

**STATE**  
OF THE **AIR** 2014



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OF THE **AIR** 2014



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The American Lung Association assumes sole responsibility for the content of the *American Lung Association State of the Air 2014*.

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**Contents**

The State of the Air 2014 .....5

Rankings

    People at Risk in the U.S. .... 12

    Most Polluted Cities in the U.S..... 13

    Most Polluted Counties in the U.S..... 16

    Cleanest Cities in the U.S. .... 19

    Cleanest Counties in the U.S..... 21

Health Effects of Ozone and Particle Pollution ..... 29

Methodology ..... 41

State Tables ..... 46



# The State of the Air 2014

*State of the Air 2014* shows that nearly

**half the nation had unhealthy air** quality in 2010, 2011, and 2012.

**22** of the most polluted cities had more unhealthy ozone days than in last year's report.

Thanks to the Clean Air Act, the United States continues to make progress providing healthier air. The *State of the Air 2014* shows that the nation's air quality worsened in 2010-2012, but remains overall much cleaner than just a decade ago. More than 147.6 million people—47 percent of the nation—live where pollution levels are too often dangerous to breathe, an increase from last year's report. Despite that risk, some seek to weaken the Clean Air Act, the public health law that has driven the cuts in pollution since 1970.

The *State of the Air 2014* report looks at levels of ozone and particle pollution found in official monitoring sites across the United States in 2010, 2011, and 2012. The report uses the most current quality-assured nationwide data available for these analyses.

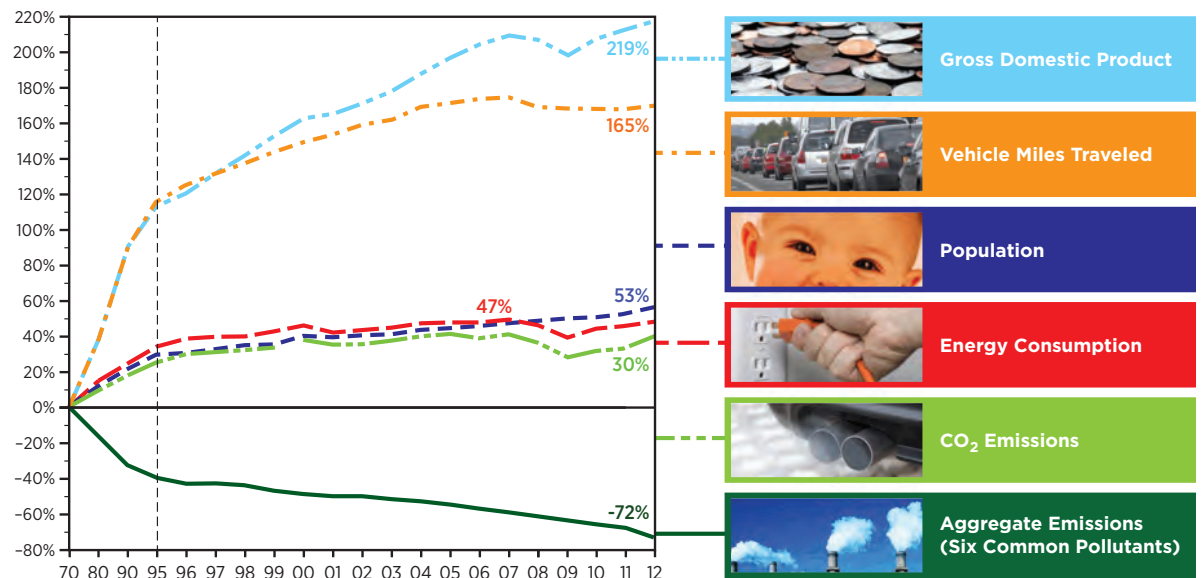
The report examines particle pollution (PM<sub>2.5</sub>) in two different ways: averaged year-round (annual average) and over short-term levels (24-hour). For both ozone and short-term particle pollution, the analysis uses a weighted average number of days that allows recognition of places with higher levels of pollution. For the year-round particle pollution rankings, the report uses averages calculated and reported by the U.S. Environmental

Protection Agency (EPA). For comparison, the *State of the Air 2013* report covered data from 2009, 2010, and 2011.<sup>1</sup>

## Overall Trends

Thanks to stronger standards for pollutants and for the sources of pollution, the United States has seen **continued reduction in ozone and particle pollution** as well as other pollutants **for decades**. Figure 1 from the EPA shows that since 1970, the air has gotten cleaner while the population, the economy, energy use and miles driven increased greatly. Even as the economy continues to recover after

<sup>1</sup> A complete discussion of the sources of data and the methodology is included in **Methodology**.



**Figure 1** Air emissions have dropped steadily since 1970 thanks to the Clean Air Act. Even as the economy continues to recover from the recession, emissions that contribute to the most widespread pollutants continue to drop. (Source: U.S. EPA, *Air Quality Trends*, 2014.)

the recession, overall air emissions that create the six most widespread pollutants continue to drop.

In 2010-2012, many places made strong progress over 2009-2011 particularly in **lower year-round levels of particle pollution**. Thanks to reductions in emissions from coal-fired power plants and the transition to cleaner diesel fuels and engines, cleaner air shows up repeatedly in the monitoring data. Still, even with the cleaner air, the most-polluted cities failed to meet the official national limits, or standard, for year-round particle pollution.

**Ozone was much worse** than in the 2013 report, likely due to warmer temperatures, especially in 2012. **Twenty-two of the 25 most ozone-polluted cities had more high ozone days on average in 2010-2012** compared to 2009-2011. Fortunately, even these places have much better air quality compared to ten years ago (or in our earliest reports). However, rising temperatures create conditions favorable to forming ozone. Communities will need more help to reduce ozone pollution in the warmer temperatures expected from the changing climate.

**Progress continued in most cities in the long-term trend for fewer days with high particle pollution**, but not all. Two thirds of the most-polluted metros recorded fewer unhealthy days on average than in 2009-2011. Although year-round average levels for particles are steadily dropping, the trend for short-term spikes in high particle counts can vary from year to year. Spikes often occur in the winter, as has happened in Fairbanks (AK) and Salt Lake City in recent winters. In some cities, these spikes come from increased burning of wood and other fuels in the winter for heat, often in highly-polluting indoor wood stoves or outdoor wood boilers.

Nearly  
**28 million**  
people in the US live  
in counties where the  
outdoor air failed all  
three tests.

## Ozone

Ozone worsened in the most polluted metropolitan areas—some substantially worse—in 2010-2012 compared to 2009-2011. Of the 25 metro areas most polluted by ozone, 22 had worse ozone problems. Weather played a factor. The warmer summers in 2010 and 2012 contributed to higher ozone readings and more frequent high ozone days. Sunlight and heat create conditions that increase the risk of high ozone levels. Fortunately, these cities had significantly fewer unhealthy ozone days than they had a decade ago thanks to steps taken to reduce ozone. Many cities had only slightly more unhealthy days than in the 2013 report.

**Los Angeles** remained the city with the worst ozone pollution problem, and had slightly more days of high ozone in 2010-2012. Measuring more unhealthy days on average were 22 other cities<sup>2</sup>: Visalia-Porterfield-Hanford (CA), Bakersfield (CA), Fresno-Madera (CA), Houston, Modesto-Merced (CA), Washington-Baltimore, Las Vegas, Phoenix, New York City, St. Louis, Tulsa (OK), Cincinnati, Philadelphia, Louisville (KY), Oklahoma City, Chicago, Pittsburgh, Fort Collins (CO), Birmingham (AL), Cleveland (OH) and Sheboygan (WI).

Only Dallas-Fort Worth and El Centro (CA) measured fewer unhealthy days among the 25 most ozone polluted cities. Unfortunately, even with the improvements, people living there are still forced to breathe air that reaches dangerously unhealthy levels. Sacramento (CA) was the only city to have maintained the same number of unhealthy days.

<sup>2</sup> Complete names for all these metropolitan areas can be found in the tables showing the most polluted and cleanest cities. The full metropolitan areas often include multiple counties, incorporated cities and counties in adjacent states, as the Office of Management and Budget defines them.



## Year-round Particle Pollution

Among the 25 cities with the worst year-round levels of particle pollution, eighteen had lower levels in 2010-

2012, while five recorded higher annual levels and two cities maintained the same level. However, all of the most polluted cities continue to have year-round particle levels that violate health-based standards.

Thirteen cities improved to their lowest annual levels in this report: Visalia-Porterville-Hanford (CA), Los Angeles, Pittsburgh, Philadelphia, Cincinnati, Louisville, Cleveland, Wheeling (WV), Indianapolis, Columbus (OH), Dayton (OH), Johnstown (PA) and Bakersfield (CA), which had been the most polluted city for year-round particle levels for 4 of the last 5 reports.

Three of the other most-polluted cities matched or maintained the lowest levels they had previously achieved, reflecting stalled progress toward healthier air. Atlanta improved to return to its lowest level as in previous reports, St. Louis maintained the same levels it had reached in the 2013 report, and Chicago maintained the same levels it had reached in both the 2012 and 2013 reports.

Four cities improved over the previous levels, but had reported cleaner air in the past: Modesto-Merced (CA), El Centro (CA), New York City and Macon (GA).

Unfortunately, five cities saw their year-round levels increase from previous reports.<sup>3</sup> Top of that list is **Fresno-Madera (CA)** the newest city to be ranked as the most polluted in the nation for year-round particle pollution. Other cities with worse annual levels were El Paso-Las Cruces (TX-NM), Phoenix, Birmingham, and San Diego.

<sup>3</sup> These trends are based on prior available data. Not all cities had counties with complete annual averages posted for all prior years.

## Short-term Particle Pollution

**Sixteen cities most polluted by short-term particle pollution had fewer high particle days on average in**

2010-2012 compared to 2009-2011 and seven had their fewest days on average ever in the history of the report.

Although one of the seven measuring their fewest ever unhealthy days on average, **Fresno-Madera (CA)** moved up to rank as the most polluted for short-term particle levels. Other cities reporting their fewest unhealthy days are: Pittsburgh, Salt Lake City, Harrisburg (PA), San Diego, Sacramento (CA) and Bakersfield (CA).

Nine other metropolitan areas also had fewer days of unhealthy particle pollution in 2009-2011 than in the last report: Visalia-Porterville-Hanford (CA), Los Angeles, Modesto-Merced (CA), Fairbanks (AK), Logan (UT), Davenport (IA), Seattle, Green Bay (WI) and South Bend (IN).

Nine metropolitan areas suffered additional high particle days compare to last year's report, including San Francisco, Chicago, Phoenix, Indianapolis, New York City and Lancaster (PA). Three cities had their worst average number of days ever – El Paso-Las Cruces (TX-NM), Missoula (MT), and Yakima (WA).

## Cleanest Cities

Four cities ranked on all three lists of the cleanest cities in 2010-2012. That means they had no days in the unhealthy level for ozone or short-term particle pollution and were on the list of the cleanest cities for year-round particle pollution. Listed alphabetically, the four cities are:

- Bangor (ME)
- Bismarck (ND)
- Cape Coral-Fort Myers (FL)
- Salinas (CA)

Eleven other cities ranked as the cleanest for both year-round and short-term particle pollution, listed alphabetically:

- Elmira-Corning, (NY)
- Farmington (NM)
- Flagstaff (AZ)
- Grand Island (NE)
- Homosassa Springs (FL)
- Kahului-Wailuku-Lahaina (HI)
- North Port-Sarasota (FL)
- Palm Bay-Melbourne-Titusville (FL)
- Prescott (AZ)
- Sierra Vista-Douglas (AZ)
- St. George (UT)

Three other cities were on both the cleanest cities lists for ozone and for year-round particle pollution, listed alphabetically:

- Anchorage (AK)
- Burlington-South Burlington (VT)
- Rapid City-Spearfish (SD)

Four other cities made both the cleanest cities lists for ozone and for short-term particle pollution, listed alphabetically:

- Brownsville-Harlingen-Raymondville (TX)
- Fargo-Wahpeton, ND-MN
- McAllen-Edinburg-Pharr (TX)
- Monroe-Ruston-Bastrop (LA)

**People At Risk** Looking at the nation as a whole, the *American Lung Association State of the Air 2014* finds—

- **Nearly half of the people (47 %) in the United States live in counties that have unhealthy levels of either ozone or particle pollution.**

More than 147.6 million Americans live in the 330 counties where they are exposed to unhealthy levels of air pollution in the form of either ozone or short-term or year-round levels of particles.

- **More than 4 in 10 people in the United States (44.8%) live in areas with unhealthy levels of ozone.**

Counties that were graded F for ozone levels have a combined population of more than 140.5 million. These people

live in the 296 counties where the monitored air quality places them at risk for premature death, aggravated asthma, difficulty breathing, cardiovascular harm and lower birth weight. The actual number who breathe unhealthy levels of ozone is likely much larger, since this number does not include people who live in adjacent counties in metropolitan areas where no monitors exist.

- **More than 14 percent of people in the United States live in an area with too many days with unhealthy levels of particle pollution.**

More than 44.1 million Americans live in 50 counties that experienced too many days with unhealthy spikes in particle pollution, a decrease from the last report. Short-term spikes in particle pollution can last from hours to several days and can increase the risk of heart attacks, strokes and emergency room visits for asthma and cardiovascular disease, and most importantly, can increase the risk of early death.

- **More than 46.2 million people (14.7%) in the United States live in an area with unhealthy year-round levels of particle pollution.**

These people live in areas where chronic levels are regularly a threat to their health. Even when levels are fairly low, exposure to particles over time can increase risk of hospitalization for asthma, damage to the lungs and, significantly, increase the risk of premature death.

- **More than 27.8 million people (8.9%) in the United States live in 17 counties with unhealthy levels of all three: ozone and short-term and year-round particle pollution.**

With the risks from airborne pollution so great, the American Lung Association seeks to inform people who may be in danger. Many people are at greater risk because of their age or because they have asthma or other chronic lung disease, cardiovascular disease or diabetes. The following list identifies the numbers of people in each at-risk group.

- **Older and Younger**—More than 18.5 million adults age 65 and over and more than 35.6 million children under 18 years old live in counties that received an F for at least one pollutant. More than 3.3 million seniors and more than 6.7 million children live in counties failing all three tests.
- **People with Asthma**—Nearly 3.2 million children and more than 9.9 million adults with asthma live in counties of the United States that received an F for at least one pollutant. More than 610,000 children and more than 1.8 million adults with asthma live in counties failing all three tests.
- **Chronic Obstructive Pulmonary Disease (COPD)**—More than 6.7 million people with COPD live in counties that received an F for at least one pollutant. More than 1 million people with COPD live in counties failing all three tests.
- **Cardiovascular Disease**—More than 8.9 million people with cardiovascular diseases live in counties that received an F for at least one pollutant; more than 1.4 million live in counties failing all three tests.
- **Diabetes**—More than 4.5 million people with diabetes live in counties that received an F for either short-term or year-round particle pollution; more than 2 million live in counties failing both tests. Having diabetes increases the risk of harm from particle pollution.
- **Poverty**—More than 22.9 million people with incomes meeting the federal poverty definition live in counties that received an F for at least one pollutant. More than 5 million people in poverty live in counties failing all three tests. Evidence shows that people who have low incomes may face higher risk from air pollution.

## What Needs To Be Done

the public. Here are a few that the American Lung Association

Many major challenges require the Administration, working through the EPA, and Congress to take steps to protect the health of

calls for to improve the air we all breathe, starting with cleaning up smokestacks and tailpipes.

### Clean up harmful emissions from smokestacks.

**Carbon pollution.** Power plants are the largest stationary source of greenhouse gases in the United States. Energy production accounts for 86 percent of total 2009 greenhouse gas emissions, and the electric sector represents 39 percent of all energy-related carbon dioxide (CO<sub>2</sub>) emissions.<sup>4</sup> In 2013, President Obama pledged to reduce carbon pollution from power plants. Now the EPA needs to finish the job and issue strong final standards for carbon pollution from new and existing plants.

**Transported ozone and particle pollution.** In 2011, the EPA set tough new limits on ozone and particle pollution that could blow across state lines and add unhealthy air downwind. That same year the EPA also, for the first time, set national limits on the toxic pollutants these power plants can emit. However, these standards have been blocked in the courts. The Lung Association has taken legal steps to defend the EPA's efforts. The EPA and the states must move forward with actions to clean these plants up.

### Clean up harmful emissions from tailpipes.

**Dirty diesel vehicles and heavy equipment.** Rules the EPA put in effect over the past several years mean that new diesel vehicles and equipment must be much cleaner. Still, the vast majority of diesel trucks, buses, and heavy equipment (such as bulldozers) will likely be in use for thousands more miles, spewing dangerous diesel exhaust into communities and neighborhoods. The good news is that affordable technology exists to cut emissions by 90 percent. Congress needs to fund the EPA's diesel cleanup ("retrofit") program. Congress should also require that clean diesel equipment be used in federally-funded construction programs.

<sup>4</sup> U.S. Environmental Protection Agency. *Inventory of Greenhouse Gas Emissions and Sinks: 1990-2009*. Washington, DC: U.S. EPA, 2011. EPA 430-R-11-005.

### Reduce emissions of wood smoke

Residential wood-burning devices, including outdoor wood boilers and stoves, are the largest residential source of particle pollution. Emissions of harmful air pollutants from wood-burning devices have worsened air quality and public health in many cities, such as Fairbanks and Salt Lake City. These devices could have significant impacts on their owners and immediate neighbors. The U.S. Census reports that nearly two percent of all U.S. households use wood as a primary heat source.<sup>5</sup> In 2006, one study estimated that approximately 14 to 17 million such devices were then in use in the United States.<sup>6</sup>

- Besides particle pollution, wood burning also produces carbon monoxide, nitrogen oxides, sulfur dioxide, and even toxic air pollution. Studies have found that wood smoke leads to coughing and shortness of breath, decreases in lung function, and aggravated asthma and may even cause cancer.<sup>7</sup>
- The EPA has not updated national standards for wood-burning devices since 1988. Improved technologies in use today can limit harmful emissions from wood-burning devices. The EPA has proposed to update the standards for residential devices to reflect this new technology. All wood-burning devices can burn cleaner to reduce impacts on public health.

### Improve the air pollution monitoring network.

The grades in this report come from information from the nationwide air pollution monitoring network. That network forms the public health infrastructure for air pollution. States

<sup>5</sup> U.S. Census Bureau. American Housing Survey for the United States. 2011. Available at [www.census.gov/housing/ahs11/national2011.xls](http://www.census.gov/housing/ahs11/national2011.xls)

<sup>6</sup> Johnson PRS. In-Field Ambient Fine Particle Monitoring of an Outdoor Wood Boiler: Public Health Concerns. Human and Ecological Risk Assessment. 2006; 12: 1153-1170.

<sup>7</sup> Naeher LP, Brauer M, Lipsett M, Zelikoff JT, Simpson CD, Koenig JQ, Smith KR. Woodsmoke Health Effects: A Review. *Inhalation Toxicology*. 2007; 19:67-106. Bölling AK, Pagels J, Yttri KE, Barregard L, Sallsten G, Schwarze PE, Boman C. Health effects of residential wood smoke particles: the importance of combustion conditions and physicochemical particle properties. *Particle and Fibre Toxicology*. 2009; 6: 29.

and local governments use monitors to accurately measure the amount of air pollution in the community.

- Less than one-third of all counties have ozone or particle pollution monitors, seriously limiting the ability to adequately detect and track the levels of harmful air pollution.
- Coverage is especially limited near major highways, where people likely breathe higher levels of air pollution. The EPA needs to expand the monitoring network to include comprehensive coverage in areas near major roads and highways. These monitors are needed to measure the highest levels of exposures from air pollution related to traffic.
- Unfortunately, funds for existing air pollution monitors have been cut across the nation. These resources may be cut further unless Congress and the White House resolve to protect the health of the nation from air pollution.

### Adopt an ozone standard that follows the law and protects health.

- National air quality standards are the official limits that drive the cleanup of air pollution around the nation. The Clean Air Act requires that the EPA set national air quality standards based on the need to protect public health “with an adequate margin of safety.” In 2001, the Supreme Court unanimously ruled that protecting health was the only basis for the standards. The Clean Air Act also requires that the EPA review the standards every five years to make sure that the standards are based on the most current science.
- In its previous review, the EPA estimated that setting the standard for ozone to 60 ppb would save 4,000 to 12,000 lives and prevent 21,000 hospitalizations, 58,000 asthma attacks, 5,300 heart attacks, and result in 2.5 million fewer school and work days lost each year. The lower ozone levels would yield \$35 billion to \$100 billion in health and economic benefits by 2020.<sup>8</sup>

<sup>8</sup> U.S. EPA. 2010. Summary of the updated Regulatory Impact Analysis (RIA) for the Reconsideration of the 2008 Ozone National Ambient Air Quality Standard (NAAQS). Available at [http://www.epa.gov/ttn/ecas/regdata/RIAs/s1-supplemental\\_analysis\\_summary11-5-09.pdf](http://www.epa.gov/ttn/ecas/regdata/RIAs/s1-supplemental_analysis_summary11-5-09.pdf).

- The Obama Administration decided in 2011 to ignore the overwhelming scientific research and the opinion of experts that much stronger standards were needed. Now, the EPA has the opportunity to propose a new, more protective standard. A stronger standard is needed to protect public health.

### Protect the Clean Air Act

The continued improvement shown in the *State of the Air* report is possible because of the Clean Air Act, the nation's strong public health law that the U.S. Congress passed over 40 years ago. The Act requires that the EPA and each state take steps to clean up the air. Some members of Congress are proposing changes to the Clean Air Act that could dismantle progress made in the last 40 years. We must keep that law strong to continue to protect public health.

### What You Can Do

Individual citizens can do a great deal to help reduce air pollution outdoors as well. Simple but effective ways include—

- **Tell the EPA to set standards** for carbon pollution from new and existing power plants. The EPA also needs to set tighter standards for ozone.
- **Send a message to Congress.** Urge them to support cleaner, healthier air and oppose measures to block or delay the cleanup of air pollution. They should support and protect the Clean Air Act.
- **Share your story.** Do you or any member of your family have a personal reason to want healthier, cleaner air? Go to [www.Fightingforair.org](http://www.Fightingforair.org) to let us know how healthy air affects you.
- **Drive less.** Combine trips, walk, bike, carpool or vanpool, and use buses, subways or other alternatives to driving. Vehicle emissions are a major source of air pollution. Support community plans that provide ways to get around that don't

require a car, such as more sidewalks, bike trails and transit systems.

- **Use less electricity.** Turn out the lights and use energy-efficient appliances. Generating electricity is one of the biggest sources of pollution, particularly in the eastern United States.
- **Don't burn wood or trash.** Burning firewood and trash are among the largest sources of particles in many parts of the country. If you must use a fireplace or stove for heat, convert your woodstoves to natural gas, which has far fewer polluting emissions. Compost and recycle as much as possible and dispose of other waste properly; don't burn it. Support efforts in your community to ban outdoor burning of construction and yard wastes. Avoid the use of outdoor hydronic heaters, also called outdoor wood boilers, which are frequently much more polluting than woodstoves.
- **Make sure your local school system requires clean school buses,** which includes replacing or retrofitting old school buses with filters and other equipment to reduce emissions. Make sure your local schools don't idle their buses, a step that can immediately reduce emissions.
- **Get involved.** Participate in your community's review of its air pollution plans and support state and local efforts to clean up air pollution. To find your local air pollution control agency, go to [www.4cleanair.org](http://www.4cleanair.org).

### People at Risk from Short-term Particle Pollution (24-Hour PM<sub>2.5</sub>)

In Counties where the Grades were:	Chronic Diseases					Poverty	Age Groups		Total Population	Number of Counties
	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Diabetes		Under 18	65 and Over		
Grade A (0.0)	4,209,381	1,346,270	3,146,095	4,179,137	4,939,239	9,987,659	15,101,759	8,540,433	63,768,955	266
Grade B (0.3-0.9)	4,014,172	1,212,570	2,852,365	3,676,126	4,337,074	8,710,105	13,334,445	7,522,293	58,330,127	163
Grade C (1.0-2.0)	2,183,338	621,887	1,507,301	1,969,260	2,320,052	4,663,638	7,040,265	4,231,961	31,006,014	76
Grade D (2.1-3.2)	1,160,599	356,702	708,415	941,907	1,178,708	2,896,834	3,911,548	1,981,934	16,109,693	28
Grade F (3.3+)	2,949,649	953,276	1,732,531	2,384,411	3,162,804	7,522,859	10,915,968	5,379,279	44,156,781	50
National Population in Counties with PM <sub>2.5</sub> Monitors	15,087,442	4,660,351	10,364,331	13,708,883	16,591,727	34,821,643	52,254,491	28,879,287	221,647,091	647

### People at Risk from Year-Round Particle Pollution (Annual PM<sub>2.5</sub>)

In Counties where the Grades were:	Chronic Diseases					Poverty	Age Groups		Total Population	Number of Counties
	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Diabetes		Under 18	65 and Over		
Pass	10,720,495	3,236,432	7,466,837	9,901,686	11,811,595	23,704,202	36,463,837	20,802,308	156,807,359	464
Fail	3,096,331	1,025,583	2,006,862	2,655,175	3,427,301	8,475,349	11,351,156	5,596,944	46,284,891	54
National Population in Counties with PM <sub>2.5</sub> Monitors	15,087,442	4,660,351	10,364,331	13,708,883	16,591,727	34,821,643	52,254,491	28,879,287	221,647,091	647

### People at Risk from Ozone

In Counties where the Grades were:	Chronic Diseases					Poverty	Age Groups		Total Population	Number of Counties
	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Under 18		65 and Over			
Grade A (0.0)	1,320,459	371,193	905,816	1,245,680	3,119,192	4,431,907	2,881,567	19,497,130	127	
Grade B (0.3-0.9)	1,535,373	435,400	1,229,737	1,650,630	3,417,687	4,988,560	3,567,140	22,732,980	105	
Grade C (1.0-2.0)	1,639,228	486,376	1,127,194	1,475,895	3,146,416	5,488,645	3,144,579	23,403,658	115	
Grade D (2.1-3.2)	1,527,358	467,602	1,055,385	1,372,093	3,402,065	5,251,797	2,831,073	22,484,036	90	
Grade F (3.3+)	9,513,298	3,049,904	6,461,645	8,529,355	21,820,804	33,827,364	17,655,027	140,576,080	296	
National Population in Counties with Ozone Monitors	15,791,350	4,884,041	10,974,663	14,534,975	35,430,736	54,812,409	30,654,002	232,400,175	809	

Note: *The State of the Air 2014* covers the period 2010-2012. The Appendix provides a full discussion of the methodology.

## People at Risk In 25 U.S. Cities Most Polluted by Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)

2014 Rank <sup>1</sup>	Metropolitan Statistical Areas	Total Population <sup>2</sup>	Under 18 <sup>3</sup>	65 and Over <sup>3</sup>	Pediatric Asthma <sup>4,6</sup>	Adult Asthma <sup>5,6</sup>	COPD <sup>7</sup>	CV Disease <sup>8</sup>	Diabetes <sup>9</sup>	Poverty <sup>10</sup>
1	Fresno-Madera, CA	1,100,113	321,057	118,768	28,163	68,342	35,124	49,661	73,409	296,919
2	Visalia-Porterville-Hanford, CA	603,341	187,060	57,426	16,409	36,397	18,204	25,234	37,915	161,299
3	Bakersfield, CA	856,158	255,815	80,525	22,440	52,552	26,262	36,291	54,932	195,433
4	Los Angeles-Long Beach, CA	18,238,998	4,510,957	2,112,146	395,699	1,207,447	626,541	889,485	1,317,256	3,180,714
5	Modesto-Merced, CA	784,031	226,011	85,097	19,826	49,029	25,321	35,859	53,125	165,981
6	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,661,369	522,226	472,879	53,760	214,860	149,397	207,620	229,649	327,390
7	Fairbanks, AK	100,272	24,757	7,165	2,177	6,771	3,554	4,060	4,739	8,847
8	Salt Lake City-Provo-Orem, UT	2,350,274	735,347	204,516	52,201	143,124	61,102	87,864	113,663	287,433
9	El Paso-Las Cruces, TX-NM	1,045,180	299,658	115,604	23,081	54,409	39,900	54,711	76,037	251,188
10	San Jose-San Francisco-Oakland, CA	8,370,967	1,870,295	1,071,176	164,061	574,247	305,542	440,420	646,630	1,018,010
11	Logan, UT-ID	128,306	40,072	11,141	2,919	7,736	3,286	4,635	5,919	19,089
12	Missoula, MT	110,977	21,388	13,807	1,637	8,559	4,833	6,353	5,511	16,277
13	Davenport-Moline, IA-IL	474,226	111,869	74,476	8,163	29,901	22,955	31,878	36,165	59,914
14	Chicago-Naperville, IL-IN-WI	9,899,902	2,416,660	1,205,623	224,825	637,270	446,747	576,699	691,916	1,422,025
15	Phoenix-Mesa-Scottsdale, AZ	4,329,534	1,110,210	573,413	94,629	278,199	187,356	266,697	335,194	739,213
16	Indianapolis-Carmel-Muncie, IN	2,310,360	580,360	284,320	54,927	156,574	129,262	161,629	183,582	339,595
16	New York-Newark, NY-NJ-CT-PA	23,362,099	5,226,786	3,220,554	488,177	1,662,512	1,068,245	1,392,908	1,710,199	3,232,239
18	Harrisburg-York-Lebanon, PA	1,228,559	272,205	191,293	28,289	96,565	63,765	87,181	98,027	134,306
18	Lancaster, PA	526,823	128,066	82,655	13,309	40,265	26,506	36,476	40,662	59,731
20	San Diego-Carlsbad, CA	3,177,063	726,268	380,276	63,708	215,294	111,464	158,275	233,550	465,651
21	Seattle-Tacoma, WA	4,399,332	977,724	546,985	65,294	331,831	190,214	237,015	293,198	515,767
21	Yakima, WA	246,977	74,562	29,906	4,979	16,695	9,646	12,181	14,799	55,498
23	Green Bay-Shawano, WI	357,045	85,395	49,693	6,544	23,279	13,981	21,166	22,498	40,952
23	South Bend-Elkhart-Mishawaka, IN-MI	721,296	180,494	105,222	17,084	51,094	41,574	54,437	59,597	117,073
25	Sacramento-Roseville, CA	2,462,722	595,104	325,693	52,202	165,261	89,297	130,118	189,132	408,101

### Notes:

1. Cities are ranked using the highest weighted average for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those **under 18** and **65 and over** are vulnerable to PM<sub>2.5</sub> and are, therefore, included. They should not be used as population denominators for disease estimates.
4. Pediatric asthma estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma.
7. **COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
8. **CV disease** is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
9. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
10. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.

## People at Risk In 25 U.S. Cities Most Polluted by Year-Round Particle Pollution (Annual PM<sub>2.5</sub>)

2014 Rank <sup>1</sup>	Metropolitan Statistical Areas	Total Population <sup>2</sup>	Under 18 <sup>3</sup>	65 and Over <sup>3</sup>	Pediatric Asthma <sup>4,6</sup>	Adult Asthma <sup>5,6</sup>	COPD <sup>7</sup>	CV Disease <sup>8</sup>	Diabetes <sup>9</sup>	Poverty <sup>10</sup>
1	Fresno-Madera, CA	1,100,113	321,057	118,768	28,163	68,342	35,124	49,661	73,409	296,919
2	Visalia-Porterville-Hanford, CA	603,341	187,060	57,426	16,409	36,397	18,204	25,234	37,915	161,299
3	Bakersfield, CA	856,158	255,815	80,525	22,440	52,552	26,262	36,291	54,932	195,433
3	Los Angeles-Long Beach, CA	18,238,998	4,510,957	2,112,146	395,699	1,207,447	626,541	889,485	1,317,256	3,180,714
5	Modesto-Merced, CA	784,031	226,011	85,097	19,826	49,029	25,321	35,859	53,125	165,981
6	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,661,369	522,226	472,879	53,760	214,860	149,397	207,620	229,649	327,390
7	El Centro, CA	176,948	50,686	19,527	4,446	11,084	5,722	8,115	11,970	38,189
8	El Paso-Las Cruces, TX-NM	1,045,180	299,658	115,604	23,081	54,409	39,900	54,711	76,037	251,188
8	Phoenix-Mesa-Scottsdale, AZ	4,329,534	1,110,210	573,413	94,629	278,199	187,356	266,697	335,194	739,213
8	St. Louis-St. Charles-Farmington, MO-IL	2,900,605	673,074	409,326	66,572	221,038	169,514	205,856	232,181	404,224
11	Cincinnati-Wilmington-Maysville, OH-KY-IN	2,188,001	534,579	282,828	47,895	175,182	147,881	163,816	183,926	321,436
11	Philadelphia-Reading-Camden, PA-NJ-DE-MD	7,129,428	1,625,860	1,005,294	159,508	536,473	343,689	463,539	529,938	938,401
13	Louisville/Jefferson County-Elizabethtown-Madison, KY-IN	1,478,637	349,246	198,854	35,110	120,277	118,408	129,934	121,032	229,972
13	New York-Newark, NY-NJ-CT-PA	23,362,099	5,226,786	3,220,554	488,177	1,662,512	1,068,245	1,392,908	1,710,199	3,232,239
15	Macon-Warner Robins, GA	418,201	103,738	53,345	11,225	25,844	23,080	29,124	32,613	86,424
16	Birmingham-Hoover-Talladega, AL	1,309,818	308,441	183,656	34,704	85,987	98,561	117,729	122,364	221,999
16	Cleveland-Akron-Canton, OH	3,497,711	779,681	555,966	66,994	283,053	237,500	278,890	327,060	531,631
18	Atlanta-Athens-Clarke County-Sandy Springs, GA	6,092,295	1,564,174	617,176	169,253	371,132	315,121	377,489	430,790	1,017,357
19	Wheeling, WV-OH	146,420	28,482	27,019	2,327	12,122	11,661	15,527	15,329	22,988
20	Chicago-Naperville, IL-IN-WI	9,899,902	2,416,660	1,205,623	224,825	637,270	446,747	576,699	691,916	1,422,025
20	Indianapolis-Carmel-Muncie, IN	2,310,360	580,360	284,320	54,927	156,574	129,262	161,629	183,582	339,595
22	Columbus-Auburn-Opelika, GA-AL	491,852	117,334	56,877	12,930	31,310	29,973	35,489	38,431	96,604
23	Dayton-Springfield-Sidney, OH	1,079,417	246,098	170,912	21,146	86,918	72,107	84,546	98,998	172,857
23	Johnstown-Somerset, PA	218,541	41,597	42,384	4,323	17,635	12,448	17,661	19,496	28,490
23	San Diego-Carlsbad, CA	3,177,063	726,268	380,276	63,708	215,294	111,464	158,275	233,550	465,651

### Notes:

1. Cities are ranked using the highest weighted average for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those **under 18** and **65 and over** are vulnerable to PM<sub>2.5</sub> and are, therefore, included. They should not be used as population denominators for disease estimates.
4. Pediatric asthma estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma.
7. **COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
8. **CV** disease is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
9. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
10. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.



## People at Risk In 25 Most Ozone-Polluted Cities

2014 Rank <sup>1</sup>	Metropolitan Statistical Areas	Total Population <sup>2</sup>	Under 18 <sup>3</sup>	65 and Over <sup>3</sup>	Pediatric Asthma <sup>4,6</sup>	Adult Asthma <sup>5,6</sup>	COPD <sup>7</sup>	CV Disease <sup>8</sup>	Poverty <sup>9</sup>
1	Los Angeles-Long Beach, CA	18,238,998	4,510,957	2,112,146	395,699	1,207,447	626,541	889,485	3,180,714
2	Visalia-Porterville-Hanford, CA	603,341	187,060	57,426	16,409	36,397	18,204	25,234	161,299
3	Bakersfield, CA	856,158	255,815	80,525	22,440	52,552	26,262	36,291	195,433
4	Fresno-Madera, CA	1,100,113	321,057	118,768	28,163	68,342	35,124	49,661	296,919
5	Sacramento-Roseville, CA	2,462,722	595,104	325,693	52,202	165,261	89,297	130,118	408,101
6	Houston-The Woodlands, TX	6,371,677	1,733,980	597,789	135,031	316,186	232,392	328,577	1,034,302
7	Modesto-Merced, CA	784,031	226,011	85,097	19,826	49,029	25,321	35,859	165,981
8	Dallas-Fort Worth, TX-OK	7,095,411	1,921,982	707,161	149,749	354,389	263,975	375,698	1,052,441
8	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	9,331,587	2,158,553	1,100,311	213,935	651,339	400,803	550,553	884,620
10	Las Vegas-Henderson, NV-AZ	2,247,056	538,993	307,611	35,543	127,438	124,833	150,272	373,333
11	Phoenix-Mesa-Scottsdale, AZ	4,329,534	1,110,210	573,413	94,629	278,199	187,356	266,697	739,213
12	New York-Newark, NY-NJ-CT-PA	23,362,099	5,226,786	3,220,554	488,177	1,662,512	1,068,245	1,392,908	3,232,239
13	St. Louis-St. Charles-Farmington, MO-IL	2,900,605	673,074	409,326	66,572	221,038	169,514	205,856	404,224
14	Tulsa-Muskogee-Bartlesville, OK	1,122,259	280,163	156,101	23,961	85,591	63,219	86,051	174,911
15	Cincinnati-Wilmington-Maysville, OH-KY-IN	2,188,001	534,579	282,828	47,895	175,182	147,881	163,816	321,436
16	Philadelphia-Reading-Camden, PA-NJ-DE-MD	7,129,428	1,625,860	1,005,294	159,508	536,473	343,689	463,539	938,401
17	El Centro, CA	176,948	50,686	19,527	4,446	11,084	5,722	8,115	38,189
18	Louisville/Jefferson County-Elizabethtown-Madison, KY-IN	1,478,637	349,246	198,854	35,110	120,277	118,408	129,934	229,972
19	Oklahoma City-Shawnee, OK	1,367,325	339,847	168,717	29,065	104,454	73,644	97,967	215,506
20	Chicago-Naperville, IL-IN-WI	9,899,902	2,416,660	1,205,623	224,825	637,270	446,747	576,699	1,422,025
21	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,661,369	522,226	472,879	53,760	214,860	149,397	207,620	327,390
22	Fort Collins, CO	310,487	64,060	40,112	5,632	22,009	11,857	14,516	41,513
23	Birmingham-Hoover-Talladega, AL	1,309,818	308,441	183,656	34,704	85,987	98,561	117,729	221,999
24	Cleveland-Akron-Canton, OH	3,497,711	779,681	555,966	66,994	283,053	237,500	278,890	531,631
24	Sheboygan, WI	115,009	26,716	17,789	2,047	7,547	4,734	7,286	12,043

### Notes:

1. Cities are ranked using the highest weighted average for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those **under 18** and **65 and over** are vulnerable to PM<sub>2.5</sub> and are, therefore, included. They should not be used as population denominators for disease estimates.
4. Pediatric asthma estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma.
7. **COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
8. **CV disease** is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
9. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.

