AMERICAN LUNG ASSOCIATION®

STATE OF THE AIR 2016

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The American Lung Association assumes sole responsibility for the content of the American Lung Association "State of the Air® 2016".

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Fighting for Air

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The State of the Air 2016

State of the Air 2016 shows that more than one in two people had unhealthy air quality in their communities.

The "State of the Air 2016" found continued improvement in air quality in 2012–2014, showing lower levels of year-round particle pollution and ozone. Still, more than half of all Americans—166 million people—live in counties where they are exposed to unhealthful levels of these pollutants.

The "State of the Air 2016" report shows that cleaning up pollution continues successfully in much of the nation. In the 25 cities with the worst pollution, the majority saw improvements from last year. Many saw their lowest levels ever of year-round particle pollution or ozone pollution.

Yet, even as most cities experienced strong improvement, too many cities suffered worse episodes of unhealthy air. While most of the nation has much cleaner air quality than even a decade ago, a few cities reported their worst number of unhealthy days since the report began, including some that experienced extreme weather events. The "State of the Air 2016" report provides evidence that a changing climate will make it harder to protect human health.

The "State of the Air 2016" report shows that, even with continued improvement, too many people in the United States live where the air is unhealthy for them to breathe. Despite that continued need and the nation's progress, some people seek to weaken the Clean Air Act, the public health law that has driven the cuts in pollution since 1970, and to undermine the ability of the nation to fight for healthy air.

The "State of the Air 2016" report looks at levels of ozone and particle pollution found in official monitoring sites across the United States in 2012, 2013, and 2014. The report uses the most current quality-assured nationwide data available for these analyses.

The report examines particle pollution ($PM_{2.5}$) 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 2015" report covered data from 2011, 2012, and 2013.

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. As the economy continues to grow, overall air emissions that create the six most-widespread pollutants continue to drop.

Overall, **the best progress came in the continued reduction of ozone and year-round particle pollution,** thanks to cleaner power plants and increased use of cleaner vehicles and engines. Continued progress to cleaner air remains crucial to reduce the risk of premature death, asthma attacks and lung cancer. However, a changing climate is making it harder to protect human health.

Many cities reduced their ozone pollution in 2012–2014 below that reported in 2011–2013. In 2015, EPA updated and strengthened the national ozone standard, officially recognizing that ozone is unhealthy to breathe at lower levels than previously thought. In preparing "State of the Air 2016," the Lung Association reexamined all the ozone data for all prior years, back to 1996–1998 covered by the first report in 2000, using the new standard. Even using that more protective standard, six of the 25 most ozone-polluted cities reported their fewest unhealthy ozone days ever.

Sixteen of the most-polluted cities had their lowest year-round particle pollution levels in the history of this report. Still, some cities had higher year-round levels and one city reported its highest levels.

Unfortunately, many cities suffered more spikes in short-term particle pollution, particularly in the West, where continuing drought and heat may have increased the dust, grass and wild fires, while burning wood as a heat source appears to contribute to the problem in many smaller cities. Seven of the 25 most-polluted cities had their highest number of unhealthy days on average ever reported.

Still missing, however, are particle pollution data from all of Illinois, Florida and most of Tennessee because of problems with data processing in laboratories and other data issues. This means that no one knows if the levels of particle pollution were unhealthy in many cities that have historic problems with particle pollution, including Chicago and St. Louis.

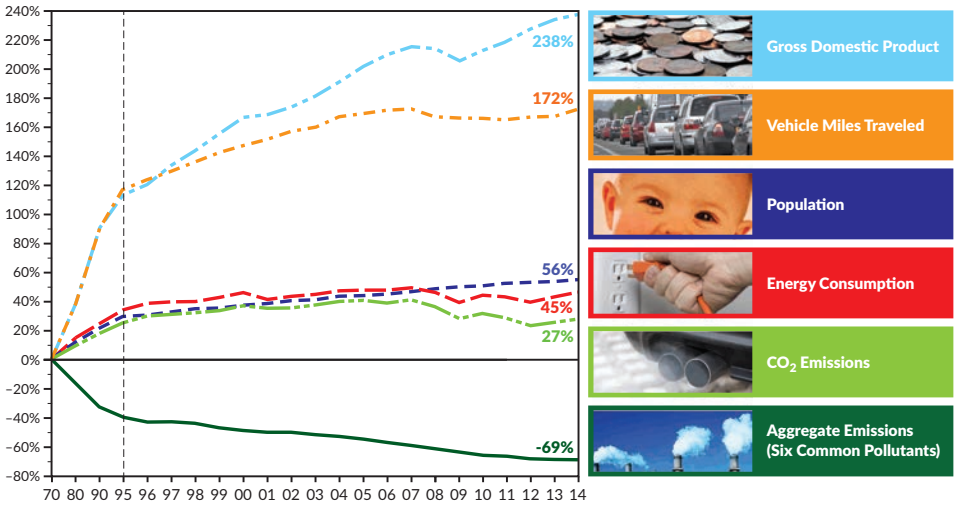

Figure 1: Air pollution emissions have dropped steadily since 1970 thanks to the Clean Air Act. As the economy continues to grow, emissions that contribute to the most widespread pollutants continue to drop. (Source: U.S. EPA, Air Quality Trends, 2016.)

Los Angeles reported its best air quality ever in the history of the State of the Air report.

Los Angeles remains the metropolitan area with the worst ozone pollution, as it has for all but one of the 16 reports. However, Los Angeles reported its best air quality ever in the State of the Air report's history, with the lowest average year-round particles, and fewest high-ozone and high-particle days. **Bakersfield (CA)** returned to the top of both lists for most-polluted for particle pollution, thanks to worse year-round and short-term exposures.

Steps taken under the Clean Air Act have driven the cleanup of pollution seen in this year's report. Cleaning up power plants has helped drive the reduction in year-round particles and ozone, especially in the middle and eastern states. The retirement of old, dirty diesel engines has also reduced emissions.

At the same time, climate change has increased the challenges to protecting public health. The rise in short-term particle pollution provides current examples of how major changes in drought and rainfall are already affecting public health. Wildfires and drought, along with high use of wood-burning devices for heat, coupled with stagnant weather patterns that concentrated pollution in some areas, contributed to the extraordinarily high numbers of days with unhealthy particulate matter in 2012–2014.

Year-round particle pollution

The best progress continues to be in reduced year-round particle pollution levels. Seventeen of the cities with the highest levels of year-round particles reduced their levels over the previous report. Sixteen of these had their lowest levels ever. Using the most current data calculated by EPA, only 12 of these 25 cities failed to meet the national air quality standards for annual particle pollution.

Cities in the list of the top 25 most polluted for year-round particle pollution that reached their lowest levels ever included Fresno–Madera, CA, last year's #1 most-polluted city, now ranked #3; and Los Angeles, now ranked #4. Fourteen other cities reached their best levels ever: Modesto–Merced, CA; Pittsburgh; Cleveland; Philadelphia; Indianapolis; Altoona, PA; Cincinnati; Houston; Johnstown–Somerset, PA; Lancaster, PA; Birmingham, AL; Fairbanks, AK; Little Rock, AR; and Wheeling, WV. Erie–Meadville, PA, also improved over the 2015 report.

Not all made progress. Seven cities saw their year-round levels increase over the previous report, including the two most polluted cities, Bakersfield, CA, and Visalia–Porterville–Hanford, CA. Others with worse year-round particle pollution were San Jose–San Francisco–Oakland; Harrisburg–York–Lebanon, PA; and Louisville, KY. None of those five cities met the national health standard. Two others also had worse year-round levels but did meet the national health standard: Detroit and San Luis Obispo, CA, which reached its worst annual particle levels ever. El Centro, CA, retained the same annual particle pollution level as in the previous report.

Data remain missing for many major cities. Data are unavailable for cities that have been on the most-polluted list in years past, including St. Louis and Chicago. It is impossible to know whether the air quality there improved or worsened. Problems with data processing in Illinois, Florida and most of Tennessee prevented people in those states from having information on their particle pollution levels for this period.

Ozone pollution

Most cities improved their ozone levels, some to their lowest levels ever. Los Angeles continues its success at cleaning up ozone, dropping its average number of unhealthy days to its lowest level ever. Los Angeles still suffers the most ozone pollution in the nation, as it has historically. Five other cities with historically high ozone experienced their lowest number of unhealthy ozone days on average since the "State of the Air" report began in 2000: the #3 most-polluted city, Visalia–Porterfield–Hanford, CA; Sacramento, CA; Dallas–Fort Worth; El Centro, CA; and Houston. Other metropolitan areas showing improvement in 2012–2014 were Phoenix; Denver; Las Vegas; Fort Collins, CO; New York City–Newark; El Paso–Las Cruces, TX–NM; San Jose–San Francisco; Grand Rapids, MI; St. Louis; Tulsa, OK; Chicago; Sheboygan, WI; San Louis Obispo, CA; Oklahoma City, OK; and Edwards–Glenwood Springs, CO. Four cities among the 25 most-polluted—Bakersfield, CA; Fresno–Madera, CA; Modesto–Merced, CA; and San Diego—had more high-ozone days on average in this report compared to the 2015 report.

Twenty of the 25 most ozone-polluted cities are in the West and Southwest. California historically has had multiple cities with high ozone readings and still does. Now Texas and Colorado each have three cities on the most-polluted list, and Arizona and Oklahoma each have two cities on the list. Only five cities in the East and Midwest remain ranked among the 25 most polluted. Eastern cities improved their rankings in large part because of reduced emissions from power plants and vehicles. Even with improved ozone levels, these western cities now have worse ozone than much larger eastern cities. Some ozone levels, especially in smaller cities, may be linked to increased oil and gas extraction, transmission and processing nearby.

EPA strengthened the ozone air quality standard late in 2015, adjusting the Air Quality Index to reflect the more protective standard. The Lung Association's assessment is based on newly downloaded data using the levels defined under the 2015 Air Quality Index as the range for unhealthy levels back to 1996.

Short-term particle pollution

Once again, spikes in unhealthy particle pollution rolled back progress in too many cities. Bakersfield returned to top this list of the cities with the highest number of days with unhealthy particle pollution, again ranking #1 on both measures of particle pollution. Eleven other metro areas in the top 25 suffered more days with unhealthy levels, including seven with their worst-ever averages in 2012–2014: Fairbanks, AK; Missoula, MT; Lancaster, PA; Reno–Carson City–Fernley, NV; El Centro, CA; Anchorage, AK; and South Bend–Elkhart–Mishawaka, IN–MI.

Four others had more unhealthy days on average than in the 2015 report: Logan, UT–ID; Harrisburg–York–Lebanon, PA; Philadelphia; and Eugene, OR.

Fortunately, twelve cities had fewer days in 2012–2014 than in the previous report that covered 2011–2013. Two cities, Los Angeles and Pittsburgh, reached their fewest ever number of unhealthy days on average in any prior report. The other ten improving cities were Fresno–Madera, CA; Visalia–Porterfield–Hanford, CA; Modesto–Merced, CA; Salt Lake City–Provo–Orem, UT; San Jose–San Francisco; Yakima, WA; Sacramento, CA; El Paso–Las Cruces, TX–NM; Phoenix; and New York City–Newark. Medford–Grants Pass, OR, retained the same short-term particle pollution level as in the previous report.

Data remain missing on cities in three states. Problems with data processing in Illinois, Florida and most of Tennessee prevented people in those states from having information on their particle pollution levels for this period.

Cleanest Cities

Four cities ranked on all three lists of the cleanest cities in 2012–2014. 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:

- Burlington–South Burlington, VT
- Elmira–Corning, NY
- Honolulu, HI
- Salinas, CA

Thirteen other cities ranked among the cleanest cities for both year-round and short-term levels of particle pollution. That means they had no days in the unhealthy level for short-term particle pollution and were on the list of the cleanest cities for year-round particle pollution. They are:

- Albany–Schenectady, NY
- Bangor, ME
- Cheyenne, WY
- Duluth, MN–WI
- Farmington, NM
- Grand Island, NE
- Houma–Thibodaux, LA
- Pittsfield, MA
- Rapid City–Spearfish, SD
- Redding–Red Bluff, CA
- Sierra Vista–Douglas, AZ
- Syracuse–Auburn, NY
- Wilmington, NC

Eight cities other ranked among the cleanest for ozone and short-term particle pollution. That means they had no days in the unhealthy level for ozone or short-term particle pollution. They are:

- Bellingham, WA
- Brunswick, GA
- Dothan–Enterprise–Ozark, AL
- Gadsden, AL
- McAllen–Edinburg, TX
- Monroe–Ruston–Bastrop, LA
- Montgomery, AL
- Tuscaloosa, AL

Two other cities made the list of cleanest for ozone and year-round particle pollution. **Bismarck, ND; Fargo–Wahpeton, ND–MN,** had no days in the unhealthy level for ozone pollution and were on the list of the cleanest cities for year-round particle pollution.

People at Risk

Looking at the nation as a whole, the **"State of the Air 2016"** finds—

- **More than half the people (more than 52.1%) in the United States live in counties that have unhealthful levels of either ozone or particle pollution.** More than 166 million Americans live in 418 counties where they are exposed to unhealthful levels of air pollution in the form of either ozone or short-term or year-round levels of particles.
  - This is an increase from the 2015 report and reflects that many more counties have unhealthy levels of ozone now recognized by the updated national standard for ozone EPA adopted last October. The Lung Association bases the grading system for ozone data in this year's report on this stronger standard.
- **More than half the people in the United States (51.1%) live in areas with unhealthful levels of ozone.**
  Counties that were graded F for ozone levels have a combined population of more than 162.9 million. These people live in the 395 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 unhealthful levels of particle pollution.**
  Close to 45 million Americans live in 58 counties that experienced too many days with unhealthy spikes in particle pollution, a decrease from the last report. This number may undercount the total because of lack of data from Illinois, Tennessee and Florida. 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.
- **Nearly 22.8 million people (7.1%) in the United States live in counties with unhealthful year-round levels of particle pollution.**
  These people live in the 20 counties where chronic levels are regularly a threat to their health. This number may undercount the total because of lack of data from Illinois, Tennessee and Florida. 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.

Nearly 20 million people in the U.S. live in counties where the outdoor air failed all three tests.

- **Nearly 20 million people (6.3%) in the United States live in 13 counties with unhealthful 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. The numbers living in counties that fail all three tests may be undercounted because of the missing data on particle pollution in Illinois, Tennessee and Florida.

- **Older and Younger**—Nearly 22.3 million adults age 65 and over and more than 39.1 million children under 18 years old live in counties that received an F for at least one pollutant. More than 2.4 million seniors and more than 4.9 million children live in counties failing all three tests.
- **People with Asthma**—Nearly 3.6 million children and close to 11.4 million adults with asthma live in counties of the United States that received an F for at least one pollutant. Nearly 441,000 children and close to 1.2 million adults with asthma live in counties failing all three tests.
- **Chronic Obstructive Pulmonary Disease (COPD)**—More than 7.8 million people with COPD live in counties that received an F for at least one pollutant. More than 727,000 people with COPD live in counties failing all three tests.
- **Cardiovascular Disease**—More than 10.2 million people with cardiovascular diseases live in counties that received an F for at least one pollutant; nearly 1.1 million people live in counties failing all three tests.
- **Diabetes**—More than 3.6 million people with diabetes live in counties that received an F for either short-term or year-round particle pollution; more than 1.5 million live in counties failing both tests. Having diabetes increases the risk of harm from particle pollution.
- **Poverty**—More than 24.8 million people with incomes meeting the federal poverty definition live in counties that received an F for at least one pollutant. Nearly 3.8 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

Our nation has made significant progress, but clearly more must be done to reduce the burden of air pollution and improve the health of millions of Americans. Cleaning up air pollution requires a strong and coordinated effort on the part of our federal and state leaders. The President, the EPA Administrator, members of Congress, governors and state leaders all have a key role to play. These current and future leaders have a choice to make: either support steps to improve the air we breathe so that it does not cause or worsen lung disease, or allow pressure from polluting industries to weaken healthy air protections. The Lung Association urges our nation's leaders to stand up for public health and take these important steps for to improve the air we all breathe.

Protect the Clean Air Act

Our nation's continued air quality improvement shown in the "State of the Air 2016" report is possible because of the Clean Air Act, a strong public health law put in place by an overwhelming bipartisan majority in Congress more than 45 years ago. The Clean Air Act requires that the EPA and each state take steps to clean up the air and protect public health by reducing pollution. Unfortunately, some in Congress continue to seek weakening changes to the Clean Air Act that would dismantle progress made in the last 45 years and make it harder to achieve future reductions. To achieve the promise of the Clean Air Act, Congress must protect the Clean Air Act—making sure it remains strong, fully implemented and enforced.

Reduce Carbon Pollution from Power Plants by Adopting Strong State Clean Power Plans

In 2015 EPA adopted the Clean Power Plan, a flexible, practical toolkit for the states to reduce carbon pollution from power plants approximately 32 percent (below 2005 levels) by 2030. States can choose a variety of ways to cut carbon pollution with the Clean Power Plan. They can choose to require cleaner fuels for existing utilities, improve energy efficiency, produce more clean energy and partner with other states to jointly reduce carbon pollution. In February 2015, the Supreme Court issued a stay on the plan, putting EPA's enforcement of the plan on a temporary hold while the case is heard in the courts. However, states can still move forward developing their plans.

Power plants are the largest stationary source of carbon pollution in the United States. The electric sector contributed 40 percent of all energy-related carbon dioxide (CO_2) emissions in 2013.[1] Scientists tell us that carbon pollution contributes to a warming climate, enhancing conditions for ozone formation and making it harder to reduce this lethal pollutant. Climate change also leads to particle pollution from increased droughts and wildfires. Taking steps to reduce carbon pollution from electricity generation will also reduce ozone and particle pollution from these plants at the same time. EPA's own analysis shows that these co-benefits can prevent up to 3,600 premature deaths and up to 90,000 asthma attacks in children in 2030. The Lung Association calls on governors to direct their states to develop strong plans to reduce carbon pollution from power plants and protect public health.

Set Strong Limits on Air Pollution that Blows Across State Lines

Air pollution, including ozone and particle pollution, can be transported by the wind hundreds of miles away from its source, placing a significant health burden on communities and states that have no ability to limit pollution from neighboring states. EPA has proposed a revised Cross-State Air Pollution Rule to reduce transported ozone pollution to protect downwind communities who otherwise have limited ability to intervene or protect themselves. The Lung Association urges EPA to adopt stronger limits on transported ozone pollution to help downwind states protect their citizens from pollution blown hundreds of miles across the nation.

Reduce Emissions from Existing and New Oil and Gas Operations

EPA needs to adopt health-protective standards to reduce harmful emissions of methane, volatile organic compounds and other pollutants from production wells, processing plants, transmission pipelines and storage units within the oil and natural gas industry. EPA has proposed standards for new and modified facilities, which is a crucial first step. But as this report went to press, the rules are not yet final. They must be finalized to begin to curb these emissions. Further, EPA needs to propose strong, enforceable standards for the existing oil and gas infrastructure without delay. These standards would not only help to mitigate climate change and its associated health risks by curtailing emissions of methane—an especially potent greenhouse gas—but would also limit emissions of major precursors to ozone, as well as other toxic and carcinogenic air pollutants, benefiting public health in communities across the country.

Clean Up Harmful Emissions from Dirty Diesel Vehicles and Heavy Equipment

Rules EPA put in effect over the past several years mean that new diesel vehicles and equipment must be much cleaner. Still, millions 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 EPA's diesel cleanup ("retrofit") program. Congress should also require that clean diesel equipment be used in federally-funded construction programs.

In 2015, EPA and the California Air Resources Board (CARB) announced two notices of violation alleging Volkswagen, Porsche and Audi diesel cars included software that circumvents emissions standards for nitrogen oxides. This software is a "defeat device" as defined by the Clean Air Act. EPA and CARB allege that these diesel passenger cars from model years 2009–2016 have emissions up to 40 times greater than the standards. The Lung Association called on EPA and CARB to ensure that their enforcement action recalled and repaired or scrapped all such vehicles and offset all excess pollution. Further, EPA must strengthen its compliance and enforcement activities to prevent future violations.

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 infrastructure for healthy air. States 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. Unfortunately, funds for existing air pollution monitors have been cut across the nation. More monitoring is needed near roadways to measure the highest levels of exposures from air pollution related to traffic. More monitoring is needed in communities that have expanded oil and gas extraction operations. These resources may be cut further unless Congress and the White House resolve to protect the health of the nation from air pollution. With such challenges to our monitoring infrastructure, it may be harder for the nation to ensure accurate, reliable quality data in the future.

What You Can Do

You can do a great deal to help reduce air pollution outdoors by speaking up and stepping up. Here's how.

1. Speak up for Healthy Air Protections.

Tell EPA we need strong standards for methane and other toxic emissions from existing oil and gas operations, and strong limits on ozone pollution that crosses state lines.

Send a message to Congress. Urge Congress to support cleaner, healthier air and oppose measures to block or delay the cleanup of air pollution. All members of Congress should support and protect the Clean Air Act.

