

City of Columbus, Ohio

Air Alert Action Day Plan



Michael B. Coleman
Mayor
June 1, 2008



Please do not print this document unless absolutely necessary

Mission

The City of Columbus' Air Alert Action Plan outlines the specific operational actions that each City department will take during an issued air alert to 1) minimize the formation of ozone and emission of particulate matter into Central Ohio's air, and 2) to inform City employees regarding the risks and encourage best personal responses to an air alert.

Central Ohio's Air Quality

U.S. EPA has established air quality standards for various pollutants. Air quality in a region is measured against these standards. Central Ohio's air quality does not meet federal air quality standards for both ozone (the main gas that makes up smog) and particulate matter (tiny solid particles and liquid droplets produced from motor vehicles, power plants and industrial facilities). This means that Central Ohio has been designated by the U.S. EPA as a non attainment area. The U.S. EPA defines a non attainment area as a geographic area in which the level of a criteria air pollutant is higher than the level allowed by the federal standards.

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Ground-level ozone (smog) is a pollutant formed by the action of sunlight on two other pollutants: Nitrogen Oxide (NOx) and Volatile Organic Compounds (VOCs). The most common sources of NOx and VOCs include industrial emissions, motor vehicle exhaust, gasoline vapors and chemical solvents.

Ozone pollution is a particular concern during the summer, when strong sun and hot weather can combine to produce harmful and unhealthy concentrations. Exposure can result in a number of harmful health effects, including:

- ▶ Irritation of the respiratory system
- ▶ Difficulty in breathing
- ▶ Increased frequency of asthma attacks
- ▶ Inflammation and damage to the lungs
- ▶ Possible aggravation of some chronic lung diseases, including emphysema and bronchitis

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These effects are generally short-term in nature and eventually cease when an individual is no longer exposed to harmful ozone levels. However, there is concern that repeated short-term damage from ozone exposure could lead to permanent lung injury.

Some groups of people are particularly sensitive to ozone, especially when they are active outdoors. Increased physical activity causes people to breathe faster and more deeply, and during activity ozone penetrates more deeply into the lungs. This makes people more susceptible to injury. The most sensitive groups to ozone pollution include children, people with respiratory diseases and adults who are active outdoors.

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Particulate matter comes from dust, dirt, soot, smoke and liquids emitted by sources such as factories, power plants, vehicles, construction activity, fires and natural windblown dust.

Particle pollution – commonly referred to as particulate matter (PM) – is a mixture of microscopic solid particles and liquid droplets suspended in the air. Particulate matter comes from dust, dirt, soot, smoke and liquids emitted by sources such as factories, power plants, vehicles, construction activity, fires and natural windblown dust.

PM is divided into different classes based on size. Larger particles, such as those found in windblown dust, are between 2.5 and 10 microns in diameter. Smaller “fine particles” such as those found in smoke and haze, measure less than 2.5 microns in diameter.

The size of the particles determines the potential risk to human health. Exposure to larger particles (PM 10) can irritate the eyes, nose and throat. Smaller particles (PM 2.5) are of greatest concern because they can get deep into a person’s lungs, and even into the bloodstream, affecting both the lungs and heart.

Long-term exposure to particulate matter has been associated with reduced lung function, development of chronic bronchitis and even premature death from heart or lung disease. Short-term exposure (hours or days) can aggravate lung disease; cause wheezing, coughing, asthma attacks or acute bronchitis; and may increase chances of developing respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias.

As with ozone, certain groups of people are most affected by exposure to particulate matter. These include children, who are at increased risk because they are generally physically active, their lungs are still developing, and they're more likely to have asthma or respiratory diseases. People with heart or lung diseases are also at greater risk, because particles can aggravate these diseases. And older adults are at increased risk, possibly because they may have undiagnosed heart or lung diseases.

U.S. EPA has developed the Air Quality Index (AQI) to measure air quality. The AQI is an index for reporting daily air quality. It tells you how clean or polluted the air is, and what associated health effects might be a concern. The AQI is a yardstick that runs from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health concern. For example, an AQI value of 50 represents good air quality with little potential to affect public health, while an AQI value over 300 represents hazardous air quality.

When AQI values are above 100, air quality is considered to be unhealthy for certain sensitive groups of people; when the the AQI is over 150, the air is unhealthy for everyone.

City of Columbus' Response

As discussed above, currently Central Ohio's air quality does not meet federal air quality standards.

This is obviously a health concern. In addition, non attainment areas are subject to strict, federal regulations which can negatively impact our economy.

