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Planning Today for Clean Air Tomorrow

AIR QUALITY STAKEHOLDERS OF CUMBERLAND COUNTY

Mr. George Breece
Chairman

Mr. Steven Blanchard
Vice-Chairman

Commissioner Eleanor Ayers
Town of Stedman

Councilman Keith Bates
City of Fayetteville

Mr. Gregory Bean
Fort Bragg Military Reservation

Commissioner Jeannette Council
Cumberland County

Mr. Edwin Deaver
Citizen

Dr. Joseph Follet, MD
Lafayette Clinic

Mr. Michael Green
Cohen and Green

Mr. Henry Holt
Holt Oil Company

Mr. Karl Legatski
Citizen

Mr. Joseph W. Levister, Jr.
Fayetteville Technical Community College

Mr. William A. Martin
Cumberland County Business Council

Dr. Harold Maxwell, DDS
Cumberland County Board of Health

Mr. Donovan McLaurin
Homebuilders Association

Mr. Scott Peters
Goodyear Tire & Rubber Company

Ms. Denise Sykes
Towns of Falcon, Godwin, Linden and Wade

Mr. Stephen Waters
Barnhill Contracting Co.

December 21, 2006

Ms. Kay Prince
US Environmental Protection Agency
Region 4
61 Forsyth St. S.W.
Atlanta, GA 30303-8960

Dear Ms. Prince:

On behalf of the Air Quality Stakeholders of Cumberland County, I am submitting the Fayetteville Metropolitan Statistical Area December 2006 Bi-Annual Progress Report. The first portion of the report describes activities and implementation schedules of the local strategies, to include Appendix A, which is a visual representation of selective undertakings. The second part is the State portion of this report, which tracks EAC emissions.

If you have any questions or need additional information please contact Ms. Maurizia Chapman, AICP at (910) 678-7615 or via e-mail at mchapman@co.cumberland.nc.us.

Sincerely,

Thomas J. Lloyd, Director
Cumberland County Planning & Inspections Department

CC: Richard Schutt, USEPA w/enclosure
Sheila Holman, NCDAQ w/enclosure
Laura Booth, NCDAQ w/enclosure

A healthful environment for all current and future citizens of Cumberland County

Bi-Annual Progress Report
Of the
Early Action Compact
In the Fayetteville Metropolitan Statistical Area
North Carolina

A joint effort by USEPA Region 4, North Carolina Department of Environment and Natural Resources, and the Cumberland County Board of Commissioners, Town of Falcon, City of Fayetteville, Fort Bragg Military Reservation, Town of Godwin, Town of Hope Mills, Town of Linden, Pope Air Force Base, Town of Spring Lake, Town of Stedman and Town of Wade and the Fayetteville Area Metropolitan Planning Organization

December 21, 2006

Introduction

The Fayetteville Metropolitan Statistical Area Early Action Compact (Fayetteville MSA EAC) requires that a semiannual report of activities undertaken by the state and local partners be submitted to the Environmental Protection Agency as part of the milestones determination. This report covers the activities and accomplishments during the period of June 30, 2006 to December 31, 2006. The first part of this report contains the local program updates, including the Stakeholders and Technical Committee members' activities, public outreach activities, and updates on the selected strategies. An Appendix containing visual representations of selective activities is included. The second part of this report includes the information provided by the North Carolina Department of the Environment and Natural Resources, Division of Air Quality.

Meetings and Public Involvement Activities

The Cumberland County Air Quality Stakeholders held a joint meeting with the Air Quality Technical Committee on November 3, 2006 to discuss the status of Strategies in the Fayetteville MSA and EPA's latest information on Ozone and $PM_{2.5}$ standards. At that time Mr. George Breece was reappointed as the Committee Chairman and Mr. Steven Blanchard was appointed as the Vice-Chairman.

The following is the updated membership roster as designated by stakeholder agencies and appointed by the Cumberland County Board of Commissioners for an additional three years term:

- Mr. George Breece, Chair – Citizen Representative
- Commissioner Eleanor Ayers, Town of Stedman
- Col. Gregory Bean (Ret.), Fort Bragg Military Reservation
- Mr. Edwin S. Deaver, Citizen Representative
- Mr. Michael Green, Salvage and Recycling Industry Representative
- Mr. Karl Legatski, Citizen Representative
- Mr. Donovan McLaurin, Homebuilders Association
- Mr. Joseph W. Levister, FTCC – Schools Representative
- Mr. Stephen C. Waters, Sr. – Road Construction Industry Representative
- Mr. Steven Blanchard, Vice-Chair – Public Works Commission of Fayetteville
- Councilman Keith Bates, City of Fayetteville
- Commissioner Jeannette Council, Cumberland County
- Dr. Joseph Follett, Medical Representative
- Mr. Henry Holt, Petroleum Distributors Representative
- Mr. William A. Martin, Cumberland County Business Council
- Dr. Harold Maxwell, Board of Health
- Ms. Denise Sykes, Towns of Wade, Falcon, Godwin and Linden
- Mr. Scott Peters, Major Industry Representative

The Cumberland County Air Quality Technical Committee also met on November 27, 2006. (minutes available upon request)

Staff attended or participated in the following meetings:

- Sustainable Sandhills

  August 22, October 4, October 23, 2006

- Sustainable Fort Bragg

  September 27, 2006

- Asthma Action Group (minutes available upon request)

  August 2, September 6, October 4, November 1, December 6, 2006

- Southeast Diesel Collaborative Kick off and Conference Call meetings

  September 6, October 12, November 8, 2006

- State Interagency Conference Call Meetings

  August 24, September 29, December 7, 2006

- Air Quality Presentations

  Scotland County Schools- Lumber River State Park
  October 12, 2006

- Public Events

Cumberland County Fair Display	September 14-24, 2006
Home Depot "It's Electric Day"	September 30, 2006
"Change a Light; Change the World"	October 4, 2006
"Kilo-watt Ours" Movie Presentation	October 5, 2006

AIR QUALITY STAKEHOLDERS OF CUMBERLAND COUNTY SELECTED OZONE CONTROL STRATEGIES UPDATE

Quantifiable SIP Strategies

MOBILE SOURCES

Inspection and Maintenance Program

SIP Strategy Definition:
"The 1999 Clean Air Bill expanded the vehicle emissions inspection and maintenance program from 9 counties to 48, and improved the testing method. Vehicles are being tested using the onboard diagnostic system, which indicates NOx emissions, among other pollutants. The previously used tailpipe test did not measure NOx."

The North Carolina Department of Environment and Natural Resources Division of Air Quality modeled these emission reductions for Cumberland County:

- VOC: 0.6 Tons Per Day
- NOx: 0.7 Tons Per Day

This strategy was implemented in Cumberland County on July 1, 2003.

The adopting jurisdiction is all of Cumberland County.

Retrofitting Diesel School Buses

SIP Strategy Definition:
"A $50,000 grant has been received to fund retrofitting of 50 school buses serving the Fort Bragg Schools. It is expected that this project will decrease VOC emissions as well as other pollutants. The plan is to put Diesel Oxidation Catalysts on 50 school buses and crankcase spiracles on 13 of the 50."

