Report to the Public 2005-2006

Colorado

Air Quality Control Commission

Colorado Department of Public Health and Environment

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of Public Health
and Environment

The Report to the Public is issued by the Colorado Air Quality Control Commission and prepared by the Air Pollution Control Division of the Colorado Department of Public Health and Environment,

4300 Cherry Creek Drive South
Denver, CO 80246, (303) 692-3108
Editor/Designer: Robert True

Statutory requirement for public report

Colorado Revised Statutes, Title 25, Health

25-7-105. Duties of the Commission

(4)(a) The commission and the state board of health shall hold a public hearing during the month of October of each year in order to hear public comment on air pollution problems within the state, alleged sources of air pollution within the state, and the availability of practical remedies therefor; and at such time the technical secretary shall answer reasonable questions from the public concerning administration and enforcement of the various provisions of this article, as well as rules and regulation promulgated under the authority of this article.

(5) Prior to the hearing required under subsection (4) of this section, the commission shall prepare and make available to the public a report which shall contain the following specific information:

(a) A description of the pollution problem in each of the polluted areas of the state, described separately for each such area;

(b) To the extent possible, the identification of sources of air pollution in each separate area of the state, such as motor vehicles, industrial sources, and power-generating facilities;

(c) A list of all alleged violations of emission control regulations which shows the status of control procedures in effect with respect to each such alleged violation.

Colorado Air Quality Control Commission

www.cdphe.state.co.us/op/aqcc/aqcchom.asp

Commissioner	Resident of:	Term expires:
Robert E. Brady Jr., *chair*	Lakewood	January 31, 2007
Garrett Clemons	Denver	January 31, 2009
Jim Evans	Grand Junction	January 31, 2007
Doug Lawson	Littleton	January 31, 2008
Robert Lowdermilk	Denver	January 31, 2008
Jim Martin	Longmont	January 31, 2009
Thor Nelson	Centennial	January 31, 2009
Chris Neumann, *secretary*	Denver	January 31, 2007
Cynthia Peterson, *vice chair*	Littleton	January 31, 2008

Douglas A. Lempke, Technical Secretary

Theresa Martin, Program Assistant

STATE OF COLORADO

Bill Owens, Governor
Doug Benevento, Executive Director

COLORADO AIR QUALITY CONTROL COMMISSION
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Colorado Department
of Public Health
and Environment

October 1, 2006

Dear fellow Coloradoan,

The Colorado Air Quality Control Commission is pleased to report that July 2005 through June 2006 was a very good year for air quality in Colorado. There were no violations of federal or state air quality standards. We did see some high levels of dust in the southwest quadrant of the state this last spring due to wind, a natural event that does not count as a violation. The Denver metropolitan area recorded some elevated levels of ozone, but managed to maintain compliance with the three-year average standard for that pollutant.

This report summarizes the air quality management programs, the information collected and the current state of our air quality.

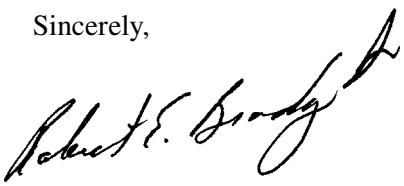
The commission is the state agency responsible for adopting new and revising current regulatory programs to provide appropriate protections for air quality in Colorado. The commission consists of nine governor-appointed and senate-confirmed citizens with varied backgrounds. We act to protect and improve air quality through both regulation and formal commitments to the U.S. Environmental Protection Agency that improve and maintain the quality of our air.

Colorado's air quality management program regulates air pollutant emissions from individual cars and light-duty trucks, electric power generation, stationary industrial sources (large and small), woodburning, street sanding and sweeping activities, and the use of prescribed fire. The regulatory program also evaluates and controls visibility, odor, and transportation planning impacts to future air quality.

During the past year, the commission reduced programs no longer needed to protect air quality, continued to refocus programs to be more effective and adopted new programs to help improve air quality. Wintertime oxygenated gasoline is no longer relied upon to ensure long-term compliance with the national standard for carbon monoxide. Therefore, oxygenated gasoline has been removed from the federal State Implementation Plan, but is still required under state regulation. The commission is working with the Air Pollution Control Division to focus the Denver-metropolitan car and light-duty truck emission inspection program on dirtier, high-emitting vehicles instead of imposing a mandatory program on all vehicles more than four years old. The commission also established a Best Available Retrofit Technology process for evaluating emission reduction controls at industrial facilities as a first step in a plan to improve visibility in our national parks and wilderness areas in Colorado.

I encourage you to attend the monthly commission meetings and express your views on these and any other issues. Commission meetings typically are conducted on the third Thursday of each month and may extend into the next day. Agendas, minutes and more information are available on our web site: www.cdphe.state.co.us/op/aqcc/aqcchom.asp.

Sincerely,



Robert E. Brady, Jr.
Chairman

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Air Quality Overview

Denver's early economy was fueled by wood, coal and oil. In 1877, six coal-fired railroads operated through Denver. Smoke stacks were accepted as the price of prosperity. Smoke was evidence of the energy that was building the area's economy, and oily soot was considered a small price to pay. For almost a century soot and smoky air in the Denver area were considered normal.

By the 1950s, the use of coal as a home heating source was replaced by natural gas. Nationally, scientists and health authorities were beginning to recognize the impact from air pollution.

By 1960, definite improvements had occurred in Denver's air. Smoke and soot were reduced noticeably and people began to realize that improvements could be made. Motor vehicle and power plant emissions were recognized as uncontrolled sources where significant reductions could be made.

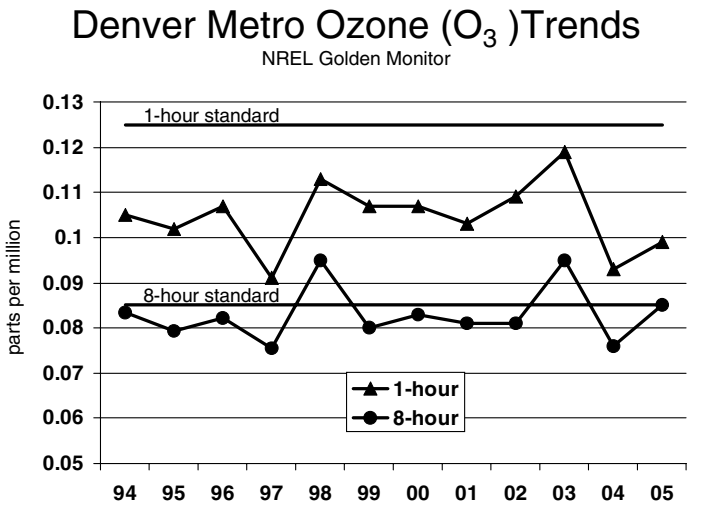
The 1970 Clean Air Act was the beginning of the nationwide effort to markedly improve the health of citizens and the environment by improving the nation's air quality. In Colorado, the 1970 Air Pollution Control Act created the Air Quality Control Commission, which adopted the state's first air quality regulations.

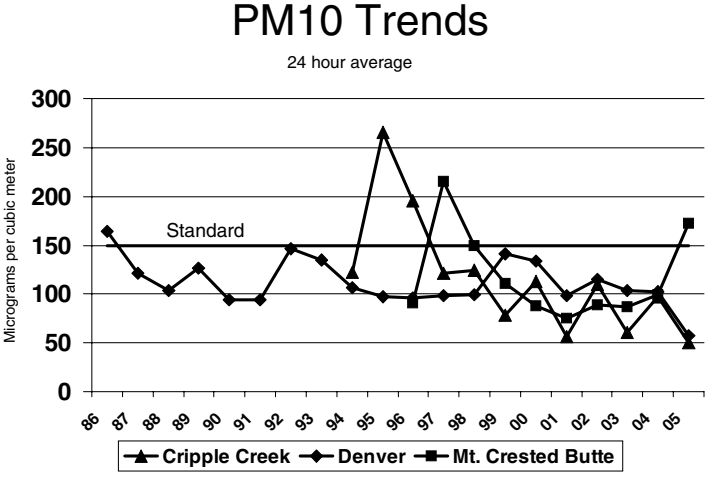
In 1975, Denver had 177 days in which its air was in "unhealthful" categories, ranking second behind Los Angeles. High pollution areas of the state were designated "nonattainment" with the U.S. Environmental Protection Agency's National Ambient Air Quality Standards (NAAQS). The commission instituted measures to reduce pollutant levels to meet the standards.

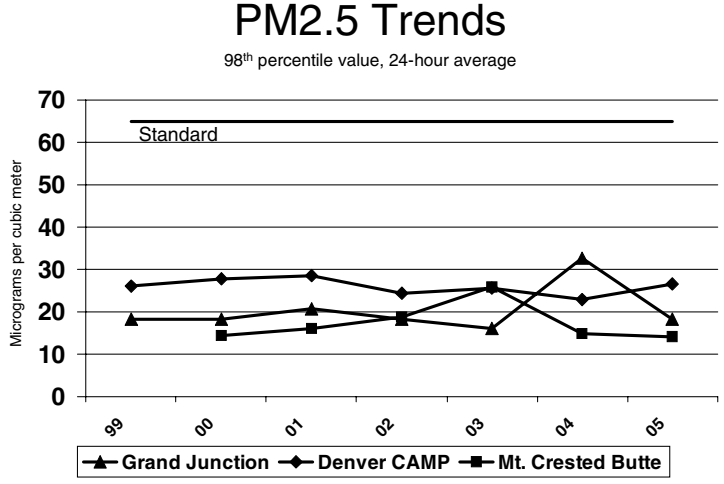
By 2002, Colorado had accomplished a milestone when the U.S. Environmental Protection Agency redesignated the Denver area as "in attainment/maintenance." Denver was the first urban area in the nation with numerous violations to be redesignated to attainment status.

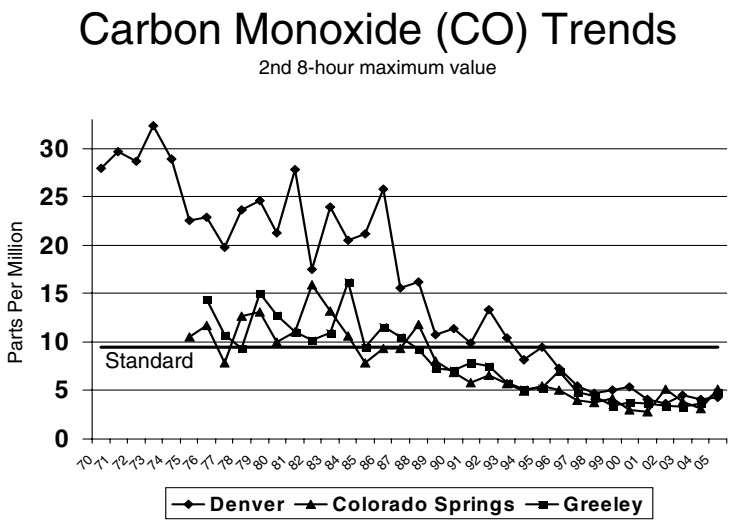
Credit for this achievement should go to those who helped make it occur, including

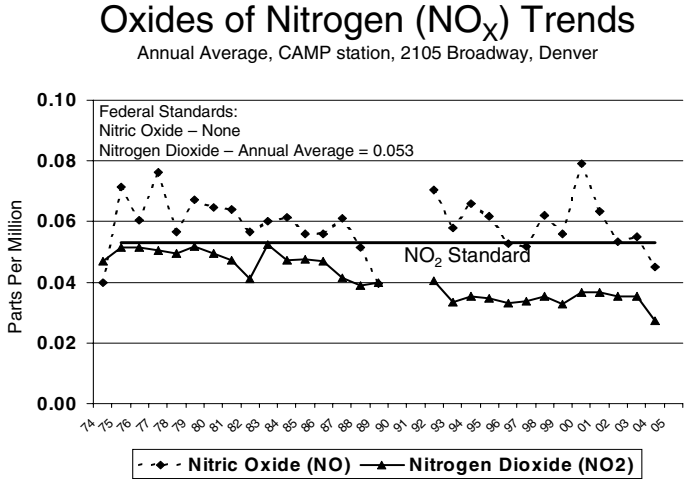
- automobile manufacturers who improved the emissions control systems on their vehicles;
- drivers who kept their vehicles well maintained and in good repair to pass the emissions test;
- the businesses and industries that installed and maintained emissions control equipment;

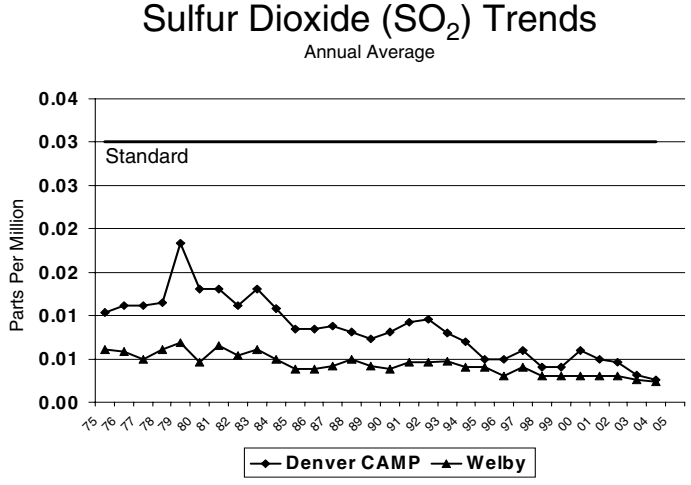












- the homeowners who have cooperated with residential burning control programs;
- those who have participated in voluntary programs to improve air quality; and,
- municipalities and agencies that have reduced road sanding and improved street sweeping.

Ozone

Ozone has been the most persistent pollutant in the Denver area. As recently as the summer of 2003 ground-level ozone readings violated the U.S. Environmental Protection Agency's new 8-hour ozone standard. The commission adopted an Ozone Action Plan in 2004 that includes control measures to keep the area in compliance with ozone standards.

Through mid-summer 2006 no violations of the ozone standard had occurred, though there had been several days when ozone reached relatively high levels. The standard is a 3-year average, so elevated ozone levels this year may make it more difficult to remain in compliance in 2007.

Ground-level ozone should not be confused with natural ozone high in the atmosphere. Stratospheric ozone protects the earth from the sun's ultraviolet rays. Ground-level ozone is a summertime pollutant formed when volatile organic compounds and nitrogen oxides mix and react in the presence of sunlight. Ground-level ozone is a lung irritant.

Other Pollutants

The carbon monoxide standard has not been violated since 1995. Carbon monoxide deprives the body of oxygen.

No violations of the coarse particle (PM10) standard have occurred since 1993. PM10 can reduce lung function and cause respiratory problems. In the Denver area most PM10 is caused by dust from roads. Increased street sweeping and the use of alternative deicers as a substitute for road sanding have reduced particulate concentrations.

No exceedances of the federal health-based fine particle (PM2.5) standard have occurred since monitoring began in 1999. The majority of these particles are generated from motor vehicle exhaust, both on- and off-road vehicles. The particles can be inhaled deeply into the lungs and can cause damage to the respiratory system. Fine particles also degrade visibility and largely are responsible for urban haze.

Causes of ozone pollution in Colorado

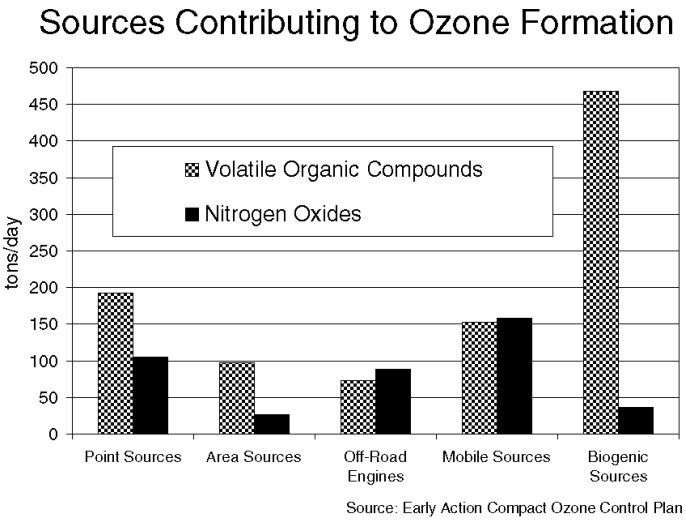
Ozone pollution is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx) react in the presence of sunlight. Emissions from motor vehicles, industry and even vegetation contribute to ozone formation.

Ozone can cause breathing difficulties and respiratory infections in the elderly, the young and those with pre-existing ailments such as asthma. Even healthy people who exercise or work outdoors can experience respiratory effects from ozone.

