

Colorado

Air Quality Control Commission

Report to the Public 2003-2004



Colorado Department
of Public Health
and Environment

Colorado Air Quality Control Commission

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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,

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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:
Doug Blewitt	Englewood	January 31, 2005
Robert E. Brady Jr., <i>chair</i>	Lakewood	January 31, 2007
Jim Evans	Grand Junction	January 31, 2007
John Daily	Boulder	January 31, 2006
Robert Lowdermilk	Denver	January 31, 2005
Jim Martin	Longmont	January 31, 2006
Chris Neumann	Denver	January 31, 2007
Cynthia Peterson, <i>vice chair</i>	Littleton	January 31, 2005
Marian Smith	Glenwood Springs	January 31, 2006

Douglas A. Lempke, Technical Secretary

Marla Biberstine, 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, 2004

Dear fellow Coloradoan,

The Colorado Air Quality Control Commission presents this annual Report to the Public about the quality of Colorado's air. This report summarizes the progress made and the current state of our air quality.

The Colorado Air Quality Control Commission is the state agency responsible for developing and adopting regulatory programs to protect and improve air quality in Colorado. We consist of nine Governor-appointed and Senate-confirmed citizens with many varied backgrounds. We protect and improve air quality through both regulation and State Implementation Plans (or SIPs).

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

Colorado's air quality management program regulates air pollutant emissions from:

- cars and trucks,
- electric power generation,
- stationary sources (large and small),
- wood burning,
- 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.

Please see page nine of this report for highlights of this year's activities of the commission and the air quality management program.

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.

More information about the commission and Colorado's air quality management program can be found at <http://www.cdphe.state.co.us/op/aqcc/aqcchom.asp>

Sincerely,

Robert E. Brady
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. Many older citizens can testify that soot had to be shaken from clothes hung outside to dry on washday. 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 slowly replaced by natural gas. Nationally, scientists and health authorities were beginning to recognize the consequences of unhealthy emissions into the air.

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

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

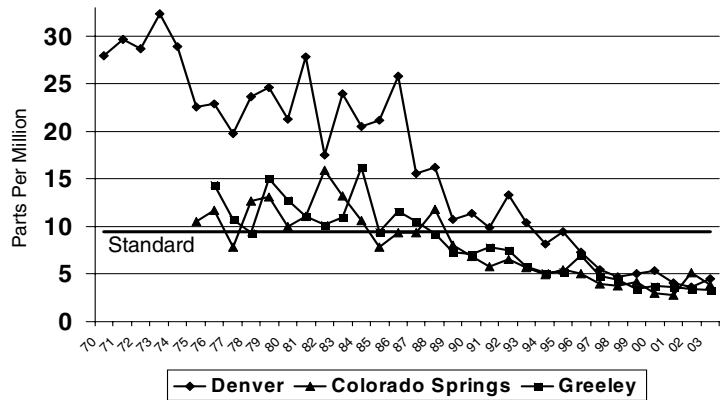
In 1975, Denver had 177 days in which its air was in "unhealthy" categories, ranking second dirtiest behind Los Angeles. The Air Quality Control Commission designated high pollution areas of the state as "nonattainment" with the U.S. Environmental Protection Agency's air quality standards. The commission instituted measures to reduce pollutant levels below the standards.

By 2002, Colorado had accomplished a milestone that had seemed impossible in the 1970s. In 2002, the U.S. Environmental Protection Agency redesignated the Denver area as "in attainment/maintenance." The Denver area was the first urban nonattainment area in the nation to be redesignated to attainment status.

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

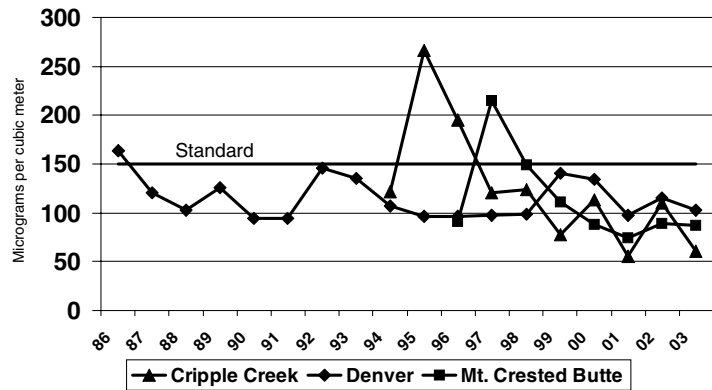
Carbon Monoxide Trends

2nd 8-hour maximum value



PM10 Trends

2nd maximum value, 24 hour average



- automobile manufacturers who improved the emissions control systems on their vehicles to meet the high standards set by regulation;
- 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.

For several years the Denver-metropolitan area had not violated any of the Environmental Protection Agency's standards for the criteria pollutants. In the summer of 2003 ground-level ozone readings violated the U.S. Environmental Protection Agency's new 8-hour ozone standard. In anticipation of violations, and to reduce ozone levels, the Denver-metropolitan area entered into an Ozone Early Action Compact with the U.S. Environmental Protection Agency in December 2002. The commission adopted an Ozone Action Plan in 2004. See page 6 for details.

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.

The carbon monoxide standard has not been

violated since 1995. Carbon monoxide deprives the body of oxygen.

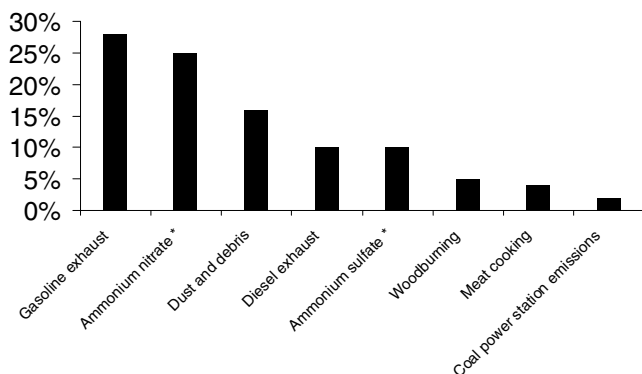
No violations of the coarse particle (PM10) standard have occurred since 1993. PM10 can reduce lung function and cause respiratory problems. In the Denver area most PM10 is caused by dust from roads. Increased street sweeping and the use of alternative deicers as a substitute for road sanding have reduced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

No exceedances of the federal health-based fine particle (PM2.5) standard have occurred since monitoring began. The majority of these particles are generated from motor vehicle exhaust. 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. Denver often exceeds the state standard for urban visibility.

Causes of Particulate Matter Pollution in Colorado

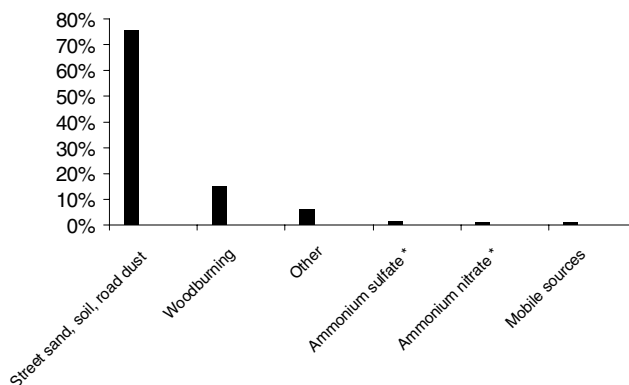
Denver PM2.5 Contributions



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 of 1997.

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. PM2.5 is a pollutant of concern in the metro area because it results in possible respiratory and other health problems and also the "Brown Cloud."

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.

PM10 particles have an aerodynamic diameter of 10 microns or less. PM10 is the pollutant that most commonly exceeds National Ambient Air Quality Standards in mountain communities, where windblown dust and woodburning are primary contributors.

* 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.

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 industry, motor vehicles, and even vegetation contribute to ozone formation.