## People at Risk in 25 Counties Most Polluted by Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)

2014 Rank <sup>1</sup>	County	ST	Total Population <sup>2</sup>	At-Risk Groups								High PM <sub>2.5</sub> Days in Unhealthy Ranges, 2010-2012	
				Under 18 <sup>3</sup>	65 and Over <sup>3</sup>	Pediatric Asthma <sup>4,6</sup>	Adult Asthma <sup>5,6</sup>	COPD <sup>7</sup>	CV Disease <sup>8</sup>	Diabetes <sup>9</sup>	Poverty <sup>10</sup>	Weighted Avg. <sup>11</sup>	Grade <sup>12</sup>
1	Fresno	CA	947,895	277,928	100,217	24,380	58,731	30,020	42,282	62,691	263,134	37.0	F
2	Kings	CA	151,364	41,880	12,839	3,674	9,534	4,591	6,174	9,529	28,388	34.3	F
3	Kern	CA	856,158	255,815	80,525	22,440	52,552	26,262	36,291	54,932	195,433	33.3	F
4	Riverside	CA	2,268,783	621,038	281,587	54,477	145,184	77,188	111,695	162,066	398,252	31.8	F
5	Lemhi	ID	7,758	1,414	1,903	124	568	424	651	706	1,380	30.7	F
6	Stanislaus	CA	521,726	145,520	59,055	12,765	33,120	17,294	24,655	36,403	103,926	29.2	F
7	Los Angeles	CA	9,962,789	2,360,255	1,144,579	207,040	667,835	343,914	485,919	721,640	1,873,522	25.2	F
8	Ravalli	MT	40,617	8,468	8,545	648	3,008	2,243	3,223	2,690	6,566	23.7	F
9	Madera	CA	152,218	43,129	18,551	3,783	9,611	5,104	7,379	10,718	33,785	20.5	F
10	Allegheny	PA	1,229,338	237,163	208,167	24,647	100,057	66,353	91,550	102,032	151,371	19.2	F
11	Shoshone	ID	12,702	2,580	2,618	227	892	631	942	1,041	2,459	14.8	F
12	Merced	CA	262,305	80,491	26,042	7,061	15,909	8,027	11,204	16,722	62,055	14.7	F
13	Fairbanks North Star Borough	AK	100,272	24,757	7,165	2,177	6,771	3,554	4,060	4,739	8,847	13.8	F
14	Salt Lake	UT	1,063,842	306,723	96,618	21,774	67,221	29,029	41,856	54,145	139,534	13.2	F
15	Doña Ana	NM	214,445	56,374	27,868	4,136	14,485	10,165	11,743	15,414	55,752	12.5	F
16	San Joaquin	CA	702,612	201,160	77,249	17,646	44,136	22,956	32,618	48,340	127,598	12.3	F
17	Silver Bow	MT	34,403	7,202	5,726	551	2,570	1,693	2,342	1,993	6,252	10.5	F
18	Lewis and Clark	MT	64,876	14,289	9,626	1,094	4,780	3,097	4,193	3,671	7,101	8.7	F
18	Cache	UT	115,520	35,684	9,431	2,533	7,023	2,830	3,978	5,183	17,518	8.7	F
18	Weber	UT	236,640	70,336	25,049	4,993	14,783	6,674	10,075	12,654	29,861	8.7	F
21	Missoula	MT	110,977	21,388	13,807	1,637	8,559	4,833	6,353	5,511	16,277	8.5	F
22	Inyo	CA	18,495	3,876	3,680	340	1,317	806	1,266	1,732	2,139	8.2	F
23	Muscatine	IA	42,879	11,044	6,151	636	2,575	1,985	2,780	3,091	5,828	7.7	F
24	Tulare	CA	451,977	145,180	44,587	12,735	26,863	13,613	19,060	28,386	132,911	7.0	F
24	Lake	IN	493,618	124,014	68,140	11,737	33,564	28,781	36,785	41,321	95,358	7.0	F

**Notes:**

- Counties are ranked by weighted average. See note 11 below.
- Total Population** represents the at-risk populations in counties with PM<sub>2.5</sub> monitors.
- Those **under 18** and **65 and over** are vulnerable to PM<sub>2.5</sub> and are, therefore, included. They should not be used as population denominators for disease estimates.
- Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma.
- COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- CV disease** is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Poverty** estimates come from the U.S. Census Bureau and are for all ages.
- The **Weighted Average** was derived by counting the number of days in each unhealthy range (orange, red, purple, maroon) in each year (2010-2012), multiplying the total in each range by the assigned standard weights (i.e., 1 for orange, 1.5 for red, 2.0 for purple, 2.5 for maroon), and calculating the average.
- Grade** is assigned by weighted average as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.

## People at Risk In 25 Counties Most Polluted by Year-Round Particle Pollution (Annual PM<sub>2.5</sub>)

2014 Rank <sup>1</sup>	County	ST	Total Population <sup>2</sup>	At-Risk Groups								PM <sub>2.5</sub> Annual, 2010-2012	
				Under 18 <sup>3</sup>	65 and Over <sup>3</sup>	Pediatric Asthma <sup>4,6</sup>	Adult Asthma <sup>5,6</sup>	COPD <sup>7</sup>	CV Disease <sup>8</sup>	Diabetes <sup>9</sup>	Poverty <sup>10</sup>	Design Value <sup>11</sup>	Grade <sup>12</sup>
1	Madera	CA	152,218	43,129	18,551	3,783	9,611	5,104	7,379	10,718	33,785	19.0	Fail
2	Fresno	CA	947,895	277,928	100,217	24,380	58,731	30,020	42,282	62,691	263,134	16.0	Fail
3	Kings	CA	151,364	41,880	12,839	3,674	9,534	4,591	6,174	9,529	28,388	15.8	Fail
4	Kern	CA	856,158	255,815	80,525	22,440	52,552	26,262	36,291	54,932	195,433	15.6	Fail
4	Riverside	CA	2,268,783	621,038	281,587	54,477	145,184	77,188	111,695	162,066	398,252	15.6	Fail
6	Hawaii	HI	189,191	42,070	30,112	4,721	12,942	5,466	10,210	12,088	35,283	15.5	Fail
7	Stanislaus	CA	521,726	145,520	59,055	12,765	33,120	17,294	24,655	36,403	103,926	14.9	Fail
8	Tulare	CA	451,977	145,180	44,587	12,735	26,863	13,613	19,060	28,386	132,911	14.8	Fail
8	Allegheny	PA	1,229,338	237,163	208,167	24,647	100,057	66,353	91,550	102,032	151,371	14.8	Fail
10	Lemhi	ID	7,758	1,414	1,903	124	568	424	651	706	1,380	14.7	Fail
11	Merced	CA	262,305	80,491	26,042	7,061	15,909	8,027	11,204	16,722	62,055	14.3	Fail
12	Imperial	CA	176,948	50,686	19,527	4,446	11,084	5,722	8,115	11,970	38,189	13.6	Fail
13	Pinal	AZ	387,365	98,431	61,638	8,390	24,911	17,639	25,793	31,194	63,509	13.5	Fail
13	Madison	IL	267,883	59,873	40,134	5,580	17,585	12,885	17,275	20,411	34,325	13.5	Fail
13	Doña Ana	NM	214,445	56,374	27,868	4,136	14,485	10,165	11,743	15,414	55,752	13.5	Fail
16	Hamilton	OH	802,038	187,133	109,667	16,079	64,714	51,702	58,327	69,543	155,194	13.4	Fail
16	Philadelphia	PA	1,547,607	348,538	189,106	36,222	123,670	71,951	93,433	105,798	399,562	13.4	Fail
18	Clark	IN	111,951	26,337	15,207	2,493	7,764	6,569	8,336	9,396	14,083	13.2	Fail
18	Northampton	PA	299,267	63,084	49,216	6,556	23,792	15,897	21,914	24,518	31,391	13.2	Fail
20	Los Angeles	CA	9,962,789	2,360,255	1,144,579	207,040	667,835	343,914	485,919	721,640	1,873,522	13.1	Fail
20	Bibb	GA	156,462	39,789	20,346	4,305	9,578	8,561	10,850	12,117	41,206	13.1	Fail
20	Delaware	PA	561,098	128,084	82,189	13,311	43,914	28,298	38,270	43,168	63,245	13.1	Fail
23	Jefferson	AL	660,009	154,843	89,599	17,422	43,363	49,132	58,349	60,732	120,153	13.0	Fail
23	Cuyahoga	OH	1,265,111	278,299	201,311	23,913	102,873	85,744	100,502	117,835	233,101	13.0	Fail
23	Stark	OH	374,868	83,603	63,300	7,184	30,217	25,716	30,698	35,705	53,788	13.0	Fail

### Notes:

- Counties are ranked by weighted average. See note 11 below.
- Total Population** represents the at-risk populations in counties with PM<sub>2.5</sub> monitors.
- Those **under 18** and **65 and over** are vulnerable to PM<sub>2.5</sub> and are, therefore, included. They should not be used as population denominators for disease estimates.
- Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma.
- COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- CV disease** is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Poverty** estimates come from the U.S. Census Bureau and are for all ages.
- The **Design Value** is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. The source for the Design Values is [http://www.epa.gov/airtrends/pdfs/PM25\\_DesignValues\\_20102012\\_FINAL\\_12\\_12\\_13.xlsx](http://www.epa.gov/airtrends/pdfs/PM25_DesignValues_20102012_FINAL_12_12_13.xlsx), updated December 12, 2013.
- Grades** are based on comparing the design value to the NAAQS for annual PM<sub>2.5</sub> levels during 2010-2012. Counties with design values of 12.0 or less received grades of Pass; counties with design values of 12.1 or greater received grades of Fail.

## People at Risk in 25 Most Ozone-Polluted Counties

2014 Rank <sup>1</sup>	County	ST	Total Population <sup>2</sup>	At-Risk Groups							High Ozone Days in Unhealthy Ranges, 2010-2012	
				Under 18 <sup>3</sup>	65 and Over <sup>3</sup>	Pediatric Asthma <sup>4,6</sup>	Adult Asthma <sup>5,6</sup>	COPD <sup>7</sup>	CV Disease <sup>8</sup>	Poverty <sup>9</sup>	Weighted Avg. <sup>10</sup>	Grade <sup>11</sup>
1	San Bernardino	CA	2,081,313	586,445	198,966	51,443	131,079	65,782	90,970	415,927	121.8	F
2	Riverside	CA	2,268,783	621,038	281,587	54,477	145,184	77,188	111,695	398,252	103.7	F
3	Tulare	CA	451,977	145,180	44,587	12,735	26,863	13,613	19,060	132,911	88.7	F
4	Kern	CA	856,158	255,815	80,525	22,440	52,552	26,262	36,291	195,433	78.5	F
5	Los Angeles	CA	9,962,789	2,360,255	1,144,579	207,040	667,835	343,914	485,919	1,873,522	77.5	F
6	Fresno	CA	947,895	277,928	100,217	24,380	58,731	30,020	42,282	263,134	64.5	F
7	Sacramento	CA	1,450,121	361,613	172,884	31,721	95,947	50,393	72,061	279,494	35.3	F
8	Kings	CA	151,364	41,880	12,839	3,674	9,534	4,591	6,174	28,388	29.2	F
9	Harris	TX	4,253,700	1,172,689	369,564	91,322	208,914	149,358	209,659	783,419	28.7	F
10	Uintah	UT	34,524	11,596	3,153	823	2,035	893	1,314	3,453	28.3	F
11	Madera	CA	152,218	43,129	18,551	3,783	9,611	5,104	7,379	33,785	27.8	F
12	Stanislaus	CA	521,726	145,520	59,055	12,765	33,120	17,294	24,655	103,926	21.2	F
13	Harford	MD	248,622	58,392	33,598	5,991	17,038	10,697	15,018	19,458	21.0	F
13	Tarrant	TX	1,880,153	517,226	180,052	40,278	93,010	68,815	97,577	287,871	21.0	F
15	Clark	NV	2,000,759	490,544	245,958	31,584	110,956	109,496	127,890	324,535	19.7	F
16	El Dorado	CA	180,561	39,053	29,562	3,426	12,747	7,490	11,383	16,708	19.3	F
17	Placer	CA	361,682	85,361	59,884	7,488	24,681	14,298	21,761	32,697	19.2	F
18	Maricopa	AZ	3,942,169	1,011,779	511,775	86,239	253,288	169,717	240,904	675,704	18.7	F
19	Fairfield	CT	933,835	224,965	130,626	27,176	70,430	38,296	49,366	81,756	18.5	F
20	Madison	IL	267,883	59,873	40,134	5,580	17,585	12,885	17,275	34,325	18.0	F
21	Prince George's	MD	881,138	203,388	90,532	20,868	62,113	34,582	45,318	88,153	17.8	F
22	Denton	TX	707,304	190,492	55,023	14,834	35,029	24,614	34,047	61,520	17.3	F
23	Tulsa	OK	613,816	156,081	76,929	13,349	46,539	33,195	44,339	96,205	17.0	F
24	Hamilton	OH	802,038	187,133	109,667	16,079	64,714	51,702	58,327	155,194	16.8	F
24	Brazoria	TX	324,769	88,236	33,128	6,871	16,223	12,296	17,536	36,633	16.8	F

**Notes:**

- Counties are ranked by weighted average. See note 10 below.
- Total Population** represents the at-risk populations in counties with PM<sub>2.5</sub> monitors.
- Those **under 18** and **65 and over** are vulnerable to PM<sub>2.5</sub> and are, therefore, included. They should not be used as population denominators for disease estimates.
- Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma in 2012 based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma.
- COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- CV disease** is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
- Poverty** estimates come from the U.S. Census Bureau and are for all ages.
- The **Weighted Average** was derived by counting the number of days in each unhealthy range (orange, red, purple) in each year (2010-2012), multiplying the total in each range by the assigned standard weights (i.e., 1 for orange, 1.5 for red, 2.0 for purple), and calculating the average.
- Grade is assigned by weighted average as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.

## Cleanest U.S. Cities for Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)<sup>1</sup>

Metropolitan Statistical Area	Population	Metropolitan Statistical Area	Population	Metropolitan Statistical Area	Population
Asheville-Brevard, NC	465,255	Grand Island, NE	83,472	Oklahoma City-Shawnee, OK	1,367,325
Austin-Round Rock, TX	1,834,303	Greenville-Washington, NC	220,061	Owensboro, KY	116,030
Bangor, ME	153,746	Gulfport-Biloxi-Pascagoula, MS	379,582	Paducah-Mayfield, KY-IL	136,083
Beckley, WV	124,890	Hattiesburg, MS	146,766	Palm Bay-Melbourne-Titusville, FL	547,307
Bismarck, ND	120,060	Hickory-Lenoir, NC	408,625	Pensacola-Ferry Pass-Brent, FL	461,227
Bloomington-Bedford, IN	208,477	Homosassa Springs, FL	139,360	Peoria-Canton, IL	417,098
Bowling Green-Glasgow, KY	214,831	Hot Springs-Malvern, AR	130,297	Prescott, AZ	212,637
Brownsville-Harlingen-Raymondville, TX	437,615	Houma-Thibodaux, LA	208,922	Pueblo-Cañon City, CO	207,640
Cape Coral-Fort Myers-Naples, FL	977,720	Houston-The Woodlands, TX	6,371,677	Quincy-Hannibal, IL-MO	116,393
Champaign-Urbana, IL	233,788	Huntsville-Decatur-Albertville, AL	679,743	Richmond, VA	1,231,980
Charlotte-Concord, NC-SC	2,454,619	Jackson, TN	130,450	Roanoke, VA	310,118
Clarksville, TN-KY	274,342	Kahului-Wailuku-Lahaina, HI	158,316	Rocky Mount-Wilson-Roanoke Rapids, NC	308,963
Colorado Springs, CO	668,353	Kalamazoo-Battle Creek-Portage, MI	525,929	Salinas, CA	426,762
Decatur, IL	110,122	Lake Charles, LA	201,195	Salisbury, MD-DE	381,868
Eau Claire-Menomonie, WI	207,671	Lakeland-Winter Haven, FL	616,158	San Antonio-New Braunfels, TX	2,234,003
Elmira-Corning, NY	187,974	Lansing-East Lansing-Owosso, MI	534,964	Santa Maria-Santa Barbara, CA	431,249
Fargo-Wahpeton, ND-MN	239,114	Lima-Van Wert-Celina, OH	220,591	Sierra Vista-Douglas, AZ	132,088
Farmington, NM	128,529	Lynchburg, VA	255,342	Springfield-Jacksonville-Lincoln, IL	317,206
Fayetteville-Lumberton-Laurinburg, NC	546,175	Macon-Warner Robins, GA	418,201	St. George, UT	144,809
Fayetteville-Springdale-Rogers, AR-MO	482,200	McAllen-Edinburg, TX	868,167	Syracuse-Auburn, NY	740,486
Flagstaff, AZ	136,011	Mobile-Daphne-Fairhope, AL	604,726	Tallahassee-Bainbridge, FL-GA	402,880
Florence, SC	206,087	Monroe-Ruston-Bastrop, LA	252,294	Tampa-St. Petersburg-Clearwater, FL	2,842,878
Florence-Muscle Shoals, AL	146,988	Montgomery, AL	377,149	Texarkana, TX-AR	149,701
Fort Collins, CO	310,487	Morgantown-Fairmont, WV	190,842	Tulsa-Muskogee-Bartlesville, OK	1,122,259
Fort Smith, AR-OK	280,521	Nashville-Davidson—Murfreesboro, TN	1,845,235	Wichita-Arkansas City-Winfield, KS	672,393
Goldsboro, NC	124,246	North Port-Sarasota, FL	917,203	Yuma, AZ	200,022

**Note:**

1. This list represents cities with the lowest levels of short term PM<sub>2.5</sub> air pollution. Monitors in these cities reported no days with unhealthy PM<sub>2.5</sub> levels.

## Top 25 Cleanest U.S. Cities for Year-Round Particle Pollution (Annual PM<sub>2.5</sub>)<sup>1</sup>

Rank <sup>2</sup>	Design Value <sup>3</sup>	Metropolitan Statistical Area	Population
1	4.0	Prescott, AZ	212,637
2	4.7	Cheyenne, WY	94,483
2	4.7	Farmington, NM	128,529
4	4.8	Casper, WY	78,621
5	5.1	St. George, UT	144,809
6	5.2	Flagstaff, AZ	136,011
7	5.3	Redding-Red Bluff, CA	241,992
8	5.5	Duluth, MN-WI	279,452
9	5.7	Kahului-Wailuku-Lahaina, HI	158,316
10	5.9	Rapid City-Spearfish, SD	163,135
11	6.1	Salinas, CA	426,762
12	6.2	Reno-Carson City-Fernley, NV	587,004
13	6.5	Albuquerque-Santa Fe-Las Vegas, NM	1,162,777
13	6.5	Palm Bay-Melbourne-Titusville, FL	547,307
15	6.6	Anchorage, AK	392,535
15	6.6	Pocatello, ID	83,800
17	6.7	Sierra Vista-Douglas, AZ	132,088
18	6.8	Bismarck, ND	120,060
19	6.9	Cape Coral-Fort Myers-Naples, FL	977,720
20	7.0	Elmira-Corning, NY	187,974
20	7.0	North Port-Sarasota, FL	917,203
22	7.2	Burlington-South Burlington, VT	213,701
23	7.3	Bangor, ME	153,746
23	7.3	Grand Island, NE	83,472
23	7.3	Homosassa Springs, FL	139,360
23	7.3	Portland-Vancouver-Salem, OR-WA	2,992,924

### Notes:

1. This list represents cities with the lowest levels of annual PM<sub>2.5</sub> air pollution.
2. Cities are ranked by using the highest design value for any county within that metropolitan area.
3. The **Design Value** is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. The source for the Design Values is [http://www.epa.gov/airtrends/pdfs/PM25\\_DesignValues\\_20102012\\_FINAL\\_12\\_12\\_13.xlsx](http://www.epa.gov/airtrends/pdfs/PM25_DesignValues_20102012_FINAL_12_12_13.xlsx), updated December 12, 2013.

## Cleanest U.S. Cities for Ozone Air Pollution<sup>1</sup>

Metropolitan Statistical Area	Population	Metropolitan Statistical Area	Population
Anchorage, AK	392,535	Rapid City-Spearfish, SD	163,135
Bangor, ME	153,746	Rochester-Austin, MN	248,979
Bellingham, WA	205,262	Rockford-Freeport-Rochelle, IL	445,816
Bend-Redmond-Prineville, OR	183,006	Rome-Summersville, GA	121,902
Bismarck, ND	120,060	Salinas, CA	426,762
Brownsville-Harlingen-Raymondville, TX	437,615	Savannah-Hinesville-Statesboro, GA	516,154
Brunswick, GA	113,448	Sebring, FL	98,128
Burlington-South Burlington, VT	213,701	Sioux City-Vermillion, IA-SD-NE	183,052
Cape Coral-Fort Myers-Naples, FL	977,720	Sioux Falls, SD	237,251
Charleston-North Charleston, SC	697,439	Spokane-Spokane Valley-Coeur d'Alene, WA-ID	674,610
Des Moines-Ames-West Des Moines, IA	742,936	Tuscaloosa, AL	233,389
Dothan-Enterprise-Ozark, AL	249,316	Urban Honolulu, HI	976,372
Eugene, OR	354,542	Utica-Rome, NY	298,064
Fargo-Wahpeton, ND-MN	239,114	Waterloo-Cedar Falls, IA	168,747
Gadsden, AL	104,392	Wausau-Stevens Point-Wisconsin Rapids, WI	307,984
Gainesville-Lake City, FL	336,198		
Grand Junction, CO	147,848		
Idaho Falls-Rexburg-Blackfoot, ID	231,995		
La Crosse-Onalaska, WI-MN	135,298		
Laredo, TX	259,172		
Lincoln-Beatrice, NE	332,148		
Logan, UT-ID	128,306		
McAllen-Edinburg, TX	868,167		
Medford-Grants Pass, OR	289,342		
Missoula, MT	110,977		
Monroe-Ruston-Bastrop, LA	252,294		

### Note:

1. This list represents cities with no monitored ozone air pollution in unhealthy ranges using the Air Quality Index based on 2008 NAAQS.

## Cleanest Counties for Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)<sup>1</sup>

County	State	MSAs and Respective CSA <sup>2</sup>
Anchorage Municipality	AK	Anchorage, AK
Baldwin	AL	Mobile-Daphne-Fairhope, AL
Clay	AL	
Colbert	AL	Florence-Muscle Shoals, AL
DeKalb	AL	
Madison	AL	Huntsville-Decatur-Albertville, AL
Mobile	AL	Mobile-Daphne-Fairhope, AL
Montgomery	AL	Montgomery, AL
Morgan	AL	Huntsville-Decatur-Albertville, AL
Russell	AL	Columbus-Auburn-Opelika, GA-AL
Shelby	AL	Birmingham-Hoover-Talladega, AL
Talladega	AL	Birmingham-Hoover-Talladega, AL
Arkansas	AR	
Ashley	AR	
Crittenden	AR	Memphis-Forrest City, TN-MS-AR
Faulkner	AR	Little Rock-North Little Rock, AR
Garland	AR	Hot Springs-Malvern, AR
Jackson	AR	
Phillips	AR	
Polk	AR	
Pope	AR	
Union	AR	
Washington	AR	Fayetteville-Springdale-Rogers, AR-MO
Apache	AZ	
Cochise	AZ	Sierra Vista-Douglas, AZ
Coconino	AZ	Flagstaff, AZ
Pima	AZ	Tucson-Nogales, AZ
Yavapai	AZ	Prescott, AZ
Yuma	AZ	Yuma, AZ
Calaveras	CA	
Humboldt	CA	
Lake	CA	
Mendocino	CA	
Monterey	CA	Salinas, CA
Nevada	CA	Sacramento-Roseville, CA
San Benito	CA	San Jose-San Francisco-Oakland, CA

County	State	MSAs and Respective CSA <sup>2</sup>
Santa Barbara	CA	Santa Maria-Santa Barbara, CA
Santa Cruz	CA	San Jose-San Francisco-Oakland, CA
Shasta	CA	Redding-Red Bluff, CA
Siskiyou	CA	
Sonoma	CA	San Jose-San Francisco-Oakland, CA
Arapahoe	CO	Denver-Aurora, CO
Douglas	CO	Denver-Aurora, CO
El Paso	CO	Colorado Springs, CO
La Plata	CO	
Larimer	CO	Fort Collins, CO
Montezuma	CO	
Pueblo	CO	Pueblo-Cañon City, CO
Litchfield	CT	New York-Newark, NY-NJ-CT-PA
New London	CT	Hartford-West Hartford, CT
Kent	DE	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Sussex	DE	Salisbury, MD-DE
Brevard	FL	Palm Bay-Melbourne-Titusville, FL
Citrus	FL	Homosassa Springs, FL
Escambia	FL	Pensacola-Ferry Pass-Brent, FL
Hillsborough	FL	Tampa-St. Petersburg-Clearwater, FL
Lee	FL	Cape Coral-Fort Myers-Naples, FL
Leon	FL	Tallahassee-Bainbridge, FL-GA
Orange	FL	Orlando-Deltona-Daytona Beach, FL
Pinellas	FL	Tampa-St. Petersburg-Clearwater, FL
Polk	FL	Lakeland-Winter Haven, FL
Sarasota	FL	North Port-Sarasota, FL
Seminole	FL	Orlando-Deltona-Daytona Beach, FL
Bibb	GA	Macon-Warner Robins, GA
Clarke	GA	Atlanta—Athens-Clarke County—Sandy Springs, GA
Clayton	GA	Atlanta—Athens-Clarke County—Sandy Springs, GA
Hall	GA	Atlanta—Athens-Clarke County—Sandy Springs, GA
Houston	GA	Macon-Warner Robins, GA
Paulding	GA	Atlanta—Athens-Clarke County—Sandy Springs, GA
Walker	GA	Chattanooga-Cleveland-Dalton, TN-GA-AL
Maui	HI	Kahului-Wailuku-Lahaina, HI
Montgomery	IA	

### Notes:

1. This list represents counties with the lowest levels of short term PM<sub>2.5</sub> air pollution. Monitors in these counties reported no days with unhealthy PM<sub>2.5</sub> levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include multiples and individual counties.

## Cleanest Counties for Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)<sup>1</sup> (cont.)

County	State	MSAs and Respective CSA <sup>2</sup>
Adams	IL	Quincy-Hannibal, IL-MO
Champaign	IL	Champaign-Urbana, IL
DuPage	IL	Chicago-Naperville, IL-IN-WI
Hamilton	IL	
Jersey	IL	St. Louis-St. Charles-Farmington, MO-IL
Macon	IL	Decatur, IL
McHenry	IL	Chicago-Naperville, IL-IN-WI
Peoria	IL	Peoria-Canton, IL
Randolph	IL	
Rock Island	IL	Davenport-Moline, IA-IL
Sangamon	IL	Springfield-Jacksonville-Lincoln, IL
LaPorte	IN	Chicago-Naperville, IL-IN-WI
Monroe	IN	Bloomington-Bedford, IN
Spencer	IN	
Johnson	KS	Kansas City-Overland Park-Kansas City, MO-KS
Linn	KS	Kansas City-Overland Park-Kansas City, MO-KS
Sedgwick	KS	Wichita-Arkansas City-Winfield, KS
Sumner	KS	Wichita-Arkansas City-Winfield, KS
Wyandotte	KS	Kansas City-Overland Park-Kansas City, MO-KS
Boyd	KY	Charleston-Huntington-Ashland, WV-OH-KY
Campbell	KY	Cincinnati-Wilmington-Maysville, OH-KY-IN
Carter	KY	
Christian	KY	Clarksville, TN-KY
Daviess	KY	Owensboro, KY
Hardin	KY	Louisville/Jefferson County-Elizabethtown-Madison, KY-IN
Henderson	KY	Evansville, IN-KY
Madison	KY	Lexington-Fayette-Richmond-Frankfort, KY
McCracken	KY	Paducah-Mayfield, KY-IL
Warren	KY	Bowling Green-Glasgow, KY
Calcasieu Parish	LA	Lake Charles, LA
Iberville Parish	LA	Baton Rouge, LA
Jefferson Parish	LA	New Orleans-Metairie-Hammond, LA-MS
Ouachita Parish	LA	Monroe-Ruston-Bastrop, LA
Tangipahoa Parish	LA	New Orleans-Metairie-Hammond, LA-MS

County	State	MSAs and Respective CSA <sup>2</sup>
Terrebonne Parish	LA	Houma-Thibodaux, LA
Bristol	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Essex	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Middlesex	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Plymouth	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Worcester	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Harford	MD	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Hancock	ME	
Kennebec	ME	
Penobscot	ME	Bangor, ME
Allegan	MI	Grand Rapids-Wyoming-Muskegon, MI
Berrien	MI	South Bend-Elkhart-Mishawaka, IN-MI
Genesee	MI	Detroit-Warren-Ann Arbor, MI
Ingham	MI	Lansing-East Lansing-Owosso, MI
Kalamazoo	MI	Kalamazoo-Battle Creek-Portage, MI
Lenawee	MI	Detroit-Warren-Ann Arbor, MI
Macomb	MI	Detroit-Warren-Ann Arbor, MI
Manistee	MI	
Missaukee	MI	
Oakland	MI	Detroit-Warren-Ann Arbor, MI
Ottawa	MI	Grand Rapids-Wyoming-Muskegon, MI
Washtenaw	MI	Detroit-Warren-Ann Arbor, MI
Cass	MN	
Buchanan	MO	Kansas City-Overland Park-Kansas City, MO-KS
Cass	MO	Kansas City-Overland Park-Kansas City, MO-KS
Cedar	MO	
Clay	MO	Kansas City-Overland Park-Kansas City, MO-KS
DeSoto	MS	Memphis-Forrest City, TN-MS-AR
Forrest	MS	Hattiesburg, MS
Grenada	MS	
Hancock	MS	Gulfport-Biloxi-Pascagoula, MS
Harrison	MS	Gulfport-Biloxi-Pascagoula, MS
Jackson	MS	Gulfport-Biloxi-Pascagoula, MS
Jones	MS	

### Notes:

1. This list represents counties with the lowest levels of short term PM<sub>2.5</sub> air pollution. Monitors in these counties reported no days with unhealthy PM<sub>2.5</sub> levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include multiples and individual counties.



## Cleanest Counties for Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)<sup>1</sup> (cont.)

County	State	MSAs and Respective CSA <sup>2</sup>
Lauderdale	MS	
Lee	MS	
Flathead	MT	
Powder River	MT	
Richland	MT	
Buncombe	NC	Asheville-Brevard, NC
Caswell	NC	
Catawba	NC	Hickory-Lenoir, NC
Chatham	NC	Raleigh-Durham-Chapel Hill, NC
Cumberland	NC	Fayetteville-Lumberton-Laurinburg, NC
Davidson	NC	Greensboro-Winston-Salem-High Point, NC
Durham	NC	Raleigh-Durham-Chapel Hill, NC
Edgecombe	NC	Rocky Mount-Wilson-Roanoke Rapids, NC
Forsyth	NC	Greensboro-Winston-Salem-High Point, NC
Gaston	NC	Charlotte-Concord, NC-SC
Guilford	NC	Greensboro-Winston-Salem-High Point, NC
Haywood	NC	Asheville-Brevard, NC
Jackson	NC	
Martin	NC	
McDowell	NC	Hickory-Lenoir, NC
Mecklenburg	NC	Charlotte-Concord, NC-SC
Mitchell	NC	
Montgomery	NC	
Pitt	NC	Greenville-Washington, NC
Robeson	NC	Fayetteville-Lumberton-Laurinburg, NC
Rowan	NC	Charlotte-Concord, NC-SC
Swain	NC	
Watauga	NC	
Wayne	NC	Goldsboro, NC
Billings	ND	
Burke	ND	
Burleigh	ND	Bismarck, ND
Cass	ND	Fargo-Wahpeton, ND-MN
McKenzie	ND	
Mercer	ND	

County	State	MSAs and Respective CSA <sup>2</sup>
Hall	NE	Grand Island, NE
Scotts Bluff	NE	
Belknap	NH	Boston-Worcester-Providence, MA-RI-NH-CT
Grafton	NH	
Hillsborough	NH	Boston-Worcester-Providence, MA-RI-NH-CT
Atlantic	NJ	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Camden	NJ	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Essex	NJ	New York-Newark, NY-NJ-CT-PA
Gloucester	NJ	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Middlesex	NJ	New York-Newark, NY-NJ-CT-PA
Ocean	NJ	New York-Newark, NY-NJ-CT-PA
San Juan	NM	Farmington, NM
Chautauqua	NY	
Essex	NY	
Niagara	NY	Buffalo-Cheektowaga, NY
Onondaga	NY	Syracuse-Auburn, NY
Steuben	NY	Elmira-Corning, NY
Suffolk	NY	New York-Newark, NY-NJ-CT-PA
Allen	OH	Lima-Van Wert-Celina, OH
Athens	OH	
Clark	OH	Dayton-Springfield-Sidney, OH
Greene	OH	Dayton-Springfield-Sidney, OH
Lake	OH	Cleveland-Akron-Canton, OH
Lawrence	OH	Charleston-Huntington-Ashland, WV-OH-KY
Medina	OH	Cleveland-Akron-Canton, OH
Portage	OH	Cleveland-Akron-Canton, OH
Scioto	OH	Charleston-Huntington-Ashland, WV-OH-KY
Trumbull	OH	Youngstown-Warren, OH-PA
Adair	OK	
Oklahoma	OK	Oklahoma City-Shawnee, OK
Sequoyah	OK	Fort Smith, AR-OK
Tulsa	OK	Tulsa-Muskogee-Bartlesville, OK
Linn	OR	Portland-Vancouver-Salem, OR-WA
Umatilla	OR	
Monroe	PA	New York-Newark, NY-NJ-CT-PA

**Notes:**

1. This list represents counties with the lowest levels of short term PM<sub>2.5</sub> air pollution. Monitors in these counties reported no days with unhealthy PM<sub>2.5</sub> levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include multiples and individual counties.

## Cleanest Counties for Short-term Particle Pollution (24-hour PM<sub>2.5</sub>)<sup>1</sup> (cont.)

County	State	MSAs and Respective CSA <sup>2</sup>
Kent	RI	Boston-Worcester-Providence, MA-RI-NH-CT
Chesterfield	SC	
Florence	SC	Florence, SC
Richland	SC	Columbia-Orangeburg-Newberry, SC
Spartanburg	SC	Greenville-Spartanburg-Anderson, SC
Brookings	SD	
Brown	SD	
Codington	SD	
Jackson	SD	
Pennington	SD	Rapid City-Spearfish, SD
Blount	TN	Knoxville-Morristown-Sevierville, TN
Davidson	TN	Nashville-Davidson—Murfreeseboro, TN
Dyer	TN	
Lawrence	TN	Nashville-Davidson—Murfreeseboro, TN
Loudon	TN	Knoxville-Morristown-Sevierville, TN
Madison	TN	Jackson, TN
Maury	TN	Nashville-Davidson—Murfreeseboro, TN
McMinn	TN	Chattanooga-Cleveland-Dalton, TN-GA-AL
Montgomery	TN	Clarksville, TN-KY
Putnam	TN	
Roane	TN	Knoxville-Morristown-Sevierville, TN
Sumner	TN	Nashville-Davidson—Murfreeseboro, TN
Bexar	TX	San Antonio-New Braunfels, TX
Bowie	TX	Texarkana, TX-AR
Cameron	TX	Brownsville-Harlingen-Raymondville, TX
Dallas	TX	Dallas-Fort Worth, TX-OK
Ellis	TX	Dallas-Fort Worth, TX-OK
Harris	TX	Houston-The Woodlands, TX
Hidalgo	TX	McAllen-Edinburg, TX
Travis	TX	Austin-Round Rock, TX
Washington	UT	St. George, UT
Arlington	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Bristol City	VA	Johnson City-Kingsport-Bristol, TN-VA
Charles City	VA	Richmond, VA

County	State	MSAs and Respective CSA <sup>2</sup>
Chesterfield	VA	Richmond, VA
Frederick	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Henrico	VA	Richmond, VA
Lynchburg City	VA	Lynchburg, VA
Page	VA	
Roanoke City	VA	Roanoke, VA
Salem City	VA	Roanoke, VA
Bennington	VT	
Ashland	WI	
Eau Claire	WI	Eau Claire-Menomonie, WI
Forest	WI	
Ozaukee	WI	Milwaukee-Racine-Waukesha, WI
Vilas	WI	
Hancock	WV	Pittsburgh-New Castle-Weirton, PA-OH-WV
Kanawha	WV	Charleston-Huntington-Ashland, WV-OH-KY
Marion	WV	Morgantown-Fairmont, WV
Monongalia	WV	Morgantown-Fairmont, WV
Ohio	WV	Wheeling, WV-OH
Raleigh	WV	Beckley, WV
Albany	WY	
Park	WY	
Sheridan	WY	

### Notes:

1. This list represents counties with the lowest levels of short term PM<sub>2.5</sub> air pollution. Monitors in these counties reported no days with unhealthy PM<sub>2.5</sub> levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include multiples and individual counties.

## Top 25 Cleanest Counties for Year-Round Particle Pollution (Annual PM<sub>2.5</sub>)<sup>1</sup>

2014 Rank <sup>2</sup>	County	ST	Design Value <sup>3</sup>
1	Lake	CA	3.5
2	Jackson	SD	3.8
3	Yavapai	AZ	4.0
4	Essex	NY	4.3
5	Billings	ND	4.4
5	Custer	SD	4.4
7	Hancock	ME	4.6
7	Santa Fe	NM	4.6
9	San Juan	NM	4.7
9	Laramie	WY	4.7
9	Park	WY	4.7
12	Natrona	WY	4.8
13	Albany	WY	5.0
14	Washington	UT	5.1
14	Teton	WY	5.1
16	Coconino	AZ	5.2
16	Siskiyou	CA	5.2
18	Shasta	CA	5.3
18	Ashland	WI	5.3
20	San Benito	CA	5.4
21	St. Louis	MN	5.5
22	Pima	AZ	5.6
22	Forest	WI	5.6
24	Litchfield	CT	5.7
24	Maui	HI	5.7

### Notes:

1. This list represents counties with the lowest levels of monitored long term PM<sub>2.5</sub> air pollution.
2. Counties are ranked by Design Value.
3. The Design Value is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. The source for the Design Values is [http://www.epa.gov/airtrends/pdfs/PM25\\_DesignValues\\_20102012\\_FINAL\\_12\\_12\\_13.xlsx](http://www.epa.gov/airtrends/pdfs/PM25_DesignValues_20102012_FINAL_12_12_13.xlsx), updated December 12, 2013.

