

## CHAPTER VIII AIR QUALITY

### 8.1- Purpose and Justification

The federal government adopted strict air standards in 1990 under the Clean Air Act (CAA) Amendment. ISTEA of 1991 served to combine air and transportation planning. For MPOs who are deemed non-attainment for air quality (non attainment areas are geographic areas that do not meet the federal air quality standards, by revised state implementation plan and transportation conformity requirements), a conformity determination is required for every LRTP and Transportation Improvement Program (TIP).

A state implementation plan (SIP) is established for non-attainment areas including a legally enforceable schedule of emission reductions to meet National Ambient Air Quality Standards; it establishes a motor vehicle emissions budget which establishes a maximum limit for transportation related emissions. In non-attainment and maintenance areas (areas that formerly violated but currently meet federal air quality standards) the Clean Air Act requires that MPOs take action to reduce emissions from on-road mobile sources. The C-PCMPO must demonstrate timely implementation of transportation control measures. To ensure accountability, federal transportation funds are withheld, if conformity between the LRTP or TIP and SIP cannot be demonstrated. If a conformity lapse occurs, only transportation control measures from the SIP and exempt emissions-neutral projects may proceed.

The C-PCMPO area is considered in compliance or in attainment with Federal air quality standards; however, particulates have been a concern within the region. The Environmental Protection Agency has responded to particulate levels by previously making preliminary motions in 2005 and 2006 to recommend that the region be assigned a non attainment status for particulate matter 2.5 (PM<sub>2.5</sub>). PM 2.5 refers to particulate matter with a diameter of 2.5 micrometers or less. Sources include coal fired power plants and carbon black plants and tire residue from traffic on the roadways.

However, after further examination of the air quality monitoring station data, it was determined that the region was not in non-compliance. However, our activities with air quality matters has been vigorous, from convening a group of concerned individuals from professional fields in the climate science, meteorological, business and transportation sectors under the umbrella of the Air Quality Alliance of the Chattahoochee Valley (AQACV). We work with the Georgia Environmental Protection Division (EPD) and Alabama Department of Environmental Management (ADEM) to stay current on air quality issues.

The C-PCMPO's air quality planning activities have fostered the development of programs and projects which will serve to improve air quality within the region, roadway network and identified congested locations (intersections and corridors) and proposed applicable alternative mitigation strategies for each of the priority locations. Additionally, the priority projects proposed for the 2035 LRTP Update are proposed to reduce congestion; decrease single occupancy vehicle reliance; and reduce emissions from on-road mobile sources of pollution.

### 8.2 - Air Quality Analysis

The key transportation-related pollutants are ozone precursors, carbon monoxide (CO), and particulates (PM-10 or PM-2.5 or particles smaller than 10 microns or 2.5 microns, respectively). The ozone precursors are pollutants that combine to form ground-level ozone, which in turn is part of smog. Ozone precursors are volatile organic compounds (VOCs) and nitrogen oxides (NOx). These pollutants all emanate in part from on-road mobile sources and cannot exceed certain specified levels in a given region.

The C-PCMPO is awaiting a final ruling from the U.S. Environmental Protection Agency on whether the region is meeting national air quality standards set for ground-level ozone. Columbus was on a watch list for non-attainment after slightly exceeding recently toughened criteria for ground-level ozone at 0.075 parts per million last year. The analysis was conducted by applying vehicle emission rates to the travel estimates from the regional travel demand model. The emission rates were applied to the forecasts of average daily VMT contaminant emissions.

Air quality plays a major role in metropolitan planning activities undertaken by the C-PCMPO. As such the C-PCMPO has put forth improvement strategies identified through the CMP and 2035 LRTP Update study efforts. A host of opportunities exist for reducing traffic congestion and improving air quality. Programs to educate the public on the health effects of air pollution and the relationship of transportation and the environment have been undertaken through the Air Quality Alliance for the Chattahoochee Valley with the Clean Air Campaign. These programs have provided a forum for discussing the role that transportation choices play in effecting our air quality, as well as spawned initiatives such as the anti-idling initiative and the Commuter Rewards campaign.

Voluntary transportation/air quality programs can also be considered. For example, the EPA suggests implanting vehicle retrofit programs. Through a diesel retrofit program, fleet owners are encouraged to convert to the use of alternative clean fuels and install pollution-reducing devices on vehicles.

### **8.3 - Climate Change and Greenhouse Gas (GHG) Emissions**

The Federal Highway Administration (FHWA) has determined that climate change should be integrated into transportation planning at the State, regional and local levels and appropriate steps be initiated to instruct and train MPO staff in sources and causes of Green House Gas emissions and consider potential long range effects by and to the transportation network:

"According to the FHWA report "Integrating Climate Change into the Transportation Planning there is general scientific consensus that the earth is experiencing a long-term warming trend and that human induced increases in atmospheric greenhouse gases (GHGs) may be the predominant cause. The combustion of fossil fuels is by far the biggest source of GHG emissions. In the United States, transportation is the largest source of GHG emissions, after electricity generation. Within the transportation sector, cars and trucks account for a majority of emissions.