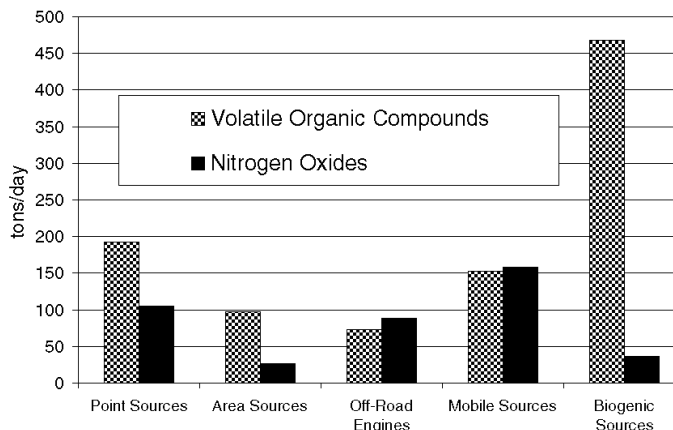
At ground level, ozone can cause breathing difficulties and respiratory infections in the elderly, the young, and those with pre-existing ailments such as asthma. Even healthy people who exercise or work outdoors can experience respiratory effects from ozone.

Ozone is colorless and odorless at ambient concentrations. In the 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 has experienced ozone pollution problems during the past few summers and has developed a plan to reduce ozone levels. See page 4 for details.

Sources Contributing to Ozone Formation



Source: Early Action Compact Ozone Control Plan

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

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.

Causes of Carbon Monoxide Pollution

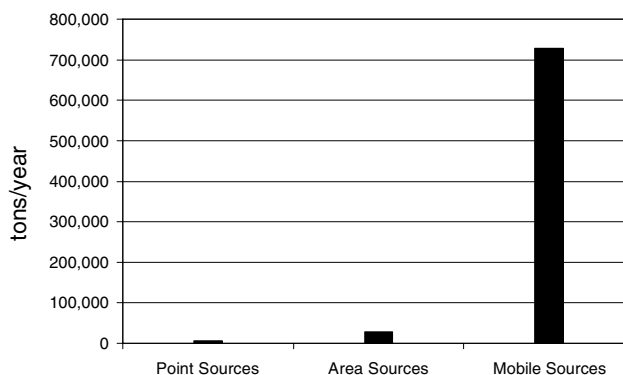
Carbon monoxide is produced primarily during the incomplete combustion of fuels used for transportation and heating. It is the largest single fraction of pollutants found in urban atmospheres. About 90 percent of carbon monoxide in the Denver area comes from motor vehicles. Other sources are woodburning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

Sources of Carbon Monoxide

Central Front Range



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.

Colorado Air Quality Control Commission

Commission Roles and Responsibilities

The Colorado Air Quality Control Commission is the state agency 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 programs they adopt. 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 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.

More information about the commission and Colorado's air quality management program can be found at www.cdphe.state.co.us/op/aqcchom.asp.

Commission Establishes Air Quality Priorities

Each year the Colorado Air Quality Control Commission conducts an annual planning meeting in May. At this meeting the commission and Air Pollution Control Division work together to plan air quality management program revisions for commission consideration in the coming year. During this planning session the commission develops its list of air quality priority agenda items that it will focus on during the coming year.

The Colorado Air Quality Control Commission has established the following priority items for the current year.

Attainment/Maintenance Plans

- Evaluate mobile source emission control strategies for the central Front Range.
- Develop new emission budgets for all five carbon monoxide maintenance areas and the Denver Ozone and PM10 Maintenance plans.
- Review the implementation of voluntary emission reduction programs that the Commission has adopted to determine beneficial impacts on Denver metropolitan area air quality.

- Continue efforts to prevent violations of the ozone standards.

Mobile Sources

- Develop a high emitter program to implement after the enhanced and basic emissions programs are no longer necessary. Include smoking vehicles in this plan.
- Re-evaluate the Inspection and Maintenance Program boundary, the effectiveness of the program in reducing ozone, the overall effect of vehicle emission control systems (as well as their costs), the effect of reduced volatility fuel sold in the Denver metropolitan area, and the effect of elevated summertime temperatures on vehicle emissions.
- Readdress the gasoline vehicle repair waiver limit in the Summer or Fall of 2004.
- Increase efforts to educate the public on air quality benefits of regular vehicle maintenance.
- Implement recent legislation for the diesel vehicle emissions inspection programs.
- Reconsider the usefulness of the winter-time oxygenated fuels program for reducing

carbon monoxide now using the MOBILE6 model.

Pollution Prevention and Incentives

- Actively participate on the Pollution Prevention Advisory Board.
- Promote the voluntary Community Based Environmental Program approach in smaller communities that have specific air quality problems.
- Promote greater education of the effects of indoor air quality and how to mitigate the impacts
- Participate in the development and implementation of the Environmental Management System Permit Pilot Project to streamline the permitting process for industry.

Regional Haze/Visibility

- Implement a stakeholder review process beginning with the development of a regional haze plan.
- Develop a protocol to evaluate the emission inventory data and how the modeling will be conducted to project future visibility in Colorado Class I Areas.
- Develop a better understanding of the nature and causes of haze in each of Colorado's Class I Areas (national parks and some wilderness areas).
- Continue obtaining as much useful air quality meteorological data as is available for conducting visibility analyses.
- Promote the implementation of Voluntary Emission Reduction Agreements to achieve visibility improvements that can be applied to the Regional Haze Program.

New Source Review

- Monitor and track any developments in this program.
- Initiate a subcommittee for stakeholder discussions about the development of a regulatory proposal to reflect the changes in the New Source Review Program.

Ozone Early Action Compact

- Participate in Ozone Early Action Compact (EAC) follow-up efforts.
- Schedule detailed briefings on the Source Apportionment Analysis.
- Evaluate the impacts of EPA's requirement for 7.8 Reid vapor pressure (Rvp) fuel versus the 8.1 Rvp the commission agreed to in the EAC.
- Review the emission inventories for the oil and gas sector and gauge uncertainty in the numbers.
- Receive up-to-date information on the summertime ozone ambient monitoring data.

Ozone Early Action Compact

Colorado is in the midst of an effort to reduce ozone air pollution. In the summer of 2003 ground-level ozone readings violated the U.S. EPA 8-hour ozone standard.

Air quality officials had anticipated a potential violation, and in 2002 entered into an Ozone Early Action Compact with EPA to reduce ozone levels and avoid being classified as a high ozone pollution area.

The EAC was signed by the Regional Air Quality Council, the Colorado Department of Public Health and Environment, the Colorado Department of Transportation, the Colorado Air Quality Control Commission and the Denver Regional Council of Governments in December 2002. The U.S. EPA signed the agreement on December 31, 2002.

In April 2004, the EPA, as expected, declared seven metro Denver counties and parts of two others out of compliance with the ozone standard. Under the Early Action Compact The EPA will defer any nonattainment designation and give the area until 2007 to demonstrate attainment of the standard.

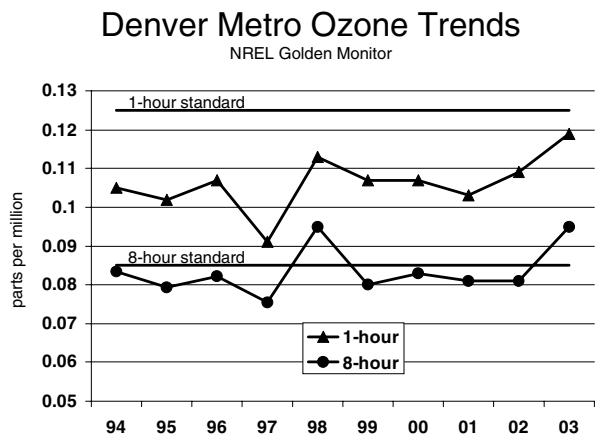
The EAC requires both voluntary and mandatory air pollution controls. The EAC allows a region to submit an enforceable Ozone Action Plan outlining steps the region will take to maintain compliance with the ozone standard.

Stakeholder meetings were held throughout 2003 to develop the Ozone Action Plan. Detailed technical analysis and air quality modeling was conducted to develop the control strategies.

The Colorado Air Quality Control Commission adopted the Ozone Action Plan on March 12, 2004.

Ozone Levels in 2004

Through August of 2004, there were no exceedances of either the 1-hour or 8-hour ozone standards. By contrast, there had been



more than 50 exceedances of the standards during the summer of 2003. Cooler, cloudier weather and lower volatility gasolines may explain the better summer air quality in 2004.