## Cleanest Counties for Ozone Air Pollution<sup>1</sup>

County	State	Metropolitan Statistical Area
Anchorage Municipality	AK	Anchorage, AK
Yukon-Koyukuk Census Area	AK	
Elmore	AL	Montgomery, AL
Etowah	AL	Gadsden, AL
Houston	AL	Dothan-Enterprise-Ozark, AL
Tuscaloosa	AL	Tuscaloosa, AL
Glenn	CA	
Humboldt	CA	
Marin	CA	San Jose-San Francisco-Oakland, CA
Mendocino	CA	
Monterey	CA	Salinas, CA
San Francisco	CA	San Jose-San Francisco-Oakland, CA
Santa Cruz	CA	San Jose-San Francisco-Oakland, CA
Siskiyou	CA	
Sonoma	CA	San Jose-San Francisco-Oakland, CA
Mesa	CO	Grand Junction, CO
Pitkin	CO	Edwards-Glenwood Springs, CO
Alachua	FL	Gainesville-Lake City, FL
Baker	FL	Jacksonville-St. Marys-Palatka, FL-GA
Collier	FL	Cape Coral-Fort Myers-Naples, FL
Columbia	FL	Gainesville-Lake City, FL
Highlands	FL	Sebring, FL
Holmes	FL	
Lee	FL	Cape Coral-Fort Myers-Naples, FL
Leon	FL	Tallahassee-Bainbridge, FL-GA
Pasco	FL	Tampa-St. Petersburg-Clearwater, FL

County	State	Metropolitan Statistical Area
St. Lucie	FL	Miami-Fort Lauderdale-Port St. Lucie, FL
Volusia	FL	Orlando-Deltona-Daytona Beach, FL
Chatham	GA	Savannah-Hinesville-Statesboro, GA
Chattooga	GA	Rome-Summerville, GA
Coweta	GA	Atlanta-Athens-Clarke County-Sandy Springs, GA
Glynn	GA	Brunswick, GA
Sumter	GA	
Honolulu	HI	Urban Honolulu, HI
Bremer	IA	Waterloo-Cedar Falls, IA
Montgomery	IA	
Polk	IA	Des Moines-Ames-West Des Moines, IA
Story	IA	Des Moines-Ames-West Des Moines, IA
Warren	IA	Des Moines-Ames-West Des Moines, IA
Butte	ID	Idaho Falls-Rexburg-Blackfoot, ID
Rock Island	IL	Davenport-Moline, IA-IL
Winnebago	IL	Rockford-Freepport-Rochelle, IL
Hancock	IN	Indianapolis-Carmel-Muncie, IN
Ouachita Parish	LA	Monroe-Ruston-Bastrop, LA
Androscoggin	ME	Portland-Lewiston-South Portland, ME
Aroostook	ME	
Oxford	ME	
Penobscot	ME	Bangor, ME
Sagadahoc	ME	Portland-Lewiston-South Portland, ME
Becker	MN	
Goodhue	MN	Minneapolis-St. Paul, MN-WI
Lake	MN	

County	State	Metropolitan Statistical Area
Lyon	MN	
Mille Lacs	MN	Minneapolis-St. Paul, MN-WI
Olmsted	MN	Rochester-Austin, MN
St. Louis	MN	Duluth, MN-WI
Stearns	MN	Minneapolis-St. Paul, MN-WI
Wright	MN	Minneapolis-St. Paul, MN-WI
Lauderdale	MS	
Flathead	MT	
Missoula	MT	Missoula, MT
Powder River	MT	
Richland	MT	
Rosebud	MT	
Swain	NC	
Billings	ND	
Burke	ND	
Burleigh	ND	Bismarck, ND
Cass	ND	Fargo-Wahpeton, ND-MN
Dunn	ND	
McKenzie	ND	
Mercer	ND	
Oliver	ND	Bismarck, ND
Lancaster	NE	Lincoln-Beatrice, NE
Cheshire	NH	
Grafton	NH	
Lea	NM	
Luna	NM	
Sandoval	NM	Albuquerque-Santa Fe-Las Vegas, NM
Santa Fe	NM	Albuquerque-Santa Fe-Las Vegas, NM
Carson City	NV	Reno-Carson City-Fernley, NV
Churchill	NV	

**Note:**

1. This list represents counties with no monitored ozone air pollution in unhealthy ranges using the Air Quality Index based on 2008 NAAQS.

## Cleanest Counties for Ozone Air Pollution<sup>1</sup> (cont.)

County	State	Metropolitan Statistical Area
Franklin	NY	
Herkimer	NY	Utica-Rome, NY
Oneida	NY	Utica-Rome, NY
Saratoga	NY	Albany-Schenectady, NY
Steuben	NY	Elmira-Corning, NY
Columbia	OR	Portland-Vancouver-Salem, OR-WA
Deschutes	OR	Bend-Redmond-Prineville, OR
Jackson	OR	Medford-Grants Pass, OR
Lane	OR	Eugene, OR
Umatilla	OR	
Washington	OR	Portland-Vancouver-Salem, OR-WA
Aiken	SC	Augusta-Richmond County, GA-SC
Berkeley	SC	Charleston-North Charleston, SC
Charleston	SC	Charleston-North Charleston, SC
Colleton	SC	
Edgefield	SC	Augusta-Richmond County, GA-SC
Brookings	SD	
Custer	SD	Rapid City-Spearfish, SD
Jackson	SD	
Meade	SD	Rapid City-Spearfish, SD
Minnehaha	SD	Sioux Falls, SD
Union	SD	Sioux City-Vermillion, IA-SD-NE
Cameron	TX	Brownsville-Harlingen-Raymondville, TX
Hidalgo	TX	McAllen-Edinburg, TX
Webb	TX	Laredo, TX
Cache	UT	Logan, UT-ID
Fauquier	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Page	VA	

County	State	Metropolitan Statistical Area
Rockbridge	VA	
Chittenden	VT	Burlington-South Burlington, VT
Clallam	WA	
Clark	WA	Portland-Vancouver-Salem, OR-WA
Pierce	WA	Seattle-Tacoma, WA
Skagit	WA	Seattle-Tacoma, WA
Spokane	WA	Spokane-Spokane Valley-Coeur d'Alene, WA-ID
Whatcom	WA	Bellingham, WA
Ashland	WI	
La Crosse	WI	La Crosse-Onalaska, WI-MN
Marathon	WI	Wausau-Stevens Point-Wisconsin Rapids, WI
Vilas	WI	
Big Horn	WY	
Carbon	WY	
Sweetwater	WY	
Teton	WY	
Uinta	WY	

**Note:**

1. This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2008 NAAQS.



# Health Effects of Ozone and Particle Pollution

Two types of air pollution dominate in the U.S.: ozone and particle pollution.<sup>1</sup> These two pollutants threaten the health and the lives of millions of Americans.

Thanks to the Clean Air Act, the U.S. has far less of both pollutants now than in the past. Still, more than 147.6 million people live in counties where monitors show unhealthy levels of one or both—meaning the air a family breathes could shorten life or cause lung cancer.

So what are ozone and particle pollution?

## Ozone Pollution

It may be hard to imagine that pollution could be invisible, but ozone is. The most widespread pollutant in the U.S. is also one of the most dangerous.

Scientists have studied the effects of ozone on health for decades. Hundreds of research studies have confirmed that ozone harms people at levels currently found in the United States. In the last few years, we've learned that it can also be deadly.

## What Is Ozone?

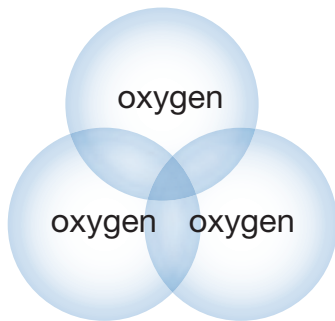
Ozone (O<sub>3</sub>) is a gas molecule composed of three oxygen atoms. Often called “smog,” ozone is harmful to breathe. Ozone aggressively attacks lung tissue by reacting chemically with it.

The ozone layer found high in the upper atmosphere (the stratosphere) shields us from much of the sun's ultraviolet radiation. However, ozone air pollution at ground level where we can breathe it (in the troposphere) causes serious health problems.

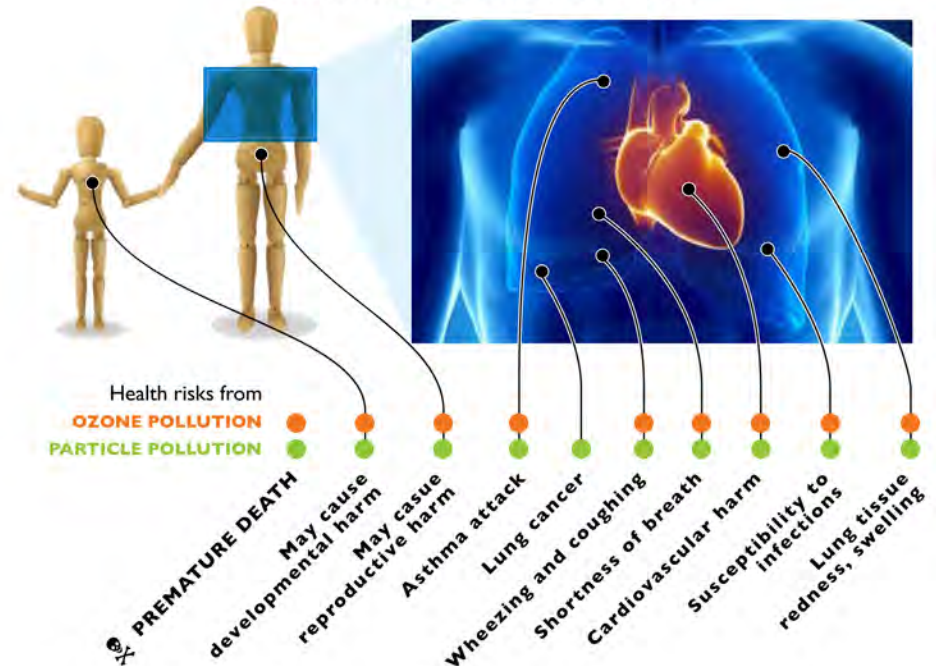
## Where Does Ozone Come From?

Ozone develops in the atmosphere from gases that come out of tailpipes, smokestacks and many other sources. When these gases come in contact with sunlight, they react and form ozone smog.

The essential raw ingredients for ozone come from nitrogen oxides (NO<sub>x</sub>), hydrocarbons, also called volatile organic compounds (VOCs) and carbon monoxide (CO). They are produced primarily when fossil fuels like gasoline, oil or coal are burned or when some chemicals, like solvents, evaporate. NO<sub>x</sub> is emitted from power plants, motor vehicles and other sources of high-heat combustion. VOCs are emitted from mo-



**Air pollution remains a major danger to the health of children and adults.**



tor vehicles, chemical plants, refineries, factories, gas stations, paint and other sources. CO is also primarily emitted from motor vehicles.<sup>2</sup>

If the ingredients are present under the right conditions, they react to form ozone. And because the reaction takes place in the atmosphere, the ozone often shows up downwind of the sources of the original gases. In addition, winds can carry ozone far from where it began.



You may have wondered why “ozone action day” warnings are sometimes followed by recommendations to avoid activities such as mowing your lawn or driving your car. Lawn mower exhaust and gasoline vapors are VOCs that could turn into ozone in the heat and sun.

### Who is at risk from breathing ozone?

Anyone who spends time outdoors where ozone pollution levels are high may be at risk. Five groups of people are especially vulnerable to the effects of breathing ozone:

- children and teens;<sup>3</sup>
- anyone 65 and older;<sup>4</sup>
- people who work or exercise outdoors;<sup>5</sup>
- people with existing lung diseases, such as asthma and chronic obstructive pulmonary disease (also known as COPD, which includes emphysema and chronic bronchitis);<sup>6</sup> and
- people with cardiovascular disease.<sup>7</sup>

In addition, some evidence suggests that other groups—including women, people who suffer from obesity and people with low incomes—may also face higher risk from ozone.<sup>8</sup>

More research is needed to confirm these findings.

The impact on your health can depend on many factors, however. For example, the risks would be greater if ozone levels are higher, if you are breathing faster because you’re working outdoors or if you spend more time outdoors.

Lifeguards in Galveston, Texas, provided evidence of the impact of even short-term exposure to ozone on healthy, active adults in a study published in 2008. Testing the breathing capacity of these outdoor workers several times a day, researchers found that many lifeguards had greater obstruction in their airways when ozone levels were high. Because of this research, Galveston became the first city in the nation to install an air quality warning flag system on the beach.<sup>9</sup>

### How Ozone Pollution Harms Your Health

**Premature death.** Breathing ozone can shorten your life. Strong evidence exists of the deadly impact of ozone in large studies conducted in cities across the U.S., in Europe and in Asia. Researchers repeatedly found that the risk of premature death increased with higher levels of ozone.<sup>10</sup> Newer research has confirmed that ozone increased the risk of premature death even when other pollutants also exist.<sup>11</sup>

Even low levels of ozone may be deadly. A large study of 48 U.S. cities looked at the association between ozone and all-cause mortality during the summer months. Ozone concentrations by city in the summer months ranged from 16 percent to 80 percent lower than the U.S. Environmental Protection Agency (EPA) currently considers safe. Researchers found that ozone at those lower levels was associated with deaths from cardiovascular disease, strokes, and respiratory causes.<sup>12</sup>

**Immediate breathing problems.** Many areas in the United States produce enough ozone during the summer months to cause health problems that can be felt right away. Immediate problems—in addition to increased risk of premature death—include:

- shortness of breath, wheezing and coughing;



- asthma attacks;
- increased risk of respiratory infections;
- increased susceptibility to pulmonary inflammation; and
- increased need for people with lung diseases, like asthma or chronic obstructive pulmonary disease (COPD), to receive medical treatment and to go to the hospital.<sup>13</sup>

**Cardiovascular effects.** Inhaling ozone may affect the heart as well as the lungs. A 2006 study linked exposures to high ozone levels for as little as one hour to a particular type of cardiac arrhythmia that itself increases the risk of premature death and stroke.<sup>14</sup> A French study found that exposure to elevated ozone levels for one to two days increased the risk of heart attacks for middle-aged adults without heart disease.<sup>15</sup> Several studies around the world have found increased risk of hospital admissions or emergency department visits for cardiovascular disease.<sup>16</sup>

**Long-term exposure risks.** New studies warn of serious effects from breathing ozone over longer periods. With more long-term data, scientists are finding that long-term exposure—that is, for periods longer than eight hours, including days, months or years—may increase the risk of early death.

- Examining the records from a long-term national database, researchers found a higher risk of death from respiratory diseases associated with increases in ozone.<sup>17</sup>
- New York researchers looking at hospital records for children’s asthma found that the risk of admission to hospitals for asthma increased with chronic exposure to ozone. Younger children and children from low income families were more likely than other children to need hospital admissions even during the same time periods.<sup>18</sup>
- California researchers analyzing data from their long-term Southern California Children’s Health Study found that some children with certain genes were more likely to develop asthma as adolescents in response to the variations in ozone levels in their communities.<sup>19</sup>

- Studies link lower birth weight and decreased lung function in newborns to ozone levels in their community.<sup>20</sup> This research provides increasing evidence that ozone may harm newborns.

Breathing other pollutants in the air may make your lungs more responsive to ozone—and breathing ozone may increase your body’s response to other pollutants. For example, research warns that breathing sulfur dioxide and nitrogen oxide—two pollutants common in the eastern U.S.—can make the lungs react more strongly than to just breathing ozone alone. Breathing ozone may also increase the response to allergens in people with allergies. A large study published in 2009 found that children were more likely to suffer from hay fever and respiratory allergies when ozone and PM<sub>2.5</sub> levels were high.<sup>21</sup>

**EPA finds ozone causes harm.** The EPA released their most recent review of the current research on ozone pollution in February 2013.<sup>22</sup> The EPA had engaged a panel of expert scientists, the Clean Air Scientific Advisory Committee, to help them assess the evidence, in particular, research published between 2006 and 2012. The EPA concluded that ozone pollution posed multiple, serious threats to health. Their findings are highlighted in the box below.

**EPA Concludes Ozone Pollution Poses Serious Health Threats**

- Causes respiratory harm (e.g. worsened asthma, worsened COPD, inflammation)
- Likely to cause early death (both short-term and long-term exposure)
- Likely to cause cardiovascular harm (e.g. heart attacks, strokes, heart disease, congestive heart failure)
- May cause harm to the central nervous system
- May cause reproductive and developmental harm

—U.S. Environmental Protection Agency, *Integrated Science Assessment for Ozone and Related Photochemical Oxidants*, 2013. EPA/600/R-10/076F.

## Particle Pollution

Ever look at dirty truck exhaust?

The dirty, smoky part of that stream of exhaust is made of particle pollution.

Overwhelming evidence shows that particle pollution—like that coming from that exhaust smoke—can kill. Particle pollution can increase the risk of heart disease, lung cancer and asthma attacks and can interfere with the growth and work of the lungs.

### What Is Particle Pollution?

Particle pollution refers to a mix of very tiny solid and liquid particles that are in the air we breathe. But nothing about particle pollution is simple. And it is so dangerous it can shorten your life.

**Size matters.** Particles themselves are different sizes. Some are one-tenth the diameter of a strand of hair. Many are even tinier; some are so small they can only be seen with an electron microscope. Because of their size, you can't see the individual particles. You can only see the haze that forms when millions of particles blur the spread of sunlight.

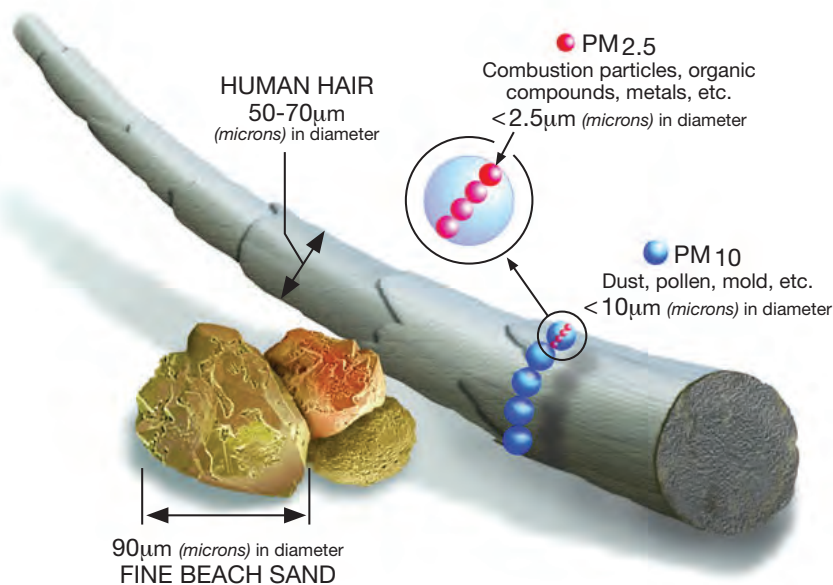


Image courtesy of the U.S. EPA

The differences in size make a big difference in how they affect us. Our natural defenses help us to cough or sneeze larger particles out of our bodies. But those defenses don't keep out smaller particles, those that are smaller than 10 microns (or micrometers) in diameter, or about one-seventh the diameter of a single human hair. These particles get trapped in the lungs, while the smallest are so minute that they can pass through the lungs into the bloodstream, just like the essential oxygen molecules we need to survive.

Researchers categorize particles according to size, grouping them as coarse, fine and ultrafine. Coarse particles fall between 2.5 microns and 10 microns in diameter and are called PM<sub>10-2.5</sub>. Fine particles are 2.5 microns in diameter or smaller and are called PM<sub>2.5</sub>. Ultrafine particles are smaller than 0.1 micron in diameter<sup>23</sup> and are small enough to pass through the lung tissue into the blood stream, circulating like the oxygen molecules themselves. No matter what the size, particles can harm your health.

**“A mixture of mixtures.”** Because particles are formed in so many different ways, they can be composed of many different compounds. Although we often think of particles as solids, not all are. Some are completely liquid; some are solids suspended in liquids. As the EPA puts it, particles are really “a mixture of mixtures.”<sup>24</sup>

The mixtures differ between the eastern and western United States and in different times of the year. For example, the Midwest, Southeast and Northeast states have more sulfate particles than the West on average, largely due to the high levels of sulfur dioxide emitted by large, coal-fired power plants. By contrast, nitrate particles from motor vehicle exhaust form a larger proportion of the unhealthy mix in the winter in the Northeast, Southern California, the Northwest, and North Central U.S.<sup>25</sup>

### Who Is at Risk?

Anyone who lives where particle pollution levels are high is at risk. Some people face higher risk, however. People at the

greatest risk from particle pollution exposure include:

- Infants, children and teens;<sup>26</sup>
- People over 65 years of age;<sup>27</sup>
- People with lung disease such as asthma and chronic obstructive pulmonary disease (COPD), which includes chronic bronchitis and emphysema;
- People with heart disease<sup>28</sup> or diabetes;<sup>29</sup>
- People with low incomes;<sup>30</sup> and
- People who work or are active outdoors.<sup>31</sup>

Diabetics face increased risk at least in part because of their higher risk for cardiovascular disease.<sup>32</sup> A 2010 study examined prevalence of diagnosed diabetes in relation to fine particle pollution in 2004-2005. The evidence suggested that air pollution is a risk factor for diabetes.<sup>33</sup>

### What Can Particles Do to Your Health?

Particle pollution can be very dangerous to breathe. Breathing particle pollution may trigger illness, hospitalization and premature death, risks that are showing up in new studies that validate earlier research.

Thanks to steps taken to reduce particle pollution, good news is growing from researchers who study the drop in year-round levels of particle pollution.

- Looking at air quality in 545 counties in the U.S. between 2000 and 2007, researchers found that people had approximately four months added to their life expectancy on average due to cleaner air. Women and people who lived in urban and densely populated counties benefited the most.<sup>34</sup>
- Another long-term study of six U.S. cities tracked from 1974 to 2009 added more evidence of the benefits. Their findings suggest that cleaning up particle pollution had almost immediate health benefits. They estimated that the U.S. could prevent approximately 34,000 premature deaths a year if the

nation could lower annual levels of particle pollution by 1  $\mu\text{g}/\text{m}^3$ .<sup>35</sup>

These studies add to the growing research that cleaning up air pollution improves life and health.<sup>36</sup> Other researchers estimated that reductions in air pollution can be expected to produce rapid improvements in public health, with fewer deaths occurring within the first two years after reductions.<sup>37</sup>

Researchers are exploring possible differences in health effects of the three sizes of particles and particles from different sources, such as diesel particles from trucks and buses or sulfates from coal-fired power plants. So far, the evidence remains clear that particles of all sizes from all sources can be dangerous.<sup>38</sup>

### Short-Term Exposure Can Be Deadly

First and foremost, short-term exposure to particle pollution can kill. Peaks or spikes in particle pollution can last for hours to days. Deaths can occur on the very day that particle levels are high, or within one to two months afterward. Particle pollution does not just make people die a few days earlier than they might otherwise—these are deaths that would not have occurred if the air were cleaner.<sup>39</sup>

Particle pollution also diminishes lung function, causes greater use of asthma medications and increased rates of school absenteeism, emergency room visits and hospital admissions. Other adverse effects can be coughing, wheezing, cardiac arrhythmias and heart attacks. According to the findings from some of the latest studies, short-term increases in particle pollution have been linked to:

- death from respiratory and cardiovascular causes, including strokes;<sup>40, 41, 42, 43</sup>
- increased mortality in infants and young children;<sup>44</sup>
- increased numbers of heart attacks, especially among the elderly and in people with heart conditions;<sup>45</sup>
- inflammation of lung tissue in young, healthy adults;<sup>46</sup>

- increased hospitalization for cardiovascular disease, including strokes and congestive heart failure;<sup>47,48,49</sup>
- increased emergency room visits for patients suffering from acute respiratory ailments;<sup>50</sup>
- increased hospitalization for asthma among children;<sup>51,52,53</sup> and
- increased severity of asthma attacks in children.<sup>54</sup>

Again, the impact of even short-term exposure to particle pollution on healthy adults showed up in the Galveston lifeguard study. In addition to the harmful effects of ozone pollution, lifeguards had reduced lung volume at the end of the day when fine particle levels were high.<sup>55</sup>

### Year-Round Exposure

Breathing high levels of particle pollution day in and day out also can be deadly, as landmark studies in the 1990s conclusively showed<sup>56</sup> and as other studies confirmed.<sup>57</sup> Chronic exposure to particle pollution can shorten life by one to three years.<sup>58</sup>

In late 2013, the International Agency for Research on Cancer, part of the World Health Organization, concluded that particle pollution could cause lung cancer. The IARC reviewed the most recent research and reported that the risk of lung cancer increases as the particle levels rise.<sup>59</sup>

Year-round exposure to particle pollution has also been linked to:

- increased hospitalization for asthma attacks for children living near roads with heavy truck or trailer traffic;<sup>60,61</sup>
- slowed lung function growth in children and teenagers;<sup>62,63</sup>
- significant damage to the small airways of the lungs;<sup>64</sup>
- increased risk of death from cardiovascular disease;<sup>65</sup> and
- increased risk of lower birth weight and infant mortality.<sup>66</sup>

Research into the health risks of 65,000 women over age 50 found that those who lived in areas with higher levels of particle pollution faced a much greater risk of dying from heart

disease than had been previously estimated. Even women who lived within the same city faced differing risks depending on the annual levels of pollution in their neighborhood.<sup>67</sup>

The EPA completed their most recent review of the current research on particle pollution in December 2009.<sup>68</sup> The EPA had engaged a panel of expert scientists, the Clean Air Scientific Advisory Committee, to help them assess the evidence. The EPA concluded that particle pollution caused multiple, serious threats to health. Their findings are highlighted in the box below.

#### **EPA Concludes Fine Particle Pollution Poses Serious Health Threats**

- Causes early death (both short-term and long-term exposure)
- Causes cardiovascular harm (e.g. heart attacks, strokes, heart disease, congestive heart failure)
- Likely to cause respiratory harm (e.g. worsened asthma, worsened COPD, inflammation)
- May cause cancer
- May cause reproductive and developmental harm

—U.S. Environmental Protection Agency, Integrated Science Assessment for Particulate Matter, December 2009. EPA 600/R-08/139F.

### Where Does Particle Pollution Come From?

Particle pollution is produced through two separate processes—mechanical and chemical.

Mechanical processes break down bigger bits into smaller bits with the material remaining essentially the same, only becoming smaller. Mechanical processes primarily create coarse particles.<sup>69</sup> Dust storms, construction and demolition, mining operations, and agriculture are among the activities that produce coarse particles. Tire, brake pad and road wear can also create coarse particles. Bacteria, pollen, mold, and plant and animal debris are also included as coarse particles.<sup>70</sup>

By contrast, chemical processes in the atmosphere create most of the tiniest fine and ultrafine particles. Combustion sources

burn fuels and emit gases. These gases can vaporize and then condense to become a particle of the same chemical compound. Or, they can react with other gases or particles in the atmosphere to form a particle of a different chemical compound. Particles formed by this latter process come from the reaction of elemental carbon (soot), heavy metals, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds with water and other compounds in the atmosphere.<sup>71</sup> Burning fossil fuels in factories, power plants, steel mills, smelters, diesel- and gasoline-powered motor vehicles (cars and trucks) and equipment generate a large part of the raw materials for fine particles. So does burning wood in residential fireplaces and wood stoves or burning agricultural fields or forests.

## Focusing on Children's Health

Children face special risks from air pollution because their lungs are growing and because they are so active.

Just like the arms and legs, the largest portion of a child's lungs will grow long after he or she is born. Eighty percent of their tiny air sacs develop after birth. Those sacs, called the alveoli, are where the life-sustaining transfer of oxygen to the blood takes place. The lungs and their alveoli aren't fully grown until children become adults.<sup>72</sup> In addition, the body's defenses that help adults fight off infections are still developing in young bodies.<sup>73</sup> Children have more respiratory infections than adults, which also seems to increase their susceptibility to air pollution.<sup>74</sup>

Furthermore, children don't behave like adults, and their behavior also affects their vulnerability. They are outside for longer periods and are usually more active when outdoors. Consequently, they inhale more polluted outdoor air than adults typically do.<sup>75</sup>

## Air Pollution Increases Risk of Underdeveloped Lungs

Another finding from the Southern California Children's Health study looked at the long-term effects of particle pollu-

tion on teenagers. Tracking 1,759 children between ages 10 and 18, researchers found that those who grew up in more polluted areas face the increased risk of having underdeveloped lungs, which may never recover to their full capacity. The average drop in lung function was 20 percent below what was expected for the child's age, similar to the impact of growing up in a home with parents who smoked.<sup>76</sup>

Community health studies are pointing to less obvious, but serious effects from year-round exposure to ozone, especially for children. Scientists followed 500 Yale University students and determined that living just four years in a region with high levels of ozone and related co-pollutants was associated with diminished lung function and frequent reports of respiratory symptoms.<sup>77</sup> A much larger study of 3,300 school children in Southern California found reduced lung function in girls with asthma and boys who spent more time outdoors in areas with high levels of ozone.<sup>78</sup>

## Cleaning Up Pollution Can Reduce Risk to Children

There is also real-world evidence that reducing air pollution can help protect children.

In Switzerland, particle pollution dropped during a period in the 1990s. Researchers there tracked 9,000 children over a nine-year period, following their respiratory symptoms. After taking other factors such as family characteristics and indoor air pollution into account, the researchers noted that during the years with less pollution, the children had fewer episodes of chronic cough, bronchitis, common cold, and conjunctivitis symptoms.<sup>79</sup>

## Disparities in the Impact of Air Pollution

The burden of air pollution is not evenly shared. Poorer people and some racial and ethnic groups are among those who often face higher exposure to pollutants and who may experience greater

responses to such pollution. Many studies have explored the differences in harm from air pollution to racial or ethnic groups and people who are in a low socioeconomic position, have less education, or live nearer to major sources,<sup>80</sup> including a workshop the American Lung Association held in 2001 that focused on urban air pollution and health inequities.<sup>81</sup>

Many studies have looked at differences in the impact on premature death. Results have varied widely, particularly for effects between racial groups. Some studies have found no differences among races,<sup>82</sup> while others found greater responsiveness for Whites and Hispanics, but not African Americans,<sup>83</sup> or for African Americans but not other races or ethnic groups.<sup>84</sup> Other researchers have found greater risk for African Americans from air toxics, including those pollutants that also come from traffic sources.<sup>85</sup>

Socioeconomic position has been more consistently associated with greater harm from air pollution. Recent studies show evidence of that link. Low socioeconomic status consistently increased the risk of premature death from fine particle pollution among 13.2 million Medicare recipients studied in the largest examination of particle pollution mortality nationwide.<sup>86</sup> In the 2008 study that found greater risk for premature death for African Americans, researchers also found greater risk for people living in areas with higher unemployment or higher use of public transportation.<sup>87</sup> A 2008 study of Washington, DC found that while poor air quality and worsened asthma went hand-in-hand in areas where Medicaid enrollment was high, the areas with the highest Medicaid enrollment did not always have the strongest association of high air pollution and asthma attacks.<sup>88</sup> However, two other recent studies in France have found no association with lower income and asthma attacks.<sup>89</sup>

Scientists have speculated that there are three broad reasons why disparities may exist. First, groups may face greater exposure to pollution because of factors ranging from racism to class bias to housing market dynamics and land costs. For example, pollution sources may be located near disadvantaged

communities, increasing exposure to harmful pollutants. Second, low social position may make some groups more susceptible to health threats because of factors related to their disadvantage. Lack of access to health care, grocery stores and good jobs, poorer job opportunities, dirtier workplaces or higher traffic exposure are among the factors that could handicap groups and increase the risk of harm. Finally, existing health conditions, behaviors, or traits may predispose some groups to greater risk. For example, diabetics are among the groups most at risk from air pollutants, and the elderly, African Americans, Mexican Americans and people living near a central city have higher incidence of diabetes.<sup>90</sup>

Communities of color also may be more likely to live in counties with higher levels of pollution. Non-Hispanic Blacks and Hispanics were more likely to live in counties that had worse problems with particle pollution, researchers found in a 2011 analysis. Non-Hispanic Blacks were also more likely to live in counties with worse ozone pollution. Income groups, by contrast, differed little in these exposures. However, since few rural counties have monitors, the primarily older, non-Hispanic white residents of those counties lack information about the air quality in their communities.<sup>91</sup>

Unemployed people, those with low income or low education and non-Hispanic Blacks were found to be more likely to live in areas with higher exposures to particle pollution in a 2012 study. However, the different racial/ethnic and income groups were breathing often very different kinds of particles; the different composition and structure of these particles may have different health impacts.<sup>92</sup>

### Highways May Be Especially Dangerous for Breathing

Being in heavy traffic, or living near a road, may be even more dangerous than being in other places in a community. Growing evidence shows that the vehicle emissions coming directly from those highways may be higher than in the community as

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a whole, increasing the risk of harm to people who live or work near busy roads.

The number of people living “next to a busy road” may include 30 to 45 percent of the urban population in North America, according to the most recent review of the evidence. In January 2010, the Health Effects Institute published a major review of the evidence by a panel of expert scientists. The panel looked at over 700 studies from around the world, examining the health effects. They concluded that traffic pollution causes asthma attacks in children, and may cause a wide range of other effects including: the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. The area most affected, they concluded, was roughly 0.2 mile to 0.3 mile (300 to 500 meters) from the highway.<sup>93</sup>

Children and teenagers are among the most vulnerable—though not the only ones at risk. A Danish study found that long-term exposure to traffic air pollution may increase the risk of developing chronic obstructive pulmonary disease (COPD). They found that those most at risk were people who already had asthma or diabetes.<sup>94</sup> Studies have found increased risk of premature death from living near a major highway or an urban road.<sup>95</sup> Another study found an increase in risk of heart attacks from being in traffic, whether driving or taking public transportation.<sup>96</sup> Urban women in a Boston study experienced decreased lung function associated with traffic-related pollution.<sup>97</sup>

## How to Protect Yourself from Ozone and Particle Pollution

To minimize your exposure to ozone and particle pollution:

- Pay attention to forecasts for high air pollution days to know when to take precautions;
- Avoid exercising near high-traffic areas;
- Avoid exercising outdoors when pollution levels are high, or substitute an activity that requires less exertion;
- Do not let anyone smoke indoors and support measures to make all places smokefree; and
- Reduce the use of fireplaces and wood-burning stoves.

Bottom line: Help yourself and everyone else breathe easier. Support national, state and local efforts to clean up sources of pollution. Your life and the life of someone you love may depend on it.

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1. Ozone and particle pollution are the most widespread, but they aren't the only serious air pollutants. Others include carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide, as well as scores of toxins such as mercury, arsenic, benzene, formaldehyde, and acid gases. However, the monitoring networks are not as widespread nationwide for the other pollutants.
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# Methodology

## Statistical Methodology: The Air Quality Data

called Aerometric Information Retrieval System (AIRS) database. The American Lung Association contracted with Dr. Allen S. Lefohn, A.S.L. & Associates, Helena, Montana, to characterize the hourly averaged ozone concentration information and the 24-hour averaged PM<sub>2.5</sub> concentration information for the 3-year period for 2010-2012 for each monitoring site.

Design values for the annual PM<sub>2.5</sub> concentrations by county for the period 2010-2012 were downloaded from the database updated on December 12, 2013 at EPA's website at <http://www.epa.gov/air/airtrends/values.html>. The 2010-2012 design values were compared to the 2012 National Ambient Air Quality Standards for Annual PM<sub>2.5</sub>.

## Ozone Data Analysis

The 2010, 2011, and 2012 AQS hourly ozone data were used to calculate the daily 8-hour maximum concentration for each ozone-monitoring site. The hourly averaged ozone data were downloaded on July 2, 2013. The data were considered for a 3-year period for the same reason that the EPA uses three years of data to determine compliance with the ozone standard: to prevent a situation in any single year, where anomalies of weather or other factors create air pollution levels, which inaccurately reflect the normal conditions. The highest 8-hour daily maximum concentration in each county for 2010, 2011, and 2012, based on the EPA-defined ozone season, was identified.

## Data Sources

The data on air quality throughout the United States were obtained from the U.S. Environmental Protection Agency's Air Quality System (AQS), formerly

The current national ambient air quality standard for ozone is 0.075 ppm measured over eight hours. The EPA's Air Quality Index reflects the 0.075 ppm standard. A.S.L. & Associates prepared a table by county that summarized, for each of the three years, the number of days the ozone level was within the ranges identified by the EPA based on the EPA Air Quality Index:

### Air Quality Index for Ozone

8-hour Ozone Concentration	Air Quality Index Levels
0.000 - 0.059 ppm	Good (Green)
0.060 - 0.075 ppm	Moderate (Yellow)
0.076 - 0.095 ppm	Unhealthy for Sensitive Groups (Orange)
0.096 - 0.115 ppm	Unhealthy (Red)
0.116 - 0.374 ppm	Very Unhealthy (Purple)
>0.374 ppm	Hazardous (Maroon)

The goal of this report was to identify the number of days that 8-hour daily maximum concentrations occurred within the defined ranges, not just those days that would fall under the requirements for attaining the national ambient air quality standards. Therefore, no data capture criteria were applied to eliminate monitoring sites or to require a number of valid days for the ozone season. All valid days of data within the ozone season were used in the analysis. However, for computing an 8-hour average, at least 75 percent of the hourly concentrations (i.e., 6-8 hours) had to be available for the 8-hour period. In addition, an 8-hour daily maximum average was identified if valid 8-hour averages were available for at least 75 percent of possible hours in the day (i.e., at least 18 of the possible 24 8-hour averages). Because the EPA includes days with inadequate data if the standard value is exceeded,

our data capture methodology included the site's 8-hour value if at least one valid 8-hr period were available and it was 76 ppb or higher.

Following receipt of the above information, the American Lung Association identified the number of days each county, with at least one ozone monitor, experienced air quality designated as orange (Unhealthy for Sensitive Groups), red (Unhealthy), or purple (Very Unhealthy).

### Short-term Particle Pollution Data Analysis

A.S.L. & Associates identified the maximum daily 24-hour AQS PM<sub>2.5</sub> concentration for each county in 2010, 2011, and 2012 with monitoring information. The 24-hour PM<sub>2.5</sub> data were downloaded on August 28, 2013. In addition, hourly averaged PM<sub>2.5</sub> concentration data were characterized into 24-hour average PM<sub>2.5</sub> values by the EPA and provided to A.S.L. & Associates. Using these results, A.S.L. & Associates prepared a table by county that summarized, for each of the 3 years, the number of days the maximum of the daily PM<sub>2.5</sub> concentration was within the ranges identified by the EPA based on the EPA Air Quality Index, as adopted by the EPA on December 14, 2012:

Air Quality Index for Particle Pollution	
Concentration	Index Levels
0.0 µg/m <sup>3</sup> to 15.4 µg/m <sup>3</sup>	■ Good (Green)
15.5 µg/m <sup>3</sup> to 35.0 µg/m <sup>3</sup>	■ Moderate (Yellow)
35.1 µg/m <sup>3</sup> to 55.4 µg/m <sup>3</sup>	■ Unhealthy for Sensitive Groups (Orange)
55.5 µg/m <sup>3</sup> to 150.4 µg/m <sup>3</sup>	■ Unhealthy (Red)
150.5 µg/m <sup>3</sup> to 250.4 µg/m <sup>3</sup>	■ Very Unhealthy (Purple)
greater than or equal to 250.5 µg/m <sup>3</sup>	■ Hazardous (Maroon)

All previous data collected for 24-hour average PM<sub>2.5</sub> were reassessed using these AQI thresholds, above.

The goal of this report was to identify the number of days that the maximum in each county of the daily PM<sub>2.5</sub> concentration occurred within the defined ranges, not just those days that would fall under the requirements for attaining the national ambient air quality standards. Therefore, no data capture criteria were used to eliminate monitoring sites. Both 24-hour averaged PM data, as well as hourly averaged PM data averaged over 24 hours were used. Included in the analysis are data collected using only FRM and FEM methods, which reported hourly and 24-hour averaged data. As instructed by the Lung Association, A.S.L. & Associates included the exceptional and natural events that were identified in the database and identified for the Lung Association the dates and monitoring sites that experienced such events. Some data have been flagged by the state or local air pollution control agency to indicate that they had raised issues with EPA about those data.

Following receipt of the above information, the American Lung Association identified the number of days each county, with at least one PM<sub>2.5</sub> monitor, experienced air quality designated as orange (Unhealthy for Sensitive Groups), red (Unhealthy), purple (Very Unhealthy) or maroon (Hazardous).

## Description of County Grading System

### Ozone and short-term particle pollution (24-hour PM<sub>2.5</sub>)

The grades for ozone and short-term particle pollution (24-hour PM<sub>2.5</sub>) were based on a weighted average for each county. To determine the weighted average, the Lung Association followed these steps:

1. First, assigned weighting factors to each category of the Air Quality Index. The number of orange days experienced by

each county received a factor of 1; red days, a factor of 1.5; purple days, a factor of 2; and maroon days, a factor of 2.5. This allowed days where the air pollution levels were higher to receive greater weight.