Share your story. Do you or any member of your family have a personal reason to fight for healthier, cleaner air? Go to www.FightingForAir.org to let us know how healthy air affects you. Your story helps us remind decision-makers what is at stake when it comes to clean air.

Get involved. Participate in your state's development of the Clean Power Plan and support state and local efforts to clean up air pollution. To find your local air pollution control agency, go to www.4cleanair.org.

2. Step up to Curb Pollution in Your Community.

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 is among the largest sources of particle pollution in many parts of the country. If you must use a fireplace or stove for heat, convert your woodstove 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.

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1 U.S. Environmental Protection Agency. *Inventory of Greenhouse Gas Emissions and Sinks: 1990–2013.* Washington, DC: U.S. EPA, 2015. EPA 430-R-14-003.

People at Risk from Short-Term Particle Pollution (24-Hour $PM_{2.5}$)

	Chronic Diseases						Age Groups			
In Counties where the Grades were:	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Diabetes	Poverty	Under 18	65 and Over	Total Population	Number of Counties
Grade A (0.0)	5,634,860	1,699,065	3,992,941	5,056,593	6,092,561	11,420,772	17,442,485	10,822,989	76,975,016	290
Grade B (0.3-0.9)	2,382,168	784,312	1,692,698	2,229,098	2,741,954	5,509,895	8,865,641	4,593,097	36,590,177	115
Grade C (1.0-2.0)	1,118,280	295,913	697,292	946,685	1,181,511	2,030,389	3,392,095	2,209,061	15,708,269	46
Grade D (2.1-3.2)	899,938	256,516	629,838	797,734	933,023	2,146,557	2,872,156	1,676,436	12,490,502	18
Grade F (3.3+)	2,824,682	975,823	1,788,009	2,489,571	3,369,444	7,368,681	10,994,661	5,748,309	44,966,104	58
National Population in Counties with $PM_{2.5}$ Monitors	15,270,307	4,706,762	10,737,608	13,965,809	17,198,710	33,878,399	51,281,927	30,418,036	221,658,939	632

People at Risk from Year-Round Particle Pollution (Annual $PM_{2.5}$)

	Chronic Diseases						Age Groups			
In Counties where the Grades were:	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Diabetes	Poverty	Under 18	65 and Over	Total Population	Number of Counties
Pass	10,554,384	3,229,312	7,310,666	9,479,187	11,628,522	22,362,111	34,992,221	20,378,024	151,129,336	448
Fail	1,421,031	509,027	918,039	1,287,953	1,764,408	4,258,671	5,538,179	2,888,246	22,772,198	20
National Population in Counties with $PM_{2.5}$ Monitors	15,270,307	4,706,762	10,737,608	13,965,809	17,198,710	33,878,399	51,281,927	30,418,036	221,658,939	632

People at Risk from Ozone

	Chronic Diseases					Age Groups			
In Counties where the Grades were:	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Poverty	Under 18	65 and Over	Total Population	Number of Counties
Grade A (0.0)	996,060	293,042	718,889	979,323	2,395,247	3,323,875	2,348,924	14,925,068	93
Grade B (0.3-0.9)	998,391	274,728	768,943	1,013,052	2,048,541	3,116,957	2,314,844	14,299,054	94
Grade C (1.0-2.0)	1,307,083	392,290	1,071,789	1,387,111	3,062,616	4,186,602	3,014,184	19,181,631	109
Grade D (2.1-3.2)	1,513,397	464,202	1,124,908	1,402,163	2,772,834	4,923,487	2,898,281	21,517,834	72
Grade F (3.3+)	11,163,952	3,508,338	7,696,079	10,078,888	24,346,333	38,390,638	21,809,273	162,937,961	395
National Population in Counties with Ozone Monitors	16,338,629	5,035,060	11,618,849	15,171,179	35,267,358	55,030,370	33,120,973	237,780,220	810

Note: *The State of the Air 2016* covers the period 2012-2014. A full explanation of the sources of data and methodology is in Methodology.

People at Risk In 25 U.S. Cities Most Polluted by Short-Term Particle Pollution (24-hour $PM_{2.5}$)

2016 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Diabetes[9]	Poverty[10]
1	Bakersfield, CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	58,509	206,604
2	Fresno–Madera, CA	1,120,522	321,538	127,627	28,482	61,434	37,066	54,190	78,465	293,929
3	Visalia–Porterville–Hanford, CA	608,467	186,159	61,302	16,490	32,302	18,893	27,286	39,992	160,479
4	Modesto–Merced, CA	798,350	225,241	92,260	19,952	44,214	26,914	39,399	57,132	160,041
5	Fairbanks, AK	99,357	23,924	7,913	2,205	5,999	2,938	3,875	4,764	9,011
6	Salt Lake City–Provo-Orem, UT	2,423,912	749,941	222,480	50,564	145,851	59,401	93,542	115,627	267,966
7	Logan, UT—ID	131,364	41,232	11,968	2,889	7,834	3,153	4,831	5,817	17,696
8	San Jose–San Francisco–Oakland, CA	8,607,423	1,876,296	1,168,168	166,204	523,893	330,069	488,003	703,447	968,270
9	Los Angeles–Long Beach, CA	18,550,288	4,419,138	2,287,192	391,452	1,093,121	670,009	981,745	1,425,473	3,174,300
10	Missoula, MT	112,684	21,839	15,363	1,555	8,935	5,475	5,801	6,945	17,216
11	Reno–Carson City–Fernley, NV	597,837	130,592	97,747	8,848	38,360	34,676	45,621	47,522	89,277
11	Lancaster, PA	533,320	128,671	87,385	13,929	39,794	27,486	39,175	44,979	54,499
13	El Centro, CA	179,091	51,111	21,523	4,527	9,863	6,046	8,897	12,791	40,162
14	Pittsburgh–New Castle–Weirton, PA—OH—WV	2,653,781	512,313	489,155	55,262	210,546	154,349	218,588	249,655	331,578
15	Yakima, WA	247,687	73,891	31,719	4,826	16,075	10,398	12,998	14,992	50,044
16	Anchorage, AK	398,892	101,730	36,091	9,374	23,752	12,587	16,994	20,760	39,450
17	Sacramento-Roseville, CA	2,513,103	592,935	358,196	52,523	149,894	96,523	144,007	205,390	397,024
18	Philadelphia–Reading–Camden, PA—NJ—DE—MD	7,164,790	1,601,349	1,058,447	164,662	520,226	350,165	491,940	577,817	950,284
18	Harrisburg–York–Lebanon, PA	1,239,677	271,569	204,056	29,398	95,249	66,506	94,211	108,812	129,647
20	El Paso–Las Cruces, TX—NM	1,050,374	290,708	124,863	20,269	55,486	39,945	58,111	81,066	250,142
21	Eugene, OR	358,337	68,413	62,334	4,963	29,455	16,575	24,260	26,412	64,722
21	South Bend–Elkhart-Mishawaka, IN—MI	723,537	178,540	110,538	15,281	58,635	48,571	53,112	58,902	111,135
21	Phoenix–Mesa-Scottsdale, AZ	4,489,109	1,121,933	638,383	122,364	325,041	226,682	264,470	327,660	753,716
24	New York–Newark, NY—NJ—CT—PA	23,632,722	5,198,379	3,383,979	473,026	1,812,756	1,039,620	1,392,285	1,785,585	3,281,939
25	Medford–Grants Pass, OR	293,886	60,420	63,154	4,383	23,312	14,641	22,447	24,063	54,487

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 $PM_{2.5}$ 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 2014 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 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. 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.
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 $PM_{2.5}$)

2016 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Diabetes[9]	Poverty[10]
1	Bakersfield, CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	58,509	206,604
2	Visalia–Porterville–Hanford, CA	608,467	186,159	61,302	16,490	32,302	18,893	27,286	39,992	160,479
3	Fresno–Madera, CA	1,120,522	321,538	127,627	28,482	61,434	37,066	54,190	78,465	293,929
4	Los Angeles–Long Beach, CA	18,550,288	4,419,138	2,287,192	391,452	1,093,121	670,009	981,745	1,425,473	3,174,300
5	El Centro, CA	179,091	51,111	21,523	4,527	9,863	6,046	8,897	12,791	40,162
6	Modesto-Merced, CA	798,350	225,241	92,260	19,952	44,214	26,914	39,399	57,132	160,041
6	San Jose–San Francisco–Oakland, CA	8,607,423	1,876,296	1,168,168	166,204	523,893	330,069	488,003	703,447	968,270
8	Pittsburgh–New Castle–Weirton, PA—OH—WV	2,653,781	512,313	489,155	55,262	210,546	154,349	218,588	249,655	331,578
9	Harrisburg–York–Lebanon, PA	1,239,677	271,569	204,056	29,398	95,249	66,506	94,211	108,812	129,647
10	Louisville/Jefferson County–Elizabethtown–Madison, KY—IN	1,498,593	348,103	213,057	35,700	134,900	132,472	132,990	138,376	213,396
11	Cleveland–Akron–Canton, OH	3,497,851	763,909	583,516	79,634	296,253	229,278	285,478	327,871	527,700
12	Philadelphia–Reading–Camden, PA—NJ—DE—MD	7,164,790	1,601,349	1,058,447	164,662	520,226	350,165	491,940	577,817	950,284
13	Indianapolis–Carmel-Muncie, IN	2,353,935	581,717	304,412	46,418	190,921	152,034	157,184	183,577	342,625
14	Cincinnati–Wilmington–Maysville, OH—KY—IN	2,208,450	532,957	302,529	55,681	186,179	148,558	168,576	191,278	304,362
14	Altoona, PA	125,955	25,897	24,360	2,803	9,732	7,144	10,387	11,828	18,367
16	Houston–The Woodlands, TX	6,686,318	1,793,010	668,355	126,257	322,667	251,119	362,663	515,515	1,014,700
16	San Luis Obispo–Paso Robles–Arroyo Grande, CA	279,083	50,639	48,977	4,486	17,852	11,905	18,081	25,139	38,048
16	Lancaster, PA	533,320	128,671	87,385	13,929	39,794	27,486	39,175	44,979	54,499
16	Johnstown–Somerset, PA	213,950	40,609	43,588	4,396	16,796	12,637	18,455	20,999	29,818
20	Detroit–Warren–Ann Arbor, MI	5,315,251	1,206,783	779,744	123,521	448,280	362,499	401,894	414,592	854,741
21	Erie–Meadville, PA	365,618	79,430	59,913	8,598	28,186	19,491	27,596	31,850	55,897
22	Birmingham–Hoover–Talladega, AL	1,317,269	305,150	195,649	40,271	96,700	102,850	119,939	129,794	227,444
23	Little Rock–North Little Rock, AR	902,443	215,116	126,381	19,823	60,518	60,538	83,498	83,957	138,677
23	Fairbanks, AK	99,357	23,924	7,913	2,205	5,999	2,938	3,875	4,764	9,011
23	Wheeling, WV—OH	145,205	28,098	27,933	2,779	12,814	13,249	15,016	15,880	22,863

Notes:

1. Cities are ranked using the highest Design Value 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 $PM_{2.5}$ 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 2014 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 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. 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.
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

2016 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Poverty[9]
1	Los Angeles–Long Beach, CA	18,550,288	4,419,138	2,287,192	391,452	1,093,121	670,009	981,745	3,174,300
2	Bakersfield, CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	206,604
3	Visalia–Porterville–Hanford, CA	608,467	186,159	61,302	16,490	32,302	18,893	27,286	160,479
4	Fresno–Madera, CA	1,120,522	321,538	127,627	28,482	61,434	37,066	54,190	293,929
5	Phoenix–Mesa–Scottsdale, AZ	4,489,109	1,121,933	638,383	122,364	325,041	226,682	264,470	753,716
6	Sacramento–Roseville, CA	2,513,103	592,935	358,196	52,523	149,894	96,523	144,007	397,024
7	Modesto–Merced, CA	798,350	225,241	92,260	19,952	44,214	26,914	39,399	160,041
8	Denver–Aurora, CO	3,345,261	793,140	390,042	73,088	213,917	98,921	141,891	366,306
9	Las Vegas–Henderson, NV—AZ	2,315,324	537,815	341,926	38,006	145,606	123,949	161,771	367,162
10	Fort Collins, CO	324,122	66,316	45,174	6,111	21,566	10,288	15,005	40,447
11	Dallas–Fort Worth, TX—OK	7,352,613	1,955,521	783,598	138,192	357,988	283,225	412,255	1,070,914
12	El Centro, CA	179,091	51,111	21,523	4,527	9,863	6,046	8,897	40,162
13	San Diego–Carlsbad, CA	3,263,431	728,756	414,831	64,554	195,372	119,112	174,704	467,248
14	New York–Newark, NY—NJ—CT—PA	23,632,722	5,198,379	3,383,979	473,026	1,812,756	1,039,620	1,392,285	3,281,939
15	Houston–The Woodlands, TX	6,686,318	1,793,010	668,355	126,257	322,667	251,119	362,663	1,014,700
16	San Jose–San Francisco–Oakland, CA	8,607,423	1,876,296	1,168,168	166,204	523,893	330,069	488,003	968,270
16	El Paso–Las Cruces, TX—NM	1,050,374	290,708	124,863	20,269	55,486	39,945	58,111	250,142
18	St. Louis–St. Charles–Farmington, MO—IL	2,910,738	661,874	433,117	69,380	216,710	171,469	212,938	375,430
19	Tulsa–Muskogee–Bartlesville, OK	1,139,468	283,780	165,606	33,208	83,664	69,226	91,441	168,032
20	Grand Rapids–Wyoming–Muskegon, MI	1,421,374	347,314	192,463	35,549	117,357	92,343	100,472	201,409
21	Chicago–Naperville, IL—IN—WI	9,928,312	2,352,737	1,281,668	196,172	704,799	447,098	583,987	1,363,034
22	Sheboygan, WI	115,290	26,246	18,698	2,665	9,151	4,811	6,945	10,165
23	San Luis Obispo–Paso Robles–Arroyo Grande, CA	279,083	50,639	48,977	4,486	17,852	11,905	18,081	38,048
24	Oklahoma City–Shawnee, OK	1,408,578	350,012	180,934	40,959	103,616	80,811	105,397	210,010
25	Edwards–Glenwood Springs, CO	128,008	30,024	13,219	2,767	8,229	3,748	5,292	11,121

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 $PM_{2.5}$ 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 2014 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 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. 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.
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 $PM_{2.5}$)

2016 Rank[1]	County	ST	Total Population[2]	At-Risk Groups								High $PM_{2.5}$ Days in Unhealthy Ranges, 2012–2014	
				Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Diabetes[9]	Poverty[10]	Weighted Avg.[11]	Grade[12]
1	Kern	CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	58,509	206,604	48.7	F
2	Fresno	CA	965,974	278,941	107,886	24,709	52,769	31,650	46,170	66,992	261,387	44.7	F
3	Kings	CA	150,269	41,383	13,678	3,666	8,273	4,636	6,575	9,814	33,174	40.7	F
4	Stanislaus	CA	531,997	145,429	64,423	12,882	29,928	18,489	27,190	39,304	95,456	32.5	F
5	Lemhi	ID	7,726	1,408	2,111	130	543	394	666	639	1,392	32.2	F
6	Madera	CA	154,548	42,597	19,741	3,773	8,665	5,416	8,020	11,473	32,542	26.0	F
7	Fairbanks North Star Borough	AK	99,357	23,924	7,913	2,205	5,999	2,938	3,875	4,764	9,011	23.2	F
8	Ravalli	MT	41,030	8,309	9,488	592	3,068	2,548	3,042	3,328	7,013	21.8	F
9	Salt Lake	UT	1,091,742	309,309	104,910	20,855	68,208	28,129	44,485	55,027	128,385	20.2	F
10	Cache	UT	118,343	36,806	10,196	2,482	7,088	2,718	4,171	5,154	16,303	19.7	F
11	San Joaquin	CA	715,597	199,024	84,210	17,630	39,987	24,581	36,051	52,309	145,167	19.0	F
12	Merced	CA	266,353	79,812	27,837	7,070	14,286	8,424	12,209	17,828	64,585	16.8	F
13	Utah	UT	560,974	195,605	40,251	13,188	31,749	11,802	17,516	21,978	69,472	14.5	F
14	Franklin	ID	13,021	4,426	1,772	408	746	436	659	663	1,393	13.2	F
15	Tulare	CA	458,198	144,776	47,624	12,824	24,029	14,258	20,711	30,178	127,305	13.0	F
16	Shoshone	ID	12,390	2,446	2,692	225	856	573	919	914	2,310	12.7	F
17	Riverside	CA	2,329,271	613,655	307,271	54,358	132,989	83,667	124,150	177,332	392,706	11.2	F
18	Santa Cruz	CA	271,804	54,682	36,624	4,844	16,880	10,546	15,538	22,490	42,076	11.0	F
19	Weber	UT	240,475	70,164	26,702	4,731	14,854	6,374	10,490	12,731	29,322	10.8	F
20	Lake	OR	7,838	1,449	1,799	105	634	414	639	685	1,429	10.2	F
21	Missoula	MT	112,684	21,839	15,363	1,555	8,935	5,475	5,801	6,945	17,216	9.2	F
22	Plumas	CA	18,606	3,201	4,595	284	1,255	979	1,548	2,087	2,556	8.8	F
22	Lancaster	PA	533,320	128,671	87,385	13,929	39,794	27,486	39,175	44,979	54,499	8.8	F
22	Washoe	NV	440,078	98,655	64,302	6,684	27,801	24,140	31,627	32,983	67,110	8.8	F
22	Inyo	CA	18,410	3,785	3,932	335	1,175	872	1,362	1,854	2,533	8.8	F

Notes:

1. Counties are ranked by weighted average. See note 11 below.
2. **Total Population** represents the at-risk populations in counties with $PM_{2.5}$ monitors.
3. Those **under 18** and **65 and over** are vulnerable to $PM_{2.5}$ 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 2014 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 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. 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.
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.
11. The **Weighted Average** was derived by counting the number of days in each unhealthful range (orange, red, purple, maroon) in each year (2012-2014), 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.
12. **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 $PM_{2.5}$)

2016 Rank[1]	County	ST	Total Population[2]	At-Risk Groups								$PM_{2.5}$ Annual, 2012–2014	
				Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Diabetes[9]	Poverty[10]	Design Value[11]	Pass/ Grade[12]
1	Kern	CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	58,509	206,604	19.7	Fail
2	Tulare	CA	458,198	144,776	47,624	12,824	24,029	14,258	20,711	30,178	127,305	17.2	Fail
3	Kings	CA	150,269	41,383	13,678	3,666	8,273	4,636	6,575	9,814	33,174	16.8	Fail
4	Madera	CA	154,548	42,597	19,741	3,773	8,665	5,416	8,020	11,473	32,542	15.9	Fail
5	Fresno	CA	965,974	278,941	107,886	24,709	52,769	31,650	46,170	66,992	261,387	15.4	Fail
6	Riverside	CA	2,329,271	613,655	307,271	54,358	132,989	83,667	124,150	177,332	392,706	14.6	Fail
7	Imperial	CA	179,091	51,111	21,523	4,527	9,863	6,046	8,897	12,791	40,162	14.3	Fail
8	Plumas	CA	18,606	3,201	4,595	284	1,255	979	1,548	2,087	2,556	14.1	Fail
9	Stanislaus	CA	531,997	145,429	64,423	12,882	29,928	18,489	27,190	39,304	95,456	14.0	Fail
9	San Joaquin	CA	715,597	199,024	84,210	17,630	39,987	24,581	36,051	52,309	145,167	14.0	Fail
11	Shoshone	ID	12,390	2,446	2,692	225	856	573	919	914	2,310	13.1	Fail
12	Allegheny	PA	1,231,255	234,334	213,797	25,367	98,074	67,737	96,403	110,810	157,151	13.0	Fail
13	San Bernardino	CA	2,112,619	575,325	218,318	50,963	118,259	69,775	100,603	148,690	422,405	12.8	Fail
14	Lebanon	PA	136,359	31,262	25,025	3,384	10,246	7,418	10,748	12,252	14,442	12.7	Fail
15	Jefferson	KY	760,026	172,157	110,291	18,673	70,389	71,607	71,269	72,313	124,850	12.5	Fail
15	Cuyahoga	OH	1,259,828	271,080	207,118	28,259	107,221	82,026	101,553	116,813	241,829	12.4	Fail
16	Los Angeles	CA	10,116,705	2,303,617	1,233,007	204,057	603,091	366,048	534,609	778,287	1,863,025	12.3	Fail
16	Delaware	PA	562,960	126,171	84,703	13,658	43,259	29,115	40,683	47,277	59,610	12.3	Fail
18	Lemhi	ID	7,726	1,408	2,111	130	543	394	666	639	1,392	12.1	Fail
18	Hawaii	HI	194,190	42,750	34,035	6,846	14,062	6,079	11,575	15,624	34,598	12.1	Fail
21	Marion	IN	934,243	232,996	105,443	18,592	75,854	57,704	57,825	68,523	194,803	11.8	Pass
22	Merced	CA	266,353	79,812	27,837	7,070	14,286	8,424	12,209	17,828	64,585	11.7	Pass
22	Blair	PA	125,955	25,897	24,360	2,803	9,732	7,144	10,387	11,828	18,367	11.7	Pass
22	Hamilton	OH	806,631	187,730	114,279	19,570	67,366	49,264	59,121	69,068	138,939	11.7	Pass
22	Stark	OH	375,736	82,402	66,476	8,590	31,729	24,969	31,511	35,886	54,744	11.7	Pass

Notes:

1. Counties are ranked by Design Value. See note 11 below.
2. **Total Population** represents the at-risk populations in counties with $PM_{2.5}$ monitors.
3. Those under 18 and 65 and over are vulnerable to $PM_{2.5}$ 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 2014 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 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. 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.
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.
11. The **Design Value** is the calculated concentration of a pollutant based on the form of the Annual $PM_{2.5}$ National Ambient Air Quality Standard and is used by EPA to determine whether the air quality in a county meets the current (2012) standard (U.S. EPA).
12. **Grades** are based on EPA's determination of meeting or failure to meet the NAAQS for annual $PM_{2.5}$ levels during 2012-2014. Counties meeting the NAAQS received grades of Pass; counties not meeting the NAAQS received grades of Fail.