Ozone is colorless and odorless at ambient concentrations. In the upper stratosphere, ozone helps protect the earth from ultraviolet radiation.

The highest ground-level ozone concentrations occur in the summer when sunlight is more intense and meteorological conditions are more stagnant. Hot, still days can result in reactive pollutants forming a coherent mass of ozone that stays in the area for several days.

The Denver-metropolitan area experienced ozone pollution problems during 1998 and 2003, and has developed an Ozone Action Plan to reduce ozone levels.



Point Sources: Emissions that come from a stationary source such as factories and industrial sources and oil and gas production sites.

Mobile Sources: On-road motor vehicles.

Off-Road Engines: Lawn and construction equipment, off-road vehicles, locomotives, airplanes, etc.

Area Sources: Emissions that do not include point or mobile sources.

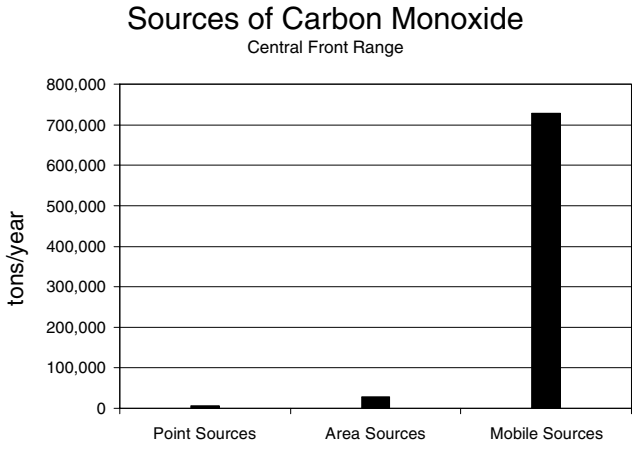
Biogenic Sources: Naturally occurring emissions from vegetation, including trees, plants and crops.

Sources of carbon monoxide pollution in Colorado

Carbon monoxide is produced primarily during the incomplete combustion of fuels used for transportation and heating. It is the largest single fraction of pollutants found in urban atmospheres. About 90 percent of carbon monoxide in the Denver area comes from motor vehicles. Other sources are woodburning stoves and fireplaces, aircrafts and locomotives, construction equipment, power plants and space heating.

In Denver, the daily concentration peaks are after morning and evening rush hours. The worst problems occur where slow moving cars congregate. The problem is more severe in winter when cold weather causes engines to run less efficiently and meteorological conditions trap pollutants near the ground.

Denver has not violated the carbon monoxide standard since 1995. Carbon monoxide has continued to decrease as a result of cleaner motor vehicles and residential burning regulations.



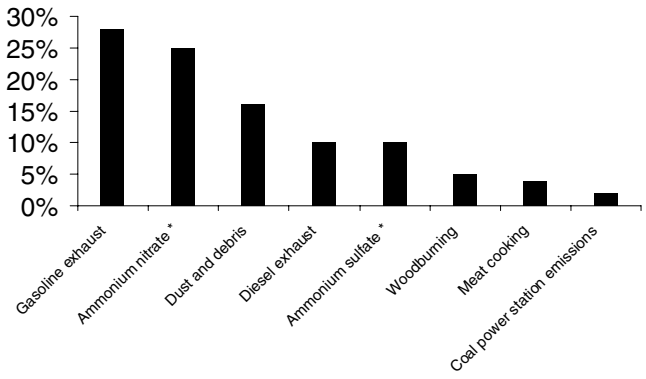
Point Sources: Emissions that come from stationary sources such as factories and industrial sources.

Mobile Sources: Both on- and off-road motor vehicles and any engines that are mobile and give off emissions.

Area Sources: Emissions that come from a broad area that do not include point or mobile sources, including emissions from heating, woodburning fireplaces, forest fires and controlled burns.

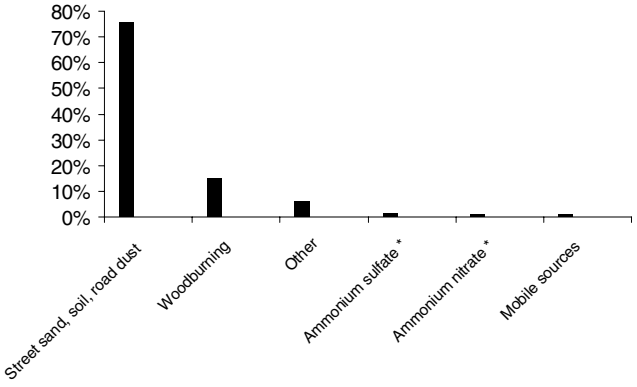
Sources of particulate matter pollution in Colorado

Denver PM2.5 Contributions



This chart represents average source and chemical contribution to the 24-hour average PM2.5 concentration at a north Denver area monitoring station during the winter.

PM10 Contributions
Typical Mountain Community



This chart represents typical source and chemical contributions to PM10 during a high pollution day in the winter. Data are averaged from studies of five mountain communities in Colorado.

PM2.5

PM2.5 is composed of a mixture of particles directly emitted into the air and particles formed in the air by the chemical transformation of gaseous pollutants. This chemical transformation principally leads to ammonium sulfate and ammonium nitrate formed in the air from gaseous emissions of sulfur dioxide (SO2) and oxides of nitrogen (NOX) reacting with ammonia. The main source of SO2 is combustion of fossil fuels in boilers, and the main source of NOX is combustion of fossil fuels in boilers and motor vehicles. Some secondary particles also are formed from semi-volatile organic compounds which are emitted from a wide range of combustion sources.

PM2.5 particles have an aerodynamic diameter of 2.5 microns or less. A micron is approximately one-seventh the width of a human hair. Particles this small can be inhaled deeply into the lungs where they can damage tissue and lead to lung cancer and other respiratory diseases. PM2.5 also results in visibility degradation and haze.

PM10

PM10 refers to particulate matter that is 10 microns in diameter or smaller. The particles, consisting of solid or semi-solid material suspended in the atmosphere, are created from road dust, automobile and diesel engine exhaust, soot, and sulfates and nitrates from combustion sources.

The dust portion of PM10 includes windblown sand and dirt from roadways, fields and construction sites. Man-made particulates are created during the burning of fuels associated with industrial processes or heating. These particles include fly ash from power plants, carbon black from automobiles and diesel engines, and soot from fireplaces and woodstoves.

When inhaled deeply into the respiratory system, PM10 can affect lung and heart function, and weaken immune system defenses. The environmental effects of PM10 range from visibility degradation to climate changes and vegetation damage.

* Ammonium nitrate and ammonium sulfate are formed in the atmosphere through chemical reactions as opposed to being emitted directly into the air. The North Front Range Air Quality Study (www.nfraqs.colostate.edu) concluded that the majority of ammonium nitrate is caused by motor vehicles, and three-fourths of sulfur dioxide, a precursor to ammonium sulfate, comes from coal-fired power stations.

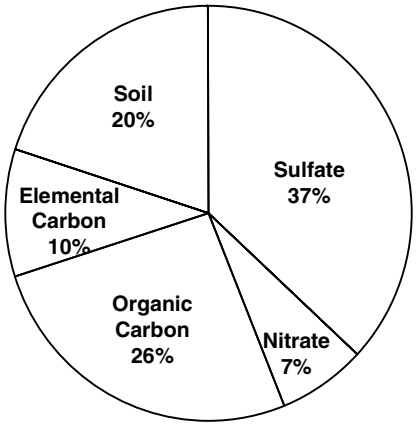
Sources of regional haze in Colorado

Regional haze is a term for the veil of white or brown haze that obstructs vistas in many parts of the country, including areas of Colorado. The haze is caused by fine particles including sulfates, carbon, soils and nitrates. These particles are produced by power plants, industrial sources, motor vehicles, fires, and windblown dust and dirt. The particles are carried by the wind, sometimes for hundreds or even thousands of miles (in the case of transcontinental transport of pollutants).

In our nation's scenic areas, the visual range has been reduced substantially by air pollution. In the West, visual range has decreased from an average of 140 miles to 35-90 miles, according to the U.S. Environmental Protection Agency (EPA).

The Colorado Air Quality Control Commission adopted a planning process in 2004 to meet the requirements of the 1999 federal Regional Haze Rule. In response, the Air Pollution Control Division is developing a Regional Haze State Implementation Plan to meet the EPA's 2008 deadline. The process requires a detailed analysis of regional haze for 12 wilderness areas and national parks in Colorado that have been designated "Class I" for visibility protection by the EPA. The process also requires the establishment of reasonable progress goals for each of these areas, and a plan that demonstrates how the first phase of goals will be met by 2018. A major part of the federal rule requires improved emissions controls on certain types of major industrial sources of regional haze. These emissions controls are known as Best Available Retrofit Technology, or BART. The ultimate goal of the federal Regional Haze Rule is to achieve "natural conditions" for visibility by 2064 in all Class I Areas.

Makeup of fine particles in haze in rural Colorado Class I areas



Source: IMPROVE Report

The Air Pollution Control Division has completed a draft section of the Regional Haze Plan that details the technical analysis of the visibility problem for these areas. The draft and other materials can be viewed at the division's website at www.cdphe.state.co.us/ap/regionalhazeplan.html.

Sources of air toxics in Colorado

Air toxics, also known as hazardous air pollutants or HAPs, are a legal category of pollutants separate from the six criteria pollutants for which National Ambient Air Quality Standards have been set. While no standards have been set for air toxics, EPA has identified 33 "priority" air toxics, which are found in many urban and/or high-vehicle traffic areas.

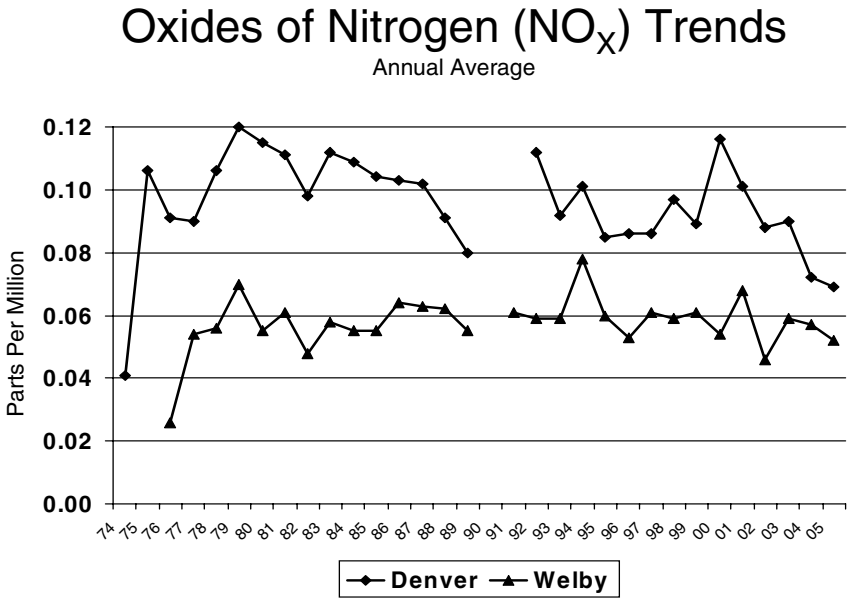
Sources of HAPs include automobile exhaust, power plants, refineries, gas stations, and many industrial and home-use solvents, coatings, material preservatives and other chemicals.

The EPA and states are monitoring levels of air toxics, and evaluating their sources and potential control measures.

Colorado Department of Public Health and Environment staff are completing a risk assessment of air toxics at five sites in Colorado, including three sites in Denver and two in Grand Junction.

In addition to monitoring and inventory work, the Air Pollution Control Division works to reduce air toxics emissions through a variety of programs, including requiring fees for such emissions from stationary sources; automobile inspection and maintenance programs; and the Mercury-free Colorado program. A new effort to expand diesel school bus retrofitting statewide also is in development.

NOx pollution contributes to ozone, haze



Nitrogen oxides (NOx) is the generic term for a group of highly reactive gases that contain nitrogen and oxygen in varying amounts. NOx play a major role in the formation of ozone, particulate matter, haze and acid rain.

Ninety-five percent of NOx are made up of Nitrogen dioxide (NO2) and nitric oxide (NO). NO2 is a reddish brown, highly reactive gas that is formed in the ambient air through the oxidation of NO.

Reductions in emissions of NOx in some cases can lead to an increase in ozone. This is due to the complex chemistry of ozone formation. In the immediate vicinity of the NOx emissions, NO scavenges ozone. However, the NO2 that is formed can photolyze and reform ozone further downwind.

The major sources of man-made NOx emissions are high-temperature combustion processes such as those that occur in automobiles and power plants. Home heaters and gas stoves can also produce substantial amounts of NO2 in indoor settings.

Health and Environmental Effects

NOx react in the air to form ground-level ozone and fine particle pollution, which are associated with adverse health effects.

NOx contribute to a wide range of environmental effects directly and when combined with other precursors in acid rain and ozone.

Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). NOx also contribute to visibility impairment.

Trends in NO2 Levels and NOx Emissions

NOx are monitored at two sites in Colorado: downtown Denver's CAMP station and in Welby just north of Denver. Monitoring results show no significant trend in NOx since monitoring began in 1974, though NO2 shows a downward trend in Colorado (see additional graph on page 2).

Nationally, monitored levels of NO2 have decreased 21 percent. Nationally, average NO2 concentrations are well below the NAAQS and currently are at the lowest levels recorded in the past 20 years. During the past 20 years, national emissions of NOx have declined by almost 15 percent.

Colorado's air quality management plans

During the 1970s and 1980s, the U.S. Environmental Protection Agency (EPA) designated many Colorado cities and towns as nonattainment areas because the areas violated nationwide air quality standards. By the mid-1990s, all these areas came into compliance with the various standards. All areas have been redesignated.

The redesignations are made possible by cleaner air, and through development and implementation of air quality management plans known as State Implementation Plans or "SIPs." These plans describe the nature of the air quality problems and the probable causes. The plans show projections of future pollutant levels and identify strategies to reduce these pollutants to acceptable levels.

1-Hour Ozone Attainment Area

Location	Year of Redesignation by EPA
Denver	2001

Ozone Early Action Compact Plan

Location	Year of Approval by EPA
Front Range Ozone Area	2005

Nitrogen Oxide Attainment Area

Location	Year of Redesignation by EPA
Denver	1984

Lead Attainment Area

Location	Year of Redesignation by EPA
Denver	1984

Carbon Monoxide Attainment Areas

Location	Year of Redesignation by EPA
Colorado Springs	1999
Denver	2002
Fort Collins	2003
Greeley	1999
Longmont	1999

PM10 Attainment Areas

Location	Year of Redesignation by EPA
Aspen	2003
Cañon City	2001
Denver	2002
Lamar	2005
Pagosa Springs	2001
Steamboat Springs	2004
Telluride	2001

Colorado Air Quality Control Commission

www.cdphe.state.co.us/op/aqcc/aqcchom.asp

The Colorado Air Quality Control Commission is responsible for developing and adopting a regulatory program to protect and improve air quality in Colorado. Typically, the commission is involved in the maintenance of the regulations through modification and revision. Much of the air quality management program currently is in place and has been adopted over time. New programs occasionally are considered by the commission.

The commission oversees the implementation of the air quality programs. The commission is responsible for hearing appeals of the Air Pollution Control Division's implementation of the programs through permit terms and conditions and enforcement actions.

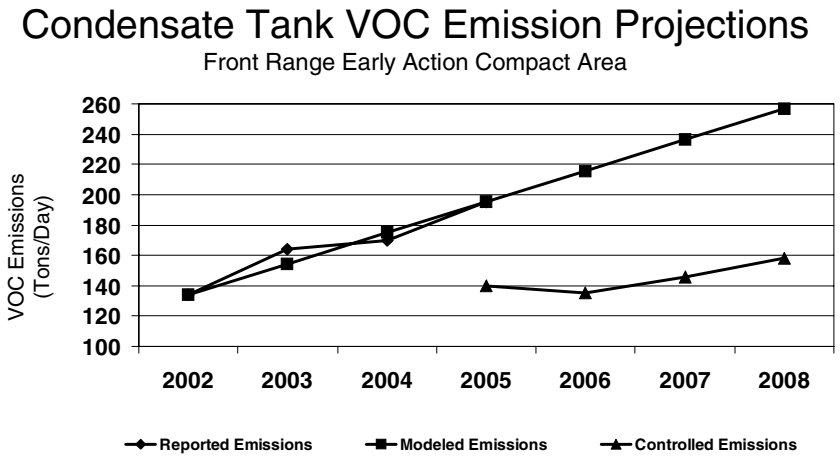
Colorado's air quality management program regulates air pollutant emissions from stationary industrial sources, cars and light duty trucks, burning practices, street sanding and sweeping activities, and the use of prescribed fire.

