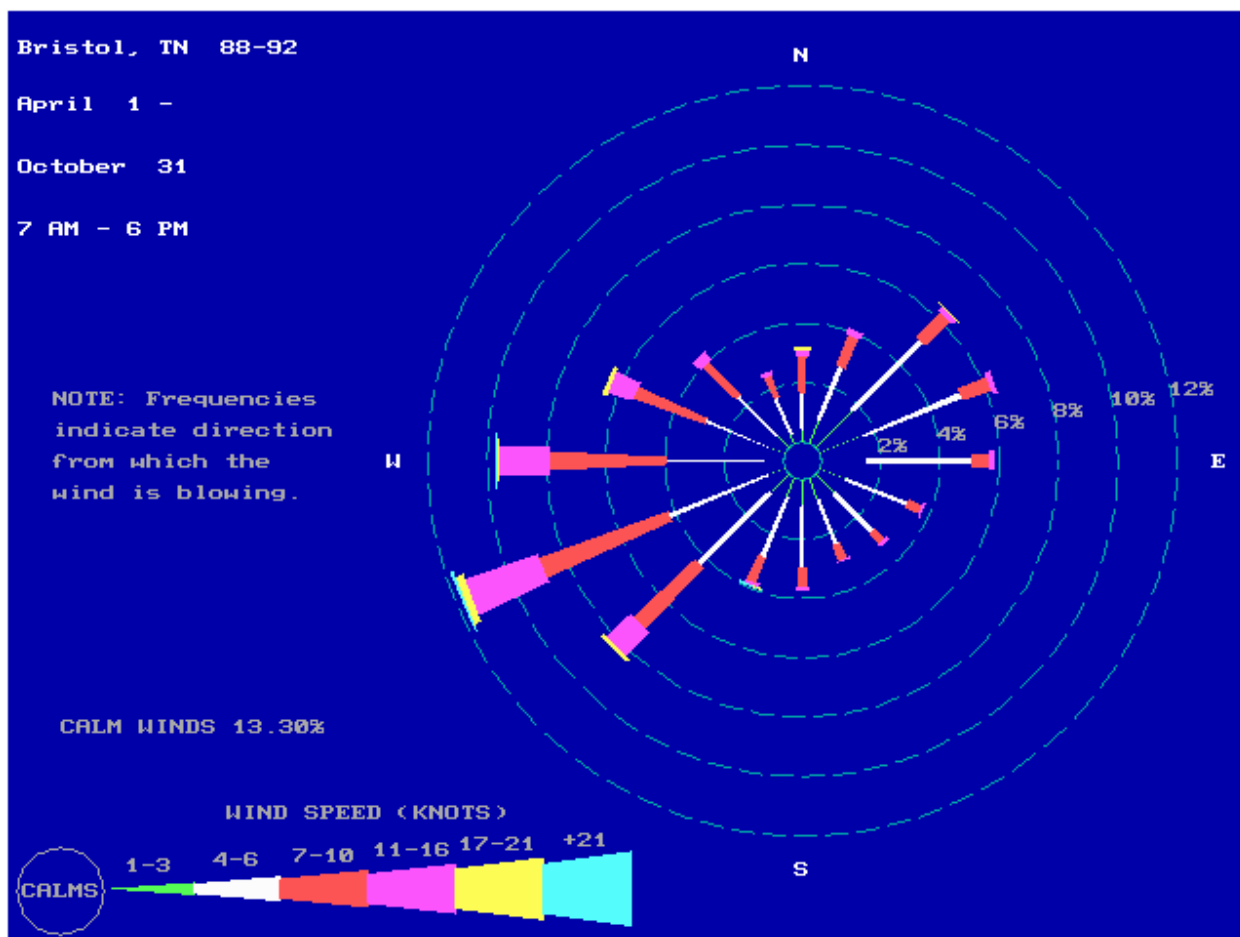
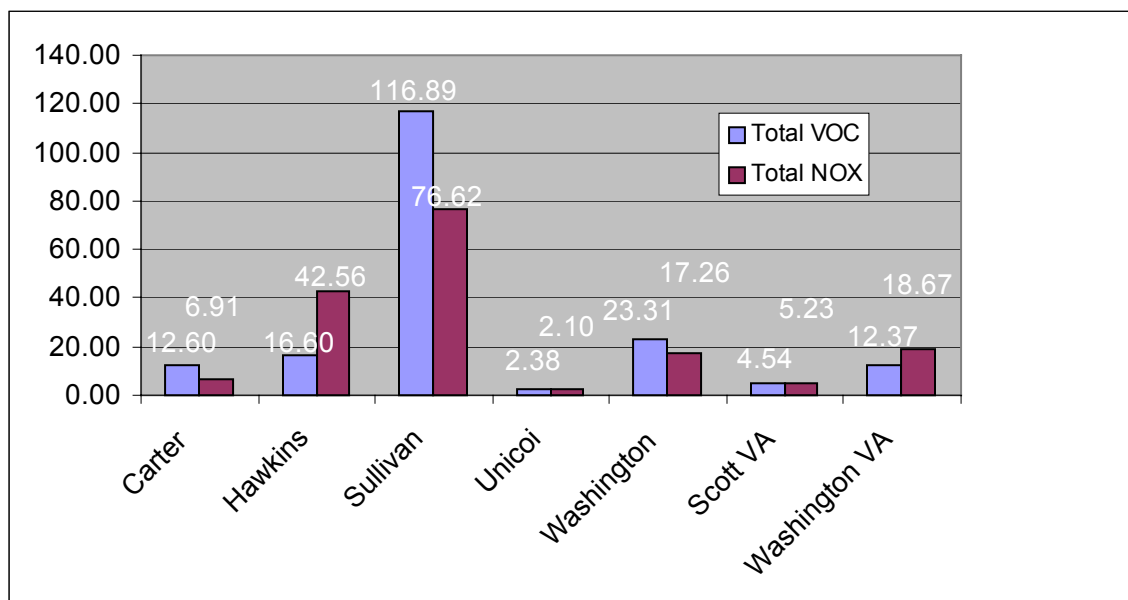