People at Risk in 25 Most Ozone-Polluted Counties

2016 Rank[1]	County	ST	Total Population[2]	At-Risk Groups							High Ozone Days in Unhealthy Ranges, 2012–2014	
				Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Poverty[9]	Weighted Avg.[10]	Grade[11]
1	San Bernardino	CA	2,112,619	575,325	218,318	50,963	118,259	69,775	100,603	422,405	152.5	F
2	Riverside	CA	2,329,271	613,655	307,271	54,358	132,989	83,667	124,150	392,706	140.3	F
3	Kern	CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	206,604	113.3	F
4	Los Angeles	CA	10,116,705	2,303,617	1,233,007	204,057	603,091	366,048	534,609	1,863,025	109.2	F
5	Tulare	CA	458,198	144,776	47,624	12,824	24,029	14,258	20,711	127,305	107.8	F
6	Fresno	CA	965,974	278,941	107,886	24,709	52,769	31,650	46,170	261,387	103.8	F
7	Madera	CA	154,548	42,597	19,741	3,773	8,665	5,416	8,020	32,542	57.7	F
8	Kings	CA	150,269	41,383	13,678	3,666	8,273	4,636	6,575	33,174	43.8	F
9	Maricopa	AZ	4,087,191	1,023,993	565,934	111,682	295,891	205,053	237,992	687,643	43.2	F
10	El Dorado	CA	183,087	38,231	32,882	3,387	11,648	8,290	12,675	20,715	41.3	F
11	Stanislaus	CA	531,997	145,429	64,423	12,882	29,928	18,489	27,190	95,456	40.0	F
12	Sacramento	CA	1,482,026	361,087	189,691	31,985	86,971	54,148	79,792	264,955	39.2	F
13	Uintah	UT	36,867	12,467	3,346	841	2,126	873	1,385	3,512	37.7	F
14	Jefferson	CO	558,503	116,545	81,934	10,740	37,019	19,087	27,756	45,482	35.7	F
15	Clark	NV	2,069,681	492,248	275,388	33,351	127,039	107,052	139,436	318,965	34.5	F
16	Larimer	CO	324,122	66,316	45,174	6,111	21,566	10,288	15,005	40,447	32.2	F
17	Merced	CA	266,353	79,812	27,837	7,070	14,286	8,424	12,209	64,585	31.5	F
18	Tarrant	TX	1,945,360	526,956	198,779	37,106	93,711	73,574	106,743	291,534	29.7	F
19	Mariposa	CA	17,682	2,945	4,336	261	1,199	931	1,470	2,830	28.7	F
20	Imperial	CA	179,091	51,111	21,523	4,527	9,863	6,046	8,897	40,162	28.2	F
21	San Diego	CA	3,263,431	728,756	414,831	64,554	195,372	119,112	174,704	467,248	27.5	F
22	Denton	TX	753,363	196,521	65,706	13,838	36,579	27,662	39,256	64,947	26.7	F
23	Placer	CA	371,694	85,109	66,239	7,539	22,720	15,850	24,301	30,490	26.5	F
24	Fairfield	CT	945,438	223,021	135,792	21,351	66,025	36,189	53,156	83,132	24.3	F
25	Nevada	CA	98,893	17,582	23,179	1,557	6,578	5,015	7,892	11,193	24.0	F

Notes:

1. Counties are ranked by weighted average. See note 10 below.
2. **Total Population** represents the at-risk populations in counties with $PM_{2.5}$ monitors.
3. Those **under 18** and **65 and over** are vulnerable to $PM_{2.5}$ 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 2014 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 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. 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.
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.
10. The **Weighted Average** was derived by counting the number of days in each unhealthful range (orange, red, purple) in each year (2012-2014), 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.
11. 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 $PM_{2.5}$)[1]

Metropolitan Statistical Area	Population
Albany–Schenectady, NY	1,173,518
Alexandria, LA	154,872
Asheville–Brevard, NC	475,361
Augusta–Richmond County, GA-SC	583,632
Austin–Round Rock, TX	1,943,299
Bangor, ME	153,414
Beckley, WV	123,373
Bellingham, WA	208,351
Birmingham–Hoover–Talladega, AL	1,317,269
Bowling Green–Glasgow, KY	218,870
Brunswick, GA	114,806
Buffalo–Cheektowaga, NY	1,214,960
Burlington–South Burlington, VT	216,167
Charleston–Huntington–Ashland, WV—OH—KY	698,809
Charlotte–Concord, NC—SC	2,537,990
Charlottesville, VA	226,968
Chattanooga–Cleveland–Dalton, TN—GA—AL	945,148
Cheyenne, WY	96,389
Colorado Springs, CO	686,908
Columbus–Marion–Zanesville, OH	2,398,297
Des Moines–Ames–West Des Moines, IA	768,927
Dothan–Enterprise–Ozark, AL	248,488
Duluth, MN—WI	280,218
Eau Claire–Menomonie, WI	209,329
Edwards–Glenwood Springs, CO	128,008
Elmira–Corning, NY	186,164
Evansville, IN—KY	315,162
Farmington, NM	123,785
Fayetteville–Lumberton–Laurinburg, NC	548,275
Fayetteville–Springdale–Rogers, AR—MO	501,653
Florence, SC	207,030
Florence–Muscle Shoals, AL	147,639
Fort Smith, AR—OK	279,592
Gadsden, AL	103,531
Goldsboro, NC	124,456
Grand Island, NE	84,755
Grand Rapids–Wyoming–Muskegon, MI	1,421,374
Greensboro–Winston-Salem–High Point, NC	1,630,368
Greenville–Washington, NC	222,939
Gulfport–Biloxi–Pascagoula, MS	386,144
Harrisonburg–Staunton–Waynesboro, VA	250,415
Hot Springs–Malvern, AR	130,690
Houma–Thibodaux, LA	211,348
Huntsville–Decatur–Albertville, AL	688,806
Jackson–Vicksburg–Brookhaven, MS	669,402
La Crosse–Onalaska, WI—MN	136,749
Lafayette–Opelousas–Morgan City, LA	621,845
Lake Charles, LA	203,883
Lansing–East Lansing–Owosso, MI	539,391
Lexington-Fayette–Richmond–Frankfort, KY	716,090
Lima–Van Wert–Celina, OH	220,174
Longview–Marshall, TX	284,817
Lynchburg, VA	257,835
McAllen–Edinburg, TX	894,028
Mobile–Daphne–Fairhope, AL	615,234
Monroe–Ruston–Bastrop, LA	253,241
Montgomery, AL	373,141
Morgantown–Fairmont, WV	194,054
New Orleans–Metairie–Hammond, LA—MS	1,480,408
Oklahoma City–Shawnee, OK	1,408,578
Owensboro, KY	116,506
Parkersburg–Marietta–Vienna, WV—OH	153,295
Pittsfield, MA	128,715
Portland–Lewiston–South Portland, ME	630,992
Pueblo–Cañon City, CO	208,377
Raleigh–Durham–Chapel Hill, NC	2,075,126
Rapid City–Spearfish, SD	168,295
Redding–Red Bluff, CA	242,871
Richmond, VA	1,260,029
Roanoke, VA	313,388
Rochester–Batavia–Seneca Falls, NY	1,177,439
Rome–Summerville, GA	121,002
Saginaw–Midland–Bay City, MI	384,618
Salinas, CA	431,344
Salisbury, MD–DE	389,922
San Antonio–New Braunfels, TX	2,328,652
Santa Maria–Santa Barbara, CA	440,668
Scranton–Wilkes-Barre–Hazleton, PA	559,679
Sierra Vista–Douglas, AZ	127,448
Springfield–Branson, MO	537,631
Springfield–Greenfield Town, MA	699,962
St. George, UT	151,948
Syracuse–Auburn, NY	740,301
Texarkana, TX–AR	149,235
Toledo–Port Clinton, OH	648,610
Tulsa–Muskogee–Bartlesville, OK	1,139,468
Tuscaloosa, AL	237,761
Urban Honolulu, HI	991,788
Valdosta, GA	143,317
Virginia Beach–Norfolk, VA—NC	1,819,427
Waterloo–Cedar Falls, IA	169,993
Wilmington, NC	272,548
Youngstown–Warren, OH—PA	658,949

Note:

1. Monitors in these cities reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the current (2006) standard (U.S. EPA).

Top 25 Cleanest U.S. Cities for Year-Round Particle Pollution (Annual $PM_{2.5}$)[1]

Rank[2]	Design Value[3]	Metropolitan Statistical Area	Population
1	4.5	Farmington, NM	123,785
2	4.7	Cheyenne, WY	96,389
3	4.8	Casper, WY	81,624
4	5.4	Kahului-Wailuku-Lahaina, HI	163,108
5	5.6	Urban Honolulu, HI	991,788
6	5.7	Bismarck, ND	126,597
7	6.0	Elmira-Corning, NY	186,164
8	6.1	Salinas, CA	431,344
9	6.3	Redding-Red Bluff, CA	242,871
10	6.4	Fargo-Wahpeton, ND-MN	251,218
11	6.5	Albuquerque-Santa Fe-Las Vegas, NM	1,165,798
12	6.6	Burlington-South Burlington, VT	216,167
13	6.7	Syracuse-Auburn, NY	740,301
13	6.7	Wilmington, NC	272,548
13	6.7	Bangor, ME	153,414
13	6.7	Rapid City-Spearfish, SD	168,295
17	6.8	Anchorage, AK	398,892
18	7.0	Sierra Vista-Douglas, AZ	127,448
19	7.2	Rochester-Austin, MN	252,101
19	7.2	Duluth, MN-WI	280,218
19	7.2	Grand Island, NE	84,755
22	7.3	Albany-Schenectady, NY	1,173,518
22	7.3	Pittsfield, MA	128,715
24	7.4	Yuma, AZ	203,247
24	7.4	Houma-Thibodaux, LA	211,348

Notes:

1. This list represents cities with the lowest levels of year-round $PM_{2.5}$ 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 Annual $PM_{2.5}$ National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the current (2012) standard (U.S. EPA).

Cleanest U.S. Cities for Ozone Air Pollution[1]

Metropolitan Statistical Area	Population
Bellingham, WA	208,351
Bend-Redmond-Prineville, OR	191,386
Bismarck, ND	126,597
Brownsville-Harlingen-Raymondville, TX	442,295
Brunswick, GA	114,806
Burlington-South Burlington, VT	216,167
Cape Coral-Fort Myers-Naples, FL	1,028,290
Charleston-North Charleston, SC	727,689
Dothan-Enterprise-Ozark, AL	248,488
Elmira-Corning, NY	186,164
Eugene, OR	358,337
Fairbanks, AK	99,357
Fargo-Wahpeton, ND-MN	251,218
Gadsden, AL	103,531
Idaho Falls-Rexburg-Blackfoot, ID	234,440
Lincoln-Beatrice, NE	340,608
McAllen-Edinburg, TX	894,028
Missoula, MT	112,684
Monroe-Ruston-Bastrop, LA	253,241
Montgomery, AL	373,141
New Bern-Morehead City, NC	196,345
Ocala, FL	339,167
Salinas, CA	431,344
Savannah-Hinesville-Statesboro, GA	527,106
Sebring, FL	98,236
Sioux City-Vermillion, IA-SD-NE	182,738
Spokane-Spokane Valley-Coeur d'Alene, WA-ID	688,279
Tallahassee-Bainbridge, FL-GA	402,971
Tuscaloosa, AL	237,761
Urban Honolulu, HI	991,788
Utica-Rome, NY	296,615
Victoria-Port Lavaca, TX	120,427

Notes:

1. This list represents cities with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on the current (2015) standard (U.S. EPA).

Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$)[1]

County	State	MSAs and Respective CSA[2]
Baldwin	AL	Mobile–Daphne–Fairhope, AL
Clay	AL	
Colbert	AL	Florence–Muscle Shoals, AL
DeKalb	AL	
Etowah	AL	Gadsden, AL
Houston	AL	Dothan–Enterprise–Ozark, AL
Jefferson	AL	Birmingham–Hoover–Talladega, 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
Tuscaloosa	AL	Tuscaloosa, AL
Arkansas	AR	
Ashley	AR	
Garland	AR	Hot Springs–Malvern, AR
Jackson	AR	
Polk	AR	
Union	AR	
Washington	AR	Fayetteville–Springdale–Rogers, AR—MO
Cochise	AZ	Sierra Vista–Douglas, AZ
Mohave	AZ	Las Vegas–Henderson, NV—AZ
Pima	AZ	Tucson–Nogales, AZ
Humboldt	CA	
Lake	CA	
Mendocino	CA	
Monterey	CA	Salinas, CA
San Benito	CA	San Jose–San Francisco–Oakland, CA
Santa Barbara	CA	Santa Maria–Santa Barbara, CA
Shasta	CA	Redding–Red Bluff, CA
Sonoma	CA	San Jose–San Francisco–Oakland, CA
Yolo	CA	Sacramento–Roseville, CA
Arapahoe	CO	Denver–Aurora, CO
El Paso	CO	Colorado Springs, CO
Garfield	CO	Edwards–Glenwood Springs, CO
La Plata	CO	
Montezuma	CO	
Pueblo	CO	Pueblo–Cañon City, CO
Hartford	CT	Hartford–West Hartford, CT
Litchfield	CT	New York–Newark, NY—NJ—CT—PA
Kent	DE	Philadelphia–Reading–Camden, PA—NJ—DE—MD
Sussex	DE	Salisbury, MD—DE
Clarke	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
Clayton	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
Cobb	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
DeKalb	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
Floyd	GA	Rome–Summerville, GA
Fulton	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
Glynn	GA	Brunswick, GA
Hall	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
Houston	GA	Macon–Warner Robins, GA
Lowndes	GA	Valdosta, GA
Paulding	GA	Atlanta–Athens-Clarke County–Sandy Springs, GA
Richmond	GA	Augusta–Richmond County, GA—SC
Walker	GA	Chattanooga–Cleveland–Dalton, TN—GA—AL
Washington	GA	
Honolulu	HI	Urban Honolulu, HI
Kauai	HI	
Black Hawk	IA	Waterloo–Cedar Falls, IA
Delaware	IA	
Lee	IA	
Polk	IA	Des Moines–Ames–West Des Moines, IA
Van Buren	IA	
Dubois	IN	
Floyd	IN	Louisville/Jefferson County–Elizabethtown–Madison, KY—IN
Spencer	IN	
Vanderburgh	IN	Evansville, IN—KY
Johnson	KS	Kansas City–Overland Park–Kansas City, MO—KS
Bell	KY	
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
Fayette	KY	Lexington-Fayette–Richmond–Frankfort, 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
Pulaski	KY	
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

Notes:

1. Monitors in these counties reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the current (2006) standard (U.S. EPA).
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statisical Area and includes one or more counties. CSA stands for Combined Statistical Area and may include multiple MSAs and individual counties.

Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$)[1] (cont.)

County	State	MSAs and Respective CSA[2]
Lafayette Parish	LA	Lafayette–Opelousas–Morgan City, LA
Ouachita Parish	LA	Monroe–Ruston–Bastrop, LA
Rapides Parish	LA	Alexandria, LA
St. Bernard Parish	LA	New Orleans–Metairie–Hammond, LA—MS
Tangipahoa Parish	LA	New Orleans–Metairie–Hammond, LA—MS
Terrebonne Parish	LA	Houma–Thibodaux, LA
West Baton Rouge Parish	LA	Baton Rouge, LA
Berkshire	MA	Pittsfield, MA
Bristol	MA	Boston–Worcester–Providence, MA—RI—NH—CT
Essex	MA	Boston–Worcester–Providence, MA—RI—NH—CT
Hampden	MA	Springfield–Greenfield Town, MA
Plymouth	MA	Boston–Worcester–Providence, MA—RI—NH—CT
Suffolk	MA	Boston–Worcester–Providence, MA—RI—NH—CT
Worcester	MA	Boston–Worcester–Providence, MA—RI—NH—CT
Anne Arundel	MD	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Baltimore	MD	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Dorchester	MD	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Garrett	MD	
Harford	MD	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Kent	MD	
Montgomery	MD	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Prince George's	MD	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Androscoggin	ME	Portland–Lewiston–South Portland, ME
Cumberland	ME	Portland–Lewiston–South Portland, ME
Hancock	ME	
Kennebec	ME	
Oxford	ME	
Penobscot	ME	Bangor, ME
Allegan	MI	Grand Rapids–Wyoming–Muskegon, MI
Bay	MI	Saginaw–Midland–Bay City, MI
Berrien	MI	South Bend–Elkhart–Mishawaka, IN—MI
Chippewa	MI	
Ingham	MI	Lansing–East Lansing–Owosso, MI
Kent	MI	Grand Rapids–Wyoming–Muskegon, MI
Lenawee	MI	Detroit–Warren–Ann Arbor, MI
Macomb	MI	Detroit–Warren–Ann Arbor, MI
Missaukee	MI	
Monroe	MI	Detroit–Warren–Ann Arbor, MI
Oakland	MI	Detroit–Warren–Ann Arbor, MI
Washtenaw	MI	Detroit–Warren–Ann Arbor, MI
Anoka	MN	Minneapolis–St. Paul, MN—WI
Dakota	MN	Minneapolis–St. Paul, MN—WI
Scott	MN	Minneapolis–St. Paul, MN—WI
St. Louis	MN	Duluth, MN—WI
Cass	MO	Kansas City–Overland Park–Kansas City, MO—KS
Cedar	MO	
Clay	MO	Kansas City–Overland Park–Kansas City, MO—KS
Greene	MO	Springfield–Branson, MO
Grenada	MS	
Hancock	MS	Gulfport–Biloxi–Pascagoula, MS
Harrison	MS	Gulfport–Biloxi–Pascagoula, MS
Hinds	MS	Jackson–Vicksburg–Brookhaven, MS
Jackson	MS	Gulfport–Biloxi–Pascagoula, MS
Alamance	NC	Greensboro–Winston-Salem–High Point, NC
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
Duplin	NC	
Durham	NC	Raleigh–Durham–Chapel Hill, 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	
Johnston	NC	Raleigh–Durham–Chapel Hill, NC
Martin	NC	
Mecklenburg	NC	Charlotte–Concord, NC—SC
Mitchell	NC	
Montgomery	NC	
New Hanover	NC	Wilmington, NC
Pitt	NC	Greenville–Washington, NC
Robeson	NC	Fayetteville–Lumberton–Laurinburg, NC
Rowan	NC	Charlotte–Concord, NC—SC
Swain	NC	
Wake	NC	Raleigh–Durham–Chapel Hill, NC
Wayne	NC	Goldsboro, NC
Billings	ND	
Burke	ND	
Hall	NE	Grand Island, NE
Scotts Bluff	NE	
Belknap	NH	Boston–Worcester–Providence, MA—RI—NH—CT

Notes:

1. Monitors in these counties reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the current (2006) standard (U.S. EPA).
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statisical Area and includes one or more counties. CSA stands for Combined Statistical Area and may include multiple MSAs and individual counties.

Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$)[1] (cont.)