The air quality program also is focused on visibility, odor and transportation planning impacts to future air quality.

Commission meetings typically are conducted on the third Thursday of each month and may extend into the next day. The commission encourages members of the public to attend these meetings and express their views.

Air quality impacts from oil and gas development in Colorado

Colorado's oil and gas production has increased substantially during the past few years. These operations produce air pollutant emissions that contribute to the formation of ground-level ozone. The Air Pollution Control Division has proposed additional emission control requirements to help ensure long-term compliance with the national standards for ozone in the Front Range region and prevent elevated levels of ozone from occurring throughout the state.



Growth in Oil and Gas Industry

The number of active oil and gas wells in Colorado stood at 30,126 in June 2006, up from about 26,000 wells in June 2004, according to data from the Colorado Oil and Gas Conservation Commission. The number of drilling permits issued in 2006 is 22 percent ahead of last year's rate. Garfield County on the Western Slope and Weld County northeast of Denver are the two most active counties in the state in numbers of permits issued.

In a nine-county area in Colorado's Front Range, active wells have increased 20 percent from 1999 to 2006. This area is a federal ozone control area due to elevated ground-level ozone levels monitored in recent years. The State of Colorado entered into an agreement in December 2003 with the U.S. Environmental Protection Agency and local government agencies to control ozone in this nine-county area (Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer and Weld). The agreement is called the Ozone Early Action Compact, and includes an Ozone Action Plan to limit the emissions of ozone precursors from a variety of source sectors to ensure the area remains in compliance with the national standards for ozone.

There are many different source sectors and many different pollutants that contribute to the formation of ozone. The Ozone Action Plan focuses on reducing the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx). In the nine-county Front Range region new requirements for oil and gas operations will focus on further reducing the emissions of these pollutants with the primary focus on control of VOCs. In other areas of the state new requirements for the oil and gas development industry will focus on both VOCs and NOx.

While much of the ground level ozone in Colorado is transported here from outside the

continued on next page

state, we must do what we can to ensure that we comply with the national standard for ozone.

Developing the Proposed Regulatory Changes

The Air Pollution Control Division began the process to develop proposed changes to the requirements of Regulation Number 7 early in 2006. The division sponsored several open public meetings that included participation by members of the regulated community, state and federal agencies, local government, environmental interest groups, and other members of the public.

These public meetings were held to explain issues with ensuring long-term compliance in the nine-county area, provide opportunities for the public to comment on how best to approach emissions reductions from a variety of source sectors, and to discuss the division's proposal to make the emission reductions.

The division has proposed that VOC storage tanks that emit 11 tons per year or more in the nine-county Front Range ozone control area and 20 tons per year or more for the remainder of the state be required to control or reduce 95 percent of their VOC emissions. Control devices such as flares to combust the emissions, vapor recovery devices to reclaim lost product or other control devices approved by the Air Pollution Control Division will be used to reduce these emissions.

There are 2,246 storage tank batteries that meet the 11 tons per year threshold in the nine-county area, of which about half already have installed the necessary controls. The division also has proposed emission controls to reduce the emissions of NOx in both the nine-county area and statewide.

The commission has opened a public comment period on the division's proposal and will hold a public rulemaking hearing at its November 2006 regular monthly business meeting to formally consider the comments and take action.

Vehicle emissions inspection program

The following is a summary of the automobile Inspection and Maintenance Program for 2005. A more detailed report can be requested by calling (303) 692-3125 or viewed on-line at: www.cdphe.state.co.us/ap/down/IMreport.pdf.

The automobile Inspection and Maintenance (I/M) Program's purpose is to reduce motor vehicle-related pollution through the detection and repair of high-emitting vehicles. Motor vehicles are a major source of pollution and a predominant source of carbon monoxide.

Program Requirements

Emissions testing of gasoline vehicles is required when registering, renewing registrations, or selling vehicles more than three model years old, within the I/M Program areas in ten counties along Colorado's Front Range.

Two types of vehicle emissions tests are utilized. Inspection and Maintenance 240 (I/M240) is for 1982 and newer vehicles in the Denver area. I/M240 utilizes a test on a treadmill called a dynamometer, which places the vehicle under load to simulate actual driving conditions. The other test is a two-speed tailpipe idle test. Denver-area vehicles older than 1982 are subject to the idle test.

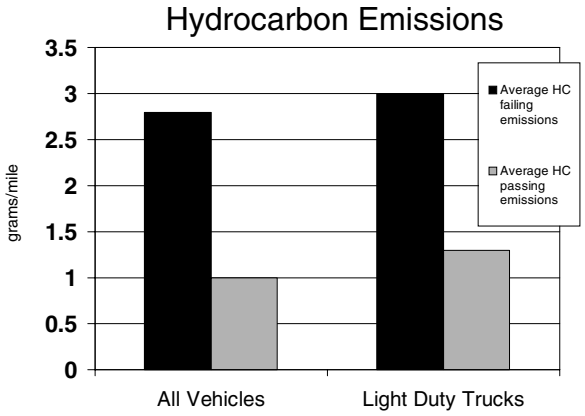
In February 2005, the Air Quality Control Commission voted to discontinue the idle test in Larimer, El Paso and Weld counties beginning January 1, 2007. Those areas have been in compliance with the carbon monxide standard for many years.

Program Results

Vehicles in the Denver program area had a failure rate of 5.1 percent for the I/M 240 test and 12.8 percent for the idle test. The rate of failure in the basic program areas of Larimer, El Paso, and Weld counties was 8.6 percent. The net cost of the total program during 2005 is estimated at $38.2 million. Estimates of the cost-effectiveness of the Denver area program range from $200 to $700 for each ton of carbon monoxide eliminated. Colorado measures less than one-third of the carbon monoxide standard.

The Colorado Air Quality Control Commission estimates a carbon monoxide reduction benefit of 10 to 16 percent from I/M depending on the methodology used.

Data indicate that repairs to failing vehicles significantly reduced the emissions of hydrocarbons, a group of pollutants that contribute to ground-level ozone pollution. There is a 64 percent reduction in the amount of hydrocarbons emitted by all repaired vehicles.



To improve motorist convenience, the state administers a remote sensing program in the North Front Range area. In 2005, 16,041 vehicles were screened and received I/M passes in the Denver-metropolitan and North Front Range areas, which was up from 1,500 screened and passed in 2004. This number should continue to increase in future years.

Future Changes

Legislation passed in 2006 provided impetus to find successful solutions to motor vehicle emission controls with a minimum impact on the public. HB06-1302 mandates the increased use of remote sensing, including a high-emitter identification program in the Denver-metro area. A plan implementing the program will be presented to the Air Quality Control Commission in December 2006 that will include an expanded remote sensing program in Denver. The program currently identifies clean vehicles and screens them out of the traditional inspection program. The expanded program, when implemented, will also identify high-emitting vehicles and make sure those vehicles are repaired or removed from the fleet of Denver area vehicles.

Implementing effective air quality programs

The Air Pollution Control Division

www.cdphe.state.co.us/ap/aphom.asp

The Air Pollution Control Division is responsible for implementing the air quality management programs adopted by the Air Quality Control Commission and acts as staff in the regulatory development process. The division is housed within the Colorado Department of Public Health and Environment. This section of the report includes a description of each of the air quality management programs and highlights of recent work.

Mobile Sources

- Automobile Inspection and Maintenance Program
- Alternative Fuels
- RapidScreen Program
- Diesel Emissions Control
- Oxygenated Gasoline Program

The Mobile Sources Program is involved in controlling emissions from motor vehicles. The program evaluates and investigates strategies aimed at reducing vehicular emissions, and conducts research, modeling and planning on the causes and effects of mobile source air pollution.

The staff jointly administers the Automobile Inspection and Readjustment program with the Colorado Department of Revenue, and administers two diesel inspection and maintenance programs.

The group also manages the oxygenated gasoline program in Denver and the north Front Range in winter months. The program was phased out in Colorado Springs in 2000 due to improved air quality.

The Mobile Sources Program's Aurora Vehicle Emissions Technical Center conducts nationally-recognized vehicle emissions testing in support of the program's strategies and in support of the U.S. Environmental Protection Agency's vehicle testing programs.

Since May 2002, a program using remote sensing has been screening out clean vehicles in Larimer and Weld counties from the traditional inspection and maintenance inspection. The program transitioned to the Denver area in 2003.

Planning and Policy

- Emissions Program Public Information
- Community-Based Air Quality Protection
- Environmental Education
- High Pollution Advisory Program
- Natural Events Action Plan
- Nonattainment/Maintenance Air Quality Planning
- Pollution Prevention
- Transportation Planning

The Planning and Policy Program is responsible for a cross-section of air quality planning, policy, education and community outreach tasks. Included among the program's responsibilities are: air quality plan development and implementation; assisting in the development of transportation conformity analysis; participating in air-quality-related transportation planning; policy development; community-based environmental protection; pollution prevention; public information; and air quality education in schools.

Stationary Sources

- Asbestos Control Program
- Chlorofluorocarbon Program
- Construction Permit Program
- Field Services Program
- Hazardous Air Pollutants
- Indoor Air Quality
- Lead Based Paint Abatement Unit
- Operating Permit Program
- Regulatory and Compliance Assistance Program
- Burning Controls

The Stationary Sources Program evaluates and develops permits for stationary sources such as gas stations, dry cleaners, auto finishers, industries, mining operations and construction projects. Staff members inspect these sources to determine their compliance with regulations and permit conditions, and maintain a computerized inventory of air pollution emissions in Colorado. The program controls open burning, regulates asbestos removal and demolition activities, reviews school asbestos management plans, and implements a residential burning program to ensure that emission standards are met.

More than 6,000 sources are registered in Colorado, and the Stationary Sources Program administers an inventory of sources and permit conditions to ensure federal and state regulations are met. In recent years, greater emphasis has been placed on compliance assistance, support to small businesses and pollution prevention as key tools to ensure stationary sources remain in regulatory compliance.

Technical Services

- Ambient Air Monitoring
- Modeling, Meteorology and Emission Inventory Unit
- Visibility Program

The Technical Services Program is responsible for the collection and analysis of ambient air quality data throughout the state. Particulate and gaseous monitors are operated in many Colorado communities to keep track of air quality trends, population exposure to pollutants and compliance with air quality standards.

The program also is responsible for providing complex air quality modeling analysis to determine the impacts various sources of air pollution will have on air quality. These models are used to create and evaluate air pollution control strategies for State Implementation Plans which were developed for areas of the state that did not meet federal health-based air quality standards. The modeling provides a basis for health risk assessments.

The program manages the state's visibility program, which works to protect visual air quality in both urban and rural areas, including national parks and wilderness areas.

The program maintains real-time and historic air quality data on the Internet at http://apcd.state.co.us/psi/.

Air quality management program highlights

Vehicle Emissions Program Changes

Legislation passed in 2006 provided impetus to find successful solutions to motor vehicle emission controls with a minimum impact on the public. HB06-1302 mandates the increased use of remote sensing, including a high-emitter identification program in the Denver-metro area. A plan implementing the program will be presented to the Air Quality Control Commission in December 2006 that will include an expanded remote sensing program in Denver. The expanded program, when implemented, will also identify high emitting vehicles and make sure those vehicles are repaired or removed from the fleet of Denver area vehicles.

For more information on the motor vehicle inspection program, see page 11.

Regional Haze Plan

A detailed planning process for reducing regional haze in the state's national parks and wilderness areas has continued to move forward in conjunction with a national process designed to restore visibility in the nation's scenic areas.

The division is working closely with the Air Quality Control Commission, the Western Regional Air Partnership (WRAP), other states, federal land managers and tribal governments to develop a better understanding of the nature and causes of haze and to complete the development of a Colorado Plan required under the Clean Air Act. The plan is due by the end of next year.

Oil and Gas Efforts

The Air Pollution Control Division has established an oil and gas team to focus on emissions from burgeoning oil and gas development across Colorado. Oil and gas development contributes to emissions that cause ground-level ozone.

The division has reassigned eight staff members to focus on permitting, planning, and regulatory and compliance issues related to the oil and gas industry. The division also is making regulatory changes to place emission control requirements on oil and gas development. See page 9 for details.

Revisions to State Implementation Plans

The Air Pollution Control Division revised three State Implementation Plans (SIPs) for air quality attainment and maintenance during 2005. The plans included the Denver particulate matter (PM10) plan and the Denver and Longmont carbon monoxide plans. The Air Quality Control Commission approved the revisions.

The revisions removed requirements for a vehicle inspection and maintenance (I/M) program and wintertime oxygenated fuels from the plans due to improved air quality. The I/M and oxygenated fuels programs are no longer needed to maintain compliance with federal standards for PM10 and carbon monoxide.

I/M will remain in effect because it is required as an ozone control measure in the ozone SIP.

The commission voted 4-3 to keep the wintertime oxyfuels requirement as a state-only program.

Four Corners Air Quality Task Force

The states of New Mexico and Colorado have convened the Four Corners Air Quality Task Force to work on the air quality issues facing the Four Corners region. Oil and gas production in the region and coal-fired power plants result in large emissions of air pollution that may be degrading air quality.

The Four Corners Air Quality Task Force consists of federal land managers; federal and state environmental regulators; representatives from industry and tribal nations; and interested residents from the affected states of Arizona, Colorado, New Mexico and Utah.

The first public meeting was held in Farmington, New Mexico in November 2005. Subsequent meetings have been held in Farmington, Durango and Cortez.

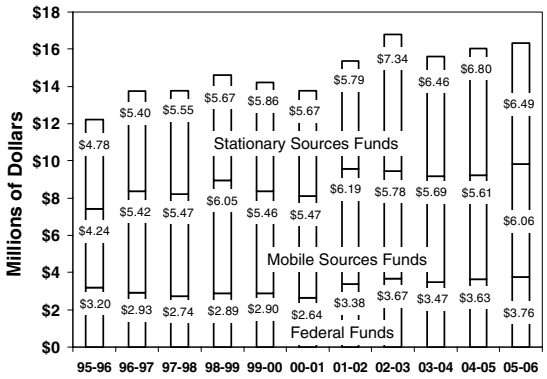
Five work groups are focusing on issues related to oil and gas development; power plants; other air pollution emission sources; cumulative effects; and air quality monitoring.

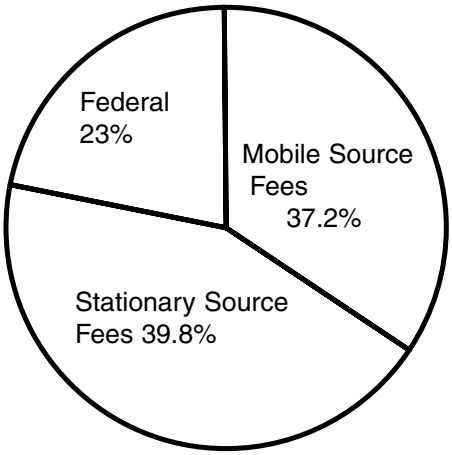
For more information, see the task force website at: www.nmenv.state.nm.us/aqb/4C/index.html.