The Environmental Protection Agency shows these approximate decreases for Diesel Oxidation Catalysts under their *Verified Retrofit Technologies*:

- PM: At least 20%
- CO: At least 13%
- VOC: At least 42%

- Previous updates**:** The grant was officially signed and processed on September 20, 2004. Eight (8) of the fifty school buses were removed completely from the fleet due to the age of the buses. Diesel oxidation catalysts will be installed on 42 of the buses. Crankcases spiracles will be installed on 24 of the 42 buses. To date the final 5 buses have not been retrofitted.

UPDATE: Installation of the last five (5) DOC Mufflers and four (4) Spiracle Crankcase filters was completed in August 2006. This Strategy has been fully implemented.

The adopting jurisdiction is Fort Bragg.

NOTE: In addition to the Fort Bragg strategy included in the SIP, the Cumberland County School System applied for and was awarded an NC DENR Mobile Source Emissions Reduction grant in the amount of $99,000 (March 15, 2006) and an EPA Clean School Bus USA grant in the amount of $121,000.00 (September 28, 2006). In June 2006 a company was selected to retrofit school buses with Diesel Oxidation Catalysts (DOC) and Closed Crankcase Ventilation Systems (CCVS). To date, DOCs have been installed on seventy-three (73) buses which will receive CCVS at the beginning of the year, completing the State grant. A company has already been selected to fulfill the EPA grant requirements and installation of the emission reduction equipment will begin in 2007.

CONSERVATION

Outdoor Burning Ban

SIP Strategy Definition:

"The North Carolina Environmental Management Commission approved a new rule that bans open burning on forecasted, "air quality action days", Code Orange or above days. The ban applies to 39 counties in or around metropolitan areas of the state, including Cumberland County. The Division of Air Quality (DAQ) formed an Open Burning Outreach Team (OBOT). The team is responsible for helping to disseminate information to the public regarding open burning."

- The Division of Air Quality modeled these reductions for Cumberland County prohibiting open burning on code orange days (assuming a 50% compliance rate).
  - VOC: 0.2 Tons Per Day
  - NOx: 0.2 Tons Per Day
  - CO: 1.8 Tons Per Day

- **This strategy was fully implemented on June 1, 2004.**

❖ Previous Updates: In 2005 a member of the Open Burning Outreach Team (OBOT) gave presentation on open burning throughout the community. DAQ arranged to have billboards across the State, one of which was located in Cumberland County for at least 30 days, and also to provide the local fire departments with literature concerning open burning to distribute to local citizens. The state implemented an open burning information line 1-877-OPEN-BURN (1-877-673-6287). A School Kit is still in the process of being developed in coordination with the NC Department of Public Instruction. The tentative plan is to test the kits during summer programs to get input from teachers and children. Once the kits have been tested they will be ready to send out to target middle schools this fall. DAQ is targeting a mass mail out of NC Open Burning regulations and alternative waste disposal literature to golf courses within this year.

UPDATE: The area-wide open burning education continues through the Outreach Team. The School Kit was developed and tested during the summer and the final product was presented at two (2) teachers workshops in November.

The adopting jurisdiction is all of Cumberland County

Use renewable energy sources when available (i.e. solar and methane)

SIP Strategy Definition:

"Cumberland County Landfill harvests methane and through a contract with Biomass Energy, then sells the energy to Cargill Inc., a local industry. Cargill Inc. was using 1000 cubic feet/minute of landfill gas. As of June 2004, usage has been increasing steadily and forecasted to reach to 1600 cubic feet/minute by 2009. The first year Cargill reported use of landfill gas was in 1999 in the amount of 369,110,000 cubic feet."

- Previous Updates: Cargill was recently issued a permit to install and operate an additional boiler, which is capable of burning landfill gas. The heat input of this boiler is 53 million Btu per hour on landfill gas and 99 million Btu per hour on natural gas. Cargill Inc. purchased the new natural gas-fired boiler which will make it possible to burn additional landfill gas. Cargil Inc. anticipates commissioning the new boiler by the end of March 2006. Due to the hurricanes of last season the manufacturing and delivery of the new boiler was delayed and, due to the demand of steel, the structure which was to be built to house the boiler is not currently available. Once the building structure is completed the boiler will be installed. The new boiler will make it possible to burn an estimated 20%-25% additional landfill gas. As of May 2006, Cargill has burned 109,992,000 cubic feet of landfill gas.

UPDATE: The additional boiler has been installed and has been operating as of September 20, 2006. This strategy has been fully implemented.

The adopting jurisdiction is Cumberland County.

NOTE: Cumberland County staff is currently reviewing the feasibility to apply for an EPA landfill recovery grant.

Non-Quantifiable Voluntary Strategies

LAND USE

Landscape Ordinance

SIP Strategy Definition:

"Require landscaping of major nonresidential developments within the MSA. It is believed that this strategy will lower NOx emissions. The emission reductions are not currently quantifiable, but this strategy is directionally correct."

- Previous Updates: **Fort Bragg** continues to enforce compliance with the Installation Design Guide on all new construction/renovation projects as it pertains to landscape requirements. The **City of Fayetteville** continues to enforce the June 2004 ordinance requirements. Due to the reorganization of the Planning Board and the Board of Commissioners the **Town of Hope Mills** has not revised the ordinance to include residential development; however the Tree Preservation Ordinance and the Landscape Ordinances, especially pertaining to nonresidential development, are being enforced as currently written. **Cumberland County** unanimously adopted the Landscape Ordinance on November 21, 2005 and is enforcing it. The Towns of **Falcon**, **Wade** and **Godwin** are currently governed by the Cumberland County Ordinance. The Town of **Stedman** unanimously adopted the ordinance on December 1, 2005 and is currently enforcing it.

UPDATE: This strategy has been fully implemented and is being locally enforced.

The adopting jurisdictions are Cumberland County, City of Fayetteville, Falcon, Godwin, Hope Mills, Stedman, Wade, and Fort Bragg.

NOTE: In addition to the adopting jurisdictions listed above, the Town of Spring Lake also adopted a landscape ordinance with an effective date of November 14, 2005.

Transit/Pedestrian/Mixed Use Oriented Development

SIP Strategy Definition:

"Add a mixed-use alternative to zoning ordinance along transit lines and include sidewalks, shade trees, benches, and landscaping as well as bike paths/lanes, which will increase the desirability of walking and biking and promote the use of transit. Work with schools and parks to facilitate pedestrian crossing from subdivisions to schools. Fort Bragg is building upon existing mixed-use development by adding pedestrian trails and sidewalks. There is no way to quantify these emission reductions without an extensive base-line study and follow-up studies. However, NOx reductions are supported by the Portland, Oregon study cited on Page 26 of "Improving Air Quality Through Land Use Activities". The Portland, Oregon study supports 8% decrease in VMT and NOx emissions decrease of 6%."

- Previous Updates: On June 20, 2005 the **Cumberland County** Board of Commissioners unanimously approved ordinance amendments to include Mixed Use Oriented Development and has been enforcing the new development standards. **Fort Bragg** requires all projects to include sidewalks and bicycle racks. Some of the major projects also include bus stops. In order to minimize footprint and increase density, the majority of new facilities on Fort Bragg are now multi-story. Eight Walkable Communities workshops were held during the week of May 2-6 2005.

UPDATE: This strategy has been fully implemented and is being locally enforced.

The adopting jurisdiction is Cumberland County for all participating agencies.

NOTE: In addition to the strategy addressed in the SIP, as the result of hosting a Walkable Communities workshop, the Town of Stedman developed a Greenways Ordinance, which includes inter-development connectivity through trails, and open space requirements. The ordinance was adopted on August 3, 2006.