County	State	MSAs and Respective CSA[2]
Grafton	NH	
Hillsborough	NH	Boston–Worcester–Providence, MA—RI—NH—CT
Merrimack	NH	Boston–Worcester–Providence, MA—RI—NH—CT
Rockingham	NH	Boston–Worcester–Providence, MA—RI—NH—CT
Atlantic	NJ	Philadelphia–Reading–Camden, PA—NJ—DE—MD
Bergen	NJ	New York–Newark, NY—NJ—CT—PA
Gloucester	NJ	Philadelphia–Reading–Camden, PA—NJ—DE—MD
Mercer	NJ	New York–Newark, NY—NJ—CT—PA
Middlesex	NJ	New York–Newark, NY—NJ—CT—PA
Morris	NJ	New York–Newark, NY—NJ—CT—PA
Ocean	NJ	New York–Newark, NY—NJ—CT—PA
Passaic	NJ	New York–Newark, NY—NJ—CT—PA
Warren	NJ	New York–Newark, NY—NJ—CT—PA
San Juan	NM	Farmington, NM
Santa Fe	NM	Albuquerque–Santa Fe–Las Vegas, NM
Albany	NY	Albany–Schenectady, NY
Bronx	NY	New York–Newark, NY—NJ—CT—PA
Chautauqua	NY	
Erie	NY	Buffalo–Cheektowaga, NY
Essex	NY	
Kings	NY	New York–Newark, NY—NJ—CT—PA
Monroe	NY	Rochester–Batavia–Seneca Falls, NY
New York	NY	New York–Newark, NY—NJ—CT—PA
Onondaga	NY	Syracuse–Auburn, NY
Orange	NY	New York–Newark, NY—NJ—CT—PA
Queens	NY	New York–Newark, NY—NJ—CT—PA
Richmond	NY	New York–Newark, NY—NJ—CT—PA
Steuben	NY	Elmira–Corning, NY
Suffolk	NY	New York–Newark, NY—NJ—CT—PA
Allen	OH	Lima–Van Wert–Celina, OH
Athens	OH	
Butler	OH	Cincinnati–Wilmington–Maysville, OH—KY—IN
Clark	OH	Dayton–Springfield–Sidney, OH
Franklin	OH	Columbus–Marion–Zanesville, OH
Greene	OH	Dayton–Springfield–Sidney, OH
Lake	OH	Cleveland–Akron–Canton, OH
Lawrence	OH	Charleston–Huntington–Ashland, WV—OH—KY
Lorain	OH	Cleveland–Akron–Canton, OH
Lucas	OH	Toledo–Port Clinton, OH
Mahoning	OH	Youngstown–Warren, OH—PA
Medina	OH	Cleveland–Akron–Canton, OH
Portage	OH	Cleveland–Akron–Canton, OH
Preble	OH	
Scioto	OH	Charleston–Huntington–Ashland, WV—OH—KY
Summit	OH	Cleveland–Akron–Canton, OH
Trumbull	OH	Youngstown–Warren, OH—PA
Oklahoma	OK	Oklahoma City–Shawnee, OK
Sequoyah	OK	Fort Smith, AR–OK
Tulsa	OK	Tulsa–Muskogee–Bartlesville, OK
Armstrong	PA	Pittsburgh–New Castle–Weirton, PA—OH—WV
Beaver	PA	Pittsburgh–New Castle–Weirton, PA—OH—WV
Lackawanna	PA	Scranton–Wilkes-Barre–Hazleton, PA
Mercer	PA	Youngstown–Warren, OH–PA
Monroe	PA	New York–Newark, NY—NJ—CT—PA
Washington	PA	Pittsburgh–New Castle–Weirton, PA—OH—WV
Westmoreland	PA	Pittsburgh–New Castle–Weirton, PA—OH—WV
Kent	RI	Boston–Worcester–Providence, MA—RI—NH—CT
Washington	RI	Boston–Worcester–Providence, MA–RI–NH–CT
Chesterfield	SC	
Edgefield	SC	Augusta–Richmond County, GA—SC
Florence	SC	Florence, SC
Richland	SC	Columbia–Orangeburg–Newberry, SC
Spartanburg	SC	Greenville–Spartanburg–Anderson, SC
Brown	SD	
Codington	SD	
Custer	SD	Rapid City–Spearfish, SD
Jackson	SD	
Pennington	SD	Rapid City–Spearfish, SD
Hamilton	TN	Chattanooga–Cleveland–Dalton, TN—GA—AL
Bexar	TX	San Antonio–New Braunfels, TX
Bowie	TX	Texarkana, TX—AR
Ellis	TX	Dallas–Fort Worth, TX—OK
Harrison	TX	Longview–Marshall, TX
Hidalgo	TX	McAllen–Edinburg, TX
Travis	TX	Austin–Round Rock, TX
Washington	UT	St. George, UT
Albemarle	VA	Charlottesville, VA
Arlington	VA	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Bristol City	VA	Johnson City–Kingsport–Bristol, TN—VA
Charles City	VA	Richmond, VA
Chesterfield	VA	Richmond, VA
Hampton City	VA	Virginia Beach–Norfolk, VA—NC
Henrico	VA	Richmond, VA
Loudoun	VA	Washington–Baltimore–Arlington, DC—MD—VA—WV—PA
Lynchburg City	VA	Lynchburg, VA
Norfolk City	VA	Virginia Beach–Norfolk, VA—NC
Page	VA	

Notes:

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2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statisical Area and includes one or more counties. CSA stands for Combined Statistical Area and may include multiple MSAs and individual counties.

Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$)[1] (cont.)

County	State	MSAs and Respective CSA[2]
Rockingham	VA	Harrisonburg–Staunton–Waynesboro, VA
Salem City	VA	Roanoke, VA
Virginia Beach City	VA	Virginia Beach–Norfolk, VA—NC
Bennington	VT	
Chittenden	VT	Burlington–South Burlington, VT
Kitsap	WA	Seattle–Tacoma, WA
Whatcom	WA	Bellingham, WA
Ashland	WI	
Dodge	WI	Milwaukee–Racine–Waukesha, WI
Eau Claire	WI	Eau Claire–Menomonie, WI
Forest	WI	
Grant	WI	
Kenosha	WI	Chicago–Naperville, IL—IN—WI
La Crosse	WI	La Crosse–Onalaska, WI—MN
Ozaukee	WI	Milwaukee–Racine–Waukesha, WI
Sauk	WI	Madison–Janesville–Beloit, WI
Taylor	WI	
Vilas	WI	
Waukesha	WI	Milwaukee–Racine–Waukesha, WI
Brooke	WV	Pittsburgh–New Castle–Weirton, PA—OH—WV
Cabell	WV	Charleston–Huntington–Ashland, WV—OH—KY
Hancock	WV	Pittsburgh–New Castle–Weirton, PA—OH—WV
Harrison	WV	
Kanawha	WV	Charleston–Huntington–Ashland, WV—OH—KY
Marion	WV	Morgantown–Fairmont, WV
Marshall	WV	Wheeling, WV—OH
Monongalia	WV	Morgantown–Fairmont, WV
Raleigh	WV	Beckley, WV
Wood	WV	Parkersburg–Marietta–Vienna, WV—OH
Albany	WY	
Laramie	WY	Cheyenne, WY
Park	WY	
Sheridan	WY	

Notes:

1. Monitors in these counties reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the current (2006) standard (U.S. EPA).
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 and includes one or more counties. CSA stands for Combined Statistical Area and may include multiple MSAs and individual counties.

Top 25 Cleanest Counties for Year-Round Particle Pollution (Annual $PM_{2.5}$)[1]

2016 Rank[2]	County	State	Design Value[3]
1	Custer	SD	3.4
2	Lake	CA	4.0
3	Essex	NY	4.1
3	Hancock	ME	4.4
3	Park	WY	4.4
5	Billings	ND	4.5
5	San Juan	NM	4.5
8	McKenzie	ND	4.6
8	Jackson	SD	4.6
10	Laramie	WY	4.7
11	Dunn	ND	4.8
11	Albany	WY	4.8
11	Natrona	WY	4.8
14	San Benito	CA	5.1
14	Kauai	HI	5.1
14	Vilas	WI	5.1
17	Oliver	ND	5.2
17	Kent	RI	5.2
17	Ashland	WI	5.2
17	Teton	WY	5.2
21	Litchfield	CT	5.3
21	Mercer	ND	5.3
21	Scotts Bluff	NE	5.3
24	Maui	HI	5.4
25	Belknap	NH	5.5
25	Sweetwater	WY	5.5

Notes:

1. This list represents counties with the lowest levels of annual $PM_{2.5}$ 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 Annual $PM_{2.5}$ National Ambient Air Quality Standard and is used by EPA to determine whether the air quality in a county meets the current (2012) standard (U.S. EPA).

Cleanest Counties for Ozone Air Pollution[1]

County	State	Metropolitan Statistical Area
Denali Borough	AK	
Fairbanks North Star Borough	AK	Fairbanks, AK
Elmore	AL	Montgomery, AL
Etowah	AL	Gadsden, AL
Houston	AL	Dothan-Enterprise-Ozark, AL
Montgomery	AL	Montgomery, AL
Tuscaloosa	AL	Tuscaloosa, AL
Colusa	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
Sonoma	CA	San Jose-San Francisco-Oakland, CA
Alachua	FL	Gainesville-Lake City, FL
Baker	FL	Jacksonville-St. Marys-Palatka, FL-GA
Collier	FL	Cape Coral-Fort Myers-Naples, FL
Highlands	FL	Sebring, FL
Holmes	FL	
Lee	FL	Cape Coral-Fort Myers-Naples, FL
Leon	FL	Tallahassee-Bainbridge, FL-GA
Liberty	FL	
Marion	FL	Ocala, FL
Wakulla	FL	Tallahassee-Bainbridge, FL-GA
Chatham	GA	Savannah-Hinesville-Statesboro, GA
Glynn	GA	Brunswick, GA
Sumter	GA	
Honolulu	HI	Urban Honolulu, HI
Polk	IA	Des Moines-Ames-West Des Moines, IA
Story	IA	Des Moines-Ames-West Des Moines, IA
Butte	ID	Idaho Falls-Rexburg-Blackfoot, ID
Ouachita Parish	LA	Monroe-Ruston-Bastrop, LA
Androscoggin	ME	Portland-Lewiston-South Portland, ME
Aroostook	ME	
Oxford	ME	
Crow Wing	MN	
Goodhue	MN	Minneapolis-St. Paul, MN-WI
Mille Lacs	MN	Minneapolis-St. Paul, MN-WI
Stearns	MN	Minneapolis-St. Paul, MN-WI
Washington	MN	Minneapolis-St. Paul, MN-WI
Lauderdale	MS	
Fergus	MT	
Flathead	MT	
Lewis and Clark	MT	
Missoula	MT	Missoula, MT
Phillips	MT	
Powder River	MT	
Richland	MT	
Rosebud	MT	
Carteret	NC	New Bern-Morehead City, NC
Macon	NC	
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
Belknap	NH	Boston-Worcester-Providence, MA-RI-NH-CT
Grant	NM	
Sandoval	NM	Albuquerque-Santa Fe-Las Vegas, NM
Churchill	NV	
Franklin	NY	
Herkimer	NY	Utica-Rome, NY
Orange	NY	New York-Newark, NY-NJ-CT-PA
Steuben	NY	Elmira-Corning, NY
Columbia	OR	Portland-Vancouver-Salem, OR-WA
Deschutes	OR	Bend-Redmond-Prineville, OR
Lane	OR	Eugene, OR
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
Oconee	SC	Greenville-Spartanburg-Anderson, SC
Pickens	SC	Greenville-Spartanburg-Anderson, SC
Jackson	SD	
Union	SD	Sioux City-Vermillion, IA-SD-NE
Brewster	TX	
Cameron	TX	Brownsville-Harlingen-Raymondville, TX
Hidalgo	TX	McAllen-Edinburg, TX
Victoria	TX	Victoria-Port Lavaca, TX
Fauquier	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Chittenden	VT	Burlington-South Burlington, VT
Clallam	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
Carbon	WY	

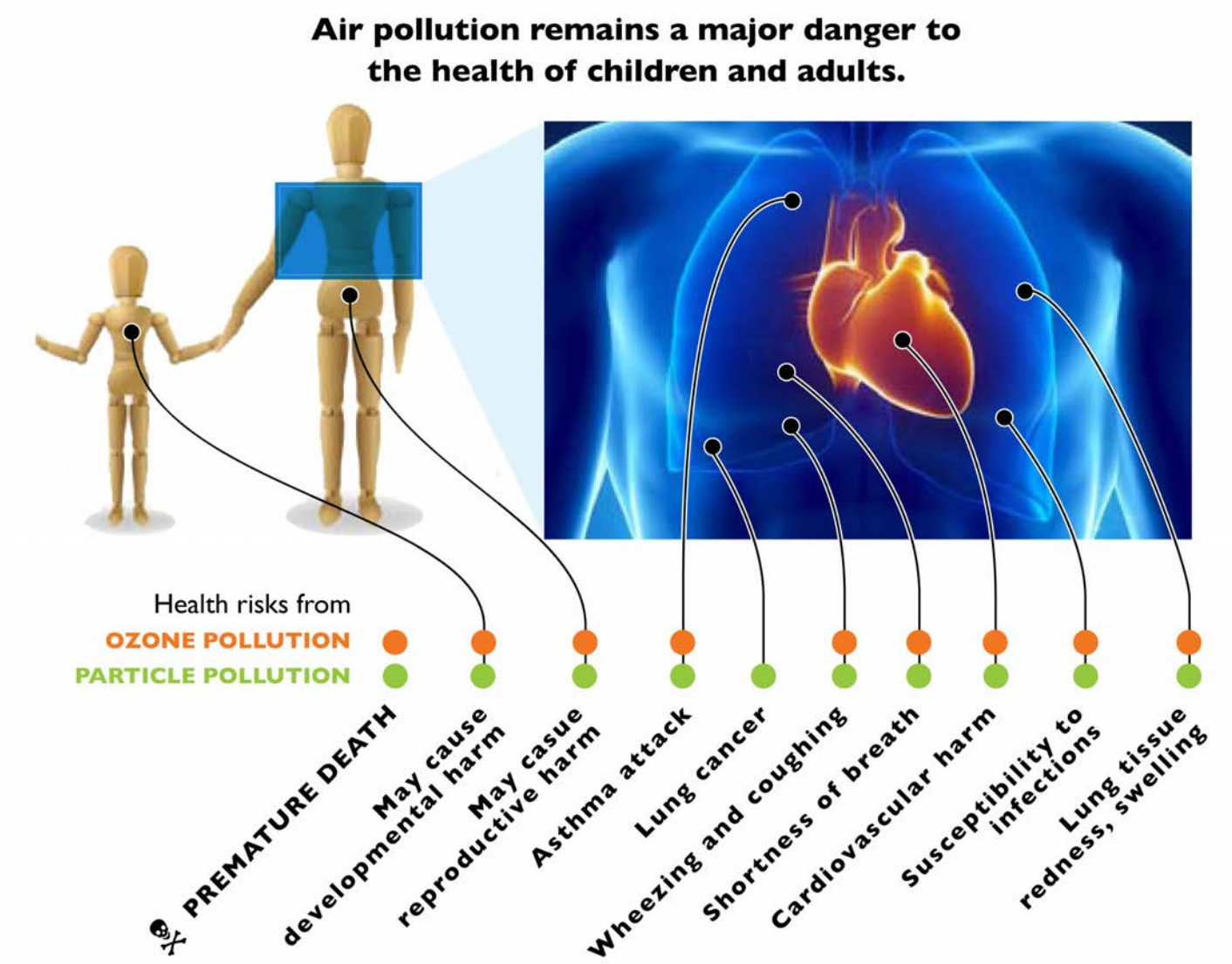
Notes:

1.This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on current (2015) standard (U.S. EPA).

Health Effects of Ozone and Particle Pollution

Two types of air pollution dominate in the U.S.: ozone and particle pollution.[1] 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 166 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.

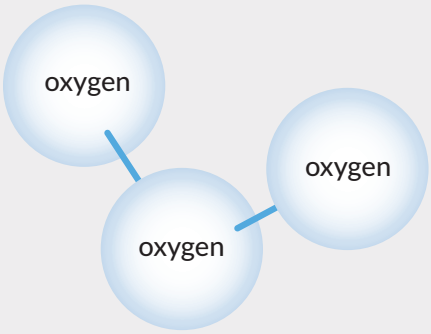
So what are ozone and particle pollution?



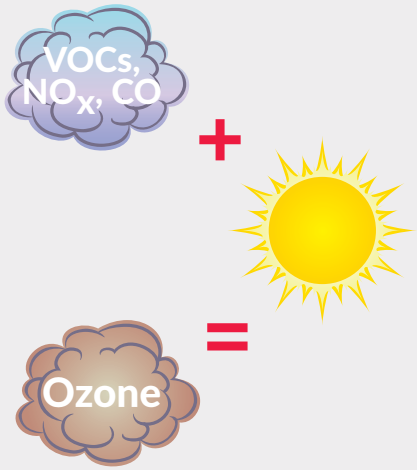
Ozone Pollution

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.



Ozone (O3) is a gas molecule composed of three oxygen atoms.



When gases that come out of tailpipes and smokestacks come in contact with sunlight, they react and form ozone smog.

What Is Ozone?

Ozone (O_3) 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_x), 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_x is emitted from power plants, motor vehicles and other sources of high-heat combustion. VOCs are emitted from motor vehicles, chemical plants, refineries, factories, gas stations, paint and other sources. CO is also primarily emitted from motor vehicles.[2]

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

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.[8] 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.[9]

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.[10] Newer research has confirmed that ozone increased the risk of premature death even when other pollutants also exist.[11]

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.[12]

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.[13] 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.[14] Several studies around the world have found increased risk of hospital admissions or emergency department visits for cardiovascular disease.[15]

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 onset of asthma or 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.[16]
- 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.[17]
- 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.[18]
- Studies link lower birth weight and decreased lung function in newborns to ozone levels in their community.[19] 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 $PM_{2.5}$ levels were high.[20]

EPA finds ozone causes harm and strengthens the national standard. The EPA released their most recent review of the current research on ozone pollution in February 2013.[21] The EPA had engaged a panel of expert scientists, the Clean Air Scientific Advisory Committee, to help them assess the evidence; in particular, they examined 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 following.

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.

Based on that review, the EPA set more protective limits, called national ambient air quality standards, on ozone pollution in October 2015. These official limits drive the cleanup of ozone pollution nationwide. The Clean Air Act requires EPA to review the standards every five years to make sure that they protect the health of the public.

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.

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.

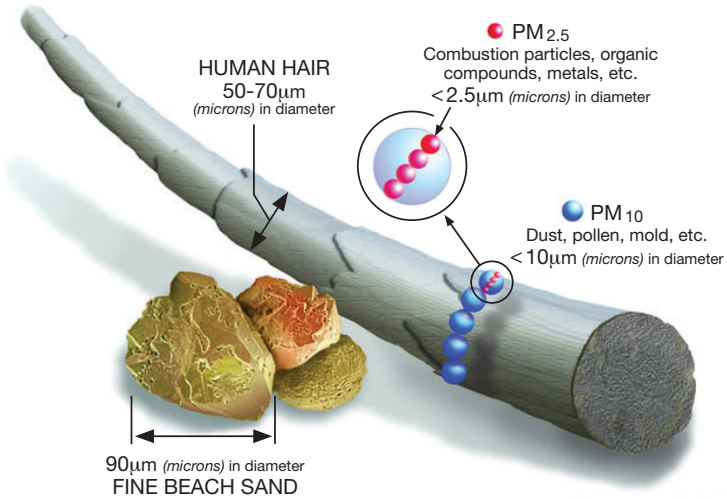


Image courtesy of the U.S. EPA

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 $PM_{10-2.5}$. Fine particles are 2.5 microns in diameter or smaller and are called $PM_{2.5}$. Ultrafine particles are smaller than 0.1 micron in diameter[22] 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; others are solids suspended in liquids. As the EPA puts it, particles are really "a mixture of mixtures."[23]

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 unhealthful mix in the winter in the Northeast, Southern California, the Northwest, and North Central U.S.[24]

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;[25]
- People over 65 years of age;[26]
- People with lung disease such as asthma and chronic obstructive pulmonary disease (COPD), which includes chronic bronchitis and emphysema;
- People with heart disease[27] or diabetes;[28]
- People with low incomes;[29] and
- People who work or are active outdoors.[30]

Diabetics face increased risk at least in part because of their higher risk for cardiovascular disease.[31]

Breathing particle pollution may trigger illness, hospitalization and premature death.

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.[32]

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 $\mu g/m^3$.[33]

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.[34]

These studies add to the growing research that cleaning up air pollution improves life and health.

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.[35]

Even low levels of particles can be deadly. A 2016 study found that people age 65 and older in New England faced a higher risk of premature death from particle pollution, even in places that met current standards for short-term particle pollution.[36]

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 include coughing, wheezing, cardiac arrhythmias and heart attacks. According to extensive research, short-term increases in particle pollution have been linked to:

- death from respiratory and cardiovascular causes, including strokes;[37,38,39,40]
- increased mortality in infants and young children;[41]
- increased numbers of heart attacks, especially among the elderly and in people with heart conditions;[42]
- inflammation of lung tissue in young, healthy adults;[43]
- increased hospitalization for cardiovascular disease, including strokes and congestive heart failure;[44,45,46]
- increased emergency room visits for patients suffering from acute respiratory ailments;[47]
- increased hospitalization for asthma among children;[48,49,50] and
- increased severity of asthma attacks in children.[51]

Again, the impact of even short-term exposure to particle pollution on healthy adults was demonstrated 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.[52]

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[53] and as other studies confirmed.[54] Chronic exposure to particle pollution can shorten life by one to three years.[55] Recent research has confirmed that long-term exposure to particle pollution still kills, even with the declining levels in the U.S. since 2000[56] and even in areas, such as New England, that currently meet the official limit, or standard, for year-round particle pollution.[57]

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.[58]

In late 2013, the World Health Organization concluded that particle pollution could cause lung cancer.