Air program fiscal data: July 2005-June 2006

Revenues: $16.30 million

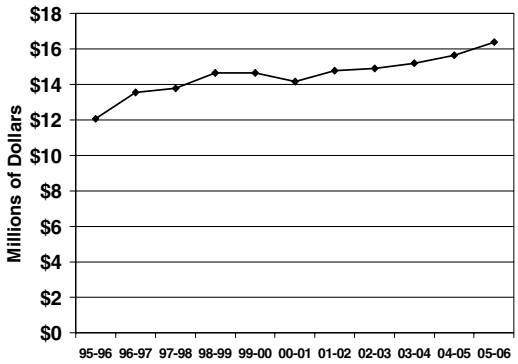
Revenue History

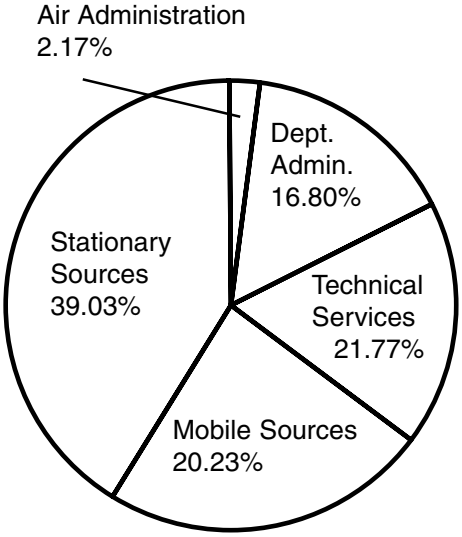




Expenditures: $16.39 million*

Expenditure History

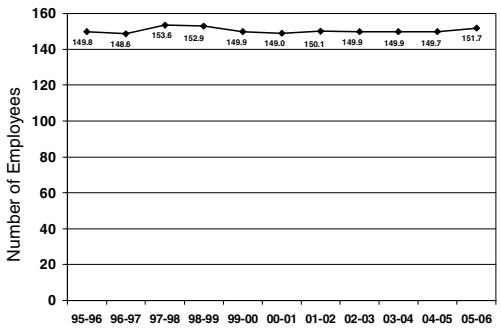


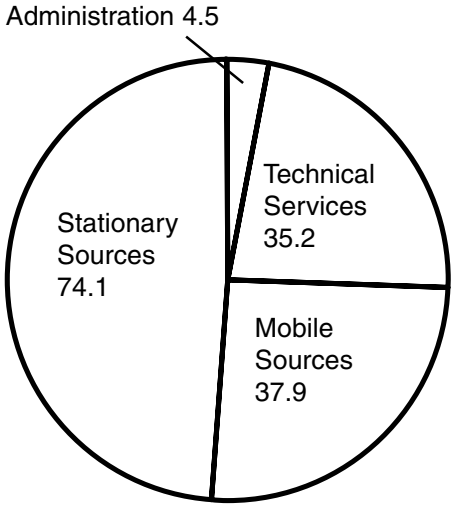


*Includes carry-over funds from prior year

Number of Employees: 151.7

Employment Level History





Regional air quality perspectives

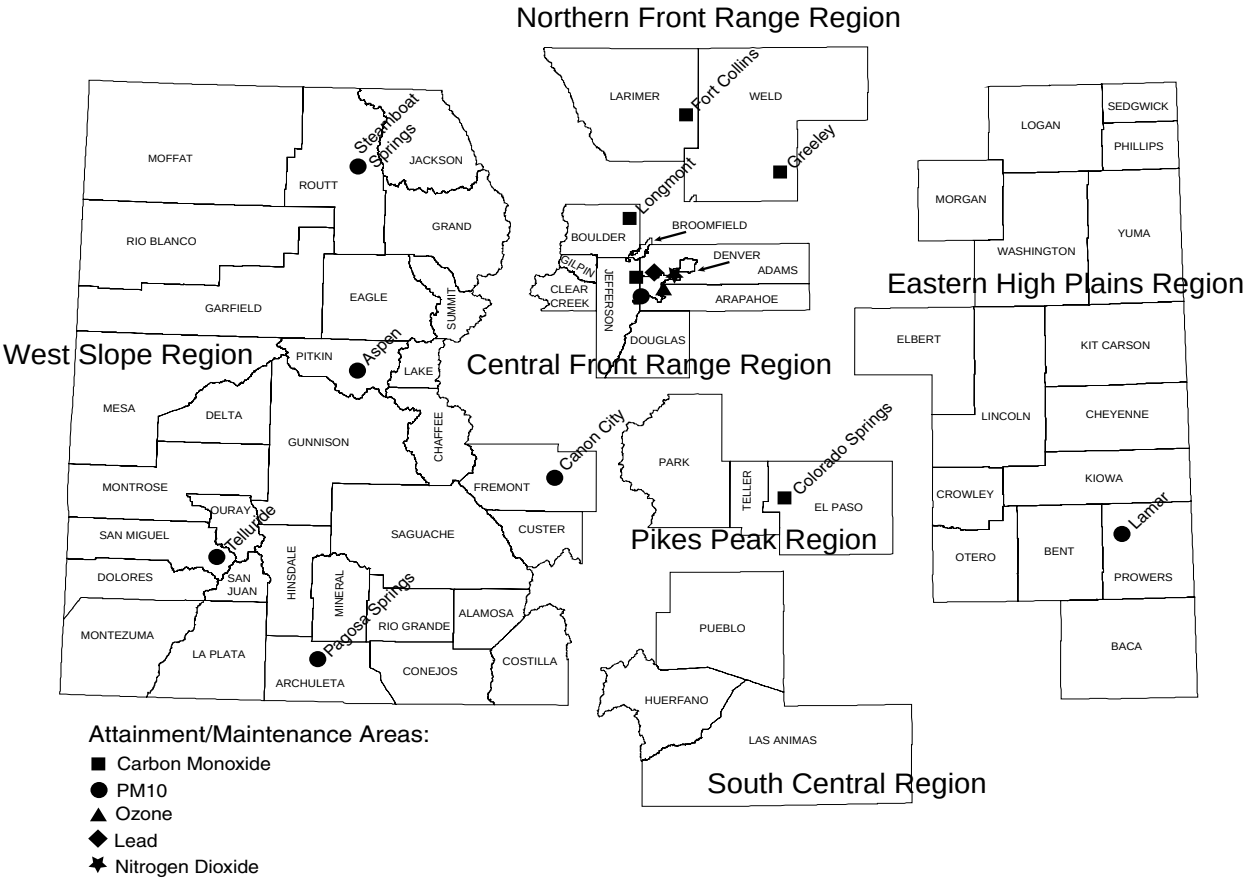
Areas of the state differ greatly from one another in landscape, weather conditions, population, motor vehicle traffic, amount of industry and burning practices.

This section of the report separates Colorado into six regions to more clearly address each region's specific air quality conditions and activities. Many local and regional environmental and planning agencies have submitted information for this section of the report.

The Air Pollution Control Division is the lead agency for implementing the state's air quality management program. However, it could not accomplish its work alone. Many local health departments and planning agencies throughout the state have air quality management programs which they operate either independently or under contract with the Colorado Department of Public Health and Environment.

Currently, the following local health departments have contracts with the department and division to perform specific air quality activities in their respective areas: Boulder County, City and County of Denver, El Paso County, Jefferson County, Larimer County, Mesa County, Pueblo City-County and Weld County.

In addition, the following organizations have been designated as the lead air quality planning entities in their respective areas: the Regional Air Quality Council (Denver-metro area), the Pikes Peak Area Council of Governments (Pikes Peak Region) and the North Front Range Transportation and Air Quality Planning Council (Fort Collins and Greeley areas).

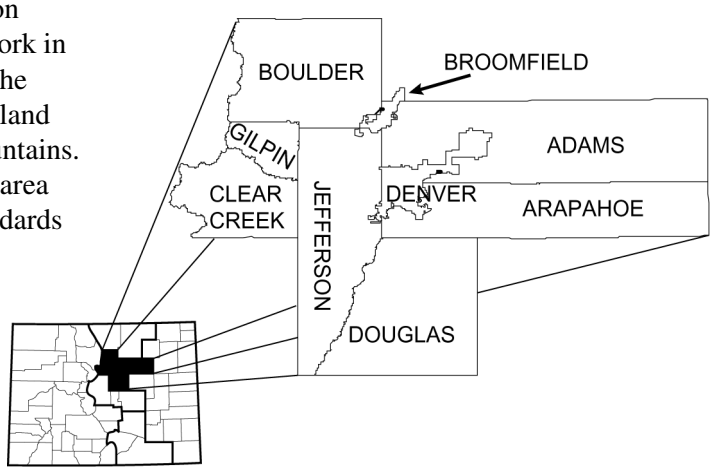


Central Front Range Region

The Central Front Range Region includes Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin and Jefferson counties. It has a population of 2.4 million (2000 census), most of whom live and work in the Denver-Boulder area. This region is the most densely populated in the state. The land varies from rolling prairie to rugged mountains.

In the past, the Denver-metropolitan area has violated health-based air quality standards for carbon monoxide, fine particles and ozone.

In response, the Regional Air Quality Council, Colorado Air Quality Control Commission and Air Pollution Control Division have developed, adopted and implemented air quality improvement plans to reduce each of the pollutants.



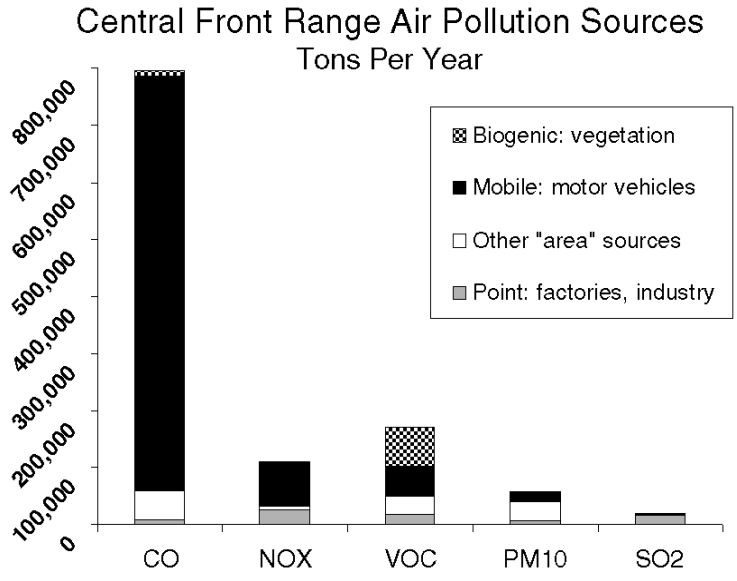
Air Pollution Sources

In the Central Front Range Region, air pollution comes from a variety of sources. Substantial emissions occur as a result of motor vehicle use.

In this area, the Regional Air Quality Council and a number of local health departments have air quality control programs.

Air Pollution Control Measures

The control of air pollution in the Central Front Range region has been the result of local, state, and federal programs that target emissions from automobiles and mobile sources, power plants and industrial sources, woodstoves, and emissions from street sanding and sweeping.



CO: Carbon Monoxide
NOx: Oxides of Nitrogen
VOC: Volatile Organic Compounds
PM10: Particles less than 10 microns in diameter
SO2: Sulfur Dioxide

Boulder County Public Health

www.co.boulder.co.us/health/environ.htm

Boulder County Public Health (BCPH) staff utilize an integrated pollution prevention strategy in their work with businesses. Air quality and pollution prevention staff help businesses save money and reduce environmental impacts. Staff assist with permitting requirements, inspect air pollution sources, enforce air pollution regulations and provide information to the public on a variety of air quality issues.

BCPH operates and maintains an air quality monitoring network in the cities of Boulder and Longmont, and near Eldorado Springs. The network monitors ozone, particulate matter and carbon monoxide.

In 2006 BCPH received a $500,000 grant from the U.S. Environmental Protection Agency to study air toxics. Five monitoring locations across the county will provide information on the impact of upslope winds and mountains at the urban/rural interface. Previous studies have shown higher concentrations of these hazardous air pollutants along the mountain ranges than in the urban plains and corridors.

In partnership with the Boulder County Clean Air Consortium, which includes members from the private and public sectors, BCPH will conduct its annual Clean Air Challenge Contest. The contest provides cash and other prizes to participants who leave their cars at home through the summer ozone season.

Last year, participants reduced 700,000 vehicle travel miles in three months.

BCPH provides consultation regarding indoor air quality issues, assists other municipalities with resolving indoor air quality concerns, provides the community with information seminars on indoor air quality and makes recommendations on land use reviews regarding indoor air quality improvement options.

Boulder County promotes employee travel reduction programs including walk/bike to work events, telecommuting/teleworking, Ecopass mass transit passes and flexible work schedules.

The county also supports participation in the Regional Air Quality Council's ozone education and outreach efforts.

Denver Department of Environmental Health

www.denvergov.org/DEH/

Denver's air quality management program is conducted by the Environmental Quality Division of the Department of Environmental Health. The Environmental Quality Division engages in technical advisory services for businesses; inspection and surveillance of air pollution sources; enforcement of city, state and federal environmental laws; and air pollution prevention activities.

Environmental Quality Division staff participate on city, regional and national air quality management committees and organizations. Division staff manage the city's air quality improvement programs, conduct air quality improvement research projects, and respond to complaints about violations of the environmental tobacco smoke control ordinance.

The Environmental Quality Division implements state regulatory activities on behalf of the Colorado Air Pollution Control Division by contract. These activities include inspections and enforcement of air emission sources, chlorofluorocarbon (CFC) sources and asbestos projects; operation of air quality monitoring stations; issuance of open burning permits; and response to air pollution complaints.

Denver also protects ambient air quality through its smoking and idling vehicle ordinances, its residential woodburning ordinance, and a GreenFleets Executive Order which reduces carbon dioxide emissions and fuel/energy consumption through efficient management of the municipal fleet.

Denver continues to implement an industrial environmental review process that began in 1991. The process minimizes the community and environmental impact of pollutants from new and expanding industrial operations. Part of the review requires a determination of "undue concentration" of facilities in industrially-zoned areas. To determine undue concentrations of air emissions, the department conducts a baseline assessment of hazardous air pollutants. The

assessment uses computer modeling to predict ambient concentrations and takes into account emissions from stationary, mobile and area-wide sources. This work helps to identify locations where cumulative impacts from multiple sources affect a community and assists Denver in implementing steps to achieve hazardous air pollutant emission reductions.

The Environmental Quality Division also has received grants to perform ambient air toxics monitoring, to refine air quality modeling and to research voluntary diesel emission control strategies that work for local governments.

Voluntary Programs

Denver city offices participate in voluntary programs to help maintain good air quality. The Department of Environmental Health manages the Clean Cities program, which promotes the use of clean-burning fuels, alternative transportation efforts, and manages the travel reduction program for city employees. The travel reduction program includes telecommuting/teleworking, Ecopass mass transit passes and flexible work schedules.

Voluntary participation in the Regional Air Quality Council's ozone program during summer months and the state High Pollution Advisory Program during winter months are coordinated and promoted through a city employee network of environmental transportation coordinators.

Jefferson County Department of Health and Environment

www.co.jefferson.co.us

Jefferson County is the second most populous county in Colorado, with more than 527,000 residents. More than 770 square miles in size, the county stretches from suburban plains to the mountainous foothills more than 10,000 feet in elevation. Within this diverse area are a variety of potential air pollution sources, from large-scale manufacturing plants to dusty, unpaved mountain roads.

Each year, the Jefferson County Department of Health and Environment inspects a variety of stationary sources of air emissions to ensure compliance with state and federal regulations. Staff also inspect asbestos removal projects, and refrigeration and air conditioning businesses that use or handle chlorofluorocarbons. The department investigates citizen concerns about radon gas, indoor air quality and fugitive dust. Staff also issue open burning permits.

Regional Air Quality Council

www.raqc.org

The Regional Air Quality Council (RAQC) is the air quality-planning agency for the seven-county Denver-metropolitan area. The RAQC's mission is to develop effective and cost-efficient air quality planning initiatives with input from local governments, the private sector, stakeholder groups and citizens of the Denver-metro region. Its primary task is to prepare state implementation plans for compliance with federal air quality standards for ozone, carbon monoxide and particulate matter.

The council consists of nine members appointed by the Governor. Four are citizen members selected for their knowledge of and interest in air quality and related issues. Two are locally-elected officials representing local governments in the Denver area. Another is a locally-elected official representing the Denver Regional Council of Governments, the transportation planning organization for the Denver region. The two remaining members are the executive directors of the Colorado Department of Public Health and Environment and the Colorado Department of Transportation.

The RAQC has coordinated a voluntary summer ozone awareness and reduction program since 1999 in an effort to keep the Denver area in compliance with the federal ozone standard.

Air Quality Index for metro Denver

The Air Pollution Control Division uses an air quality reporting method called the Air Quality Index (AQI). The Air Quality Index provides health officials with a simple, uniform way to report daily levels of air pollution.

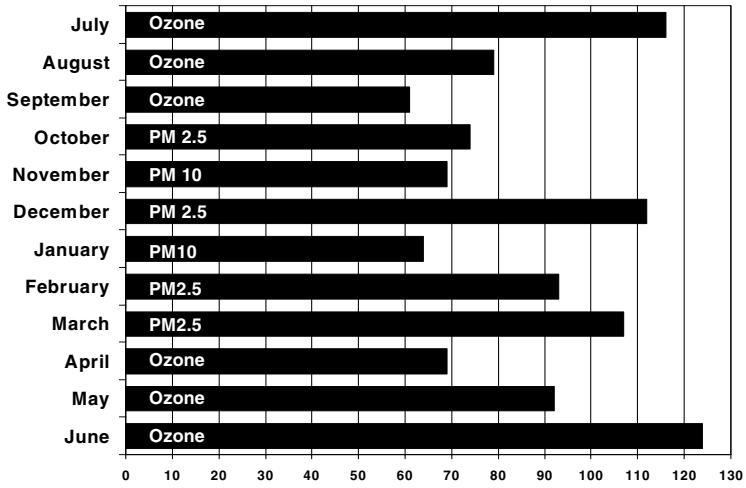
Year round, division staff collect current information about the levels of carbon monoxide, ozone and fine particles for index reporting.