Mayor Coleman's Get Green Columbus initiative includes a commitment to address outdoor air pollution. The City is responding to the non-attainment for ozone and particulate matter on two levels. First, the City is committed to taking steps to reduce its overall contributions to ozone and particulate matter pollution. The steps the City is taking include adoption of an anti-idling policy for its vehicles, implementing a Green Fleet Action Plan to reduce overall vehicle emissions, and investing in energy efficiency to reduce the amount of electricity we use. These are some of the actions we take on a year-round basis to reduce air pollution.

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Second, we also recognize that on certain days, it is imperative that we take extra, short-term steps. These are days when the air pollution in Central Ohio is forecasted to have an AQI of greater than 100, resulting in a regional air alert being issued for area residents.

As part of Mayor Coleman's Get Green Columbus initiative, city employees formed an Air Alert Action Plan committee in 2006. The Air Alert Action Plan, coordinated by the Columbus Public Health Department, is an effort to take immediate short-term steps to reduce air pollution on days an air alert has been issued, to try to minimize the levels of pollution and better protect the health of area residents.

The City is creating its Action Plan so that employees can be better informed when an air alert is issued, and so city agencies can effectively respond with actions to reduce pollution levels.

The Action Plan has two main components:

- 1) a citywide communication process that notifies all city employees when an alert is issued, and
- 2) the actual operational steps that each City agency would take to reduce air pollution during that time.

All employees are reminded that reducing air pollution is a year round responsibility. Please review the anti idling executive order for all requirements including no idling.

I. City Wide Communication Plan

Beginning in June 2007, the City communicated with its employees when an air alert day was forecast. From June through December, 12 air alerts were issued. The air alerts were communicated by the following means: Each department identified key personnel to receive the first notice of the air alert, as issued by MORPC the day before a forecasted event. The Director of Columbus Public Health, Dr. Teresa Long, recorded a city-wide voice mail to notify employees of the air alert. Her voice mail included a brief description of the significance of the alert.

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The Department of Public Safety will implement an internal communication system to make sure that all police and fire personnel, especially those in the field, are informed of Air Alert Days

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Dr. Long also issued a city-wide email with the same information. An air quality forecast was added to the city's intranet page, so that employees may check the forecast at any time. Some departments that have employees without access to email or voice mail use signage to communicate with their employees. For instance, the Department of Public Utilities will be posting signs at its gas pumps on alert days, reminding employees to not fill their tanks unless it is an emergency. Public Service plans to adopt strategies such as 800 mhz radio, signs by time clocks and restrooms, Nextel radio phones and announcements.

Human Resources Citywide Occupational Safety and Health Program is providing the following toolbox informational sheets:

- ▶▶ "What is an Air Quality Alert?"
- ▶▶ "Ambient Air Quality Standards for Particulate Matter"

The Department of Public Safety will implement an internal communication system to make sure that all police and fire personnel, especially those in the field, are informed of Air Alert Days and associated risks.

II. Citywide Operational Plan

All Departments

Directors

- Ensure that the Air Alert Action Plan is distributed internally to all personnel.
- Ensure that all employees that are responsible for specific actions understand their responsibilities.
- All directors will ensure notification and communication of air alert procedures reaches all employees within the Department.
- All directors will monitor their employees for compliance.

All employees

All employees should perform the following activities EVERY DAY:

- Mayor Michael B. Coleman issued an Anti Idling Executive Order in December 2005. The anti-idling executive order is a mandate that all city employees must follow. This policy bans idling of any city vehicle for any length of time, unless necessary for work related operations. In addition remember the following tips:
- Make sure your vehicle is well maintained, including proper tire pressure and tuned engine.
- Avoid jackrabbit starts and do not speed above the posted limit.
- Employees who are not required to use their vehicles for work are encouraged to use public transportation, car/van pool, walk or bike to work when feasible.
- All city employees must do their part to reduce the number of city vehicles on the road. Travel from facility to facility only when absolutely necessary. Consider participation in outside meetings using conference calls. If you must travel to a meeting, car pool with co-workers. Schedule meetings in locations that minimize driving.

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On Air Alert days employees should perform the following activities:

- Meetings will be rescheduled if more than half of attendees must travel. Alternative means of communication such as teleconferencing can be used to avoid travel-based re-scheduling.
- Bring their lunch or eat at restaurants within walking distance.
- Inform your colleagues, neighbors, friends and family when an Air Alert Action Day is declared.

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(A) *Employee Scheduling:*

- Allow employees to flex schedules in ways that move work away from hottest hours of the day if operationally feasible.
- Allow certain employees to tele-work if operationally feasible.
- Adjust air conditioning levels up 4 degrees.
- Adjust schedules to second or third shift when possible.
- Consider waiving the emergency vacation penalty and encourage appropriate employees to take a vacation day.
- Allow employees to work 4 ten-hour days where feasible (or 4 9-hour days with 4 hours vacation).
- Refuel trucks in the morning instead of at the end of the day during summer months.
- Consider having city facilities (e.g. City Hall, Police Headquarters, Health Department) install compactors that provide enough waste capacity that allows for once a week service rather than daily service.