Figure 1 B
JC-K-B MSA
1999 NEI VOC and NOX Emissions
(ton/day)



**Table 1 A
JC-K-B MSA
Ozone Design Values
(ppm)**

County	Site Name	MONITOR ID	1999 2001 Design Value PPM	2000 2002 Design Value PPM	2001 2003 Design Value PPM
Sullivan	Hill Road	471632002 - 1	0.087	0.090	0.086
Sullivan	Ketron Middle School On Bloomingdale Rd.	471632003 - 1	0.090	0.092	0.086

**Table 1 B
JC-K-B 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
Tennessee								
Carter	51,589	56,742	10.0	56,746	341.05	166.4	53,630	-5.5
Hawkins	44,617	53,563	20.1	54,793	486.66	112.6	54,521	1.8
Sullivan	143,819	153,048	6.4	153,051	413.02	370.6	156,630	2.3
Unicoi	16,534	17,667	6.9	17,740	186.14	95.3	18,059	2.2
Washington	92,621	107,198	15.7	109,019	326.31	334.1	115,998	8.2
Virginia								
Scott	23,204	23,403	0.9				23,400	0.0
Washington	45,887	51,103	11.4				52,400	2.5
Bristol City	18,426	17,367	-5.7				16,800	-3.3
TOTALS	436,697	480,091		391,349			491,438	

Table 1 C
JC-K-B MSA
2002 Population Estimates

Tennessee Counties	Population
Carter	56,746
*Elizabethton	(13,372)
Hawkins	54,793
*Church Hill	(5,916)
Sullivan	153,051
*Bristol	(24,821)
*Kingsport	(44,905)
Unicoi	17,740
*Erwin	(5,610)
Washington	109,019
*Johnson City	(55,469)
TN TOTALS	391,349

Virginia Counties	Population
*Scott	23,403
*Washington	51,103
*Bristol City	17,367
VA TOTALS	91,873

TN & VA TOTALS	483,222
---------------------------	----------------

* Based on 2000 Census Data

Table 1 D
JC-K-B MSA
1999 NEI VOC and NOX Emissions
(ton/day)

County	VOC			NOX		
	Mobile	Point	Total	Mobile	Point	Total
Carter	4.10	8.50	12.60	5.22	1.69	6.91
Hawkins	3.80	12.80	16.60	5.76	36.80	42.56
Sullivan	14.24	102.65	116.89	24.32	52.30	76.62
Unicoi	1.12	1.26	2.38	2.02	0.08	2.10
Washington	8.80	14.51	23.31	16.04	1.22	17.26
Scott VA	2.09	2.44	4.54	4.68	0.55	5.23
Washington VA	4.09	8.28	12.37	16.10	2.57	18.67
TOTAL	38.24	150.45	188.69	74.14	95.21	169.35

Summary Attainment Demonstration For The Tri-Cities Area

The attainment and screening tests and additional corroborative analyses indicate that the Tri-Cities EAC area will be in attainment of the 8-hour ozone standard by 2007.

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 Tri-Cities 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 50 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.

Both of the monitoring sites in the Tri-Cities area have future-year estimated design values for 8-hour ozone that are less than or equal to 84 ppb. The areawide 2007 EDV is 84 ppb if the 2000-2002 design value is used, 80 ppb if the 2001-2003 design value is used, and 82 ppb if a meteorologically adjusted design value is used.

