Air Pollution Control Division
9th Floor, L & C Annex, 401 Church Street
Nashville, Tennessee 37243-1531

December 29, 2005

J.I. Palmer, Jr.
Regional Administrator
US EPA, Region IV
Atlanta Federal Center, 12th Floor
61 Forsyth Street, SW
Atlanta, GA 30303

RE: Submittal of December 31, 2005 Progress Report for Early Action Compact Areas

Dear Mr. Palmer:

Enclosed is a copy of the December 31, 2005 Progress Report in accordance with the Early Action Compact (EAC) requirements for Chattanooga, Nashville, and Tri-Cities EAC areas. This submittal includes an update of the EAC progress from each of the EAC areas in Tennessee and is being submitted by the division to you on their behalf.

This submittal shows Tennessees and local government's continued commitment to improving our air quality. If any additional information is needed, or if you have questions, please do not hesitate to contact me.

Sincerely,

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

Enclosures

cc: Kay Prince, Dick Schutt, EPA Region IV

electronic copies to: TN Air Pollution Control Board
TN Local Air Programs

Progress Report Summary

for
Early Action Compact Areas
in
Chattanooga, Nashville and Tri-Cities

STATE OF TENNESSEE

December 2005

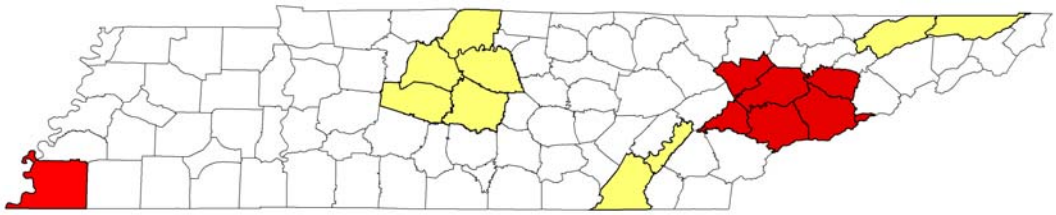
Introduction

The following Early Action Compact (EAC) Progress Report should meet the milestone requirements due December 31, 2005. The State, including the Tennessee Department of Environment and Conservation (TDEC), Local Governments and other interested parties, jointly hold responsibility for the development and implementation of the early action compacts. TDEC and each of the EAC areas have included a detailed progress report showing that all EAC commitments have been met. As a result of these early control measures being implemented, we are now seeing an air quality improvement in Tennessee. With these measures EAC areas should be able to demonstrate attainment of the 8-hour ozone standard by December 31, 2007.

Air Quality Monitoring

The 2004 ozone-monitoring season turned out to be a very good season with regard to the number of 8-hour ozone exceedances observed in Tennessee. In 2004 the state reported having only 4 unhealthy days as a result of ozone (8 hour standard) in contrast to 22 unhealthy days in 2003 and 54 unhealthy days in 2002 (8 hour standard). The three remaining EAC regions in Tennessee also benefited from the lower ozone levels during 2004.

The 2005 ozone-monitoring season can be described as an average year with regard to the number of 8-hour ozone exceedances observed in Tennessee. Overall, the preliminary design value (DV) for all of the ozone monitoring sites that operated during 2005 have declined with only 2 monitors exceeding the 8 hour ozone DV for the 2003 to 2005 timeframe as compared to 8 monitors exceeding the 8 hour DV during the 2002 to 2004 period. In 2005 the state reported having 22 unhealthy days as a result of ozone (8 hour standard) in contrast to 4 unhealthy days in 2004 and 24 unhealthy days in 2003 (8 hour standard). The three remaining EAC regions in Tennessee have also benefited during 2005. This demonstrates significant progress because the reductions in the measured DV for 2003 through 2005 now indicate that only two areas in the state are failing to meet the 8 hour standard with all of the EAC areas meeting the 8 hour standard during this time frame. The map below shows EAC areas highlighted in yellow that are moving towards attainment sooner.



non-attainment but with deferred effective date – Yellow (EAC areas)
non attainment with no deferral – Red
attainment - White

Emission Reduction Strategies

The State and local EAC partners selected emission reduction measures which are specific, quantifiable and enforceable. Specific implementation dates, as well as additional detailed documentation is provided in the report for each of the EAC areas.

The state and local emission reduction measures were incorporated by the Tennessee Air Pollution Control Board into the State Implementation Plan (SIP) and submitted to EPA for review and approval on December 29, 2004. This SIP submittal incorporated the state and local control measures of the Chattanooga, Nashville, and Tri-Cities EAC area agreements. Should an area desire to add, delete or substitute measures after SIP promulgation, the area will request a modification of the SIP. Such modification will be treated as a SIP revision and facilitated by the Tennessee Department of Environment and Conservation. However, no changes are anticipated at this point.

SUMMARY OF STATE ENFORCABLE CONTROL MEASURES

To achieve additional mobile sources emissions reductions, Chapter 1200-3-29 Light-Duty Motor Vehicle Inspection and Maintenance rules were amended to broaden the scope of the exiting rule and allow for an expansion in Hamilton County. The amendments to the rule became state effective December 12, 2004, and changes went into effect on April 1, 2005. The changes applied to Davidson, Hamilton, Rutherford, Sumner, Williamson and Wilson Counties.

Significant Rule Changes:

- Required gasoline and diesel vehicles 1975 and newer with a gross vehicle weight rating up to 10,500 pounds or less to pass an emissions inspection prior to registration renewal

- Incorporated opacity limits for diesel powered vehicles (not to exceed 10% opacity for 10 or more consecutive seconds, and if OBD equipped vehicle must pass OBD inspection)

- Incorporated testing in Hamilton County

Chapter 1200-3-36 Motor Vehicle Tampering rule was promulgated to reduce the air pollution caused by tampering with a motor vehicle emission system. The area of applicability is statewide. The new rule became effective on December 29, 2004.

Pertinent Tampering Requirements:

- Tampering is defined as modifying, removing or rendering inoperative, any air pollution emission control device which results in an increase in emissions beyond established federal motor vehicle standards.

- The rule identifies what is specifically prohibited (Example: removing catalytic converter)

To achieve even further emissions reductions, Chapter 1200-3-18 Volatile Organic Compounds was amended in include Stage I requirements for all of the following counties: Anderson, Blount, Carter, Cheatham, Davidson, Dickson, Fayette, Hamilton, Hawkins, Haywood, Jefferson, Knox, Loudon, Marion, Meigs, Montgomery, Putnam, Robertson, Rutherford, Sevier, Shelby, Sullivan, Sumner, Tipton, Unicoi, Union, Washington Williamson and Wilson Counties. The rule became state effective on December 29, 2004 with an implementation date of May 1, 2006.

Significant Rule Changes:

- Extends to additional counties the applicability of the Stage I requirements for bulk gasoline plants and gasoline dispensing stations.

The following EAC Progress Reports for Chattanooga, Nashville and the Tri-Cities area include detailed documentation showing the local commitment to achieving attainment of the 8-hour ozone standard by December 31, 2007.

Progress Report Summary

for the Chattanooga Early Action Compact Area in

Tennessee

Submitted by the Chattanooga-Hamilton County
Air Pollution Control Bureau
December 16, 2005

PROGRESS REPORT ON THE 8-HOUR OZONE EARLY ACTION COMPACT FOR THE CHATTANOOGA, TENNESSEE AREA - DECEMBER 31, 2005

The Local Plan for the Chattanooga Area Early Action Compact (EAC) continues to be implemented. The plan contains three regulatory measures and one voluntary measure for Hamilton County, Tennessee, for which SIP credit was claimed: (1) Seasonal Burning Ban, (2) Stage 1 Vapor Recovery, (3) Automobile and Light Truck Inspection and Maintenance Program and (4) Air Quality Alert Program (Pollution Solution).

Marion County and Meigs County in Tennessee each have one regulatory and one voluntary program: (1) Stage 1 Vapor Recovery and (2) Air Quality Alert Program (Pollution Solution).

Walker and Catoosa Counties in Georgia each have two regulatory measures and one voluntary measure: (1) Seasonal Burning Ban, (2) Stage 1 Vapor Recovery and (3) Air Quality Alert Program (Pollution Solution).

Table 1 shows the breakdown of these measures on a county-by-county basis.