(B) *Limit Fuel Use:*

- Environmental Health Vector Program and Rodent Program will fuel vehicles and fogger/sprayer engines on the day preceding the air alert day, or the morning of the air alert day.
- Vector Program mosquito fogger engines will not be started until at the fogging location.
- Paving the Way Program can issue news releases reminding motorists of the Air Quality Alert and encouraging, walking, biking, and carpooling.

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- No testing will be done that requires idling of vehicles (i.e. pump testing) unless operationally required.
- No vehicles will be fueled and/or topped-off on air alert days, unless necessary for operations. If fueling is necessary it should take place before 7am or after 7pm.
- Notice of the Air Alert will be posted at time clocks in facilities where a majority of the personnel work in the field. Signs at gas station card readers will remind employees of alert day status and prohibit refueling.
- Arlingate's regularly scheduled generator tests will be cancelled if they occur during an air alert event.
- No back-up generators will be tested if test day falls on an Air Alert Day.
- To the greatest extent possible, prohibit and postpone high emission activities (e.g. mowing) and reassign affected employees to a no or low emission activity (e.g. filing or updating maps) or to attend a training that the employees otherwise would have attended another day.
- To the greatest extent possible, prohibit the use of gasoline or diesel powered weed eaters, tractors, lawn mowers and power tools by employees and contractors. Defer use to after 7:00 pm, if possible or delay non-essential use to a non-action day. Use of equipment that is powered by alternative energy sources such as CNG (compressed natural gas), liquified natural gas, propane or electric power will be permitted. Ensure equipment is properly tuned and maintained.
- Gardening crew will only perform weeding and trimming tasks that run on alternative energy sources as mentioned above and there will be no mowing on the day's where an Air Alert has been declared.
- Street Maintenance crews will do outpost maintenance and litter pickup on Air Alert Days.

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- Parking Enforcement Bicycle Officers who do not fall into the category of sensitive groups should continue to ride their bikes to their enforcement areas, unless the Parking Violations Bureau moves to a remote location.
 - Parking Enforcement Officers and Parking Meter Collectors that drive to their districts (OSU) will continue to walk their districts as much as possible and avoid excess driving.
 - Focus on indoor maintenance activities with fewer vehicles operating and on the streets.
 - Curtail use of city motor boats on reservoirs. Communicate notice of alert to encourage voluntary citizen participation.
- (C) *On Air Alert Day prohibit or delay the following specific activities due to higher pollutant generating capabilities:*
- Yellow traffic line painting (yellow paint has added chemicals that white does not and produces more pollution).
 - Use of pesticides and herbicides
 - Use of the asphalt recycler and any activity requiring asphalt.
 - Traffic loop cutting, sand blasting, and jack hammering without negative impact to critical services and performance standards.
 - All city wide painting activities, including traffic poles unless using water based paints. Use of water based paints is acceptable.
 - Dirt hauling
 - Do not “dry” sweep streets. Wash bay and power washer will not operate on Air Alert Days.
 - Include language in city construction contracts encouraging all contractors to postpone high pollutant activities during Air Alert Days, or to limit these activities to the early morning or evening.

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- On the day prior to an air alert being called, Department of Technology will power down all non-essential equipment during the air alert period.
 - Each facility or functional group manager will review process operations or activities for significant sources of Nitrogen Oxides (NOx), Volatile Organic Compounds (VOCs), and Particulate Matter (PM). To the extent that process loads or discretionary activities will permit, operation of non-critical process equipment or activities will be suspended to reduce these emissions.
 - Schedule use of heavy equipment on another day, where operationally feasible.
 - Replace gasoline powered carts with propane or electric carts. Also provide industrial tricycles as alternative in-plant transportation.
 - Delay use of solvents.

On Air Alert Days when the AQI is forecast to be above 150:

- Contractor mowers will be prohibited from using internal combustion equipment on these days, including evenings with subsequent Air Alert Days.
- Exterior contract painting or blasting (such as water tanks) is prohibited. Body shop painting operations is prohibited.

Conclusion:

The air alert action day plan discussed in the body of this document will go into effect on January 1, 2009.

The air alert action day plan discussed in the body of this document will go into effect on January 1, 2009. This action plan should be used through out the year, especially on each day that an Air Alert notice is issued through The Mid Ohio Regional Planning Commission (MORPC).

This air alert action day plan will be reviewed annually in December by the Air Alert committee.

It is important to remember that compliance with this action plan is designed to move us closer to becoming an attainment region again under the EPA standards. This action plan is a living document subject to change as needed upon review by the air alert committee.