After analyzing the data, staff convert the information into numbers on the Air Quality Index scale. On this scale, the National Ambient Air Quality Standards equal 100 for carbon monoxide, ozone and PM10, and 150 for PM2.5. Air Quality Index readings greater than these values indicate exceedances of a pollutant's standard.

The bar chart on the right shows the monthly maximum index levels recorded between July 2003 and June 2004 in the Denver-metro area. In each bar is the pollutant that caused the monthly maximum.

Denver-metro maximum AQI readings with predominant pollutant identified

July 2005 through June 2006



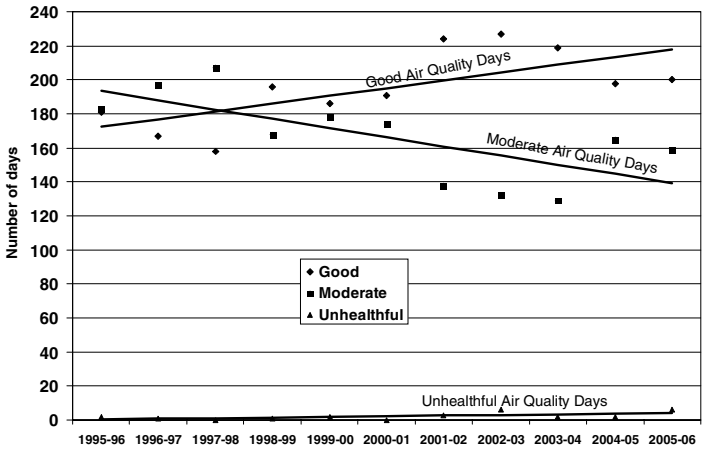
Denver-metro area Air Quality Index readings

The Air Quality Index (AQI) is divided into six air quality categories. These include good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy and hazardous.

According to the index, any reading between 0-50 indicates good air quality, 51-100 moderate air quality, 101-150 unhealthy for sensitive groups, 151-200 unhealthy, 201-300 very unhealthy and above 300 hazardous air quality.

The chart to the right summarizes and compares index readings for the past eight years.

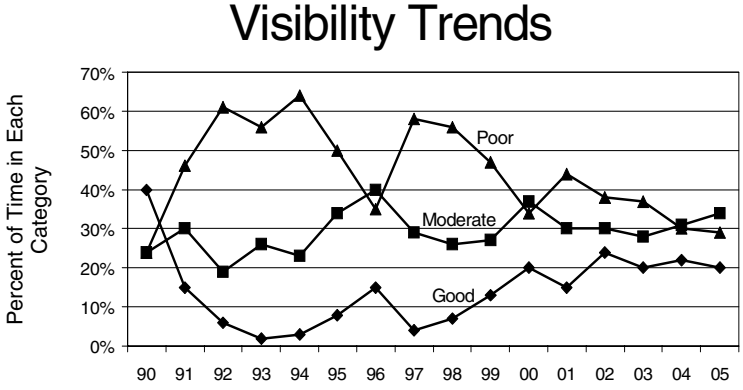
Denver-metro maximum AQI values



The Visibility Standard Index for metro Denver

The visible aspect of air quality is reported by the Visibility Standard Index. The visibility standard is set at an extinction of 7.6 percent or more of light in a kilometer of air over a four-hour average from 8 a.m. to 4 p.m. The standard was set by 200 Denver area citizens and adopted by the Colorado Air Quality Control Commission in 1989.

A monitor called a transmissometer measures visibility. Readings between 0-50 are good, 51-100 fair, 101-199 poor and 200-plus extremely poor. The chart at right shows the percentage of time in each category. On the visibility scale, a value of 101 is "poor" and equates to the .076/km standard.



Determining the Visibility Standard Index reading can be complicated by precipitation, relative humidity of 70 percent or greater, fog, blowing dust, smoke, etc. When such conditions are present, readings are excluded.

Trends Show Improvement in Visibility Over Time

While Denver and other Front Range cities continue to experience visibility problems and haze, visible air pollution has decreased in recent years and more improvements can be expected in the future.

Clear visibility and impaired visibility in the Denver basin — a view looking south into the metro area from a division monitoring site during two days of June 2000.

In 2003 the Air Pollution Control Division reprocessed its visibility data and determined that a 28 percent improvement in visibility had occurred since 1991. This improvement can be attributed to cleaner burning motor vehicles and fuels, reductions in residential burning, reduced wintertime street sanding and voluntary emissions reductions at area power plants.

In the future, visibility should continue to improve as stricter emissions standards for gasoline and diesel motor vehicles are put in place.

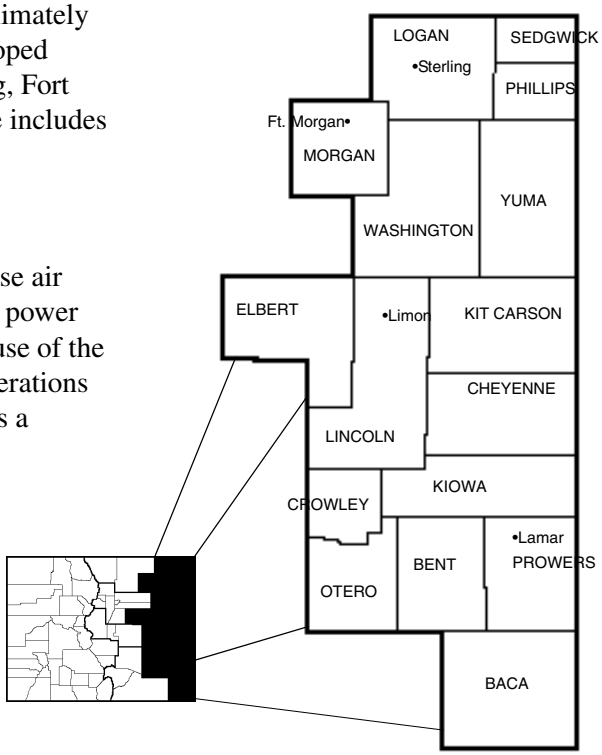
Five major studies of Denver area visibility have occurred since the 1970s, with the most recent study done by Colorado State University from 1996-98 (See www.nfraqs.colostate.edu for more information).

The studies have shown that the Denver "brown cloud" is caused by local, not regional emissions, and that chemical reactions in the atmosphere turn sulfates, nitrates and organic carbon into particles that cause the brown cloud. Denver's meteorology and topography contribute to the brown cloud when pollutants are trapped in the Denver basin by air inversions. The largest single source of the brown cloud is motor vehicle use.

The Colorado Air Quality Control Commission and the Air Pollution Control Division will continue to analyze and monitor visibility to better understand what we can do to improve the visible aspect of air quality.

Eastern High Plains Region

The Eastern High Plains Region encompasses the counties on the plains of eastern Colorado. The area's population is approximately 138,447 (2000 census). Its major urban centers have developed around farming, ranching and trade centers such as Sterling, Fort Morgan, Limon, La Junta and Lamar. The agricultural base includes both irrigated and dryland farming.



Air Pollution Sources

There are a number of industries in this region that cause air pollution. These include agricultural processes, gravel pits, power plants and natural gas pipeline compression stations. Because of the region's semiarid nature, fugitive dust from agricultural operations dominates air pollution in the region. Residential burning is a minor contributor to air pollution in the region.

Air Pollution Control Measures

In this region, the control of air pollution is accomplished through the cooperative efforts of state and local health departments in enforcing state emission regulations on stationary sources. In addition, the City of Lamar has taken steps to maintain and improve its air quality.

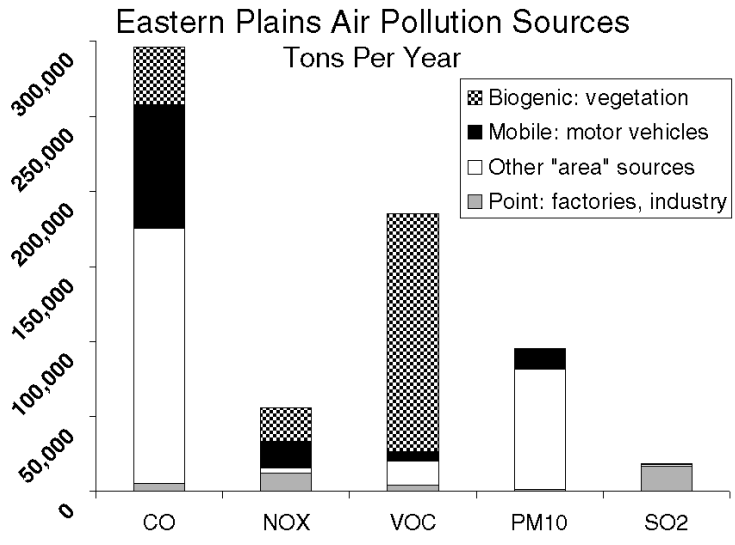
City of Lamar

This past year, the City of Lamar's role in air quality was to continue addressing dust abeyance at its source, continue planting trees and grass, and implement programs to encourage cleaner yards and streets.

Lamar was approved in 2001 by the Colorado Air Quality Control Commission as an attainment area for the federal particulate matter standard. The area has not violated the standard since 1992.

Additionally, the City of Lamar has joined efforts with the Air Pollution Control Division and Prowers County to develop a community survey that will gauge public perception of air quality and the public's willingness to utilize public funds to improve local air quality.

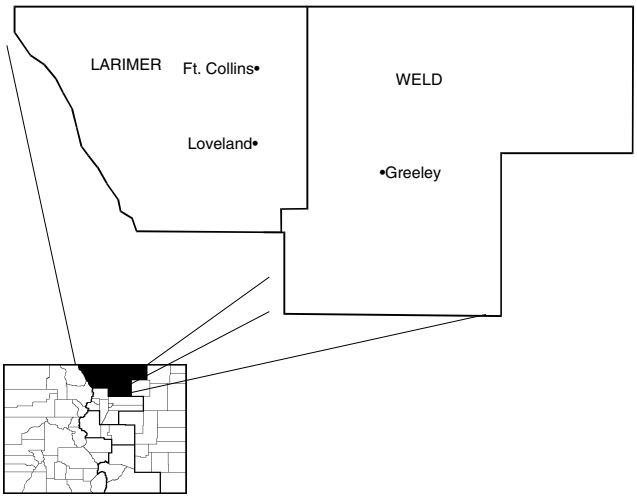
Prowers County also works closely with the City of Lamar to ensure that developments within close proximity of the city do not impact air quality.



CO: Carbon Monoxide
NOx: Oxides of Nitrogen
VOC: Volatile Organic Compounds
PM10: Particles less than 10 microns in diameter
SO2: Sulfur Dioxide

North Front Range Region

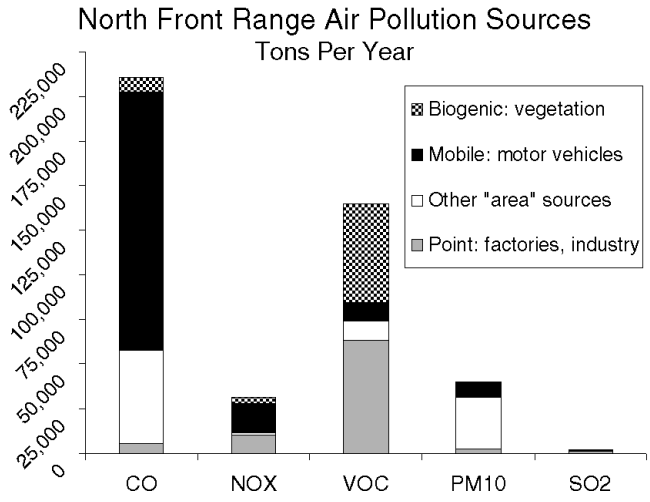
The North Front Range Region is comprised of Larimer and Weld counties. The population of these two counties is approximately 432,430 (2000 census). The two major urban areas are Fort Collins in Larimer County and Greeley in Weld County. The city of Loveland also is included in this region. Larimer County has irrigated farmland in its eastern half and mountains in its western half. Weld County is predominantly grassland and irrigated farmland.



Air Pollution Sources

Motor vehicle emissions constitute the major source of air pollution in Greeley and Fort Collins. Emission inventories compiled in these areas also indicate pollution influences from industry, manufacturing, power plants, cement plants and mining. Residential burning, dust from unpaved roads and agricultural operations also contribute to air pollution in the Fort Collins and Greeley areas.

The North Front Range continues to grow and add new businesses. Some of these businesses are minor air pollution sources that require emission permits from the Air Pollution Control Division.



Air Pollution Control Measures

In Fort Collins and Greeley, a number of strategies are being implemented to control air pollution. The Larimer County and Weld County health departments and the cities of Fort Collins and Greeley have all worked toward implementing these strategies. The North Front Range Transportation and Air Quality Planning Council is the air quality planning agency in the Fort Collins and Greeley areas, and determines strategies to reduce air pollution caused by motor vehicles.

CO: Carbon Monoxide
NOx: Oxides of Nitrogen
VOC: Volatile Organic Compounds
PM10: Particles less than 10 microns in diameter
SO2: Sulfur Dioxide

City of Fort Collins

www.fcgov.com/airquality/

The Natural Resources Department takes a lead role in addressing air pollution problems in Fort Collins in accordance with the city's Air Quality Plan. The plan focuses on air pollution caused by motor vehicles, commerce and industry, residential burning and indoor air pollutants. The Air Quality Plan is implemented primarily through education and outreach. Data collection and monitoring help assess current programs and provide guidance for periodic reviews and updates. The city strives to demonstrate clean air practices in its own operations. A regulatory approach is employed when necessary.

The city has taken actions to reduce traffic growth through alternative transportation choices and land use planning to reduce dependency on automobiles. The city's education and outreach efforts provide information about the connection between air quality and automobile use.

The city has an action plan to reduce greenhouse gas emissions from Fort Collins. The plan identifies strategies to lower greenhouse gas emissions to 30 percent of the predicted 2010 levels, save money for the city, its citizens and businesses. In addition, the city is working with 29 area businesses that have committed to reduce greenhouse gas emissions through a local voluntary program called Climate Wise.

The city's air quality education and outreach efforts target diverse audiences through various methods. Students participate in activities such as the DriveLess Contest. The contest is an incentive program for high school students and school staff to use alternative modes of transportation. Also, the Air Care Trunk is available for checkout by teachers. The kit contains materials and lesson plans to teach elementary students about clean air. Regular articles, advertisements, and participation in public events keep air quality messages in public view.

Larimer County Department of Health and Environment

http://www.larimer.org/depts/health/health1.htm

The Air Quality Program for the Larimer County Department of Health and Environment includes ambient air quality monitoring, source inspection, enforcement actions, planning, educational presentations, and public information and outreach efforts.

Staff work as agents for the Colorado Air Pollution Control Division. Cooperation with other local agencies including the North Front Range Transportation and Air Quality Planning Council occurs regularly. A county air quality control review is conducted for all new land development.

Larimer County personnel perform inspections and enforcement activities for minor stationary sources and chlorofluorocarbons, and conduct on-going ambient air quality monitoring for criteria pollutants. Air quality complaints received from the public are investigated. Larimer County operates the PM2.5 and PM10 particle samplers in the Ft. Collins area along with carbon monoxide and ozone monitors.

North Front Range Transportation and Air Quality Planning Council

The North Front Range Transportation and Air Quality Planning Council was established in 1988 as the metropolitan planning organization for the Greeley and Fort Collins areas. In 1993, the council was designated by then Gov. Roy Romer as the lead air quality planning organization for both of these areas.

The council is responsible for the development and implementation of the Fort Collins and Greeley elements of the state implementation plan (SIP) for attainment of air quality standards, and other transportation related air quality planning projects in the North Front Range region.

Voting membership on the council includes Larimer and Weld counties, Berthoud, Evans, Fort Collins, Garden City, Greeley, Johnstown, LaSalle, Loveland, Milliken, Timnath, Windsor, the Colorado Air Quality Control Commission, and the Colorado Transportation Commission.

Weld County Department of Public Health and Environment

The Environmental Health Services of the Weld County Department of Public Health and Environment implements many of the air quality programs for the Colorado Air Pollution Control Division. The Weld County programs listed here help protect ambient air quality and keep Weld County in attainment of state and federal air quality standards.

Services

Inspections of air pollution sources are conducted.

Weld County residents' complaints about air quality are investigated and resolved.

Residents' requests for open burning permits are evaluated and either issued or denied. The program is discouraging burning while encouraging composting.

Colorado Air Pollution Control Division monitoring equipment for particulate matter, carbon monoxide and ozone in Greeley and Platteville are maintained and operated jointly by staff members of Weld County Environmental Health Services.