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

Letters of Support and Resolutions

JOHNSON COUNTY GOVERNMENT

Dick Grayson, County Executive
222 Main Street
Mountain City, TN 37683
Phone (423) 727-9696



2004 MAR 24 PM 3:57

March 22, 2004

Barry Stephens
Division of Air Pollution Control
9th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1531

Dear Mr. Stephens,

I am writing to clarify Johnson County's involvement in the Tri-Cities Early Action Compact. Johnson County does not wish to be included nor should we be included in the Early Action Compact. In 2002, I signed 2 documents as a show of support for the efforts of our neighboring counties in the Early Action Compact process. However, I did not intend for Johnson County to be included in the Compact. I apologize for the confusion.

Sincerely,

A handwritten signature in cursive script that reads "Dick Grayson".

Dick Grayson
Johnson County Mayor

First Tennessee Development District

IN. D. 2004
AIR POLLUTION CONTROL BOARD

2004 MAR 25 AM 9:03

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(423) 928-0224 • FAX: (423) 928-5209

Carter
Elizabethton
Watauga

March 25, 2004

RECEIVED

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Mr. Barry Stephens
Division of Air Pollution Control
9th Floor, L&C Tower Annex
401 Church Street
Nashville, TN 37243-1531

Dear Mr. Stephens,

Hancock
Sneedville

In compliance with the March 31, 2004 deadline established by the EPA in the Early Action Compact guidelines, the Tri-Cities Early Action Compact (EAC) is submitting a final list of local control measures for inclusion in the State Implementation Plan. Our "local plan" consists of measures that were previously modeled by your Division.

Hawkins
Bulls Gap
Church Hill
Mount Carmel
Rogersville
Surgoinville

Modeling studies conducted by your Division indicate that the Tri-Cities will achieve attainment with the 8 hour ozone standard by 2007 with no additional local measures other than current federal control measures already in place. Furthermore, the models do not rely on quantified voluntary emissions reductions from local measures in the Tri-Cities EAC area to attain the standard by 2007 and projections of emissions through 2012 do not show a net growth in ozone precursors. Also, the proposed Interstate Air Quality Rule, which, if promulgated by EPA would provide further confidence that the Tri-Cities area would maintain attainment of the ozone standard.

Johnson
Mountain City

Sullivan
Bluff City
Bristol
Kingsport

We also anticipate the control measures currently under consideration by the Tennessee Air Pollution Control Board and published in the March 2004 Tennessee Administrative Register will further support our area in achieving attainment by 2007. Given the above mentioned factors and modeling data, the Tri-Cities Early Action Compact is pleased to submit the following list of local measures:

Unicoi
Erwin
Unicoi

Tri-Cities Early Action Compact Local Plan

Washington
Johnson City
Jonesborough

- The Ozone Action Partnership will continue its Ozone Action Day Program to engage local business, media and citizens in efforts to reduce peak ozone levels on days forecast to exceed 84 ppb by the Tennessee Department of Environment and Conservation (TDEC).



- Tri-Cities EAC signatories will propose to their appropriate legislative bodies, a county-wide ban on open-burning of wood wastes on Ozone Action Days.
- The Kingsport, Bristol and Johnson City Metropolitan Planning Organizations will continue their work to implement Transportation Control Measures to reduce emissions from highway vehicles. Descriptions of these efforts are attached.
- The Counties in the Tri-Cities Early Action Compact support the Tennessee Air Pollution Control Board and TDEC as they recommend state legislation to expand vehicle emissions inspection and maintenance programs to counties that are believed to contribute to ozone nonattainment.

If you have any questions, please feel free to contact Susan Reid or Chris Craig at the First Tennessee Development District at 423-928-0224.

Sincerely,



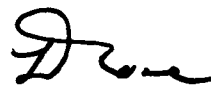
Dale Fair
Carter County Mayor



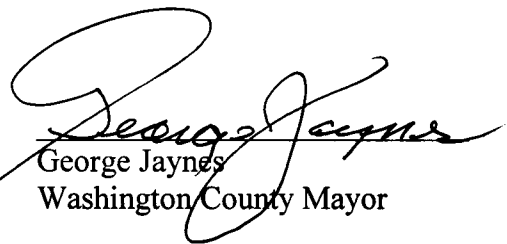
Crockett Lee
Hawkins County Mayor



Richard Venable
Sullivan County Mayor



Larry Rose
Unicoi County Mayor



George Jaynes
Washington County Mayor

Transportation Emission Reduction Control Measures - Kingsport

The Kingsport Metropolitan Planning Organization is major partner in the Ozone Action Partnership Team. The Kingsport MPO is responsible for long-range transportation planning within the MPO jurisdiction which includes; City of Kingsport, portion of Sullivan County, Town of Mount Carmel, Town of Church Hill, portion of Hawkins County, Gate City Virginia, Weber City Virginia, and a portion of Scott County Virginia. Furthermore, the Kingsport MPO works very closely with the Tennessee Department of Transportation, Virginia Department of Transportation, Federal Highway Administration, Federal Transit Administration, and local governments in the overall planning and implementation process. The Kingsport MPO focuses on six major tasks; (1) long-range transportation planning, (2) traffic and demographic data collection, (3) grantsmanship, TEA-21 enhancement grants (i.e. pedestrian greenways), FTA grants, and FHWA grants, (4) traffic systems management (TSM's), improving the level of service to motorists, (5) administer the funding and scheduling of area street and highway projects, (6) and to assist in the local mass transit program by developing short and long-term capital and operating plans.