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;[59,60]
- slowed lung function growth in children and teenagers;[61,62]
- development of asthma in children up to age 14;[63]
- significant damage to the small airways of the lungs;[64]
- increased risk of death from cardiovascular disease;[65] and
- increased risk of lower birth weight and infant mortality.[66]

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.[67]

New research has found evidence that long-term exposure to particle pollution may increase the risk of developing diabetes. Two independent reviews of published research found that particle pollution may increase the risk of developing type 2 diabetes mellitus.[68]

The EPA completed their most recent review of the current research on particle pollution in December 2009.[69] 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

Chemical processes in the atmosphere create most of the tiniest particles.

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.[70] 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.[71]

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_2), nitrogen oxides (NO_x) and volatile organic compounds with water and other compounds in the atmosphere.[72] 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.

Are some particles more dangerous than others?

With so many sources of particles, researchers want to know if some particles pose greater risk than others. Researchers are exploring possible differences in health effects of the sizes of particles and particles from different sources, such as diesel particles from trucks and buses or sulfates from coal-fired power plants. Recent studies have tried to answer this question. So far, the answers are complicated.

Some studies have found different kinds of particles may have greater risk for different health outcomes.

- For example, one just-released study found that particles from burning fossil fuels, including coal-burning and diesel emissions, increased the risk of dying prematurely from ischemic heart disease, but that particles from wind-blown soil and biomass combustion did not.[73]
- Another recent study looked at older adults in Connecticut and Massachusetts and found that breathing black carbon, calcium and road dust particles was more likely to send them to the hospital for cardiovascular and respiratory problems than other particles.[74]
- Some of the same researchers found that when they looked at the risk of low birthweight for newborns in the Northeast and Mid-Atlantic states, different particles harmed some groups more than others.[75]

Other studies have identified the challenges of exploring all the kinds of particles and their health effects with the limited monitoring across the nation.[76] Some particles serve as carriers for other chemicals that are also toxic, so determining which are the most toxic remains hard.[77]

The best evidence shows that having less of all types of particles in the air leads to better health and longer lives.

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.[78] In addition, the body's defenses that help adults fight off infections are still developing in young bodies.[79] Children have more respiratory infections than adults, which also seems to increase their susceptibility to air pollution.[80]

The largest portion of a child's lungs will grow long after he or she is born.

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.[81]

Air Pollution Increases Risk of Underdeveloped Lungs

The Southern California Children's Health study looked at the long-term effects of particle pollution on teenagers. Tracking 1,759 children who were between ages 10 and 18 from 1993 to 2001, 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.[82]

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.[83] 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.[84]

Cleaning Up Pollution Can Reduce Risk to Children

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

A 2015 follow-up to that Southern California Children's Health study showed that reducing pollution could improve children's health. This time they tracked a different group of 863 children living in the same area, but growing up between 2007 and 2011, when the air in Southern California was much cleaner. They compared these children to those who had been part of their earlier studies when the air was dirtier. Children growing up in the cleaner air had much greater lung function, a benefit that may help them throughout their lives. As the researchers noted, their study suggested that "all children have the potential to benefit from improvements in air quality." [85]

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.[86]

Disparities in the Impact of Air Pollution

Poorer people and some racial and ethnic groups often face higher exposure and greater responses to 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,[87] including a workshop the American Lung Association held in 2001 that focused on urban air pollution and health inequities.[88]

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,[89] while others found greater responsiveness for Whites and Hispanics, but not African Americans,[90] or for African Americans but not other races or ethnic groups.[91] Other researchers have found greater risk for African Americans from hazardous air pollutants, including those pollutants that also come from traffic sources.[92]

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.[93] 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.[94] 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.[95] However, two other recent studies in France have found no association with lower income and asthma attacks.[96]

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.[97]

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.[98]

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 often breathing very different kinds of particles; the different composition and structure of these particles may have different health impacts.[99]

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 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 to 0.3 miles (300 to 500 meters) from the highway.[100]

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.[101] Studies have found increased risk of premature death from living near a major highway or an urban road.[102] Another study found an increase in risk of heart attacks from being in traffic, whether driving or taking public transportation.[103] Urban women in a Boston study experienced decreased lung function associated with traffic-related pollution.[104]

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.

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.

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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Statistical Methodology: The Air Quality Data

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 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 $PM_{2.5}$ concentration information for the three-year period for 2012-2014 for each monitoring site.

Design values for the annual $PM_{2.5}$ concentrations by county for the period 2012-2014 came from data posted on August 19, 2015, at EPA's website at http://www3.epa.gov/airtrends/pdfs/PM25_DesignValues_20122014_FINAL_08_19_15.xlsx. On December 18, 2014, and on March 31, 2015, EPA made additional updates to the information at http://www3.epa.gov/pmdesignations/2012standards/regs.htm.

Ozone Data Analysis

The 2012, 2013, and 2014 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 September 11, 2015. The data were considered for a three-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 2012, 2013, and 2014, based on the EPA-defined ozone season, was identified.

The current national ambient air quality standard for ozone is 70 parts per billion (ppb) measured over eight hours. The EPA's Air Quality Index reflects the 70 ppb 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:

8-hour Ozone Concentration	Air Quality Index Levels
0 – 54 ppb	Good (Green)
55 – 70 ppb	Moderate (Yellow)
71 – 85 ppb	Unhealthy for Sensitive Groups (Orange)
86 – 105 ppb	Unhealthy (Red)
106 – 200 ppb	Very Unhealthy (Purple)
>201 ppb	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. Unlike the form of the previous 0.075 ppm 8-hour average ozone standard that was established in 2008, the daily maximum 8-hour average concentration for a given day is derived from the highest of the 17 consecutive 8-hour averages beginning with the 8-hour period from 7:00 a.m. to 3:00 p.m. and ending with the 8-hour period from 11:00 p.m. to 7:00 a.m. the following day (i.e., the continuous 8-hour averages running from 7:00 a.m. to 11:00 p.m.). 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 13 of the possible 17 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 71 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 $PM_{2.5}$ concentration for each county in 2012, 2013, and 2014 with monitoring information. The 24-hour $PM_{2.5}$ data were downloaded on August 20, 2015. In addition, hourly averaged $PM_{2.5}$ concentration data were characterized into 24-hour average $PM_{2.5}$ 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 three years, the number of days the maximum of the daily $PM_{2.5}$ 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:

24-hour $PM_{2.5}$ Concentration	Air Quality Index Levels
0.0 mg/m^3 to 12.0 mg/m^3	Good (Green)
12.1 mg/m^3 to 35.4 mg/m^3	Moderate (Yellow)
35.5 mg/m^3 to 55.4 mg/m^3	Unhealthy for Sensitive Groups (Orange)
55.5 mg/m^3 to 150.4 mg/m^3	Unhealthy (Red)
150.5 mg/m^3 to 250.4 mg/m^3	Very Unhealthy (Purple)
greater than or equal to 250.5 mg/m^3	Hazardous (Maroon)

All previous data collected for 24-hour average $PM_{2.5}$ were characterized using the AQI thresholds listed above.

The goal of this report was to identify the number of days that the maximum in each county of the daily $PM_{2.5}$ 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 $PM_{2.5}$ 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 $PM_{2.5}$)

The grades for ozone and short-term particle pollution (24-hour $PM_{2.5}$) 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, and 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 $PM_{2.5}$.

- 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 $PM_{2.5}$ standard. The national air quality standard is set to allow two percent of the days during the three years to exceed 35 $\mu g/m^3$ (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 $\mu g/m^3$ (called a "99th percentile" form) of the $PM_{2.5}$. 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 $PM_{2.5}$ standards. The EPA determines whether a county violates the standard based on the fourth 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 2015 ozone standard. The American Lung Association's position is that the evidence shows that the 2015 ozone standard, although stronger than the 2008 standard, still fails to adequately protect public health.

Counties were ranked by weighted average. Metropolitan areas were ranked by the highest weighted average among the counties 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 $PM_{2.5}$)

Since no comparable Air Quality Index exists for year-round particle pollution (annual $PM_{2.5}$), the grading was based on the 2012 National Ambient Air Quality Standard for annual $PM_{2.5}$ of 12 µg/m^3. Counties that EPA listed as being at or below 12 µg/m^3 were given grades of "Pass." Counties EPA listed as being at or above 12.1 µg/m^3 were given grades of "Fail." Where insufficient data existed for EPA to determine a design value, those counties received a grade of "Incomplete."

EPA officially recognizes that data collected in all Illinois and Florida counties, and most Tennessee counties, had quality control issues that meant that available data could not be considered for development of an official design value. For short-term and annual particle pollution, 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. 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 discussed with EPA; however, the Lung Association made final decisions to grade counties as "Incomplete" where EPA considered $PM_{2.5}$ data to have inadequate quality assurance. 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 2014. 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 2014, the Behavioral Risk Factor Surveillance System (BRFSS) survey found that approximately 21.6 million (8.4 percent) of adults residing in the United States and 9.2 percent of children from thirty-seven states and Washington, D.C. reported currently having asthma. Among adults in the Unites States in 2014, 16.1 million (6.6 percent) had ever been diagnosed with chronic obstructive pulmonary disease (COPD), 20.9 million (7.8 percent) had ever been diagnosed with cardiovascular disease, and 25.4 million (8.4 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 2014 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 2014 BRFSS were available for thirty-seven states and Washington, D.C., from the 2013 BRFSS for one state, from the 2012 BRFSS for two states, and from the 2011 BRFSS for one state, and national data were used for the ten states[1] 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 2014 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.

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.

1 *2013*: Arizona. *2012*: North Dakota and Wyoming. *2011*: Iowa. *National*: Alaska, Arkansas, Colorado, Delaware, Florida, Idaho, Minnesota, South Carolina, South Dakota, and Virginia.

References

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Office of Management and Budget. Revised Delineations of Metropolitan Statistical Areas, Micropolitan Statistical Areas, and Combined Statistical Areas, and Guidance on Uses of the Delineations of These Areas. OMB Bulletin 13-01 February 28, 2013.

U.S. Census Bureau. Small Area Income and Poverty Estimates. State and County Data, 2014.

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 2014 U.S. Census and represents the at-risk populations in counties with ozone or $PM_{2.5}$ pollution monitors; it does not represent the entire state's sensitive populations.
2. Those **18 & under** and **65 & over** are vulnerable to ozone and $PM_{2.5}$. 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 2014 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 2014 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, 2014.
9. Adding across rows does not produce valid estimates. Adding the at-risk categories (asthma, COPD, poverty, etc.) will double-count people who fall into more than one category.

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. For particle pollution, some states collected data, but experienced laboratory quality issues that meant the data could not be used for assessing pollution levels.
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 (2012-2014), 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. The numbers refer to micrograms per cubic meter, or µg/m^3. Design values for the annual $PM_{2.5}$ concentrations by county for the period 2012-2014 are as posted on August 19, 2015, at EPA's website at http://www3.epa.gov/airtrends/values.html. The 2012-2014 design values were compared to the 2012 National Ambient Air Quality Standard for Annual $PM_{2.5}$, particularly to the EPA's assessment of data quality required, as discussed on EPA's website at http://www.epa.gov/pmdesignations/2012standards/regs.htm. Many design values are missing because state data did not meet quality requirements.
6. The annual average National Ambient Air Quality Standard for $PM_{2.5}$ is 12 µg/m^3 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."

ALABAMA

American Lung Association in Alabama

www.lung.org/alabama

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Baldwin	200,111	44,346	37,385	5,852	14,800	16,591	20,322	21,407	25,696
Clay	13,552	2,925	2,631	386	1,010	1,148	1,419	1,489	2,592
Colbert	54,543	11,844	10,099	1,563	4,060	4,540	5,544	5,851	9,022
DeKalb	71,065	17,553	11,159	2,316	5,101	5,505	6,523	6,992	16,856
Elmore	80,977	18,600	11,358	2,455	5,965	6,247	7,186	7,831	10,867
Etowah	103,531	22,830	17,919	3,013	7,685	8,447	10,162	10,811	19,291
Houston	104,193	24,736	16,790	3,264	7,570	8,179	9,717	10,397	20,643
Jefferson	660,793	152,855	94,375	20,173	48,545	50,991	58,886	64,018	125,778
Madison	350,299	78,612	48,012	10,375	26,043	27,432	31,474	34,440	48,750
Mobile	415,123	99,811	60,326	13,172	30,119	31,858	37,033	40,119	80,016
Montgomery	226,189	54,262	30,192	7,161	16,428	16,881	19,197	21,004	48,844
Morgan	119,607	27,640	19,062	3,648	8,781	9,552	11,333	12,164	17,665
Russell	59,608	15,066	7,469	1,988	4,260	4,340	4,888	5,377	12,309
Shelby	206,655	50,446	26,848	6,657	14,978	15,658	17,852	19,596	19,610
Sumter	13,166	2,600	2,147	343	1,006	1,069	1,256	1,350	4,692
Talladega	81,322	18,149	13,058	2,395	6,031	6,548	7,762	8,334	17,499
Tuscaloosa	202,212	42,566	23,722	5,618	15,246	14,741	16,014	17,863	34,553
Totals	**2,962,946**	**684,841**	**432,552**	**90,380**	**217,630**	**229,728**	**266,567**	**289,045**	**514,683**

ALABAMA

American Lung Association in Alabama

www.lung.org/alabama

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Baldwin	4	0	0	1.3	C
Clay	DNC	DNC	DNC	DNC	DNC
Colbert	6	0	0	2.0	C
DeKalb	5	0	0	1.7	C
Elmore	0	0	0	0.0	A
Etowah	0	0	0	0.0	A
Houston	0	0	0	0.0	A
Jefferson	22	4	0	9.3	F
Madison	14	0	0	4.7	F
Mobile	9	0	0	3.0	D
Montgomery	0	0	0	0.0	A
Morgan	6	0	0	2.0	C
Russell	2	0	0	0.7	B
Shelby	8	0	0	2.7	D
Sumter	INC	INC	INC	INC	INC
Talladega	DNC	DNC	DNC	DNC	DNC
Tuscaloosa	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Baldwin	0	0	0	0.0	A	8.8	PASS
Clay	0	0	0	0.0	A	8.6	PASS
Colbert	0	0	0	0.0	A	8.9	PASS
DeKalb	0	0	0	0.0	A	9.3	PASS
Elmore	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Etowah	0	0	0	0.0	A	9.4	PASS
Houston	0	0	0	0.0	A	8.6	PASS
Jefferson	0	0	0	0.0	A	11.3	PASS
Madison	0	0	0	0.0	A	9.0	PASS
Mobile	0	0	0	0.0	A	8.7	PASS
Montgomery	0	0	0	0.0	A	9.9	PASS
Morgan	0	0	0	0.0	A	8.9	PASS
Russell	0	0	0	0.0	A	10.7	PASS
Shelby	0	0	0	0.0	A	9.4	PASS
Sumter	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Talladega	0	0	0	0.0	A	9.6	PASS
Tuscaloosa	0	0	0	0.0	A	9.2	PASS

ALASKA

American Lung Association in Alaska

www.lung.org/alaska

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Anchorage Municipality	301,010	74,964	26,719	6,908	18,046	9,397	12,634	15,450	29,207
Denali Borough	1,921	362	164	33	126	74	97	119	133
Fairbanks North Star Borough	99,357	23,924	7,913	2,205	5,999	2,938	3,875	4,764	9,011
Juneau City and Borough	32,406	7,165	3,436	660	2,028	1,154	1,585	1,928	2,500
Kenai Peninsula Borough	57,477	13,276	8,163	1,223	3,568	2,216	3,209	3,847	6,472
Matanuska-Susitna Borough	97,882	26,766	9,372	2,466	5,706	3,190	4,360	5,310	10,243
Totals	**590,053**	**146,457**	**55,767**	**13,496**	**35,473**	**18,968**	**25,760**	**31,417**	**57,5662**

ALASKA

American Lung Association in Alaska

www.lung.org/alaska

HIGH OZONE DAYS 2012–2014

Borough	Orange	Red	Purple	Wgt. Avg.	Grade
Anchorage Municipality	INC	INC	INC	INC	INC
Denali Borough	0	0	0	0	A
Fairbanks North Star Borough	0	0	0	0.0	A
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

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
Borough	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anchorage Municipality	0	1	0	0.5	B	5.8	PASS
Denali Borough	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fairbanks North Star Borough	26	25	3	23.2	F	11.1	PASS
Juneau City and Borough	4	0	0	1.3	C	6.7	PASS
Kenai Peninsula Borough	0	2	0	1.0	C	0.0	INC
Matanuska-Susitna Borough	17	1	0	6.2	F	6.8	PASS

ARIZONA

American Lung Association in Arizona

www.lung.org/arizona

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Apache	71,828	21,019	9,665	2,292	4,897	3,493	4,089	5,101	23,458
Cochise	127,448	28,533	25,391	3,112	9,447	7,330	9,132	10,901	22,879
Coconino	137,682	30,047	15,252	3,277	10,477	6,640	7,283	9,299	27,154
Gila	53,119	10,829	14,147	1,181	3,986	3,496	4,619	5,356	12,683
La Paz	20,231	3,527	7,298	385	1,554	1,493	2,095	2,312	4,545
Maricopa	4,087,191	1,023,993	565,934	111,682	295,891	205,053	237,992	295,957	687,643
Mohave	203,361	37,964	54,755	4,141	15,600	13,593	17,918	20,790	41,178
Navajo	108,101	30,243	17,061	3,298	7,472	5,562	6,704	8,209	30,157
Pima	1,004,516	219,804	178,188	23,973	75,342	55,393	67,134	81,125	183,590
Pinal	401,918	97,940	72,449	10,682	29,151	21,629	26,477	31,703	66,073
Santa Cruz	46,695	13,230	7,369	1,443	3,211	2,399	2,896	3,546	10,966
Yavapai	218,844	38,026	61,595	4,147	17,020	15,121	20,058	23,248	33,589
Yuma	203,247	53,182	35,366	5,800	14,416	10,446	12,736	15,158	44,112
Totals	**6,684,181**	**1,608,337**	**1,064,470**	**175,414**	**488,465**	**351,647**	**419,132**	**512,705**	**1,188,027**

ARIZONA

American Lung Association in Arizona

www.lung.org/arizona

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Apache	DNC	DNC	DNC	DNC	DNC
Cochise	15	0	0	5.0	F
Coconino	23	0	0	7.7	F
Gila	42	0	0	14.0	F
La Paz	20	0	0	6.7	F
Maricopa	122	5	0	43.2	F
Mohave	DNC	DNC	DNC	DNC	DNC
Navajo	9	0	0	3.0	D
Pima	13	0	0	4.3	F
Pinal	43	0	0	14.3	F
Santa Cruz	DNC	DNC	DNC	DNC	DNC
Yavapai	16	0	0	5.3	F
Yuma	26	3	0	10.2	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Apache	INC	INC	INC	INC	INC	INC	INC
Cochise	0	0	0	0.0	A	7.0	PASS
Coconino	INC	INC	INC	INC	INC	INC	INC
Gila	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Paz	INC	INC	INC	INC	INC	INC	INC
Maricopa	8	4	1	5.3	F	11.0	PASS
Mohave	0	0	0	0.0	A	INC	INC
Navajo	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pima	0	0	0	0.0	A	5.8	PASS
Pinal	8	0	0	2.7	D	8.6	PASS
Santa Cruz	4	3	0	2.8	D	9.3	PASS
Yavapai	INC	INC	INC	INC	INC	INC	INC
Yuma	1	1	0	0.8	B	7.4	PASS

ARKANSAS

American Lung Association in Arkansas

www.lung.org/arkansas

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Arkansas	18,594	4,285	3,250	395	1,281	1,381	1,944	1,930	3,735
Ashley	20,948	4,935	3,844	455	1,433	1,566	2,223	2,194	4,707
Clark	22,576	4,327	3,625	399	1,567	1,540	2,175	2,146	4,285
Crittenden	49,548	13,813	6,002	1,273	3,169	3,141	4,267	4,339	13,323
Faulkner	120,768	28,864	13,581	2,660	7,919	7,307	9,904	10,056	17,140
Garland	97,322	20,369	21,105	1,877	6,870	7,773	11,267	10,960	17,929
Jackson	17,534	3,574	2,936	329	1,239	1,295	1,812	1,805	3,864
Newton	7,904	1,541	1,917	142	575	679	992	961	1,574
Phillips	19,930	5,427	3,245	500	1,297	1,389	1,954	1,941	6,950
Polk	20,225	4,739	4,393	437	1,388	1,594	2,317	2,250	4,399
Pope	63,201	14,424	9,075	1,329	4,261	4,227	5,861	5,867	10,868
Pulaski	392,702	93,241	52,987	8,592	26,425	26,289	36,038	36,399	61,892
Union	40,227	9,613	6,677	886	2,744	2,929	4,099	4,087	9,184
Washington	220,792	55,947	23,661	5,156	14,129	12,849	17,398	17,666	41,097
Totals	**1,112,271**	**265,099**	**156,298**	**24,429**	**74,298**	**73,958**	**102,251**	**102,601**	**200,947**