Table 1. Chattanooga Area EAC Measures Implemented By County

County	**Measure**	**Regulatory/Voluntary**	**Effective Date**
Hamilton	Seasonal Burning Ban	Regulatory	May 1, 2005
Hamilton	Stage 1 Vapor Recovery	Regulatory	Adopted March 15, 2004
Hamilton	Inspection and Maintenance	Regulatory	April 1, 2005
Hamilton	Air Quality Alert Program – Pollution Solution	Voluntary	May 1, 2004
Marion	Air Quality Alert Program – Pollution Solution	Voluntary	May 1, 2005
Marion	Stage 1 Vapor Recovery	Regulatory	May 1, 2006
Meigs	Air Quality Alert Program – Pollution Solution	Voluntary	May 1, 2005
Meigs	Stage 1 Vapor Recovery	Regulatory	May 1, 2006
Catoosa	Seasonal Burning Ban	Regulatory	May 1, 2005
Catoosa	Stage 1 Vapor Recovery	Regulatory	May 1, 2006
Catoosa	Air Quality Alert Program – Pollution Solution	Voluntary	May 1, 2005
Walker	Seasonal Burning Ban	Regulatory	May 1, 2005
Walker	Stage 1 Vapor Recovery	Regulatory	May 1, 2006
Walker	Air Quality Alert Program – Pollution Solution	Voluntary	May 1, 2005

In Hamilton County all four measures have been implemented. In addition, 11 voluntary measures, for which SIP credit was not claimed, were included in the local plan and implementation of these voluntary measures is ongoing.

These additional voluntary measures are as follows:

- Municipal Buses – Increased Ridership
- Intelligent Transportation System
- HELP Trucks
- Diesel Retrofits
- Bike Trials and Bike Racks at Work Sites
- Pedestrian Greenways
- Accelerated Replacement of On-Road Vehicles
- Bio-diesel and Alternative-Fuel Vehicles
- Low-Sulfur Fuel in City and County Fleets
- Accelerated Replacement of On- and Off-Road Diesel Vehicles

Public Participation

Stakeholder Meetings

The major stakeholder meetings for the Chattanooga Area EAC were held in 2004; however, the Georgia Department of Natural Resources, Environmental Protection Division held a series of Open Houses/Q&A Sessions for the State Implementation Plan throughout their state. The stakeholder meeting for Walker and Catoosa counties took place at the Walker County Civic Center in Rock Spring, Georgia, on August 25, 2005. Twenty-two people attended including citizens, politicians and members of the media.

CHCAPCB Engineering Manager, Errol Reksten, and PR Specialist, Kelley Walters, attended the meeting, along with employees of the Georgia EPD. Mr. Reksten gave one of the presentations and answered questions regarding the EAC. Ms. Walters hosted the Bureau's informational display and also answered questions regarding the EAC.

For more information contact Vicky Giles, Public Affairs Coordinator, Georgia Department of Natural Resources, Environmental Protection Division, at (404) 675-6156 or vicky_giles@dnr.state.ga.us.

Survey to Demonstrate the Benefit of the Ozone Action Day Program

The Pollution Solution program is a voluntary program that was counted for EAC credit in the State Implementation Plan dated December 29, 2004. In order to gain credit, the Bureau is required to quantify the reductions gained by the program.

The preferred method for quantifying the benefit of the program is a public survey, as defined in the "Quantification Method Reference Manual: A Method to Measure Travel and Emissions Impacts of Ozone action Public Education Programs" (April 30, 2003, by ESTC for the California Air Resources Board, U.S. Environmental Protection Agency and the Federal Highway Administration).

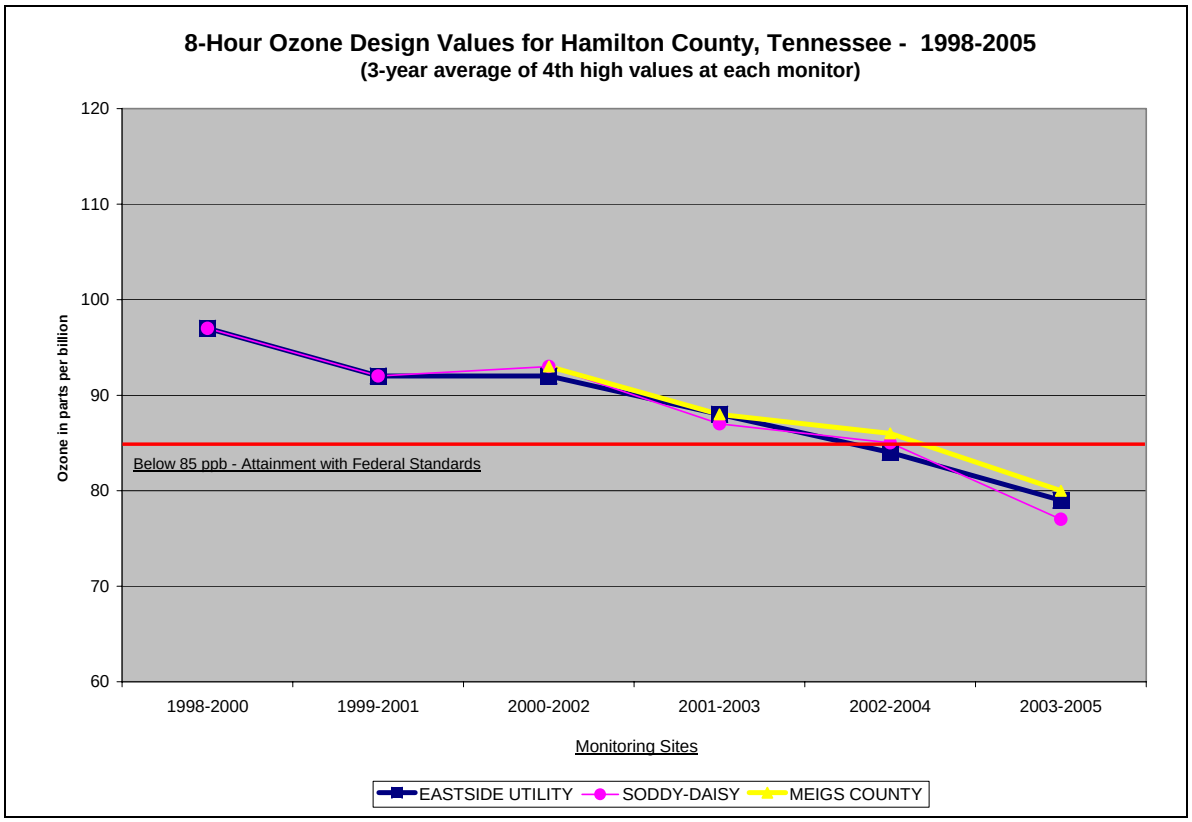
In November 2005, the Bureau contracted with the Center for Applied Social Research at the University of Tennessee at Chattanooga to conduct a survey of Hamilton County residents. The survey was created by the government partnership, *It All Adds Up to Cleaner Air*, to gather market data specifically focusing on air and the environment. Before committing to this survey, the Bureau consulted with *It All Adds Up*, Mark Coryell of the EPA National Vehicle and Fuel Emissions Laboratory and with Eric Schreffler, Transportation Consultant, of ESTC, as recommended by EPA Region 4.

The final report, completed December 15, 2005, is attached as part of the Bureau's commitment to maintain transparency in the EAC program.

In addition to this survey, the Bureau will conduct a series of episodic surveys (surveys taken after each ozone action day) beginning in Ozone Season 2006. This survey, given in the "Quantification Reference Manual," (referenced above) is designed to determine how peoples' behavior changed as a result of the Action Day. Data will be compiled and reported at the end of Ozone Season 2006. The report will be available for review as well.

Updates or Revisions to Modeling, Technical Analyses or Planning Activities

There have been no updates or revisions to modeling, technical analyses or planning activities. The Chattanooga Area Early Action Compact area ozone design value for 2003-2005 is 80 ppb at the end of the 2005 ozone season (see figure below). The design value is the Meigs County monitored design value. The Meigs County monitor has the highest design value in the EAC.



The area is progressing on schedule toward completion of the December 31, 2005 EAC milestones. Information follows on each of the three regulatory measures, along with information on the twelve voluntary measures.

Regulatory Measures

Seasonal Open Burning Ban

This control measure was described in full, along with the expected reduction in emissions, in the "Local Plan for the Chattanooga Area Early Action Compact" dated December 21, 2004, and submitted by the State of Tennessee as part of the "Non-Regulatory State Implementation Plan (SIP) Submittal for Tennessee's Early Action Compact (EAC) Areas" dated December 29, 2004.

The seasonal open burning ban was adopted by Hamilton County on October 4, 2004 and went into effect May 1, 2005. No open burning was allowed in Hamilton County between May 1 and September 30.

The Bureau undertook a public awareness program in April 2005, disseminating information through media outlets, including 6 TV stations, 21 radio stations and 4 print publications. The information was also sent to local municipalities (including fire halls and police departments) and businesses through various mailing lists, including the Chamber of Commerce and the Chattanooga Manufacturers Association.

Information pertaining to the ban was provided on the Bureau's website (www.pollutionsolution.org) and through the Bureau's telephonic information line (423-643-5971). Additionally the Bureau developed a brochure about the burning ban, which was mailed to construction contractors and nine municipalities. It was also published on the Bureau's website, where it can be accessed at http://www.pollutionsolution.org/Open_Burning/burning_ban_brochure.pdf.

During the burning ban this year (May 1, 2005 – September 30, 2005) we responded to a total of 88 complaints of open burning, 66 of those were confirmed burning.