2. Next, multiplied the total number of days within each category by their assigned factor, then summed all the categories to calculate a total.
3. Finally, divided the total by three to determine the weighted average, since the monitoring data were collected over a three-year period.

The weighted average determined each county's grades for ozone and 24-hour PM<sub>2.5</sub>.

- All counties with a weighted average of zero (corresponding to no exceedances of the standard over the three-year period) were given a grade of "A."
- For ozone, an "F" grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard.
- For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the PM<sub>2.5</sub> standard. The national air quality standard is set to allow two percent of the days during the three years to exceed 35 µg/m<sup>3</sup> (called a "98th percentile" form) before violating the standard. That would be roughly 21 unhealthy days in three years. The grading used in this report would allow only about one percent of the days to be over 35 µg/m<sup>3</sup> (called a "99th percentile" form) of the PM<sub>2.5</sub>. The American Lung Association supports using the tighter limits in a 99th percentile form as a more appropriate standard that is intended to protect the public from short-term spikes in pollution.

Grading System		
Grade	Weighted Average	Approximate Number of Allowable Orange/Red/Purple/Maroon days
A	0.0	None
B	0.3 to 0.9	1 to 2 orange days with no red
C	1.0 to 2.0	3 to 6 days over the standard: 3 to 5 orange with no more than 1 red OR 6 orange with no red
D	2.1 to 3.2	7 to 9 days over the standard: 7 total (including up to 2 red) to 9 orange with no red
F	3.3 or higher	9 days or more over the standard: 10 orange days or 9 total including at least 1 or more red, purple or maroon

Weighted averages allow comparisons to be drawn based on severity of air pollution. For example, if one county had nine orange days and no red days, it would earn a weighted average of 3.0 and a D grade. However, another county which had only eight orange days but also two red days, which signify days with more serious air pollution, would receive a F. That second county would have a weighted average of 3.7.

Note that this system differs significantly from the methodology the EPA uses to determine violations of both the ozone and the 24-hour PM<sub>2.5</sub> standards. The EPA determines whether a county violates the standard based on the 4th maximum daily 8-hour ozone reading each year averaged over three years. Multiple days of unhealthy air beyond the highest four in each year are not considered. By contrast, the system used in this report recognizes when a community's air quality repeatedly results in unhealthy air throughout the three years. Consequently, some counties will receive grades of "F" in this report, showing repeated instances of unhealthy air, while still meeting the EPA's 2008 ozone standard. The American Lung Association's position is that the evidence shows that the 2008 ozone standard fails to protect public health.

Counties were ranked by weighted average. Metropolitan areas were ranked by the highest weighted average among the coun-

ties within a given Metropolitan Statistical Area as of 2013 as defined by the White House Office of Management and Budget (OMB).

### Year-round particle pollution (Annual PM<sub>2.5</sub>)

Since no comparable Air Quality Index exists for year-round particle pollution (annual PM<sub>2.5</sub>), the grading was based on EPA's determination of the national ambient air quality standard for annual PM<sub>2.5</sub> of 12 µg/m<sup>3</sup>. Counties that EPA listed as being at or below 12 µg/m<sup>3</sup> were given grades of "Pass." Counties EPA listed as being at or above 12.1 µg/m<sup>3</sup> were given grades of "Fail." Where insufficient data existed for EPA to determine a design value, those counties received a grade of "Incomplete."

Design value is the calculated concentration of a pollutant based on the form of the national ambient air quality standard and is used by EPA to determine whether or not the air quality in a county meets the standard. Counties were ranked by design value. Metropolitan areas were ranked by the highest design value among the counties within a given Metropolitan Statistical Area as of 2013 as defined by the OMB.

The Lung Association received critical assistance from members of the National Association of Clean Air Administrators, formerly known as the State and Territorial Air Pollution Control Administrators and the Association of Local Air Pollution Control Administrators. With their assistance, all state and local agencies were provided the opportunity to review and comment on the data in draft tabular form. The Lung Association reviewed all discrepancies with the agencies and, if needed, with Dr. Lefohn at A.S.L. & Associates. Questions about the annual PM design values were referred to Mr. Mark Schmidt of EPA, who reviewed and had final decision on those determinations. The American Lung Association wishes to express its continued appreciation to the state and local air directors for their willingness to assist in ensuring that the characterized data used in this report are correct.

## Calculations of Populations-at-Risk

Presently county-specific measurements of the number of persons with chronic conditions are not generally available. In order to assess the magnitude of chronic conditions at the state and county levels, we have employed a synthetic estimation technique originally developed by the U.S. Census Bureau. This method uses age-specific national and state estimates of self-reported conditions to project disease prevalence to the county level. The exception to this is poverty, for which estimates are available at the county level.

### Population Estimates

The U.S. Census Bureau estimated data on the total population of each county in the United States for 2012. The Census Bureau also estimated the age-specific breakdown of the population and how many individuals were living in poverty by county. These estimates are the best information on population demographics available between decennial censuses.

Poverty estimates came from the Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program. The program does not use direct counts or estimates from sample surveys, as these methods would not provide sufficient data for all counties. Instead, a model based on estimates of income or poverty from the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS) is used to develop estimates for all states and counties.

### Prevalence Estimates

**Chronic Obstructive Pulmonary Disease, Cardiovascular Disease, Asthma and Diabetes.** In 2012, the Behavioral Risk Factor Surveillance System (BRFSS) survey found that approximately 21.1 million (8.9 percent) of adults residing in the United States and 9.0 percent of children from thirty-six states and Washington, D.C. reported currently having asthma.

Among adults in the United States in 2012, 15.3 million (6.4 percent) had ever been diagnosed with chronic obstructive pulmonary disease (COPD), 20.3 million (8.5 percent) had ever been diagnosed with cardiovascular disease, and 24.3 million (10.1 percent) had ever been diagnosed with diabetes.

The prevalence estimate for pediatric asthma is calculated for those younger than 18 years. Local area prevalence of pediatric asthma is estimated by applying 2012 state prevalence rates, or if not available, the national rate from the BRFSS to pediatric county-level resident populations obtained from the U.S. Census Bureau web site. Pediatric asthma data from the 2012 BRFSS were available for thirty-six states and Washington D.C., from the 2011 BRFSS for three states, and national data was used for the eleven states<sup>1</sup> that had no data available. Data from earlier years were not used due to changes in the 2011 survey methodology.

The prevalence estimate for COPD, cardiovascular disease, adult asthma and diabetes is calculated for those aged 18-44 years, 45-64 years and 65 years and older. Local area prevalence for these diseases is estimated by applying age-specific state prevalence rates from the 2012 BRFSS to age-specific county-level resident populations obtained from the U.S. Census Bureau web site. Cardiovascular disease included ever having been diagnosed with a heart attack, angina or coronary heart disease, or stroke.

**Limitations of Estimates.** Since the statistics presented by the BRFSS and SAIPE are based on a sample, they will differ (due to random sampling variability) from figures that would be derived from a complete census or case registry of people in the U.S. with these diseases. The results are also subject to reporting, non-response and processing errors. These types of errors are kept to a minimum by methods built into the survey.

<sup>1</sup> 2011: Indiana, Iowa, and Vermont. National: Alaska, Arkansas, Colorado, Delaware, Florida, Idaho, Minnesota, North Carolina, South Carolina, South Dakota, and Virginia.

Additionally, a major limitation of the BRFSS is that the information collected represents self-reports of medically diagnosed conditions, which may underestimate disease prevalence since not all individuals with these conditions have been properly diagnosed. However, the BRFSS is the best available source for information on the magnitude of chronic disease at the state level. The conditions covered in the survey may vary considerably in the accuracy and completeness with which they are reported.

Local estimates of chronic diseases are scaled in direct proportion to the base population of the county and its age distribution. No adjustments are made for other factors that may affect local prevalence (e.g. local prevalence of cigarette smokers or occupational exposures) since the health surveys that obtain such data are rarely conducted on the county level. Because the estimates do not account for geographic differences in the prevalence of chronic and acute diseases, the sum of the estimates for each of the counties in the United States may not exactly reflect the national or state estimates derived from the BRFSS.

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# State Tables

Alabama . . . . .	48	Illinois . . . . .	80	Montana . . . . .	112	Rhode Island . . . . .	146
Alaska . . . . .	50	Indiana . . . . .	82	Nebraska . . . . .	114	South Carolina . . . . .	148
Arizona . . . . .	52	Iowa . . . . .	86	Nevada . . . . .	116	South Dakota . . . . .	150
Arkansas . . . . .	54	Kansas . . . . .	88	New Hampshire . . . . .	118	Tennessee . . . . .	152
California . . . . .	56	Kentucky . . . . .	90	New Jersey . . . . .	120	Texas . . . . .	154
Colorado . . . . .	60	Louisiana . . . . .	94	New Mexico . . . . .	122	Utah . . . . .	158
Connecticut . . . . .	62	Maine . . . . .	96	New York . . . . .	124	Vermont . . . . .	160
Delaware . . . . .	64	Maryland . . . . .	98	North Carolina . . . . .	128	Virginia . . . . .	162
District of Columbia . . . . .	66	Massachusetts . . . . .	100	North Dakota . . . . .	132	Washington . . . . .	166
Florida . . . . .	68	Michigan . . . . .	102	Ohio . . . . .	134	West Virginia . . . . .	168
Georgia . . . . .	72	Minnesota . . . . .	106	Oklahoma . . . . .	138	Wisconsin . . . . .	170
Hawaii . . . . .	76	Mississippi . . . . .	108	Oregon . . . . .	140	Wyoming . . . . .	174
Idaho . . . . .	78	Missouri . . . . .	110	Pennsylvania . . . . .	142		

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# State Table Notes

A full explanation of the sources of data and methodology is in **Methodology**.

## Notes for all state data tables

1. **Total Population** is based on 2012 U.S. Census and represents the at-risk populations in counties with ozone or PM<sub>2.5</sub> pollution monitors; it does not represent the entire state's sensitive populations.
2. Those **under 18** and **65 & over** are vulnerable to ozone and PM<sub>2.5</sub>. Do not use them as population denominators for disease estimates—that will lead to incorrect estimates.
3. **Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2012 based on the state rates when available or national rates when not (Behavioral Risk Factor Surveillance System, or BRFSS), applied to county population estimates (U.S. Census).
4. **Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma during 2012 based on state rates (BRFSS) applied to county population estimates (U.S. Census).
5. **COPD** estimates are for adults 18 and over who had ever been diagnosed with chronic obstructive pulmonary disease, which includes chronic bronchitis and emphysema, based on state rates (BRFSS) applied to county population estimates (U.S. Census).
6. **Cardiovascular disease** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to county population estimates (U.S. Census). CV disease includes coronary heart disease, stroke, and heart attack.
7. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime based on state rates (BRFSS) applied to county population estimates (U.S. Census).
8. **Poverty** estimates include all ages and come from the U.S. Census Bureau's Small Area Income and Poverty Estimates program. The estimates are derived from a model using estimates of income or poverty from the Annual Social and Economic Supplement and the Current Population Survey, 2012.
9. Adding across rows does not produce valid estimates. Adding the disease categories (asthma, COPD, etc.) will double-count people who have been diagnosed with more than one disease.

## Notes for all state grades tables.

1. Not all counties have monitors for either ozone or particle pollution. If a county does not have a monitor, that county's name is not on the list in these tables. The decision about monitors in the county is made by the state and the U.S. Environmental Protection Agency, not by the American Lung Association.
2. **INC** (Incomplete) indicates that monitoring is underway for that pollutant in that county, but that the data are incomplete for all three years. Those counties are not graded or received an Incomplete.
3. **DNC** (Data Not Collected) indicates that data on that particular pollutant is not collected in that county.
4. The **Weighted Average (Wgt. Avg)** was derived by adding the three years of individual level data (2010-2012), multiplying the sums of each level by the assigned standard weights (i.e. 1=orange, 1.5=red, 2.0=purple and 2.5=maroon) and calculating the average. Grades are assigned based on the weighted averages as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.
5. The **Design Value** is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. Design values for the annual PM<sub>2.5</sub> concentrations by county for the period 2010-2012 as posted on December 13, 2013 at EPA's website at <http://www.epa.gov/air/airtrends/values.html>. The 2010-2012 design values were compared to the 2012 National Ambient Air Quality Standard for Annual PM<sub>2.5</sub>. The numbers refer to micrograms per cubic meter, or µg/m<sup>3</sup>.
6. The annual average National Ambient Air Quality Standard for PM<sub>2.5</sub> is 12 µg/m<sup>3</sup> as of December 14, 2012. Counties with design values of 12 or lower received a grade of "Pass." Counties with design values of 12.1 or higher received a grade of "Fail."

## American Lung Association in Alabama

P.O. Box 661465  
 Birmingham, AL 35226  
 (205) 968-2266  
[www.lung.org/alabama](http://www.lung.org/alabama)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Baldwin	190,790	43,087	33,827	4,848	12,665	15,429	19,153	19,601	26,177
Clay	13,435	2,978	2,486	335	897	1,110	1,388	1,418	2,521
Colbert	54,446	11,861	9,687	1,335	3,653	4,448	5,516	5,650	8,714
DeKalb	71,080	18,032	10,524	2,029	4,548	5,286	6,397	6,601	12,711
Elmore	80,629	18,547	10,449	2,087	5,333	5,979	7,041	7,359	10,396
Etowah	104,392	23,833	17,083	2,682	6,911	8,235	10,085	10,377	21,508
Houston	103,402	25,012	15,745	2,814	6,725	7,873	9,549	9,856	19,414
Jefferson	660,009	154,843	89,599	17,422	43,363	49,132	58,349	60,732	120,153
Madison	343,080	79,154	44,173	8,906	22,707	25,677	30,230	31,687	42,183
Mobile	413,936	101,727	56,635	11,446	26,803	30,582	36,459	37,905	85,452
Montgomery	230,149	56,385	28,617	6,344	14,888	16,341	19,152	19,959	48,003
Morgan	120,395	28,515	18,034	3,208	7,892	9,246	11,174	11,573	19,176
Russell	57,820	14,834	7,097	1,669	3,686	4,073	4,778	4,986	13,495
Shelby	200,941	50,038	23,792	5,630	12,984	14,465	16,868	17,745	17,276
Sumter	13,427	2,879	2,058	324	905	1,049	1,267	1,309	4,608
Talladega	81,762	18,822	12,400	2,118	5,407	6,348	7,676	7,951	18,298
Tuscaloosa	198,596	42,180	22,137	4,746	13,355	13,786	15,725	16,427	36,795
Walker	66,221	14,735	11,424	1,658	4,420	5,363	6,620	6,800	13,676
<b>Totals</b>	<b>3,004,510</b>	<b>707,462</b>	<b>415,767</b>	<b>79,600</b>	<b>197,142</b>	<b>224,423</b>	<b>267,427</b>	<b>277,936</b>	<b>520,556</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Baldwin	4	0	0	1.3	C
Clay	DNC	DNC	DNC	DNC	DNC
Colbert	2	0	0	0.7	B
DeKalb	INC	INC	INC	INC	INC
Elmore	0	0	0	0.0	A
Etowah	0	0	0	0.0	A
Houston	0	0	0	0.0	A
Jefferson	39	2	0	14.0	F
Madison	7	0	0	2.3	D
Mobile	7	0	0	2.3	D
Montgomery	2	0	0	0.7	B
Morgan	3	0	0	1.0	C
Russell	1	0	0	0.3	B
Shelby	10	0	0	3.3	F
Sumter	INC	INC	INC	INC	INC
Talladega	DNC	DNC	DNC	DNC	DNC
Tuscaloosa	0	0	0	0.0	A
Walker	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	9.8	PASS
0	0	0	0.0	A	10.0	PASS
0	0	0	0.0	A	9.9	PASS
0	0	0	0.0	A	10.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.9	PASS
2	0	0	0.7	B	9.8	PASS
2	0	0	0.7	B	13.0	FAIL
0	0	0	0.0	A	10.7	PASS
0	0	0	0.0	A	9.5	PASS
0	0	0	0.0	A	11.1	PASS
0	0	0	0.0	A	10.2	PASS
0	0	0	0.0	A	12.2	FAIL
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.5	PASS
1	0	0	0.3	B	10.4	PASS
INC	INC	INC	INC	INC	INC	INC

## American Lung Association in Alaska

500 West International Airport Road, #A  
 Anchorage, AK 99518-1105  
 (907) 276-5864  
[www.lung.org/alaska](http://www.lung.org/alaska)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Anchorage Municipality	298,610	74,805	24,134	6,577	20,126	10,981	13,063	14,844	26,220
Fairbanks North Star Borough	100,272	24,757	7,165	2,177	6,771	3,554	4,060	4,739	8,847
Juneau City and Borough	32,556	7,361	3,029	647	2,276	1,310	1,626	1,800	2,517
Kenai Peninsula Borough	56,900	13,042	7,230	1,147	3,983	2,471	3,330	3,484	5,986
Matanuska-Susitna Borough	93,925	26,202	8,147	2,304	6,114	3,496	4,328	4,798	9,357
Yukon-Koyukuk Census Area	5,770	1,570	720	138	381	236	320	333	1,298
<b>Totals</b>	<b>588,033</b>	<b>147,737</b>	<b>50,425</b>	<b>12,990</b>	<b>39,651</b>	<b>22,048</b>	<b>26,728</b>	<b>29,998</b>	<b>54,225</b>

### HIGH OZONE DAYS 2010-2012

Borough	Orange	Red	Purple	Wgt. Avg	Grade
Anchorage Municipality	0	0	0	0.0	A
Fairbanks North Star Borough	INC	INC	INC	INC	INC
Juneau City and Borough	DNC	DNC	DNC	DNC	DNC
Kenai Peninsula Borough	DNC	DNC	DNC	DNC	DNC
Matanuska-Susitna Borough	INC	INC	INC	INC	INC
Yukon-Koyukuk Census Area	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	6.0	PASS
24	9	2	13.8	F	11.5	PASS
2	0	0	0.7	B	7.4	PASS
INC	INC	INC	INC	INC	INC	INC
8	0	0	2.7	D	6.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Arizona

102 West McDowell Road  
 Phoenix, AZ 85003-1213  
 (602) 258-7505  
[www.lung.org/arizona](http://www.lung.org/arizona)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Apache	73,195	22,649	8,974	1,930	4,346	3,005	4,273	5,402	23,972
Cochise	132,088	29,555	23,936	2,519	8,788	6,546	9,695	11,553	23,361
Coconino	136,011	30,664	13,239	2,614	9,173	5,570	7,562	10,121	31,093
Gila	53,144	11,109	13,216	947	3,546	3,070	4,750	5,349	11,088
La Paz	20,281	3,595	7,079	306	1,407	1,340	2,182	2,264	4,905
Maricopa	3,942,169	1,011,779	511,775	86,239	253,288	169,717	240,904	304,000	675,704
Mohave	203,334	40,235	50,615	3,429	13,783	11,802	18,227	20,555	41,750
Navajo	107,094	30,789	15,610	2,624	6,532	4,753	6,896	8,487	31,803
Pima	992,394	222,312	164,298	18,949	66,189	47,624	69,592	84,461	192,483
Pinal	387,365	98,431	61,638	8,390	24,911	17,639	25,793	31,194	63,509
Santa Cruz	47,303	13,909	6,903	1,186	2,860	2,082	3,026	3,714	11,621
Yavapai	212,637	38,528	55,929	3,284	14,667	12,858	19,951	22,379	32,855
Yuma	200,022	54,420	32,820	4,638	12,601	8,859	13,080	15,538	42,191
<b>Totals</b>	<b>6,507,037</b>	<b>1,607,975</b>	<b>966,032</b>	<b>137,056</b>	<b>422,091</b>	<b>294,865</b>	<b>425,931</b>	<b>525,017</b>	<b>1,186,335</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Apache	DNC	DNC	DNC	DNC	DNC
Cochise	2	0	0	0.7	B
Coconino	6	0	0	2.0	C
Gila	12	0	0	4.0	F
La Paz	2	0	0	0.7	B
Maricopa	56	0	0	18.7	F
Mohave	DNC	DNC	DNC	DNC	DNC
Navajo	1	0	0	0.3	B
Pima	3	0	0	1.0	C
Pinal	19	0	0	6.3	F
Santa Cruz	DNC	DNC	DNC	DNC	DNC
Yavapai	2	0	0	0.7	B
Yuma	16	0	0	5.3	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	6.7	PASS
0	0	0	0.0	A	5.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
10	6	0	6.3	F	10.3	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	5.6	PASS
3	2	0	2.0	C	13.5	FAIL
1	0	0	0.3	B	9.8	PASS
0	0	0	0.0	A	4.0	PASS
0	0	0	0.0	A	7.8	PASS

## American Lung Association in Arkansas

217 W 2<sup>nd</sup> Street, Suite 105  
 Little Rock, AR 72201  
 (501) 975-0758  
[www.lung.org/arkansas](http://www.lung.org/arkansas)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Arkansas	18,892	4,372	3,146	384	1,288	1,339	1,757	1,735	3,420
Ashley	21,524	5,152	3,692	453	1,452	1,515	2,002	1,966	4,315
Clark	22,936	4,455	3,500	392	1,592	1,524	1,979	1,946	5,343
Crittenden	50,021	14,227	5,723	1,251	3,131	3,046	3,839	3,897	11,851
Faulkner	118,704	28,562	12,484	2,511	7,719	7,044	8,751	8,893	16,451
Garland	96,903	20,316	20,667	1,786	6,833	7,408	10,066	9,681	18,889
Jackson	17,600	3,628	2,869	319	1,231	1,252	1,633	1,616	4,151
Newton	8,086	1,639	1,824	144	581	647	883	849	2,169
Phillips	20,784	5,757	3,224	506	1,332	1,381	1,810	1,789	8,008
Polk	20,471	4,766	4,224	419	1,405	1,532	2,077	2,003	4,655
Pope	62,765	14,268	8,593	1,255	4,214	4,085	5,234	5,225	10,523
Pulaski	388,953	92,765	49,155	8,156	25,839	25,090	31,806	32,089	70,751
Sebastian	127,304	31,842	17,417	2,800	8,363	8,286	10,635	10,641	25,049
Union	40,867	9,774	6,578	859	2,755	2,847	3,724	3,686	8,025
Van Buren	17,030	3,394	4,076	298	1,226	1,372	1,892	1,803	3,315
Washington	211,411	53,848	21,651	4,735	13,457	12,189	15,136	15,365	39,193
White	78,493	18,693	11,400	1,644	5,213	5,136	6,646	6,590	14,564
<b>Totals</b>	<b>1,322,744</b>	<b>317,458</b>	<b>180,223</b>	<b>27,912</b>	<b>87,632</b>	<b>85,693</b>	<b>109,870</b>	<b>109,774</b>	<b>250,672</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Arkansas	DNC	DNC	DNC	DNC	DNC
Ashley	DNC	DNC	DNC	DNC	DNC
Clark	INC	INC	INC	INC	INC
Crittenden	21	0	0	7.0	F
Faulkner	DNC	DNC	DNC	DNC	DNC
Garland	DNC	DNC	DNC	DNC	DNC
Jackson	DNC	DNC	DNC	DNC	DNC
Newton	2	0	0	0.7	B
Phillips	DNC	DNC	DNC	DNC	DNC
Polk	9	0	0	3.0	D
Pope	DNC	DNC	DNC	DNC	DNC
Pulaski	23	0	0	7.7	F
Sebastian	DNC	DNC	DNC	DNC	DNC
Union	DNC	DNC	DNC	DNC	DNC
Van Buren	INC	INC	INC	INC	INC
Washington	9	0	0	3.0	D
White	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	10.8	PASS
0	0	0	0.0	A	10.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.2	PASS
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	11.0	PASS
0	0	0	0.0	A	10.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	10.8	PASS
0	0	0	0.0	A	INC	INC
1	0	0	0.3	B	12.2	FAIL
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	11.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.8	PASS
INC	INC	INC	INC	INC	INC	INC

## American Lung Association in California

1531 I Street, Suite 201  
 Sacramento, CA 95814  
 (510) 638-5864  
[www.lung.org/california](http://www.lung.org/california)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Alameda	1,554,720	343,246	183,311	30,109	106,687	55,408	78,544	116,935	200,101
Amador	37,035	5,955	8,528	522	2,815	1,782	2,846	3,842	4,425
Butte	221,539	45,305	35,861	3,974	15,602	8,706	13,033	18,291	47,341
Calaveras	44,742	8,311	10,425	729	3,317	2,146	3,458	4,654	6,249
Colusa	21,411	6,288	2,604	552	1,337	719	1,045	1,522	2,835
Contra Costa	1,079,597	259,839	143,758	22,793	72,825	39,836	58,281	85,087	118,696
El Dorado	180,561	39,053	29,562	3,426	12,747	7,490	11,383	16,288	16,708
Fresno	947,895	277,928	100,217	24,380	58,731	30,020	42,282	62,691	263,134
Glenn	27,992	7,716	3,929	677	1,801	1,004	1,493	2,130	4,777
Humboldt	134,827	26,563	19,150	2,330	9,576	5,183	7,568	10,959	28,883
Imperial	176,948	50,686	19,527	4,446	11,084	5,722	8,115	11,970	38,189
Inyo	18,495	3,876	3,680	340	1,317	806	1,266	1,732	2,139
Kern	856,158	255,815	80,525	22,440	52,552	26,262	36,291	54,932	195,433
Kings	151,364	41,880	12,839	3,674	9,534	4,591	6,174	9,529	28,388
Lake	63,983	13,298	12,223	1,166	4,570	2,776	4,325	5,990	15,790
Los Angeles	9,962,789	2,360,255	1,144,579	207,040	667,835	343,914	485,919	721,640	1,873,522
Madera	152,218	43,129	18,551	3,783	9,611	5,104	7,379	10,718	33,785
Marin	256,069	52,560	46,638	4,611	18,330	10,979	16,947	23,725	21,058
Mariposa	17,905	3,093	4,114	271	1,346	861	1,379	1,865	3,260
Mendocino	87,428	19,225	15,056	1,686	6,109	3,580	5,474	7,671	18,375
Merced	262,305	80,491	26,042	7,061	15,909	8,027	11,204	16,722	62,055
Monterey	426,762	113,819	47,908	9,984	27,460	14,136	20,005	29,558	73,768
Napa	139,045	31,352	22,225	2,750	9,589	5,452	8,213	11,591	13,111
Nevada	98,292	17,924	21,145	1,572	7,278	4,558	7,224	9,853	11,579
Orange	3,090,132	734,631	381,609	64,441	207,808	109,814	157,669	231,918	396,951

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Placer	361,682	85,361	59,884	7,488	24,681	14,298	21,761	30,499	32,697
Plumas	19,399	3,370	4,444	296	1,457	932	1,493	2,021	2,833
Riverside	2,268,783	621,038	281,587	54,477	145,184	77,188	111,695	162,066	398,252
Sacramento	1,450,121	361,613	172,884	31,721	95,947	50,393	72,061	106,320	279,494
San Benito	56,884	15,796	5,922	1,386	3,629	1,887	2,662	4,020	7,201
San Bernardino	2,081,313	586,445	198,966	51,443	131,079	65,782	90,970	138,232	415,927
San Diego	3,177,063	726,268	380,276	63,708	215,294	111,464	158,275	233,550	465,651
San Francisco	825,863	111,319	115,232	9,765	62,628	32,426	46,242	67,430	120,702
San Joaquin	702,612	201,160	77,249	17,646	44,136	22,956	32,618	48,340	127,598
San Luis Obispo	274,804	50,208	44,517	4,404	19,918	11,108	16,571	23,467	36,010
San Mateo	739,311	161,339	103,690	14,153	51,270	28,049	41,145	59,641	61,857
Santa Barbara	431,249	97,606	57,571	8,562	29,309	15,472	22,368	32,236	67,314
Santa Clara	1,837,504	434,326	213,746	38,099	123,523	64,154	91,007	135,228	195,277
Santa Cruz	266,776	54,902	32,435	4,816	18,707	9,811	13,968	20,818	35,647
Shasta	178,586	38,950	32,397	3,417	12,511	7,415	11,440	15,843	30,171
Siskiyou	44,154	8,907	9,312	781	3,188	1,993	3,159	4,296	9,244
Solano	420,757	99,066	52,068	8,690	28,495	15,235	21,950	32,477	58,170
Sonoma	491,829	105,390	74,902	9,245	34,427	19,350	28,844	41,339	58,592
Stanislaus	521,726	145,520	59,055	12,765	33,120	17,294	24,655	36,403	103,926
Sutter	95,022	25,541	12,769	2,240	6,143	3,346	4,916	7,053	17,710
Tehama	63,406	15,544	10,674	1,364	4,280	2,502	3,830	5,340	13,980
Trinity	13,526	2,376	2,970	208	1,014	643	1,024	1,401	2,887
Tulare	451,977	145,180	44,587	12,735	26,863	13,613	19,060	28,386	132,911
Tuolumne	54,008	9,133	11,893	801	4,047	2,514	3,983	5,389	7,438
Ventura	835,981	208,588	105,405	18,297	55,541	29,842	43,232	63,400	96,062
Yolo	204,118	44,953	21,647	3,943	13,868	6,843	9,427	14,135	33,838
<b>Totals</b>	<b>37,878,666</b>	<b>9,202,137</b>	<b>4,580,088</b>	<b>807,207</b>	<b>2,526,031</b>	<b>1,325,387</b>	<b>1,895,873</b>	<b>2,791,141</b>	<b>6,291,941</b>

# CALIFORNIA

## American Lung Association in California

1531 I Street, Suite 201  
 Sacramento, CA 95814  
 (510) 638-5864  
[www.lung.org/california](http://www.lung.org/california)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Alameda	8	1	0	3.2	D
Amador	12	0	0	4.0	F
Butte	15	0	0	5.0	F
Calaveras	14	0	0	4.7	F
Colusa	1	0	0	0.3	B
Contra Costa	10	0	0	3.3	F
El Dorado	55	2	0	19.3	F
Fresno	154	25	1	64.5	F
Glenn	0	0	0	0.0	A
Humboldt	0	0	0	0.0	A
Imperial	48	0	0	16.0	F
Inyo	5	0	0	1.7	C
Kern	204	21	0	78.5	F
Kings	77	7	0	29.2	F
Lake	1	0	0	0.3	B
Los Angeles	202	19	1	77.5	F
Madera	76	5	0	27.8	F
Marin	0	0	0	0.0	A
Mariposa	29	1	0	10.2	F
Mendocino	0	0	0	0.0	A
Merced	41	1	0	14.2	F
Monterey	0	0	0	0.0	A
Napa	2	0	0	0.7	B
Nevada	28	0	0	9.3	F
Orange	9	1	0	3.5	F
Placer	56	1	0	19.2	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
3	0	0	1.0	C	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
6	0	0	2.0	C	9.5	PASS
0	0	0	0.0	A	7.6	PASS
3	3	1	3.2	D	6.3	PASS
4	0	0	1.3	C	7.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
69	28	0	37.0	F	16.0	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	6.0	PASS
5	2	0	2.7	D	13.6	FAIL
9	9	1	8.2	F	7.3	PASS
61	26	0	33.3	F	15.6	FAIL
76	18	0	34.3	F	15.8	FAIL
0	0	0	0.0	A	3.5	PASS
65	7	0	25.2	F	13.1	FAIL
42	13	0	20.5	F	19.0	FAIL
5	0	0	1.7	C	9.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
41	2	0	14.7	F	14.3	FAIL
0	0	0	0.0	A	6.1	PASS
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	6.1	PASS
14	0	0	4.7	F	10.8	PASS
1	2	0	1.3	C	7.2	PASS

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Plumas	DNC	DNC	DNC	DNC	DNC
Riverside	242	46	0	103.7	F
Sacramento	88	12	0	35.3	F
San Benito	3	0	0	1.0	C
San Bernardino	245	75	4	121.8	F
San Diego	34	0	0	11.3	F
San Francisco	0	0	0	0.0	A
San Joaquin	27	1	0	9.5	F
San Luis Obispo	33	0	0	11.0	F
San Mateo	1	0	0	0.3	B
Santa Barbara	8	0	0	2.7	D
Santa Clara	8	0	0	2.7	D
Santa Cruz	0	0	0	0.0	A
Shasta	6	0	0	2.0	C
Siskiyou	0	0	0	0.0	A
Solano	6	0	0	2.0	C
Sonoma	0	0	0	0.0	A
Stanislaus	59	3	0	21.2	F
Sutter	10	0	0	3.3	F
Tehama	14	0	0	4.7	F
Trinity	DNC	DNC	DNC	DNC	DNC
Tulare	242	16	0	88.7	F
Tuolumne	7	0	0	2.3	D
Ventura	37	0	0	12.3	F
Yolo	3	0	0	1.0	C

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
11	1	0	4.2	F	11.5	PASS
91	3	0	31.8	F	15.6	FAIL
7	0	0	2.3	D	9.5	PASS
0	0	0	0.0	A	5.4	PASS
7	1	0	2.8	D	12.9	FAIL
9	3	0	4.5	F	12.3	FAIL
6	0	0	2.0	C	9.4	PASS
28	6	0	12.3	F	11.4	PASS
3	0	0	1.0	C	8.2	PASS
2	0	0	0.7	B	8.5	PASS
0	0	0	0.0	A	9.5	PASS
9	0	0	3.0	D	9.3	PASS
0	0	0	0.0	A	6.2	PASS
0	0	0	0.0	A	5.3	PASS
0	0	0	0.0	A	5.2	PASS
7	0	0	2.3	D	8.8	PASS
0	0	0	0.0	A	8.0	PASS
68	13	0	29.2	F	14.9	FAIL
8	2	0	3.7	F	6.9	PASS
4	0	0	1.3	C	INC	INC
INC	INC	INC	INC	INC	INC	INC
15	4	0	7.0	F	14.8	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.9	PASS
1	0	0	0.3	B	6.6	PASS

## American Lung Association in Colorado

5600 Greenwood Plaza Blvd., Suite 100  
 Greenwood Village, CO 80111-2316  
 (303) 388-4327  
[www.lung.org/colorado](http://www.lung.org/colorado)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Adams	459,598	129,629	41,343	11,398	29,579	14,519	17,110	22,264	67,494
Arapahoe	595,546	148,501	65,993	13,057	39,947	21,208	25,522	32,612	70,578
Boulder	305,318	62,518	33,815	5,497	21,725	11,171	13,349	17,144	41,787
Denver	634,265	137,858	66,895	12,121	44,521	21,646	25,877	32,791	120,890
Douglas	298,215	86,964	25,519	7,646	18,894	9,766	11,378	15,265	12,865
El Paso	644,964	163,452	68,972	14,371	43,062	22,426	26,898	34,424	82,170
Elbert	23,383	5,419	2,865	476	1,595	972	1,166	1,537	1,424
Garfield	56,953	15,202	5,405	1,337	3,736	1,918	2,262	2,968	6,676
Gunnison	15,475	2,835	1,545	249	1,133	557	653	856	2,345
Jackson	1,348	238	287	21	98	68	88	103	212
Jefferson	545,358	116,742	74,346	10,264	38,157	22,075	27,104	34,056	49,867
La Plata	52,401	10,352	6,734	910	3,751	2,072	2,520	3,188	6,307
Larimer	310,487	64,060	40,112	5,632	22,009	11,857	14,516	18,069	41,513
Mesa	147,848	34,110	23,348	2,999	10,113	6,043	7,650	9,173	21,760
Moffat	13,200	3,409	1,558	300	873	490	594	759	1,581
Montezuma	25,431	5,714	4,555	502	1,746	1,131	1,451	1,725	5,338
Pitkin	17,263	2,867	2,384	252	1,282	731	891	1,131	1,409
Pueblo	160,852	38,160	25,800	3,355	10,902	6,604	8,387	10,029	31,646
Rio Blanco	6,857	1,737	888	153	456	258	318	396	664
Weld	263,691	71,815	27,600	6,314	17,163	8,897	10,686	13,631	36,828
<b>Totals</b>	<b>4,578,453</b>	<b>1,101,582</b>	<b>519,964</b>	<b>96,856</b>	<b>310,742</b>	<b>164,409</b>	<b>198,422</b>	<b>252,123</b>	<b>603,354</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	8	0	0	2.7	D
Arapahoe	18	0	0	6.0	F
Boulder	9	0	0	3.0	D
Denver	7	0	0	2.3	D
Douglas	29	3	0	11.2	F
Elbert	DNC	DNC	DNC	DNC	DNC
El Paso	9	0	0	3.0	D
Garfield	1	0	0	0.3	B
Gunnison	INC	INC	INC	INC	INC
Jackson	INC	INC	INC	INC	INC
Jefferson	38	2	0	13.7	F
La Plata	7	0	0	2.3	D
Larimer	44	0	0	14.7	F
Mesa	0	0	0	0.0	A
Moffat	INC	INC	INC	INC	INC
Montezuma	2	0	0	0.7	B
Pitkin	0	0	0	0.0	A
Pueblo	DNC	DNC	DNC	DNC	DNC
Rio Blanco	3	0	0	1.0	C
Weld	13	0	0	4.3	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	INC	INC
2	0	0	0.7	B	INC	INC
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	INC	INC
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	INC	INC
3	0	0	1.0	C	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	5.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
1	0	0	0.3	B	INC	INC
1	0	0	0.3	B	INC	INC

# CONNECTICUT

## American Lung Association in Connecticut

45 Ash Street  
 East Hartford, CT 06108-3272  
 (860) 838-4376  
[www.lung.org/connecticut](http://www.lung.org/connecticut)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Fairfield	933,835	224,965	130,626	27,176	70,430	38,296	49,366	64,400	81,756
Hartford	897,259	198,768	135,411	24,011	69,344	38,104	49,545	63,962	106,357
Litchfield	187,530	38,317	32,456	4,629	14,588	8,719	11,644	14,905	12,975
Middlesex	165,602	33,414	27,570	4,036	13,005	7,519	9,942	12,759	10,376
New Haven	862,813	186,847	129,258	22,571	67,245	36,536	47,341	61,154	110,945
New London	274,170	56,900	41,491	6,874	21,569	11,829	15,343	19,876	24,476
Tolland	151,539	29,126	19,713	3,518	12,269	6,293	7,893	10,492	10,014
Windham	117,599	25,221	16,187	3,047	9,200	4,916	6,277	8,256	13,638
<b>Totals</b>	<b>3,590,347</b>	<b>793,558</b>	<b>532,712</b>	<b>95,862</b>	<b>277,650</b>	<b>152,211</b>	<b>197,352</b>	<b>255,804</b>	<b>370,537</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Fairfield	51	3	0	18.5	F
Hartford	13	0	0	4.3	F
Litchfield	6	0	0	2.0	C
Middlesex	23	1	0	8.2	F
New Haven	27	6	0	12.0	F
New London	19	1	0	6.8	F
Tolland	12	2	0	5.0	F
Windham	INC	INC	INC	INC	INC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
2	1	0	1.2	C	9.4	PASS
2	0	0	0.7	B	8.8	PASS
0	0	0	0.0	A	5.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
4	0	0	1.3	C	9.4	PASS
0	0	0	0.0	A	8.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# DELAWARE

## American Lung Association in Delaware

630 Churchmans Road, Suite 202  
Newark, DE 19702  
(302) 737-6414  
[www.lung.org/delaware](http://www.lung.org/delaware)