One of the major responsibilities of the Kingsport MPO is to maintain and implement a 25 year long-range transportation plan. This plan covers every aspect involved in the transportation planning process by addressing such items as; volume to capacity for the roadway system in the MPO jurisdiction, travel time improvements, intelligent transportation systems (ITS), congestion mitigation, public transportation, future conditions, pedestrian mobility. Additionally, the long-range plan is broken down into 4 Tiers; Tier 1 is Projects Under Development Plus Committed Projects, Tier 2 is Future Congestion Mitigation Projects, Tier 3 is Future Safety, Access, Economic Development Projects, and Tier 4 is Future Conceptual Projects. Within these 4 Tiers, various transportation improvements are recommended for the existing street network or recommendations for new roadways. Staff has already begun working on a wholesale revision of the Long-Range Transportation Plan which should be completed by the spring of 2005. This plan will primarily focus on congestion mitigation, implementing Intelligent Transportation Systems (ITS) along the major arterials within Kingsport as well as a continued emphasis on multi-modal transportation items. Additionally, the Kingsport MPO plans to work closely with the Federal Highway Administration, Federal Transit Administration, and the Tennessee Department of Transportation to develop a Long-Range Transportation that addresses the air quality concerns, from a transportation standpoint, for the Kingsport MPO jurisdiction.

While long-range transportation planning dictates a large portion of the day to day activities for the MPO short range transportation planning also takes place. The Kingsport MPO is currently involved with Kingsport Tomorrow's Community Design team to evaluate improvements that can be made to the City's transportation infrastructure. These improvements would seek to correct inadequacies relating pedestrian mobility, aesthetics, functional improvements, and air quality improvements. Two projects currently being explored by the Community Design task force involve changes to two existing intersections which experience high levels of congestion in

residential areas or public space areas. To improve these intersections a proposal has been made and studied to install roundabouts at both intersections. This proposal will drastically reduce idling time and reduce congestion. Additionally, aesthetic improvements would be included in both designs as well. In addition to the Community Design collaborative the MPO will continue to see that all new traffic signals installed in Kingsport will be linked with the existing closed-loop signal system which already works to move traffic along major arterials in Kingsport with little or no delays.

In addition to the revising the Long-Range Transportation Plan the Kingsport MPO plans to work closely with the Kingsport Area Transit Service (KATS) to further develop and improve the public transportation system not only within the City of Kingsport but within the Tri-Cities as well. Furthermore, the MPO plans to work with closely with the Kingsport Planning Department as well as the Kingsport Parks and Recreation Department to develop and implement a Pedestrian Mobility plan that will link neighborhoods with commercial areas within the city and promote alternative modes of transportation.

Transportation Emission Reduction Control Measures – Johnson City

The Johnson City Metropolitan Planning Organization is a partner in the Ozone Action Partnership Team. The Johnson City MPO is responsible for long-range transportation planning serving Carter and Washington Counties which include the Cities of Johnson City and Elizabethton. Similar in structure to the Kingsport MPO, the Johnson City MPO works with the Tennessee Department of Transportation as well as federal agencies with dealing with transportation programs and projects.

Several current and planned activities in the Johnson City transportation study area assist overall regional air quality goals. These include the Intelligent Transportation Systems (ITS) projects which are designed to optimize the efficiency of existing transportation networks and facilities, continual improvements to the Johnson City Transit System, and development of bikeway/greenway projects by the Cities of Johnson City and Elizabethton.

The ITS projects have featured traffic signal upgrades and improved support systems designed to move traffic more efficiency and avoid widening roadways. The provision of transit/traffic information via websites and public access television is another important ITS component. The availability of transit route information via the web provides a low cost method of allowing on-line viewing or downloading of individual transit route maps with stops and locations of passenger shelters. The Johnson City Transit System provides a wide range of fixed route and specialized services that serve as alternatives to private auto ownership and trip-making. In addition since the inception of the ISTEA federal legislation in 1991, both Johnson City and Elizabethton have developed bikeway systems that connect major recreational, employment, and residential areas and provide attractive non-motorized travel options. The Johnson City MPO Long Range Transportation Plan was updated in 2001 and strongly encourages member governments to continue the diversification of travel options to maintain compliance with federal air quality standards.