



Public Health
Prevent. Promote. Protect.

Air Quality for Linn County

What You Should Know

When we see a lake or stream, we notice it. But we are constantly looking through air and we are always immersed in it. We live at the bottom of an "ocean" of air tens of thousands of feet deep. Air is a substance that has weight and moves and behaves like a fluid.

But unlike water, we consume air automatically, continuously and without choice as to when or where. Adults breathe about 20,000 times daily, with an average volume intake of 4,000 gallons. Athletes may consume 8,000 gallons of air. Most people drink less than one gallon of water daily as a volume comparison.

Children, with their developing lungs and rapid breathing, can pull in more pollutants per pound of body weight than an adult breathing the same air. On days when air pollution is high, children are at increased risk.

Older Iowans are also susceptible to bad air. Because Iowa is unique due to our large percentages of elderly residents, high quality air is especially vital.

In many areas of the U.S., because air quality suffers, increased regulation and efforts to clean the air exist for consumers, industry, businesses and vehicle owners. If an area routinely fails to meet outdoor air standards, it can be federally declared in "non-attainment" status under the Clean Air Act. That means stepped up efforts must take place – often through regulation – to reduce local emissions with sometimes costly, stringent control equipment. In this manner, the area will hopefully return to its former clean air status. Preserving clean air means less regulatory oversight and less operating costs in addition to less health care costs associated with unhealthy air.

Clean air is also important for our economy and businesses. Maintaining clean air and reducing emissions is a daily challenge. A larger U.S. population adds additional challenges. And in Iowa, we drive more miles every year, electrical demand is rising, and people are using and consuming more goods. To maintain and improve air quality, emission reductions must keep pace too.



Air Quality Division

Linn County Public Health

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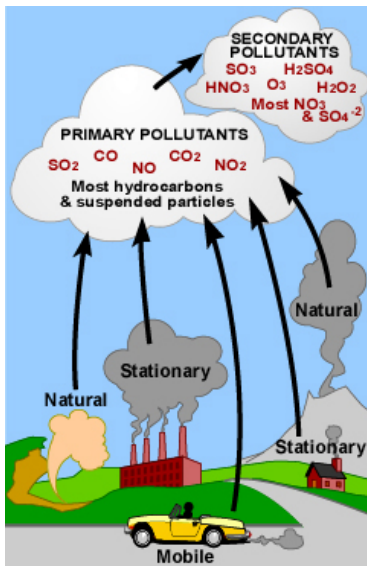
www.air.linn.ia.us



Current prohibitions on leaf and trash burning in Cedar Rapids, Marion, and Hiawatha were implemented in the 1970's when our air exceeded the national standard for Total Suspended Particulate.

Today, Linn County is in attainment with all National Ambient Air Quality Standards. Although air quality continues to improve, the standards continue to become tighter as science develops, giving us a better understanding about the adverse health effects of air pollution. This is making it all the more important to proactively improve the quality of our air through everyone's contributions.

Sources of Air Pollution



What Are the Six Common Air Pollutants?

The Clean Air Act requires EPA to set [National Ambient Air Quality Standards](#) for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are found all over the United States. They are:

- Particle pollution, often referred to as particulate matter (PM)
- Ground-level ozone (O₃)
- Carbon monoxide (CO)
- Sulfur oxides (SO₂)
- Nitrogen oxides (NO_x), and
- Lead (Pb)

These pollutants can harm your health and the environment, and cause property damage. Of the six pollutants, particle pollution and ground-level ozone are the most widespread health threats. EPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health is called primary standards. Another set of limits intended to prevent environmental and property damage is called secondary standards.