Infill Development

SIP Strategy Definition:

"Promote infill and brownfield development in urban areas, to utilize existing infrastructure and to decrease and/or maintain VMTs. Strengthening the downtown area through economic incentives, available for businesses in the downtown area through the Downtown Loan Program and Historic Properties, a public/private partnership. It is believed that this strategy will lower NOx emissions by decreasing VMT (promotes Pedestrian Transit and Mass Transit Use). The emission reductions are not currently quantifiable, but this strategy is directionally correct. Currently, the City of Fayetteville, Cumberland County and the Town of Stedman have ordinances that govern Zero Lot Line Developments, which foster land preservation and infill, while increasing density."

- Previous Updates: **Fort Bragg** will continue to redevelop existing urban land use. The majority of projects are built on the currently developed sites instead of new, undisturbed sites as part of their Sustainable Installation Design Guide, which was implemented beginning in December 2003. The **Town of Wade** has adopted and implemented the Zero Lot Line Ordinance to its subdivision ordinance as of 2005.

UPDATE: This strategy has been fully implemented and is being locally enforced.

The adopting jurisdictions are Fort Bragg and the Town of Wade.

Shared Parking Facilities and Connectivity

SIP Strategy Definition:

"This will reduce the amount of impervious surface, which contributes to the heat island effect and reduces the amount of stop and go traffic. It is believed that this strategy will lower NOx emissions by decreasing VMT. Although the emission reductions are not

currently quantifiable, this strategy is directionally correct. The City of Fayetteville and the Town of Hope Mills have ordinances to allow shared parking. They include provisions for lateral access and connectivity. "

- Previous Updates: On June 20, 2005 the **Cumberland County** Board of Commissioners unanimously approved Zoning Ordinance amendments that included lateral access and connectivity requirements, and shared parking facilities. The **Town of Linden** is in the process of developing a Zoning Ordinance that will allow for shared parking facilities and connectivity.

UPDATE: Cumberland County continues to regulate shared parking and connectivity requirements for the county and on behalf of the Towns of Godwin and Wade. The Town of Falcon approved its Zoning Ordinance Amendments, modeled after the county's, on January 10, 2006. The Town of Linden is still working on a Zoning Ordinance, but final approval has not been reached yet.

The adopting jurisdictions are Cumberland County, Falcon, Godwin, Linden, and Wade.

Urban Reforestation/ Green Space

SIP Strategy Definition:

"The Public Works Commission has policies to maintain tree coverage in watershed areas and seek to expand land acquisition for preservation of the watershed. NC Forest Services is seeking grant funding to plant at least 100 trees. Cumberland County completed a public green space inventory of the entire county in March 2004 and a conservation subdivision option will be investigated. It is believed that this strategy will lower NOx emissions by reducing the heat island affect. Although, the emission reductions are not currently quantifiable, this strategy is directionally correct."

- Previous Updates: To date nearly 1,100 trees have been planted on Fort Bragg. As part of Arbor Day 2005 events at Pope AFB, the NC Forest Service planted 250 longleaf pine trees. There have been 100 Dogwood trees planted around the City of Fayetteville as of April 2005 in celebration of The Public Works Commission 100th Anniversary.

UPDATE: Fort Bragg continues to plant additional trees as part of its development patterns. The NC Forest Service and Pope Air Force Base have made the planting of 250 trees an annual event as part of Arbor Day. PWC continues to plant trees as part of its Line Clearance Replacement Program. This strategy has been fully implemented.

The adopting jurisdictions are the City of Fayetteville and Fort Bragg.

NOTE: In addition to the strategy addressed in the SIP, the Cumberland County Board of Commissioners on June 20, 2005 approved a Density Development Conditional Use Standard where developers can increase the density of sites if they agree to maintain 40% of the land as mandatory preservation sites and meet additional vegetative buffer requirements. To date

(December 2006), four sites have been developed using this standard and a fifth one is pending.

MOBILE SOURCES

The Fayetteville MSA reviewed many Alternative Fuels (AF) and Alternative Fueled Vehicle (AFV) possibilities, but, because the infrastructure is not in place at this time and developing it would be cost prohibitive and it could not be implemented by December 2005, no other governments agreed to participate. Mobile source strategies will be reviewed and evaluated for long range planning in this area.

Alternative Fuels and AF Vehicles

SIP Strategy Definition:

"Fort Bragg has developed a plant to convert its fleet to Bio-Diesel 20 and Ethanol E85. This project includes an AF fueling station. 185 vehicles will be converted to B20 (100,000 gallons of diesel fuel). 158 Flexible Fuel vehicles will use approximately 55,000 gallons of E85 per year. This strategy is expected to reduce VOC and in turn hazardous air pollutants (HAPs), NOX and particulate matter. The bio-diesel strategy shows a slight increase in NOx emissions, however with the other pollutant reductions, this strategy is believed to be of value."

- Previous Updates: Due to the increased cost of B20 in 2005, Fort Bragg had to discontinue purchasing bio-diesel. The current Fort Bragg Flex-fuel vehicle fleet (E85 capable) has surpassed the estimated 158 units to 335 vehicles, to be increased to a total of approximately 700 vehicles by the end of calendar year 2006. The location of an E-85 station has been selected to be incorporated in the current Corps Support Command (COSCOM) Army and Air Force Exchange Service (AAFES) fueling station, and negotiations are in progress to identify a reliable sub-contractor. Upon completion, the E-85 fueling station will be accessible to the Fort Bragg fleet described above, plus any flex-fuel private vehicle driven by Military Identification Card holders (active duty and retired military and respective family members) and by Department of Defense employees, far exceeding the original estimate of vehicles identified for bio-fuel conversion. The Public Works Commission has purchased a Hybrid Ford Escape (gasoline/electric) for use by employees.

UPDATE: The Transportation Motor Pool fleet conversion to E-85 flex fuel has been completed. Currently at Fort Bragg the number of Flex Fuel Vehicles is in excess of 700. The AAFES Fuels office, rather than Fort Bragg, is now soliciting for the E85 storage tank, dispenser, and fuel contract. By having AAFES Fuels negotiating directly, the process should be expedited.

The adopting jurisdiction is Fort Bragg.

Idling Restrictions

SIP Strategy Definition:

"Festival Park will include electrical outlets to be used by vendors/exhibitors to reduce truck idling during festivals and events. It is expected that this strategy will decrease NOx emissions. Festival Park construction is scheduled to begin on March 1, 2005 and to be completed by September 20, 2005."

- Previous Updates: Construction of Festival Park is estimated to be completed in late December 2006. There was a small delay due to funding. The issue has since been resolved and the project is currently about 20% complete.

UPDATE: Festival Park should be completed in April 2007. The first event, Sunday on the Square, will take place in May.

The adopting jurisdiction is the City of Fayetteville.

NOTE: In addition to Festival Park, the City of Fayetteville Public Works Commission is including power outlet "kiosks" and electrical outlets on lamp posts in the Historic District, during utilities retrofit work.

TRANSPORTATION

Using Intelligent Transportation Systems (ITS) and Dynamic Message Signs (DMS) for Congestion Management and Ozone Alerts

SIP Strategy Definition:

"Project U-3635, Closed Loop Signal System, will provide a new area-wide closed loop signal system. Dynamic Message Signs will be installed at congested intersections/corridors. There will be an expansion of existing continuous flow right turn lanes in the urbanized area. It is expected that this project will decrease NOx emissions by decreasing traffic congestion. It is currently difficult to quantify this effort, however other examples of this system have shown anywhere from 0-20% reductions in traffic congestion resulting in less idling, travel time, and, as a result, NOx emission reductions."