ARKANSAS

American Lung Association in Arkansas

www.lung.org/arkansas

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Arkansas	DNC	DNC	DNC	DNC	DNC
Ashley	DNC	DNC	DNC	DNC	DNC
Clark	2	0	0	0.7	B
Crittenden	10	3	0	4.8	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	4	0	0	1.3	C
Pope	DNC	DNC	DNC	DNC	DNC
Pulaski	21	0	0	7.0	F
Union	DNC	DNC	DNC	DNC	DNC
Washington	16	1	0	5.8	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Arkansas	0	0	0	0.0	A	9.5	PASS
Ashley	0	0	0	0.0	A	9.2	PASS
Clark	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Crittenden	1	0	0	0.3	B	9.8	PASS
Faulkner	INC	INC	INC	INC	INC	INC	INC
Garland	0	0	0	0.0	A	9.7	PASS
Jackson	0	0	0	0.0	A	9.3	PASS
Newton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Phillips	INC	INC	INC	INC	INC	INC	INC
Polk	0	0	0	0.0	A	9.8	PASS
Pope	INC	INC	INC	INC	INC	INC	INC
Pulaski	1	0	0	0.3	B	11.1	PASS
Union	0	0	0	0.0	A	9.8	PASS
Washington	0	0	0	0.0	A	9.2	PASS

CALIFORNIA

American Lung Association in California

www.lung.org/california

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Alameda	1,610,921	344,898	200,666	30,551	97,985	59,868	87,508	127,579	197,984
Amador	36,742	5,627	9,207	498	2,521	1,946	3,078	4,137	4,313
Butte	224,241	45,230	38,209	4,007	13,931	9,207	13,976	19,374	48,151
Calaveras	44,624	7,913	11,198	701	2,995	2,357	3,740	5,025	6,057
Colusa	21,419	5,995	2,810	531	1,202	768	1,143	1,635	3,030
Contra Costa	1,111,339	260,433	158,199	23,069	66,867	43,593	65,030	93,318	115,466
El Dorado	183,087	38,231	32,882	3,387	11,648	8,290	12,675	17,853	20,715
Fresno	965,974	278,941	107,886	24,709	52,769	31,650	46,170	66,992	261,387
Glenn	27,955	7,469	4,154	662	1,606	1,064	1,604	2,261	4,723
Humboldt	134,809	26,233	20,780	2,324	8,448	5,437	8,137	11,518	27,609
Imperial	179,091	51,111	21,523	4,527	9,863	6,046	8,897	12,791	40,162
Inyo	18,410	3,785	3,932	335	1,175	872	1,362	1,854	2,533
Kern	874,589	257,512	86,198	22,811	47,274	27,545	39,611	58,509	206,604
Kings	150,269	41,383	13,678	3,666	8,273	4,636	6,575	9,814	33,174
Lake	64,184	13,089	13,234	1,159	4,106	3,019	4,694	6,441	15,387
Los Angeles	10,116,705	2,303,617	1,233,007	204,057	603,091	366,048	534,609	778,287	1,863,025
Madera	154,548	42,597	19,741	3,773	8,665	5,416	8,020	11,473	32,542
Marin	260,750	53,374	50,588	4,728	16,685	12,099	18,668	25,944	22,272
Mariposa	17,682	2,945	4,336	261	1,199	931	1,470	1,985	2,830
Mendocino	87,869	19,238	16,628	1,704	5,457	3,874	5,975	8,233	16,256
Merced	266,353	79,812	27,837	7,070	14,286	8,424	12,209	17,828	64,585
Monterey	431,344	113,960	51,584	10,095	24,453	14,871	21,793	31,512	70,259
Napa	141,667	30,884	23,822	2,736	8,726	5,910	8,978	12,562	12,317
Nevada	98,893	17,582	23,179	1,557	6,578	5,015	7,892	10,677	11,193
Orange	3,145,515	721,973	413,596	63,953	188,600	118,364	174,642	252,466	400,252
Placer	371,694	85,109	66,239	7,539	22,720	15,850	24,301	33,714	30,490
Plumas	18,606	3,201	4,595	284	1,255	979	1,548	2,087	2,556
Riverside	2,329,271	613,655	307,271	54,358	132,989	83,667	124,150	177,332	392,706
Sacramento	1,482,026	361,087	189,691	31,985	86,971	54,148	79,792	115,236	264,955
San Benito	58,267	15,642	6,640	1,386	3,321	2,050	2,993	4,400	8,162
San Bernardino	2,112,619	575,325	218,318	50,963	118,259	69,775	100,603	148,690	422,405
San Diego	3,263,431	728,756	414,831	64,554	195,372	119,112	174,704	252,410	467,248
San Francisco	852,469	114,602	122,915	10,152	56,596	34,269	50,349	72,203	101,313
San Joaquin	715,597	199,024	84,210	17,630	39,987	24,581	36,051	52,309	145,167
San Luis Obispo	279,083	50,639	48,977	4,486	17,852	11,905	18,081	25,139	38,048
San Mateo	758,581	162,800	111,206	14,421	46,668	30,259	45,154	64,579	56,580
Santa Barbara	440,668	98,643	61,583	8,738	26,314	16,318	24,219	34,331	73,600
Santa Clara	1,894,605	437,810	231,573	38,782	112,853	69,129	101,089	147,416	159,553

CALIFORNIA (cont.)

American Lung Association in California

www.lung.org/california

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Santa Cruz	271,804	54,682	36,624	4,844	16,880	10,546	15,538	22,490	42,076
Shasta	179,804	38,807	34,600	3,438	11,206	7,973	12,318	16,924	26,016
Siskiyou	43,628	8,865	9,885	785	2,806	2,130	3,351	4,527	9,076
Solano	431,131	98,923	58,276	8,763	25,972	16,550	24,508	35,389	51,638
Sonoma	500,292	103,224	83,449	9,144	31,354	21,215	32,136	45,258	55,742
Stanislaus	531,997	145,429	64,423	12,882	29,928	18,489	27,190	39,304	95,456
Sutter	95,847	25,261	13,891	2,238	5,502	3,576	5,371	7,574	14,485
Tehama	63,067	15,151	11,237	1,342	3,803	2,667	4,097	5,673	11,358
Tulare	458,198	144,776	47,624	12,824	24,029	14,258	20,711	30,178	127,305
Tuolumne	53,831	9,024	12,626	799	3,600	2,707	4,257	5,739	7,177
Ventura	846,178	204,568	115,000	18,121	50,182	32,154	47,741	68,698	95,912
Yolo	207,590	45,073	23,860	3,993	12,361	7,153	10,336	15,046	39,493
Totals	**38,629,264**	**9,113,908**	**4,968,418**	**807,320**	**2,287,182**	**1,418,710**	**2,089,046**	**3,016,715**	**6,221,343**

CALIFORNIA

American Lung Association in California

www.lung.org/california

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alameda	13	1	0	4.8	F	7	0	0	2.3	D	9.4	PASS
Amador	31	1	0	10.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Butte	39	1	0	13.5	F	2	1	0	1.2	C	9.0	PASS
Calaveras	18	1	0	6.5	F	1	0	0	0.3	B	8.0	PASS
Colusa	0	0	0	0.0	A	2	3	1	2.8	D	7.2	PASS
Contra Costa	8	1	0	3.2	D	3	0	0	1.0	C	7.0	PASS
El Dorado	112	8	0	41.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fresno	221	59	1	103.8	F	77	38	0	44.7	F	15.4	FAIL
Glenn	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Humboldt	0	0	0	0.0	A	0	0	0	0.0	A	INC	INC
Imperial	77	5	0	28.2	F	17	3	0	7.2	F	14.3	FAIL
Inyo	13	0	0	4.3	F	5	13	1	8.8	F	7.5	PASS
Kern	245	62	1	113.3	F	69	50	1	48.7	F	19.7	FAIL
Kings	118	9	0	43.8	F	68	36	0	40.7	F	16.8	FAIL
Lake	3	0	0	1.0	C	0	0	0	0.0	A	4.0	PASS
Los Angeles	198	81	4	109.2	F	21	2	0	8.0	F	12.3	FAIL
Madera	146	18	0	57.7	F	51	18	0	26.0	F	15.9	FAIL
Marin	0	0	0	0.0	A	3	0	0	1.0	C	9.8	PASS
Mariposa	83	2	0	28.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mendocino	0	0	0	0.0	A	0	0	0	0.0	A	INC	INC
Merced	90	3	0	31.5	F	43	5	0	16.8	F	11.7	PASS
Monterey	0	0	0	0.0	A	0	0	0	0.0	A	6.1	PASS
Napa	2	0	0	0.7	B	1	0	0	0.3	B	INC	INC
Nevada	69	2	0	24.0	F	1	1	0	0.8	B	6.9	PASS
Orange	23	2	0	8.7	F	10	1	0	3.8	F	10.5	PASS
Placer	69	7	0	26.5	F	5	7	1	5.8	F	7.3	PASS
Plumas	DNC	DNC	DNC	DNC	DNC	25	1	0	8.8	F	14.1	FAIL
Riverside	262	106	0	140.3	F	29	3	0	11.2	F	14.6	FAIL
Sacramento	99	11	1	39.2	F	14	0	0	4.7	F	9.8	PASS
San Benito	17	0	0	5.7	F	0	0	0	0.0	A	5.1	PASS
San Bernardino	222	141	12	152.5	F	7	2	0	3.3	F	12.8	FAIL
San Diego	81	1	0	27.5	F	6	3	0	3.5	F	10.6	PASS
San Francisco	0	0	0	0.0	A	3	0	0	1.0	C	8.6	PASS
San Joaquin	54	3	0	19.5	F	42	10	0	19.0	F	14.0	FAIL
San Luis Obispo	49	1	0	16.8	F	10	0	0	3.3	F	11.6	PASS
San Mateo	1	0	0	0.3	B	3	0	0	1.0	C	8.8	PASS

CALIFORNIA (cont.)

American Lung Association in California

www.lung.org/california

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Santa Barbara	10	2	0	4.3	F
Santa Clara	11	0	0	3.7	F
Santa Cruz	1	0	0	0.3	B
Shasta	13	0	0	4.3	F
Siskiyou	2	0	0	0.7	B
Solano	7	0	0	2.3	D
Sonoma	0	0	0	0.0	A
Stanislaus	103	10	1	40.0	F
Sutter	26	1	0	9.2	F
Tehama	42	1	0	14.5	F
Tulare	239	55	1	107.8	F
Tuolumne	31	0	0	10.3	F
Ventura	54	2	0	19.0	F
Yolo	9	0	0	3.0	D

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Santa Barbara	0	0	0	0.0	A	8.8	PASS
Santa Clara	8	2	0	3.7	F	10.0	PASS
Santa Cruz	33	0	0	11.0	F	5.9	PASS
Shasta	0	0	0	0.0	A	6.3	PASS
Siskiyou	2	2	0	1.7	C	7.5	PASS
Solano	8	0	0	2.7	D	9.6	PASS
Sonoma	0	0	0	0.0	A	INC	INC
Stanislaus	69	19	0	32.5	F	14.0	FAIL
Sutter	3	0	0	1.0	C	8.2	PASS
Tehama	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tulare	21	12	0	13.0	F	17.2	FAIL
Tuolumne	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ventura	1	0	0	0.3	B	9.3	PASS
Yolo	0	0	0	0.0	A	6.6	PASS

COLORADO

American Lung Association in Colorado

www.lung.org/colorado

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Adams	480,718	133,050	45,998	12,261	29,160	12,591	17,856	22,596	61,384
Arapahoe	618,821	151,631	73,513	13,973	39,157	18,410	26,459	32,863	68,849
Boulder	313,333	63,524	38,268	5,854	20,933	9,615	13,809	17,162	40,299
Chaffee	18,363	2,903	4,218	268	1,288	791	1,195	1,379	2,114
Clear Creek	9,187	1,412	1,647	130	652	377	550	670	769
Denver	663,862	138,446	72,177	12,758	44,000	18,444	26,403	32,919	103,412
Douglas	314,638	89,176	31,258	8,218	18,946	8,939	12,613	16,111	11,740
El Paso	663,519	166,360	76,173	15,330	41,657	19,089	27,426	34,064	78,363
Garfield	57,461	14,885	6,165	1,372	3,574	1,668	2,370	2,994	5,777
Gunnison	15,725	2,819	1,765	260	1,082	467	665	835	2,216
Jackson	1,396	249	292	23	96	58	86	101	232
Jefferson	558,503	116,545	81,934	10,740	37,019	19,087	27,756	33,917	45,482
La Plata	53,989	10,447	7,677	963	3,648	1,824	2,644	3,245	5,549
Larimer	324,122	66,316	45,174	6,111	21,566	10,288	15,005	18,227	40,447
Mesa	148,255	33,252	25,046	3,064	9,603	5,138	7,632	9,032	22,155
Moffat	12,928	3,353	1,662	309	803	408	588	728	1,439
Montezuma	25,772	5,844	4,924	539	1,664	979	1,463	1,717	4,157
Park	16,345	2,724	2,652	251	1,145	671	964	1,201	1,525
Pitkin	17,626	2,874	2,742	265	1,236	647	939	1,151	1,228
Pueblo	161,875	37,565	27,611	3,462	10,380	5,631	8,374	9,894	29,845
Rio Blanco	6,707	1,647	916	152	424	212	309	377	700
San Miguel	7,840	1,480	818	136	535	249	348	450	774
Weld	277,670	74,773	30,891	6,890	17,005	7,821	11,220	13,968	28,515
Totals	**4,768,655**	**1,121,275**	**583,521**	**103,326**	**305,571**	**143,401**	**206,677**	**255,603**	**556,971**

COLORADO

American Lung Association in Colorado

www.lung.org/colorado

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Adams	23	1	0	8.2	F
Arapahoe	41	2	0	14.7	F
Boulder	47	5	0	18.2	F
Chaffee	INC	INC	INC	INC	INC
Clear Creek	INC	INC	INC	INC	INC
Denver	16	2	0	6.3	F
Douglas	64	5	0	23.8	F
El Paso	30	0	0	10.0	F
Garfield	47	0	0	15.7	F
Gunnison	3	0	0	1.0	C
Jackson	1	0	0	0.3	B
Jefferson	95	8	0	35.7	F
La Plata	7	0	0	2.3	D
Larimer	86	7	0	32.2	F
Mesa	10	0	0	3.3	F
Moffat	1	0	0	0.3	B
Montezuma	2	0	0	0.7	B
Park	INC	INC	INC	INC	INC
Pitkin	INC	INC	INC	INC	INC
Pueblo	DNC	DNC	DNC	DNC	DNC
Rio Blanco	11	4	1	6.3	F
San Miguel	INC	INC	INC	INC	INC
Weld	29	2	0	10.7	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	2	0	0	0.7	B	INC	INC
Arapahoe	0	0	0	0.0	A	INC	INC
Boulder	3	0	0	1.0	C	INC	INC
Chaffee	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clear Creek	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Denver	5	1	0	2.2	D	INC	INC
Douglas	1	0	0	0.3	B	INC	INC
El Paso	0	0	0	0.0	A	INC	INC
Garfield	0	0	0	0.0	A	INC	INC
Gunnison	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Plata	0	0	0	0.0	A	INC	INC
Larimer	1	0	0	0.3	B	INC	INC
Mesa	4	0	0	1.3	C	INC	INC
Moffat	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montezuma	0	0	0	0.0	A	5.7	PASS
Park	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pitkin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pueblo	0	0	0	0.0	A	INC	INC
Rio Blanco	1	0	0	0.3	B	8.8	PASS
San Miguel	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Weld	3	0	0	1.0	C	INC	INC

CONNECTICUT

American Lung Association in Connecticut

www.lung.org/connecticut

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Fairfield	945,438	223,021	135,792	21,351	66,025	36,189	53,156	65,060	83,132
Hartford	897,985	194,947	140,291	18,663	64,138	35,654	52,726	63,882	106,078
Litchfield	184,993	35,970	34,130	3,444	13,467	8,231	12,448	15,141	14,015
Middlesex	164,943	31,948	29,191	3,059	12,058	7,133	10,711	12,996	12,636
New Haven	861,277	181,733	134,181	17,398	62,041	34,207	50,490	61,119	108,729
New London	273,676	55,534	43,923	5,317	19,891	11,113	16,457	19,936	28,868
Tolland	151,367	28,022	21,234	2,683	11,329	5,884	8,518	10,410	10,253
Windham	116,998	24,255	17,181	2,322	8,482	4,621	6,774	8,300	11,570
Totals	**3,596,677**	**775,430**	**555,923**	**74,236**	**257,431**	**143,032**	**211,280**	**256,844**	**375,281**

CONNECTICUT

American Lung Association in Connecticut

www.lung.org/connecticut

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Fairfield	46	18	0	24.3	F
Hartford	25	2	0	9.3	F
Litchfield	11	0	0	3.7	F
Middlesex	29	5	0	12.2	F
New Haven	34	10	0	16.3	F
New London	14	7	0	8.2	F
Tolland	33	2	0	12.0	F
Windham	13	0	0	4.3	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Fairfield	2	0	0	0.7	B	9.3	PASS
Hartford	0	0	0	0.0	A	8.2	PASS
Litchfield	0	0	0	0.0	A	5.3	PASS
Middlesex	DNC	DNC	DNC	DNC	DNC	DNC	DNC
New Haven	3	0	0	1.0	C	8.5	PASS
New London	1	0	0	0.3	B	INC	INC
Tolland	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Windham	DNC	DNC	DNC	DNC	DNC	DNC	DNC

DELAWARE

American Lung Association in Delaware

www.lung.org/delaware

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Kent	171,987	40,517	26,765	3,734	11,438	8,417	11,702	14,114	23,484
New Castle	552,778	122,577	76,043	11,295	37,443	26,774	36,253	44,611	65,642
Sussex	210,849	41,153	51,099	3,792	14,918	12,555	19,395	22,006	28,907
Totals	**935,614**	**204,247**	**153,907**	**18,821**	**63,799**	**47,746**	**67,351**	**80,731**	**118,033**

DELAWARE

American Lung Association in Delaware

www.lung.org/delaware

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Kent	18	4	0	8.0	F
New Castle	28	2	0	10.3	F
Sussex	19	4	0	8.3	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Kent	0	0	0	0.0	A	8.2	PASS
New Castle	7	1	0	2.8	D	9.9	PASS
Sussex	0	0	0	0.0	A	8.4	PASS

DISTRICT OF COLUMBIA

American Lung Association in the District of Columbia

www.lung.org/districtofcolumbia

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
District of Columbia	658,893	115,305	74,754	16,788	63,688	30,022	33,768	43,525	114,790
Totals	**658,893**	**115,305**	**74,754**	**16,788**	**63,688**	**30,022**	**33,768**	**43,525**	**114,790**

DISTRICT OF COLUMBIA

American Lung Association in the District of Columbia

www.lung.org/districtofcolumbia

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
District of Columbia	27	4	0	11.0	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
District of Columbia	3	0	0	1.0	C	9.4	PASS

FLORIDA

American Lung Association in Florida

www.lung.org/florida

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Alachua	256,380	46,309	31,958	4,267	16,877	13,659	16,546	18,450	52,756
Baker	27,093	6,716	3,497	619	1,669	1,464	1,820	2,065	4,826
Bay	178,985	38,603	28,888	3,557	11,429	10,491	13,384	15,066	27,165
Brevard	556,885	104,014	125,991	9,585	36,681	37,427	50,085	55,920	79,657
Broward	1,869,235	402,472	286,752	37,088	119,739	108,635	137,585	155,369	268,418
Citrus	139,377	20,948	49,065	1,930	9,326	11,064	15,828	17,270	27,449
Collier	348,777	63,659	102,403	5,866	22,492	24,774	34,598	37,790	49,211
Columbia	67,857	14,787	11,709	1,363	4,311	4,037	5,206	5,843	13,604
Duval	897,698	205,398	114,661	18,927	56,518	48,691	60,139	68,086	159,748
Escambia	310,659	64,735	48,842	5,965	19,917	17,867	22,639	25,378	44,320
Flagler	102,408	18,533	29,082	1,708	6,679	7,333	10,176	11,194	11,775
Highlands	98,236	17,496	33,219	1,612	6,295	7,337	10,494	11,368	18,898
Hillsborough	1,316,298	305,655	172,861	28,166	82,373	71,393	88,554	100,056	217,968
Holmes	19,650	3,993	3,717	368	1,267	1,212	1,580	1,766	4,743
Indian River	144,755	25,388	43,484	2,340	9,466	10,586	14,815	16,245	21,098
Lake	315,690	62,516	82,193	5,761	20,146	21,390	29,356	32,284	42,954
Lee	679,513	127,041	178,665	11,707	43,970	46,612	63,928	70,317	107,493
Leon	283,988	54,106	32,296	4,986	18,514	14,737	17,656	19,754	62,734
Liberty	8,360	1,590	989	147	554	464	563	640	1,544
Manatee	351,746	68,467	89,663	6,309	22,639	23,918	32,684	36,071	49,017
Marion	339,167	63,759	94,731	5,875	21,833	23,707	32,858	36,026	58,576
Martin	153,392	25,790	45,010	2,377	10,168	11,270	15,684	17,262	18,091
Miami-Dade	2,662,874	548,396	404,884	50,535	171,887	153,512	193,583	217,844	535,148
Okaloosa	196,512	43,605	29,615	4,018	12,409	11,084	13,996	15,723	23,680
Orange	1,253,001	284,693	134,966	26,235	78,952	64,646	77,830	88,231	222,654
Osceola	310,211	77,709	39,510	7,161	18,907	16,270	20,146	22,715	59,222
Palm Beach	1,397,710	272,643	317,620	25,124	90,158	90,854	121,795	134,806	204,862
Pasco	485,331	99,359	109,019	9,156	31,013	31,407	42,114	46,714	70,125
Pinellas	938,098	160,063	215,386	14,750	62,964	64,014	85,590	95,502	139,881
Polk	634,638	144,887	123,821	13,351	39,361	38,061	50,100	55,636	112,539
St. Lucie	291,028	60,468	65,644	5,572	18,511	18,784	25,220	27,955	49,752
Santa Rosa	163,422	36,937	23,775	3,404	10,356	9,333	11,758	13,320	17,564
Sarasota	396,962	59,426	134,638	5,476	26,591	30,908	43,939	47,951	42,343
Seminole	442,516	94,876	63,493	8,743	28,426	25,318	31,749	35,943	51,782
Volusia	507,531	91,546	117,965	8,436	33,506	34,135	45,809	50,910	87,670
Wakulla	31,432	6,549	4,139	603	2,046	1,794	2,223	2,533	4,185
Totals	**18,177,415**	**3,723,132**	**3,394,151**	**343,087**	**1,167,953**	**1,108,186**	**1,442,029**	**1,610,005**	**2,963,452**