During the same period the year before (May 1, 2004 – September 30, 2004) we responded to 156 complaints of open burning, 126 of those were confirmed.

In September 2005 the Bureau undertook a second public awareness program to make the public aware of the end of the ban and the beginning of the 2005 burning season. The same methods were employed as above, except the brochure was not mailed again. To date the Bureau has issued approximately 3,800 burning permits to residents of Hamilton County. Historically, the Bureau has issued 5,000-7,000 permits each year.

In Walker and Catoosa Counties in Georgia, ozone season open burning restrictions went into effect on May 1, 2005 and continued through September 30, 2005.

Stage 1 Vapor Recovery

This control measure was described in full, along with the expected reduction in emissions, in the "Local Plan for the Chattanooga Area Early Action Compact" dated December 21, 2004, and submitted by the State of Tennessee as part of the "Non-Regulatory State Implementation Plan (SIP) Submittal for Tennessee's Early Action Compact (EAC) Areas" dated December 29, 2004.

Stage 1 Vapor Recovery was adopted by Hamilton County on March 15, 2004. Since that date all gasoline dispensing facilities that are subject to the rule have been issued air pollution control permits. There are 162 gas stations subject to the rule. Of those, 36 remain to be inspected. The initial gasoline station inspections are expected to be completed by February 1, 2006. Annual inspections of all gasoline dispensing facilities will continue to be performed in future years.

Thus far one enforcement action was taken against one convenience store chain, resulting in civil penalty for two stores that were not in compliance.

Permitting forms are available on the Bureau's website, www.pollutionsolution.org.

Gasoline dispensing facilities in Meigs County and Marion County will be subject to Stage 1 Vapor Recovery beginning May 1, 2006. The State implemented Stage 1 Vapor Recovery in both Meigs and Marion County. Marion County is not part of the Early Action Compact area but is adjacent to Hamilton County, so was included in the program.

Stage 1 Vapor Recovery will be required beginning May 1, 2006, for gasoline dispensing facilities in Walker and Catoosa counties in Georgia.

Automobile and Light Truck Inspection and Maintenance

This control measure was described in full, along with the expected reduction in emissions, in the "Local Plan for the Chattanooga Area Early Action Compact" dated December 21, 2004, and submitted by the State of Tennessee as part of the "Non-Regulatory State Implementation Plan (SIP) Submittal for Tennessee's Early Action Compact (EAC) Areas" dated December 29, 2004.

State vehicle emissions testing began in Hamilton County on April 1, 2005. All passenger cars and light trucks subject to the requirements must pass the emissions test prior to registration in Hamilton County.

The Bureau partnered with the State and members of Envirotest, the contractor in charge of the testing facilities, in a series of outreach events to educate the public about emissions testing. To aid in this the State created a Fact Sheet and a flyer describing the program. (Copies of these are included.)

Two series of Informational Sessions were held, the first on January 26-27, 2005, and the second on March 15, 2005. These were for city and county government officials, new car dealers, auto repair shops and used auto dealers. Presentations were made available to attendees through direct mail and at the Bureau's website, *www.pollutionsolution.org*.

Two Media Days were also held, the first on February 15, 2005, and the second on March 16, 2005. In the first event, members of the PR Team met with the two major print media outlets and members of the media from the three local television affiliates of the networks (WRCB, WTVC and WDEF) to introduce them to the program.

The second event took place at the emissions testing center at 5206 Austin Road. Reporters from the three network television stations, Clear Channel Radio (which covers five local radio stations), Citadel Radio (which covers four local radio stations) and the Chattanooga Times-Free Press attended. Stories ran on all three TV stations, Talk Radio 102.3 and in the Chattanooga Times-Free Press.

Two PSAs were recorded for radio and sent to 21 radio stations. They ran at the stations' discretion beginning March 18. Information was also sent to the top ten major employers in Hamilton County via email and mailed to all Hamilton County residents. The flyer also goes out with each resident's tag renewal notice.

Currently information is available through the State's website at *tennessee.gov/environment/apc/vehicle,* Hamilton County's website at *www.countyclerkanytime.com* and the Bureau's website at *www.pollutionsolution.org*. Fact Sheets and flyers are also distributed upon request by the State and the Bureau.

In calendar year 2004, 271,468 automobiles and light trucks were registered in Hamilton County. As of November 30, 2005, 176,185 automobiles and light trucks have been inspected. Of the vehicles inspected, 20,959 vehicles failed when tested, resulting in an 11.9% failure rate. (See Table 2.)

Table 2. Vehicle Emissions Testing Information

Vehicles Registered in Hamilton County in 2004	271,468
Vehicles Tested as of 11/30/05	176,185
Vehicles Failed	20,959 (11.9%)

By May 2006, most automobiles and light trucks in Hamilton County will have been inspected.

Truck Speed Limit Reduction

In March 2005, the Tennessee Department of Transportation (TDOT) reduced the speed limit for heavy-duty diesel trucks from 65 mph to 55 mph on all limited access highways in Hamilton County, including parts of Interstate 24, Interstate 75, U.S. Highways 27 and 111. This measure was implemented as an emissions reduction measure although not specified in the "Local Plan" dated December 21, 2004. It is anticipated to result in a reduction 0.7 tons of NOx/day, or 256 tons per year.

The measure was requested by the County Mayor of Hamilton County and the Chattanooga City Mayor for the purpose of improving air quality. This resulted in Hamilton County being the first area in the State of Tennessee to implement this specific emission reduction strategy.

Voluntary Measures

Air Quality Alert Program

This control measure was described in full, along with the expected reduction in emissions, in the "Local Plan for the Chattanooga Area Early Action Compact" dated December 21, 2004, and submitted by the State of Tennessee as part of the "Non-Regulatory State Implementation Plan (SIP) Submittal for Tennessee's Early Action Compact (EAC) Areas" dated December 29, 2004.

The air quality alert program, called Pollution Solution, was exercised when the AQI for ozone was predicted to be greater than 100. On air quality alert days, information was sent via email and fax to more than 80 individuals; city, county and State employees in all of the EAC counties; daycares; gyms; hospitals and health care facilities; schools; police and fire departments and also through media outlets, including 6 TV stations, 21 radio stations and 4 print publications. Information was also disseminated to employers, who then passed the information to their employees, via the Chamber of Commerce and the Chattanooga Manufacturers Association.

Information pertaining to Pollution Solution was also provided on the Bureau's website (*www.pollutionsolution.org*) and through the Bureau's telephonic information line (423-643-5971). The local daily newspaper prominently displays the alerts.

During 2005, three days were experienced where the predicted AQI for ozone was greater than 100. Pollution Solution was also exercised for 9 days for $PM_{2.5}$.

A survey to measure the benefits of this program was conducted in November 2005 and was reported on by the vendor on December 15, 2005.

Other Voluntary Control Measures

These voluntary measures were described in full, along with the expected reduction in emissions, in the "Local Plan for the Chattanooga Area Early Action Compact" dated December 21, 2004, and submitted by the State of Tennessee as part of the "Non-Regulatory State Implementation Plan (SIP) Submittal for Tennessee's Early Action Compact (EAC) Areas" dated December 29, 2004.

These voluntary measures were not modeled or included in the SIP, yet they continue to contribute to the effort to improve air quality. Specific notable accomplishments that contribute to air quality improvement include:

Municipal Buses – Increased Ridership

The public use of municipal buses continues to increase. The downtown shuttle route uses electric and hybrid-electric buses. In 2004, ridership for the year totaled 950,315. To date (through November 2005), ridership was 955,992. Since the shuttle began its service in 1992, CARTA estimates that 130,375 pounds of emissions have been eliminated as a result.

CARTA's ridership overall increased from 2004-2005, from 3,206,534 riders to 3,223,309. An even larger increase is expected in fiscal year 2006 as a result of higher gasoline prices and public awareness.

Intelligent Transportation System

TDOT began the installation of Hamilton County's SmartWay Intelligent Transportation System in 2005. Phase 1 of the project—installation of 64 freeway cameras—is underway and should be completed by spring 2006. These cameras are used to dispatch the HELP trucks.

This camera-dispatcher system will be used until 2008, which is when TDOT estimates the rest of the SmartWay system, including Phases 2 and 3, will come online. Between now and 2008 TDOT will be building a larger complex to house the equipment necessary to run the entire system.

Phase 2 of the project comprises the installation of 20-25 dynamic message signs, which will be installed on the freeways. These will reroute motorists away from congested areas. They will also be used to announce air quality alerts if TDOT agrees to this.

Phase 3 will include the installation of a traffic detection system, which senses the average speed of traffic and alerts dispatchers if there is a slow-down. Additionally a low-band AM radio with traffic information will go into effect.

HELP TRUCKS

TDOT's HELP trucks patrol the most heavily traveled freeways in Chattanooga, Knoxville, Memphis and Nashville seven days a week. The HELP Program emphasizes quick clearance of congestion-causing accidents and breakdowns on the highways. This is part of the TDOT SmartWay plan to address traffic congestion issues.