Ozone Controls

The ozone controls found in the Ozone Action Plan include:

- Gasoline sold in the Denver metro counties will be subject to 8.1 pounds per square inch Reid Vapor Pressure (EPA has since required a stricter 7.8 RVP).
- Reduction of flash emissions of volatile organic compounds from condensate collection, storage, processing and handling operations.
- Installation of controls on lean and rich-burn natural gas fired reciprocating internal combustion engines larger than 500 horsepower.
- Reduction of emissions of volatile organic compounds from new and existing dehydration towers at oil and gas operations with emissions in excess of 15 tons/year.
- No more than 50 percent of the vehicle fleet currently in the Inspection and Maintenance (I/M) program can be evaluated with remote sensing to reduce the I/M disbenefit.

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
- Clean Screen 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 northern 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 EPA'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 wood stove 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 air 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 are developed for areas of the state that don't 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

Ozone Action Plan

An Ozone Action Plan to bring Denver into compliance with the 8-hour federal ozone standard by 2007 has been developed under the Denver Ozone Early Action Compact. The Denver area violated the ozone standard in 2003, and the Ozone Action Plan requires new controls on sources of emissions that contribute to ozone formation. See page 6 for details.

New Source Review Changes

Changes to federal and state air quality permitting regulations for major sources of air pollution were developed by the Air Pollution Control Division and adopted by the Colorado Air Quality Control Commission in April 2004.

The changes were made under the New Source Review Program, which is outlined in the federal Clean Air Act and designed to reduce air pollution emissions. Specifically, the program applies to both the construction of new industrial facilities and to existing facilities that make major modifications that significantly increase pollution emissions. It seeks to protect air quality even as new sources of air pollution are built and existing sources expand.

The U.S. EPA made a number of regulatory revisions to the New Source Review Program. In turn, each state was required to adopt or modify existing state regulations to match the federal revisions.

RapidScreen Deployed

The Denver RapidScreen program was deployed in 2003. The program increases motorists' convenience through roadside emissions testing and pay upon registration, saving a trip to the inspection station. The program has been in place in Larimer and Weld counties since 2002.

Testing vans are located throughout the metro area. Motorists that want more information about RapidScreen, including current van locations, can check the website at: www.aircarecolorado.com/rapidscreen/

Change of Ownership Inspection Reduced

Gasoline powered vehicles with more than

12 months left on their four-year new vehicle exemption no longer need a change-of-ownership emissions test. This change, effective January 1, 2004, is expected to remove approximately 150,000 vehicles from the inspection program in the Denver area and save motorists almost \$4 million in inspection and repair costs.

State Attains PM2.5 Standard

The Colorado Air Quality Control Commission in July 2003 approved Colorado for designation as an attainment area for the federal standard for fine particles, or PM2.5. The standard was adopted by the U.S. EPA in 1997. Court challenges initially delayed the implementation of the standard.

The Air Pollution Control Division established a PM2.5 monitoring network several years ago. No violations have occurred in the areas monitored, and the commission was able to approve the state for attainment of the standard, or "unclassifiable" where no monitoring exists.

The designation approval was submitted to EPA by Gov. Bill Owens in January 2004.

Regional Haze Plan

The Air Pollution Control Division has continued to develop a state implementation plan to meet requirements of the 1999 federal Regional Haze Rule. The rule requires states to address haze in Mandatory Class I Areas, which are wilderness areas and national parks. There are 13 such Class I areas in Colorado.

The plan is due to the EPA in January of 2008 and must demonstrate that visibility improvements will be achieved by 2018. Ultimately, haze levels must be reduced to natural conditions by the year 2064.

The Air Pollution Control Division is awaiting analysis of Class I Area monitoring data. This analysis, along with other studies, will help determine needed emissions reductions and what sources may be contributing to haze in Class I areas. If industrial facilities in other states impact Colorado's Class I areas or vice versa, interstate agreements for emission reductions must be included in the plan.

Vehicle Emissions Inspection Program

The following is a summary of the automobile Inspection and Maintenance Program for 2003. 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 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. The tailpipe idle test is in effect in Colorado Springs, Fort Collins and Greeley. Denver vehicles older than 1982 are also subject to the idle test.

During 2003, approximately 1.3 million initial emissions inspections were performed with 923,000 inspections in the Denver area and 373,000 in the areas outside of Denver. An estimated 300,000 of the total inspections were performed due to transfer of vehicle ownership. Another 400,000 vehicles in the fleet were exempted from inspection due to a new vehicle exemption for the first four model years.

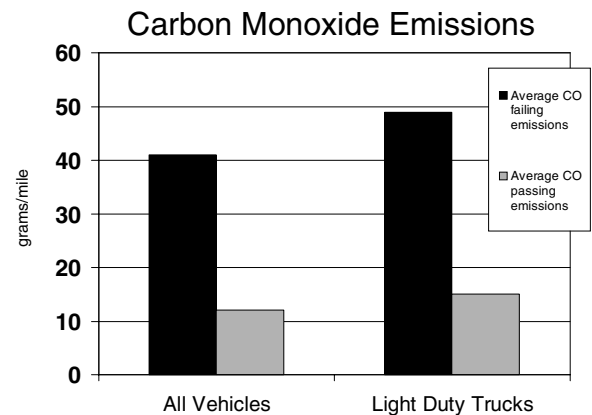
Program Results

Vehicles in the Denver program area had a failure rate of 5.5 percent for the I/M 240 test and 13.6 percent for the idle test. The rate of failure in the basic program areas of Larimer, El Paso, and Weld counties was 10.8 percent. The net cost of the total program during 2003 is estimated at \$43.6 million. Estimates of the

cost-effectiveness of the Denver area program, based on various methodologies, range from \$200 to \$700 for each ton of carbon monoxide eliminated.

The Colorado Air Quality Control Commission estimates a carbon monoxide reduction benefit of 10-16 percent from I/M depending on the methodology used. Remote sensing studies estimate a 10 percent benefit from the I/M program. Estimates of a 13 percent benefit have been derived from the U.S. Environmental Protection Agency model known as MOBILE 6.2. Estimates of a 16 percent benefit from I/M have been derived from inspection lane data.

Data indicate that repairs to failing vehicles



significantly reduced the emissions of carbon monoxide. The above chart shows reductions in grams per mile after repair. There is a 69 percent reduction in the amount of carbon monoxide emitted by all vehicles.

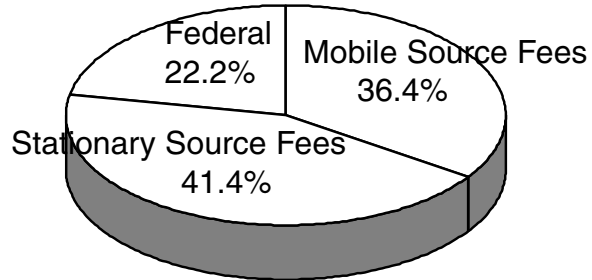
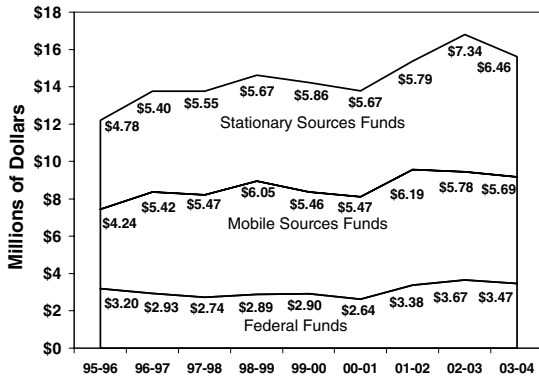
Motor vehicle repairs also reduce emissions of hydrocarbons, a group of pollutants that contribute to ground level ozone pollution. Upon passing a retest, repaired vehicles had a 66 percent reduction in the amount of hydrocarbons emitted.

To improve motorist convenience, the state administers a remote sensing program in the North Front Range area. In 2003, 1,840 vehicles were screened and received I/M passes in the North Front Range area. This number is 82% greater than the number of vehicles screened last year. This number should continue to increase in future years.