Opportunities to reduce GHG emissions from transportation include switching to alternative fuels, using more fuel efficient vehicles, and reducing the total number of miles driven. Each of these options requires a mixture of public and private sector involvement. Transportation planning activities, which influence how transportation systems are built and operated, can contribute to these strategies. In addition to contributing to climate change, transportation will likely also be affected by climate change. Transportation infrastructure is vulnerable to predicted changes in sea level and increases in severe weather and extreme high temperatures. Long-term transportation planning will need to respond to these

Introduction to *Integrating Climate Change into the Transportation Planning Process*  
Federal Highway Administration, Final Report, July 2008

C-PCMPO staff will undergo training in climate change and GHG issues as guidelines are provided by State and Federal agencies and will become familiar with the conceptual framework as provided in FHWA's *Integrating Climate Change into the Transportation Planning Process Final Report, July 2008*. C-PCMPO Staff has designated a planner to serve as a spokesperson for climate change and prepare this person for interaction with the public, local government agencies and interested parties.

## 8.4 – Environmental Mitigation and Consultation Resources

Assessing the positive and negative impacts on environmentally sensitive areas and on environmental justice communities at the planning level is less quantifiable than other measures of effectiveness; instead the focus is on screening projects for potential impacts. SAFETEA-LU requires State transportation agencies to consult with other agencies in order to eliminate or minimize conflicts with activities that could impact or be impacted by transportation. Furthermore, transportation decision makers must take into account the potential environmental impacts associated with a transportation plan or plan update, in order to mitigate those impacts.

Mitigation, as defined by the National Environmental Policy Act (NEPA) is a three-level concept. The first level is *avoidance*, and for transportation agencies, this could be as simple as choosing an alternative that avoids a sensitive resource, such as an historic site or a wetlands area. The second level is *minimization*, which means that if avoidance is not possible, then the transportation agency takes action to minimize impact to the sensitive resource. For example, spanning a stream or wetlands area would have considerably less impact than re-channeling the stream or filling the wetlands. The third level is *mitigation*, which means impact to a resource can't be avoided. Examples here include recordation of a historic structure that must be demolished and compensation for filled wetlands by debits from a wetlands "bank."

A listing of resource and regulatory agencies whom would be invited to be actively involved in the consultation process concerning a proposed project are listed on the following page.

Georgia Dept. of Community Affairs  
60 Executive Park South  
Atlanta, Georgia 30329  
Phone: 404.679.4915  
<http://www.dca.state.ga.us/>

Georgia Dept. of Economic Development  
75 Fifth Street, NW, Suite 1200  
Atlanta, GA 30308  
Phone: 912.965.2782  
<http://www.georgia.org/>

Georgia Ports Authority  
P.O. Box 2406  
Savannah, GA 31402  
Phone: 800.342.8012  
<http://www.gaports.com>

Georgia Dept. of Natural Resources  
Suite 1252 East Tower  
2 Martin Luther King SE  
Atlanta, GA 30334  
Phone: 404.656.3500  
<http://www.gadnr.org>

Georgia Dept. of Natural Resources  
Historic Preservation Division  
34 Peachtree Street,  
Suite 1600  
Atlanta, GA 30303  
Phone: 404.656.2840 (Reception)  
404.651.5180 (Mgt & Info Unit)  
<http://www.gashpo.org>

Environmental Protection Division,  
of Georgia Dept. of Natural Resources  
Suite 1152, East Tower  
2 Martin Luther King, Jr. Drive,  
Atlanta, GA 30334  
Phone: 404.657.5947  
<http://www.gaepd.org>

Wildlife Resource Division,  
Georgia Dept. of Natural Resources Headquarters Office  
2070 U.S. Highway 278 S.E.  
Social Circle, GA 30025  
Fisheries: 770.918.6146  
Game: 770.918.6400  
Gen. Info: 770.918.6408  
Wildlife: 770.761.3035  
<http://www.georgiawildlife.org>

State Parks & Historic Sites,  
of Georgia Dept. of Natural Resources  
Suite 1352 East Tower  
2 Martin Luther King SE  
Atlanta, GA 30334  
Phone: 404.656.2770  
<http://www.gastateparks.org/>

Coastal Resources  
of Georgia Dept. of Natural Resources  
One Conservation Way  
Brunswick, GA 31520  
Phone: 912.264.7218  
<http://crd.dnr.state.ga.us/>

Georgia Dept. of Transportation  
One Georgia Center,  
600 Peachtree St. NW  
Atlanta, GA 30308  
Phone: 404.631.1990  
<http://www.dot.state.ga.us>

#### GIS Data Resources:

National Geospatial Data Clearinghouse - <http://clearinghouse1.fgdc.gov>  
Description: Over 250 spatial data servers with digital geographic data that can be searched through a single interface based on descriptions or metadata GIS

GIS Data Depot - <http://data.geocomm.com>  
Description: Library can be searched for data layers by state and county. Available layers include:  
Topographic Maps; Aerial Photos; Environmental/Natural Resource Maps; Floodplain Maps; Land Use Maps;  
National Wetlands Inventory Maps; Hydrograph Data; Transportation/Infrastructure Data

Geospatial One-Stop E-Gov Initiative - <http://www.geodata.gov/gos>  
Description: Layers available include those that depict Cultural, Society, and Demographic Data; Environment and Conservation; Land Cover; Natural Resources and Watersheds; Inland Water Resources;