Assistance is provided to small businesses that need help in complying with air regulations.

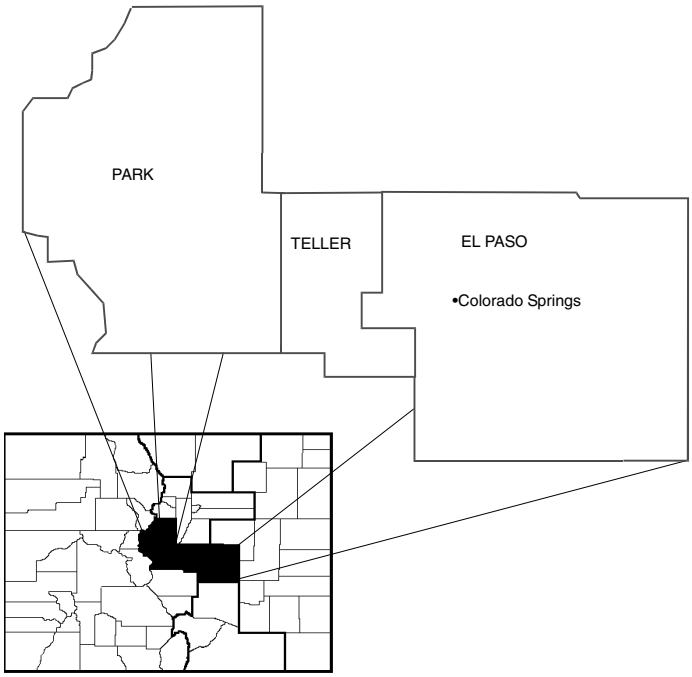
Environmental Health Services works with communities within the county and recommends air quality-related land use provisions which may then be adopted by county and local governments.

Greeley and Weld County participate in a Clean Cities program that promotes alternative modes of transportation and the use of cleaner burning fuels.

Environmental Health Services conducts investigations of asbestos and chlorinated hydrocarbon issues.

Pikes Peak Region

The Pikes Peak Region includes El Paso, Teller and Park counties. The area has a population of approximately 552,007 (2000 census). The Colorado Springs-metro area is one of the more rapidly growing areas in the state. Eastern El Paso County is rural prairie, while the western part, along with Park and Teller counties, is mountainous.

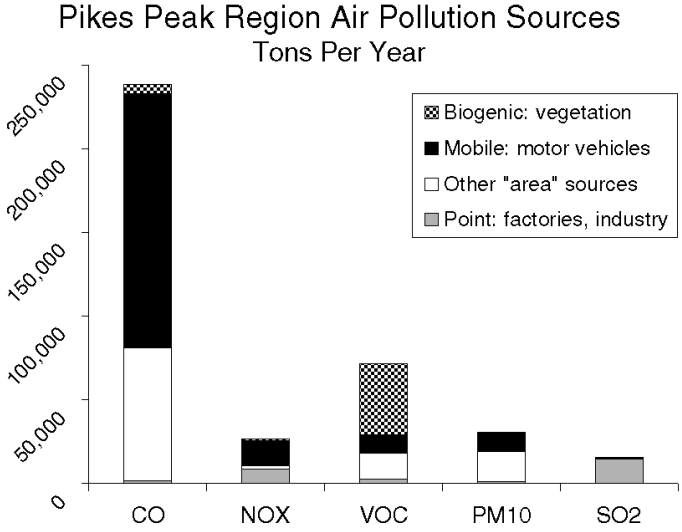


Air Pollution Sources

As in other urbanized areas in Colorado, pollutants in the Pikes Peak Region originate primarily from stationary and mobile sources. Major sources in the region include power plants, ready-mix concrete plants, electronics manufacturing facilities, quarries and extensive military operations. Other sources include motor vehicle emissions, residential burning, street sanding operations, PM10 emissions from unpaved roads and construction activities.

Air Pollution Control Measures

In this region, the management of air pollution is led by the Pikes Peak Area Council of Governments. In addition, the El Paso County Department of Health and Environment provides air quality monitoring, and enforcement and public education activities in accordance with the Colorado Air Pollution Prevention and Control Act.



CO: Carbon Monoxide
NOx: Oxides of Nitrogen
VOC: Volatile Organic Compounds
PM10: Particles less than 10 microns in diameter
SO2: Sulfur Dioxide

Pikes Peak Area Council of Governments

www.ppacg.org

The Pikes Peak Area Council of Governments (PPACG) is designated as the metropolitan planning organization and lead air quality planning agency for the Pikes Peak Region.

PPACG reviews current and emerging air quality issues, develops plans to improve air quality, and is responsible for development and implementation of the carbon monoxide maintenance plan to ensure the region meets federal carbon monoxide standards.

PPACG is governed by a board of directors composed of elected officials from El Paso, Teller and Park counties; cities of Colorado Springs, Fountain, Monument, Manitou Springs, Palmer Lake, Woodland Park, Alma, Cripple Creek, Victor, Calhan and Green Mountain Falls; the Colorado Air Quality Control Commission and the Colorado Transportation Commission.

El Paso County Air Quality Section

www.elpasocountyhealth.org

The Air Quality Section of the El Paso County Department of Health and Environment has the responsibility for enforcement, monitoring and educational aspects of the Colorado Air Pollution Prevention and Control Act.

Inspections are conducted on minor sources of air pollution such as auto body repair shops, earth-moving activities and chlorofluorocarbon sources.

Complaint investigations are conducted on asbestos, odors, fugitive dust and general air quality sources.

The department also is responsible for the operation and maintenance of the air-monitoring network in El Paso County in cooperation with the Air Pollution Control Division. The department collects air quality data from the monitoring sites in accordance with the U.S. Environmental Protection Agency requirements.

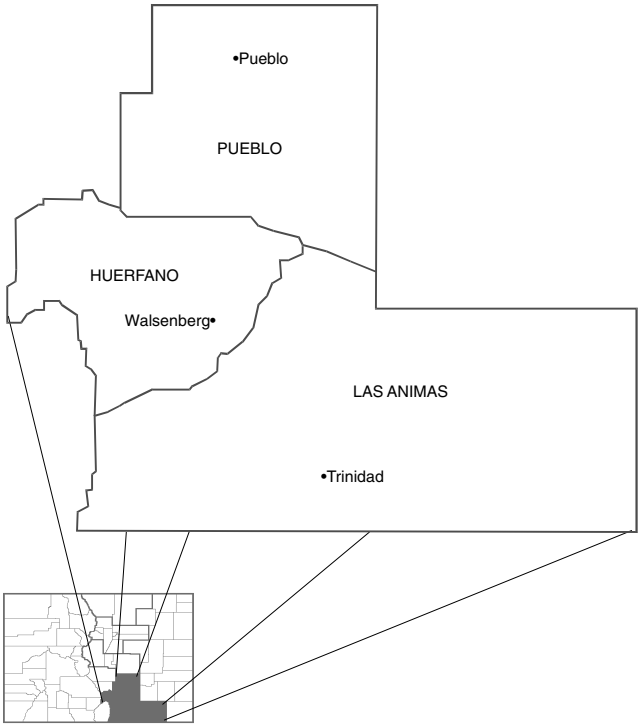
An air quality index report is prepared by staff and reported to the public twice a day via a website and a telephone hotline.

Presentations about local and state air quality issues are given to civic groups and schools in El Paso County.

The department also is responsible for enforcement of a local air quality regulation which covers emissions from fugitive dust sources such as earth moving, demolition, sandblasting and open burning.

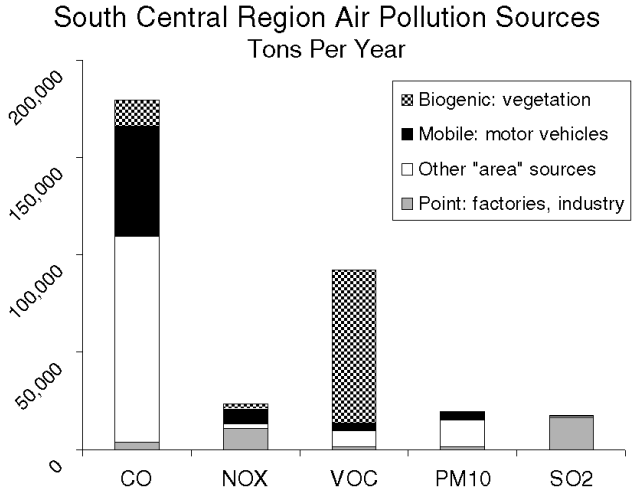
South Central Region

The South Central Region is comprised of Pueblo, Huerfano and Las Animas counties. Its population is approximately 164,541 (2000 census). Major urban centers include Pueblo, Trinidad and Walsenburg. The region has rolling semiarid plains to the east and is mountainous to the west.



Air Pollution Sources

Pollution in this area comes from various sources, including fugitive dust (area contribution), mobile sources and stationary sources. The criteria pollutants including carbon monoxide, nitrogen oxide, sulfur dioxide and PM10, and volatile organic compounds have been modeled for the region. Modeling shows that the two significant contributors to air pollution are mobile and area sources. Point sources are a minor contributor. Examples of mobile sources are motor vehicle emissions. Area sources are dust from unpaved roads and open burning. Point sources include facilities such as power plants, concrete batch plants, and sand and gravel mining and processing operations.



CO: Carbon Monoxide
NOx: Oxides of Nitrogen
VOC: Volatile Organic Compounds
PM10: Particles less than 10 microns in diameter
SO2: Sulfur Dioxide

Air Pollution Control Measures

The Pueblo City-County Health Department, under a contract with the Colorado Air Pollution Control Division, conducts inspections of more than 20 stationary sources annually. This contract also provides for chlorofluorocarbon (CFC) and asbestos field inspections. CFC inspections include air conditioning and appliance service and repair shops. Asbestos inspections primarily are in response to citizen complaints. Monitoring occurs for particulate matter in two size ranges: PM10 and PM2.5.

Historically and currently, all of the South Central Region is in compliance with the National Ambient Air Quality Standards (NAAQS) through past and current efforts in inspection, monitoring, enforcement and education.

Pueblo City-County Health Department

www.co.pueblo.co.us/pcchd

The community in Pueblo continues to show an interest in a variety of air quality related issues. The announcement in 2000 of the construction of a large cement manufacturing plant, a major expansion of the Comanche Power Plant in 2004 and the ongoing plans to destroy the mustard agent stored at the Pueblo Chemical Depot have increased public awareness and concerns about numerous air quality issues.

A 2006 mercury warning posted at Brush Hollow Lake in a nearby county also has increased public concern surrounding mercury and mercury emissions from local industries. Rocky Mountain Steel Mills, a local industry which contributes mercury air emissions, has been participating in a program to receive scrap metal from facilities that participate in a mercury removal program. In this program, automobile dismantlers remove the mercury-containing light switches from scrap vehicles prior to the vehicles being flattened and then shredded at scrap recycling facilities.

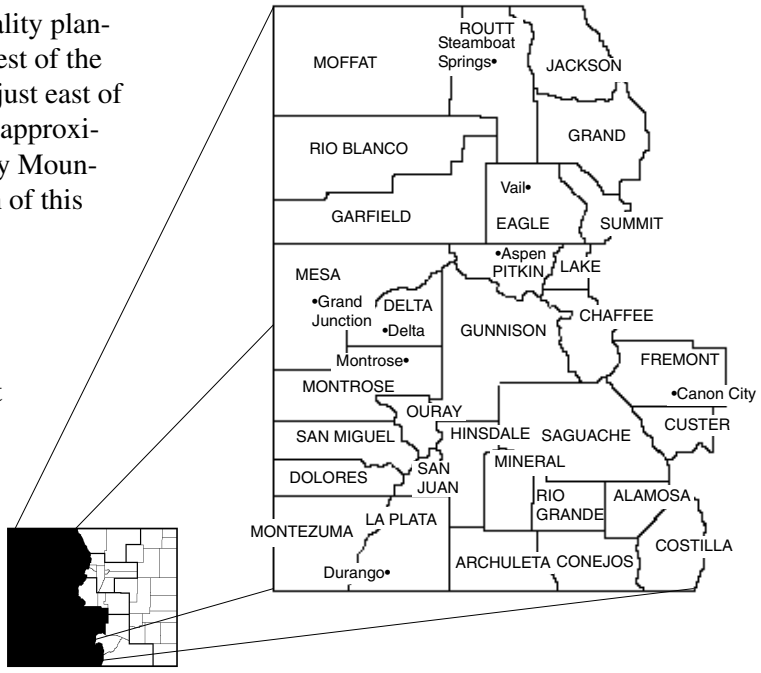
For the past several years, the local air quality program also has focused on dealing with fugitive dust originating from land development and construction activities by adjusting the municipal code. The local fugitive dust ordinance has been modified to address these issues more effectively. Recent drought conditions in the state have influenced the ability for effective dust control, especially when combined with gusty winds.

In the city, land developers whose activities involve from one acre to less than 25 acres are required to submit an application with a dust control plan and are issued a permit that requires them to adhere to the dust control plan.

Construction activities typically occur on areas less than one acre, which requires an agreement that commits the developer to reasonably control dust on their site.

Western Slope Region

The Western Slope Region for air quality planning is composed of the counties lying west of the Continental Divide, and several counties just east of the Divide. The population of this area is approximately 579,312 (2000 census). The Rocky Mountains are the predominant feature in much of this region.

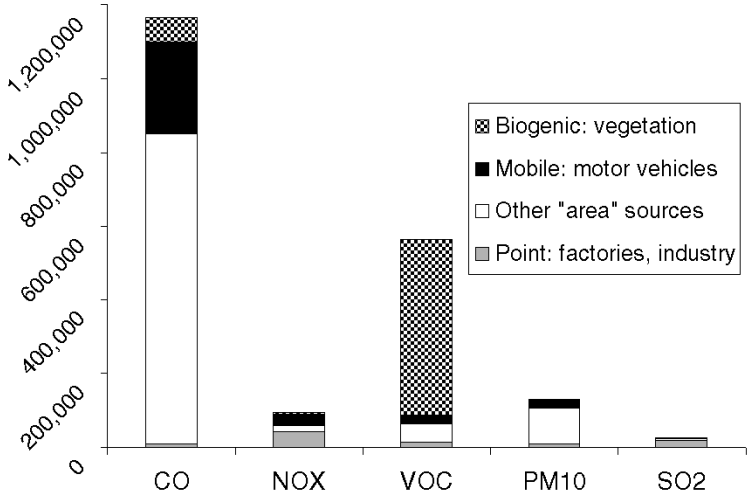


Air Pollution Sources

Air quality concerns in this region primarily are from the impacts of a recent surge in energy development. In the 1990s, air quality concerns primarily were related to woodstoves, unpaved roads and street sanding. These "area" sources were addressed in many Western Slope communities and are no longer as significant as the impacts from energy development, including direct emissions, support service impacts and associated growth.

Controlled and uncontrolled burns are a significant source of air pollution in this region.

Western Slope Air Pollution Sources
Tons Per Year



Air Pollution Control Measures

Many Western Slope communities have taken aggressive action to control residential burning emissions. The municipalities of Aspen, Crested Butte, Steamboat Springs, Telluride and Vail, and Pitkin, San Miguel, Summit, Mesa and Eagle counties have adopted either mandatory or voluntary control measures to reduce residential burning pollution during winter seasons. Increased awareness of visibility impacts and fine particle levels spurred the installation of new air monitoring equipment to gauge those impacts. The region also has a number of local agencies that conduct air quality control programs.

CO: Carbon Monoxide
NOx: Oxides of Nitrogen
VOC: Volatile Organic Compounds
PM10: Particles less than 10 microns in diameter
SO2: Sulfur Dioxide

City of Aspen
Environmental Health Department
www.aspenpitkin.com

With 83 percent of Aspen's PM10 on high pollution days coming from traffic, the city has expanded its free bus system. Parking fees provide a financial incentive to carpool or take the bus.

A bus-only high occupancy vehicle lane was added to Main Street so buses can quickly head out of town, passing cars stuck in traffic.

The city council has directed staff to prepare an impact fee ordinance that would assess developments for their share of air pollution and traffic improvements.

The Canary Initiative

The Departments newest air quality program is the Canary Initiative; a greenhouse gas emission reduction program. This initiative will encompass Aspen's efforts to reduce its impact on global warming. Under the Canary Initiative, Aspen has proposed a community action plan to reduce greenhouse gas emissions, inform the public of their effects, and advocate for regional, state and national action on the topic.

Under the initiative, Aspen has completed an inventory of greenhouse gas pollutants, will conduct an assessment of the environmental and economic impacts of global warming, will invest in a new hydropower plant and has joined the Chicago Climate Exchange.