Air program fiscal data: July 2003-June 2004

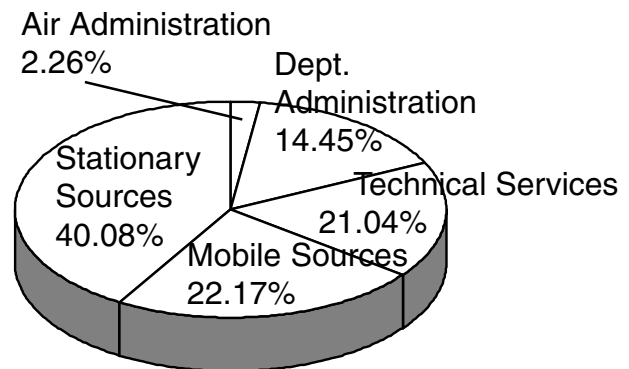
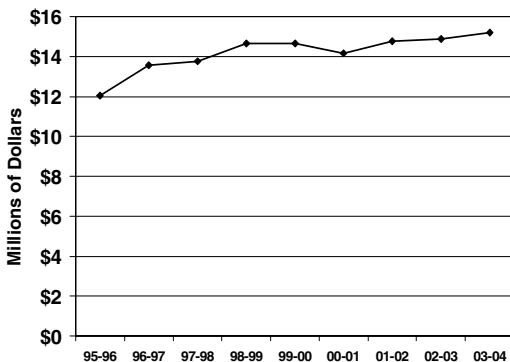
Revenues: \$15.6 million

Revenue History



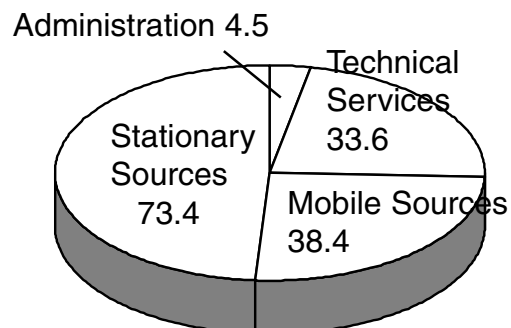
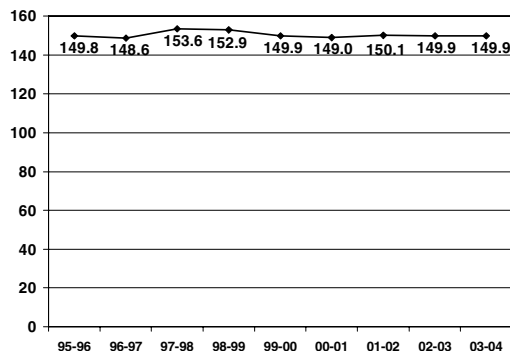
Expenditures: \$15.2 million

Expenditure History



Number of Employees: 149.9

Employment Level History



Regional Air Quality Perspectives

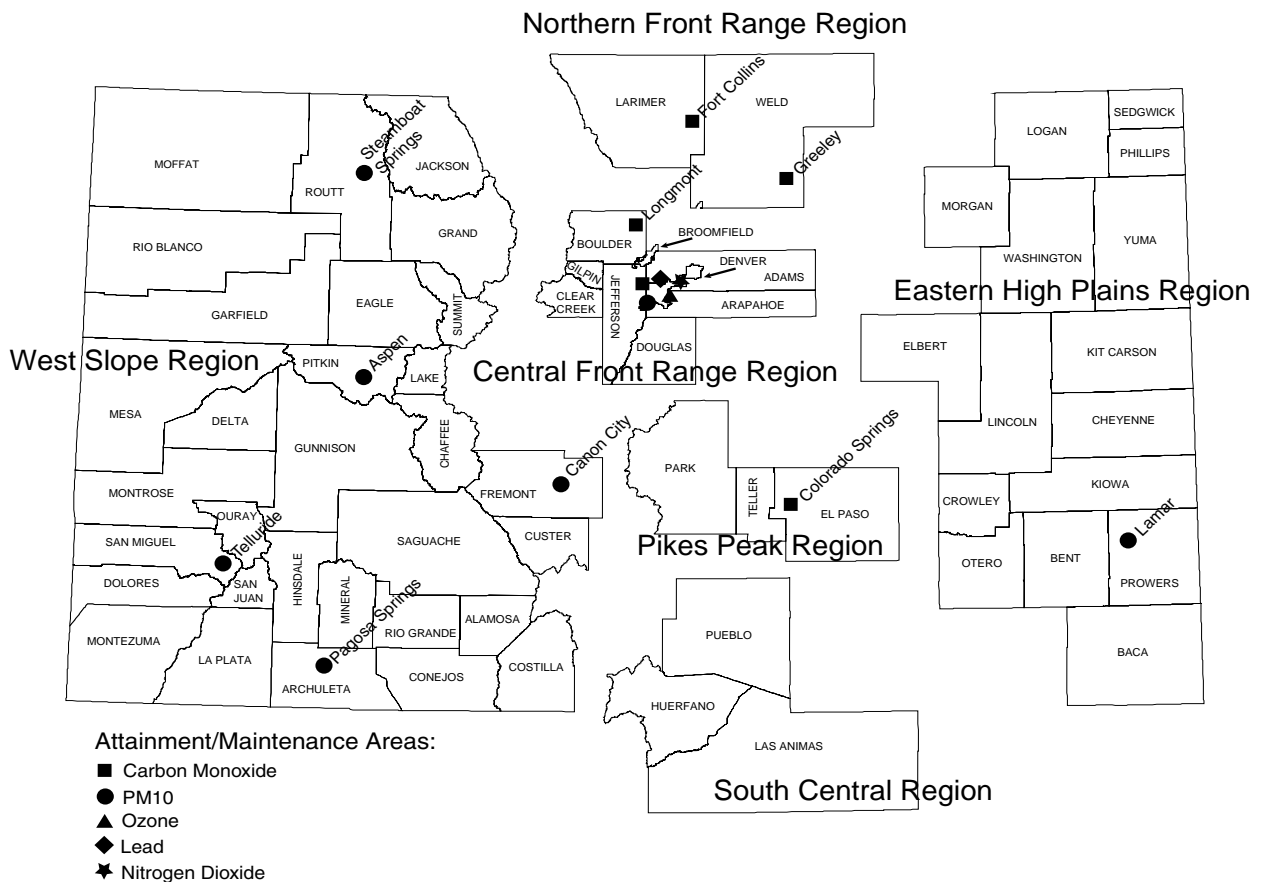
Areas of the state differ greatly from one another in landscape, weather conditions, population, motor vehicle traffic, amount of industry, and burning practices.

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).

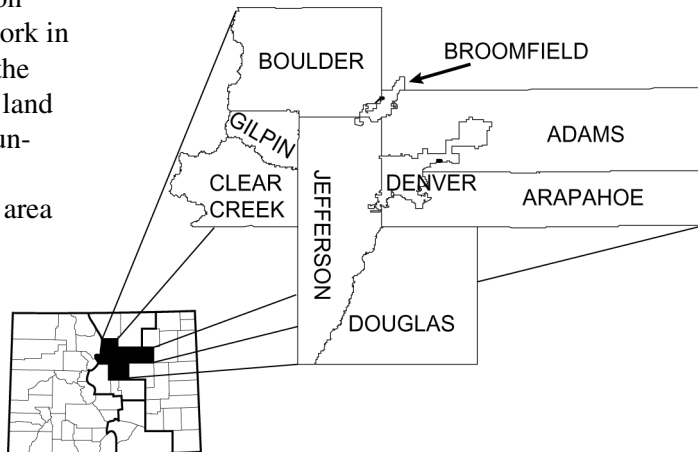


Central Front Range Region

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

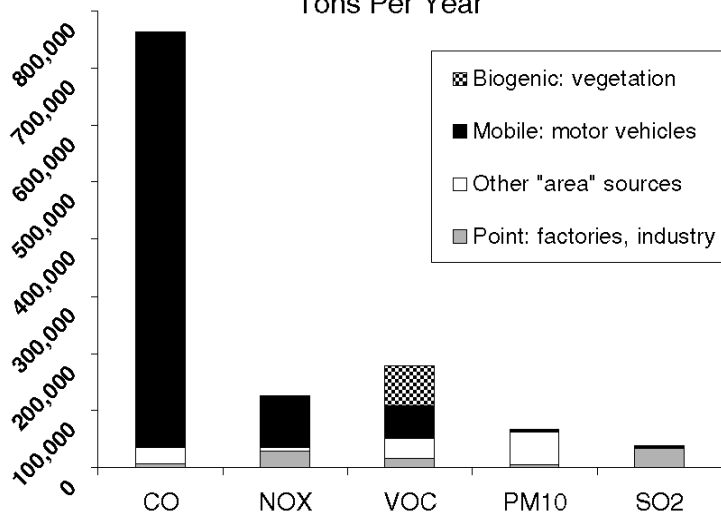
In the Central Front Range Region, air pollution comes from a variety of sources. Substantial emissions occur as a result of motor vehicle use.