- Previous Updates: The ITS program includes 220 traffic signals. All of the cameras, which will support the system, are in place, 7 of those cameras are currently running. Currently all of the cameras are running. Two dynamic message sign along I-95 are operational. Two more dynamic message signs will be installed along the 401 bypass. The project has continued as planned and is scheduled to be operational February 2006. This project is completed.

UPDATE: This strategy has been implemented and is completed.

The adopting jurisdictions are Cumberland County, City of Fayetteville, and Hope Mills.

Enhance Mass Transit System

SIP Strategy Definition:

"The Fayetteville Area System of Transit is redesigning routes to be more convenient to riders and plans to increase frequency of transit services to 15 minutes. The plan is a hybrid deviated fixed route demand response system. It allows for riders to be picked up from their home by a van and transported anywhere in that zone by the van. Riders also can be picked up and taken to a large super stop, where they can catch the bus and be transported all across the service area. Increase transit service is expected to reduce VOC and NOx emissions by reducing VMT."

- Previous Updates: On January 25, 2005, the transit director presented a countywide transit service proposal to the City-County Liaison Committee. The City of Fayetteville has continued planning the countywide transit system. There have been numerous presentations addressing the plan. An amendment to the FFY 2006-2012 MTIP has been approved to fund 16 vans for service expansion. In April 2006 the Cumberland County Board of Commissioners and the Fayetteville City Council held a special meeting. During this meeting they formed a special committee, consisting of county and city officials, to expedite the planned regional transit system. The director of the Fayetteville Area System of Transit has planned to purchase 2 additional buses and one additional van in Fiscal Year 2006-2007. The Fort Bragg shuttle service continues to provide transportation around the installation and connection with the municipal transit system. Average weekly ridership for the shuttle is between 650-750 riders.

UPDATE: The Joint City/County Transit Study Committee has designated a sub-committee with the task to prepare a Request For Proposal (RFP) for a "Consolidated Transportation Development Plan". The RFP should be advertised in early 2007. The Fort Bragg Shuttle continues and ridership varies from an approximate 500-600 passengers. The Central Issue Facility Shuttle service provides approximately 200 soldiers per month with park and ride type transportation for internal circulation to and from work. Services are available on a call for service basis.

The adopting jurisdictions are City of Fayetteville and Fort Bragg.

Formulate Car and Van Pooling

SIP Strategy Definition:

"The Fayetteville Area System of Transit changed a staff position from Special Projects Coordinator to Ridesharing and Community Outreach Coordinator. This is an effort to expand public outreach for FAST and encourage more ridesharing and vanpooling. Work is being done to develop a database to connect riders. The transit provider is advertising vanpooling and carpooling programs. FAST has received a license from DOT for database matching software. The software is regionally based to where coordination can be made across county lines. This strategy is believed to decrease NOx emissions based upon an increase in public transit usage and car and vanpooling, and a decrease in VMT."

This strategy was implemented in June of 2004 and is ongoing.

- ❖ Previous Updates: The Ridesharing and Community Outreach Coordinator attended several workshops on Commuter Choice Transportation and developed a Ridesharing Manual and the Emergency Ride Home element of the plan. In 2005, the coordinator is revising the proposal to reflect changes in insurance, training and to implement the rate per mile established by finance based on revenue and expenditure projections from previous year. Also, in April, the coordinator submitted an application initiating administrative assistance for the Vanpool/Carpool Program. The Ridesharing and Community Outreach Coordinator continue to attend training and workshops. The administrative assistance for the Vanpool/Carpool program is apart of the proposal, which they will be resubmitting in April 2006.The Vanpool Coordinator position has been reclassified to an Analyst. The reclassified position has added responsibilities pertaining to the budget. The position will continue the efforts of a Transportation Management Program with assistance of the State Department of Transportation. NCDOT has contracted with a private firm who will work with the Analyst to develop strategies and plan implementation.

UPDATE: The North Carolina Department Of Transportation has contracted Parson Brinkenoff to work with the Fayetteville Area System of Transit to develop Transportation Demand Management (TDM) programs, to include carpooling and vanpooling. Currently, SHARETHERIDENC.com is the available web site and it helps citizens to coordinate participation in the program. The Transit Director also presented the vanpool concept to the Plant Managers Association on September 27, 2006. The managers showed interest in the program and additional discussion should continue in early 2007. Coordination is also taking place between the Transit agency and Fayetteville State University to provide a Campus Shuttle and to increase student ridership in the urban system.

The adopting jurisdiction is the City of Fayetteville.

Increase Rural Transportation Paratransit

SIP Strategy Definition:

"Rural transportation is currently being expanded to connect outlying areas of the county and smaller municipalities. Quantification will be provided when implemented."

- The strategy will be implemented by December 2005.

- ❖ Previous Update: During Fiscal Year 2003 the North Carolina Department of Transportation Public Transportation Division (NCDOT-PTD) allocated additional funds for public transportation to rural areas to be achieved through a combination of fixed route/route deviation and demand response services (paratransit). The program is called Rural General Public (RGP) and is part of the Rural Operating Assistance Program (ROAP), which includes services to transportation deficient population (elderly, disabled, economically disadvantaged, work-first eligible citizens, and rural customers). Cumberland County provides an annual report to NCDOT-PTD, which

outlines all activities within the ROAP grant, to include number of trips provided by type of funding, number of bus passes sold, and vehicle mileage reimbursement for van drivers of specific agencies. The following is a table depicting the number of trips reported to NCDOT-PTD for Fiscal Years 2002 though 2005 for the RGP program only:

RURAL GENERAL PUBLIC	FY 2002	FY 2003	FY 2004	FY 2005
Number of trips provided	0	1,091	30,174	31,637

UPDATE: The RGP program continues to expand and, as of the FY 2006 (July 2005 to June 2006) report to NCDOT, ridership has increased to 35,741 trips. This strategy has been fully implemented.

The adopting jurisdiction is the City of Fayetteville.

Encourage Park and Ride for Large Events

SIP Strategy Definition:

"FAST and Private Transportation providers are providing shuttle services at nominal cost to the public. Fort Bragg provides internal transportation services for large on-post events at no cost to the rider. Updates will be given for the events and included in semi-annual updates."

- The implementation of this strategy is ongoing as special events come up (i.e. Festival of Flight, May 16-26, 2003).

❖ Previous Updates: Fort Bragg Internal transportation services were supplied for the following events: Pope Open House and All American Week. Bus transportation is also implemented in support of deployment and redeployment of units, including Rapid Field Issue (RFI). Fort Bragg has continued to use this strategy as an option for large on post events. FAST and Private Transportation providers continue to provide shuttle services on request for special events.

UPDATE: Both the City of Fayetteville and Fort Bragg Military Reservation continue to provide park and ride for large events. This strategy has been fully implemented.

The adopting jurisdictions are City of Fayetteville and Fort Bragg.

CONSERVATION

Use renewable energy sources when available (i.e. solar and methane)

SIP Strategy Definition:

"Encourage residents and businesses to support NC Green Power, a nonprofit program working to encourage development of renewable energy sources. A $4.00 contribution

purchases one block of green power (equivalent to 100 kilowatt-hours). We are working with NC Green Power to obtain the number of blocks of green power purchased by Cumberland County Residents."