HELP has been operating in Chattanooga since June 2000. According to TDOT's website, 59,371 motorists have been assisted by this program since it began. Following is a table describing the type of service provided by HELP to motorists in Chattanooga. For comparison, in Table 3 the other major cities are listed as well.

Table 3. Types Of Services Provided By HELP

Type of service	Knoxville	Nashville	Chatt.	Memphis
Provided traffic control	20,752	37,311	33,494	15,073
Tagged abandon vehicles	10,449	16,278	7,879	23,704
Changed tires	8,598	15,116	5,821	19,063
Provided fuel	6,516	8,126	4,464	10,901
Relocated from travel lanes	3,372	8,402	6,580	4,597
Debris removal from lanes	8,883	5,812	6,751	6,982
Provided first aid	602	480	692	657

Diesel Retrofits

The Chattanooga-Hamilton County Air Pollution Control Bureau and First Student, Inc., a provider of student transportation, announced the successful completion of the Clean School Bus project on September 29, 2005. This project resulted in a significant reduction of pollution from 105 school buses. This is more than half of the school buses in Chattanooga and Hamilton County. The diesel retrofit project improved local air quality and reduced children's exposure to diesel exhaust. It was made possible through grant funding provided by U.S. EPA.

Bike Trails and Bike Racks at Work Sites

The Chattanooga area has a Bicycle Task Force (BTF) that meets monthly and the chairperson serves on the Executive Staff of the Transportation Planning Organization. BTF hosted Bike2Work 2005 with support from the community, including key sponsorship by Blue Cross/Blue Shield of Tennessee. Bike2Work was held on the first Friday of every month from May until October.

Attendance routinely included participation from the Chattanooga City Council, as well as the Administrator for Parks & Recreation and the Executive Director of Outdoor Chattanooga.

In partnership with the Chattanooga Bicycle Club, Urban Bicycle Tours are held each week which highlight the bicycle facilities and community.

Additional events were held during Bicycle Friendly Week in October. They included:

- Riverwalk Bicycle Day – This event equipped bicyclists with free bicycle bells, safety and etiquette information, and a free maintenance check
- Bicycle Friendly Community Award – The presentation celebrated Chattanooga's designation as a Bicycle Friendly Community by the League of American Bicyclists. It was attended by the Mayor, a member of the City Council, the Parks & Recreation Administrator and other government and citizen representatives.
- Undercover Chattanooga: A Scavenger Hunt – This even was hosted by the Chattanooga Bicycle Club to explore the public architecture and sculpture around the city.

The Tennessee Riverwalk was completed between downtown Chattanooga and the Chickamauga Dam in April 2005. This shared-use facility serves as an important recreational and transportation facility for bicyclists and pedestrians. It is used as a primary feeder route as part of the area's Bike2Work activities. The Mayor and other dignitaries completed a bicycle ride of the entire facility as part of a grand opening celebration.

The Chattanooga Urban Area Bicycle Facilities Master Plan, presented on April 2002 at a public meeting, builds upon the 140 miles of existing and previously planned greenways within the planning area. The plan identifies 382 miles of additional facilities that are comprised of the following:

- 40 miles of Class I - Multi-use Paths

- 154 miles of Class II- Bike Lanes (separated lane 4-6 ft. wide immediately adjacent to vehicular travel lane)
- 188 miles of Class III - Bike Routes (a wide outside lane to accommodate both vehicles and bicycles)

The planning horizon for this plan is 20 years. The plan addresses engineering, education, encouragement, and enforcement. These aspects of bike plans, often referred to as the "Four Es," are essential to the successful implementation of the plan.

The final segments of Phase I of the area's Bicycle Plan were delayed in 2005 due to many of the street conversions being completed in the downtown area. However, 8 additional miles of bike paths were added through the Riverwalk and 1 additional mile of bike lane was added to portions of East 3rd Street.

The City has installed bike racks along the Market Street corridor and libraries and recreation centers. Major employers such as Unum Provident, TVA and Blue Cross have bicycle parking facilities installed at their facilities.

All mainline buses from the Chattanooga Regional Area Transportation Authority (CARTA) are equipped with bicycle racks. The Bicycle Task Force has a demonstration unit which is used to promote usage.

Use of bicycle racks on buses is increasing as a result of outreach efforts. In 2004, 2656 bikes were transported on buses. By November 2005, the number was 2625 and CARTA projects that they will serve approximately 3,000 bicyclists before year-end.

Pedestrian Greenways

The Chattanooga area has an extensive network of pedestrian greenways. In 2005 the Tennessee Riverpark added 8 miles to its greenway and the new, mile-long University Greenway was opened. This greenway provides a pedestrian pathway to the University of Tennessee at Chattanooga campus.

There are now 27.5 miles of greenways in Chattanooga, up from 12 miles in 2004.

Funding in the amount of $1.78M has been earmarked for the extension of the South Chickamauga Creek Greenway. This will add approximately seven miles to the pedestrian greenway system in Hamilton County.

Accelerated Replacement of On-Road Vehicles

The Bureau has 2 hybrid-electric automobiles in its fleet. The City of Chattanooga has purchased 11 hybrid-electric automobiles and is committed to buying more alternative-fuel vehicles as the fleet turns over.

Bio-diesel and Alternative Fuel Vehicles

In December 2004 bio-diesel had just entered the Chattanooga market through the Midnite Oil filling station on Bonny Oaks Drive.

By December 2005, nearly 1,000 vehicles in the Chattanooga area use bio-diesel fuel with a low-NO_x additive. Most of these vehicles use B20. (See Table 4.)

Table 4. Chattanooga-area Organizations Using Bio-diesel In Their Vehicles

Organization	**Blend Used**	**Number of Vehicles**
City of Chattanooga	B20	410
McCallie School	B20	22
Southern Champion Tray	B5	17
CARTA	B20	4
Hamilton Co. Highway Department	B20	20
Hamilton County	B20	480
Stafford Bus Service	B20	8
Crabtree Farms	B100	3
Total		**964**

The City of Chattanooga's diesel vehicles use bio-diesel fuel with a low-NO_x additive. Projected annual usage for the City of Chattanooga is estimated at over 100,000 gallons of pure bio-diesel.

Hamilton County government estimates that 500 vehicles, or approximately half of their fleet, are now using biodiesel, including school buses, emergency service vehicles and on- and off-road vehicles.

Other local fleet users include Benton Oil Company, McCallie School, Southern Champion Tray, Stafford Bus Service; Chattanooga Regional Transportation Authority and Crabtree Farms.

In addition, the fuel is available for purchase at a retail station centrally located in the city so a number of vehicles in the Chattanooga area are using a B20 blend in their vehicles.

A local private school, Baylor, is turning the dining hall waste oil into fuel for its vehicles. The program is being led by a student named Colton Griffin, 17, who wrote a grant for the program. The student is building the distiller, himself, and using a standard recipe for biodiesel. The school hopes to make 30-40 gallons of biodiesel per week for its own use.

Low-Sulfur Fuel in City and County Fleets

The City of Chattanooga and Hamilton County continue to purchase only on-road low-sulfur diesel for the fleet vehicles (including off-road vehicles) not using a bio-diesel blend. The City says it will begin using ultra-low-sulfur diesel in its fleet when it becomes available in 2006.

Accelerated Replacement of On- and Off-Road Diesel Vehicles

CARTA has a total of 83 buses in its fleet:

- 54 diesel buses (3 have been converted to bio-diesel)
- 15 Care-A-Vans (1 has been converted to bio-diesel)
- 12 Battery-powered electric buses
- 2 Hybrid-electric buses

CARTA offers an aggressive program for reducing vehicle emissions. In addition to the pilot project they are running on bio-diesel, 39 buses in the mainline fleet have been replaced with new buses with cleaner technology. By March 1, 2006, 10 more will be replaced, leaving only 5 buses in the fleet that were manufactured between 1986-88. CARTA will replace these during the next round of purchasing, though no official date has been set.

Additional Measures

In addition to the voluntary measures listed above, two other initiatives have been taken.

Garbage Transfer Station - A private garbage transfer station has been constructed in a central location. The City of Chattanooga has contracted with the facility to haul its refuse collected to the sanitary landfill. New, cleaner-burning 2005 Kenworth trucks and two, 2006 roll-off trucks were purchased.

Each trip delivers the equivalent of five loads of refuse under the previous system. Between December 2004 and 2005 this project eliminated an estimated 543,000 vehicle miles traveled by the older and dirtier garbage trucks.

The City of Chattanooga also implemented a “Register for Recycling” program to reduce VMTs from these heavy-duty diesel vehicles as well.

Conversion to Two-Way Streets – Downtown Chattanooga converted several downtown streets from one-way to two-way in 2004. Conversion of two-way streets decreases the number of vehicle miles traveled by allowing drivers to travel a more direct route to their destination. It also makes streets more pedestrian friendly.