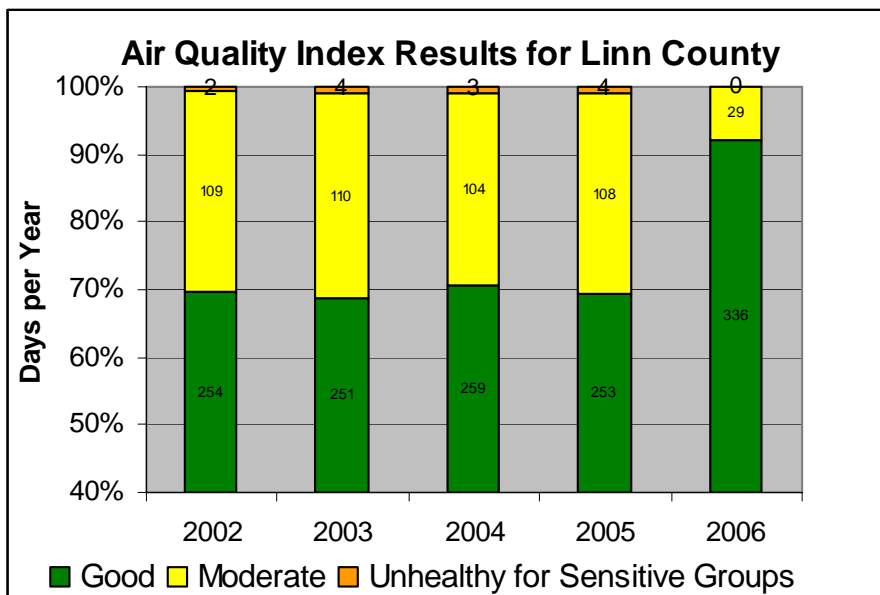
STAY INFORMED

Where to find information on the current air quality conditions in our area

- ❖ Find out about current air quality conditions and forecasts on the internet at AirNOW, a cross-agency U.S. Government Web site: <http://www.airnow.gov>.
- ❖ For current local ambient air monitoring data, visit the Linn County Air Quality Division website at <http://www.air.linn.ia.us> and follow the link for Ambient Air Monitoring.

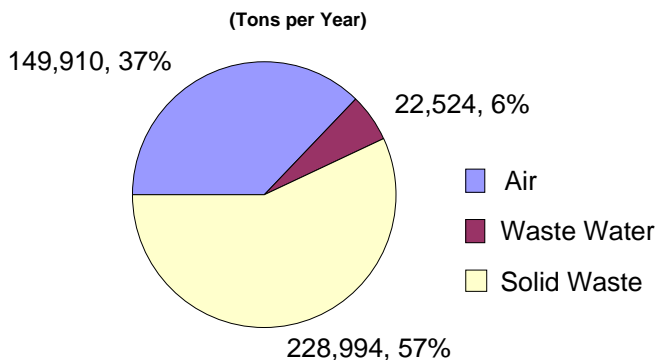
The AQI is an index for reporting daily air quality. It tells you how clean or polluted your air is and what associated health effects might be a concern for you. The AQI focuses on health effects you may experience within a few hours or days after breathing polluted air.

- **"Good"** The AQI value for Linn County is between 0 and 50. Air quality is considered satisfactory, and air pollution poses little or no risk.
- **"Moderate"** The AQI for Linn County is between 51 and 100. Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people. For example, people who are unusually sensitive to ozone may experience respiratory symptoms.
- **"Unhealthy for Sensitive Groups"** When AQI values are between 101 and 150, members of sensitive groups may experience health effects. This means they are likely to be affected at lower levels than the general public. For example, people with lung disease are at greater risk from exposure to ozone, while people with either lung disease or heart disease are at greater risk from exposure to particle pollution. The general public is unlikely to be affected when the AQI is in this range.

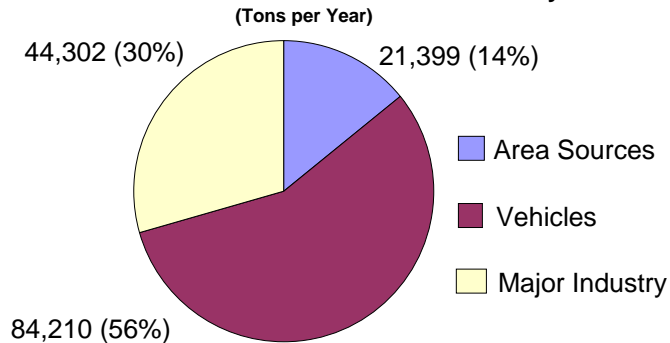


An AQI value of 100 generally corresponds to the national air quality standard for the pollutant – the level EPA has set to protect public health. AQI values below 100 are generally thought of as satisfactory. When AQI values are above 100, air quality is considered to be unhealthy - at first for certain sensitive groups of people.