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.

Central Front Range Air Pollution Sources
Tons Per Year



CO: Carbon Monoxide
 NOx: Nitrogen Oxide
 VOC: Volatile Organic Compounds
 PM10: Particles under 10 microns
 SO2: Sulfur Dioxide
 HAPs: Hazardous Air Pollutants

Boulder County Public Health

www.co.boulder.co.us/health/enviro.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.

BCPH funds and coordinates the Boulder County Clean Air Consortium, which includes members from the private and public sectors working to improve air quality in Boulder County.

BCPH provides consultation regarding indoor air quality complaints, 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, Ecompass mass transit passes, and flexible work schedules. The county also supports participation in the Regional Air Quality Council's Ozone Alert Pollution Solution programs.

Denver Department of Environmental Health

www.denvergov.org/DEH/

Denver's air quality management program is conducted by the Environmental Protection Division of the Department of Environmental Health. The Environmental Protection 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 Protection 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 violation of the environmental tobacco smoke control ordinance.

The Environmental Protection 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 pollutant emissions from new and expanding industrial operations. Part of the review requires a determination of "undue concentration" of facilities in industrially-zoned areas. In order 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 the department in implementing steps to achieve hazardous air pollutant emission reductions.

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, and 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 "Keep it Clean" 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 (CFCs). The department investigates citizen concerns about radon gas, indoor air quality, and fugitive dust. Staff also issues open burning permits.

Regional Air Quality Council

www.raqc.org

The Regional Air Quality Council (RAQC) is the lead 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 as 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. The Air Quality Index provides health officials with a simple, uniform way to report daily levels of air pollution.

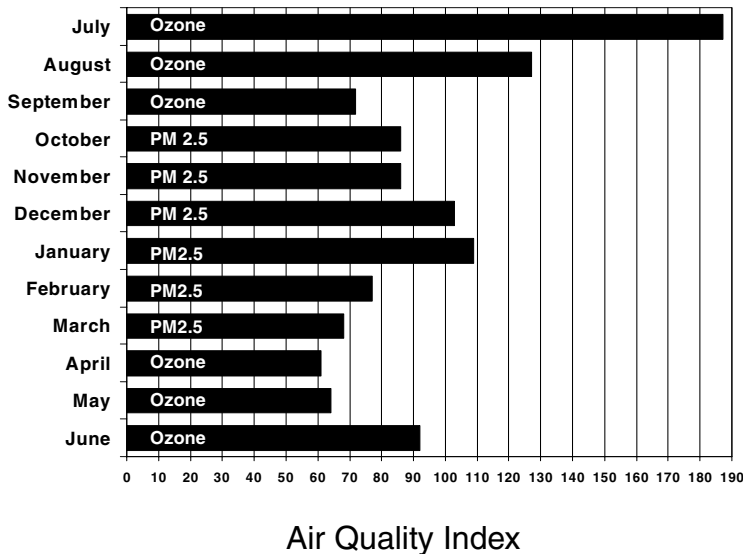
Year round, division staff collect current information about the levels of carbon monoxide, ozone and fine particles for index reporting.

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 2002 and June 2003 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 2003 through June 2004



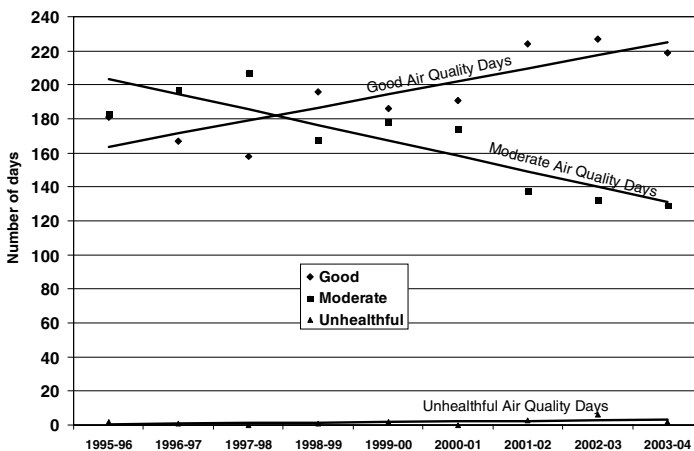
Denver-metro area Air Quality Index readings

The Air Quality Index (AQI) is divided into six air quality categories. These are referred to as 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 301 hazardous air quality.

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

Denver-metro maximum AQI values



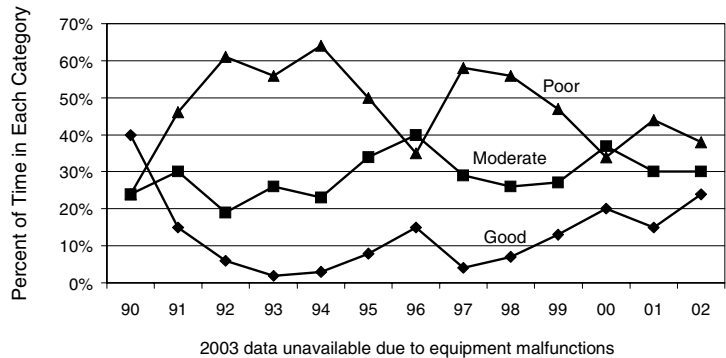
The Visibility Standard Index for Metro Denver

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

Visibility Trends



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.

In 2003 the Air Pollution Control Division reprocessed its visibility data and determined that a 28 percent improvement in visibility has 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 gas 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).



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.

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

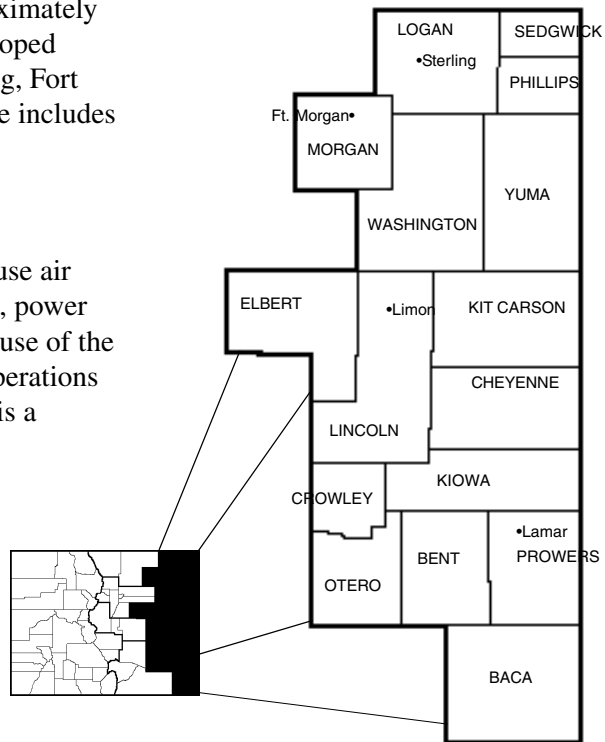
The Eastern High Plains Region encompasses the counties on the plains of eastern Colorado. The area's population is approximately 138,447 (2000 census). Its major urban centers have developed around farming, ranching and trade centers such as Sterling, Fort Morgan, Limon, La Junta and Lamar. The agricultural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

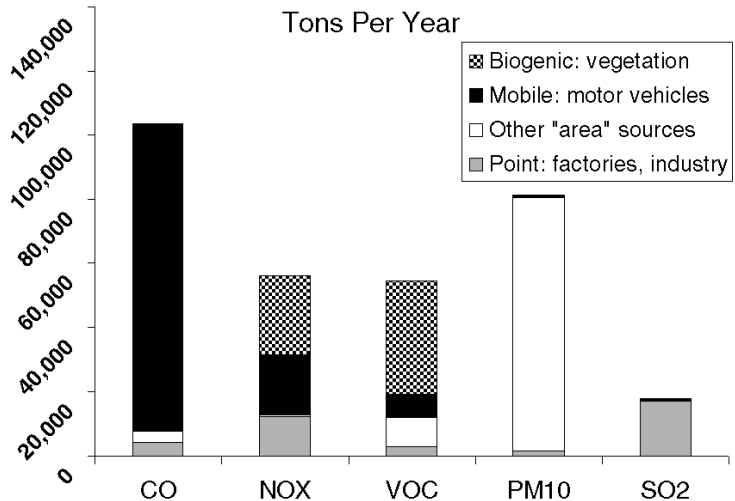
This past year, the City of Lamar's role in air quality was to continue addressing dust abeyance at its source, continued planting of trees and grass, and implementing programs to encourage cleaner yards and streets.