PROGRESS REPORT
FOR THE
MIDDLE TENNESSEE EARLY ACTION COMPACT

Submitted by the Metro-Health Department
Air Pollution Control Division
December 2005

MIDDLE TENNESSEE EARLY ACTION COMPACT

1.0 Introduction

This submittal is the December 31, 2005 semiannual progress report on the implementation of the control strategies for the Middle Tennessee Early Action Compact (EAC) area. The Middle Tennessee EAC area includes the counties of Davidson, Cheatham, Robertson, Rutherford, Sumner, Williamson and Wilson. In general, the area is on track toward implementing the measures specified in the March 31, 2004 Air Quality Improvement Plan (AQIP). The AQIP is the local air quality plan defining the specific measures to be taken to ensure compliance with the 8-hour ozone National Ambient Air Quality Standard (NAAQS) no later than December 31, 2007.

The local governments of the Middle Tennessee Early Action Compact (EAC) have developed and adopted a list of local control measures intended to reduce area levels of ozone precursors. Modeling for the adopted local control measures done through the multi-state project known as ATMOS (Arkansas, Tennessee and Mississippi Ozone Study) has demonstrated that the Middle Tennessee area should be able to attain the 8-hour ozone standard by the 2007 deadline.

The region has programmed funding for implementation of these measures, primarily through adoption of the projects and programs in the Transportation Improvement Program of the Nashville Area Metropolitan Planning Organization.

For the years 2002, 2003, 2004 and 2005, all monitors in the Middle Tennessee area have demonstrated attainment with the 8-hour ozone NAAQS by the three year average of the annual fourth maximum value being less than 0.085 ppm. Following is a table showing the fourth maximum 8-hour ozone values at each of the Middle Tennessee monitors from 2002 – 2005 and the three year design value for each monitor.

ANNUAL FOURTH MAXIMUM AND THREE YEAR DESIGN VALUES FOR THE MIDDLE TENNESSEE OZONE MONITORS

Year	East Health Center 470370011	Percy Priest Dam 470370026	Eagleville 471490101	Rockland Road 471650007	Cottontown 471650101	Fairview Middle School 471870106	Cedars of Lebanon 471890103
2002	0.073	0.079	0.090	0.086	0.087	0.094	0.088
2003	0.064	0.074	0.076	0.086	0.074	0.080	0.079
2004	0.064	0.076	0.070	0.078	0.076	0.072	0.071
2005	0.070	0.079	0.079	0.083	0.078	0.076	0.081
2002 - 2004	0.067	0.076	0.078	0.083	0.079	0.082	0.079
2003 - 2005	0.066	0.076	0.075	0.082	0.076	0.076	0.077

2.0 Emission Reduction Measures

The planned schedule for implementation of the various control measures is included in the December 31, 2004 SIP submittal. During the past year, some of the implementation schedules have been adjusted slightly to account for delays that invariably occur with planning assumptions. Many projects have been completed that will have a positive impact on air quality in the Middle Tennessee area. The following table lists the general status of each control measure followed by a more complete summary.

Emission Reduction Measure	Scheduled Implementation Date	Status of Emission Reduction Measure
Expand existing IM program to include gas and diesel vehicles up to 10,500# GVWR[1.]	April 1, 2005	Implemented on April 1, 2005
Construction land clearing (open burning)	March 1, 2004	Implemented on March 1, 2004
HOV lane expansion	2004 - 2006	Mostly complete – Additional work in progress
Trip reduction plans	2004 - 2006	Mostly complete – Additional work in progress
Rideshare programs	2004 - 2006	Mostly complete – Additional work in progress
Traffic signal synchronization	2004 - 2006	Partially complete – significant work remaining
Roadside assistance program	2004 - 2006	Project implemented
New greenways/bikeways	Most in 2004, but some in 2005 and 2006	Projects ~50% complete with most incomplete projects scheduled for completion in 2006
Improve bus ridership	2004 - 2007	Partially complete – significant work remaining
New rail service	2005 - 2006	Nashville to Lebanon corridor has start-up date of June, 2006
Land use controls to reduce VMT	2004 and beyond	Significant work completed – Additional work in progress
Air Quality Action Day (AQAD) Measures	May 1, 2004	Project implemented

[1.] This is the only federally enforceable measure included in the March 31, 2004 AQIP. Also, the emission reductions from this program were the only ones used in the modeled attainment demonstration for the Middle Tennessee EAC area.

Following is a brief summary of the implementation status of the one federally enforceable measure and each of the voluntary measures outlined in the March 31, 2004 AQIP.

2.1 Expand Existing IM Program to Include Gas and Diesel Vehicles Up To 10,500# GVWR

The Middle Tennessee counties of Davidson, Rutherford, Sumner, Williamson and Wilson have an existing IM Program. Previously, these programs tested only light duty

gasoline vehicles up to 8,500# GVWR. Existing regulations were amended to include all gasoline and diesel vehicles up to 10,500# GVWR. This program was implemented on schedule as planned on April 1, 2005.

2.2 Construction Land Clearing - Open Burning (Davidson County only)

This emission reduction measure is only applicable in Davidson County. Open burning of land clearing material in Davidson County is allowed only with the proper use of an air curtain destructor and a permit from the Metro Nashville Air Pollution Control Division (MNAPCD). On March 1, 2004, the MNAPCD began adding a condition to each air curtain destructor permit. This condition prohibits the open burning of land clearing material on any day the air quality is forecast to be in or worse than the unhealthy for sensitive groups category as determined by the EPA air quality index. This measure is currently being implemented with no problems.

2.3 HOV Lane Expansion

TDOT has steadily progressed on the construction of the new HOV lanes to be added to Interstate 40 East in Davidson County from Interstate 24 to Donelson Pike with a scheduled completion date of May 31, 2007. TDOT has completed work on the HOV lanes on Interstate 24 in Rutherford County from State Highway 96 to State Route 840. The scheduled construction letting date is February 3, 2006 for the HOV lanes to be added to Interstate 24 in Rutherford County from U.S. 231 to State Highway 96.

2.4 Funding and new infrastructure for rideshare/trip reduction programs

Work is continuing on the Smyrna (Rutherford County) Intermodal Transportation Center. It is designed to handle both rail and bus service. The location study has been completed, and the final layout is being determined.

The Regional Transportation Authority (RTA) has implemented a ridesharing program that promotes single occupant vehicle (SOV) alternatives such as computer ride matching, guaranteed ride home, broker vans and riders for vanpools and carpools. Funding has been extended for this program through FY2008. The RTA is making enhancements to its vanpooling program with the installation of new, web-based ridematching software. Staff has received software training and the program has been implemented. RTA has also purchased two new “over-the-road coaches” to offer better service for riders on its long-distance express bus routes between Nashville and Murfreesboro. In addition, the RTA has purchased new conventional fueled vans to replace older vans, 3 new hybrid vans, and lift equipped vans.

Williamson County is continuing its existing rideshare program by conducting outreach to employers, transportation fairs, transit fairs, newsletters, advertisement and a “Clear the Air” television program. They have already purchased new vanpool vehicles to replace older vehicles, and funding has been authorized by the State of Tennessee to purchase additional vehicles no later than February, 2006. In general, Davidson, Rutherford, Sumner, Williamson and Wilson County are making a significant effort toward expanding their ridership programs.

2.5 Traffic Signal Synchronization and Related Improvements

Davidson County is in the process of completing Phase 2 and 3 of its signal system update. This work includes creating multiple closed loop systems, installing loop detectors at non-actuated intersections and installing peripheral equipment needed for monitoring. This work is designed to improve traffic flow and pedestrian access. Design work has been completed and construction letting is scheduled for February, 2006. Phase IA of the Advanced Traveler Information System is currently in the request for proposal stage. When completed, this system will include signalized intersection improvements, the replacement of signal displays with LED signal heads, added pedestrian signals and the replacement of loop detectors with video or other detection.

The City of Hendersonville (Sumner County) is currently replacing some of its older signals, with work to be completed by 2006, in preparation for implementing a citywide closed loop system. This closed loop system has been placed on hold.

Planning is continuing on The City of Murfreesboro (Rutherford County) closed circuit TV (CCTV) and traffic signal interconnect project. The CCTV signal interconnect is currently under design with a scheduled completion date of the fall of 2006. Signalization of the intersection of Stones River Rd at the Old Nashville Highway is under design. They are currently preparing the right-of-way purchase. The estimated completion date is the fall of 2006.

Several projects are in progress in Williamson County. The City of Franklin Traffic Operations Center (Phase 3), including system software, dynamic message signs and cameras, is currently in the design phase. The City of Brentwood Closed Loop Signal System (Phase 1), which includes interconnecting all intersection master loops and monitoring equipment to a centralized system, is under construction and is 85% – 90% complete. The North Brentwood Signal Interconnect project has been combined with the City of Brentwood's Closed Loop Signal System. The entire project is 85% - 90% complete. The Cool Springs Closed Loop Signal System, which created a closed loop signal system throughout the Cool Springs area, has been completed and is operational.