## AT-RISK GROUPS

County	Total Population			Lung Diseases			Cardio-vascular Disease		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Kent	167,626	40,531	24,248	3,564	12,641	8,849	12,290	11,969	21,798
New Castle	546,076	123,707	70,645	10,877	42,246	28,730	39,145	38,613	60,154
Sussex	203,390	40,812	45,581	3,588	15,868	13,148	19,227	18,204	31,364
<b>Totals</b>	<b>917,092</b>	<b>205,050</b>	<b>140,474</b>	<b>18,029</b>	<b>70,755</b>	<b>50,726</b>	<b>70,663</b>	<b>68,786</b>	<b>113,316</b>

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Kent	22	1	0	7.8	F
New Castle	36	2	0	13.0	F
Sussex	26	3	0	10.2	F

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
0	0	0	0.0	A	9.0	PASS
6	1	0	2.5	D	10.4	PASS
0	0	0	0.0	A	9.0	PASS

# DISTRICT OF COLUMBIA

## American Lung Association in the District of Columbia

1301 Pennsylvania Ave. NW #800  
Washington, DC, DC 20004  
1-800-LUNG USA  
[www.lung.org/districtofcolumbia](http://www.lung.org/districtofcolumbia)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
District of Columbia	632,323	109,480	71,889	15,250	53,904	23,055	37,703	41,886	112,719
<b>Totals</b>	<b>632,323</b>	<b>109,480</b>	<b>71,889</b>	<b>15,250</b>	<b>53,904</b>	<b>23,055</b>	<b>37,703</b>	<b>41,886</b>	<b>112,719</b>

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
District of Columbia	38	2	0	13.7	F

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
5	1	0	2.2	D	10.4	PASS

## American Lung Association in Florida

6852 Belfort Oaks Place  
 Jacksonville, FL 32216  
 (904) 743-2933  
[www.lung.org/florida](http://www.lung.org/florida)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Alachua	251,417	44,507	28,977	3,913	16,894	13,836	16,319	18,712	63,656
Baker	27,086	6,885	3,231	605	1,660	1,447	1,815	2,084	4,627
Bay	171,903	37,040	26,653	3,257	11,063	10,049	13,110	14,883	27,752
Brevard	547,307	104,308	117,995	9,171	36,283	35,556	49,475	55,262	79,841
Broward	1,815,137	392,227	266,206	34,486	116,778	104,910	135,455	154,267	274,118
Citrus	139,360	21,336	47,132	1,876	9,582	10,471	15,797	17,134	25,611
Collier	332,427	63,100	93,628	5,548	21,854	22,510	32,633	35,573	46,593
Columbia	67,966	14,853	11,093	1,306	4,354	3,997	5,266	5,957	14,714
Duval	879,602	203,559	104,894	17,898	55,498	47,890	59,483	68,361	155,085
Escambia	302,715	64,000	45,909	5,627	19,552	17,494	22,525	25,556	50,534
Flagler	98,359	18,537	26,132	1,630	6,505	6,677	9,641	10,597	14,919
Highlands	98,128	17,864	32,397	1,571	6,488	6,988	10,460	11,273	21,275
Hillsborough	1,277,746	297,971	158,563	26,199	80,373	69,686	87,000	99,701	240,099
Holmes	19,804	4,189	3,571	368	1,278	1,193	1,596	1,795	4,106
Indian River	140,567	25,790	40,137	2,268	9,334	9,734	14,222	15,546	22,347
Lake	303,186	61,662	76,543	5,422	19,655	19,811	28,239	31,028	46,642
Lee	645,293	123,564	160,996	10,864	42,476	42,492	60,217	66,285	97,598
Leon	283,769	52,899	29,150	4,651	18,870	15,251	17,712	20,432	57,223
Liberty	8,276	1,735	924	153	537	457	558	645	1,638
Manatee	333,895	67,240	81,837	5,912	21,729	21,787	30,918	34,083	51,089
Marion	335,125	63,443	89,823	5,578	22,096	22,560	32,469	35,581	60,707
Martin	148,817	25,712	42,151	2,261	10,026	10,440	15,230	16,695	21,222
Miami-Dade	2,591,035	545,150	376,482	47,932	167,577	148,358	189,140	215,046	531,969
Okaloosa	190,083	42,025	27,174	3,695	12,136	10,778	13,777	15,680	24,347
Orange	1,202,234	277,765	122,077	24,422	75,805	62,972	75,239	86,978	212,737

(continued)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Osceola	287,416	73,523	34,185	6,464	17,538	15,129	18,796	21,541	55,447
Palm Beach	1,356,545	272,686	299,800	23,976	88,366	85,711	118,533	131,379	193,825
Pasco	470,391	97,037	102,427	8,532	30,482	29,690	41,171	45,736	61,989
Pinellas	921,319	159,769	203,893	14,048	62,338	61,017	84,846	94,678	127,234
Polk	616,158	141,825	115,650	12,470	38,729	36,370	48,950	54,686	108,784
Santa Rosa	158,512	36,268	21,497	3,189	10,048	8,974	11,514	13,176	18,676
Sarasota	386,147	59,230	125,363	5,208	26,535	28,474	42,453	46,107	48,338
Seminole	430,838	94,621	57,215	8,319	27,623	24,421	31,044	35,559	53,737
St. Lucie	283,866	61,166	60,659	5,378	18,177	17,640	24,394	27,098	49,151
Volusia	496,950	91,371	110,419	8,034	33,152	32,401	45,027	50,115	95,456
Wakulla	30,818	6,687	3,708	588	1,987	1,739	2,186	2,522	4,416
<b>Totals</b>	<b>17,650,197</b>	<b>3,671,544</b>	<b>3,148,491</b>	<b>322,818</b>	<b>1,143,379</b>	<b>1,058,911</b>	<b>1,407,211</b>	<b>1,581,755</b>	<b>2,967,502</b>

# FLORIDA

## American Lung Association in Florida

6852 Belfort Oaks Place  
 Jacksonville, FL 32216  
 (904) 743-2933  
[www.lung.org/florida](http://www.lung.org/florida)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Alachua	0	0	0	0.0	A
Baker	0	0	0	0.0	A
Bay	2	0	0	0.7	B
Brevard	1	0	0	0.3	B
Broward	1	0	0	0.3	B
Citrus	DNC	DNC	DNC	DNC	DNC
Collier	0	0	0	0.0	A
Columbia	0	0	0	0.0	A
Duval	2	0	0	0.7	B
Escambia	5	0	0	1.7	C
Flagler	INC	INC	INC	INC	INC
Highlands	0	0	0	0.0	A
Hillsborough	12	0	0	4.0	F
Holmes	0	0	0	0.0	A
Indian River	INC	INC	INC	INC	INC
Lake	2	0	0	0.7	B
Lee	0	0	0	0.0	A
Leon	0	0	0	0.0	A
Liberty	INC	INC	INC	INC	INC
Manatee	1	0	0	0.3	B
Marion	1	0	0	0.3	B
Martin	1	0	0	0.3	B
Miami-Dade	2	0	0	0.7	B
Okaloosa	2	0	0	0.7	B
Orange	9	0	0	3.0	D
Osceola	1	0	0	0.3	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	1	0	0.5	B	7.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	6.5	PASS
1	0	0	0.3	B	6.7	PASS
0	0	0	0.0	A	7.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
6	3	0	3.5	F	8.1	PASS
0	0	0	0.0	A	9.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	6.9	PASS
0	0	0	0.0	A	9.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	7.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC



(continued)

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Palm Beach	2	0	0	0.7	B
Pasco	0	0	0	0.0	A
Pinellas	1	0	0	0.3	B
Polk	5	0	0	1.7	C
St. Lucie	0	0	0	0.0	A
Santa Rosa	7	0	0	2.3	D
Sarasota	5	0	0	1.7	C
Seminole	2	0	0	0.7	B
Volusia	0	0	0	0.0	A
Wakulla	2	0	0	0.7	B

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
2	1	0	1.2	C	7.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.5	PASS
0	0	0	0.0	A	7.4	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.0	PASS
0	0	0	0.0	A	7.4	PASS
1	0	0	0.3	B	7.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Georgia

2452 Spring Road  
 Smyrna, GA 30080-3862  
 (770) 434-5864  
[www.lung.org/georgia](http://www.lung.org/georgia)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Bibb	156,462	39,789	20,346	4,305	9,578	8,561	10,850	12,117	41,206
Chatham	276,434	61,825	35,557	6,690	17,507	15,096	18,704	20,966	53,444
Chattooga	25,725	5,770	3,967	624	1,641	1,517	1,986	2,192	5,523
Clarke	120,266	21,261	10,811	2,301	7,931	5,846	6,274	7,313	37,162
Clayton	265,888	75,822	19,647	8,204	15,544	12,549	14,169	16,542	74,049
Cobb	707,442	177,002	68,410	19,153	43,531	36,834	43,751	50,162	96,826
Columbia	131,627	34,590	14,431	3,743	7,989	7,013	8,629	9,776	13,065
Coweta	130,929	34,486	15,042	3,732	7,935	7,006	8,696	9,812	16,450
Dawson	22,422	4,942	3,603	535	1,444	1,371	1,821	2,006	2,865
DeKalb	707,089	168,693	67,499	18,254	44,009	36,443	42,659	49,029	146,492
Dougherty	94,501	24,334	11,835	2,633	5,743	5,038	6,304	7,059	31,101
Douglas	133,971	36,943	12,749	3,997	7,966	6,772	8,081	9,251	20,066
Floyd	96,177	22,989	14,338	2,488	6,004	5,484	7,132	7,879	21,533
Fulton	977,773	227,967	93,819	24,667	61,208	50,374	58,758	67,545	179,513
Glynn	81,022	19,130	13,195	2,070	5,098	4,819	6,427	7,051	15,675
Gwinnett	842,046	237,794	65,280	25,731	49,562	40,774	46,762	54,385	122,941
Hall	185,416	50,975	23,175	5,516	11,008	9,716	12,230	13,667	35,181
Henry	209,053	57,828	19,579	6,257	12,428	10,587	12,624	14,469	27,359
Houston	146,136	38,005	15,971	4,112	8,871	7,667	9,358	10,606	24,225
Lowndes	114,552	27,110	11,548	2,933	7,092	5,722	6,649	7,607	27,240
Murray	39,392	10,366	4,720	1,122	2,386	2,114	2,643	2,971	8,534
Muscogee	198,413	50,331	22,885	5,446	12,094	10,342	12,639	14,261	35,501
Paulding	144,800	41,716	12,383	4,514	8,445	7,016	8,185	9,440	17,248
Pike	17,810	4,594	2,454	497	1,090	1,007	1,303	1,449	2,210
Richmond	202,587	49,195	24,006	5,323	12,548	10,826	13,309	15,002	52,680

(continued)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Rockdale	85,820	22,262	10,177	2,409	5,242	4,698	5,890	6,632	14,945
Sumter	31,554	7,881	4,338	853	1,940	1,740	2,224	2,472	9,227
Walker	68,094	15,659	10,793	1,694	4,320	4,057	5,369	5,911	13,614
Washington	20,879	4,821	3,042	522	1,324	1,225	1,592	1,767	5,185
Wilkinson	9,577	2,347	1,622	254	597	578	782	855	2,021
<b>Totals</b>	<b>6,243,857</b>	<b>1,576,427</b>	<b>637,222</b>	<b>170,579</b>	<b>382,076</b>	<b>322,790</b>	<b>385,800</b>	<b>440,194</b>	<b>1,153,081</b>

## American Lung Association in Georgia

2452 Spring Road  
 Smyrna, GA 30080-3862  
 (770) 434-5864  
[www.lung.org/georgia](http://www.lung.org/georgia)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Bibb	10	0	0	3.3	F
Chatham	0	0	0	0.0	A
Chattooga	0	0	0	0.0	A
Clarke	8	0	0	2.7	D
Clayton	DNC	DNC	DNC	DNC	DNC
Cobb	25	0	0	8.3	F
Columbia	3	0	0	1.0	C
Coweta	0	0	0	0.0	A
Dawson	2	0	0	0.7	B
DeKalb	19	2	0	7.3	F
Dougherty	DNC	DNC	DNC	DNC	DNC
Douglas	11	0	0	3.7	F
Floyd	DNC	DNC	DNC	DNC	DNC
Fulton	33	1	0	11.5	F
Glynn	0	0	0	0.0	A
Gwinnett	15	0	0	5.0	F
Hall	DNC	DNC	DNC	DNC	DNC
Henry	20	0	1	7.3	F
Houston	DNC	DNC	DNC	DNC	DNC
Lowndes	DNC	DNC	DNC	DNC	DNC
Murray	5	0	0	1.7	C
Muscogee	1	0	0	0.3	B
Paulding	6	0	0	2.0	C
Pike	INC	INC	INC	INC	INC
Richmond	7	0	0	2.3	D
Rockdale	25	2	0	9.3	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	13.1	FAIL
6	0	0	2.0	C	10.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.4	PASS
0	0	0	0.0	A	12.3	FAIL
1	0	0	0.3	B	11.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	1	0	0.5	B	11.5	PASS
5	1	0	2.2	D	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	3	0	1.5	C	12.1	FAIL
2	0	0	0.7	B	12.9	FAIL
1	0	0	0.3	B	INC	INC
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	10.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.0	PASS
2	1	0	1.2	C	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	1	1.7	C	12.5	FAIL
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	11.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Sumter	0	0	0	0.0	A
Walker	DNC	DNC	DNC	DNC	DNC
Washington	DNC	DNC	DNC	DNC	DNC
Wilkinson	DNC	DNC	DNC	DNC	DNC

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.0	PASS
1	0	0	0.3	B	INC	INC
1	1	0	0.8	B	12.5	FAIL

## American Lung Association in Hawaii

810 Richards, Suite 750  
 Honolulu HI, 96813  
 (808) 537 5966  
[www.lung.org/hawaii](http://www.lung.org/hawaii)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Hawaii	189,191	42,070	30,112	4,721	12,942	5,466	10,210	12,088	35,283
Honolulu	976,372	210,323	147,427	23,601	68,262	27,386	49,610	57,633	98,870
Kauai	68,434	15,119	11,035	1,697	4,686	1,986	3,715	4,389	8,296
Maui	158,226	35,499	22,200	3,983	10,915	4,405	8,055	9,667	17,539
<b>Totals</b>	<b>1,392,223</b>	<b>303,011</b>	<b>210,774</b>	<b>34,002</b>	<b>96,804</b>	<b>39,243</b>	<b>71,590</b>	<b>83,777</b>	<b>159,988</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Hawaii	DNC	DNC	DNC	DNC	DNC
Honolulu	0	0	0	0.0	A
Kauai	DNC	DNC	DNC	DNC	DNC
Maui	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
13	3	0	5.8	F	15.5	FAIL
1	1	0	0.8	B	8.4	PASS
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	5.7	PASS

## American Lung Association in Idaho

1412 W. Idaho St. Suite 100  
 Boise, ID 83702  
 (208) 345-5864  
[www.lung.org/idaho](http://www.lung.org/idaho)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Ada	409,061	105,249	46,720	9,254	25,653	15,362	20,844	24,502	50,044
Bannock	83,800	22,460	9,881	1,975	5,132	3,066	4,216	4,873	13,720
Benewah	9,117	2,072	1,808	182	623	441	656	728	1,629
Butte	2,740	705	511	62	180	126	187	208	439
Canyon	193,888	59,666	22,752	5,246	11,279	6,847	9,502	10,924	40,288
Cassia	23,249	7,469	3,084	657	1,341	851	1,213	1,371	3,726
Franklin	12,786	4,388	1,710	386	713	456	656	736	1,571
Kootenai	142,357	34,352	22,218	3,020	9,300	6,068	8,691	9,849	18,911
Lemhi	7,758	1,414	1,903	124	568	424	651	706	1,380
Shoshone	12,702	2,580	2,618	227	892	631	942	1,041	2,459
<b>Totals</b>	<b>897,458</b>	<b>240,355</b>	<b>113,205</b>	<b>21,133</b>	<b>55,680</b>	<b>34,273</b>	<b>47,557</b>	<b>54,938</b>	<b>134,167</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Ada	2	0	0	0.7	B
Bannock	DNC	DNC	DNC	DNC	DNC
Benewah	DNC	DNC	DNC	DNC	DNC
Butte	0	0	0	0.0	A
Canyon	DNC	DNC	DNC	DNC	DNC
Cassia	INC	INC	INC	INC	INC
Franklin	DNC	DNC	DNC	DNC	DNC
Kootenai	INC	INC	INC	INC	INC
Lemhi	DNC	DNC	DNC	DNC	DNC
Shoshone	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
5	1	0	2.2	D	6.7	PASS
2	2	0	1.7	C	6.6	PASS
3	0	0	1.0	C	8.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	1	0	0.8	B	8.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
11	5	0	6.2	F	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
41	22	9	30.7	F	14.7	FAIL
43	1	0	14.8	F	12.1	FAIL

## American Lung Association in Illinois

55 W. Wacker Drive, Suite 800  
Chicago, IL 60601  
(312) 781-1100  
[www.lung.org/illinois](http://www.lung.org/illinois)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Adams	67,197	15,268	12,042	1,423	4,388	3,400	4,736	5,445	8,070
Champaign	203,276	39,033	21,479	3,638	13,943	8,511	10,506	12,848	38,301
Clark	16,209	3,620	2,958	337	1,063	836	1,167	1,342	2,078
Cook	5,231,351	1,215,406	647,681	113,276	340,025	231,310	298,891	360,007	926,826
DuPage	927,987	222,371	115,884	20,725	59,633	42,565	55,302	67,154	66,852
Effingham	34,353	8,303	5,426	774	2,201	1,664	2,266	2,654	3,282
Hamilton	8,370	1,888	1,675	176	547	442	630	714	1,211
Jersey	22,742	4,974	3,774	464	1,501	1,146	1,567	1,833	2,183
Jo Daviess	22,549	4,554	5,111	424	1,518	1,294	1,878	2,110	2,702
Kane	522,487	147,455	55,995	13,743	31,728	21,681	27,634	33,839	61,375
Lake	702,120	184,869	79,222	17,230	43,715	30,776	39,468	48,429	64,229
LaSalle	112,973	25,508	19,037	2,377	7,388	5,678	7,803	9,087	15,753
Macon	110,122	24,796	18,692	2,311	7,209	5,517	7,592	8,817	23,220
Macoupin	47,231	10,483	8,436	977	3,103	2,429	3,375	3,901	6,339
Madison	267,883	59,873	40,134	5,580	17,585	12,885	17,275	20,411	34,325
McHenry	308,145	80,488	33,897	7,502	19,231	13,626	17,397	21,492	23,277
McLean	172,281	38,001	18,449	3,542	11,382	7,304	9,134	11,199	23,938
Peoria	187,254	44,807	27,017	4,176	12,050	8,672	11,584	13,674	35,224
Randolph	32,956	6,374	5,468	594	2,247	1,682	2,285	2,677	4,140
Rock Island	147,457	33,040	24,812	3,079	9,670	7,336	10,074	11,699	19,943
Sangamon	199,271	46,209	28,887	4,307	12,934	9,531	12,724	15,129	27,363
St. Clair	268,858	66,504	35,226	6,198	17,108	12,239	16,074	19,299	51,050
Will	682,518	190,312	69,730	17,737	41,630	28,360	35,815	44,266	56,706
Winnebago	292,069	71,364	42,977	6,651	18,654	13,769	18,495	21,851	46,164
<b>Totals</b>	<b>10,587,659</b>	<b>2,545,500</b>	<b>1,324,009</b>	<b>237,241</b>	<b>680,454</b>	<b>472,655</b>	<b>613,673</b>	<b>739,877</b>	<b>1,544,551</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	3	0	0	1.0	C
Champaign	8	0	0	2.7	D
Clark	1	0	0	0.3	B
Cook	37	6	0	15.3	F
DuPage	3	0	0	1.0	C
Effingham	2	0	0	0.7	B
Hamilton	15	0	0	5.0	F
Jersey	16	2	0	6.3	F
Jo Daviess	INC	INC	INC	INC	INC
Kane	5	0	0	1.7	C
Lake	25	2	0	9.3	F
LaSalle	DNC	DNC	DNC	DNC	DNC
McHenry	4	1	0	1.8	C
McLean	7	0	0	2.3	D
Macon	6	0	0	2.0	C
Macoupin	5	0	0	1.7	C
Madison	48	4	0	18.0	F
Peoria	8	0	0	2.7	D
Randolph	13	0	0	4.3	F
Rock Island	0	0	0	0.0	A
St. Clair	21	0	0	7.0	F
Sangamon	10	0	0	3.3	F
Will	2	0	0	0.7	B
Winnebago	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	10.2	PASS
0	0	0	0.0	A	9.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
16	0	0	5.3	F	12.7	FAIL
0	0	0	0.0	A	10.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	10.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.7	PASS
INC	INC	INC	INC	INC	INC	INC
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	10.2	PASS
1	0	0	0.3	B	10.2	PASS
0	0	0	0.0	A	11.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	13.5	FAIL
0	0	0	0.0	A	11.0	PASS
0	0	0	0.0	A	9.3	PASS
0	0	0	0.0	A	10.2	PASS
2	0	0	0.7	B	12.2	FAIL
0	0	0	0.0	A	10.6	PASS
1	0	0	0.3	B	11.0	PASS
3	0	0	1.0	C	9.8	PASS

## American Lung Association in Indiana

115 W. Washington Street, Suite 1180 South  
 Indianapolis, IN 46204  
 (317) 819-1181  
[www.lung.org/indiana](http://www.lung.org/indiana)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Allen	360,412	95,867	44,954	9,073	23,948	19,927	25,073	28,374	56,157
Boone	58,944	16,101	7,240	1,524	3,910	3,355	4,222	4,805	3,863
Carroll	20,095	4,773	3,382	452	1,397	1,270	1,681	1,853	2,125
Clark	111,951	26,337	15,207	2,493	7,764	6,569	8,336	9,396	14,083
Delaware	117,364	23,070	17,993	2,183	8,456	6,949	8,934	9,907	24,275
Dubois	42,071	10,443	6,361	988	2,885	2,566	3,334	3,718	3,492
Elkhart	199,619	56,184	25,436	5,317	12,976	10,868	13,783	15,514	29,711
Floyd	75,283	17,441	10,312	1,651	5,267	4,534	5,760	6,507	9,924
Gibson	33,458	7,887	5,334	746	2,326	2,066	2,705	2,998	3,768
Greene	32,940	7,521	5,671	712	2,316	2,103	2,789	3,069	5,159
Hamilton	289,495	84,500	27,382	7,997	18,608	14,960	18,057	21,012	13,557
Hancock	70,933	17,789	9,838	1,684	4,845	4,222	5,402	6,080	5,126
Hendricks	150,434	39,749	17,378	3,762	10,045	8,308	10,308	11,787	8,394
Henry	49,345	10,655	8,416	1,008	3,520	3,161	4,171	4,600	7,139
Howard	82,849	19,086	14,339	1,806	5,798	5,241	6,963	7,646	14,001
Huntington	36,987	8,413	5,675	796	2,596	2,268	2,940	3,275	4,152
Jackson	43,083	10,566	6,423	1,000	2,950	2,561	3,316	3,693	5,358
Johnson	143,191	36,949	18,636	3,497	9,626	8,094	10,246	11,559	13,495
Knox	38,122	8,092	6,146	766	2,717	2,354	3,070	3,397	5,625
Lake	493,618	124,014	68,140	11,737	33,564	28,781	36,785	41,321	95,358
LaPorte	111,246	24,950	16,545	2,361	7,842	6,803	8,761	9,801	17,881
Madison	130,348	29,524	21,185	2,794	9,138	8,019	10,513	11,612	19,697
Marion	918,977	231,182	99,961	21,880	62,019	49,201	60,106	69,060	194,724
Monroe	141,019	22,761	15,061	2,154	10,482	7,497	8,872	10,236	30,616
Morgan	69,356	16,937	9,665	1,603	4,788	4,200	5,370	6,054	8,617

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Perry	19,462	4,009	3,102	379	1,405	1,232	1,601	1,782	2,586
Porter	165,682	38,802	22,163	3,672	11,540	9,842	12,456	14,093	16,958
Posey	25,599	5,880	3,934	557	1,806	1,627	2,112	2,363	2,403
Shelby	44,471	10,590	6,521	1,002	3,090	2,719	3,504	3,927	5,555
Spencer	20,837	4,782	3,474	453	1,468	1,342	1,769	1,959	2,062
St. Joseph	266,344	64,450	36,796	6,100	18,264	15,388	19,617	22,010	42,538
Tippecanoe	177,513	36,472	17,606	3,452	12,529	9,026	10,655	12,338	33,204
Vanderburgh	180,858	39,761	26,620	3,763	12,768	10,854	13,931	15,570	26,561
Vigo	108,428	22,748	15,056	2,153	7,716	6,331	8,011	8,999	20,128
Wabash	32,361	7,200	6,093	681	2,283	2,087	2,816	3,059	3,817
Warrick	60,463	15,135	8,920	1,432	4,135	3,660	4,736	5,295	5,772
Whitley	33,342	7,972	4,978	754	2,315	2,051	2,653	2,967	3,137
<b>Totals</b>	<b>4,956,500</b>	<b>1,208,592</b>	<b>641,943</b>	<b>114,385</b>	<b>339,103</b>	<b>282,035</b>	<b>355,353</b>	<b>401,637</b>	<b>761,018</b>

# INDIANA

## American Lung Association in Indiana

115 W. Washington Street, Suite 1180 South  
 Indianapolis, IN 46204  
 (317) 819-1181  
[www.lung.org/indiana](http://www.lung.org/indiana)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Allen	8	1	0	3.2	D
Boone	10	0	0	3.3	F
Carroll	4	0	0	1.3	C
Clark	19	0	0	6.3	F
Delaware	3	0	0	1.0	C
Dubois	DNC	DNC	DNC	DNC	DNC
Elkhart	4	1	0	1.8	C
Floyd	18	2	0	7.0	F
Gibson	DNC	DNC	DNC	DNC	DNC
Greene	17	0	0	5.7	F
Hamilton	6	0	0	2.0	C
Hancock	0	0	0	0.0	A
Hendricks	3	0	0	1.0	C
Henry	DNC	DNC	DNC	DNC	DNC
Howard	DNC	DNC	DNC	DNC	DNC
Huntington	1	0	0	0.3	B
Jackson	1	0	0	0.3	B
Johnson	2	0	0	0.7	B
Knox	INC	INC	INC	INC	INC
Lake	10	1	0	3.8	F
LaPorte	22	3	1	9.5	F
Madison	2	0	0	0.7	B
Marion	16	0	0	5.3	F
Monroe	DNC	DNC	DNC	DNC	DNC
Morgan	2	0	0	0.7	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
9	0	0	3.0	D	10.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	13.2	FAIL
1	0	0	0.3	B	11.2	PASS
1	0	0	0.3	B	12.4	FAIL
6	0	0	2.0	C	11.2	PASS
6	1	0	2.5	D	11.8	PASS
INC	INC	INC	INC	INC	INC	INC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.5	PASS
1	0	0	0.3	B	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
18	2	0	7.0	F	12.2	FAIL
0	0	0	0.0	A	10.1	PASS
2	0	0	0.7	B	INC	INC
18	0	0	6.0	F	12.7	FAIL
0	0	0	0.0	A	10.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Perry	16	0	0	5.3	F
Porter	7	3	0	3.8	F
Posey	4	0	0	1.3	C
St. Joseph	10	0	1	4.0	F
Shelby	12	0	0	4.0	F
Spencer	DNC	DNC	DNC	DNC	DNC
Tippecanoe	DNC	DNC	DNC	DNC	DNC
Vanderburgh	14	0	0	4.7	F
Vigo	4	0	0	1.3	C
Wabash	INC	INC	INC	INC	INC
Warrick	15	0	0	5.0	F
Whitley	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
4	2	0	2.3	D	10.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
12	0	0	4.0	F	10.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	12.0	PASS
4	0	0	1.3	C	10.6	PASS
2	0	0	0.7	B	12.2	FAIL
6	0	0	2.0	C	11.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	INC	INC

## American Lung Association in Iowa

2530 73rd Street  
 Des Moines, IA 50322  
 (515) 309-9507  
[www.lung.org/iowa](http://www.lung.org/iowa)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Black Hawk	131,820	28,010	18,807	1,612	8,384	6,133	8,336	9,356	17,503
Bremer	24,479	5,377	4,349	309	1,545	1,225	1,761	1,897	1,696
Clinton	48,717	11,313	8,412	651	3,027	2,455	3,556	3,851	7,369
Delaware	17,574	4,229	3,038	243	1,081	893	1,304	1,411	1,726
Harrison	14,548	3,362	2,656	194	906	754	1,109	1,190	1,742
Johnson	136,317	26,761	12,653	1,540	8,829	5,582	6,745	8,201	20,683
Lee	35,617	7,737	6,353	445	2,257	1,842	2,679	2,895	5,343
Linn	215,295	51,966	29,288	2,991	13,199	9,812	13,432	15,115	20,503
Montgomery	10,566	2,424	2,161	140	659	567	853	897	1,348
Muscatine	42,879	11,044	6,151	636	2,575	1,985	2,780	3,091	5,828
Palo Alto	9,275	2,067	1,947	119	584	499	749	784	1,053
Polk	443,710	112,591	49,680	6,481	26,741	18,864	24,813	28,790	58,216
Pottawattamie	92,913	22,249	13,849	1,281	5,715	4,419	6,205	6,880	11,212
Scott	168,799	41,131	23,109	2,367	10,321	7,766	10,703	12,029	20,112
Story	91,140	15,776	9,443	908	6,071	3,827	4,641	5,570	15,988
Tama	17,536	4,390	3,303	253	1,064	895	1,327	1,409	2,359
Van Buren	7,449	1,714	1,495	99	464	397	594	627	1,186
Warren	46,891	11,872	6,706	683	2,832	2,174	3,036	3,380	4,094
Woodbury	102,323	26,930	13,488	1,550	6,093	4,529	6,199	6,978	16,417
<b>Totals</b>	<b>1,657,848</b>	<b>390,943</b>	<b>216,888</b>	<b>22,503</b>	<b>102,347</b>	<b>74,618</b>	<b>100,821</b>	<b>114,352</b>	<b>214,378</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Black Hawk	DNC	DNC	DNC	DNC	DNC
Bremer	0	0	0	0.0	A
Clinton	4	0	0	1.3	C
Delaware	DNC	DNC	DNC	DNC	DNC
Harrison	5	0	0	1.7	C
Johnson	DNC	DNC	DNC	DNC	DNC
Lee	DNC	DNC	DNC	DNC	DNC
Linn	1	0	0	0.3	B
Montgomery	0	0	0	0.0	A
Muscatine	DNC	DNC	DNC	DNC	DNC
Palo Alto	1	0	0	0.3	B
Polk	0	0	0	0.0	A
Pottawattamie	DNC	DNC	DNC	DNC	DNC
Scott	1	0	0	0.3	B
Story	0	0	0	0.0	A
Tama	DNC	DNC	DNC	DNC	DNC
Van Buren	2	0	0	0.7	B
Warren	0	0	0	0.0	A
Woodbury	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
3	0	0	1.0	C	10.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
7	0	0	2.3	D	11.5	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	10.5	PASS
2	0	0	0.7	B	11.4	PASS
5	0	0	1.7	C	10.3	PASS
0	0	0	0.0	A	9.2	PASS
17	4	0	7.7	F	12.2	FAIL
1	0	0	0.3	B	8.8	PASS
3	0	0	1.0	C	9.7	PASS
1	0	0	0.3	B	11.1	PASS
5	0	0	1.7	C	11.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
1	0	0	0.3	B	9.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.9	PASS

## American Lung Association in Kansas

6701 W 64th Street Suite 110  
 Cloverleaf Office Park Building #5  
 Overland Park, Kansas 66202  
 (913) 912-7190  
[www.lung.org/kansas](http://www.lung.org/kansas)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population			Lung Diseases			Other Health Conditions		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Johnson	559,913	144,109	65,725	15,055	35,112	24,250	33,701	37,982	37,683
Leavenworth	77,739	18,848	9,235	1,969	4,972	3,433	4,766	5,379	7,475
Linn	9,441	2,129	1,904	222	601	511	778	814	1,368
Riley	75,508	13,710	5,515	1,432	5,496	2,647	3,195	3,885	14,134
Sedgwick	503,889	135,161	60,588	14,120	31,188	21,492	30,023	33,601	81,454
Shawnee	178,991	43,934	27,020	4,590	11,300	8,454	12,252	13,321	28,590
Sumner	23,674	6,009	3,892	628	1,464	1,162	1,717	1,844	3,079
Trego	2,986	576	716	60	196	179	279	287	324
Wyandotte	159,129	45,134	17,403	4,715	9,691	6,446	8,875	10,034	37,368
<b>Totals</b>	<b>1,591,270</b>	<b>409,610</b>	<b>191,998</b>	<b>42,792</b>	<b>100,018</b>	<b>68,573</b>	<b>95,585</b>	<b>107,146</b>	<b>211,475</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Johnson	14	0	0	4.7	F
Leavenworth	15	0	0	5.0	F
Linn	9	0	0	3.0	D
Riley	INC	INC	INC	INC	INC
Sedgwick	23	0	0	7.7	F
Shawnee	14	0	0	4.7	F
Sumner	18	0	0	6.0	F
Trego	8	0	0	2.7	D
Wyandotte	13	0	0	4.3	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	7.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.2	PASS
1	0	0	0.3	B	9.2	PASS
0	0	0	0.0	A	8.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.2	PASS

## American Lung Association in Kentucky

4100 Churchman Avenue  
 Louisville, KY 40215  
 (502) 363-2652  
[www.lung.org/kentucky](http://www.lung.org/kentucky)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Bell	28,183	6,228	4,656	636	2,441	2,567	2,829	2,485	8,931
Boone	123,316	34,156	12,843	3,486	9,844	9,686	9,994	8,967	10,639
Boyd	49,164	10,475	8,462	1,069	4,305	4,560	5,055	4,434	8,312
Bullitt	75,896	18,251	9,512	1,863	6,391	6,474	6,837	6,098	8,140
Campbell	90,908	20,423	12,045	2,084	7,788	7,817	8,282	7,357	12,772
Carter	27,348	6,245	4,193	637	2,340	2,420	2,634	2,321	6,396
Christian	75,427	20,830	7,879	2,126	5,918	5,417	5,504	4,886	15,392
Daviess	97,847	23,771	14,917	2,426	8,218	8,529	9,307	8,197	15,923
Edmonson	12,071	2,564	2,214	262	1,058	1,130	1,267	1,107	2,238
Fayette	305,489	64,349	33,544	6,568	26,332	24,750	25,173	22,497	51,815
Franklin	49,804	10,600	7,433	1,082	4,349	4,480	4,839	4,279	7,749
Greenup	36,707	8,088	6,586	826	3,189	3,419	3,827	3,347	6,447
Hancock	8,677	2,178	1,307	222	723	760	830	732	1,226
Hardin	107,025	27,050	12,318	2,761	8,821	8,702	9,061	8,094	15,599
Henderson	46,513	10,934	6,887	1,116	3,954	4,111	4,459	3,942	7,982
Jefferson	750,828	172,289	103,951	17,585	63,974	64,758	69,206	61,305	134,160
Jessamine	49,635	12,614	6,128	1,287	4,083	4,057	4,272	3,799	7,469
Kenton	161,711	40,057	18,998	4,088	13,432	13,322	13,911	12,422	23,450
Livingston	9,423	1,910	1,803	195	842	924	1,043	913	1,512
Madison	84,786	17,921	10,180	1,829	7,312	6,976	7,204	6,408	17,604
McCracken	65,549	14,415	11,403	1,471	5,695	6,066	6,750	5,916	11,546
Morgan	13,668	2,750	1,843	281	1,206	1,207	1,276	1,134	3,589
Ohio	24,075	6,010	3,847	613	2,006	2,102	2,317	2,034	4,603
Oldham	61,412	16,224	6,533	1,656	5,032	5,113	5,313	4,786	3,792
Perry	28,241	6,282	3,995	641	2,440	2,514	2,699	2,395	7,446

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Pike	64,178	13,851	9,481	1,414	5,594	5,800	6,264	5,547	14,840
Pulaski	63,593	14,392	10,777	1,469	5,474	5,799	6,430	5,639	14,710
Simpson	17,538	4,246	2,636	433	1,476	1,536	1,672	1,475	3,090
Trigg	14,447	3,184	2,856	325	1,260	1,388	1,584	1,379	2,414
Warren	117,110	26,334	13,407	2,688	9,919	9,402	9,657	8,602	21,952
Washington	11,833	2,701	1,928	276	1,017	1,074	1,184	1,041	1,936
<b>Totals</b>	<b>2,672,402</b>	<b>621,322</b>	<b>354,562</b>	<b>63,416</b>	<b>226,432</b>	<b>226,860</b>	<b>240,682</b>	<b>213,539</b>	<b>453,674</b>

# KENTUCKY

## American Lung Association in Kentucky

4100 Churchman Avenue  
 Louisville, KY 40215  
 (502) 363-2652  
[www.lung.org/kentucky](http://www.lung.org/kentucky)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Bell	2	0	0	0.7	B
Boone	4	0	0	1.3	C
Boyd	5	0	0	1.7	C
Bullitt	6	1	0	2.5	D
Campbell	24	1	0	8.5	F
Carter	2	0	0	0.7	B
Christian	5	0	0	1.7	C
Daviess	18	1	0	6.5	F
Edmonson	11	0	0	3.7	F
Fayette	8	0	0	2.7	D
Franklin	DNC	DNC	DNC	DNC	DNC
Greenup	8	0	0	2.7	D
Hancock	15	1	0	5.5	F
Hardin	4	0	0	1.3	C
Henderson	19	0	0	6.3	F
Jefferson	40	5	0	15.8	F
Jessamine	6	0	0	2.0	C
Kenton	INC	INC	INC	INC	INC
Livingston	12	2	0	5.0	F
McCracken	16	2	0	6.3	F
Madison	DNC	DNC	DNC	DNC	DNC
Morgan	INC	INC	INC	INC	INC
Ohio	DNC	DNC	DNC	DNC	DNC
Oldham	32	2	0	11.7	F
Perry	1	0	0	0.3	B
Pike	1	0	0	0.3	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	11.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.6	PASS
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	10.6	PASS
0	0	0	0.0	A	8.9	PASS
0	0	0	0.0	A	10.7	PASS
0	0	0	0.0	A	11.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.8	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	11.3	PASS
4	1	0	1.8	C	12.3	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.6	PASS
0	0	0	0.0	A	9.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.7	PASS

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Pulaski	3	0	0	1.0	C
Simpson	5	0	0	1.7	C
Trigg	7	0	0	2.3	D
Warren	8	0	0	2.7	D
Washington	INC	INC	INC	INC	INC

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Louisiana

2325 Severn Avenue, Suite 8  
 Metairie, LA 70001-6918  
 (504) 828-5864  
[www.lung.org/louisiana](http://www.lung.org/louisiana)