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 in developing 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.

Eastern Plains Air Pollution Sources
Tons Per Year



CO: Carbon Monoxide
 NOx: Nitrogen Oxide
 VOC: Volatile Organic Compounds
 PM10: Particles under 10 microns
 SO2: Sulfur Dioxide
 HAPs: Hazardous Air Pollutants

Northern Front Range Region

The Northern 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.

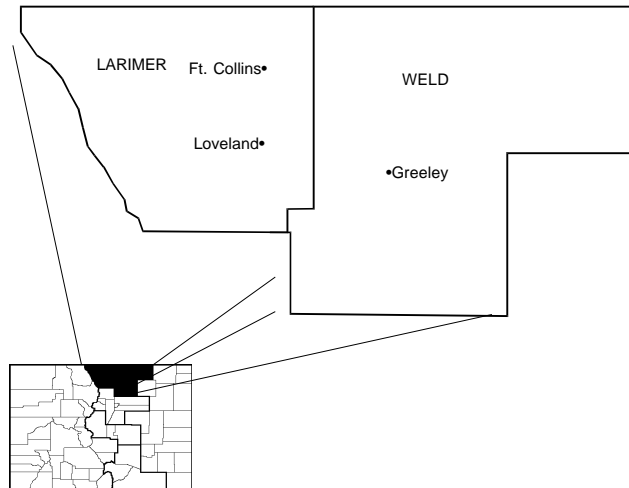
Air Pollution Sources

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.

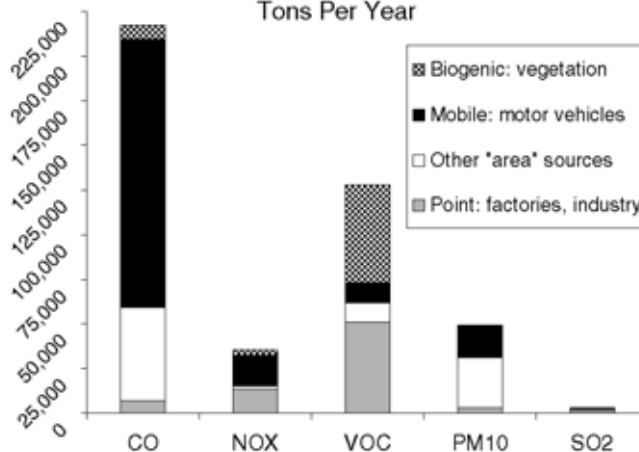
The Northern Front Range continues to grow and add new businesses. Some of these businesses are minor air pollution sources that require emission permits from the Air Pollution Control Division.

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 lead air quality planning agency in the Fort Collins and Greeley areas, and determines strategies to reduce air pollution caused by motor vehicles.



Northern Front Range Air Pollution Sources
Tons Per Year



CO: Carbon Monoxide
 NOx: Nitrogen Oxide
 VOC: Volatile Organic Compounds
 PM10: Particles under 10 microns
 SO2: Sulfur Dioxide
 HAPs: Hazardous Air Pollutants

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.

In July 1999, the city completed 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, as well as 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 PM_{2.5} 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, as well as other transportation related air quality planning projects in the Northern Front Range region.

Voting membership on the council includes Larimer and Weld counties, Fort Collins, Greeley, Loveland, Berthoud, Windsor, Evans, Garden City, LaSalle, Johnstown, Timnath, Milliken, 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 of 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.

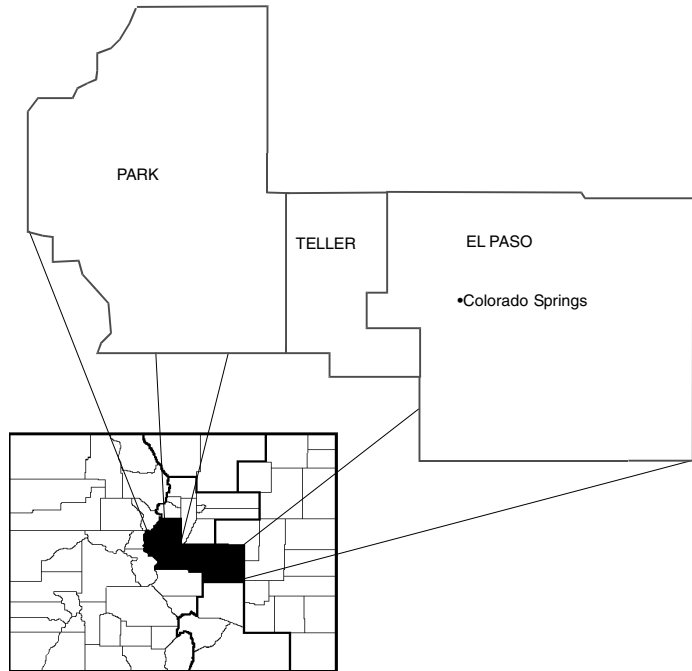
Environmental Health Services conducts investigations of asbestos and chlorinated hydrocarbon issues.

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

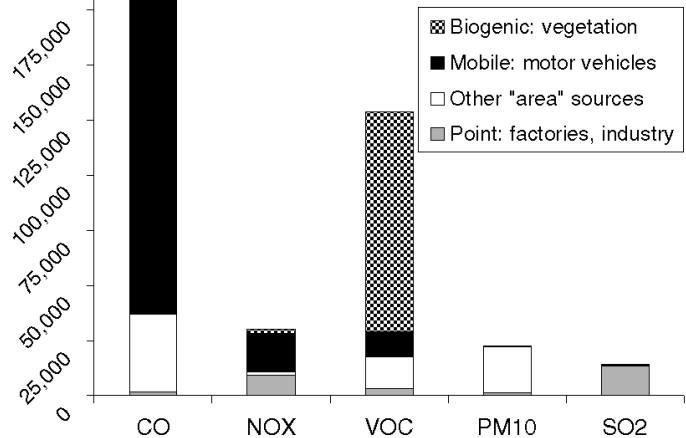
As in other urbanized areas in Colorado, pollutants in the Pikes Peak Region originate primarily from stationary and mobile sources. Major sources in the region include power plants, ready-mix concrete plants, electronics manufacturing facilities, quarries and extensive military operations. Other sources 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, enforcement and public education activities in accordance with the Colorado Air Pollution Prevention and Control Act.

Pikes Peak Region Air Pollution Sources
Tons Per Year



CO: Carbon Monoxide
 NOx: Nitrogen Oxide
 VOC: Volatile Organic Compounds
 PM10: Particles under 10 microns
 SO2: Sulfur Dioxide
 HAPs: Hazardous Air Pollutants

**Pikes Peak Area
Council of Governments**

www.ppacg.com

The Pikes Peak Area Council of Governments is the lead air quality planning agency for the Pikes Peak Region. The council reviews current and emerging air quality issues and goals, and develops plans to improve air quality.

**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, earthmoving 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.

A daily air quality index report is prepared by staff and reported to the public twice a day via a web site and a telephone hotline.