- Implementation started in Spring 2004 and will continue to be promoted during AQ outreach, and we will include link on Cumberland County Transportation website.

❖ Previous Updates: A typical contribution of just $4 per month adds one block of 100 kilowatt-hours of green energy to North Carolina's power supply. In 2005 Cumberland County residents have purchased a total of 257 Blocks. 273 blocks have been purchased since January 1, 2006.

UPDATE: Since January 1, 2006 Cumberland County residents purchased 517 blocks and a Gift Card Link from FAMPO homepage has been set up for the 2006 Holiday Season.

The adopting Jurisdiction is Countywide.

NOTE: In addition to the strategy included in the SIP, the Sustainable Sandhills Energy Team was recently awarded a $5,000 Community Partner Small Grant from the NC Million Solar Roofs 2005. Sustainable Sandhills is an innovative partnership made up of participants from Fort Bragg, the surrounding community governments, nonprofits, citizens and universities from Cumberland, Harnett, Hoke, Moore, Richmond and Scotland Counties. One of the objectives of the Sustainable Sandhills Energy Team includes a commitment to promote the use of renewable energy within the region. This effort is on-going and region wide.

Retrofitting of public buildings. Encourage construction of energy efficient buildings.

SIP Strategy Definition:

"Through the "Guaranteed Energy Savings Contract", the County will engage a company to evaluate and upgrade buildings, equipment and material to increase energy efficiency. PWC is a member of the "Good Cents" Housing Program. Participating builders receive heat pump rebates and free listing of energy efficient homes for sale in the local newspaper and on the PWC website. Smaller municipalities are also promoting the "Good Cents" Housing Program. Fort Bragg is currently implementing energy reduction per Executive Order 13123 and as part of its Sustainability Plan by partnering with Honeywell Corporation to retrofit buildings on Fort Bragg (replacing inefficient interior/ exterior lighting, installing new HVAC systems with energy controls for optimum building performance. Fort Bragg also constructs new homes and retrofits older homes to meet "ENERGY STAR" standards. It is believed that this strategy will lower NOx emissions by reducing the output needed from fossil fuel plants to heat and cool homes and public building. The local EAC is still trying to quantify emission reductions, but feel this strategy is directionally correct."

❖ Previous Updates**:** Cumberland County has selected a company to retrofit 12 public buildings to comply with the "**Guaranteed Energy Savings Contract**". Construction is projected to begin in January of 2005. The retrofit of lighting and

HVAC controls for the 12 public buildings is complete. Cumberland County also completed a contract on September 9, 2004 to replace 144,000 square feet of black roofing with light colored roofing. The promotion of "Good Cents" Housing Program and Fort Bragg's energy reduction program are ongoing. Fort Bragg continues to encourage the use of light colored, high reflective materials for pavement and roofs with new and retrofitted buildings. They also encourage the use of pervious pavement where applicable.

UPDATE: The "Guaranteed Energy Savings Contract" has been completed. To date over 200,000 square feet of highly reflective material have been installed on County buildings. On October 4, 2006 Sustainable Fort Bragg was the host of "Change a light; Change the world" initiative (the Energy Awareness Month Kick-off), where approximately 5,000 free compact fluorescent light bulbs were distributed in and around Fort Bragg. This strategy has been fully implemented.

The adopting jurisdiction is Cumberland County for all participating agencies.

Encourage Construction and Use of Energy Efficient Equipment and Promote Purchase of "Green"/less polluting products.

SIP Strategy Definition:

"Fort Bragg is implementing energy reduction strategies including low NOx burners in new major emission sources, is increasing the use of water-based paints to reduce VOC emissions and has installed a paint booth which uses only water-based paint, and is researching alternatives to replace two incinerators. These strategies will lower NOx and VOC emissions. Research efforts will include emission reductions."

- Previous Updates: In 2004, Fort Bragg shipped 8,915 pounds of Class I Ozone Depleting Substances (ODS) off the installation to the Defense Depot in Richmond, Virginia and replaced them with environmentally safe alternatives. It continues to encourage the use of energy-efficient and low-flow appliances (showers, toilets, etc.) in all renovations and new construction projects, limited or no irrigation, and no VOC containing paints, sealants, or adhesives. A water-based paint booth was installed May 2005 and was available for use beginning November 2005.

UPDATE: Fort Bragg continues to implement this strategy and is currently evaluating expanding it by discussion with non-military partners that could also comply.

The adopting jurisdiction is Fort Bragg.

AWARENESS

The ***"Be Aware Of Our Air"*** awareness and educational air quality campaign for Cumberland County, North Carolina continues throughout the year. This air quality campaign is a combined effort between the Fayetteville Area Metropolitan Planning Organization and the

Fayetteville Regional Office of the North Carolina Department of Environment and Natural Resources, Division of Air Quality and it was created to facilitate education and outreach of the citizens of this area.

FAMPO Air Quality Staff Position

SIP Strategy Definition:

"The Fayetteville Area Metropolitan Planning Organization created a fully funded Air Quality Coordinator staff position. The staff person is responsible for coordinating air quality outreach efforts in Cumberland County as well as preparing and maintaining Early Action Compact information. It is believed that this strategy will reduce NOx and VOC emissions based upon this person working with different organizations to get the word out and get the community working on improving the Air Quality."

- This strategy was implemented in March of 2003 and is ongoing.

❖ Previous Updates: The Air Quality Staff person has attended numerous training sessions on air quality and initiated many outreach programs. The staff person has also developed a clean air campaign along with a new partnership with Division of Air Quality Fayetteville Regional Office. This staff person, with assistance from the state Division of Air Quality Fayetteville Regional Office, has developed and implemented an extensive air quality outreach program. This program includes an air quality curriculum added to all Cumberland County Driver's education classes, and advertisement sponsorship with the local sports teams to promote air awareness.

UPDATE: This position is still funded and training and coordination with area-wide agencies continues.

The adopting jurisdiction is Cumberland County for all participating agencies or local government.

Student Outreach through Education Systems

SIP Strategy Definition:

"Ongoing effort using the "GLOBE" program, a worldwide hands-on, primary and secondary school-based educational science program. This is a cooperative effort, led in the US by a federal interagency program supported by NASA (National Aeronautics & Space Administration), NSF (National Science Foundation), EPA (Environmental Protection Agency) and the U.S. State Department. There are currently 65 teachers in Cumberland County who are trained and present the program that promotes environmental stewardship and research. Staff, Air Quality Stakeholders, and Technical Committee members are also providing classroom presentations upon request. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct."

- Previous Updates**:** The Watershed Action Team (WAT) is near completion with part two of the GLOBE Atmosphere training. Subsequent to this training we will have 21 schools with weather stations and seven ready to collect Ozone (surface) readings. Part two of the GLOBE Atmosphere training has been completed. Eleven (11) Cumberland County Schools are now equipped to take ozone readings.

UPDATE: The Watershed Action Team is in the process of organizing workshops that will take place in March of 2007, to get the partner schools ready for the upcoming ozone season. This strategy has been fully implemented and education efforts continue throughout the schools community.

The adopting jurisdiction is Cumberland County.