2.6 Roadside Assistance Program

This is an on-going program, involving roving TDOT Help Trucks that has been implemented on the interstate systems in Davidson, Rutherford, Sumner, Williamson and Wilson counties.

2.7 Build New Pedestrian Facilities (Greenways and Bikeways)

Several greenway and bikeway projects as well as sidewalk improvements are underway in Davidson, Rutherford, Sumner, Williamson and Wilson counties. These are on-going projects that will continue for several years. Following is a county level list with a brief description and completion status.

Davidson County

Richland Creek Greenway – this is a multi-use paved trail which is 50% complete with a scheduled completion date of June, 2006.

Whites Creek Greenway – this is a multi-use paved trail that is 40% complete with a scheduled completion date of June, 2006.

Hillsboro Pike Sidewalk Improvement – this is a regional activity center and sidewalk improvement project that is in the design phase.

East Bank River Path – this is a multi-use paved trail that has been completed.

Sumner County

Hendersonville Bike and Pedestrian Trail, Phase 2 – this is a multi-use paved trail that is partially complete with Phase 2 construction expected to begin in February, 2006 and a completion date of November, 2006.

SR-52 Sidewalks from SR-109 to South Russell Street, College Street from Searcy Lane to Morningside Drive and Searcy Lane from College Street to SR-52 – this is a sidewalk project that is in the design phase, but has been delayed due to elevation problems on SR-52. Plans are for the project to be amended to provide alternate sidewalk access to schools without using SR-52. Currently, the completion date has not been scheduled.

Rutherford County

Fergus Road Sidewalks – Construction is planned to build sidewalks from Gale Lane to Bill Stewart Boulevard. The construction phase of this project is scheduled to begin in the Spring of 2006 with an estimated completion date of the Fall of 2006.

Stones River Road Sidewalks – Construction is planned to build sidewalks on the east side of Stones River Road. The construction phase of this project is scheduled to begin in the Spring of 2006 with an estimated completion date of the Fall of 2006.

Williamson County

The City of Franklin Greenway and Harpeth River Walk – this is a multi use paved trail and greenway along the Harpeth River and a pedestrian bridge on the east side of Fieldstone Park. The Franklin Greenway project is underway and scheduled for completion in early 2006. The Harpeth River Walk had been set to begin construction on December 1, 2005. According to the Franklin Parks and Recreation Department, weather has caused a temporary postponement of the project. The work area is adjacent to the river and is soft due to recent rains. Construction will begin as soon as conditions permit.

Wilson County

Cedar City Trail (Phase 1, 2, 3 and 4) – this is a multi use paved trail and park. Phases 1 and 2 are approximately 95% complete. Phase 1 was the construction of a large park area that included a playground, restrooms and circumferential walking trail with river walk connection. Phase 2 connected the Phase I trail to an existing trail that leads to recreation center. The scheduled completion date is fall, 2006. The RFP is currently being developed for Phases 3 and 4.

The City of Lebanon sidewalk Project has been removed from the Transportation Improvement Plan (TIP).

2.8 Improve Bus Ridership

Several Park and Ride lots are under construction for Davidson County. These park and ride lots are part of the East Rail Project that will directly affect bus and rail ridership. Completion dates are near the scheduled June, 2006 start-up of the East Rail Project.

The Metro Transit Authority (MTA) in Davidson County is expanding express bus service in order to increase the number of express routes to previously unserved/underserved areas of the county. This project is underway and will be an on-going effort to attract more riders. Overall, MTA ridership has increased 20%.

A partnership has developed between the MTA and Vanderbilt University to promote bus ridership to Vanderbilt employees. This has resulted in employee bus ridership of approximately 2,000 trips per month.

In conjunction with Phase 2 and 3 of the Traffic Signal Synchronization project in Davidson County, a Transit Priority Implementation program will be implemented. This project will install pre-emption and priority control technology along corridors for buses and evaluation of express service along Lebanon Pike. The Transit Priority Implementation program will be implemented along with the Traffic Signal Synchronization project. Construction letting for the Traffic Signal Synchronization project is scheduled for February, 2006.

RTA plans to extend Express Bus Service to Lebanon during 2006. This route will provide midday and "shadow" bus service once the East Corridor Commuter Rail begins operation.

The Metro Transit Authority in Nashville/Davidson County has purchased 25 new, low-floor buses to replace vehicles in its fleet that were well past their useful service life.

The MTA Music City Central is a regional transportation hub (landport) which will include a new transit facility in downtown Nashville offering downtown transit operations, bus parking/loading areas, a climate controlled waiting area, restrooms and bus schedule and ticket sales information. It is designed to replace the current open-air shelters located in downtown Nashville. This project is in the design phase with an estimated completion date of the summer of 2007.

2.9 New Rail Service (Nashville-Lebanon corridor)

Railcars have been acquired and ground has been broken on most, if not all, passenger stations on the Nashville-to-Lebanon commuter rail line called the East Rail Project. Operation of this line is expected to begin in June, 2006.

2.10 Land Use Planning that Reduces Driving

Mixed use developments are in various stages of development and building in Davidson, Rutherford, Williamson and Wilson counties. It will take several years for these developments to be completely built out. Following is a status report on the projects that are currently underway.

Lennox Village in Davidson County

Lennox Village is a Traditional Neighborhood Development with mixed-use retail and residential development. It encompasses approximately 207 acres. This project is currently under construction and is approximately 67% complete.

Bedford Avenue in Davidson County

The Bedford Avenue project includes changed zoning to incorporate mixed-use development and an improved streetscape. This project is currently under construction.

Carothers Crossing in Davidson and Rutherford Counties

The Carothers Crossing project is a Traditional Neighborhood Development with mixed-use retail and residential development. It encompasses approximately 500-600 acres. This project is in the preliminary design phase.

Providence Place in Wilson County

Providence Place is under construction with approximately 200 homes built. When completely built, the development will contain approximately 3,200 homes with office, retail and restaurants.

Westhaven in Williamson County

Westhaven is under construction with approximately 300 homes built. This development will contain mixed use residential and retail.

2.11 Air Quality Forecasting, Outreach and Action Day Program

The regional Clean Air Partnership of Middle Tennessee directs the Air Quality Action Day program. This program continues to develop, promoting the use of local air quality forecasts to induce voluntary behavior changes that improve air quality and protect the health of sensitive individuals. The goals of the program, the progress and the near term planned activities of this program follow.

The program has three main goals. First, to increase the public's awareness and understanding of what ozone and $PM_{2.5}$ are and how they are formed, second, to increase the public's awareness and use of locally available air quality forecasts and third, to identify and then target the behavioral changes that will be most effective to reduce emission contributions from households' behavior.

The public awareness of basic ozone and $PM_{2.5}$ issues is designed to broaden the base of support for local and regional emission reduction programs, lay the groundwork for programs designed to create behavioral changes, garner positive publicity for emission

reduction programs and lay the groundwork for wider publicity of the local air quality forecast. Progress to date includes introductory meetings and continued relationships with weather staff at each of the local TV news stations, development and continued support of the Clean Air Partnership of Middle Tennessee's www.cleanairpartnership.info website, participation in the Nashville Earth Day Festival in 2003, 2004, and 2005 and on-camera interviews aired on local TV news programs following the first Air Quality Action Days in 2005. Planned activities include promoting air quality curriculum materials for use in area public and private schools, partnering with area schools and businesses interested in developing air quality projects as part of the Tennessee Pollution Prevention Partnership program and contributing to the AirShare Television series produced by the Clean Air Partnership of Williamson County.

By increasing the public's awareness and use of locally available air quality forecasts, the partnership hopes to provide at-risk populations with air quality forecast information before planning the day's activities, and ensure the general public knows which days are most important to practice emissions-reducing behaviors. This portion of the program is designed to help at-risk populations take appropriate steps to protect themselves on poor air quality days, reduce emergency room visits by at-risk populations, and more effectively deliver messages targeting behavior change. Progress to date includes Nashville being one of only five cities in the U.S. to participate in the pilot of EnviroFlash email advisory service, providing automated customized web-based email air quality forecast information to subscribers beginning in October 2004, Nashville hosting a media event promoting the state-wide rollout of EnviroFlash in May 2005, the initiation of a study evaluating the status and needs of local health care providers regarding the air quality forecasts and patient education and impacts, and providing air pollution and health effects information and local resources to local residents through health fairs. Planned activities include the inclusion of air pollution speakers and presentations at local medical update conferences, partnering with the American Lung Association of Tennessee and the Nashville Asthma Task Force coalition to provide air pollution and health information to asthma service providers and patients, and providing medical educational material and patient handouts directly to health care providers for sensitive populations in Middle Tennessee.