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

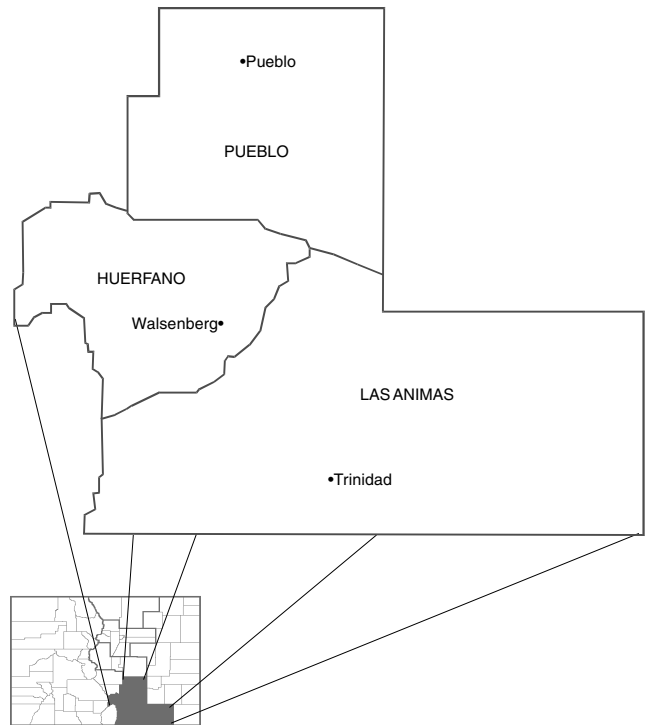
The department also is responsible for enforcement of a local air quality regulation which covers emissions from fugitive dust sources such as earthmoving, demolition, sandblasting and open burning.

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.

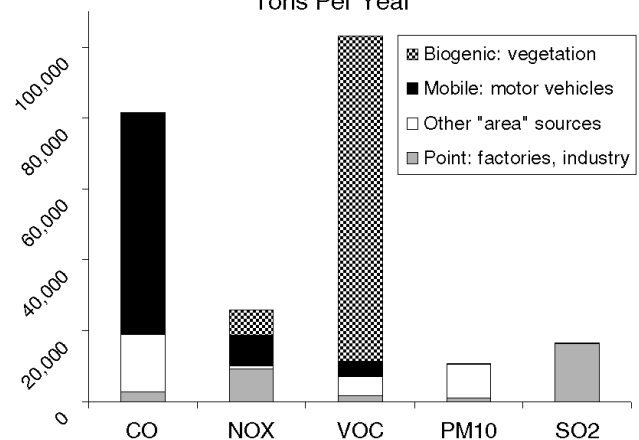


Air Pollution Control Measures

The Pueblo City and 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.

South Central Region Air Pollution Sources
Tons Per Year



CO: Carbon Monoxide
 NOx: Nitrogen Oxide
 VOC: Volatile Organic Compounds
 PM10: Particles under 10 microns
 SO2: Sulfur Dioxide
 HAPs: Hazardous Air Pollutants

Pueblo City-County Health Department

www.co.pueblo.co.us/pcchd

For the past several years, the local air quality program has focused on dealing with fugitive dust originating from land development and construction activities. The local fugitive dust ordinance has been modified to address these issues more effectively.

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 and those involved in these activities are required to sign an agreement which commits them to reasonably control dust generated on their site at the time they acquire a building permit. Since the implementation of the dust control ordinance, the number of dust related complaints continues to show a decline.

The community in Pueblo has continued 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 and in 2004 of a major expansion of the Comanche Power Plant 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.

Pueblo has developed an air quality forum, modeled after similar groups throughout the state, which functions to address air quality issues in the Pueblo area as they develop and to educate the public regarding air quality issues in general.

The Pueblo Health Department also continues to raise public awareness about various air quality issues regardless of the origin of the emissions; i.e., whether the air quality emissions come from stationary source operations or the individual life styles of the residents of the Pueblo community.

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.

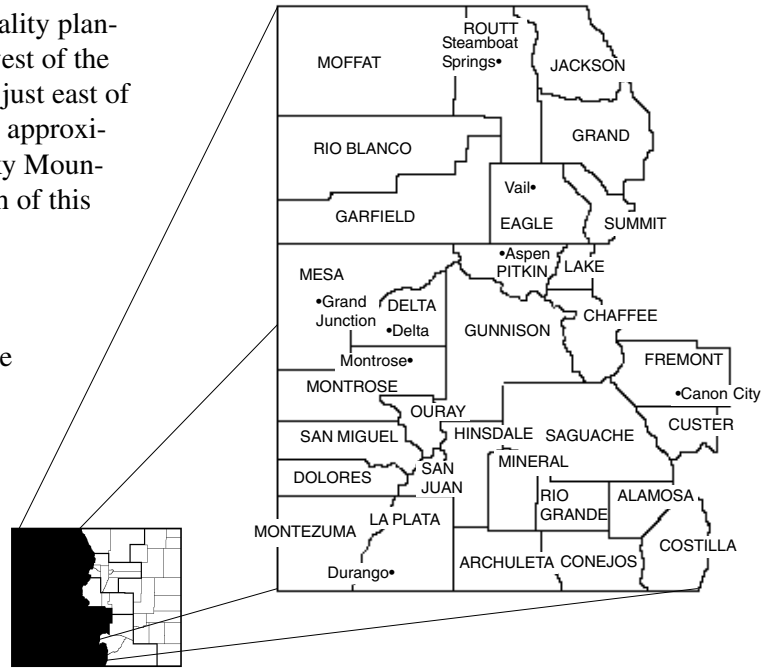
Air Pollution Sources

Air quality concerns in this region are primarily from the impacts of a recent surge in energy development. In the 1990s, air quality concerns were primarily 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.

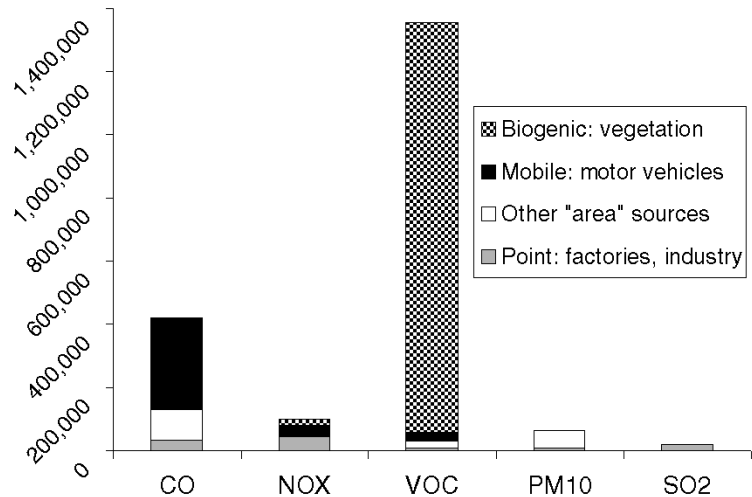
Controlled and uncontrolled burns are a significant source of air pollution in this region as well.

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.



Western Slope Air Pollution Sources
Tons Per Year



CO: Carbon Monoxide
 NOx: Nitrogen Oxide
 VOC: Volatile Organic Compounds
 PM10: Particles under 10 microns
 SO2: Sulfur Dioxide
 HAPs: Hazardous Air Pollutants

City of Aspen
Environmental Health Department
www.aspenpitkin.com

The City of Aspen Environmental Health Department conducts a variety of air quality-related activities. The department advises elected officials on ways to improve air quality and provides technical assistance on air quality issues. Since 83 percent of the area's coarse particle pollution (PM10) on high pollution days comes from traffic on paved roads, most efforts focus on reducing traffic, improved street-cleaning and preventing mud from being carried onto the roads.

Free city buses provide frequent service throughout town. Parking fees provide a financial incentive to carpool or take the bus.

Aspen is committed to reducing its impact on global warming for both environmental and economic reasons. As a result, Aspen's electric utility obtains 57 percent of its electricity from wind and hydroelectric power.

Department staff also determine the traffic and air quality impacts of proposed land development projects and ensure that air pollution mitigation plans will prevent developments from significantly increasing traffic and particle air pollution.

The city monitors PM10 levels using a real-time monitor, and posts the most recent month's readings on its Internet site, www.aspenpitkin.com/.

Cañon City

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 fine particulates. 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

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

- A community-based task force for air quality meets to discuss air quality issues and makes plans to improve air quality in Delta County.
- The Delta County Health Department offers rebates for old wood burning 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 state Air Pollution Control Division.

Routt County

The Routt County Department of Environmental Health maintains an air monitoring program on behalf of the state 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 Air Quality Control Commission. Required approvals by the legislature, the governor's office, and U.S. Environmental Protection Agency are anticipated.

San Miguel County

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 by the state in March 2000 for attainment of the federal PM10 standards.