NOTE: In addition to the strategy outlined in the SIP, in 2005 Cumberland County initiated a more aggressive outreach program through the educational system by implementing the following:

- Kidsville News! is a free monthly educational publication that is distributed to all K-5th grade students in Cumberland County, Fort Bragg, Raeford, and Hoke County schools in addition to public libraries and other independent locations. Circulation is in excess of 30,000. We sponsor and create a page to teach air quality. The page includes activities, definitions, stories, and science experiments all focused on an air quality issue. Topics include: particulate matter, sulfur dioxide and nitrogen dioxide, ozone, carbon monoxide, and open burning. The air quality page started in August 2005 and ran until July 2006. In August 2006 the Fayetteville Area MPO entered into a contract extension to continue this endeavor through July of 2007 (Pages available upon request).

Kidsville News "The Environment" Circulation: 34,000	December 2006
Kidsville News "Pesky Particulate" Circulation: 34,000	November 2006
Kidsville News "Win with Air Quality" Circulation: 34,000	October 2006
Kidsville News "Whirling, Swirling Air Pollution" Circulation: 34,000	September 2006

- The Driving for Clean Air program is an addition to the Cumberland County Driver's Education curriculum taught at local high schools. Two hours of the driver's education program have been set aside to teach about air quality. The curriculum includes having the students watch an "Easy Breathers" video that can be ordered at EasyBreathers.org and having the students read through and complete the activities in the "Cleaner Cars Student Manual" that was developed by and reproduced with the permission of the National Safety Council. In addition, fact sheets about ethanol, biodiesel, electric vehicles, and an alternative fuel comparison are given along with general air quality

information. Tire pressure gauges with the NC DENR air quality website are given to each student to promote car maintenance and air awareness. This is a joint effort between Cumberland County and the state Division of Air Quality and is considered a pilot program to be evaluated and possibly expanded throughout the state. It began during the 2005-06 school year and has been extended through the current one.

Public Education/Outreach at Community Events & Churches

SIP Strategy Definition:

"This is an ongoing effort through the Speakers Bureau. Staff and volunteers participate in festivals, fairs, community meetings, etc to provide information on air quality and the individual measures that can be taken to improve the air we breathe. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct."

- The implementation of this strategy began with the first outreach event, the Spring Nature Fair, at Clark Park on April 5, 2003 and is ongoing.

❖ Previous Updates: We are continuing every effort to attend public events were we can educate the public about air quality. On April 16, 2005 we were able to implement this strategy at Spring Lake's Spring Fling. On April 23-24, 2005, staff also participated in the annual Fayetteville Dogwood Festival. This strategy is ongoing.

UPDATE: The Air Quality staff and volunteers attended various community events. The events and dates are listed in the introductions. All programs have become an annual undertaking and continue to this date. The Fayetteville Area Metropolitan Planning Organization has continued an Air Quality Sponsorship program with two local sports teams, the Fayetteville FireAntz (Ice Hockey) and the Fayetteville Swampdogs (Baseball). Both sponsorships include an advertisement developed by the Air Quality Coordinator which expresses the 10 simple steps individuals can do to improve air quality in the teams' souvenir program. The second advertisement is displayed on the teams field sign, also developed by the Air Quality Coordinator; the sign expresses the Air Quality Index Code with a website displayed for additional information. An appendix depicting flyers, brochures and displays is included in this report. This strategy has been fully implemented.

The adopting jurisdictions are Cumberland County, City of Fayetteville, Falcon, Godwin, Linden, Spring Lake, Stedman, and Wade.

Speakers Bureau

SIP Strategy Definition:

"Participation in radio/television programs to reach the general public with air quality information and tips, advertise meetings and involve the local newspapers and churches in disseminating information to increase public awareness and participation in implementing voluntary reduction strategies. It is believed that this strategy will lower NOx emissions.

Although the emission reductions are not currently quantifiable, this strategy is directionally correct."

- This strategy was implemented with the first regular Cumberland County Air Quality Stakeholders meeting on May 15, 2003 and is ongoing.

❖ Previous Updates: Air Quality Stakeholder meetings are ongoing. On March 24, 2005 the Planner Director gave an air quality presentation to the Cumberland County Business Council.

UPDATE: We continue to have speakers available for events/programs, to include interviews as part of High School projects. A partial list of events and dates are listed in the introduction. This strategy has been fully implemented.

The adopting jurisdictions are Cumberland County, City of Fayetteville, Falcon, Godwin, Linden, Spring Lake, Stedman, and Wade.

Air Quality Web Page

SIP Strategy Definition:

"Maintained and updated by FAMPO (Fayetteville Area Metropolitan Planning Organization). The site provides information on upcoming meetings, seasonal air quality tips, the Early Action Compact program and other relevant topics. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct."

- This strategy was implemented in March of 2003 and is ongoing.

❖ Previous Update: The air quality web page is updated on regular basis to maintain accurate information and links while becoming more users friendly. As an addition to the website we now include the AQI forecast information during ozone season. The page also includes links to other air quality websites, local air quality outreach material and past and previous winner to air quality contests that we hold.

UPDATE: In addition to currently updating the web site to maintain up-to-date information, the FAMPO home page includes a link to the NC Green Power Gift Card web page for the 2006-07 Holiday Season. This strategy has been fully implemented.

The adopting jurisdiction is Cumberland County for all participating agencies.

Promote Bus Ridership for Youth

SIP Strategy Definition:

"Fayetteville Area System of Transit (FAST) is promoting bus tours for children of all ages, educating them on how to use the transit system and the benefits of using transit

(including air quality and health issues). Various organizations have tours for groups (i.e. Boys and Girls Club) that include giving them free bus passes. It is believed that this strategy will lower NOx emissions by increasing future mass transit use and decreasing VMT. Although the emission reductions are not currently quantifiable, this strategy is directionally correct."

- The implementation of this strategy is ongoing.

❖ Previous Updates: This strategy is ongoing.

UPDATE: To continue encouraging youth ridership, the Transit Department takes youths on tours of the facilities and a bus ride through the city. To expand this effort to high schools, transit staff meets students at bus stops near the schools where they connect with public routes, and a major marketing campaign that will encourage students ridership during the summer is also being developed. Discussion for a shuttle service within Fayetteville State University is on-going.

The adopting jurisdiction is the City of Fayetteville.

Air Quality Educational System at the local libraries.

SIP Strategy Definition:

"Air Quality handouts and flyers are made available at all branches. Make available for children's summer program. It is believed that this strategy will lower NOx emissions by raising awareness. Although, the emission reductions are not likely quantifiable, this strategy is directionally correct."

❖ Previous Updates: Plans have been made to implement air quality awareness programs at every branch library in Cumberland County. These programs are aimed at educating children on air quality. We will kick off the programs with an informational booth at their end of the summer reading program celebration at the end of July, and the regular programs are scheduled to begin in August 2005 and will be ongoing. The Air Quality Coordinator along with a partner for DAQ organized and presented all 7 Cumberland County Library with the "Fresh Air" program. We have continued to have informational materials available at all the local libraries. We are scheduled to organize our annual display in August 2006 at the Headquarters library in Downtown Fayetteville.

UPDATE: The August 2006 library display was successful and have reserved the display area again for August 2007.

The adopting jurisdiction is Cumberland County for all participating agencies.

Air Quality poster/essay contest for schools.