Aspen will host a global warming conference in October 2006 at which business and community leaders will discuss successful greenhouse gas emission reduction programs.

Cañon City
www.canoncity.org

In March 1988, Cañon City officially adopted a series of local measures to reduce particulate matter produced from street sanding. Street sand was the city's main source of particulate pollution. The program of street sweeping on a regular basis began in the winter of 1987-1988 and has continued since.

Cañon City has shown attainment of the National Ambient Air Quality Standards for particulate pollution. Cañon City has been awarded a Congestion Mitigation/Air Quality Program grant for the past five years. These funds have been used each year for the paving of unpaved streets. Since 1999, these grant funds have been used to pave almost three miles of gravel streets.

In addition, Cañon City annually treats more than three miles of gravel streets with magnesium chloride to further reduce fugitive dust.

Delta County

www.deltacounty.com/

The Delta County Environmental Health Division acts in a supportive role to the Colorado Air Pollution Control Division in the following areas:

- A community-based task force for air quality discusses air quality issues and makes plans to improve air quality in Delta County.
- The Delta County Health Department offers rebates for old woodburning stoves that are replaced with clean burning units.
- The Environmental Health Division operates a PM 2.5 sampler and a PM10 sampler located in Delta.
- The Environmental Health Division works with the Mesa County Health Department to issue "No-Burn Advisories" during the winter heating season.
- The Environmental Health Division enforces the Delta County Open Burning Regulations.
- Stationary source pollution complaints for fugitive dust control, odors and stack emissions are investigated and referred to the Colorado Air Pollution Control Division.

Eagle County

www.eaglecounty.us/envHealth/

Eagle County considers clean air one of its most valuable assets. By being proactive, the county remains in attainment of ambient air quality standards as established by the U.S. Environmental Protection Agency.

Woodburning

Eagle County's Board of County Commissioners adopted a regulation to control pollution caused by wood smoke in 1992, virtually eliminating conventional, open-hearth fireplaces in new construction. The regulation limits the number of residential woodburning devices while requiring cleaner burning, more energy efficient technologies. In addition to these requirements, partnerships between Eagle County and its municipalities -- especially Vail, Avon, Eagle and Basalt -- continue to promote change-out programs and provide public information on how to burn a clean, hot fire.

Open Burning

Open burning permits are coordinated by the county wildfire mitigation specialist along with local fire districts. Permits are issued for virtually every open burn, even agricultural irrigation ditch burning, which enables better management of air quality impacts relative to smoke dispersal while allowing emergency response coordination, if necessary.

Fugitive Dust

Eagle County has many sources of fugitive dust, from industrial aggregate mining to large development projects. The Environmental Health Department is directly involved in the local land use approval process to ensure locally-enforceable fugitive dust abatement plans are implemented for site disturbance.

The road and bridge department has an ongoing road surfacing program which includes either paving or treatment with magnesium chloride to control dust emissions.

Transportation

ECO Transit contributes to protecting our air quality by providing public transportation opportunities to our commuting population and getting our visitors from the Eagle County Regional Airport to their resort destinations. Eagle County continues to pursue cleaner burning fuels and vehicles for our bus system and motor pool fleet.

Garfield County Public Health

www.garfield-county.com

Environmental health programming and personnel were reintroduced to Garfield County Public Health in 2005.

Oil and Gas

Because Garfield County has been subject to the explosive growth of the natural gas industry in recent years, a 2-year air quality monitoring study was initiated in May 2005 to evaluate the ambient air quality characteristics within Garfield County. Both PM10 and volatile organic compounds (VOCs) are monitored in rural and urban areas, along with active and planned natural gas fields. In addition to ambient air sampling, staff and citizens also are attempting to characterize air quality during odor events associated with oil and gas facilities by taking grab samples in detectable odor plumes.

The Saccomanno Research Institute of St. Mary's Hospital in Grand Junction has been contracted to conduct a Human Health Risk Assessment. This study group is working closely with Garfield County to integrate air quality monitoring data with other actual and potential environmental exposures to gain a better understanding of human health impacts from all emission sources.

The Garfield County Air Quality Technical Work Group was assembled in early 2006 to explore air toxics issues in the county. This group is made up of individuals from federal, state and local government, the oil and gas industry, and the private consulting sector. The group meets regularly to discuss matters involving air monitoring data, monitoring systems, emission inventories and human health risks.

Early emissions inventory development indicates that open burning and prescribed fire is a major source of both PM10 and VOC emissions in Garfield County. Efforts are underway to provide community information and education regarding alternatives to burning and best practices for open burning.

Ozone Monitoring

Garfield County Public Health also is partnering with the United States Forest Service (USFS) during the summer of 2006 on a regional ozone monitoring project. This project will sample ozone near Class I wilderness areas and along the Colorado River corridor between Glenwood Springs and Battlement Mesa. The USFS will use the data to help determine current ozone concentrations in these areas and to assist in determining ideal locations for establishing a continuous ozone monitoring station.

Environmental health staff also work closely with local land use agencies, the Colorado Air Pollution Control Division and the Colorado Oil and Gas Conservation Commission on evaluating land use proposals and investigating local air quality complaints.

Routt County

www.co.routt.co.us/

The Routt County Department of Environmental Health maintains an air monitoring program on behalf of the Colorado Air Pollution Control Division for the Steamboat Springs air shed. The department manages five PM10 monitors (one real-time monitor) and one PM 2.5 monitor.

The Steamboat Springs airshed has been in PM10 compliance since 1996. An air quality attainment plan has been developed and approved by the Colorado Air Quality Control Commission. Required approvals by the legislature, the governor's office, and the U.S. Environmental Protection Agency were completed and Steamboat Springs was designated an attainment area in 2004.

San Miguel County

www.sanmiguelcounty.org/environm.htm

The San Miguel County Planning and Environmental Health Departments administer regulations aimed at protecting county air quality.

The county has banned installation of solid-fuel burning devices in a 27-square mile area around Telluride to limit particle emissions. Paving is required for all new streets in this area to prevent pollution from vehicle re-entrained dust. The county also has approved plans to pave existing roads as necessary to protect air quality and has installed permanent traffic counters at its most active highway segments to aid in correlating traffic volumes with pollution levels.

A computer model ("Wyndvalley 3") is being developed to help the county understand pollutant dispersion in the Telluride airshed and improve prediction of future pollution levels. A recently installed Graseby Beta Gauge, which provides real-time air quality monitoring, already has proven beneficial in charting daily patterns of accumulation and dispersion of particles.

Telluride became a demonstration site for the state's PM2.5 monitoring network in 2000.

Improved street sweeping, sanding and chemical de-icing practices by the town of Telluride, and a free gondola system linking Telluride and Mountain Village that opened in late 1996 have helped reduce particle emissions to the lowest levels measured in the region since monitoring began in 1973.

Telluride was redesignated as an attainment are for the federal PM10 standards in 2001.

2005 Air Pollution Levels

Central Front Range: counties of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, Jefferson.

Pollutant	Monitoring Site with Highest Level *	Percent of Standard (See appendix for standards)
Carbon Monoxide	440 Main St., Longmont	4.8 ppm -- 14% of 1-hour standard
	2105 Broadway, Denver	2.5 ppm -- 26% of 8-hour standard
Ozone	11500 N. Roxborough Park Rd.	.108 ppm -- 86% of 1-hour standard (1st max.)
	11500 N. Roxborough Park Rd.	.084 ppm -- 99% of 8-hour standard (4th max.)
Nitrogen Dioxide	2105 Broadway, Denver	.028 ppm -- 52% of annual average standard
Sulfur Dioxide	78th Ave. & Steele St., Denver	.035 ppm -- 6% of 3-hour standard
	2105 Broadway, Denver	.011 ppm -- 8% of 24-hour standard
	2105 Broadway, Denver	.003 ppm -- 9% of annual standard
PM10	7101 Birch St., Commerce City	105 ug/m^3 -- 68% of 24-hour standard
	7101 Birch St., Commerce City	39.0 ug/m^3 -- 71% of annual avg. standard
PM2.5	4650 Columbine, Denver	40.0 ug/m^3 -- 61% of 24-hour standard
	4650 Columbine, Denver	10.14 ug/m^3 -- 65% of annual average standard
Lead	5400 N. Washington, Denver	.56 ug/m^3 -- 36% of calendar quarter standard

* For carbon monoxide, the site with the highest second maximum value is used for consistency with standards. For the 8-hour ozone standard, the site with the highest fourth maximum value is used for consistency with standards.

Eastern High Plains: counties of Baca, Bent, Cheyenne, Crowley, Elbert, Kiowa, Kit Carson, Lincoln, Logan, Morgan, Otero, Phillips, Prowers, Sedgwick, Washington, Yuma.

Pollutant	Monitoring Site with Highest Level *	Percent of Standard (See appendix for standards)
PM10	Lamar Power Plant, 100 N. 2nd Ave. **	116 ug/m^3 -- 75% of 24-hour standard
	Lamar Power Plant, 100 N. 2nd Ave.	21.0 ug/m^3 -- 38% of annual average standard
PM2.5	Vicinity of Roads 5 and 98, Elbert County	14.4 ug/m^3 -- 22% of 24-hour standard
	Vicinity of Roads 5 and 98, Elbert County	4.7 ug/m^3 -- 30% of annual average standard

Northern Front Range: counties of Larimer, Weld.

Pollutant	Monitoring Site with Highest Level *	Percent of Standard (See appendix for standards)
Carbon Monoxide	708 S. Mason, Fort Collins	5.0 ppm -- 14% of 1-hour standard
	905 10th Ave., Greeley	2.8 ppm -- 29% of 8-hour standard
Ozone	3101 35th Ave., Greeley	.116 ppm -- 93% of 1-hour standard (1st max.)
	3101 35th Ave., Greeley	.078 ppm -- 92% of 8-hour standard (4th max.)
PM10	1516 Hospital Rd., Greeley	52 ug/m^3 -- 34% of 24-hour standard
	1516 Hospital Rd., Greeley	21.7 ug/m^3 -- 39% of annual average standard
PM2.5	1516 Hospital Rd., Greeley	24.7 ug/m^3 -- 38% of 24-hour standard
	1004 Main St., Platteville	8.18 ug/m^3 -- 53% of annual average standard

* For carbon monoxide, the site with the highest second maximum value is used for consistency with standards. For the 8-hour ozone standard, the site with the highest fourth maximum value is used for consistency with standards.

* * High winds resulted in levels of PM10 above the standard on April 5, 2005 in Lamar. That value was excluded from this table because it was due to a “natural event” and not used to determine compliance with standards

Pikes Peak Region: counties of El Paso, Park, Teller.

Pollutant	Monitoring Site with Highest Level *	Percent of Standard (See appendix for standards)
Carbon Monoxide	690 W. Hwy. 24, Colorado Springs 690 W. Hwy. 24, Colorado Springs	5.2 ppm -- 15% of 1-hour standard 2.7 ppm -- 28% of 8-hour standard
Ozone	101 Bank's Place, Manitou Springs Road 640, USAF Academy	.100 ppm -- 80% of 1-hour standard (1st max) .077 ppm -- 91% of 8-hour standard (4th max)
PM10	3730 Meadowland, Colorado Springs 101 W. Costilla, Colorado Springs	84 ug/m^3 -- 54% of 24-hour standard 23 ug/m^3 -- 42% of annual average standard
PM2.5	101 W. Costilla, Colorado Springs 101 W. Costilla, Colorado Springs	22.7 ug/m^3 -- 35% of 24-hour standard 7.6 ug/m^3 -- 49% of annual average standard
Lead	101 W. Costilla, Colorado Springs	.10 ug/m^3 -- 6.5% of calendar quarter standard

* For carbon monoxide, the site with the highest second maximum value is used for consistency with standards. For the 8-hour ozone standard, the site with the highest fourth maximum value is used for consistency with standards.

South Central: counties of Huerfano, Las Animas, Pueblo.

Pollutant	Monitoring Site with Highest Level *	Percent of Standard (See appendix for standards)
PM10	211 D Street, Pueblo	62 ug/m^3 -- 40% of 24-hour standard
	211 D Street, Pueblo	22 ug/m^3 -- 40% of annual average standard
PM2.5	211 D Street, Pueblo	17.7 ug/m^3 -- 27% of 24-hour standard
	211 D Street, Pueblo	7.2 ug/m^3 -- 46% of annual average standard

Western Slope: counties of Alamosa, Archuleta, Chaffee, Conejos, Costilla, Custer, Delta, Dolores, Eagle, Fremont, Garfield, Grand, Gunnison, Hinsdale, Jackson, Lake, La Plata, Mesa, Mineral, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Rio Grande, Routt, Saguache, Summit, San Juan, San Miguel.

Pollutant	Monitoring Site with Highest Level*	Percent of Standard (See appendix for standards)
Carbon Monoxide	Stocker Stadium, Grand Junction	2.7 ppm -- 8% of 1-hour standard
	Stocker Stadium, Grand Junction	2.0 ppm -- 21% of 8-hour standard
PM10 **	Tower Center, Mt. Crested Butte	172 ug/m^3 -- 111% of 24-hour standard
	645 1/4 Pitkin Ave., Grand Junction	31.9 ug/m^3 -- 58% of annual average standard
PM2.5	650 South Ave., Grand Junction	19.0 ug/m^3 -- 29% of 24-hour standard
	650 South Ave., Grand Junction	8.4 ug/m^3 -- 54% of annual average standard
Lead	510 Harrison, Leadville	.02 ug/m^3 -- 1.3% of calendar quarter standard

* For carbon monoxide, the site with the highest second maximum value is used for consistency with standards. For the 8-hour ozone standard, the site with the highest fourth maximum value is used for consistency with standards.

* * High winds resulted in levels of PM10 above the standard on April 19, 2005 in Grand Junction. That value was excluded from this table because it was due to a “natural event” and not used to determine compliance with standards

Regional Air Quality Agencies

Central Front Range Region

Regional Air Quality Council
1445 Market St., Ste. 260
Denver, CO 80202
(303) 629-5450

Boulder County Health Department
3450 Broadway
Boulder, CO 80304
(303) 441-1100

Clear Creek County
Environmental Health Specialist
P.O. Box 2000
Georgetown, CO 80444
(303) 679-2335

Denver Department of Environmental Health
Environmental Protection Division
1391 Speer Blvd., Ste. 700
Denver, CO 80204
(303) 285-4053

Gilpin County
Environmental Health Officer
County Courthouse
Central City, CO 80427
(303) 582-5214

Jefferson County Department of Health and Environment
1801 19th St.
Golden, CO 80401
(303) 271-5755

Tri-County Health Department
(Adams, Arapahoe and Douglas counties)
7000 E. Belleview, Ste. 301
Englewood, CO 80111
(303) 220-9200

Eastern High Plains Region

City of Lamar
102 E. Parmenter
Lamar, CO 81052
(719) 336-4376

Southeastern Land and Environment
109 W. Lee Ave., Ste. 1
Lamar, CO 81052
(719) 336-8988

Northeast Colorado Health Department
700 Columbine St.
Sterling, CO 80751
(970) 552-3741

Otero County Health Department
County Courthouse, Rm 110
La Junta, CO 81050
(719) 384-2584

Northern Front Range Region

North Front Range Transportation and Air Quality Planning Council
210 East Olive St.
Fort Collins, CO 80524
(970) 221-6608

City of Fort Collins
Natural Resources Division
281 N. College
Fort Collins, CO 80522
(970) 221-6600

City of Greeley
1000 10th St.
Greeley, CO 80531
(970) 350-9783

Larimer County
Department of Health and Environment
1525 Blue Spruce
Fort Collins, CO 80524
(970) 498-6775

Weld County Department of Health
1555 N. 17th Ave.
Greeley, CO 80631
(970) 304-6415

Pikes Peak Region

Pikes Peak Area Council of Governments
15 S. Seventh Ave.
Colorado Springs, CO 80905
(719) 471-7080

El Paso County
Department of Health and Environment
301 S. Union Blvd.
Colorado Springs, CO 80910
(719) 578-3137

Park County
Environmental Health Officer
P.O. Box 216
Fairplay, CO 80441
(719) 836-2771

Teller County
Environmental Health Officer
P.O. Box 118
Woodland Park, CO 80863
(719) 687-3048

South Central Region

Pueblo City-County Health Department
151 Central Main
Pueblo, CO 81003
(719) 583-4323

Las Animas-Huerfano
District Health Department
412 Benedicta Ave.
Trinidad, CO 81082
(719) 846-2213
--and--
119 E. 5th St.
Walsenberg, CO 81089
(719) 738-2650

Western Slope Region

Archuleta County
Box 1507
Pagosa Springs, CO 81147

City of Aspen
130 S. Galena
Aspen, CO 81611
(970) 920-5075

Chaffee County
Environmental Health Officer
P.O. Box 699
Salida, CO 81201
(970) 539-2124

Delta County Health Department
255 W. 6th St.
Delta, CO 81416
(970) 874-2165

Eagle County Environmental Health Division
P.O. Box 850
Eagle, CO 81631
(970) 328-8755

Fremont County and Cañon City
P.O. Box 1460
Cañon City, CO 81215-1460
(719) 269-9011

Garfield County
Environmental Health Officer
109 8th St., Ste. 303
Glenwood Springs, CO 81601
(970) 945-2339

Gunnison County
Environmental Health Officer
County Courthouse
Gunnison, CO 81230
(970) 641-4100

Lake County
Environmental Health Department
P.O. Box 513
Leadville, CO 80461
(719) 486-1796

Mesa County Health Department
P.O. Box 2000
Grand Junction, CO 81502
- or -
510 29 1/2 Rd.
Grand Junction, CO 81504
(970) 248-6960

Moffat County and Rio Blanco County
Sanitarian
221 Victory Way
Craig, CO 81624
(970) 824-2643

Montezuma County Health Department
County Courthouse
Cortez, CO 81321
(970) 565-3056

Montrose County
Environmental Health Officer
P.O. Box 1289
Montrose, CO 81401

Pitkin County
0405 Castle Creek Rd.
Aspen, CO 81611
(970) 920-5070

Routt County
Environmental Health Department
Box 770087
Steamboat Springs, CO 80477
(970) 879-0185

San Juan Basin Health Unit
P.O. Box 140
Durango, CO 81302
(970) 247-5702

San Miguel Environmental Health Department
P.O. Box 4130
Telluride, CO 81435
(970) 728-0447

Summit County
Environmental Health Department
Box 626
Frisco, CO 80443
(970) 668-0727

Town of Vail
75 S. Frontage Rd.
Vail, CO 81657-509
(970) 479-2138

Appendix

Colorado Air Quality Regulations
Health-Related Air Pollutants
Enforcement Report Summary, 2005-2006

Colorado Air Quality Regulations

www.cdphe.state.co.us/regulate.asp

Procedural Rules

The rules that the commission operates under for its regular monthly meetings and public hearings.