## AT-RISK GROUPS

Parish	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Ascension Parish	112,286	31,543	10,714	2,626	6,023	5,791	7,624	9,325	13,439
Bossier Parish	122,197	30,885	14,990	2,571	6,757	6,646	9,047	10,780	15,905
Caddo Parish	257,093	63,093	35,752	5,253	14,388	14,766	20,599	24,279	51,271
Calcasieu Parish	194,493	48,561	25,742	4,043	10,838	11,036	15,274	18,102	33,065
East Baton Rouge Parish	444,526	102,025	51,450	8,494	25,343	24,317	32,531	39,124	88,887
Iberville Parish	33,228	7,294	4,332	607	1,932	1,957	2,684	3,205	6,261
Jefferson Parish	433,676	96,226	62,291	8,012	25,087	25,985	36,309	42,853	69,872
Lafayette Parish	227,055	54,900	24,388	4,571	12,783	12,254	16,259	19,711	38,846
Lafourche Parish	97,029	23,263	12,782	1,937	5,482	5,567	7,682	9,125	14,248
Livingston Parish	131,942	35,488	14,372	2,955	7,171	7,000	9,386	11,328	19,857
Orleans Parish	369,250	79,199	42,272	6,594	21,534	20,778	27,712	33,496	102,770
Ouachita Parish	155,363	40,471	19,809	3,370	8,507	8,505	11,697	13,870	35,398
Pointe Coupee Parish	22,726	5,396	3,902	449	1,290	1,431	2,082	2,408	4,698
Rapides Parish	132,373	33,910	18,848	2,823	7,308	7,607	10,697	12,563	28,235
St. Bernard Parish	41,635	10,964	3,788	913	2,285	2,150	2,792	3,437	9,164
St. Charles Parish	52,681	13,717	5,642	1,142	2,924	2,937	3,946	4,800	6,667
St. James Parish	21,722	5,394	3,062	449	1,219	1,286	1,806	2,133	3,736
St. John the Baptist Parish	44,758	11,586	5,119	965	2,479	2,492	3,376	4,071	8,656
St. Tammany Parish	239,453	59,933	33,060	4,990	13,420	14,170	19,846	23,506	31,239
Tangipahoa Parish	123,441	30,804	14,999	2,565	6,871	6,795	9,240	11,042	29,193
Terrebonne Parish	111,893	28,654	13,444	2,386	6,195	6,201	8,449	10,119	20,311
West Baton Rouge Parish	24,106	5,924	2,797	493	1,356	1,350	1,826	2,200	4,042
<b>Totals</b>	<b>3,392,926</b>	<b>819,230</b>	<b>423,555</b>	<b>68,207</b>	<b>191,193</b>	<b>191,021</b>	<b>260,864</b>	<b>311,478</b>	<b>635,760</b>



### HIGH OZONE DAYS 2010-2012

Parish	Orange	Red	Purple	Wgt. Avg	Grade
Ascension Parish	14	0	0	4.7	F
Bossier Parish	24	0	0	8.0	F
Caddo Parish	13	0	0	4.3	F
Calcasieu Parish	9	0	0	3.0	D
East Baton Rouge Parish	21	0	0	7.0	F
Iberville Parish	20	0	0	6.7	F
Jefferson Parish	10	0	0	3.3	F
Lafayette Parish	6	0	0	2.0	C
Lafourche Parish	8	0	0	2.7	D
Livingston Parish	9	0	0	3.0	D
Orleans Parish	1	0	0	0.3	B
Ouachita Parish	0	0	0	0.0	A
Pointe Coupee Parish	16	0	0	5.3	F
Rapides Parish	DNC	DNC	DNC	DNC	DNC
St. Bernard Parish	9	0	0	3.0	D
St. Charles Parish	4	0	0	1.3	C
St. James Parish	4	0	0	1.3	C
St. John the Baptist Parish	9	0	0	3.0	D
St. Tammany Parish	10	0	0	3.3	F
Tangipahoa Parish	DNC	DNC	DNC	DNC	DNC
Terrebonne Parish	DNC	DNC	DNC	DNC	DNC
West Baton Rouge Parish	2	1	0	1.2	C

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	1	0	0.5	B	11.8	PASS
0	0	0	0.0	A	8.9	PASS
2	0	0	0.7	B	10.2	PASS
0	0	0	0.0	A	10.0	PASS
0	0	0	0.0	A	9.3	PASS
1	0	0	0.3	B	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.8	PASS
1	0	0	0.3	B	10.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.0	PASS
0	0	0	0.0	A	8.4	PASS
2	0	0	0.7	B	10.7	PASS

## American Lung Association in Maine

122 State Street  
 Augusta, ME 04330  
 (207) 624-0308  
[www.lung.org/maine](http://www.lung.org/maine)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Androscoggin	107,609	23,866	16,058	2,274	9,362	6,298	7,392	7,699	16,591
Aroostook	70,868	13,832	14,153	1,318	6,275	4,677	5,821	5,874	11,424
Cumberland	283,921	57,165	43,522	5,448	25,339	17,109	20,109	20,955	31,512
Hancock	54,558	9,592	10,803	914	4,953	3,672	4,547	4,614	7,058
Kennebec	121,853	24,579	20,123	2,342	10,816	7,561	9,056	9,362	17,348
Knox	39,668	7,414	8,262	707	3,540	2,678	3,358	3,376	4,958
Oxford	57,481	11,865	10,405	1,131	5,039	3,678	4,510	4,611	10,067
Penobscot	153,746	29,656	23,729	2,826	13,883	9,275	10,859	11,302	25,655
Piscataquis	17,290	3,227	3,788	308	1,536	1,198	1,523	1,524	3,399
Sagadahoc	35,191	7,079	6,280	675	3,111	2,242	2,732	2,798	3,963
Washington	32,462	6,264	6,755	597	2,875	2,175	2,730	2,741	6,109
York	199,005	40,818	32,996	3,890	17,576	12,356	14,839	15,333	22,385
<b>Totals</b>	<b>1,173,652</b>	<b>235,357</b>	<b>196,874</b>	<b>22,430</b>	<b>104,305</b>	<b>72,920</b>	<b>87,474</b>	<b>90,190</b>	<b>160,469</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Androscoggin	0	0	0	0.0	A
Aroostook	0	0	0	0.0	A
Cumberland	4	1	0	1.8	C
Hancock	7	0	0	2.3	D
Kennebec	1	0	0	0.3	B
Knox	2	0	0	0.7	B
Oxford	0	0	0	0.0	A
Penobscot	0	0	0	0.0	A
Piscataquis	DNC	DNC	DNC	DNC	DNC
Sagadahoc	0	0	0	0.0	A
Washington	1	0	0	0.3	B
York	9	0	0	3.0	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	7.5	PASS
0	1	0	0.5	B	6.6	PASS
1	0	0	0.3	B	8.4	PASS
0	0	0	0.0	A	4.6	PASS
0	0	0	0.0	A	7.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	1	0	0.5	B	8.2	PASS
0	0	0	0.0	A	7.3	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Maryland

211 E. Lombard St., #260  
 Baltimore, MD 21202  
 (443) 451-4950  
[www.lung.org/maryland](http://www.lung.org/maryland)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population			Lung Diseases			Other Health Conditions		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Anne Arundel	550,488	125,300	69,939	12,856	38,388	23,161	31,893	43,301	33,954
Baltimore	817,455	177,336	123,544	18,195	57,326	36,158	51,456	67,917	77,084
Baltimore City	621,342	133,720	73,829	13,720	44,575	25,254	33,805	45,925	146,621
Calvert	89,628	22,256	10,780	2,284	6,036	3,768	5,215	7,204	6,233
Carroll	167,217	38,978	23,883	3,999	11,402	7,414	10,568	14,226	10,315
Cecil	101,696	24,450	13,086	2,509	6,932	4,306	5,997	8,156	11,921
Charles	150,592	37,876	15,491	3,886	10,251	5,933	7,895	11,051	12,869
Dorchester	32,551	6,948	6,114	713	2,242	1,575	2,363	3,040	5,895
Frederick	239,582	58,348	28,744	5,987	16,349	9,888	13,559	18,593	16,116
Garrett	29,854	6,286	5,564	645	2,068	1,440	2,153	2,771	4,262
Harford	248,622	58,392	33,598	5,991	17,038	10,697	15,018	20,274	19,458
Kent	20,191	3,457	4,697	355	1,453	1,066	1,653	2,049	2,614
Montgomery	1,004,709	236,298	129,562	24,245	69,270	42,133	58,330	78,898	66,074
Prince George's	881,138	203,388	90,532	20,868	62,113	34,582	45,318	63,110	88,153
Washington	149,180	33,399	22,209	3,427	10,358	6,563	9,341	12,369	19,238
Worcester	51,578	9,199	12,517	944	3,634	2,810	4,426	5,502	5,659
<b>Totals</b>	<b>5,155,823</b>	<b>1,175,631</b>	<b>664,089</b>	<b>120,625</b>	<b>359,436</b>	<b>216,748</b>	<b>298,990</b>	<b>404,387</b>	<b>526,466</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Anne Arundel	30	5	0	12.5	F
Baltimore	43	3	0	15.8	F
Calvert	22	3	0	8.8	F
Carroll	14	0	0	4.7	F
Cecil	30	1	0	10.5	F
Charles	21	2	0	8.0	F
Dorchester	INC	INC	INC	INC	INC
Frederick	18	0	0	6.0	F
Garrett	13	0	0	4.3	F
Harford	48	10	0	21.0	F
Kent	27	3	0	10.5	F
Montgomery	12	0	0	4.0	F
Prince George's	52	1	0	17.8	F
Washington	11	0	0	3.7	F
Worcester	INC	INC	INC	INC	INC
Baltimore City	11	1	0	4.2	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	10.7	PASS
1	0	0	0.3	B	11.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	10.3	PASS
1	0	0	0.3	B	INC	INC
1	0	0	0.3	B	10.5	PASS
3	1	0	1.5	C	10.5	PASS
3	0	0	1.0	C	11.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
7	0	0	2.3	D	11.1	PASS

# MASSACHUSETTS

## American Lung Association in Massachusetts

460 Totten Pond Road, Suite 400  
 Waltham, MA 02451-1991  
 (781) 314-9006  
[www.lung.org/massachusetts](http://www.lung.org/massachusetts)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population			Lung Diseases			Other Health Conditions		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Barnstable	215,423	35,653	56,699	3,679	18,585	11,711	17,979	19,191	22,088
Berkshire	130,016	24,376	25,583	2,515	11,194	6,287	8,959	10,000	17,371
Bristol	551,082	119,365	82,485	12,316	46,596	23,808	31,652	36,760	70,327
Dukes	17,041	3,178	3,053	328	1,475	815	1,139	1,295	1,591
Essex	755,618	170,083	112,213	17,549	63,089	32,565	43,509	50,536	89,797
Hampden	465,923	107,255	68,766	11,067	38,732	19,723	26,193	30,393	86,048
Hampshire	159,795	25,095	21,831	2,589	14,736	6,972	8,746	10,436	18,506
Middlesex	1,537,215	320,775	208,140	33,098	132,349	64,692	83,077	98,266	124,436
Norfolk	681,845	149,293	103,098	15,404	57,371	29,628	39,643	45,958	50,016
Plymouth	499,759	115,877	75,424	11,956	41,225	21,676	29,285	33,895	38,245
Suffolk	744,426	131,851	79,993	13,604	68,122	29,121	33,520	41,525	143,442
Worcester	806,163	182,967	108,076	18,879	67,569	33,728	43,830	51,765	92,215
<b>Totals</b>	<b>6,564,306</b>	<b>1,385,768</b>	<b>945,361</b>	<b>142,985</b>	<b>561,043</b>	<b>280,723</b>	<b>367,532</b>	<b>430,021</b>	<b>754,082</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Barnstable	10	0	0	3.3	F
Berkshire	2	0	0	0.7	B
Bristol	15	0	0	5.0	F
Dukes	16	3	0	6.8	F
Essex	7	0	0	2.3	D
Hampden	6	0	0	2.0	C
Hampshire	11	0	0	3.7	F
Middlesex	3	0	0	1.0	C
Norfolk	5	0	0	1.7	C
Plymouth	DNC	DNC	DNC	DNC	DNC
Suffolk	3	0	0	1.0	C
Worcester	7	0	0	2.3	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.8	PASS
0	0	0	0.0	A	7.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.0	PASS
1	0	0	0.3	B	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.9	PASS
1	1	0	0.8	B	9.9	PASS
0	0	0	0.0	A	8.8	PASS

## American Lung Association in Michigan

1475 E 12 Mile Road  
Oak Park, MI 48237  
(248) 784-2000  
[www.lung.org/michigan](http://www.lung.org/michigan)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Allegan	112,039	28,412	15,915	2,690	8,752	6,354	8,485	8,995	14,806
Bay	106,935	22,953	18,457	2,173	8,731	6,512	9,005	9,350	14,473
Benzie	17,465	3,444	3,974	326	1,432	1,168	1,736	1,740	2,372
Berrien	156,067	35,876	26,349	3,396	12,499	9,296	12,842	13,337	30,702
Cass	52,242	11,754	9,358	1,113	4,192	3,214	4,517	4,662	8,261
Chippewa	38,917	7,713	5,924	730	3,276	2,297	3,038	3,216	6,459
Clinton	76,001	18,093	10,892	1,713	6,070	4,342	5,762	6,114	7,776
Genesee	418,408	101,318	61,314	9,592	33,208	23,793	31,762	33,563	88,023
Huron	32,463	6,477	7,280	613	2,657	2,157	3,196	3,208	4,887
Ingham	281,723	57,244	31,506	5,419	23,941	15,063	18,186	20,049	67,220
Kalamazoo	254,580	56,118	32,664	5,313	21,012	13,879	17,546	18,927	43,431
Kent	614,462	158,059	71,386	14,964	48,334	32,303	40,614	44,148	101,609
Lenawee	98,987	22,253	15,611	2,107	8,014	5,827	7,886	8,276	12,587
Macomb	847,383	189,412	126,754	17,932	68,912	49,388	65,885	69,663	104,476
Manistee	24,672	4,494	5,372	425	2,070	1,659	2,424	2,452	4,021
Mason	28,680	6,034	5,784	571	2,330	1,836	2,650	2,696	4,540
Missaukee	15,031	3,519	2,760	333	1,190	916	1,298	1,332	2,192
Monroe	151,048	35,251	22,035	3,337	12,115	8,828	11,798	12,509	17,718
Muskegon	170,182	41,336	24,492	3,913	13,504	9,644	12,820	13,580	35,416
Oakland	1,220,657	276,359	172,888	26,164	99,057	70,838	93,527	99,638	127,251
Ottawa	269,099	68,248	33,541	6,461	21,215	14,369	18,361	19,780	28,150
Schoolcraft	8,343	1,584	1,888	150	690	569	845	850	1,284
St. Clair	160,644	36,525	25,127	3,458	12,943	9,595	13,032	13,703	25,177
Tuscola	54,662	12,225	9,394	1,157	4,406	3,322	4,611	4,786	8,319
Washtenaw	350,946	69,977	38,790	6,625	29,958	18,998	22,941	25,350	53,693



**AT-RISK GROUPS**

County	Population			Lung Diseases			Other Health Conditions		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Wayne	1,792,365	439,192	236,285	41,579	142,479	98,917	128,386	137,546	465,744
Wexford	32,608	7,616	5,484	721	2,597	1,945	2,691	2,796	6,169
<b>Totals</b>	<b>7,386,609</b>	<b>1,721,486</b>	<b>1,021,224</b>	<b>162,977</b>	<b>595,581</b>	<b>417,030</b>	<b>545,847</b>	<b>582,266</b>	<b>1,286,756</b>

# MICHIGAN

## American Lung Association in Michigan

1475 E 12 Mile Road  
Oak Park, MI 48237  
(248) 784-2000  
[www.lung.org/michigan](http://www.lung.org/michigan)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Allegan	31	4	0	12.3	F
Bay	DNC	DNC	DNC	DNC	DNC
Benzie	15	0	0	5.0	F
Berrien	26	4	0	10.7	F
Cass	18	2	0	7.0	F
Chippewa	6	0	0	2.0	C
Clinton	11	0	0	3.7	F
Genesee	17	0	0	5.7	F
Huron	11	1	0	4.2	F
Ingham	9	0	0	3.0	D
Kalamazoo	14	1	0	5.2	F
Kent	20	0	0	6.7	F
Lenawee	17	2	0	6.7	F
Macomb	30	1	0	10.5	F
Manistee	16	0	0	5.3	F
Mason	14	0	0	4.7	F
Missaukee	7	0	0	2.3	D
Monroe	DNC	DNC	DNC	DNC	DNC
Muskegon	30	2	0	11.0	F
Oakland	18	1	0	6.5	F
Ottawa	19	0	0	6.3	F
St. Clair	15	1	0	5.5	F
Schoolcraft	16	0	0	5.3	F
Tuscola	INC	INC	INC	INC	INC
Washtenaw	20	0	0	6.7	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	8.5	PASS
1	0	0	0.3	B	7.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.8	PASS
0	0	0	0.0	A	9.2	PASS
1	0	0	0.3	B	9.6	PASS
0	0	0	0.0	A	9.2	PASS
0	0	0	0.0	A	8.8	PASS
0	0	0	0.0	A	6.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	6.0	PASS
1	0	0	0.3	B	9.6	PASS
1	0	0	0.3	B	8.5	PASS
0	0	0	0.0	A	9.3	PASS
0	0	0	0.0	A	9.1	PASS
1	0	0	0.3	B	9.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.3	PASS

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Wayne	32	1	0	11.2	F
Wexford	INC	INC	INC	INC	INC

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
9	0	0	3.0	D	11.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# MINNESOTA

## American Lung Association in Minnesota

490 Concordia Avenue  
 St. Paul, MN 55103-2441  
 (651) 227-8014  
[www.lung.org/minnesota](http://www.lung.org/minnesota)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Anoka	336,414	84,229	36,411	7,406	20,210	10,531	16,479	17,636	27,583
Becker	33,000	8,029	6,029	706	1,957	1,204	2,065	2,110	4,384
Carlton	35,348	8,148	5,495	716	2,152	1,235	2,049	2,128	4,242
Cass	28,357	5,992	6,441	527	1,733	1,153	2,044	2,056	5,006
Crow Wing	62,882	14,186	12,295	1,247	3,808	2,363	4,087	4,153	8,085
Dakota	405,088	103,033	44,990	9,059	24,186	12,660	19,904	21,238	30,381
Goodhue	46,336	10,755	8,180	946	2,795	1,690	2,871	2,947	4,169
Hennepin	1,184,576	266,530	140,505	23,434	73,566	37,561	59,155	62,795	151,955
Lake	10,818	2,027	2,542	178	681	454	805	809	1,207
Lyon	25,543	6,227	3,598	548	1,537	827	1,349	1,406	3,049
Mille Lacs	25,740	6,410	4,346	564	1,522	898	1,519	1,559	3,303
Olmsted	147,066	36,681	19,570	3,225	8,792	4,739	7,668	8,041	14,125
Ramsey	520,152	121,219	64,628	10,658	31,918	16,412	26,090	27,530	85,195
Scott	135,152	39,575	11,442	3,480	7,710	3,766	5,705	6,194	7,129
St. Louis	200,319	38,712	32,914	3,404	12,788	7,265	12,064	12,497	29,124
Stearns	151,606	34,485	19,309	3,032	9,367	4,814	7,674	8,080	18,747
Washington	244,088	62,552	28,616	5,500	14,497	7,808	12,408	13,189	13,346
Wright	127,336	37,201	13,262	3,271	7,228	3,699	5,794	6,179	8,858
<b>Totals</b>	<b>3,719,821</b>	<b>885,991</b>	<b>460,573</b>	<b>77,900</b>	<b>226,445</b>	<b>119,079</b>	<b>189,731</b>	<b>200,546</b>	<b>419,888</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Anoka	2	1	0	1.2	C
Becker	0	0	0	0.0	A
Carlton	1	0	0	0.3	B
Cass	DNC	DNC	DNC	DNC	DNC
Crow Wing	1	0	0	0.3	B
Dakota	DNC	DNC	DNC	DNC	DNC
Goodhue	0	0	0	0.0	A
Hennepin	DNC	DNC	DNC	DNC	DNC
Lake	0	0	0	0.0	A
Lyon	0	0	0	0.0	A
Mille Lacs	0	0	0	0.0	A
Olmsted	0	0	0	0.0	A
Ramsey	DNC	DNC	DNC	DNC	DNC
St. Louis	0	0	0	0.0	A
Scott	1	0	0	0.3	B
Stearns	0	0	0	0.0	A
Washington	1	0	0	0.3	B
Wright	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
2	0	0	0.7	B	8.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	9.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	9.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.0	PASS
4	0	0	1.3	C	9.7	PASS
1	0	0	0.3	B	5.5	PASS
1	0	0	0.3	B	8.6	PASS
3	0	0	1.0	C	8.5	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# MISSISSIPPI

## American Lung Association in Mississippi

P.O. Box 2178  
 Ridgeland, MS 39158  
 (601) 206-5810  
[www.lung.org/mississippi](http://www.lung.org/mississippi)

### AT-RISK GROUPS

County	Total Population			Lung Diseases			Cardio-vascular Disease		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Adams	32,122	6,947	5,212	685	2,064	1,795	3,031	3,388	9,211
Bolivar	33,904	8,630	4,358	851	2,052	1,662	2,724	3,102	11,747
DeSoto	166,234	45,664	18,312	4,503	9,818	7,758	12,537	14,410	17,967
Forrest	76,894	18,162	9,218	1,791	4,701	3,599	5,770	6,662	21,228
Grenada	21,682	5,310	3,398	524	1,338	1,158	1,953	2,184	5,238
Hancock	45,255	10,657	7,403	1,051	2,838	2,497	4,235	4,719	9,673
Harrison	194,029	47,348	24,135	4,669	11,935	9,601	15,665	17,894	38,660
Hinds	248,643	63,637	27,857	6,275	15,021	11,766	18,954	21,828	67,539
Jackson	140,298	34,937	18,796	3,445	8,612	7,145	11,811	13,380	23,387
Jones	68,641	17,576	10,243	1,733	4,153	3,522	5,897	6,625	17,283
Lauderdale	80,220	19,658	11,627	1,938	4,925	4,124	6,865	7,741	20,093
Lee	85,042	22,316	11,589	2,200	5,103	4,232	7,010	7,929	16,335
Yalobusha	12,401	2,950	2,166	291	772	687	1,174	1,302	2,750
<b>Totals</b>	<b>1,205,365</b>	<b>303,792</b>	<b>154,314</b>	<b>29,955</b>	<b>73,331</b>	<b>59,546</b>	<b>97,625</b>	<b>111,163</b>	<b>261,111</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	INC	INC	INC	INC	INC
Bolivar	9	0	0	3.0	D
DeSoto	11	0	0	3.7	F
Forrest	DNC	DNC	DNC	DNC	DNC
Grenada	DNC	DNC	DNC	DNC	DNC
Hancock	1	0	0	0.3	B
Harrison	5	0	0	1.7	C
Hinds	4	0	0	1.3	C
Jackson	4	0	0	1.3	C
Jones	DNC	DNC	DNC	DNC	DNC
Lauderdale	0	0	0	0.0	A
Lee	1	0	0	0.3	B
Yalobusha	INC	INC	INC	INC	INC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
INC	INC	INC	INC	INC	INC	INC
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	9.8	PASS
0	0	0	0.0	A	11.6	PASS
0	0	0	0.0	A	9.5	PASS
0	0	0	0.0	A	9.6	PASS
0	0	0	0.0	A	9.8	PASS
1	0	0	0.3	B	11.0	PASS
0	0	0	0.0	A	9.4	PASS
0	0	0	0.0	A	11.6	PASS
0	0	0	0.0	A	10.8	PASS
0	0	0	0.0	A	10.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# MISSOURI

## American Lung Association in Missouri

1118 Hampton Avenue  
 St. Louis, MO 63139-3196  
 (314) 645-5505  
[www.lung.org/missouri](http://www.lung.org/missouri)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Andrew	17,417	4,053	2,908	409	1,389	1,140	1,405	1,550	1,558
Boone	168,535	34,761	16,408	3,506	13,950	9,454	10,204	11,356	28,685
Buchanan	89,706	20,957	12,614	2,114	7,153	5,494	6,502	7,187	16,350
Callaway	44,305	9,823	5,869	991	3,600	2,752	3,208	3,576	6,095
Cass	100,376	25,741	14,626	2,596	7,767	6,139	7,383	8,165	9,189
Cedar	13,799	3,187	3,089	321	1,089	954	1,260	1,356	3,046
Clay	227,577	57,326	27,215	5,782	17,783	13,341	15,338	17,129	19,965
Clinton	20,508	5,024	3,290	507	1,611	1,314	1,611	1,780	2,216
Greene	280,626	58,866	41,208	5,937	22,994	17,301	20,489	22,445	47,855
Jackson	677,377	164,364	87,784	16,578	53,487	40,585	47,325	52,590	124,513
Jasper	115,258	29,499	15,566	2,975	8,917	6,783	8,004	8,831	21,019
Jefferson	220,209	53,878	27,093	5,434	17,418	13,409	15,522	17,442	23,987
Lincoln	53,354	14,475	6,183	1,460	4,071	3,103	3,572	4,013	6,488
Monroe	8,703	1,947	1,754	196	698	601	771	841	1,442
Perry	19,018	4,661	3,049	470	1,491	1,201	1,471	1,618	2,122
St. Charles	368,666	91,638	45,349	9,243	28,968	22,098	25,573	28,633	25,706
St. Louis	1,000,438	227,216	156,687	22,917	80,421	64,226	77,832	85,963	118,607
St. Louis City	318,172	67,703	35,247	6,829	26,156	18,735	20,913	23,355	90,199
Ste. Genevieve	17,740	3,991	2,984	403	1,432	1,190	1,466	1,624	2,062
Taney	52,956	11,681	9,892	1,178	4,261	3,491	4,397	4,775	10,183
<b>Totals</b>	<b>3,814,740</b>	<b>890,791</b>	<b>518,815</b>	<b>89,845</b>	<b>304,655</b>	<b>233,311</b>	<b>274,247</b>	<b>304,228</b>	<b>561,287</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Andrew	10	0	0	3.3	F
Boone	6	0	0	2.0	C
Buchanan	DNC	DNC	DNC	DNC	DNC
Callaway	4	0	0	1.3	C
Cass	12	0	0	4.0	F
Cedar	18	0	0	6.0	F
Clay	35	1	0	12.2	F
Clinton	29	0	0	9.7	F
Greene	9	0	0	3.0	D
Jackson	DNC	DNC	DNC	DNC	DNC
Jasper	22	0	0	7.3	F
Jefferson	24	2	0	9.0	F
Lincoln	25	0	0	8.3	F
Monroe	4	0	0	1.3	C
Perry	22	0	0	7.3	F
St. Charles	46	2	0	16.3	F
Ste. Genevieve	8	1	0	3.2	D
St. Louis	41	0	0	13.7	F
Taney	3	0	0	1.0	C
St. Louis City	26	1	0	9.2	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.1	PASS
0	0	0	0.0	A	11.0	PASS
0	0	0	0.0	A	9.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.3	PASS
2	0	0	0.7	B	10.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	10.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	1	0	1.5	C	11.7	PASS

## American Lung Association in Montana

3919 Heritage Way  
 Missoula MT 59802  
 (406) 728-0368  
[www.lung.org/montana](http://www.lung.org/montana)

## AT-RISK GROUPS

County	Total Population			Lung Diseases			Other Health Conditions		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Fergus	11,435	2,220	2,590	170	862	651	947	777	1,568
Flathead	91,633	20,769	14,420	1,589	6,684	4,451	6,096	5,292	12,942
Gallatin	92,614	18,965	9,536	1,451	7,067	3,726	4,757	4,187	11,859
Glacier	13,711	4,358	1,441	334	890	524	685	610	4,073
Lewis and Clark	64,876	14,289	9,626	1,094	4,780	3,097	4,193	3,671	7,101
Lincoln	19,491	3,696	4,402	283	1,473	1,139	1,646	1,377	3,986
Missoula	110,977	21,388	13,807	1,637	8,559	4,833	6,353	5,511	16,277
Phillips	4,128	877	861	67	304	229	329	277	654
Powder River	1,763	315	420	24	135	106	154	128	206
Ravalli	40,617	8,468	8,545	648	3,008	2,243	3,223	2,690	6,566
Richland	10,810	2,564	1,488	196	781	492	660	579	1,019
Rosebud	9,396	2,751	1,162	211	629	397	529	470	1,724
Sanders	11,408	2,222	2,721	170	855	678	991	819	2,733
Silver Bow	34,403	7,202	5,726	551	2,570	1,693	2,342	1,993	6,252
<b>Totals</b>	<b>517,262</b>	<b>110,084</b>	<b>76,745</b>	<b>8,425</b>	<b>38,597</b>	<b>24,257</b>	<b>32,904</b>	<b>28,381</b>	<b>76,960</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Fergus	INC	INC	INC	INC	INC
Flathead	0	0	0	0.0	A
Gallatin	DNC	DNC	DNC	DNC	DNC
Glacier	INC	INC	INC	INC	INC
Lewis and Clark	INC	INC	INC	INC	INC
Lincoln	DNC	DNC	DNC	DNC	DNC
Missoula	0	0	0	0.0	A
Phillips	INC	INC	INC	INC	INC
Powder River	0	0	0	0.0	A
Ravalli	DNC	DNC	DNC	DNC	DNC
Richland	0	0	0	0.0	A
Rosebud	0	0	0	0.0	A
Sanders	DNC	DNC	DNC	DNC	DNC
Silver Bow	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	INC	INC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
20	4	0	8.7	F	8.9	PASS
2	0	0	0.7	B	11.5	PASS
15	7	0	8.5	F	10.8	PASS
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	INC	INC
24	26	4	23.7	F	11.0	PASS
0	0	0	0.0	A	6.9	PASS
3	0	0	1.0	C	INC	INC
INC	INC	INC	INC	INC	INC	INC
24	5	0	10.5	F	10.3	PASS

## American Lung Association in Nebraska

8990 W. Dodge Road, Suite 226  
 Omaha, NE 68114  
 (402) 502-4250  
[www.lung.org/nebraska](http://www.lung.org/nebraska)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Douglas	531,265	139,062	58,328	9,630	29,262	19,561	26,981	29,141	78,102
Hall	60,345	16,485	8,214	1,142	3,242	2,349	3,415	3,555	9,413
Knox	8,573	2,059	1,998	143	468	422	687	661	993
Lancaster	293,407	67,464	33,371	4,672	16,914	11,036	15,145	16,333	37,715
Sarpy	165,853	46,823	15,522	3,242	8,904	5,790	7,779	8,585	12,597
Scotts Bluff	36,964	9,121	6,278	632	2,042	1,582	2,399	2,422	5,788
Washington	20,252	4,895	3,061	339	1,124	872	1,291	1,340	1,451
<b>Totals</b>	<b>1,116,659</b>	<b>285,909</b>	<b>126,772</b>	<b>19,799</b>	<b>61,956</b>	<b>41,613</b>	<b>57,697</b>	<b>62,036</b>	<b>146,059</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Douglas	4	0	0	1.3	C
Hall	DNC	DNC	DNC	DNC	DNC
Knox	INC	INC	INC	INC	INC
Lancaster	0	0	0	0.0	A
Sarpy	DNC	DNC	DNC	DNC	DNC
Scotts Bluff	1	0	0	0.3	B
Washington	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
4	0	0	1.3	C	10.9	PASS
0	0	0	0.0	A	7.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.7	PASS
3	0	0	1.0	C	11.5	PASS
0	0	0	0.0	A	INC	INC
1	0	0	0.3	B	9.3	PASS

## American Lung Association in Nevada

3552 W. Cheyenne Avenue, Suite 130  
 North Las Vegas NV 89032  
 (702) 431-6333  
[www.lung.org/nevada](http://www.lung.org/nevada)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Carson City	54,838	11,563	9,725	745	3,265	3,694	4,330	4,334	8,244
Churchill	24,375	5,894	4,013	379	1,388	1,542	1,806	1,812	3,565
Clark	2,000,759	490,544	245,958	31,584	110,956	109,496	127,890	130,668	324,535
Lyon	51,327	12,166	9,264	783	2,973	3,453	4,051	4,040	7,737
Washoe	429,908	98,841	57,328	6,364	24,532	25,106	29,362	29,847	74,476
White Pine	10,042	2,130	1,517	137	591	633	741	748	1,167
<b>Totals</b>	<b>2,571,249</b>	<b>621,138</b>	<b>327,805</b>	<b>39,993</b>	<b>143,705</b>	<b>143,924</b>	<b>168,179</b>	<b>171,450</b>	<b>419,724</b>

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Churchill	0	0	0	0.0	A
Clark	59	0	0	19.7	F
Lyon	3	0	0	1.0	C
Washoe	5	0	0	1.7	C
White Pine	5	0	0	1.7	C
Carson City	0	0	0	0.0	A

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	1	0	1.2	C	7.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	6.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# NEW HAMPSHIRE

## American Lung Association in New Hampshire

1800 Elm Street, Unit D  
 Manchester, NH 03104  
 (603) 410-5108  
[www.lung.org/newhampshire](http://www.lung.org/newhampshire)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Belknap	60,327	12,096	10,914	1,262	4,838	3,058	4,153	4,875	6,609
Cheshire	76,851	14,623	12,193	1,525	6,371	3,699	4,830	5,688	8,260
Coos	32,096	5,743	6,663	599	2,620	1,726	2,403	2,787	4,176
Grafton	89,181	15,669	14,956	1,635	7,518	4,398	5,784	6,772	9,594
Hillsborough	402,922	90,663	51,771	9,458	32,197	17,956	22,666	27,254	37,537
Merrimack	146,761	30,417	21,736	3,173	11,874	6,943	9,017	10,752	14,333
Rockingham	297,820	64,124	41,400	6,689	23,797	13,961	18,013	21,738	18,642
<b>Totals</b>	<b>1,105,958</b>	<b>233,335</b>	<b>159,633</b>	<b>24,341</b>	<b>89,215</b>	<b>51,741</b>	<b>66,865</b>	<b>79,866</b>	<b>99,151</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Belknap	1	0	0	0.3	B
Cheshire	0	0	0	0.0	A
Coos	2	0	0	0.7	B
Grafton	0	0	0	0.0	A
Hillsborough	8	0	0	2.7	D
Merrimack	1	0	0	0.3	B
Rockingham	6	0	0	2.0	C

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	6.0	PASS
6	0	0	2.0	C	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	6.8	PASS
0	0	0	0.0	A	7.9	PASS
1	0	0	0.3	B	8.7	PASS
0	1	0	0.5	B	7.7	PASS

# NEW JERSEY

## American Lung Association in New Jersey

1031 Route 22 West Suite 203  
 Bridgewater, NJ 08807-2919  
 (908) 685-8040  
[www.lung.org/newjersey](http://www.lung.org/newjersey)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Atlantic	275,422	62,646	41,301	5,505	18,384	12,063	16,517	20,466	38,245
Bergen	918,888	201,282	143,236	17,687	61,906	41,034	56,506	69,838	72,647
Camden	513,539	121,732	69,475	10,697	34,068	21,490	28,760	35,928	63,861
Cumberland	157,785	37,525	20,706	3,297	10,506	6,451	8,494	10,642	27,144
Essex	787,744	192,607	94,300	16,925	52,108	31,422	40,894	51,615	132,434
Gloucester	289,586	68,202	38,449	5,993	19,227	12,184	16,347	20,457	24,404
Hudson	652,302	133,176	68,796	11,702	46,075	25,443	31,170	40,039	107,096
Hunterdon	127,050	28,081	17,919	2,468	8,493	5,735	7,968	9,933	5,664
Mercer	368,303	81,582	48,586	7,169	25,008	15,468	20,456	25,661	36,894
Middlesex	823,041	183,858	105,607	16,156	55,866	34,112	44,752	56,272	77,061
Monmouth	629,384	144,249	92,653	12,675	41,794	27,797	38,330	47,566	45,472
Morris	497,999	113,911	73,115	10,010	33,127	21,901	30,104	37,368	23,017
Ocean	580,470	134,916	125,053	11,855	37,774	28,080	41,034	49,111	62,772
Passaic	502,885	122,743	63,459	10,786	33,208	20,349	26,756	33,612	76,698
Union	543,976	130,691	69,743	11,484	36,015	22,374	29,663	37,222	58,609
Warren	107,653	24,211	16,022	2,127	7,188	4,783	6,598	8,184	7,285
<b>Totals</b>	<b>7,776,027</b>	<b>1,781,412</b>	<b>1,088,420</b>	<b>156,537</b>	<b>520,746</b>	<b>330,687</b>	<b>444,347</b>	<b>553,916</b>	<b>859,303</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Atlantic	12	0	0	4.0	F
Bergen	17	0	0	5.7	F
Camden	40	4	0	15.3	F
Cumberland	17	0	0	5.7	F
Essex	24	0	0	8.0	F
Gloucester	39	2	0	14.0	F
Hudson	13	1	0	4.8	F
Hunterdon	21	0	0	7.0	F
Mercer	35	0	0	11.7	F
Middlesex	37	0	0	12.3	F
Monmouth	23	1	0	8.2	F
Morris	15	0	0	5.0	F
Ocean	34	1	0	11.8	F
PASSaic	8	0	0	2.7	D
Union	DNC	DNC	DNC	DNC	DNC
Warren	INC	INC	INC	INC	INC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	8.9	PASS
1	0	0	0.3	B	9.2	PASS
0	0	0	0.0	A	9.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.5	PASS
0	0	0	0.0	A	9.3	PASS
3	0	0	1.0	C	11.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.5	PASS
0	0	0	0.0	A	8.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.4	PASS
0	0	0	0.0	A	8.5	PASS
1	0	0	0.3	B	9.3	PASS
4	0	0	1.3	C	11.2	PASS
2	0	0	0.7	B	9.4	PASS

## American Lung Association in New Mexico

5911 Jefferson Street, NE  
 Albuquerque, NM 87109  
 (505) 265-0732  
[www.lung.org/newmexico](http://www.lung.org/newmexico)

## AT-RISK GROUPS

County	Total Population			Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
	Under 18	65 & Over		Pediatric Asthma	Adult Asthma	COPD			
Bernalillo	673,460	158,500	88,092	11,628	47,323	33,359	38,610	51,237	119,527
Chaves	65,784	18,333	9,438	1,345	4,381	3,222	3,802	4,919	13,897
Doña Ana	214,445	56,374	27,868	4,136	14,485	10,165	11,743	15,414	55,752
Eddy	54,419	13,935	7,711	1,022	3,743	2,743	3,231	4,231	8,349
Grant	29,388	6,196	6,681	455	2,183	1,841	2,296	2,805	6,455
Lea	66,338	19,659	7,123	1,442	4,264	2,889	3,281	4,416	9,875
Luna	25,041	6,645	5,013	487	1,716	1,393	1,712	2,089	6,688
San Juan	128,529	36,430	15,009	2,673	8,457	5,899	6,792	9,094	25,802
Sandoval	135,588	34,396	18,355	2,523	9,364	6,824	8,017	10,621	18,502
Santa Fe	146,375	29,652	25,211	2,175	10,903	8,451	10,194	13,190	24,714
Valencia	76,631	19,561	10,682	1,435	5,285	3,883	4,579	6,033	16,628
<b>Totals</b>	<b>1,615,998</b>	<b>399,681</b>	<b>221,183</b>	<b>29,321</b>	<b>112,104</b>	<b>80,669</b>	<b>94,258</b>	<b>124,049</b>	<b>306,189</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Bernalillo	10	0	0	3.3	F
Chaves	DNC	DNC	DNC	DNC	DNC
Doña Ana	8	0	0	2.7	D
Eddy	4	0	0	1.3	C
Grant	3	0	0	1.0	C
Lea	0	0	0	0.0	A
Luna	0	0	0	0.0	A
Sandoval	0	0	0	0.0	A
San Juan	3	0	0	1.0	C
Santa Fe	0	0	0	0.0	A
Valencia	1	0	0	0.3	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
7	1	0	2.8	D	6.5	PASS
INC	INC	INC	INC	INC	INC	INC
24	9	0	12.5	F	13.5	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
1	0	0	0.3	B	7.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	4.7	PASS
1	0	0	0.3	B	4.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in New York