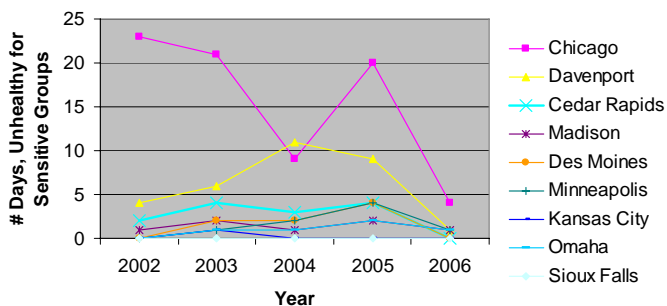
Releases of Waste to the Environment in Linn County



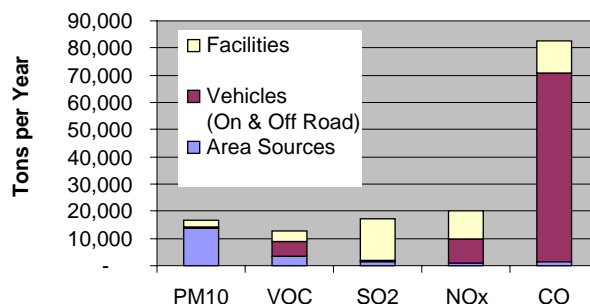
Sources of Air Pollution in Linn County



Regional Air Quality Comparison



Pollutants Emitted to the Air in Linn County



Your Linn County Government

The **Air Quality Division** of the Linn County Public Health Department is authorized by the U.S. Environmental Protection Agency and the Iowa Department of Natural Resources to implement and enforce the mandate of the Clean Air Act and the Air Quality section of the Linn County Code of Ordinances. The Air Quality Division does planning, rulemaking, issues construction and operating permits, monitors air quality and emissions. Technical assistance, compliance, and enforcement activities are all a part of efforts to help maintain our air quality.

Controlling Air Pollution Sources

The Air Quality Division uses a variety of approaches to protect the quality of the air we breathe.

Educate: Provide information and training to the regulated industry and the public on impacts of air pollution.

Monitor: Measure the local ambient air for pollution. This data is reported to the public about immediate health concerns and to EPA regarding compliance with national standards.

Regulate: The Linn County Code of Ordinance (LCCO), Chapter 10, establishes rules for allowable air emissions.

Permit: Much like a building permit, the Air Quality Division receives applications and issues permits to construct or modify sources of air pollution. Permits establish construction, operating, testing, monitoring, record keeping, and reporting requirements for the source in accordance with LCCO Ch 10.

Inspect: Facilities are routinely inspected to verify that they are complying with their permit conditions and the LCCO Ch 10.

Enforce: Working with the County Attorney's Office, issue citations and penalties for those parties that do not comply with the regulations or their permit conditions.

Do You Need a Permit?

- ❑ There are over 1900 permits currently issued to over 300 facilities in Linn County. About half of these facilities have only one or two permits and may not have known that they needed one until they asked.
- ❑ LCCO 10.5 establishes the regulations for Locally Required Permits, which usually affect commercial and industrial sources. Regulated pollutants include dust, aerosols, combustion exhaust, organic vapors, or other chemicals.
- ❑ If your source has a stack that vents outdoors, then you may need a permit. Common types of permits include large furnaces (> 10 mmBtu), spray booths, dust collection and ventilation systems, large emergency generators.
- ❑ Exemptions to Locally Required Permits are listed in LCCO 10.5.7 and include residential heaters, recreational fireplaces, barbeque pits and cookers, and stationary internal combustion engines < 400 bhp or < 300 kW.
- ❑ LCCO 10.10 establishes regulations for open burning. Open burning is banned in many municipalities. Elsewhere, 30-day and 60-day permits are required for burning landscape waste, trees & tree trimming, and native prairie.