FLORIDA

American Lung Association in Florida

www.lung.org/florida

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alachua	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC
Baker	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bay	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brevard	1	0	0	0.3	B	INC	INC	INC	INC	INC	INC	INC
Broward	2	0	0	0.7	B	INC	INC	INC	INC	INC	INC	INC
Citrus	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC
Collier	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Columbia	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Duval	4	0	0	1.3	C	INC	INC	INC	INC	INC	INC	INC
Escambia	9	0	0	3.0	D	INC	INC	INC	INC	INC	INC	INC
Flagler	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Highlands	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hillsborough	18	0	0	6.0	F	INC	INC	INC	INC	INC	INC	INC
Holmes	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Indian River	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lee	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC
Leon	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC
Liberty	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Manatee	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marion	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Martin	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Miami-Dade	3	0	0	1.0	C	INC	INC	INC	INC	INC	INC	INC
Okaloosa	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orange	8	0	0	2.7	D	INC	INC	INC	INC	INC	INC	INC
Osceola	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Palm Beach	5	0	0	1.7	C	INC	INC	INC	INC	INC	INC	INC
Pasco	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pinellas	5	0	0	1.7	C	INC	INC	INC	INC	INC	INC	INC
Polk	5	1	0	2.2	D	INC	INC	INC	INC	INC	INC	INC
St. Lucie	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Santa Rosa	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sarasota	8	0	0	2.7	D	INC	INC	INC	INC	INC	INC	INC
Seminole	4	0	0	1.3	C	INC	INC	INC	INC	INC	INC	INC
Volusia	2	0	0	0.7	B	INC	INC	INC	INC	INC	INC	INC
Wakulla	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC

GEORGIA

American Lung Association in Georgia

www.lung.org/georgia

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Bibb	153,905	38,774	21,564	3,947	9,548	8,737	10,644	13,851	41,742
Chatham	283,379	62,857	38,523	6,399	18,215	16,102	19,112	24,829	48,234
Chattooga	24,939	5,635	4,104	574	1,607	1,522	1,910	2,469	4,944
Clarke	120,938	21,305	11,757	2,169	8,119	6,284	6,580	8,590	41,889
Clayton	267,542	75,592	22,170	7,695	15,801	13,302	14,846	19,932	60,123
Cobb	730,981	179,960	77,367	18,319	45,524	39,797	46,155	61,362	93,604
Columbia	139,257	36,153	16,415	3,680	8,538	7,652	9,095	12,004	13,098
Coweta	135,571	34,838	16,818	3,546	8,356	7,599	9,145	12,053	16,804
Dawson	22,957	5,005	4,116	509	1,500	1,465	1,880	2,427	2,671
DeKalb	722,161	171,308	74,744	17,438	45,416	39,008	44,607	59,228	144,818
Dougherty	92,407	22,999	12,527	2,341	5,746	5,174	6,227	8,103	28,119
Douglas	138,776	37,351	14,287	3,802	8,386	7,376	8,590	11,435	19,423
Floyd	96,063	22,550	15,039	2,295	6,106	5,687	7,050	9,113	19,408
Fulton	996,319	231,063	103,948	23,521	63,043	53,816	61,287	81,222	168,027
Glynn	82,175	18,979	14,543	1,932	5,271	5,098	6,511	8,375	15,666
Gwinnett	877,922	244,347	75,362	24,873	52,254	44,707	50,566	67,987	116,888
Hall	190,761	50,615	25,990	5,152	11,615	10,570	12,827	16,684	31,582
Henry	213,869	57,870	22,345	5,891	12,909	11,433	13,390	17,828	29,088
Houston	149,111	38,294	17,495	3,898	9,166	8,135	9,606	12,655	25,310
Lowndes	113,523	28,190	12,509	2,870	7,009	5,872	6,636	8,666	26,225
Murray	39,410	9,962	5,223	1,014	2,443	2,233	2,706	3,545	7,283
Muscogee	200,887	48,785	24,158	4,966	12,547	10,914	12,729	16,655	42,237
Paulding	148,987	41,478	14,082	4,222	8,875	7,685	8,817	11,778	15,777
Pike	17,784	4,431	2,593	451	1,112	1,048	1,302	1,702	2,405
Richmond	201,368	47,758	25,278	4,862	12,693	11,214	13,244	17,336	49,562
Rockdale	87,754	22,500	11,192	2,290	5,420	4,983	6,047	7,969	14,983
Sumter	31,232	7,485	4,632	762	1,969	1,801	2,202	2,849	9,996
Walker	68,218	15,469	11,334	1,575	4,395	4,194	5,289	6,843	13,348
Washington	20,635	4,599	3,308	468	1,336	1,267	1,588	2,063	5,734
Wilkinson	9,326	2,115	1,668	215	603	591	761	982	2,130
Totals	**6,378,157**	**1,588,267**	**705,091**	**161,678**	**395,520**	**345,270**	**401,350**	**530,536**	**1,111,118**

GEORGIA

American Lung Association in Georgia

www.lung.org/georgia

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bibb	6	0	0	2.0	C	1	0	0	0.3	B	10.9	PASS
Chatham	0	0	0	0.0	A	1	0	0	0.3	B	9.3	PASS
Chattooga	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clarke	4	0	0	1.3	C	0	0	0	0.0	A	9.8	PASS
Clayton	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.3	PASS
Cobb	12	1	0	4.5	F	0	0	0	0.0	A	10.0	PASS
Columbia	3	1	0	1.5	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Coweta	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dawson	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
DeKalb	14	3	0	6.2	F	0	0	0	0.0	A	9.9	PASS
Dougherty	DNC	DNC	DNC	DNC	DNC	8	0	0	2.7	D	INC	INC
Douglas	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Floyd	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.3	PASS
Fulton	21	5	0	9.5	F	0	0	0	0.0	A	INC	INC
Glynn	0	0	0	0.0	A	0	0	0	0.0	A	INC	INC
Gwinnett	8	1	0	3.2	D	1	0	0	0.3	B	9.5	PASS
Hall	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.9	PASS
Henry	13	6	1	8.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Houston	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.2	PASS
Lowndes	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.7	PASS
Murray	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Muscogee	1	0	0	0.3	B	1	0	0	0.3	B	10.2	PASS
Paulding	5	0	0	1.7	C	0	0	0	0.0	A	8.7	PASS
Pike	8	1	0	3.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richmond	4	0	0	1.3	C	0	0	0	0.0	A	10.0	PASS
Rockdale	24	2	0	9.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sumter	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Walker	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.3	PASS
Washington	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.7	PASS
Wilkinson	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	10.6	PASS

HAWAII

American Lung Association in Hawaii

www.lung.org/hawaii

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Hawaii	194,190	42,750	34,035	6,846	14,062	6,079	11,575	15,624	34,598
Honolulu	991,788	213,585	157,132	34,203	72,556	28,878	53,700	73,295	93,994
Kauai	70,475	15,722	12,279	2,518	5,084	2,195	4,179	5,642	8,570
Maui	163,019	36,387	24,682	5,827	11,753	4,835	9,126	12,525	21,103
Totals	**1,419,472**	**308,444**	**228,128**	**49,394**	**103,455**	**41,988**	**78,579**	**107,086**	**158,265**

HAWAII

American Lung Association in Hawaii

www.lung.org/hawaii

HIGH OZONE DAYS 2012–2014

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 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Hawaii	2	2	0	1.7	C	12.1	FAIL
Honolulu	0	0	0	0.0	A	5.6	PASS
Kauai	0	0	0	0.0	A	5.1	PASS
Maui	1	0	0	0.3	B	5.4	PASS

IDAHO

American Lung Association in Idaho

www.lung.org/idaho

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Ada	426,236	107,136	53,556	9,873	27,713	15,300	22,046	22,955	48,083
Bannock	83,347	22,305	10,653	2,055	5,314	2,914	4,243	4,329	14,116
Benewah	9,118	2,025	1,933	187	610	410	659	655	1,418
Butte	2,622	670	513	62	168	111	177	176	385
Franklin	13,021	4,426	1,772	408	746	436	659	663	1,393
Lemhi	7,726	1,408	2,111	130	543	394	666	639	1,392
Shoshone	12,390	2,446	2,692	225	856	573	919	914	2,310
Totals	**554,460**	**140,416**	**73,230**	**12,939**	**35,951**	**20,137**	**29,370**	**30,331**	**69,097**

IDAHO

American Lung Association in Idaho

www.lung.org/idaho

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Ada	10	1	0	3.8	F
Bannock	DNC	DNC	DNC	DNC	DNC
Benewah	DNC	DNC	DNC	DNC	DNC
Butte	0	0	0	0.0	A
Franklin	DNC	DNC	DNC	DNC	DNC
Lemhi	DNC	DNC	DNC	DNC	DNC
Shoshone	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ada	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bannock	1	2	0	1.3	C	7.9	PASS
Benewah	INC	INC	INC	INC	INC	INC	INC
Butte	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Franklin	23	11	0	13.2	F	INC	INC
Lemhi	42	23	10	32.2	F	12.1	FAIL
Shoshone	35	2	0	12.7	F	13.1	FAIL

ILLINOIS

American Lung Association in Illinois

www.lung.org/illinois

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Adams	66,988	15,096	12,538	1,258	4,729	3,293	4,707	5,922	9,185
Champaign	207,133	39,683	22,918	3,308	15,234	8,350	10,618	13,701	43,210
Clark	16,180	3,688	3,020	307	1,140	801	1,146	1,445	2,213
Cook	5,246,456	1,185,994	679,385	98,865	371,006	225,921	301,824	388,591	883,001
DuPage	932,708	218,703	125,530	18,231	65,508	41,875	56,888	73,557	72,895
Effingham	34,320	8,117	5,776	677	2,394	1,628	2,293	2,911	3,987
Hamilton	8,296	1,851	1,678	154	587	423	614	770	1,149
Jersey	22,571	4,867	3,977	406	1,618	1,113	1,574	1,998	2,505
Jo Daviess	22,254	4,302	5,469	359	1,633	1,261	1,881	2,335	2,352
Kane	527,306	142,661	61,903	11,892	35,270	21,752	29,050	37,703	55,787
Lake	705,186	179,315	86,045	14,948	48,311	30,391	40,855	53,138	64,993
McHenry	307,283	76,740	37,263	6,397	21,226	13,513	18,200	23,768	20,905
McLean	174,061	38,428	19,922	3,203	12,378	7,131	9,269	11,989	23,326
Macon	108,350	24,223	19,387	2,019	7,674	5,266	7,466	9,432	17,003
Macoupin	46,453	10,010	8,701	834	3,328	2,336	3,338	4,217	5,868
Madison	266,560	59,304	41,772	4,944	18,950	12,469	17,282	22,065	34,436
Peoria	187,319	44,655	28,149	3,722	13,021	8,387	11,545	14,711	30,408
Randolph	32,869	6,411	5,668	534	2,416	1,618	2,265	2,877	3,949
Rock Island	146,063	32,330	25,751	2,695	10,373	7,053	9,963	12,594	23,015
St. Clair	265,729	64,091	36,748	5,343	18,467	11,816	16,111	20,734	49,691
Sangamon	198,997	45,734	30,926	3,812	14,025	9,283	12,883	16,469	29,897
Will	685,419	182,746	76,430	15,234	46,168	28,279	37,510	48,960	54,720
Winnebago	288,542	68,785	45,114	5,734	20,096	13,334	18,549	23,664	47,864
Totals	**10,497,043**	**2,457,734**	**1,384,070**	**204,878**	**735,554**	**457,291**	**615,830**	**793,549**	**1,482,359**

ILLINOIS

American Lung Association in Illinois

www.lung.org/illinois

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Adams	4	1	0	1.8	C
Champaign	9	0	0	3.0	D
Clark	6	0	0	2.0	C
Cook	42	10	0	19.0	F
DuPage	10	0	0	3.3	F
Effingham	8	1	0	3.2	D
Hamilton	22	3	0	8.8	F
Jersey	24	5	1	11.2	F
Jo Daviess	12	0	0	4.0	F
Kane	7	2	0	3.3	F
Lake	32	8	0	14.7	F
McHenry	12	1	0	4.5	F
McLean	18	0	0	6.0	F
Macon	10	0	0	3.3	F
Macoupin	11	0	0	3.7	F
Madison	47	7	0	19.2	F
Peoria	21	0	0	7.0	F
Randolph	26	2	0	9.7	F
Rock Island	1	0	0	0.3	B
St. Clair	30	3	0	11.5	F
Sangamon	13	0	0	4.3	F
Will	4	0	0	1.3	C
Winnebago	8	0	0	2.7	D

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Champaign	INC	INC	INC	INC	INC	INC	INC
Clark	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cook	INC	INC	INC	INC	INC	INC	INC
DuPage	INC	INC	INC	INC	INC	INC	INC
Effingham	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	INC	INC	INC	INC	INC	INC	INC
Jersey	INC	INC	INC	INC	INC	INC	INC
Jo Daviess	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kane	INC	INC	INC	INC	INC	INC	INC
Lake	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McHenry	INC	INC	INC	INC	INC	INC	INC
McLean	INC	INC	INC	INC	INC	INC	INC
Macon	INC	INC	INC	INC	INC	INC	INC
Macoupin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Madison	INC	INC	INC	INC	INC	INC	INC
Peoria	INC	INC	INC	INC	INC	INC	INC
Randolph	INC	INC	INC	INC	INC	INC	INC
Rock Island	INC	INC	INC	INC	INC	INC	INC
St. Clair	INC	INC	INC	INC	INC	INC	INC
Sangamon	INC	INC	INC	INC	INC	INC	INC
Will	INC	INC	INC	INC	INC	INC	INC
Winnebago	INC	INC	INC	INC	INC	INC	INC

INDIANA

American Lung Association in Indiana

www.lung.org/indiana

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Allen	365,918	96,233	47,894	7,679	29,031	23,294	24,261	28,220	54,597
Bartholomew	80,217	19,474	11,958	1,554	6,523	5,362	5,715	6,563	9,338
Boone	61,915	16,736	7,805	1,335	4,855	3,999	4,156	4,864	4,409
Brown	14,962	2,917	3,159	233	1,275	1,215	1,389	1,551	1,908
Carroll	19,923	4,629	3,528	369	1,631	1,445	1,602	1,810	2,137
Clark	114,262	26,320	16,338	2,100	9,451	7,718	8,126	9,407	11,945
Delaware	117,074	22,177	18,704	1,770	10,226	8,019	8,511	9,723	23,985
Dubois	42,345	10,191	6,748	813	3,437	2,979	3,232	3,696	3,312
Elkhart	201,971	56,403	26,951	4,501	15,655	12,676	13,325	15,419	27,469
Floyd	76,179	17,644	11,056	1,408	6,277	5,265	5,577	6,456	8,644
Greene	32,726	7,397	5,888	590	2,700	2,399	2,664	3,008	4,989
Hamilton	302,623	86,169	31,564	6,876	23,370	18,284	18,307	21,823	14,813
Hancock	71,978	17,371	10,896	1,386	5,847	4,978	5,338	6,140	4,907
Hendricks	156,056	40,484	19,237	3,230	12,448	9,965	10,248	12,027	9,634
Henry	48,995	10,220	8,811	815	4,140	3,610	3,985	4,505	7,012
Howard	82,982	19,077	14,968	1,522	6,817	5,992	6,663	7,502	13,655
Huntington	36,706	8,208	5,829	655	3,052	2,584	2,783	3,188	3,768
Jackson	43,705	10,596	6,669	846	3,550	2,971	3,188	3,655	6,379
Johnson	147,538	37,522	20,426	2,994	11,829	9,603	10,103	11,689	14,711
Knox	37,938	8,060	6,337	643	3,203	2,668	2,893	3,289	6,141
Lake	490,228	119,843	71,483	9,563	39,744	33,026	35,100	40,472	85,233
LaPorte	111,444	24,502	17,586	1,955	9,316	7,854	8,439	9,676	18,671
Madison	130,069	28,692	22,039	2,289	10,850	9,224	10,069	11,429	20,564
Marion	934,243	232,996	105,443	18,592	75,854	57,704	57,825	68,523	194,803
Monroe	143,339	23,103	16,311	1,843	13,116	8,871	8,537	10,173	30,812
Montgomery	38,146	8,902	6,346	710	3,127	2,685	2,931	3,332	4,544
Morgan	69,693	16,441	10,505	1,312	5,698	4,903	5,251	6,056	7,917
Perry	19,454	4,062	3,236	324	1,648	1,399	1,516	1,729	2,754
Porter	167,076	38,145	23,991	3,044	13,842	11,455	12,082	14,000	16,369
Posey	25,540	5,829	4,128	465	2,105	1,847	2,005	2,297	2,703
St. Joseph	267,618	64,271	38,315	5,128	21,864	17,733	18,710	21,598	44,228
Shelby	44,579	10,285	6,935	821	3,669	3,149	3,389	3,893	5,142
Spencer	20,801	4,692	3,749	374	1,716	1,539	1,711	1,933	1,908
Tippecanoe	183,074	38,034	18,929	3,035	15,819	10,768	10,303	12,347	37,311
Vanderburgh	182,006	39,960	27,655	3,189	15,256	12,513	13,306	15,302	30,984
Vigo	108,175	22,432	15,738	1,790	9,243	7,261	7,594	8,773	19,910

INDIANA (cont.)

American Lung Association in Indiana

www.lung.org/indiana

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Wabash	32,252	6,979	6,264	557	2,693	2,381	2,682	2,994	4,621
Warrick	61,149	15,071	9,857	1,203	4,925	4,264	4,645	5,296	4,926
Whitley	33,403	7,811	5,358	623	2,736	2,368	2,568	2,937	3,088
Totals	**5,118,302**	**1,229,878**	**698,634**	**98,137**	**418,536**	**335,968**	**350,730**	**407,297**	**770,241**

INDIANA

American Lung Association in Indiana

www.lung.org/indiana

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allen	14	1	0	5.2	F	7	0	0	2.3	D	10.0	PASS
Bartholomew	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Boone	19	1	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brown	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	10	1	0	3.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	17	3	0	7.2	F	2	0	0	0.7	B	9.5	PASS
Delaware	8	0	0	2.7	D	1	0	0	0.3	B	10.0	PASS
Dubois	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.9	PASS
Elkhart	8	0	1	3.3	F	16	0	0	5.3	F	10.5	PASS
Floyd	23	4	0	9.7	F	0	0	0	0.0	A	10.4	PASS
Greene	18	1	0	6.5	F	1	0	0	0.3	B	9.9	PASS
Hamilton	13	0	0	4.3	F	INC	INC	INC	INC	INC	INC	INC
Hancock	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hendricks	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henry	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	9.5	PASS
Howard	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC
Huntington	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	25	0	0	8.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	16	3	0	6.8	F	9	1	0	3.5	F	11.5	PASS
LaPorte	23	3	3	11.2	F	2	0	0	0.7	B	9.6	PASS
Madison	9	1	0	3.5	F	3	0	0	1.0	C	9.8	PASS
Marion	20	2	0	7.7	F	11	0	0	3.7	F	11.8	PASS
Monroe	DNC	DNC	DNC	DNC	DNC	0	1	0	0.5	B	9.6	PASS
Montgomery	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC
Morgan	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	20	2	0	7.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Porter	12	2	1	5.7	F	1	2	0	1.3	C	10.3	PASS
Posey	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Joseph	17	1	1	6.8	F	6	1	0	2.5	D	9.9	PASS
Shelby	16	2	0	6.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Spencer	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.5	PASS
Tippecanoe	DNC	DNC	DNC	DNC	DNC	2	0	0	0.7	B	10.0	PASS
Vanderburgh	27	2	0	10.0	F	0	0	0	0.0	A	10.9	PASS

INDIANA (cont.)