418 Broadway, First Floor  
Albany, NY 12207  
(518) 465-2013  
[www.lung.org/newyork](http://www.lung.org/newyork)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Albany	305,455	58,590	44,519	5,360	22,855	15,304	19,786	23,987	40,180
Bronx	1,408,473	368,422	154,013	33,707	95,581	59,885	74,256	91,835	422,828
Chautauqua	133,539	28,348	23,101	2,594	9,815	7,049	9,464	11,261	26,866
Chemung	88,911	19,594	14,340	1,793	6,460	4,561	6,082	7,271	12,900
Dutchess	297,322	63,189	43,004	5,781	21,775	14,912	19,647	23,692	27,335
Erie	919,086	192,970	147,944	17,655	67,573	47,300	62,711	75,118	125,562
Essex	38,961	7,151	7,762	654	2,984	2,236	3,069	3,615	5,196
Franklin	51,795	10,355	7,231	947	3,840	2,567	3,327	4,038	8,446
Hamilton	4,778	740	1,197	68	384	314	450	521	490
Herkimer	64,508	13,780	11,553	1,261	4,745	3,467	4,702	5,573	8,345
Jefferson	120,262	29,910	13,809	2,736	8,289	5,180	6,380	7,893	17,454
Kings	2,565,635	603,223	301,143	55,189	180,310	113,525	140,862	173,884	615,319
Madison	72,382	15,027	10,830	1,375	5,336	3,678	4,857	5,845	8,907
Monroe	747,813	163,317	109,880	14,942	54,234	36,939	48,270	58,250	107,493
Nassau	1,349,233	303,367	213,134	27,755	97,555	68,930	92,174	110,206	91,232
New York	1,619,090	240,870	225,451	22,037	126,450	79,951	98,814	121,715	278,736
Niagara	215,124	44,736	35,607	4,093	15,908	11,337	15,224	18,162	30,995
Oneida	233,556	49,886	39,254	4,564	17,120	12,177	16,271	19,408	36,510
Onondaga	466,852	103,694	68,315	9,487	33,723	23,046	30,209	36,428	67,790
Orange	374,512	98,383	44,049	9,001	25,571	16,784	21,616	26,385	45,378
Oswego	121,700	26,925	16,438	2,463	8,796	5,910	7,704	9,340	19,469
Putnam	99,607	22,246	13,667	2,035	7,223	4,991	6,663	8,026	6,150
Queens	2,272,771	465,957	300,295	42,631	166,728	108,480	137,798	168,445	365,573
Rensselaer	159,835	33,080	22,887	3,027	11,763	7,956	10,384	12,560	17,897
Richmond	470,728	106,714	64,414	9,763	33,764	22,711	29,562	35,815	56,204

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Rockland	317,757	87,754	45,230	8,029	21,382	14,803	19,523	23,456	47,759
Saratoga	222,133	48,177	32,792	4,408	16,201	11,209	14,859	17,871	14,514
Schenectady	155,124	34,461	23,472	3,153	11,222	7,766	10,253	12,323	18,733
Steuben	99,063	22,433	16,570	2,052	7,162	5,159	6,962	8,282	15,243
Suffolk	1,499,273	345,905	216,841	31,647	107,310	73,919	97,624	117,523	108,247
Tompkins	102,554	16,026	11,795	1,466	7,895	4,717	5,611	7,045	15,902
Ulster	181,791	34,874	29,382	3,191	13,700	9,634	12,860	15,397	23,621
Wayne	92,962	21,147	14,374	1,935	6,710	4,756	6,394	7,643	11,015
Westchester	961,670	225,246	146,002	20,608	68,542	47,756	63,284	75,921	95,453
<b>Totals</b>	<b>17,834,255</b>	<b>3,906,497</b>	<b>2,470,295</b>	<b>357,407</b>	<b>1,288,905</b>	<b>858,908</b>	<b>1,107,655</b>	<b>1,344,730</b>	<b>2,793,742</b>

# NEW YORK

## American Lung Association in New York

418 Broadway, First Floor  
Albany, NY 12207  
(518) 465-2013  
[www.lung.org/newyork](http://www.lung.org/newyork)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Albany	6	0	0	2.0	C
Bronx	10	0	0	3.3	F
Chautauqua	19	1	0	6.8	F
Chemung	1	0	0	0.3	B
Dutchess	7	1	0	2.8	D
Erie	8	0	0	2.7	D
Essex	8	0	0	2.7	D
Franklin	0	0	0	0.0	A
Hamilton	2	0	0	0.7	B
Herkimer	0	0	0	0.0	A
Jefferson	13	0	0	4.3	F
Kings	DNC	DNC	DNC	DNC	DNC
Madison	1	0	0	0.3	B
Monroe	2	0	0	0.7	B
Nassau	DNC	DNC	DNC	DNC	DNC
New York	10	0	0	3.3	F
Niagara	8	0	0	2.7	D
Oneida	0	0	0	0.0	A
Onondaga	5	0	0	1.7	C
Orange	4	0	0	1.3	C
Oswego	2	0	0	0.7	B
Putnam	6	0	0	2.0	C
Queens	17	1	0	6.2	F
Rensselaer	2	0	0	0.7	B
Richmond	27	1	0	9.5	F
Rockland	10	0	0	3.3	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	8.1	PASS
3	0	0	1.0	C	9.8	PASS
0	0	0	0.0	A	7.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.6	PASS
0	0	0	0.0	A	4.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	INC	INC
INC	INC	INC	INC	INC	INC	INC
1	0	0	0.3	B	11.8	PASS
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.6	PASS
1	0	0	0.3	B	8.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Saratoga	0	0	0	0.0	A
Schenectady	INC	INC	INC	INC	INC
Steuben	0	0	0	0.0	A
Suffolk	31	3	0	11.8	F
Tompkins	INC	INC	INC	INC	INC
Ulster	1	0	0	0.3	B
Wayne	2	0	0	0.7	B
Westchester	10	1	0	3.8	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	7.0	PASS
0	0	0	0.0	A	8.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC

# NORTH CAROLINA

## American Lung Association in North Carolina

514 Daniels Street, #109  
 Raleigh, NC 27605  
 (919) 719-9960  
[www.lung.org/northcarolina](http://www.lung.org/northcarolina)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Alamance	153,920	35,460	23,540	3,118	9,045	8,325	11,061	12,801	29,249
Alexander	36,853	8,040	6,230	707	2,196	2,109	2,845	3,273	6,108
Avery	17,635	2,912	3,337	256	1,117	1,066	1,454	1,655	3,457
Buncombe	244,490	49,105	41,595	4,318	14,877	14,004	18,853	21,654	42,062
Caldwell	81,930	17,810	13,610	1,566	4,893	4,696	6,310	7,282	16,502
Carteret	67,632	12,573	13,733	1,105	4,172	4,248	5,886	6,677	10,227
Caswell	23,217	4,505	4,205	396	1,426	1,412	1,916	2,203	4,545
Catawba	154,339	35,733	23,737	3,142	9,066	8,481	11,275	13,078	28,114
Chatham	65,976	13,879	14,268	1,220	3,924	4,097	5,789	6,482	8,292
Cumberland	324,049	85,186	32,631	7,490	18,411	14,805	18,383	21,999	53,583
Davidson	163,260	37,870	25,647	3,330	9,581	9,079	12,115	14,037	26,602
Davie	41,433	9,368	7,469	824	2,438	2,432	3,325	3,804	5,257
Duplin	60,033	15,246	8,949	1,340	3,421	3,169	4,214	4,880	13,982
Durham	279,641	63,228	29,044	5,559	16,686	13,339	16,512	19,789	52,102
Edgecombe	55,954	13,377	8,781	1,176	3,252	3,089	4,129	4,779	15,308
Forsyth	358,137	85,896	48,680	7,552	20,872	18,641	24,282	28,438	73,689
Franklin	61,475	14,568	8,636	1,281	3,600	3,319	4,343	5,094	9,960
Gaston	208,049	48,925	29,630	4,302	12,193	11,131	14,603	17,063	36,415
Graham	8,700	1,845	1,812	162	517	532	747	839	1,924
Granville	60,436	12,802	8,345	1,126	3,662	3,323	4,309	5,080	10,706
Guilford	500,879	115,535	65,274	10,158	29,571	25,754	33,225	39,059	88,071
Haywood	58,908	11,098	13,164	976	3,599	3,755	5,313	5,941	9,384
Jackson	40,448	7,145	6,762	628	2,533	2,270	3,034	3,476	8,270
Johnston	174,938	47,755	19,783	4,199	9,802	8,490	10,785	12,838	29,107
Lenoir	59,227	13,963	9,997	1,228	3,448	3,354	4,540	5,217	13,831

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Lincoln	79,313	18,133	11,535	1,594	4,694	4,383	5,759	6,746	11,483
Macon	33,869	6,501	8,527	572	2,044	2,229	3,237	3,563	6,843
Martin	23,961	5,116	4,620	450	1,430	1,455	2,009	2,286	5,873
McDowell	44,998	9,593	7,850	843	2,695	2,607	3,533	4,052	8,785
Mecklenburg	969,031	242,487	91,024	21,320	56,184	44,862	54,915	66,444	153,049
Mitchell	15,368	2,879	3,434	253	940	981	1,388	1,552	3,027
Montgomery	27,668	6,604	4,794	581	1,601	1,555	2,120	2,421	6,278
New Hanover	209,234	40,925	30,911	3,598	12,863	11,301	14,807	17,202	32,217
Person	39,268	8,738	6,363	768	2,333	2,244	3,003	3,479	6,283
Pitt	172,554	38,322	18,082	3,369	10,340	8,191	10,143	12,129	39,993
Robeson	135,496	36,198	16,210	3,183	7,633	6,618	8,480	10,020	45,611
Rockingham	92,720	19,845	16,136	1,745	5,554	5,434	7,358	8,462	17,539
Rowan	138,180	31,845	21,443	2,800	8,122	7,586	10,102	11,698	25,671
Swain	14,141	3,262	2,504	287	826	802	1,096	1,249	2,906
Union	208,520	61,372	21,975	5,396	11,367	9,871	12,453	14,920	23,976
Wake	952,151	242,741	87,967	21,343	54,933	44,354	54,229	65,833	108,105
Watauga	51,871	7,081	6,890	623	3,429	2,723	3,453	4,046	13,639
Wayne	124,246	30,306	16,980	2,665	7,198	6,435	8,399	9,820	28,283
Yancey	17,630	3,428	3,853	301	1,070	1,109	1,565	1,753	3,551
<b>Totals</b>	<b>6,651,778</b>	<b>1,579,200</b>	<b>849,957</b>	<b>138,850</b>	<b>389,555</b>	<b>339,662</b>	<b>437,299</b>	<b>515,119</b>	<b>1,139,859</b>

# NORTH CAROLINA

## American Lung Association in North Carolina

514 Daniels Street, #109  
 Raleigh, NC 27605  
 (919) 719-9960  
[www.lung.org/northcarolina](http://www.lung.org/northcarolina)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Alamance	DNC	DNC	DNC	DNC	DNC
Alexander	4	0	0	1.3	C
Avery	2	0	0	0.7	B
Buncombe	3	0	0	1.0	C
Caldwell	2	0	0	0.7	B
Carteret	INC	INC	INC	INC	INC
Caswell	6	0	0	2.0	C
Catawba	DNC	DNC	DNC	DNC	DNC
Chatham	1	0	0	0.3	B
Cumberland	8	0	0	2.7	D
Davidson	DNC	DNC	DNC	DNC	DNC
Davie	7	0	0	2.3	D
Duplin	DNC	DNC	DNC	DNC	DNC
Durham	5	0	0	1.7	C
Edgecombe	3	0	0	1.0	C
Forsyth	23	0	0	7.7	F
Franklin	3	0	0	1.0	C
Gaston	DNC	DNC	DNC	DNC	DNC
Graham	6	0	0	2.0	C
Granville	6	0	0	2.0	C
Guilford	13	0	0	4.3	F
Haywood	8	0	0	2.7	D
Jackson	6	0	0	2.0	C
Johnston	4	1	0	1.8	C
Lenoir	2	0	0	0.7	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	9.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.9	PASS
0	0	0	0.0	A	10.3	PASS
0	0	0	0.0	A	8.2	PASS
0	0	0	0.0	A	10.0	PASS
0	0	0	0.0	A	11.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.7	PASS
0	0	0	0.0	A	9.2	PASS
0	0	0	0.0	A	8.9	PASS
0	0	0	0.0	A	9.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.4	PASS
0	0	0	0.0	A	9.9	PASS
0	0	0	0.0	A	9.2	PASS
1	0	0	0.3	B	8.9	PASS
1	1	0	0.8	B	9.0	PASS

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Lincoln	12	0	0	4.0	F
McDowell	DNC	DNC	DNC	DNC	DNC
Macon	INC	INC	INC	INC	INC
Martin	2	0	0	0.7	B
Mecklenburg	38	1	0	13.2	F
Mitchell	DNC	DNC	DNC	DNC	DNC
Montgomery	INC	INC	INC	INC	INC
New Hanover	2	0	0	0.7	B
Person	8	0	0	2.7	D
Pitt	4	1	0	1.8	C
Robeson	DNC	DNC	DNC	DNC	DNC
Rockingham	9	0	0	3.0	D
Rowan	29	1	0	10.2	F
Swain	0	0	0	0.0	A
Union	4	1	0	1.8	C
Wake	13	0	0	4.3	F
Watauga	DNC	DNC	DNC	DNC	DNC
Wayne	DNC	DNC	DNC	DNC	DNC
Yancey	6	0	0	2.0	C

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.5	PASS
0	0	0	0.0	A	10.9	PASS
0	0	0	0.0	A	9.0	PASS
0	0	0	0.0	A	9.0	PASS
1	0	0	0.3	B	7.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.4	PASS
0	0	0	0.0	A	9.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.1	PASS
0	0	0	0.0	A	9.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	1	0	0.5	B	10.0	PASS
0	0	0	0.0	A	8.1	PASS
0	0	0	0.0	A	9.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# NORTH DAKOTA

## American Lung Association in North Dakota

212 N. 2nd Street  
 Bismarck, ND 58501  
 (701) 223-5613  
[www.lung.org/northdakota](http://www.lung.org/northdakota)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Billings	905	172	154	11	55	33	62	69	80
Burke	2,171	473	410	31	127	80	155	169	187
Burleigh	85,774	19,049	11,961	1,239	5,051	2,707	4,958	5,593	5,625
Cass	156,157	33,657	16,143	2,190	9,426	4,283	7,368	8,606	16,446
Dunn	3,967	815	611	53	235	137	257	288	395
McKenzie	7,987	2,127	924	138	440	232	421	482	891
Mercer	8,486	1,825	1,421	119	490	309	592	657	576
Oliver	1,838	398	313	26	105	68	132	146	195
<b>Totals</b>	<b>267,285</b>	<b>58,516</b>	<b>31,937</b>	<b>3,807</b>	<b>15,929</b>	<b>7,850</b>	<b>13,945</b>	<b>16,009</b>	<b>24,395</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Billings	0	0	0	0.0	A
Burke	0	0	0	0.0	A
Burleigh	0	0	0	0.0	A
Cass	0	0	0	0.0	A
Dunn	0	0	0	0.0	A
McKenzie	0	0	0	0.0	A
Mercer	0	0	0	0.0	A
Oliver	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	4.4	PASS
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	6.8	PASS
0	0	0	0.0	A	8.0	PASS
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	6.2	PASS
INC	INC	INC	INC	INC	INC	INC

## American Lung Association in Ohio

5900 Wilcox Place  
Columbus, OH 43016  
(614) 279-1700  
[www.lung.org/ohio](http://www.lung.org/ohio)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Allen	105,141	24,736	16,098	2,125	8,401	6,918	8,055	9,461	19,903
Ashtabula	100,389	22,994	16,489	1,976	8,030	6,855	8,150	9,513	19,670
Athens	64,304	10,077	6,847	866	5,868	3,997	4,013	4,974	18,338
Butler	370,589	91,349	45,796	7,849	29,503	23,237	25,676	30,954	50,091
Clark	137,206	31,731	23,302	2,726	10,936	9,313	11,161	12,948	26,589
Clermont	199,085	49,457	25,569	4,250	15,722	12,794	14,367	17,260	22,582
Clinton	41,886	10,145	6,025	872	3,322	2,732	3,144	3,722	6,303
Cuyahoga	1,265,111	278,299	201,311	23,913	102,873	85,744	100,502	117,835	233,101
Delaware	181,061	50,747	19,060	4,360	13,805	10,850	11,723	14,350	8,885
Fayette	28,880	6,973	4,577	599	2,281	1,910	2,253	2,633	4,991
Franklin	1,195,537	284,836	123,922	24,474	97,484	71,642	74,871	92,207	210,197
Geauga	93,680	22,997	15,835	1,976	7,273	6,497	7,870	9,155	7,416
Greene	163,587	34,037	23,713	2,925	13,639	10,818	12,252	14,542	19,994
Hamilton	802,038	187,133	109,667	16,079	64,714	51,702	58,327	69,543	155,194
Jefferson	68,389	13,493	12,818	1,159	5,661	4,940	6,021	6,940	11,077
Knox	60,705	14,228	9,415	1,223	4,852	4,009	4,683	5,493	9,144
Lake	229,582	49,197	39,008	4,227	18,687	16,071	19,195	22,368	22,037
Lawrence	62,109	14,242	10,098	1,224	4,980	4,183	4,948	5,774	11,042
Licking	167,537	40,296	23,926	3,462	13,314	10,976	12,609	14,955	22,848
Lorain	301,478	69,895	46,204	6,006	24,141	20,213	23,595	27,772	42,107
Lucas	437,998	102,334	60,615	8,793	35,298	28,299	32,034	38,134	96,810
Madison	43,053	9,555	5,752	821	3,528	2,822	3,159	3,788	4,772
Mahoning	235,145	49,231	43,376	4,230	19,180	16,699	20,345	23,447	43,325
Medina	173,684	42,123	24,909	3,619	13,728	11,525	13,309	15,793	13,079
Miami	103,060	24,264	16,890	2,085	8,178	6,959	8,280	9,651	12,752



## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Montgomery	534,325	120,681	84,853	10,369	43,161	35,707	41,846	48,984	96,985
Noble	14,579	2,712	3,395	233	1,200	1,136	1,471	1,653	2,073
Portage	161,451	32,010	22,173	2,750	13,666	10,744	11,973	14,342	22,736
Preble	41,886	9,872	6,788	848	3,322	2,836	3,367	3,933	5,091
Scioto	78,477	17,501	12,599	1,504	6,365	5,243	6,149	7,187	18,245
Stark	374,868	83,603	63,300	7,184	30,217	25,716	30,698	35,705	53,788
Summit	540,811	119,480	83,156	10,266	43,985	36,528	42,470	50,034	84,399
Trumbull	207,406	44,535	38,118	3,827	16,791	14,676	17,905	20,632	35,991
Warren	217,241	57,443	25,828	4,936	16,854	13,476	14,904	18,022	13,862
Washington	61,475	12,547	11,304	1,078	5,052	4,382	5,323	6,142	9,655
Wood	128,200	26,669	16,690	2,292	10,768	8,244	9,048	10,882	16,533
<b>Totals</b>	<b>8,991,953</b>	<b>2,061,422</b>	<b>1,299,426</b>	<b>177,127</b>	<b>726,782</b>	<b>590,391</b>	<b>675,697</b>	<b>800,729</b>	<b>1,451,605</b>

## American Lung Association in Ohio

5900 Wilcox Place  
Columbus, OH 43016  
(614) 279-1700  
[www.lung.org/ohio](http://www.lung.org/ohio)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Allen	17	0	0	5.7	F
Ashtabula	19	1	0	6.8	F
Athens	INC	INC	INC	INC	INC
Butler	44	0	0	14.7	F
Clark	16	0	0	5.3	F
Clermont	22	3	0	8.8	F
Clinton	24	1	0	8.5	F
Cuyahoga	34	1	0	11.8	F
Delaware	7	1	0	2.8	D
Fayette	INC	INC	INC	INC	INC
Franklin	23	1	0	8.2	F
Geauga	15	2	0	6.0	F
Greene	11	0	0	3.7	F
Hamilton	46	3	0	16.8	F
Jefferson	7	0	0	2.3	D
Knox	7	1	0	2.8	D
Lake	40	1	0	13.8	F
Lawrence	7	0	0	2.3	D
Licking	11	1	0	4.2	F
Lorain	10	0	0	3.3	F
Lucas	20	0	0	6.7	F
Madison	15	0	0	5.0	F
Mahoning	9	0	0	3.0	D
Medina	4	0	0	1.3	C
Miami	7	1	0	2.8	D
Montgomery	26	0	0	8.7	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	8.9	PASS
1	0	0	0.3	B	12.5	FAIL
0	0	0	0.0	A	11.9	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
8	0	0	2.7	D	13.0	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	11.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.4	PASS
5	0	0	1.7	C	13.4	FAIL
2	0	0	0.7	B	12.2	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.6	PASS
0	0	0	0.0	A	11.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.7	PASS
2	0	0	0.7	B	11.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	11.3	PASS
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	12.3	FAIL

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Noble	INC	INC	INC	INC	INC
Portage	3	0	0	1.0	C
Preble	9	0	0	3.0	D
Scioto	DNC	DNC	DNC	DNC	DNC
Stark	20	1	0	7.2	F
Summit	11	0	0	3.7	F
Trumbull	15	1	0	5.5	F
Warren	19	0	0	6.3	F
Washington	8	0	0	2.7	D
Wood	8	0	0	2.7	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.3	PASS
1	0	0	0.3	B	10.7	PASS
0	0	0	0.0	A	10.6	PASS
6	0	0	2.0	C	13.0	FAIL
6	0	0	2.0	C	12.0	PASS
0	0	0	0.0	A	10.6	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Oklahoma

710 W. Wilshire Bldg 730, Ste 105  
 Oklahoma City, OK 73116  
 (405) 748-4674  
[www.lung.org/oklahoma](http://www.lung.org/oklahoma)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Adair	22,286	6,102	3,060	522	1,646	1,234	1,684	1,889	5,827
Caddo	29,678	7,509	4,437	642	2,252	1,704	2,356	2,618	5,908
Canadian	122,560	32,470	14,084	2,777	9,169	6,487	8,534	9,823	10,007
Carter	48,085	12,256	7,318	1,048	3,640	2,783	3,862	4,281	7,466
Cherokee	48,150	11,392	6,912	974	3,730	2,688	3,682	4,108	11,424
Cleveland	265,638	59,773	29,310	5,112	20,923	13,897	18,013	20,886	31,533
Comanche	126,390	31,212	13,176	2,669	9,670	6,314	8,145	9,468	20,248
Cotton	6,155	1,453	1,071	124	478	382	542	592	1,065
Creek	70,651	17,249	11,327	1,475	5,428	4,257	5,941	6,567	11,027
Dewey	4,783	1,174	930	100	366	304	442	475	594
Jefferson	6,377	1,503	1,229	129	494	407	590	635	1,320
Kay	45,831	11,473	8,012	981	3,485	2,765	3,947	4,288	8,299
Lincoln	34,189	8,445	5,628	722	2,618	2,097	2,940	3,242	5,891
Love	9,558	2,316	1,714	198	735	589	843	914	1,505
Mayes	41,168	10,479	6,680	896	3,117	2,444	3,433	3,775	8,716
McClain	35,613	9,378	4,960	802	2,670	2,037	2,775	3,122	3,843
McCurtain	33,203	8,615	5,397	737	2,497	1,955	2,753	3,021	7,991
Muskogee	70,596	17,523	10,710	1,499	5,390	4,073	5,644	6,259	14,632
Oklahoma	741,781	188,490	90,226	16,121	56,243	39,472	52,451	59,851	138,561
Osage	47,917	11,119	8,290	951	3,740	3,021	4,262	4,678	7,132
Ottawa	32,236	7,948	5,580	680	2,462	1,918	2,736	2,972	7,265
Pittsburg	45,048	10,029	7,806	858	3,554	2,784	3,936	4,306	8,311
Sequoyah	41,398	10,294	6,604	880	3,160	2,455	3,432	3,786	9,344
Tulsa	613,816	156,081	76,929	13,349	46,539	33,195	44,339	50,442	96,205
<b>Totals</b>	<b>2,543,107</b>	<b>634,283</b>	<b>331,390</b>	<b>54,247</b>	<b>194,005</b>	<b>139,262</b>	<b>187,281</b>	<b>211,999</b>	<b>424,114</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Adair	11	0	0	3.7	F
Caddo	16	0	0	5.3	F
Canadian	12	0	0	4.0	F
Carter	INC	INC	INC	INC	INC
Cherokee	11	0	0	3.7	F
Cleveland	22	0	0	7.3	F
Comanche	12	0	0	4.0	F
Cotton	INC	INC	INC	INC	INC
Creek	26	0	0	8.7	F
Dewey	11	0	0	3.7	F
Jefferson	INC	INC	INC	INC	INC
Kay	22	0	0	7.3	F
Lincoln	INC	INC	INC	INC	INC
Love	INC	INC	INC	INC	INC
McClain	17	0	0	5.7	F
McCurtain	1	0	0	0.3	B
Mayes	23	0	0	7.7	F
Muskogee	DNC	DNC	DNC	DNC	DNC
Oklahoma	47	0	0	15.7	F
Osage	8	1	0	3.2	D
Ottawa	12	0	0	4.0	F
Pittsburg	11	0	0	3.7	F
Sequoyah	10	0	0	3.3	F
Tulsa	48	2	0	17.0	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	INC	INC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	9.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
2	0	0	0.7	B	10.3	PASS
0	0	0	0.0	A	INC	INC
0	0	0	0.0	A	10.5	PASS

## American Lung Association in Oregon

7420 SW Bridgeport Road, Suite 200  
 Tigard, OR 97224-7711  
 (503) 924-4094  
[www.lung.org/oregon](http://www.lung.org/oregon)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Clackamas	383,857	87,157	57,393	6,411	31,475	18,814	27,250	30,710	35,640
Columbia	49,286	11,268	7,646	829	4,027	2,449	3,582	4,021	7,704
Crook	20,729	4,212	4,638	310	1,724	1,152	1,808	1,918	3,889
Deschutes	162,277	36,096	27,077	2,655	13,337	8,096	11,948	13,198	25,453
Harney	7,212	1,560	1,502	115	591	390	604	648	1,311
Jackson	206,412	44,155	38,867	3,248	17,071	10,681	16,138	17,497	36,832
Josephine	82,930	16,518	19,590	1,215	6,912	4,676	7,414	7,784	18,147
Klamath	65,912	14,361	12,056	1,056	5,429	3,380	5,082	5,536	12,933
Lake	7,771	1,394	1,706	103	667	442	687	737	1,455
Lane	354,542	68,183	57,263	5,015	30,364	17,729	25,659	28,503	76,710
Linn	118,360	27,979	19,202	2,058	9,558	5,747	8,451	9,331	20,653
Marion	319,985	83,317	43,636	6,129	25,171	14,329	20,364	22,889	62,869
Multnomah	759,256	153,741	84,859	11,309	64,951	34,238	45,837	53,507	136,065
Umatilla	76,820	20,129	10,165	1,481	6,035	3,424	4,843	5,473	12,730
Union	25,759	5,684	4,564	418	2,117	1,290	1,923	2,096	4,770
Washington	547,672	136,688	59,864	10,054	44,027	23,711	32,123	37,409	65,373
<b>Totals</b>	<b>3,188,780</b>	<b>712,442</b>	<b>450,028</b>	<b>52,405</b>	<b>263,456</b>	<b>150,548</b>	<b>213,713</b>	<b>241,256</b>	<b>522,534</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Clackamas	1	0	0	0.3	B
Columbia	0	0	0	0.0	A
Crook	DNC	DNC	DNC	DNC	DNC
Deschutes	0	0	0	0.0	A
Harney	DNC	DNC	DNC	DNC	DNC
Jackson	0	0	0	0.0	A
Josephine	DNC	DNC	DNC	DNC	DNC
Klamath	DNC	DNC	DNC	DNC	DNC
Lake	DNC	DNC	DNC	DNC	DNC
Lane	0	0	0	0.0	A
Linn	DNC	DNC	DNC	DNC	DNC
Marion	1	0	0	0.3	B
Multnomah	1	0	0	0.3	B
Umatilla	0	0	0	0.0	A
Union	DNC	DNC	DNC	DNC	DNC
Washington	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
4	0	0	1.3	C	8.7	PASS
INC	INC	INC	INC	INC	INC	INC
4	0	0	1.3	C	8.8	PASS
1	0	0	0.3	B	8.5	PASS
1	0	0	0.3	B	7.0	PASS
8	0	0	2.7	D	10.5	PASS
8	1	0	3.2	D	8.8	PASS
10	0	0	3.3	F	8.8	PASS
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	7.3	PASS
0	0	0	0.0	A	7.2	PASS
INC	INC	INC	INC	INC	INC	INC
5	0	0	1.7	C	7.3	PASS

# PENNSYLVANIA

## American Lung Association in Pennsylvania

3001 Old Gettysburg Road  
Camp Hill, PA 17011-7206  
(717) 541-5864  
[www.lung.org/pennsylvania](http://www.lung.org/pennsylvania)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Adams	101,482	21,597	17,326	2,244	8,018	5,464	7,596	8,479	9,552
Allegheny	1,229,338	237,163	208,167	24,647	100,057	66,353	91,550	102,032	151,371
Armstrong	68,409	13,541	13,237	1,407	5,454	3,910	5,557	6,156	9,117
Beaver	170,245	33,931	32,459	3,526	13,570	9,651	13,678	15,157	20,088
Berks	413,491	96,258	62,527	10,004	32,090	20,966	28,572	32,117	57,195
Blair	127,121	26,488	23,509	2,753	10,062	6,976	9,844	10,867	16,844
Bucks	627,053	138,538	97,956	14,398	49,119	33,310	45,627	51,702	35,979
Cambria	141,584	27,215	27,356	2,828	11,405	8,024	11,381	12,554	19,518
Centre	155,171	24,224	18,452	2,517	13,653	7,387	9,336	10,539	26,792
Chester	506,575	121,867	69,628	12,665	39,014	25,235	33,853	38,596	36,838
Clearfield	81,184	15,633	14,814	1,625	6,564	4,522	6,338	7,034	11,038
Cumberland	238,614	48,319	38,794	5,022	19,229	12,619	17,308	19,345	23,351
Dauphin	269,665	61,286	39,033	6,369	21,119	13,680	18,464	20,918	35,019
Delaware	561,098	128,084	82,189	13,311	43,914	28,298	38,270	43,168	63,245
Elk	31,550	6,288	6,206	653	2,504	1,822	2,599	2,880	2,842
Erie	280,646	62,383	42,131	6,483	22,126	14,278	19,369	21,781	42,611
Franklin	151,275	35,449	26,293	3,684	11,618	7,918	11,104	12,269	18,214
Greene	38,085	7,307	6,174	759	3,108	2,049	2,803	3,148	5,543
Indiana	88,218	16,361	14,317	1,700	7,292	4,662	6,358	7,080	14,377
Lackawanna	214,477	43,189	39,152	4,488	17,172	11,736	16,483	18,201	30,156
Lancaster	526,823	128,066	82,655	13,309	40,265	26,506	36,476	40,662	59,731
Lawrence	89,871	18,598	17,336	1,933	7,092	5,048	7,185	7,925	12,808
Lebanon	135,251	30,752	23,844	3,196	10,470	7,183	10,086	11,155	16,029
Lehigh	355,245	81,736	54,383	8,494	27,666	18,068	24,661	27,666	41,584
Luzerne	321,027	63,592	59,088	6,609	25,784	17,722	24,914	27,534	49,864



## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Lycoming	117,168	23,963	19,756	2,490	9,387	6,271	8,672	9,667	15,239
Mercer	115,655	24,245	22,118	2,520	9,111	6,420	9,127	10,046	15,327
Monroe	168,798	37,670	23,337	3,915	13,281	8,673	11,610	13,319	22,139
Montgomery	808,460	180,345	127,286	18,742	63,353	42,086	57,698	64,821	51,743
Northampton	299,267	63,084	49,216	6,556	23,792	15,897	21,914	24,518	31,391
Perry	45,701	10,356	6,709	1,076	3,567	2,372	3,215	3,662	4,893
Philadelphia	1,547,607	348,538	189,106	36,222	123,670	71,951	93,433	105,798	399,562
Somerset	76,957	14,382	15,028	1,495	6,230	4,424	6,281	6,942	8,972
Tioga	42,577	8,618	7,930	896	3,397	2,351	3,316	3,659	5,818
Washington	208,716	41,965	37,833	4,361	16,665	11,619	16,304	18,148	21,914
Westmoreland	363,395	70,020	71,311	7,277	29,137	20,974	29,857	33,054	38,648
York	437,846	99,895	65,587	10,382	34,163	22,446	30,512	34,470	45,462
<b>Totals</b>	<b>11,155,645</b>	<b>2,410,946</b>	<b>1,752,243</b>	<b>250,558</b>	<b>884,118</b>	<b>578,873</b>	<b>791,352</b>	<b>887,069</b>	<b>1,470,814</b>

# PENNSYLVANIA

## American Lung Association in Pennsylvania

3001 Old Gettysburg Road  
Camp Hill, PA 17011-7206  
(717) 541-5864  
[www.lung.org/pennsylvania](http://www.lung.org/pennsylvania)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	5	0	0	1.7	C
Allegheny	43	1	0	14.8	F
Armstrong	10	0	0	3.3	F
Beaver	12	0	0	4.0	F
Berks	16	0	0	5.3	F
Blair	13	0	0	4.3	F
Bucks	30	2	0	11.0	F
Cambria	6	0	0	2.0	C
Centre	10	0	0	3.3	F
Chester	27	0	0	9.0	F
Clearfield	6	0	0	2.0	C
Cumberland	DNC	DNC	DNC	DNC	DNC
Dauphin	13	0	0	4.3	F
Delaware	23	0	0	7.7	F
Elk	INC	INC	INC	INC	INC
Erie	14	1	0	5.2	F
Franklin	1	0	0	0.3	B
Greene	8	0	0	2.7	D
Indiana	23	0	0	7.7	F
Lackawanna	4	0	0	1.3	C
Lancaster	32	1	0	11.2	F
Lawrence	7	0	0	2.3	D
Lebanon	INC	INC	INC	INC	INC
Lehigh	21	0	0	7.0	F
Luzerne	2	0	0	0.7	B
Lycoming	1	0	0	0.3	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
3	0	0	1.0	C	11.6	PASS
50	5	0	19.2	F	14.8	FAIL
3	0	0	1.0	C	11.7	PASS
2	0	0	0.7	B	12.0	PASS
6	0	0	2.0	C	10.9	PASS
3	0	0	1.0	C	INC	INC
9	1	0	3.5	F	10.9	PASS
9	0	0	3.0	D	12.3	FAIL
6	0	0	2.0	C	9.5	PASS
8	0	0	2.7	D	12.3	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
14	0	0	4.7	F	11.0	PASS
9	0	0	3.0	D	11.9	PASS
5	0	0	1.7	C	13.1	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	0	0	0.7	B	9.1	PASS
14	0	0	4.7	F	12.1	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Mercer	20	1	0	7.2	F
Monroe	6	0	0	2.0	C
Montgomery	19	0	0	6.3	F
Northampton	15	0	0	5.0	F
Perry	5	0	0	1.7	C
Philadelphia	50	0	0	16.7	F
Somerset	INC	INC	INC	INC	INC
Tioga	4	0	0	1.3	C
Washington	9	0	0	3.0	D
Westmoreland	13	0	0	4.3	F
York	16	0	0	5.3	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	10.6	PASS
0	0	0	0.0	A	INC	INC
4	0	0	1.3	C	9.8	PASS
15	2	0	6.0	F	13.2	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
7	0	0	2.3	D	13.4	FAIL
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
5	0	0	1.7	C	11.1	PASS
10	0	0	3.3	F	12.6	FAIL
10	0	0	3.3	F	11.7	PASS

# RHODE ISLAND

## American Lung Association in Rhode Island

260 West Exchange Street, Suite 102-B  
Providence, RI 02903  
(401) 533-5171  
[www.lung.org/rhodeisland](http://www.lung.org/rhodeisland)

## AT-RISK GROUPS

County	Total Population			Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD				
Kent	164,843	32,596	27,486	2,965	14,212	8,884	11,851	13,682	15,711
Providence	628,323	134,879	86,614	12,268	53,284	31,063	39,466	46,256	104,821
Washington	125,946	23,743	20,731	2,160	10,990	6,817	9,043	10,471	10,805
<b>Totals</b>	<b>919,112</b>	<b>191,218</b>	<b>134,831</b>	<b>17,392</b>	<b>78,486</b>	<b>46,765</b>	<b>60,360</b>	<b>70,410</b>	<b>131,337</b>

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Kent	7	0	0	2.3	D
Providence	14	0	0	4.7	F
Washington	12	1	0	4.5	F

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
0	0	0	0.0	A	6.3	PASS
2	1	0	1.2	C	8.1	PASS
INC	INC	INC	INC	INC	INC	INC

# SOUTH CAROLINA

## American Lung Association in South Carolina

44-A Markfield Drive  
 Charleston, SC 29407  
 (843) 556-8451  
[www.lung.org/southcarolina](http://www.lung.org/southcarolina)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Abbeville	25,101	5,571	4,505	490	1,690	1,556	2,221	2,468	4,911
Aiken	162,812	36,044	26,854	3,169	10,992	9,873	13,782	15,472	27,465
Anderson	189,355	44,533	30,560	3,916	12,555	11,242	15,671	17,600	33,021
Berkeley	189,781	46,654	21,304	4,102	12,477	10,217	13,034	15,264	25,549
Charleston	365,162	74,959	49,862	6,591	25,192	21,010	27,650	31,847	63,775
Cherokee	55,662	13,521	8,073	1,189	3,661	3,200	4,353	4,946	12,331
Chesterfield	46,103	10,827	6,866	952	3,070	2,729	3,737	4,239	11,355
Colleton	38,153	8,962	6,574	788	2,531	2,331	3,310	3,689	8,283
Darlington	68,139	16,057	10,609	1,412	4,526	4,060	5,621	6,341	16,894
Edgefield	26,347	5,270	3,812	463	1,838	1,613	2,172	2,485	4,932
Florence	137,948	33,547	19,370	2,950	9,075	7,865	10,608	12,102	26,967
Greenville	467,605	111,772	63,073	9,827	30,930	26,335	35,059	40,219	74,268
Lexington	270,406	64,708	35,746	5,689	17,924	15,418	20,505	23,573	39,034
Oconee	74,627	15,408	15,242	1,355	5,104	4,816	7,072	7,748	12,955
Pickens	119,670	23,829	17,132	2,095	8,297	6,886	9,119	10,454	21,012
Richland	393,830	88,616	41,213	7,791	26,585	20,980	26,004	30,829	61,197
Spartanburg	288,745	69,432	41,273	6,105	19,054	16,537	22,375	25,483	54,389
York	234,635	58,784	28,685	5,169	15,342	13,023	17,062	19,760	30,075
<b>Totals</b>	<b>3,154,081</b>	<b>728,494</b>	<b>430,753</b>	<b>64,052</b>	<b>210,844</b>	<b>179,691</b>	<b>239,354</b>	<b>274,521</b>	<b>528,413</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Abbeville	1	0	0	0.3	B
Aiken	0	0	0	0.0	A
Anderson	8	0	0	2.7	D
Berkeley	0	0	0	0.0	A
Charleston	0	0	0	0.0	A
Cherokee	5	0	0	1.7	C
Chesterfield	2	0	0	0.7	B
Colleton	0	0	0	0.0	A
Darlington	3	0	0	1.0	C
Edgefield	0	0	0	0.0	A
Florence	DNC	DNC	DNC	DNC	DNC
Greenville	4	0	0	1.3	C
Lexington	DNC	DNC	DNC	DNC	DNC
Oconee	1	0	0	0.3	B
Pickens	3	0	0	1.0	C
Richland	12	0	0	4.0	F
Spartanburg	12	0	0	4.0	F
York	1	0	0	0.3	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
5	0	0	1.7	C	8.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.8	PASS
0	0	0	0.0	A	10.4	PASS
5	0	0	1.7	C	10.9	PASS
1	0	0	0.3	B	11.1	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.7	PASS
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