It is planned that by identifying and targeting behavioral changes, it will help ensure that the public has a clear understanding of the desired behavioral changes, and success will be realized in changing the behavior of a significant percentage of citizens. The ultimate goals are improved health for citizens (due to improved air quality) and fewer exceedances of the ozone and $PM_{2.5}$ NAAQS (due to changed behavior on days forecast for poor air quality). Progress to date includes surveys of over 1400 Middle Tennessee households on air quality awareness and related behaviors, finalization of $649,000 in funding for an outreach program and advertising campaign, and partnerships with Vanderbilt University faculty and graduate students involved in health, behavior change theory, marketing, and the environment to maximize the survey and marketing impacts. Planned activities include a full scale radio and outdoor print advertising campaign, conducting follow-up surveys of Middle Tennessee households, and the development of the Clean Air Partnership of Middle Tennessee into a formal non-profit organization in order to facilitate continued funding and operations of the outreach program.

3.0 Conclusion

The Middle Tennessee EAC area is on track toward implementing the measures specified in the March 31, 2004 Air Quality Improvement Plan (AQIP). Some of the voluntary emission reductions that were not relied on for the modeled attainment demonstration have been delayed. Many of these projects require extended implementation periods with benefits to be realized well into the future. However, most have been implemented or are scheduled to be implemented during the next few months. The one federally enforceable measure (expansion of the existing IM program to include gas and diesel vehicles up to 10,500# GVWR) was implemented April 1, 2005 as scheduled. At this time, we are confident that the monitored air quality data along with the significant programs that have been completed or scheduled for near term completion demonstrate that the Middle Tennessee Early Action Compact has been and will continue to be a success and have a positive impact on ozone air quality in Middle Tennessee.

PROGRESS REPORT
FOR THE
TRI-CITIES EARLY ACTION COMPACT

Submitted by Tri-Cities EAC
December 2005

Tri-Cities Early Action Compact
Progress Report

Five counties in the Tri-Cities Early Action compact have approved and implemented open burning bans of wood wastes on Ozone Action Days. These counties are Carter, Hawkins, Sullivan Unicoi and Washington. These burning bans prohibit open burning of wood wastes and landscape wastes on days which are forecast to be near the 8 hr ozone standard (Ozone Action Days)

The Tri-Cities Ozone Action Partnership has been actively involved in the Ozone Action Day Program since May. This consists of providing daily ozone forecast to local news media outlets. With the assistance of the Tennessee Department of Environment and Conservation, this forecast is distributed to the major Tri-cities media outlets. On Ozone Action Days, an alert is distributed electronically to over 50 media, business, industry and general public email addresses. In May, the Ozone Action Partnership hosted a media day to kickoff the ozone season and educate local media about the problem in our area with ozone.

Local Metropolitan Planning Organizations and the East Tennessee Clean Fuels Coalition have also provided information to support the efforts of local governments and private entities in the Tri-cities Early Action Compact area. The East Tennessee Clean Fuels Coalition has established a Tri-Cities working group to explore biodiesel usage in our region. Several private entities and local governments have already implemented biodiesel programs or are currently exploring the merits of alternative fuels that reduce air pollution.

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 in Carter and Washington Counties, including the Cities of Johnson City and Elizabethton and the Town of Jonesborough. The Johnson City MPO works with the Tennessee Department of Transportation, the Federal Highway Administration, the Federal Transit Administration and local governments to coordinate transportation programs and projects for the MPO study area.

The MPO Board recently adopted criteria for the selection of Projects (using Local Surface Transportation Funds). In this criteria, points are awarded to projects which promote air quality, promote alternative modes of transportation and reduces or manages travel demand (including ITS).

The Citizens Advisory Committee of the MPO is beginning work on a regional bicycle and pedestrian plan. The plan will include elements from Johnson City's bicycle and pedestrian plan and Southern Appalachian Greenway Association's plan. The MPO Board is discussing setting aside (a goal of) a certain amount of Local Surface Transportation Funds for bicycle and pedestrian projects.

In October and November 2005 the MPO Staff contacted over 114 manufacturers in the MPO Study Area. The manufacturers were asked several questions about freight and the highway system. The survey identified several projects that may reduce congestion, idle time, and

travel times. These included: better signage along the interstate, better maintenance of roads and increasing mode choices,

Transportation Emission Reduction Control Measures - Kingsport

Section 1. Introduction

The local portion of the State Implementation Plan (SIP) submittal is being made in accordance with the Tri-Cities Early Action Compact protocol and the Environmental Protection Agency *Deferral of Effective Date of Nonattainment Designations for 8-Hour Ozone National Ambient Air Quality Standards for Early Action Compact Areas; Proposed Rule*. This submittal is for the purpose of complying with the December 31, 2004 deadline to make a SIP submittal defining the specific measures to be taken to ensure compliance with the 8-hour ozone National Ambient Air Quality Standard (NAAQS) no later than December 31, 2007. The SIP submittal contains measures that were chosen by the local stakeholders to attain and maintain good air quality in the Tri-Cities area. It includes implementation dates and details as to how the measures were chosen and quantified.

The local portion of the SIP submittal also contains several voluntary transportation related measures. The expected emission reductions from these measures were not included in the modeled attainment demonstration due to the difficulty in accurately determining the emission reductions. However, they are included in the current Transportation Improvement Plan (TIP), and they will be implemented in the counties and on the schedule outlined later in this submittal. **Since the emission reductions from these measures were not relied upon for the modeled attainment demonstration, no further action will be taken to attempt to quantify or document the air quality benefit of any of these voluntary measures.**

In addition to the transportation control measures, an Ozone Action Day Program was begun during the 2001 ozone season and will be continued. Additionally, county commissions are currently acting on resolutions to ban open burning on Ozone Action Days. To date, Carter, Hawkins, and Sullivan County Commissions have passed such resolutions. These Resolutions are included in Appendix A. The anticipated emission reductions from these two programs were not modeled in the attainment demonstration.

Stage I vapor recovery for gasoline dispensing facilities has been required in Carter, Hawkins, Sullivan, Washington, and Unicoi Counties by May 2006 pursuant to revisions to Tennessee Rule 1200-3-18-.24 that became state-effective on December 29, 2004.

The Tri-Cities EAC Counties along with other Tennessee counties, the States of Tennessee, Arkansas and Mississippi have formed a partnership called the Arkansas, Tennessee, Mississippi Ozone Study (ATMOS). Systems Applications International (SAI) was chosen as the contractor to aid in this study. In brief summary, the ATMOS participants evaluated historical ozone data, emissions inventories and weather patterns and designed a plan to bring the represented areas into attainment with the 8-hour ozone standard. Using the information above, a total of three episodes were chosen to represent high ozone in the respective areas. Emissions were "grown" to 2007 and various Federal and local control strategies were applied. The UAM-V model was then used to estimate 2007 8-hour ozone values in the study area.

These activities will be described in more detail in the attainment demonstration portion of this submittal prepared by SAI, but the important end result of this effort shows the Tri-Cities EAC 2007 estimated design value (EDV) to be 84 ppb. Attainment with the 8-hour ozone NAAQS is achieved when the 3-year average of the annual fourth highest 8-hour average ozone value is less than 85 ppb. Therefore, the remainder of this SIP submittal will document the measures to be taken by the Tri-Cities EAC Counties to help ensure the continued deferral of nonattainment status and the ultimate demonstration of attainment of the 8-hour ozone standard by December 31, 2007.

Section 2. Adopted Local Control Measures

Below is a description of each control measure to be implemented in the Tri-Cities EAC area. Each of the transportation control measures have been added to the relevant MPO's current Transportation Improvement Program (TIP) for funding and implementation during the next three years.

Section 2-1. Restriction on Open Burning

The Tri-cities Early Action Compact states that a ban on open burning during Ozone Action Days were proposed to the respective county legislative bodies and approved in Carter, Hawkins, Sullivan, Unicoi and Washington Counties. To date, all EAC counties have implemented requirements for open burning bans. Carter, Hawkins and Sullivan Counties had approved a resolution banning open burning on these days and resolutions were submitted as part of the SIP. Copies of Resolutions from Washington and Unicoi not previously submitted are attached. The ban is imposed on outdoor burning of raw, vegetative, un-treated wood wastes. The Ozone Action Partnership will be responsible for designating Ozone Action Days and distributing the information to each local government and local media outlets. The Ozone Action Partnership receives the ozone forecast from the State of Tennessee in late afternoon of each day from May thru October. If the forecast is near or exceeds 84 ppb, an Ozone Action Day is designated for the next day.

Section 2-2. Ozone Action Day Program

An ozone action program is a proactive way to educate the public about ozone and ways to reduce activities that produce ozone. The Ozone Action Partnership formed in the fall of 2000, consisting of local elected officials, industry representatives, academia, and the medical community has designed such a program. The program is voluntary and is not a government mandated program. During ozone season, which runs from May – September, meteorologists forecast Ozone Action Days when atmospheric conditions are conducive for producing ozone levels above the EPA standard. The public, government agencies, and private businesses are notified and given suggestions on actions to take to reduce the emission of ozone producing chemicals i.e. combustion processes.