You Can Help Keep the Air Cleaner -- Every Day!

Air pollution can affect your health and the environment. There are actions every one of us can take to reduce air pollution and keep the air cleaner and precautionary measures you can take to protect your health.

Transportation Tips



- Choose a cleaner commute — car pool, use public transportation, bike or walk when possible.
- Combine your errands into one trip.
- Avoid revving or idling engine over 30 seconds.
- Be sure your tires are properly inflated.
- Keep car, boat and other engines properly tuned.
- Be careful not to spill fuel and always tighten your gas cap securely. Refuel after dusk.
- Avoid waiting in long drive-thru lines at fast-food restaurants or banks. Park your car and go in.
- Accelerate gradually, maintain speed limit and use cruise control on the highway.
- Look for the most efficient, lowest-polluting model of vehicle. For more information visit the Green Vehicles Guide Web page - <http://www.epa.gov/greenvehicles/>



Community Resources

Energy Conservation

Alliant Energy: Go to www.alliantenergy.com and follow the link titled, "Energy Efficiency" where you will find information:

- Energy conservation programs and rebates for improving the energy efficiency of your home, farm, or business.
- Second Nature, where Alliant Energy's electric customers can support the growth of renewable energy through your electricity purchase.

Community Green Space and Tree Planting Program

- *Alliant Energy Operation ReLeaf Residential Tree Program:* Go to <http://www.alliantenergy.com/docs/groups/public/documents/pub/p014352.hcsp> or call Amy Oliver at the IDNR at 515-281-6749.
- *MidAmerican Energy Plant Some Shade Residential Tree Program:* Go to <http://www.midamericanenergy.com/plantsomeshade> or call Matt Brewer 515-242-6892.
- *Rockwell Collins Green Communities:* Green Communities Program is designed to help fund local projects and programs that will positively impact the environment in the communities where we operate. www.rockwellcollins.com/about/community/green_communities.

Environmental Groups

- *Sierra Club Camp Wapsie Group:* <http://iowa.sierraclub.org/cwg/>
- *American Lung Association of Iowa:* www.lungia.org/



Household Tips

- Conserve electricity. Consider setting your thermostat a little higher in the summer and lower in winter.
- Use compact florescent lights with energy-efficiency lighting and other energy-efficient appliances. To learn more about energy-efficient appliances and home equipment visit the Energy Star web site at <http://www.energystar.gov/>.
- Some products that you use at your home or office are made with smog-forming chemicals that can evaporate into the air when you use them. Properly use and seal cleaners, paints, and other chemicals to prevent evaporation.
- Consider using gas logs instead of wood. If you use a wood-burning stove, make sure it meets EPA design specifications. Burn only dry, seasoned wood.
- Look for ways to recycle. Avoid burning trash and other materials when alternative end-use options are available.



Lawn and Garden Tips

- Avoid spilling gasoline. Use a gasoline container you can handle easily and hold securely. Pour slowly. Keep the cap or spout and the vent hole on gasoline containers closed tightly.
- Maintain your equipment. Follow the manufacturer's guidelines for maintenance. Change oil and clean or replace air filters regularly. Use the proper fuel/oil mixture in two-stroke equipment. Get periodic tune-ups, maintain sharp mower blades, and keep the underside of the deck clean.
- Consider cleaner options. Ask your dealer about the new, cleaner gasoline powered equipment entering the marketplace.
- Landscaping. Mulch or compost leaves and yard waste, avoiding burning when possible. Wildflowers and grasses improve the environment. Once established, native plants do not need fertilizers, herbicides, pesticides or watering. Plant additional trees and shrubs to reduce the energy costs of heating and cooling your house.