2003 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	2105 Broadway, Denver	14.9 ppm -- 42% of 1-hour standard
	2105 Broadway, Denver	4.5 ppm -- 47% of 8-hour standard
Ozone	Chatfield Reservoir	.153 ppm -- 122% of 1-hour standard (1st max.)
	Chatfield Reservoir and 20th & Quaker St., Jefferson County	.095 ppm -- 112% of 8-hour standard (4th max.)
Nitrogen Dioxide	2105 Broadway, Denver	.035 ppm -- 66% of annual average standard
Sulfur Dioxide	78th Ave. & Steele St., Denver	.051 ppm -- 9% of 3-hour standard
	2105 Broadway, Denver	.015 ppm -- 10% of 24-hour standard
	2105 Broadway, Denver	.003 ppm -- 9% of annual standard
PM10	7101 Birch St., Commerce City	119 ug/m ³ -- 77% of 24-hour standard
	7101 Birch St., Commerce City	38 ug/m ³ -- 69% of annual avg. standard
PM2.5	7101 Birch St., Commerce City, and 6190 S. Santa Fe., Littleton	41.6 ug/m ³ -- 64% of 24-hour standard
	7101 Birch St., Commerce City	10.6 ug/m ³ -- 68% of annual average standard
Lead	5400 N. Washington, Denver	.17 ug/m ³ -- 11% 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.	132 ug/m ³ -- 85% of 24-hour standard
	Lamar Power Plant, 100 N. 2nd Ave.	29 ug/m ³ -- 53% of annual average standard
PM2.5	Vicinity of Roads 5 and 98, Elbert County	35.0 ug/m ³ -- 53% of 24-hour standard
	Vicinity of Roads 5 and 98, Elbert County	4.6 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	905 10th Ave., Greeley	5.6 ppm -- 16% of 1-hour standard
	905 10th Ave., Greeley	3.3 ppm -- 35% of 8-hour standard
Ozone	3101 35th Ave., Greeley	.119 ppm -- 95% of 1-hour standard (1st max.)
	3101 35th Ave., Greeley	.083 ppm -- 98% of 8-hour standard (4th max.)
PM10	251 Edison Dr., Fort Collins	43 ug/m ³ -- 28% of 24-hour standard
	1516 Hospital Rd., Greeley	21 ug/m ³ -- 38% of annual average standard
PM2.5	1004 Main St., Platteville	28.3 ug/m ³ -- 43% of 24-hour standard
	1004 Main St., Platteville	9.0 ug/m ³ -- 58% 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.

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	6.7 ppm -- 19% of 1-hour standard
	690 W. Hwy. 24, Colorado Springs	3.9 ppm -- 41% of 8-hour standard
Ozone	Road 640, USAF Academy	.126 ppm -- 101% of 1-hour standard (1st max)
	Road 640, USAF Academy	.077 ppm -- 91% of 8-hour standard (4th max)
PM10	3730 Meadowland, Colorado Springs	69 ug/m ³ -- 45% of 24-hour standard
	101 W. Costilla, Colorado Springs	24 ug/m ³ -- 44% of annual average standard
PM2.5	3730 Meadowland, Colorado Springs	38.4 ug/m ³ -- 59% of 24-hour standard
	101 W. Costilla, Colorado Springs	8.0 ug/m ³ -- 52% of annual average standard
Lead	101 W. Costilla, Colorado Springs	.01 ug/m ³ -- .65% 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	65 ug/m ³ -- 42% of 24-hour standard
	211 D Street, Pueblo	25 ug/m ³ -- 45% of annual average standard
PM2.5	211 D Street, Pueblo	32.1 ug/m ³ -- 49% of 24-hour standard
	211 D Street, Pueblo	7.6 ug/m ³ -- 49% 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	5.6 ppm -- 16% of 1-hour standard
	Stocker Stadium, Grand Junction	3.3 ppm -- 35% of 8-hour standard
PM10 **	425 4th St., Alamosa	150 ug/m ³ -- 97% of 24-hour standard
	277 3rd Ave., Durango	36.6 ug/m ³ -- 67% of annual average standard
PM2.5 **	Town Center, Mt. Crested Butte	25.9 ug/m ³ -- 40% of 24-hour standard
	650 South Ave., Grand Junction	8.7 ug/m ³ -- 56% 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.

** Smoke from California wildfires resulted in elevated levels of PM10 and PM2.5 above the standard on October 30, 2003 at several Western Slope sites. Those values have been excluded from this table as they are considered natural events 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., Suite 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 80522-0580
(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 South 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
164 W. Second
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
Canon City, CO 81215-1460
(719) 269-9011

Garfield County
Environmental Health Officer
109 8th St., Suite. 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 81502-5033
- 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, 2003-2004

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 Regulations

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

Particles, Smokes, 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.

Emissions Trading Program

Regulation No. 5

Regulation No. 5 will provide a generic emissions trading program for stationary sources to take credit for actual emissions reductions at their facilities. This regulation will set up a completely voluntary program and establish no new requirements. It is pending U.S. Environmental Protection Agency approval.

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 & 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
<p>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.</p>	<p>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 especially affect pregnant women, fetuses, anemic individuals and persons with cardiovascular diseases.</p>	<p>No violations statewide since 1995.</p>
<p>Particulate Matter 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:</p> <ul style="list-style-type: none"> •TSP= total suspended particles •PM10 = particles smaller than 10 microns •PM2.5= particles smaller than 2.5 microns 	<p>Particulate matter can reduce lung function, aggravate respiratory conditions and may increase the long-term risk of cancer or development of respiratory problems.</p>	<p>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.</p>
<p>Ozone (O₃) 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.</p>	<p>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.</p>	<p>Suburban areas down-wind of urban areas are most affected. Violation of the 8-hour standard in the Denver metro area during summer of 2003.</p>
<p>Sulfur Dioxide (SO₂) 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.</p>	<p>Sulfur dioxide can aggravate an individual's respiratory tract, impair pulmonary functions and increase the risk of asthma attacks.</p>	<p>All of Colorado has met the standard.</p>
<p>Lead (Pb) exists in the atmosphere primarily as an inhalable particulate; its primary source is motor vehicles that burn leaded gasoline.</p>	<p>Lead can impair an individual's production of hemoglobin; cause intestinal cramps, peripheral nerve paralysis, anemia and severe fatigue.</p>	<p>All of Colorado has met the standard.</p>
<p>Asbestos is a mineral fiber found in building materials and automobile brake linings.</p>	<p>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.</p>	<p>Buildings where asbestos has been used are of primary concern, particularly during removal or renovation.</p>
<p>Nitrogen Dioxide (NO₂) 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.</p>	<p>Nitrogen dioxide can increase respiratory problems, cause mild symptomatic effects in asthmatic individuals and increase susceptibility to respiratory infections.</p>	<p>All of Colorado has met the standard.</p>
<p>Hazardous Air Pollutants are pollutants known or suspected of causing cancer or other serious health effects.</p>	<p>Hazardous air pollutants can increase risk of cancer, sterility and nervous system disorders.</p>	<p>Statewide</p>

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, PM_{2.5}) and under 10 microns (coarse particles, PM₁₀). The PM_{2.5} and PM₁₀ standards average concentration levels on a 24-hour and annual basis. The 24-hour standard for PM_{2.5} is 65 ug/m³ (micrograms per cubic meter) applied to the 98th percentile sample; the annual standard is 15 ug/m³. For PM₁₀ the standards are 150 ug/m³ (24-hour) and 50 ug/m³ (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 0.08 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/m³. The state lead standard is averaged across 1-month time periods and is not to exceed 1.5 ug/m³.

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, showing 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 - Fiscal Year 2004

Actions	Field Services Unit	Asbestos Unit	CFC Unit
Warning Letters	23	1	0
Compliance Advisories	53	0	0
Notices of Violations	7	12	1
Notices of Noncompliance (schools only)	0	43	n/a
Compliance Orders	1	14	3
Compliance Orders on Consent and Early Settlement Agreements	101	6	5
AQCC Hearings	0	1	0
Referrals to Attorney Generals Office	0	0	0
Referrals to EPA	0	0	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.

Supplemental Environmental Project (SEP): An environmentally beneficial expenditure or activity undertaken by a source to mitigate some or all of a civil penalty in accordance with guidelines.

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.