When Ozone Action Days are forecast in the local media, the public will be asked to take the following actions:

- Delay mowing until after 6:00 p.m.
- Avoid grilling out or outdoor burning

- Drive the newest and most fuel-efficient car
- Carpool to work, school, or lunch
- Telecommute
- Avoid areas where your car will idle for long periods of time
- Conserve energy
- No Open Burning in Carter, Hawkins, Sullivan or Unicoi Counties

An electronic message is sent to over 300 businesses, environmental groups, industries, government officials and local media outlets. When received, the alert is broadcast on radio, television and the print media on the day prior and day of the forecast Ozone Action Day. Local media outlets in the Tri-Cities have given overwhelming support of the program and voluntarily distribute the information to the general public. As a result of the Ozone Action Day Program, several large employers in the region have implemented in-house programs to reduce ozone pollution during these days. The intent is to protect public health by preventing high levels of ozone and therefore avoiding additional ozone exceedances. Over 70 cities across the United States have developed similar programs. In addition to these measures the City of Kingsport has also initiated additional measures for Ozone Action Days. On Ozone Action Days the City of Kingsport Public Works department halts all mowing activities as well as any non-essential road improvement work. Additionally, all incinerator operations at the City landfill are delayed as well. In addition to the Kingsport Public Works division the Kingsport Area Transit Service offers free transit rides on ozone action days in an attempt to promote alternate means of transportation and to bring awareness to ozone.

Kingsport Metropolitan Planning Organization

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 January 2006. 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.

Over the course of the next three years the Kingsport MPO has focused on reducing congestion, thus reducing idling time, at major intersections within the City of Kingsport. The intersection of Watauga Street, Gibson Mill Road, and Ravine Street has been identified as an intersection in need of improvement and thus has been placed in the City of Kingsport Capital Improvement Program (CIP). Construction is scheduled to begin in 2007 to transform this signalized intersection into a roundabout. With the installation of a roundabout traffic will be able to move through the intersection with minimal delays. Additionally, roundabout's have been planned and approved for two other intersections within the City of Kingsport. Additional improvements are being made at other intersections by making adjustments to the existing signal timing to improve the flow of traffic through the intersection.

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 along with the Kingsport Planning Department as well as the Kingsport Parks and Recreation Department has just completed a draft report for a Pedestrian Mobility plan that will link neighborhoods with commercial areas within the city and promote alternative modes of transportation. Once this document has been refined projects will begin to be implemented throughout the City of Kingsport including the Kingsport urban growth boundary.

Transportation Emission Reduction Control Measures – Bristol

The Bristol Metropolitan Planning Organization, in cooperation with the Tennessee Department of Transportation and Virginia Department of Transportation, is responsible for transportation planning for the Bristol urbanized area under the directives and policies of the U.S. Department of Transportation. In addition to Bristol, Tennessee, the City of Bluff City Tennessee, the City of Bristol Virginia and portions of Sullivan County, Tennessee, and Washington County, Virginia, are member jurisdictions of the Bristol MPO.

Long-range transportation planning and traffic management to improve performance of the local transportation network through preservation, operational and capacity enhancements are the emphasis of the MPO. A major focal point of the Bristol Long-Range Transportation Plan is to forecast future traffic volumes and capacity constraints so that mitigating measures can be implemented to reduce traffic congestion.

Several current projects and planning activities in the MPO study area will assist in regional air quality goals. Annual transportation system management projects provide intersection analysis and modifications to signal phasing to reduce delay and traffic time, thus reducing vehicle idling time. Signal synchronization has been completed at four major intersections on Volunteer Parkway, which is our highest traffic volume corridor. Construction of the Anderson Street Bridge over the railroad mainline is scheduled for bid in February 2006. This project provides an alternate route for a high volume at-grade railroad crossing, which results in substantial delay and vehicle idling time. Associated with Anderson Street Bridge project, the Pennsylvania Avenue/State Street intersection, is currently under construction to add turning movements and signal synchronization to reduce traffic delay. When completed, these projects will improve the efficiency of east-west traffic flow within the City.

The City of Bristol Tennessee currently has 5.6 miles of continuous bicycle/pedestrian facilities that provides a non-motorized transportation mode for residential areas, shopping, recreational, as well as the Central Business District. The long-range objective of the City is to provide a loop trail around the City as an alternate mode of transportation. In 2006 the city will be developing a citywide pedestrian and bicycle facilities plan. In 2005 the City was awarded Transportation Enhancement grant funding for pedestrian improvements in Bristol, Tennessee, along Volunteer Parkway and Highway 11E (U.S. Highway 11E, U.S. Highway 19, and State Route 34) near the Bristol Motor Speedway. The pedestrian enhancements will include construction of 12,400 linear feet of sideway. Construction on this project will be initiated in 2006.

To support alternative modes of transportation, the Bristol Tennessee Transit system provides fixed-route and specialized transit services in cooperation with Bristol Virginia Transit. The fixed-route system provides public transportation services connecting residential areas within the City to commercial, educational, and medical facilities. In addition to the fixed-route service, the transit system operates a job access transportation program, which provides a coordinated transportation network between Bristol Tennessee Transit, the rural transportation provider N.E.T. Trans, and local human service agencies to make access to jobs, childcare services, and educational job training more accessible for welfare recipients and low-income individuals.

The long-range transportation planning process will continue to provide assessment of the transportation network and establish priorities for improvements that reduce congestion and maintain compliance with air quality standards. The MPO is currently completing the final phase of the Land Use and Transportation Plan for Bristol, Tennessee. The plan will evaluate the land use and transportation relationship within the City of Bristol Tennessee and the Urban Growth Boundary to provide recommendations for more efficient use of the transportation system and appropriate land uses. The MPO recently completed a preliminary draft of the *Bristol Urban Area Long-Range Transportation Plan Year 2030*, which provides an overview of the existing transportation system and provides recommended improvements for highways, public transportation services, and bikeway/pedestrian facilities. One of the goals and objectives of the plan is to reduce vehicle emissions to improve air quality. Congestion management strategies identified in the plan include the appropriate timing of traffic signals to improve air quality and reduce fuel consumption and operations management projects to maximize the capacity of the existing infrastructure already in place to reduce congestion and delay.

December 16, 2005

Stephen Gossett
Eastman
P.O. Box 511
Kingsport, TN 37662
Via email: srgosset@eastman.com

Dear Steve:

I'd like to provide you some insights as to how your leadership in using alternative fuels is allowing the East Tennessee Clean Fuels Coalition (ETCFC) to do a better job of reaching into northeast Tennessee… in addition to making change for your regional air quality.

In a nutshell, we really didn't have much going in the Tri-Cities area until you all got on-board with biodiesel, helped us start letting others know that meetings were taking place there regularly, and in general helped connect us to people and companies in the region.

Going from basically no alt fuels' use in the Tri-Cities area (due to the ETCFC's efforts) in 2004 to having roughly three stations for biodiesel and almost 10 fleets using biodiesel blends by the end of 2005, including TDOT, we've definitely started having an impact. Our collective goals are to make it go much further, but we have laid the groundwork that we can build upon to find that larger success in the coming years.

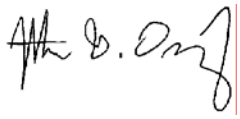
Right now you've got two local farmers co-ops (i.e., Hawkins and Washington) selling B5 in on- and off-road diesel, with each having perhaps 300-600 customers that are already using B5. In addition to Eastman, there's the Hawkins County EMS, TDOT, and a bevy of small fleets (1-5 vehicles) using B5-B20 blends. Examples of the small fleets include several small construction and excavating fleets that regularly refuel at the Washington Farmers Co-op. And we've had Bristol Virginia Utilities start using B5 as of yesterday! Certainly last but not least is the general public that is refueling with B20 or B5 at one of the local stations. This is an important part in getting local people involved in more environmental action.

We've also got some great prospects that aren't quite on-board yet. Big fleets include the cities of Johnson City and Kingsport, school bus fleets in Hawkins and Sullivan Counties, and companies like Weyerhaeuser that uses 40,000 gallons of diesel per month in their boilers at there paper mill in Kingsport. We've got a meeting to put together and I'm sure some others questions to get answered for them, but all in all I'm quite confident that they will make them move, especially looking at the fact that some of the other companies that have started using bio-blends in their boilers is hospitals… if things are mission critical there, where are they?

The potential for greater use of this fuel alone is huge, although we except other fuels like ethanol to begin breaking into the Tri-Cities are more prevalently soon.

All in all we are headed in a good direction and with teamwork, like we have the beginnings of now, the future is bright for using the fuels locally to help create local action for regional air quality change and to help our nation break it's single-minded fuel future.

Sincerely,



Jonathan G. Overly, Executive Director
ETCFC