SIP Strategy Definition:

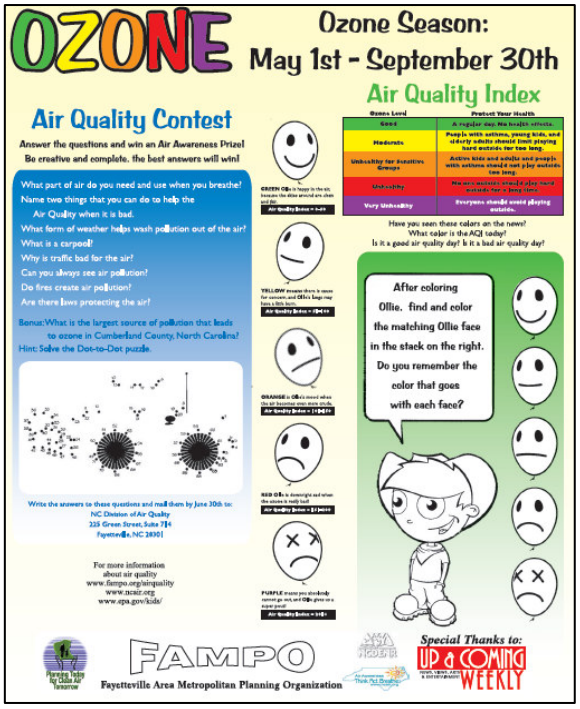
"Air Quality related contest to raise air awareness. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not likely quantifiable, this strategy is directionally correct."

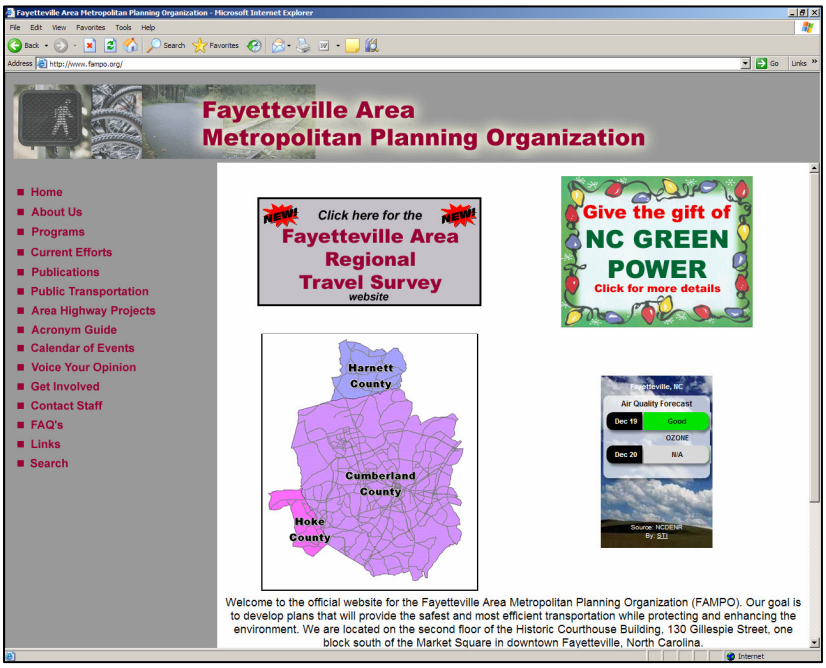
- Previous Updates: Poster and Essay Contests began in the fall of 2003 and have continued every year. The contests are open to all Cumberland County, Fort Bragg, and Pope AFB students grades K-7. These contests promote thinking about how air quality affects daily life. Monetary rewards are awarded. To expand participation we have advertised in Kidsville News!, at local events, and mailed personal letters to all Cumberland County principals. Submissions from the first contest have been created into a calendar for the 2005-2006 school years. The 520 calendars have been distributed to participants and used as educational material for other programs and displays. Submissions from the next two contests will be combined into an Air Awareness Book. We hope to put this book in the local community and state offices as educational material. We completed our second annual poster/essay contest for 2004-2005 school years. A calendar was created with the winning entries from the first poster contest, highlighting such days as ozone season and Air Quality Week. We are now making plans to conduct our third annual poster/essay contest for 2005-2006 school years. November 2005 we completed our third annual poster/essay contest. There are plans to construct an information air quality book, which will include some of the entries of the contest. The informational air quality book has been fully funded and is currently under construction. A coffee table book will be developed, to include the winning poster and essay contest winners for the past two years and additional air quality information. The coffee books will be distributed throughout the community.

UPDATE: The fourth annual poster/essay contest deadline for submission was November 29, 2006. Several local schools participated in the contest and in January 2007 the Air Quality Stakeholders will select the winners and monetary awards will be distributed. The final draft of the Coffee Table Book is complete and printing of 500 high quality books will take place prior to January 31, 2007. The Fayetteville Area MPO and the North Carolina Department of the Environment and Natural Resources will share the cost of printing.

The adopting jurisdiction is Cumberland County for all participating agencies.

Appendix A
Representative images of Activities



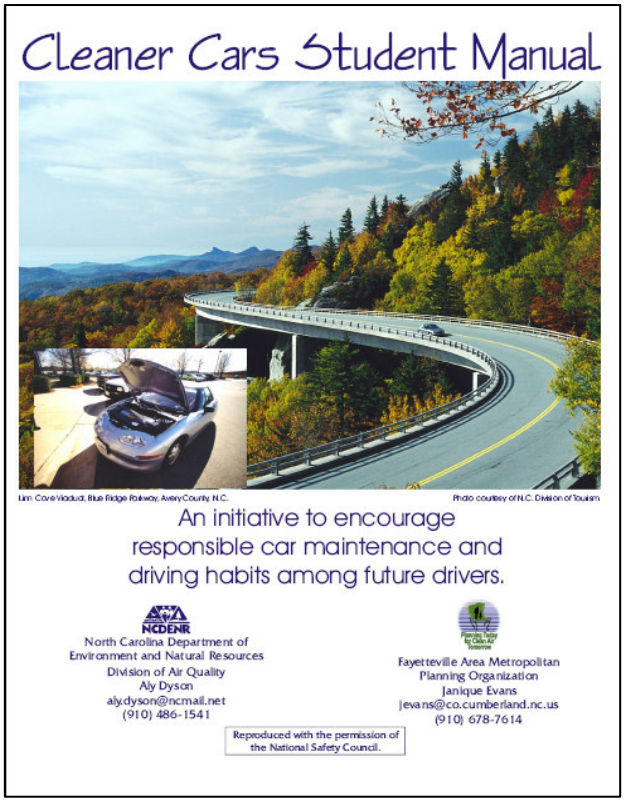


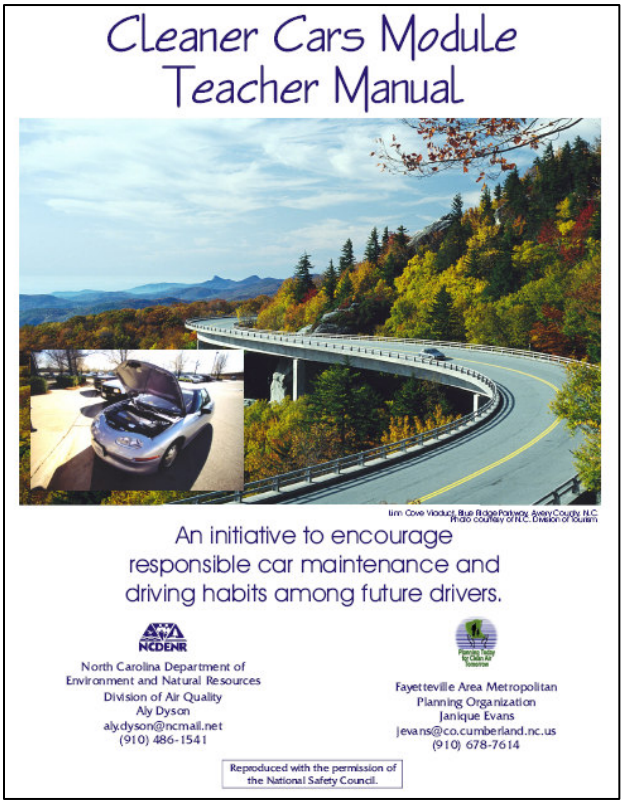
June 2006 issue of Kidsville News! Air Quality Page **FAMPO web site with NC Green Power Link**