Ambient Air Quality Standards Regulation

This regulation establishes ambient air quality standards for the state of Colorado and dictates monitoring procedures and data handling protocols. It also defines nonattainment area boundaries for locations in the state which historically have violated federal and state air quality standards. In addition, the regulation contains the state's urban visibility standard and sets emission budgets for nonattainment areas.

State Implementation Plan Specific Regulation

This regulation defines specific requirements concerning air quality control strategies and contingency measures for nonattainment areas in the state.

Particles, Smoke, Carbon Monoxide and Sulfur Oxides

Regulation No. 1

Regulation No. 1 sets forth emission limitations, equipment requirements and work practices (abatement and control measures) intended to control the emissions of particles, smoke and sulfur oxides from new and existing stationary sources. Control measures specified in this regulation are designed to limit emissions into the atmosphere and thereby minimize the ambient concentrations of particles and sulfur oxides.

Odor Control

Regulation No. 2

Regulation No. 2 sets standards for allowable odor contaminants for different land-use areas in the state and outlines control measures that can be taken to bring violators into compliance.

Air Pollution Emission Notices-Permits

Regulation No. 3

Regulation No. 3 requires air pollution sources to file Air Pollution Emission Notices. It also requires that new or modified sources of air pollution – with certain exemptions – obtain preconstruction permits. Very large facilities also are required to obtain operating permits.

Woodburning Controls

Regulation No. 4

Regulation No. 4 requires new stove and fireplace inserts to meet federal certification in specified areas of the state.

New Source Performance Standards

Regulation No. 6

Regulation No. 6 sets standards of performance for specific new stationary sources in Colorado. The regulation is designed to bring new sources into compliance with the U.S. Environmental Protection Agency's New Source Performance Standards. In addition, the regulation sets standards for new industries that are unique to Colorado for which the EPA has not yet set standards.

Volatile Organic Compounds Control

Regulation No. 7

Regulation No. 7 controls the emissions of volatile organic compounds, primarily in the Denver-metro area. It sets standards and mandates controls for specific types of volatile organic compound sources.

Hazardous Air Pollutants Control

Regulation No. 8

Regulation No. 8 sets forth specific work practices, emission control requirements and standards for hazardous air pollutants.

Open Burning, Prescribed Fire and Permitting

Regulation No. 9

Regulation No. 9 applies to all open burning activities throughout the state to control smoke and emissions from such fires. The regulation sets forth requirements for permitting including prescribed fires, controlled burns and significant users of prescribed fires.

Transportation Conformity

Regulation No. 10

Regulation No. 10 defines the criteria the Colorado Air Quality Control Commission uses to evaluate the consistency between state air quality standards/objectives, and transportation planning and major construction activities across the state, as defined in state implementation plans.

Motor Vehicle Inspection Program

Regulation No. 11

Regulation No. 11 requires automobile emission inspection and maintenance programs to be implemented in specified areas of the state for gasoline-powered on-road vehicles. These programs apply to businesses, industry and the general public.

Diesel Vehicle Inspection Program

Regulation No. 12

Regulation No. 12 defines the state's diesel-powered vehicle emission inspection and maintenance program for on-road vehicles.

Oxygenated Fuels Program

Regulation No. 13

Regulation No. 13 requires the use of oxygenated fuels in gasoline-powered motor vehicles in Colorado's Automobile Inspection and Readjustment program areas, except Colorado Springs, from Nov. 1 through Feb. 7.

Chlorofluorocarbons

Regulation No. 15

Regulation No. 15 identifies the requirements to control emissions of ozone-depleting compounds from both stationary and mobile sources.

Street Sanding and Sweeping

Regulation No. 16

Regulation No. 16 sets specification standards for street sanding material and street sweeping practices in the Automobile Inspection and Readjustment program area, and the Denver-metro fine particle nonattainment area.

Acid Rain Control

Regulation No. 18

Regulation No. 18 sets forth the requirement for implementing the state's acid rain program. This program is adopted by reference from the federal program found in 40 C.F.R., Part 72 as in effect on Jan. 6, 1994.

Lead Based Paint

Regulation No. 19

Regulation No. 19 defines the requirements for certifying lead abatement professionals and work practice measures.

Pollutants	Health Effects	Areas Affected in Colorado
Carbon Monoxide (CO) is a colorless, odorless and tasteless gas. It results from incomplete combustion; its major sources in urban areas are motor vehicle emissions and woodburning.	Carbon monoxide affects individuals by depriving the body of oxygen. It enters the body through the lungs and inhibits the body's ability to transport oxygen. Carbon monoxide can reduce a healthy person's ability to perform manual tasks, and it can affect pregnant women, fetuses, anemic individuals and persons with cardiovascular diseases.	No violations statewide since 1995.
Particulate Matter (PM) describes the tiny particles of solid or semi-solid material found in the atmosphere, often referred to as dust. It is classified according to size: •TSP= total suspended particles •PM10 = particles smaller than 10 microns •PM2.5= particles smaller than 2.5 microns	Particulate matter can reduce lung function, aggravate respiratory conditions and may increase the long-term risk of cancer or development of respiratory problems.	Elevated PM levels occur in high-density urban areas and communities where blowing dust or residential burning is a problem. The most recent exceedances were in Alamosa and Lamar in 2002 and Denver in 2001.
Ozone (O_3) is a highly reactive form of oxygen; it is not emitted directly from a source, rather it is formed from the reaction of pollutants with sunlight. Ground-level ozone (photochemical smog) should not be confused with stratospheric ozone – the protective ozone layer located in the upper atmosphere.	Exposure to high concentrations of ozone can impair the function of lungs; it may induce respiratory symptoms in individuals with asthma, emphysema or reduced lung function; it potentially can reduce immune system capacity; and it can act as an irritant to mucous membranes of eyes and throat.	Suburban areas downwind of urban areas are most affected. Violation of the 8-hour standard in the Denver-metro area last occurred during the summer of 2003.
Sulfur Dioxide (SO_2) is a colorless gas with a pungent odor at high concentrations; it is highly soluble with water and is a major contributor to "acid rain." It is emitted primarily from combustion sources.	Sulfur dioxide can aggravate an individual's respiratory tract, impair pulmonary functions and increase the risk of asthma attacks.	All of Colorado has met the standard.
Lead (Pb) exists in the atmosphere primarily as an inhalable particulate; its primary source is motor vehicles that burn leaded gasoline.	Lead can impair an individual's production of hemoglobin; cause intestinal cramps, peripheral nerve paralysis, anemia and severe fatigue.	All of Colorado has met the standard.
Asbestos is a mineral fiber found in building materials and automobile brake linings.	Asbestos can cause respiratory problems and increase the risk of lung cancer. It can cause asbestosis – a scarring of the lung tissue which restricts breathing; it also can cause mesothelioma – cancer of the lung and intestinal lining.	Buildings where asbestos has been used are of primary concern, particularly during removal or renovation.
Nitrogen Dioxide (NO_2) is a gas contributing to photochemical smog (ozone) production. It is a by-product of oxides of nitrogen emitted from combustion sources and motor vehicles.	Nitrogen dioxide can increase respiratory problems, cause mild symptomatic effects in asthmatic individuals and increase susceptibility to respiratory infections.	All of Colorado has met the standard.
Hazardous Air Pollutants are pollutants known or suspected of causing cancer or other serious health effects.	Hazardous air pollutants can increase risk of cancer, sterility and nervous system disorders.	Statewide

State & Federal Air Pollutant Standards	State & Local Programs/Strategies To Reduce Air Pollutants
Two state and federal carbon monoxide standards exist. Both standards average the concentration of carbon monoxide across specified time periods – one hour and eight hours. The 1-hour standard is set at 35 parts per million and the 8-hour standard is set at 9 parts per million.	Basic and Enhanced Automobile Inspection and Maintenance Programs, Oxygenated Gasoline Program, transportation planning, travel reduction programs, residential burning controls, stationary source controls and pollution prevention programs, High Pollution Advisory Program.
Federal and state standards for particulate matter apply to particles less than 2.5 microns in aerodynamic diameter (fine particles, PM2.5) and under 10 microns (coarse particles, PM10). The PM2.5 and PM10 standards average concentration levels on a 24-hour and annual basis. The 24-hour standard for PM2.5 is 65 ug/m^3 (micrograms per cubic meter) applied to the 98th percentile sample; the annual standard is 15 ug/m^3. For PM10 the standards are 150 ug/m3 (24-hour) and 50 ug/m^3 (annual).	Diesel Emissions Control Program, street sanding and street sweeping improvements, transportation planning, Basic and Enhanced Automobile Inspection and Maintenance Programs, travel reduction programs, residential burning controls, stationary source controls and pollution prevention programs, High Pollution Advisory Program.
8-hour standard: An area will attain the standard when the 4th highest daily maximum 8-hour concentration, averaged over three years, is equal to or below 0.085 ppm. **1-hour standard:** An area violates the standard when the hourly peak ozone concentration is 0.125 ppm or greater more than three times in three years.	Basic and Enhanced Automobile Inspection and Maintenance programs, gasoline transfer controls, substitution of non-reactive hydrocarbons, solvent control and pollution prevention programs, summertime Ozone Advisory Program
Three state and federal sulfur dioxide standards exist. Each considers average concentration levels across specified time periods. An annual standard is set at 0.03 parts-per-million, a 24-hour standard is set at 0.14 ppm and a 3-hour standard is set at 0.5 ppm.	Colorado Air Quality Control Commission regulations control sulfur dioxide emissions from industry.
The federal lead standard is averaged across 3-month time periods. During any three months, the lead concentration is not to exceed 1.5 ug/m^3. The state lead standard is averaged across 1-month time periods and is not to exceed 1.5 ug/m^3.	Leaded gasoline phase out and stationary source controls.
The state standard for asbestos is set at 0.01 fibers /cc (fibers per cubic centimeter) or 70 structures per square millimeter depending on the measurement method.	Colorado Air Quality Control Commission Regulation No. 8 controls asbestos removal and abatement statewide.
The nitrogen dioxide standard averages concentration levels on an annual basis and allows up to 0.053 parts-per-million of nitrogen dioxide per year.	Colorado Air Quality Control Commission regulations control the emissions of oxides of nitrogen.
Approximately 20 federal and state standards exist and are control technology based.	Residential burning controls and state/local pollution prevention programs reduce the prevalence of hazardous air pollutants.

Stationary Sources Program Enforcement Update

Purpose

This portion of the report is intended to satisfy the requirement in section 25-7-105(5)(c), CRS, which requires the Colorado Air Quality Control Commission to prepare and make available to the public a report that includes a list of all alleged violations of emission control regulations, and show the status of control procedures in effect with respect to each such alleged violation.

The full enforcement report is available on-line at www.cdphe.state.co.us/ap/enforcerept.asp. A summary of enforcement statistics is provided on the following page.

Enforcement Program

The Field Services Unit regulates stationary sources, including open burning and odors. The unit has been focusing more on early settlement agreements in lieu of issuing Notices of Violation and Compliance Orders. Upon discovery of a violation, the inspector typically will draft and send a Compliance Advisory (CA) to notify the source of the noncompliance issues. The Compliance Advisory includes a statement that the company should contact the inspector to discuss the noncompliance issues. Upon discussing the issue internally and with the company, unit staff will decide whether to dismiss the violation, issue a Warning Letter, proceed with early settlement discussions or proceed with a formal enforcement action (issue a Notice of Violation). Many of the cases are settled prior to issuance of a Notice of Violation.

The Chlorofluorocarbon Unit enforces Regulation No. 15 concerning the control of chlorofluorocarbons. Most of the enforcement actions by this unit involve notification and certification requirements. As a result, the Chlorofluorocarbon Unit often sends out early settlement agreement offers and Compliance Advisories. It issues few Notices of Violation.

The Asbestos Unit regulates companies involved in the abatement of asbestos. Building owners and schools also are affected by asbestos control rules. In regulating schools, the Asbestos Unit issues Notices of Noncompliance (NONs) which require the school to take certain steps to come into compliance. Typically, if the school comes into compliance within the stated time period, the division does not require the school to pay a civil penalty. The Asbestos Unit is not legally required to, but typically does issue a Notice of Violation (NOV) at the onset of an enforcement action. After a Notice of Violation conference is held, the Asbestos Unit issues a Warning Letter, dismisses the action, attempts to reach an early settlement agreement in the form of a Compliance Order on Consent (COC), or issues a Compliance Order (CO).

The table on the following page is a summary of the number of enforcement documents.

Enforcement Statistics July 2005 - June 2006

Actions	Field Services Unit	Asbestos Unit	CFC Unit
Warning Letters	14	42	9
Compliance Advisories	109	0	0
Notices of Violations	14	28	4
Notices of Noncompliance (schools only)	0	40	n/a
Compliance Orders	2	14	0
Compliance Orders on Consent and Early Settlement Agreements	90	18	13
AQCC Hearings	0	0	0
Referrals to Attorney Generals Office	0	0	0
Referrals to EPA	0	1	2

Glossary of Terms

Compliance Advisory (CA): The division issues these to provide timely notice to a facility of apparent violations found during an inspection. The division may or may not initiate a formal enforcement action, depending on the type of violation and the response of the facility.

Compliance Order (CO): If the division determines that a violation or noncompliance did occur after a notice of violation conference, it may issue a compliance order. The order includes the final determinations of the division regarding the violation or noncompliance, a summary of the proceedings at the notice of violation conference, and an evaluation of the evidence considered by the division in reaching its final determination of law.

Compliance Order on Consent (COC): A settlement agreement or express terms, mutually agreed upon in writing, between the recipient of an informal notice of noncompliance, notice of violation, or compliance order and the division, resolving the discovered noncompliance issues.

Noncompliance Penalty (NCP): A penalty assessed pursuant to § 25-7-115(5), C.R.S., to ensure a source does not reap the economic benefit of noncompliance with a federal requirement, as required under 42 U.S.C. § 7420.

Notice of Noncompliance (NON): Issued to a school and requires the school to take certain steps to come into compliance. Typically, if the school comes into compliance within the stated time period, the division does not require the school to pay a civil penalty.

Notice of Violation (NOV): Issued by the division to provide specific notice to a company of the provisions alleged to have been violated, and the division's factual basis and legal conclusions for the allegations.

Warning Letter: A written notification to a source that the division has documented a violation, that further recurrence could result in enforcement action being taken, but that no further enforcement action will result directly from the instant violation.