# SOUTH DAKOTA

## American Lung Association in South Dakota

401 East 8th Street Suite 205  
 Sioux Falls, SD 57103  
 (605) 336-7222  
[www.lung.org/southdakota](http://www.lung.org/southdakota)

## AT-RISK GROUPS

### Lung Diseases

County	Total Population			Lung Diseases			Cardio-vascular Disease		
	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardio-vascular Disease	Diabetes	Poverty
Brookings	32,629	6,107	3,276	537	2,013	1,042	1,599	1,573	3,857
Brown	37,331	8,587	5,921	755	2,147	1,436	2,421	2,272	3,889
Codington	27,606	6,736	4,142	592	1,560	1,034	1,728	1,633	2,654
Custer	8,339	1,598	1,935	141	496	403	721	656	939
Jackson	3,191	1,036	423	91	161	106	177	168	983
Meade	26,052	6,173	3,344	543	1,490	942	1,516	1,473	2,468
Minnehaha	175,037	43,372	20,281	3,813	9,895	6,011	9,518	9,333	19,658
Pennington	104,347	25,200	14,968	2,216	5,922	3,863	6,384	6,081	13,736
Union	14,855	3,738	2,134	329	829	563	928	891	959
<b>Totals</b>	<b>429,387</b>	<b>102,547</b>	<b>56,424</b>	<b>9,016</b>	<b>24,515</b>	<b>15,401</b>	<b>24,991</b>	<b>24,080</b>	<b>49,143</b>



### HIGH OZONE DAYS 2010-2012

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Brookings	0	0	0	0.0	A
Brown	DNC	DNC	DNC	DNC	DNC
Codington	DNC	DNC	DNC	DNC	DNC
Custer	0	0	0	0.0	A
Jackson	0	0	0	0.0	A
Meade	0	0	0	0.0	A
Minnehaha	0	0	0	0.0	A
Pennington	DNC	DNC	DNC	DNC	DNC
Union	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
0	0	0	0.0	A	8.4	PASS
0	0	0	0.0	A	7.8	PASS
0	0	0	0.0	A	9.3	PASS
1	1	0	0.8	B	4.4	PASS
0	0	0	0.0	A	3.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.9	PASS
0	0	0	0.0	A	5.9	PASS
2	0	0	0.7	B	8.4	PASS

# TENNESSEE

## American Lung Association in Tennessee

One Vantage Way, Suite D-220  
Nashville, TN 37228  
(615) 329-1151  
[www.lung.org/tennessee](http://www.lung.org/tennessee)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Anderson	75,416	16,010	13,641	1,306	4,612	5,896	8,313	7,760	13,734
Blount	124,177	26,758	21,521	2,184	7,556	9,576	13,367	12,532	17,714
Claiborne	31,736	6,503	5,474	531	1,954	2,457	3,409	3,202	7,484
Davidson	648,295	141,663	69,214	11,560	38,622	43,488	53,203	52,614	118,500
DeKalb	18,901	4,222	3,145	345	1,138	1,434	1,987	1,869	4,305
Dyer	38,255	9,391	5,897	766	2,233	2,776	3,795	3,589	6,643
Hamilton	345,545	74,048	52,680	6,042	20,938	25,584	34,420	32,736	51,381
Jefferson	52,191	11,236	9,223	917	3,171	4,005	5,604	5,240	9,271
Knox	441,311	94,795	60,450	7,735	26,611	31,620	41,285	39,734	69,107
Lawrence	42,086	10,448	7,091	853	2,449	3,088	4,314	4,035	8,265
Loudon	49,793	9,934	11,579	811	3,104	4,155	6,222	5,645	6,662
Madison	98,656	23,234	13,767	1,896	5,809	7,015	9,293	8,900	17,362
Maury	81,990	19,703	11,492	1,608	4,817	5,908	7,892	7,552	13,927
McMinn	52,416	11,642	9,340	950	3,163	4,028	5,670	5,293	10,899
Meigs	11,698	2,466	2,126	201	718	924	1,306	1,219	2,348
Montgomery	184,468	50,073	15,000	4,086	10,169	10,909	12,600	12,746	30,427
Putnam	73,229	15,689	11,257	1,280	4,407	5,257	7,015	6,659	17,273
Roane	53,469	10,805	10,690	882	3,329	4,382	6,338	5,861	8,790
Rutherford	274,454	70,555	24,520	5,757	15,538	17,271	20,600	20,643	34,576
Sevier	92,512	20,090	15,345	1,639	5,611	7,046	9,728	9,163	14,175
Shelby	940,764	242,687	101,282	19,804	53,595	62,403	78,401	76,988	200,730
Sullivan	156,786	31,558	30,640	2,575	9,729	12,577	18,013	16,687	27,260
Sumner	166,123	40,878	22,911	3,336	9,680	11,839	15,775	15,107	16,354
Williamson	192,911	54,341	20,533	4,434	10,757	13,079	16,836	16,486	12,645
Wilson	118,961	28,921	16,024	2,360	6,973	8,562	11,376	10,930	11,856
<b>Totals</b>	<b>4,366,143</b>	<b>1,027,650</b>	<b>564,842</b>	<b>83,859</b>	<b>256,682</b>	<b>305,279</b>	<b>396,761</b>	<b>383,189</b>	<b>731,688</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Anderson	7	0	0	2.3	D
Blount	26	0	0	8.7	F
Claiborne	INC	INC	INC	INC	INC
Davidson	11	0	0	3.7	F
DeKalb	INC	INC	INC	INC	INC
Dyer	DNC	DNC	DNC	DNC	DNC
Hamilton	17	0	0	5.7	F
Jefferson	14	2	0	5.7	F
Knox	10	1	1	4.5	F
Lawrence	INC	INC	INC	INC	INC
Loudon	9	1	0	3.5	F
McMinn	DNC	DNC	DNC	DNC	DNC
Madison	DNC	DNC	DNC	DNC	DNC
Maury	DNC	DNC	DNC	DNC	DNC
Meigs	6	0	0	2.0	C
Montgomery	DNC	DNC	DNC	DNC	DNC
Putnam	DNC	DNC	DNC	DNC	DNC
Roane	DNC	DNC	DNC	DNC	DNC
Rutherford	1	0	0	0.3	B
Sevier	26	0	0	8.7	F
Shelby	36	0	1	12.7	F
Sullivan	8	1	0	3.2	D
Sumner	36	1	0	12.5	F
Williamson	6	0	0	2.0	C
Wilson	8	1	0	3.2	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.4	PASS
0	1	0	0.5	B	11.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	12.2	FAIL
0	0	0	0.0	A	8.7	PASS
0	0	0	0.0	A	11.3	PASS
0	0	0	0.0	A	10.5	PASS
0	0	0	0.0	A	9.4	PASS
0	0	0	0.0	A	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.3	PASS
0	0	0	0.0	A	9.5	PASS
0	0	0	0.0	A	10.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.3	PASS
1	0	0	0.3	B	10.4	PASS
0	0	0	0.0	A	10.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Texas

1341 West Mockingbird Lane, Suite 950W  
 Dallas, TX 75247  
 (214) 631-5864  
[www.lung.org/texas](http://www.lung.org/texas)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Bell	323,037	89,852	29,693	6,997	15,681	11,005	15,625	22,324	45,253
Bexar	1,785,704	473,426	191,424	36,867	89,335	66,618	95,865	135,842	333,176
Bowie	93,148	22,288	13,728	1,736	4,899	4,016	5,984	8,250	17,565
Brazoria	324,769	88,236	33,128	6,871	16,223	12,296	17,536	25,110	36,633
Brewster	9,316	1,953	1,620	152	514	443	670	914	1,394
Cameron	415,557	134,500	48,185	10,474	19,168	14,780	21,764	30,215	145,824
Collin	834,642	231,771	73,018	18,049	41,215	30,285	42,432	61,696	64,567
Dallas	2,453,843	670,217	224,990	52,192	121,013	87,305	123,334	177,554	466,855
Denton	707,304	190,492	55,023	14,834	35,029	24,614	34,047	49,952	61,520
Ector	144,325	41,935	14,367	3,266	6,960	5,134	7,353	10,460	20,576
El Paso	827,398	242,379	87,237	18,875	39,754	29,589	42,750	60,323	194,470
Ellis	153,969	43,073	16,809	3,354	7,648	5,965	8,579	12,208	16,611
Galveston	300,484	74,824	35,942	5,827	15,627	12,433	17,974	25,486	36,380
Gillespie	25,153	4,935	6,981	384	1,444	1,459	2,353	3,038	3,009
Gregg	122,658	31,465	16,799	2,450	6,275	5,030	7,454	10,315	22,345
Harris	4,253,700	1,172,689	369,564	91,322	208,914	149,358	209,659	303,529	783,419
Harrison	67,450	17,205	9,437	1,340	3,480	2,850	4,221	5,854	11,672
Hays	168,990	40,774	15,570	3,175	8,642	6,067	8,552	12,310	26,361
Hidalgo	806,552	275,493	78,782	21,454	35,819	26,022	37,707	52,939	272,635
Hood	52,044	10,686	11,819	832	2,932	2,781	4,356	5,769	5,937
Hunt	87,079	21,468	12,803	1,672	4,557	3,787	5,635	7,787	16,545
Jefferson	251,813	60,027	32,598	4,675	13,198	10,429	15,266	21,364	49,556
Johnson	153,441	41,005	18,945	3,193	7,775	6,218	9,069	12,751	19,423
Kaufman	106,753	30,162	11,824	2,349	5,278	4,118	5,940	8,429	14,789
Lubbock	285,760	68,712	32,436	5,351	14,673	10,752	15,579	21,890	60,456

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
McLennan	238,707	59,855	30,817	4,661	12,223	9,493	13,974	19,418	45,405
Montgomery	485,047	131,243	54,650	10,220	24,424	19,161	27,619	39,234	60,202
Navarro	47,979	13,056	7,210	1,017	2,425	2,037	3,058	4,192	9,558
Nueces	347,691	88,244	43,760	6,872	17,851	14,081	20,589	28,840	59,796
Orange	82,977	20,532	11,993	1,599	4,341	3,606	5,349	7,414	13,816
Parker	119,712	29,170	16,242	2,272	6,317	5,233	7,670	10,759	12,532
Polk	45,656	9,518	8,917	741	2,539	2,280	3,501	4,713	7,371
Potter	122,335	34,084	13,617	2,654	6,030	4,589	6,646	9,374	26,963
Randall	125,082	30,365	16,209	2,365	6,502	5,109	7,495	10,460	13,859
Rockwall	83,021	23,687	8,824	1,845	4,095	3,192	4,577	6,533	5,501
Smith	214,821	54,578	31,692	4,250	11,045	9,021	13,505	18,523	36,260
Tarrant	1,880,153	517,226	180,052	40,278	93,010	68,815	97,577	140,252	287,871
Travis	1,095,584	260,108	85,534	20,256	56,055	37,859	52,304	76,550	192,685
Victoria	89,269	23,634	12,492	1,840	4,542	3,722	5,527	7,646	14,632
Webb	259,172	89,591	21,019	6,977	11,405	7,974	11,280	16,172	80,082
<b>Totals</b>	<b>19,992,095</b>	<b>5,464,458</b>	<b>1,985,750</b>	<b>425,538</b>	<b>988,856</b>	<b>729,528</b>	<b>1,040,376</b>	<b>1,486,385</b>	<b>3,593,504</b>

## American Lung Association in Texas

1341 West Mockingbird Lane, Suite 950W  
 Dallas, TX 75247  
 (214) 631-5864  
[www.lung.org/texas](http://www.lung.org/texas)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Bell	7	0	0	2.3	D
Bexar	22	0	0	7.3	F
Bowie	DNC	DNC	DNC	DNC	DNC
Brazoria	44	3	1	16.8	F
Brewster	7	0	0	2.3	D
Cameron	0	0	0	0.0	A
Collin	41	0	0	13.7	F
Dallas	39	5	0	15.5	F
Denton	49	2	0	17.3	F
Ector	DNC	DNC	DNC	DNC	DNC
Ellis	12	1	0	4.5	F
El Paso	8	0	0	2.7	D
Galveston	17	1	0	6.2	F
Gillespie	INC	INC	INC	INC	INC
Gregg	20	0	0	6.7	F
Harris	72	8	1	28.7	F
Harrison	10	0	0	3.3	F
Hays	INC	INC	INC	INC	INC
Hidalgo	0	0	0	0.0	A
Hood	16	0	0	5.3	F
Hunt	10	0	0	3.3	F
Jefferson	29	3	0	11.2	F
Johnson	21	1	0	7.5	F
Kaufman	4	0	0	1.3	C
Lubbock	DNC	DNC	DNC	DNC	DNC
McLennan	8	0	0	2.7	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.0	PASS
0	0	0	0.0	A	11.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
0	0	0	0.0	A	10.0	PASS
8	3	0	4.2	F	10.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	12.1	FAIL
0	1	0	0.5	B	10.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Montgomery	18	0	0	6.0	F
Navarro	4	0	0	1.3	C
Nueces	8	0	0	2.7	D
Orange	13	0	0	4.3	F
Parker	20	1	0	7.2	F
Polk	INC	INC	INC	INC	INC
Potter	DNC	DNC	DNC	DNC	DNC
Randall	INC	INC	INC	INC	INC
Rockwall	15	1	0	5.5	F
Smith	8	0	0	2.7	D
Tarrant	54	6	0	21.0	F
Travis	9	0	0	3.0	D
Victoria	2	0	0	0.7	B
Webb	0	0	0	0.0	A

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	10.4	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	10.7	PASS
0	0	0	0.0	A	10.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC

## American Lung Association in Utah

1930 South 1100 East  
 Salt Lake City, UT 84106-2317  
 (801) 484-4456  
[www.lung.org/utah](http://www.lung.org/utah)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Box Elder	50,171	16,656	5,912	1,182	2,985	1,416	2,235	2,731	4,629
Cache	115,520	35,684	9,431	2,533	7,023	2,830	3,978	5,183	17,518
Carbon	21,246	5,714	3,015	406	1,387	684	1,108	1,333	3,035
Davis	315,809	106,732	27,571	7,577	18,568	8,089	11,769	15,138	26,231
Duchesne	19,244	6,458	2,119	458	1,136	524	812	1,002	2,154
Garfield	5,095	1,348	914	96	336	181	313	362	631
Salt Lake	1,063,842	306,723	96,618	21,774	67,221	29,029	41,856	54,145	139,534
San Juan	14,965	4,853	1,708	345	902	426	664	819	4,008
Tooele	59,870	21,163	4,735	1,502	3,441	1,484	2,117	2,763	5,192
Uintah	34,524	11,596	3,153	823	2,035	893	1,314	1,676	3,453
Utah	540,504	188,071	36,757	13,351	30,942	12,008	16,280	21,682	75,077
Washington	144,809	43,002	26,494	3,053	9,011	4,702	8,353	9,415	22,777
Weber	236,640	70,336	25,049	4,993	14,783	6,674	10,075	12,654	29,861
<b>Totals</b>	<b>2,622,239</b>	<b>818,336</b>	<b>243,476</b>	<b>58,092</b>	<b>159,770</b>	<b>68,940</b>	<b>100,874</b>	<b>128,902</b>	<b>334,100</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Box Elder	4	0	0	1.3	C
Cache	0	0	0	0.0	A
Carbon	INC	INC	INC	INC	INC
Davis	4	0	0	1.3	C
Duchesne	INC	INC	INC	INC	INC
Garfield	INC	INC	INC	INC	INC
Salt Lake	21	0	0	7.0	F
San Juan	3	0	0	1.0	C
Tooele	4	0	0	1.3	C
Uintah	37	20	9	28.3	F
Utah	6	0	0	2.0	C
Washington	3	0	0	1.0	C
Weber	8	0	0	2.7	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
5	2	0	2.7	D	7.7	PASS
14	8	0	8.7	F	8.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
5	2	0	2.7	D	8.3	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
26	9	0	13.2	F	9.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	1	0	0.8	B	6.3	PASS
INC	INC	INC	INC	INC	INC	INC
13	2	0	5.3	F	8.3	PASS
0	0	0	0.0	A	5.1	PASS
20	4	0	8.7	F	9.1	PASS

## American Lung Association in Vermont

372 Hurricane Lane, Suite 101  
 Williston, VT 05495  
 (802) 876-6862  
[www.lung.org/vermont](http://www.lung.org/vermont)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Bennington	36,697	7,268	7,288	579	3,130	1,909	2,597	2,369	4,898
Chittenden	158,504	30,095	19,404	2,398	14,449	6,951	8,337	8,240	16,148
Rutland	60,869	11,308	10,975	901	5,324	3,109	4,120	3,822	8,024
<b>Totals</b>	<b>256,070</b>	<b>48,671</b>	<b>37,667</b>	<b>3,878</b>	<b>22,903</b>	<b>11,968</b>	<b>15,054</b>	<b>14,431</b>	<b>29,070</b>

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Bennington	1	0	0	0.3	B
Chittenden	0	0	0	0.0	A
Rutland	DNC	DNC	DNC	DNC	DNC

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
0	0	0	0.0	A	7.0	PASS
1	0	0	0.3	B	7.2	PASS
3	0	0	1.0	C	9.6	PASS

## American Lung Association in Virginia

9702 Gayton Road, #110  
 Richmond, VA 23238  
 (804) 955-4910  
[www.lung.org/virginia](http://www.lung.org/virginia)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Albemarle	102,251	21,628	15,743	1,902	7,039	5,072	7,264	8,823	9,026
Alexandria City	146,294	25,896	14,050	2,277	10,353	6,457	8,226	10,618	12,412
Arlington	221,045	35,880	19,683	3,155	15,779	9,458	11,723	15,313	17,555
Bristol City	17,662	3,512	3,377	309	1,236	941	1,410	1,670	3,624
Caroline	28,972	6,870	4,110	604	1,945	1,407	2,001	2,447	3,433
Charles City	7,157	1,188	1,372	104	535	423	633	756	946
Chesterfield	323,856	80,891	37,703	7,112	21,450	15,024	20,631	25,759	23,320
Fairfax	1,118,602	266,606	119,300	23,441	74,944	51,035	68,564	86,583	66,941
Fauquier	66,542	16,160	9,202	1,421	4,496	3,334	4,750	5,827	4,523
Frederick	80,317	19,498	11,157	1,714	5,365	3,891	5,522	6,764	6,968
Giles	16,928	3,519	3,261	309	1,183	923	1,392	1,648	2,126
Hampton City	136,836	30,383	17,748	2,671	9,289	6,441	8,915	11,036	21,855
Hanover	100,668	23,723	14,447	2,086	6,846	5,079	7,268	8,885	6,372
Henrico	314,932	74,208	40,851	6,525	21,080	14,788	20,583	25,431	31,395
Loudoun	336,898	100,228	24,700	8,812	20,722	13,280	16,870	21,974	13,489
Lynchburg City	77,113	15,178	10,645	1,335	5,286	3,511	4,832	5,951	15,896
Madison	13,200	2,864	2,518	252	918	725	1,096	1,299	1,693
Newport News City	180,726	43,091	20,190	3,789	11,915	7,893	10,587	13,303	28,299
Norfolk City	245,782	50,934	23,338	4,478	16,620	10,201	12,963	16,698	47,978
Page	23,895	4,952	4,497	435	1,671	1,295	1,942	2,306	3,683
Prince Edward	23,238	3,993	3,356	351	1,650	1,112	1,540	1,894	4,460
Prince William	430,289	121,421	32,376	10,676	26,984	17,210	21,832	28,435	28,559
Roanoke	92,901	19,510	17,202	1,715	6,483	5,016	7,505	8,930	6,740
Roanoke City	97,469	21,287	14,082	1,872	6,664	4,756	6,737	8,238	19,291
Rockbridge	22,394	4,151	5,080	365	1,613	1,315	2,045	2,383	2,781

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Rockingham	77,391	17,669	13,088	1,554	5,254	3,961	5,834	6,993	8,140
Salem City	24,970	4,958	4,199	436	1,749	1,287	1,874	2,256	2,764
Stafford	134,352	36,820	11,081	3,237	8,590	5,657	7,328	9,457	7,231
Suffolk City	85,181	21,556	10,422	1,895	5,606	3,953	5,480	6,801	9,986
Virginia Beach City	447,021	103,598	50,738	9,109	29,879	20,055	27,030	33,935	39,564
Wythe	29,251	5,952	5,464	523	2,055	1,587	2,374	2,824	4,889
<b>Totals</b>	<b>5,024,133</b>	<b>1,188,124</b>	<b>564,980</b>	<b>104,465</b>	<b>335,198</b>	<b>227,091</b>	<b>306,750</b>	<b>385,238</b>	<b>455,939</b>

# VIRGINIA

## American Lung Association in Virginia

9702 Gayton Road, #110  
 Richmond, VA 23238  
 (804) 955-4910  
[www.lung.org/virginia](http://www.lung.org/virginia)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Albemarle	4	0	0	1.3	C
Arlington	32	1	0	11.2	F
Caroline	8	0	0	2.7	D
Chesterfield	7	2	0	3.3	F
Fairfax	31	5	0	12.8	F
Fauquier	0	0	0	0.0	A
Frederick	2	0	0	0.7	B
Giles	INC	INC	INC	INC	INC
Hanover	13	0	0	4.3	F
Henrico	17	1	0	6.2	F
Loudoun	10	0	0	3.3	F
Madison	7	0	0	2.3	D
Page	0	0	0	0.0	A
Prince Edward	INC	INC	INC	INC	INC
Prince William	5	0	0	1.7	C
Roanoke	2	0	0	0.7	B
Rockbridge	0	0	0	0.0	A
Rockingham	1	0	0	0.3	B
Stafford	11	0	0	3.7	F
Wythe	1	0	0	0.3	B
Alexandria City	21	3	0	8.5	F
Bristol City	DNC	DNC	DNC	DNC	DNC
Charles City	13	1	0	4.8	F
Hampton City	9	2	0	4.0	F
Lynchburg City	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	8.5	PASS
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.5	PASS
2	0	0	0.7	B	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	10.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.3	PASS
1	0	0	0.3	B	9.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	9.8	PASS
0	0	0	0.0	A	8.8	PASS
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	8.6	PASS

### **HIGH OZONE DAYS 2010-2012**

<b>County</b>	<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>
Newport News City	DNC	DNC	DNC	DNC	DNC
Norfolk City	DNC	DNC	DNC	DNC	DNC
Roanoke City	DNC	DNC	DNC	DNC	DNC
Salem City	DNC	DNC	DNC	DNC	DNC
Suffolk City	12	0	0	4.0	F
Virginia Beach City	DNC	DNC	DNC	DNC	DNC

### **HIGH PARTICLE POLLUTION DAYS 2010-2012**

<b>24 Hour</b>					<b>Annual</b>	
<b>Orange</b>	<b>Red</b>	<b>Purple</b>	<b>Wgt. Avg</b>	<b>Grade</b>	<b>Design Value</b>	<b>Pass/Fail</b>
INC	INC	INC	INC	INC	INC	INC
3	0	0	1.0	C	9.6	PASS
0	0	0	0.0	A	9.8	PASS
0	0	0	0.0	A	9.7	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.3	PASS

# WASHINGTON

## American Lung Association in Washington

822 John Street  
 Seattle, WA 98109  
 (206) 441-5100  
[www.lung.org/washington](http://www.lung.org/washington)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Chelan	73,687	18,310	12,051	1,223	5,384	3,380	4,527	5,350	10,810
Clallam	71,863	12,661	18,230	846	5,768	4,074	5,922	6,617	9,906
Clark	438,287	112,969	55,177	7,544	31,584	18,479	23,380	28,725	51,981
King	2,007,440	423,212	232,434	28,263	153,470	85,737	104,612	130,838	234,813
Kitsap	254,991	54,481	37,009	3,638	19,479	11,671	15,057	18,269	27,401
Okanogan	41,275	9,657	7,654	645	3,081	2,019	2,780	3,245	8,931
Pierce	811,681	197,374	96,143	13,181	59,558	33,914	42,036	52,140	101,706
Skagit	118,222	27,384	20,561	1,829	8,830	5,599	7,563	8,873	17,004
Snohomish	733,036	172,635	82,480	11,529	54,407	30,874	37,941	47,701	74,394
Spokane	475,735	108,173	65,780	7,224	35,655	21,006	26,828	32,590	73,788
Thurston	258,332	57,914	36,274	3,868	19,458	11,559	14,830	18,024	31,087
Whatcom	205,262	41,628	29,481	2,780	15,850	9,262	11,803	14,262	32,202
Yakima	246,977	74,562	29,906	4,979	16,695	9,646	12,181	14,799	55,498
<b>Totals</b>	<b>5,736,788</b>	<b>1,310,960</b>	<b>723,180</b>	<b>87,549</b>	<b>429,218</b>	<b>247,219</b>	<b>309,460</b>	<b>381,433</b>	<b>729,521</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Chelan	DNC	DNC	DNC	DNC	DNC
Clallam	0	0	0	0.0	A
Clark	0	0	0	0.0	A
King	3	0	0	1.0	C
Kitsap	DNC	DNC	DNC	DNC	DNC
Okanogan	DNC	DNC	DNC	DNC	DNC
Pierce	0	0	0	0.0	A
Skagit	0	0	0	0.0	A
Snohomish	DNC	DNC	DNC	DNC	DNC
Spokane	0	0	0	0.0	A
Thurston	1	0	0	0.3	B
Whatcom	0	0	0	0.0	A
Yakima	DNC	DNC	DNC	DNC	DNC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
7	0	0	2.3	D	7.0	PASS
1	0	0	0.3	B	5.9	PASS
INC	INC	INC	INC	INC	INC	INC
INC	INC	INC	INC	INC	INC	INC
11	1	0	4.2	F	7.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
9	1	0	3.5	F	7.3	PASS
2	0	0	0.7	B	7.4	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
8	3	0	4.2	F	8.7	PASS

# WEST VIRGINIA

## American Lung Association in West Virginia

2102 Kanawha Blvd., East  
 Charleston, WV 25311  
 (304) 342-6600  
[www.lung.org/westvirginia](http://www.lung.org/westvirginia)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Berkeley	107,098	26,181	13,243	2,041	8,285	8,028	10,923	9,677	13,952
Brooke	23,853	4,381	4,753	341	1,989	2,128	3,056	2,682	3,343
Cabell	96,974	19,267	15,935	1,502	7,955	7,770	10,887	9,503	18,833
Gilmer	8,732	1,281	1,268	100	764	703	959	838	2,037
Greenbrier	35,820	7,128	7,144	556	2,930	3,150	4,537	3,978	6,537
Hancock	30,305	6,002	5,845	468	2,482	2,675	3,833	3,372	4,597
Harrison	69,141	15,008	11,804	1,170	5,534	5,731	8,100	7,125	13,786
Kanawha	192,179	39,272	33,193	3,061	15,631	16,190	22,865	20,120	27,244
Marion	56,678	11,185	9,853	872	4,653	4,703	6,641	5,814	9,494
Marshall	32,674	6,652	5,974	519	2,658	2,832	4,031	3,552	4,755
Monongalia	100,332	16,091	10,427	1,254	8,657	7,136	9,333	8,115	19,246
Ohio	44,075	8,437	8,359	658	3,642	3,813	5,446	4,773	7,535
Raleigh	79,021	16,542	13,319	1,289	6,389	6,515	9,178	8,061	13,846
Tucker	6,995	1,352	1,492	105	576	632	918	804	1,067
Wood	86,701	18,721	15,230	1,459	6,948	7,253	10,288	9,045	15,024
<b>Totals</b>	<b>970,578</b>	<b>197,500</b>	<b>157,839</b>	<b>15,395</b>	<b>79,094</b>	<b>79,260</b>	<b>110,996</b>	<b>97,460</b>	<b>161,296</b>

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Berkeley	2	0	0	0.7	B
Brooke	DNC	DNC	DNC	DNC	DNC
Cabell	6	0	0	2.0	C
Gilmer	INC	INC	INC	INC	INC
Greenbrier	1	0	0	0.3	B
Hancock	9	0	0	3.0	D
Harrison	DNC	DNC	DNC	DNC	DNC
Kanawha	10	0	0	3.3	F
Marion	DNC	DNC	DNC	DNC	DNC
Marshall	DNC	DNC	DNC	DNC	DNC
Monongalia	7	0	0	2.3	D
Ohio	7	0	0	2.3	D
Raleigh	DNC	DNC	DNC	DNC	DNC
Tucker	INC	INC	INC	INC	INC
Wood	7	0	0	2.3	D

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
4	0	0	1.3	C	11.6	PASS
3	0	0	1.0	C	12.7	FAIL
1	0	0	0.3	B	11.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.3	PASS
1	0	0	0.3	B	INC	INC
0	0	0	0.0	A	11.9	PASS
0	0	0	0.0	A	11.6	PASS
1	0	0	0.3	B	12.8	FAIL
0	0	0	0.0	A	10.3	PASS
0	0	0	0.0	A	11.6	PASS
0	0	0	0.0	A	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	11.8	PASS

## American Lung Association in Wisconsin

13100 West Lisbon Road, Suite 700  
 Brookfield, WI 53005-2508  
 (262) 703-4200  
[www.lung.org/wisconsin](http://www.lung.org/wisconsin)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Ashland	15,992	3,637	2,701	279	1,054	675	1,054	1,100	2,676
Brown	253,032	62,085	31,043	4,758	16,409	9,426	13,987	15,038	29,711
Columbia	56,539	12,855	8,646	985	3,736	2,341	3,591	3,793	5,130
Dane	503,523	107,102	55,636	8,208	34,172	18,222	26,371	28,679	62,611
Dodge	88,415	18,767	13,909	1,438	5,955	3,697	5,682	5,986	7,972
Door	27,817	4,899	6,808	375	1,934	1,427	2,351	2,379	2,953
Eau Claire	100,677	20,811	13,360	1,595	6,860	3,792	5,656	6,025	14,558
Florence	4,482	730	1,061	56	317	234	382	390	579
Fond du Lac	101,843	22,686	16,003	1,739	6,766	4,208	6,483	6,819	9,244
Forest	9,206	1,979	1,959	152	612	421	685	696	1,382
Grant	51,087	10,603	8,204	813	3,461	2,061	3,183	3,325	6,914
Jefferson	84,498	19,666	11,824	1,507	5,556	3,318	5,021	5,336	8,263
Kenosha	167,936	42,009	19,754	3,219	10,829	6,199	9,144	9,876	21,965
Kewaunee	20,624	4,710	3,661	361	1,355	893	1,407	1,462	1,835
La Crosse	116,461	24,184	16,278	1,853	7,916	4,504	6,782	7,195	15,577
Manitowoc	80,671	17,314	14,397	1,327	5,397	3,557	5,589	5,819	8,055
Marathon	134,735	32,203	20,250	2,468	8,769	5,424	8,321	8,777	14,558
Milwaukee	955,205	238,124	111,945	18,249	61,683	33,870	49,912	53,672	209,201
Oneida	35,714	6,302	8,131	483	2,488	1,787	2,907	2,966	4,022
Outagamie	178,816	43,713	22,141	3,350	11,607	6,741	10,016	10,771	15,765
Ozaukee	86,823	19,484	14,165	1,493	5,749	3,738	5,791	6,092	4,730
Racine	194,797	47,372	27,040	3,630	12,632	7,687	11,640	12,390	25,505
Rock	160,418	39,023	23,048	2,991	10,394	6,277	9,566	10,118	23,344
Sauk	62,597	14,534	9,963	1,114	4,105	2,570	3,976	4,170	6,157
Sheboygan	115,009	26,716	17,789	2,047	7,547	4,734	7,286	7,677	12,043

**AT-RISK GROUPS**

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
St. Croix	85,242	22,650	9,474	1,736	5,386	3,097	4,542	4,932	5,663
Taylor	20,486	4,954	3,559	380	1,323	870	1,370	1,424	3,205
Vernon	30,260	7,791	5,358	597	1,911	1,281	2,030	2,102	4,900
Vilas	21,338	3,675	5,893	282	1,483	1,146	1,931	1,927	3,017
Walworth	102,851	23,366	14,718	1,791	6,810	4,080	6,190	6,565	13,490
Washington	132,661	31,320	19,277	2,400	8,675	5,435	8,277	8,797	8,438
Waukesha	392,292	90,197	60,172	6,913	25,828	16,473	25,281	26,747	22,744
<b>Totals</b>	<b>4,392,047</b>	<b>1,025,461</b>	<b>598,167</b>	<b>78,589</b>	<b>288,718</b>	<b>170,187</b>	<b>256,402</b>	<b>273,044</b>	<b>576,207</b>

# WISCONSIN

## American Lung Association in Wisconsin

13100 West Lisbon Road, Suite 700  
 Brookfield, WI 53005-2508  
 (262) 703-4200  
[www.lung.org/wisconsin](http://www.lung.org/wisconsin)

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Ashland	0	0	0	0.0	A
Brown	8	1	0	3.2	D
Columbia	2	0	0	0.7	B
Dane	2	0	0	0.7	B
Dodge	5	1	0	2.2	D
Door	19	2	0	7.3	F
Eau Claire	INC	INC	INC	INC	INC
Florence	INC	INC	INC	INC	INC
Fond du Lac	7	1	0	2.8	D
Forest	4	0	0	1.3	C
Grant	DNC	DNC	DNC	DNC	DNC
Jefferson	4	0	0	1.3	C
Kenosha	33	4	0	13.0	F
Kewaunee	15	1	0	5.5	F
La Crosse	0	0	0	0.0	A
Manitowoc	16	2	0	6.3	F
Marathon	0	0	0	0.0	A
Milwaukee	28	3	0	10.8	F
Oneida	INC	INC	INC	INC	INC
Outagamie	6	1	0	2.5	D
Ozaukee	26	2	0	9.7	F
Racine	28	2	0	10.3	F
Rock	6	0	0	2.0	C
St. Croix	INC	INC	INC	INC	INC
Sauk	3	0	0	1.0	C
Sheboygan	34	5	0	13.8	F

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	5.3	PASS
12	0	0	4.0	F	9.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
5	0	0	1.7	C	9.9	PASS
2	0	0	0.7	B	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	5.6	PASS
1	0	0	0.3	B	10.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.5	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	9.0	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
5	0	0	1.7	C	10.9	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
4	0	0	1.3	C	9.2	PASS
0	0	0	0.0	A	9.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
INC	INC	INC	INC	INC	INC	INC
1	0	0	0.3	B	8.6	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC

### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Taylor	INC	INC	INC	INC	INC
Vernon	INC	INC	INC	INC	INC
Vilas	0	0	0	0.0	A
Walworth	5	0	0	1.7	C
Washington	INC	INC	INC	INC	INC
Waukesha	2	0	0	0.7	B

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
1	0	0	0.3	B	7.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	5.8	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	11.3	PASS

## American Lung Association in Wyoming

822 John Street  
 Seattle, WA 98109  
 (206) 441-4100  
[www.lung.org/wyoming](http://www.lung.org/wyoming)

## AT-RISK GROUPS

County	Total Population	Under 18	65 & Over	Lung Diseases			Cardio-vascular Disease	Diabetes	Poverty
				Pediatric Asthma	Adult Asthma	COPD			
Albany	37,276	6,088	3,396	523	2,832	1,811	1,868	2,174	8,559
Big Horn	11,794	2,991	2,183	257	793	692	818	907	1,375
Campbell	47,874	13,322	2,991	1,145	3,111	2,072	2,105	2,698	3,292
Carbon	15,666	3,572	2,112	307	1,089	850	950	1,114	1,988
Converse	14,008	3,440	1,889	296	951	752	844	991	1,316
Crook	7,155	1,615	1,241	139	498	429	499	572	605
Fremont	41,110	10,342	6,269	889	2,772	2,259	2,585	2,951	6,499
Laramie	94,483	22,186	12,494	1,906	6,517	5,021	5,597	6,514	10,118
Natrona	78,621	18,535	9,921	1,592	5,417	4,117	4,557	5,335	9,595
Park	28,702	5,909	5,338	508	2,052	1,761	2,062	2,313	3,202
Sheridan	29,596	6,411	4,985	551	2,087	1,745	2,015	2,298	3,141
Sublette	10,368	2,405	1,179	207	716	541	590	715	608
Sweetwater	45,267	12,216	3,975	1,050	2,979	2,094	2,214	2,708	3,741
Teton	21,675	4,203	2,426	361	1,576	1,137	1,225	1,461	1,885
Uinta	21,025	6,151	2,074	528	1,338	990	1,070	1,301	2,646
Weston	7,082	1,550	1,196	133	498	417	482	549	687
<b>Totals</b>	<b>511,702</b>	<b>120,936</b>	<b>63,669</b>	<b>10,390</b>	<b>35,227</b>	<b>26,688</b>	<b>29,481</b>	<b>34,602</b>	<b>59,257</b>



### HIGH OZONE DAYS 2010-2012

County	Orange	Red	Purple	Wgt. Avg	Grade
Albany	INC	INC	INC	INC	INC
Big Horn	0	0	0	0.0	A
Campbell	1	0	0	0.3	B
Carbon	0	0	0	0.0	A
Converse	INC	INC	INC	INC	INC
Crook	4	0	0	1.3	C
Fremont	1	0	0	0.3	B
Laramie	INC	INC	INC	INC	INC
Natrona	INC	INC	INC	INC	INC
Park	DNC	DNC	DNC	DNC	DNC
Sheridan	DNC	DNC	DNC	DNC	DNC
Sublette	10	1	3	5.8	F
Sweetwater	0	0	0	0.0	A
Teton	0	0	0	0.0	A
Uinta	0	0	0	0.0	A
Weston	INC	INC	INC	INC	INC

### HIGH PARTICLE POLLUTION DAYS 2010-2012

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/Fail
0	0	0	0.0	A	5.0	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
2	1	0	1.2	C	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
1	0	0	0.3	B	8.3	PASS
1	0	0	0.3	B	4.7	PASS
1	0	0	0.3	B	4.8	PASS
0	0	0	0.0	A	4.7	PASS
0	0	0	0.0	A	8.3	PASS
5	6	0	4.7	F	INC	INC
2	0	0	0.7	B	6.0	PASS
1	0	0	0.3	B	5.1	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC



We will breathe easier when the air in every  
American community is clean and healthy.

We will breathe easier when people are free from the addictive  
grip of tobacco and the debilitating effects of lung disease.

We will breathe easier when the air in our public spaces and  
workplaces is clear of secondhand smoke.

We will breathe easier when children no longer  
battle airborne poisons or fear an asthma attack.

***Until then, we are fighting for air.***

### **About the American Lung Association**

*Now in its second century, the American Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease. With your generous support, the American Lung Association is “Fighting for Air” through research, education and advocacy. For more information about the American Lung Association, a holder of the Better Business Bureau Wise Giving Guide Seal, or to support the work it does, call 1-800-LUNGUSA (1-800-586-4872) or visit [www.lung.org](http://www.lung.org).*

 **AMERICAN LUNG ASSOCIATION®**  
Fighting for Air