Maria Scott, First Place Winner of the last Poster Contest – and winning entry (FAMPO staff photo)

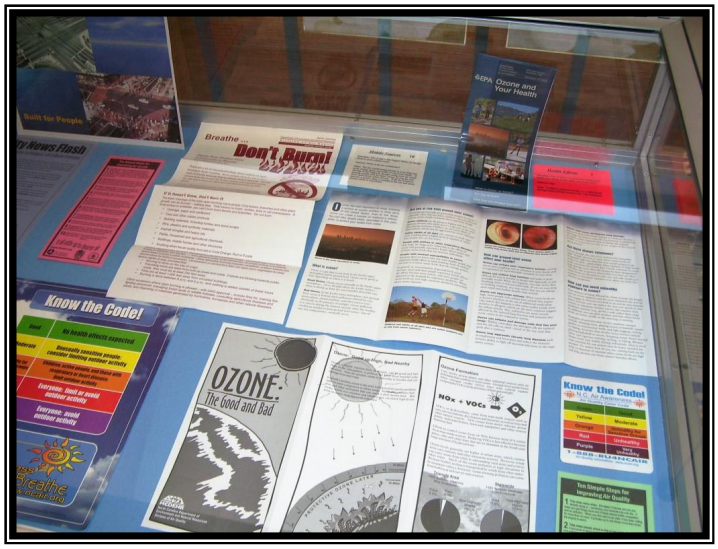
FireAntz Hockey Team Billboard

FireAntz Hockey Team Program page



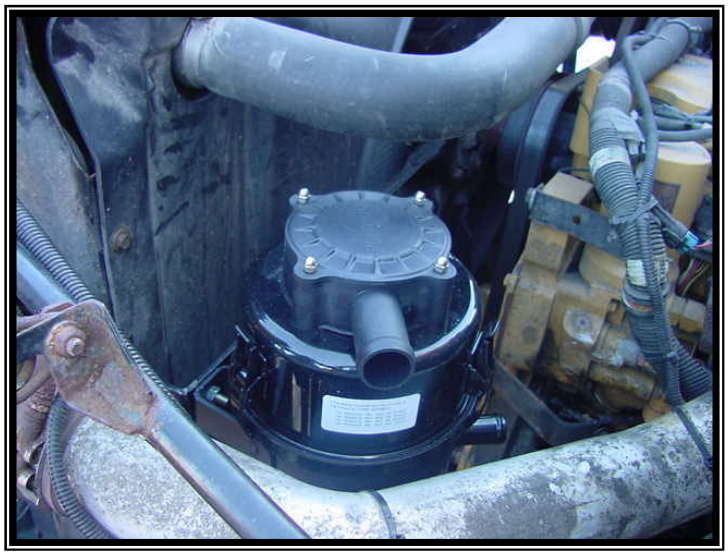


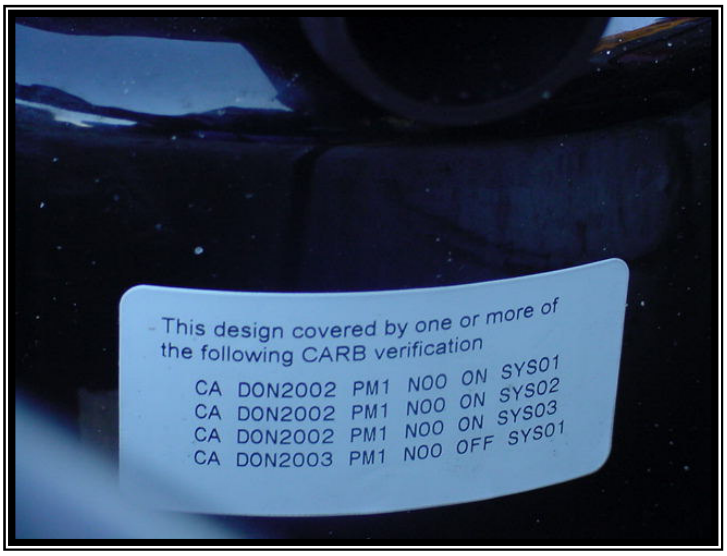
Library Program



Library Display

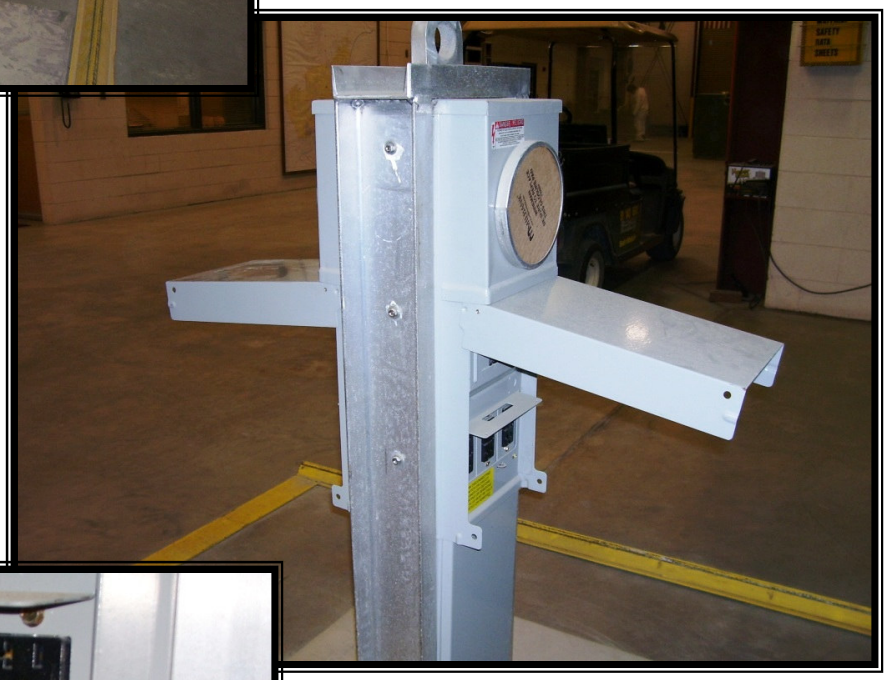
Cumberland County Fair Display





Crankcase Spiracle

Installation of Crankcase Spiracle



Electrical Outlets "Kiosk"

This Air Quality Report

Was compiled by the

Fayetteville Area Metropolitan Planning Organization

In Cooperation with

The Cumberland County Air Quality Stakeholders

The Air Quality Technical Committee

And

The North Carolina Department of the Environment and Natural Resources
Division of Air Quality

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