American Lung Association in Indiana

www.lung.org/indiana

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Vigo	11	0	0	3.7	F
Wabash	27	1	0	9.5	F
Warrick	24	2	0	9.0	F
Whitley	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Vigo	2	0	0	0.7	B	10.6	PASS
Wabash	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Warrick	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whitley	4	0	0	1.3	C	9.4	PASS

IOWA

American Lung Association in Iowa

www.lung.org/iowa

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Black Hawk	132,897	28,512	19,713	1,641	8,982	5,621	7,969	9,148	18,419
Bremer	24,721	5,399	4,549	311	1,637	1,134	1,686	1,886	1,734
Clinton	48,051	10,893	8,814	627	3,138	2,263	3,368	3,793	6,050
Delaware	17,398	4,147	3,143	239	1,118	821	1,221	1,380	1,532
Harrison	14,324	3,232	2,738	186	933	691	1,037	1,164	1,540
Johnson	142,287	28,963	14,122	1,667	9,969	5,251	6,801	8,172	21,391
Lee	35,286	7,610	6,576	438	2,337	1,687	2,512	2,828	5,991
Linn	217,751	51,848	31,170	2,984	14,252	9,192	13,026	15,049	19,779
Montgomery	10,421	2,360	2,168	136	674	515	788	874	1,961
Muscatine	42,903	10,918	6,448	628	2,733	1,837	2,643	3,035	4,799
Palo Alto	9,099	2,003	1,950	115	593	447	688	757	1,001
Polk	459,862	115,937	53,725	6,673	29,850	17,991	24,540	28,982	58,971
Pottawattamie	93,128	22,069	14,601	1,270	6,065	4,106	5,930	6,793	11,120
Scott	171,387	41,239	24,642	2,374	11,169	7,289	10,348	11,962	20,437
Story	94,073	16,133	10,058	929	6,858	3,524	4,581	5,452	16,276
Van Buren	7,468	1,737	1,551	100	479	367	561	622	1,063
Warren	47,956	12,078	7,126	695	3,069	2,053	2,945	3,388	2,925
Woodbury	102,271	26,633	14,114	1,533	6,501	4,174	5,907	6,827	15,151
Totals	**1,671,283**	**391,711**	**227,208**	**22,547**	**110,356**	**68,964**	**96,549**	**112,112**	**210,140**

IOWA

American Lung Association in Iowa

www.lung.org/iowa

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Black Hawk	DNC	DNC	DNC	DNC	DNC
Bremer	2	0	0	0.7	B
Clinton	12	0	0	4.0	F
Delaware	DNC	DNC	DNC	DNC	DNC
Harrison	13	0	0	4.3	F
Johnson	DNC	DNC	DNC	DNC	DNC
Lee	DNC	DNC	DNC	DNC	DNC
Linn	4	0	0	1.3	C
Montgomery	6	0	0	2.0	C
Muscatine	DNC	DNC	DNC	DNC	DNC
Palo Alto	3	0	0	1.0	C
Polk	0	0	0	0.0	A
Pottawattamie	DNC	DNC	DNC	DNC	DNC
Scott	6	0	0	2.0	C
Story	0	0	0	0.0	A
Van Buren	10	0	0	3.3	F
Warren	2	0	0	0.7	B
Woodbury	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Black Hawk	0	0	0	0.0	A	9.5	PASS
Bremer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	2	0	0	0.7	B	10.6	PASS
Delaware	0	0	0	0.0	A	9.0	PASS
Harrison	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	1	0	0	0.3	B	9.2	PASS
Lee	0	0	0	0.0	A	10.8	PASS
Linn	2	0	0	0.7	B	9.5	PASS
Montgomery	1	0	0	0.3	B	8.3	PASS
Muscatine	13	1	0	4.8	F	11.1	PASS
Palo Alto	1	0	0	0.3	B	8.2	PASS
Polk	0	0	0	0.0	A	8.9	PASS
Pottawattamie	1	0	0	0.3	B	9.8	PASS
Scott	3	0	0	1.0	C	10.3	PASS
Story	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Van Buren	0	0	0	0.0	A	8.4	PASS
Warren	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Woodbury	3	0	0	1.0	C	9.1	PASS

KANSAS

American Lung Association in Kansas

www.lung.org/kansas

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Johnson	574,272	145,456	72,681	12,249	37,515	27,785	34,615	42,948	37,315
Leavenworth	78,797	19,148	9,969	1,612	5,219	3,840	4,774	5,931	7,856
Linn	9,502	2,217	1,982	187	634	561	754	883	1,388
Neosho	16,416	4,073	3,015	343	1,075	900	1,190	1,410	2,804
Riley	75,194	13,237	5,964	1,115	5,398	2,808	3,198	4,143	13,379
Sedgwick	508,803	134,715	65,082	11,344	32,694	24,066	30,127	37,183	73,532
Shawnee	178,406	43,345	28,688	3,650	11,784	9,396	12,139	14,646	26,058
Sumner	23,528	5,858	4,025	493	1,542	1,284	1,676	2,010	3,064
Trego	2,902	523	701	44	207	191	260	302	279
Wyandotte	161,636	45,817	18,169	3,858	10,130	7,191	8,859	11,064	39,074
Totals	**1,629,456**	**414,389**	**210,276**	**34,896**	**106,198**	**78,021**	**97,592**	**120,520**	**204,749**

KANSAS

American Lung Association in Kansas

www.lung.org/kansas

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Johnson	18	3	0	7.5	F
Leavenworth	29	2	0	10.7	F
Linn	INC	INC	INC	INC	INC
Neosho	INC	INC	INC	INC	INC
Riley	INC	INC	INC	INC	INC
Sedgwick	33	2	0	12.0	F
Shawnee	21	0	0	7.0	F
Sumner	28	2	0	10.3	F
Trego	13	0	0	4.3	F
Wyandotte	19	1	0	6.8	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Johnson	0	0	0	0.0	A	7.9	PASS
Leavenworth	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Linn	INC	INC	INC	INC	INC	INC	INC
Neosho	INC	INC	INC	INC	INC	INC	INC
Riley	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sedgwick	1	0	0	0.3	B	9.5	PASS
Shawnee	1	0	0	0.3	B	8.5	PASS
Sumner	1	0	0	0.3	B	8.2	PASS
Trego	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wyandotte	1	0	0	0.3	B	9.4	PASS

KENTUCKY

American Lung Association in Kentucky

www.lung.org/kentucky

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Bell	27,778	5,990	4,793	650	2,601	2,758	2,831	2,846	8,955
Boone	126,413	34,547	14,148	3,747	11,073	10,966	10,588	10,883	10,009
Boyd	48,832	10,376	8,736	1,125	4,588	4,913	5,077	5,095	10,705
Bullitt	77,955	18,002	10,605	1,953	7,211	7,358	7,279	7,424	9,474
Campbell	91,833	20,238	12,664	2,195	8,588	8,649	8,524	8,682	11,724
Carter	27,223	6,142	4,487	666	2,519	2,649	2,702	2,722	6,322
Christian	74,250	20,581	8,247	2,232	6,379	5,871	5,527	5,638	14,868
Daviess	98,275	23,849	15,726	2,587	8,893	9,336	9,511	9,584	14,370
Edmonson	12,013	2,330	2,315	253	1,153	1,246	1,299	1,299	2,366
Fayette	310,797	65,477	36,279	7,102	29,368	27,764	26,276	26,964	59,007
Greenup	36,308	7,935	6,927	861	3,379	3,690	3,869	3,865	5,846
Hancock	8,753	2,236	1,413	243	779	828	848	854	1,193
Hardin	108,266	27,144	13,323	2,944	9,741	9,639	9,369	9,581	14,905
Henderson	46,467	10,876	7,274	1,180	4,263	4,474	4,539	4,587	8,227
Jefferson	760,026	172,157	110,291	18,673	70,389	71,607	71,269	72,313	124,850
Jessamine	50,815	12,587	6,824	1,365	4,583	4,614	4,552	4,632	7,190
Livingston	9,359	1,920	1,861	208	888	991	1,048	1,047	1,299
McCracken	65,316	14,303	11,899	1,551	6,081	6,553	6,807	6,818	11,214
Madison	87,340	18,415	11,120	1,997	8,235	7,901	7,588	7,745	15,947
Morgan	13,303	2,506	1,941	272	1,295	1,309	1,294	1,317	3,489
Oldham	63,490	16,661	7,458	1,807	5,663	5,752	5,619	5,775	3,211
Perry	27,597	5,929	4,257	643	2,600	2,714	2,735	2,772	7,401
Pike	63,034	13,208	10,044	1,433	5,973	6,257	6,333	6,408	16,796
Pulaski	63,825	14,462	11,304	1,569	5,889	6,324	6,548	6,567	16,338
Simpson	17,826	4,300	2,824	466	1,618	1,699	1,729	1,744	2,610
Trigg	14,142	3,068	2,996	333	1,316	1,488	1,595	1,584	2,218
Warren	120,460	27,073	14,493	2,937	11,164	10,622	10,127	10,360	20,900
Washington	11,959	2,752	2,056	299	1,100	1,177	1,214	1,220	2,284
Totals	**2,463,655**	**565,064**	**346,305**	**61,291**	**227,330**	**229,148**	**226,696**	**230,328**	**413,718**

KENTUCKY

American Lung Association in Kentucky

www.lung.org/kentucky

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bell	4	0	0	1.3	C	0	0	0	0.0	A	9.4	PASS
Boone	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boyd	9	0	0	3.0	D	0	0	0	0.0	A	9.5	PASS
Bullitt	7	1	0	2.8	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Campbell	27	1	1	10.2	F	0	0	0	0.0	A	9.6	PASS
Carter	5	0	0	1.7	C	0	0	0	0.0	A	7.9	PASS
Christian	13	0	0	4.3	F	0	0	0	0.0	A	9.9	PASS
Daviess	20	4	0	8.7	F	0	0	0	0.0	A	10.7	PASS
Edmonson	14	1	0	5.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	17	1	0	6.2	F	0	0	0	0.0	A	9.5	PASS
Greenup	10	1	0	3.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	17	2	0	6.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hardin	5	2	0	2.7	D	0	0	0	0.0	A	INC	INC
Henderson	24	4	0	10.0	F	0	0	0	0.0	A	10.6	PASS
Jefferson	24	6	1	11.7	F	1	0	0	0.3	B	12.5	FAIL
Jessamine	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston	22	4	0	9.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McCracken	19	3	1	8.5	F	0	0	0	0.0	A	INC	INC
Madison	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.5	PASS
Morgan	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oldham	17	6	1	9.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	3	0	0	1.0	C	INC	INC	INC	INC	INC	INC	INC
Pike	2	0	0	0.7	B	4	0	0	1.3	C	8.5	PASS
Pulaski	5	0	0	1.7	C	0	0	0	0.0	A	9.2	PASS
Simpson	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Trigg	12	1	0	4.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Warren	16	0	0	5.3	F	0	0	0	0.0	A	INC	INC
Washington	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC

LOUISIANA

American Lung Association in Louisiana

www.lung.org/louisiana

		AT-RISK GROUPS							
				Lung Diseases					
Parish	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Ascension Parish	117,029	32,277	11,934	2,597	6,560	6,253	9,006	8,865	15,873
Bossier Parish	125,064	31,618	16,049	2,544	7,204	6,915	10,350	10,038	17,520
Caddo Parish	252,603	61,350	37,374	4,937	14,769	14,759	22,962	22,101	59,514
Calcasieu Parish	197,204	49,200	27,079	3,959	11,436	11,313	17,315	16,745	35,591
East Baton Rouge Parish	446,042	101,880	55,335	8,199	26,516	24,990	36,691	35,726	80,273
Iberville Parish	33,327	7,246	4,521	583	2,019	2,001	3,032	2,946	5,867
Jefferson Parish	435,716	95,369	65,680	7,675	26,316	26,467	41,146	39,668	68,333
Lafayette Parish	235,644	56,280	26,513	4,529	13,850	13,070	18,904	18,530	34,809
Lafourche Parish	98,020	23,119	13,444	1,860	5,793	5,745	8,767	8,494	16,903
Livingston Parish	135,751	35,732	15,788	2,876	7,732	7,448	10,985	10,729	16,499
Orleans Parish	384,320	78,503	46,513	6,318	23,614	22,398	32,626	31,923	103,855
Ouachita Parish	156,325	39,909	20,847	3,212	8,984	8,762	13,294	12,864	35,619
Pointe Coupee Parish	22,406	5,143	4,069	414	1,336	1,421	2,338	2,226	4,072
Rapides Parish	132,488	33,363	19,758	2,685	7,659	7,720	12,090	11,626	25,480
St. Bernard Parish	44,409	11,928	4,371	960	2,511	2,355	3,345	3,300	7,869
St. Charles Parish	52,745	13,409	6,095	1,079	3,054	3,030	4,501	4,411	6,272
St. James Parish	21,638	5,145	3,261	414	1,278	1,316	2,068	1,994	3,450
St. John the Baptist Parish	43,745	11,024	5,519	887	2,536	2,523	3,809	3,710	8,995
St. Tammany Parish	245,829	60,176	36,596	4,843	14,389	14,789	23,231	22,398	27,292
Tangipahoa Parish	127,049	31,553	16,299	2,539	7,372	7,142	10,710	10,400	27,726
Terrebonne Parish	113,328	28,974	14,292	2,332	6,525	6,407	9,639	9,375	23,321
West Baton Rouge Parish	25,085	6,038	3,017	486	1,475	1,439	2,133	2,084	5,012
Totals	**3,445,767**	**819,236**	**454,354**	**65,928**	**202,930**	**198,262**	**298,943**	**290,151**	**630,145**

LOUISIANA

American Lung Association in Louisiana

www.lung.org/louisiana

HIGH OZONE DAYS 2012–2014

Parish	Orange	Red	Purple	Wgt. Avg.	Grade
Ascension Parish	5	1	0	2.2	D
Bossier Parish	8	0	0	2.7	D
Caddo Parish	5	0	0	1.7	C
Calcasieu Parish	11	0	0	3.7	F
East Baton Rouge Parish	20	4	0	8.7	F
Iberville Parish	17	0	0	5.7	F
Jefferson Parish	12	0	0	4.0	F
Lafayette Parish	5	0	0	1.7	C
Lafourche Parish	5	0	0	1.7	C
Livingston Parish	14	0	0	4.7	F
Orleans Parish	8	0	0	2.7	D
Ouachita Parish	0	0	0	0.0	A
Pointe Coupee Parish	15	0	0	5.0	F
Rapides Parish	DNC	DNC	DNC	DNC	DNC
St. Bernard Parish	7	0	0	2.3	D
St. Charles Parish	1	0	0	0.3	B
St. James Parish	2	1	0	1.2	C
St. John the Baptist Parish	13	0	0	4.3	F
St. Tammany Parish	12	1	0	4.5	F
Tangipahoa Parish	DNC	DNC	DNC	DNC	DNC
Terrebonne Parish	DNC	DNC	DNC	DNC	DNC
West Baton Rouge Parish	3	1	0	1.5	C

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
Parish	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ascension Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bossier Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caddo Parish	1	1	0	0.8	B	10.9	PASS
Calcasieu Parish	0	0	0	0.0	A	7.9	PASS
East Baton Rouge Parish	1	0	0	0.3	B	9.0	PASS
Iberville Parish	0	0	0	0.0	A	9.1	PASS
Jefferson Parish	0	0	0	0.0	A	8.2	PASS
Lafayette Parish	0	0	0	0.0	A	8.2	PASS
Lafourche Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orleans Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ouachita Parish	0	0	0	0.0	A	8.3	PASS
Pointe Coupee Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rapides Parish	0	0	0	0.0	A	7.8	PASS
St. Bernard Parish	0	0	0	0.0	A	9.4	PASS
St. Charles Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. James Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. John the Baptist Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Tammany Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tangipahoa Parish	0	0	0	0.0	A	8.0	PASS
Terrebonne Parish	0	0	0	0.0	A	7.4	PASS
West Baton Rouge Parish	0	0	0	0.0	A	9.2	PASS

MAINE

American Lung Association in Maine

www.lung.org/maine

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Androscoggin	107,440	23,671	17,178	2,273	9,775	6,287	7,592	7,589	16,125
Aroostook	69,447	13,004	14,790	1,249	6,466	4,592	5,870	5,720	13,603
Cumberland	287,797	56,288	47,262	5,405	27,018	17,377	20,961	20,968	30,257
Hancock	54,696	9,497	11,764	912	5,179	3,679	4,695	4,581	6,886
Kennebec	121,112	24,081	21,400	2,312	11,248	7,537	9,253	9,207	16,257
Knox	39,676	7,304	8,874	701	3,697	2,662	3,441	3,333	5,315
Oxford	57,238	11,215	11,075	1,077	5,293	3,713	4,649	4,595	9,083
Penobscot	153,414	28,694	25,384	2,755	14,575	9,269	11,172	11,155	26,330
Sagadahoc	35,045	6,820	6,845	655	3,249	2,261	2,838	2,796	3,642
Washington	31,808	6,027	7,002	579	2,945	2,120	2,733	2,652	5,725
York	200,710	39,871	36,134	3,829	18,617	12,585	15,516	15,414	22,134
Totals	**1,158,383**	**226,472**	**207,708**	**21,747**	**108,061**	**72,081**	**88,720**	**88,009**	**155,357**

MAINE

American Lung Association in Maine

www.lung.org/maine

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Androscoggin	0	0	0	0.0	A
Aroostook	0	0	0	0.0	A
Cumberland	9	0	0	3.0	D
Hancock	4	0	0	1.3	C
Kennebec	1	0	0	0.3	B
Knox	5	0	0	1.7	C
Oxford	0	0	0	0.0	A
Penobscot	1	0	0	0.3	B
Sagadahoc	1	0	0	0.3	B
Washington	1	0	0	0.3	B
York	14	0	0	4.7	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
	0	0	0	0.0	A	7.3	PASS
	0	1	0	0.5	B	6.0	PASS
	0	0	0	0.0	A	8.0	PASS
	0	0	0	0.0	A	4.4	PASS
	0	0	0	0.0	A	7.2	PASS
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	0	0	0	0.0	A	8.0	PASS
	0	0	0	0.0	A	6.7	PASS
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	DNC	DNC	DNC	DNC	DNC	DNC	DNC

MARYLAND

American Lung Association in Maryland

www.lung.org/maryland

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Anne Arundel	560,133	126,852	75,250	12,265	36,941	24,568	30,747	43,026	36,632
Baltimore	826,925	178,621	130,783	17,270	54,881	38,039	49,119	67,215	78,935
Calvert	90,613	21,926	11,783	2,120	5,758	4,039	5,083	7,198	6,441
Carroll	167,830	37,721	25,734	3,647	10,833	7,891	10,213	14,168	9,673
Cecil	102,383	24,177	14,091	2,338	6,584	4,581	5,805	8,133	10,751
Charles	154,747	38,481	17,031	3,721	9,952	6,414	7,776	11,166	11,000
Dorchester	32,578	6,962	6,425	673	2,107	1,644	2,236	2,989	5,608
Frederick	243,675	58,275	31,475	5,634	15,728	10,606	13,252	18,673	15,670
Garrett	29,679	5,864	5,936	567	1,960	1,525	2,071	2,771	3,610
Harford	250,105	57,435	36,443	5,553	16,203	11,377	14,551	20,227	19,664
Howard	309,284	75,985	37,694	7,347	19,854	13,178	16,298	23,113	18,818
Kent	19,820	3,361	4,828	325	1,348	1,092	1,535	1,993	2,544
Montgomery	1,030,447	242,404	140,885	23,437	67,001	45,118	56,840	79,275	73,213
Prince George's	904,430	205,170	101,306	19,837	60,569	37,444	44,981	64,254	91,060
Washington	149,573	33,288	23,571	3,219	9,800	6,894	8,926	12,238	19,416
Baltimore City	622,793	132,223	76,668	12,784	42,633	26,265	31,912	44,919	139,782
Totals	**5,495,015**	**1,248,745**	**739,903**	**120,737**	**362,152**	**240,676**	**301,344**	**421,357**	**542,817**

MARYLAND

American Lung Association in Maryland

www.lung.org/maryland

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Anne Arundel	16	6	0	8.3	F
Baltimore	30	1	1	11.2	F
Calvert	19	1	1	7.5	F
Carroll	11	1	0	4.2	F
Cecil	28	5	0	11.8	F
Charles	13	3	0	5.8	F
Dorchester	16	3	1	7.5	F
Frederick	14	1	0	5.2	F
Garrett	13	1	0	4.8	F
Harford	25	4	1	11.0	F
Howard	DNC	DNC	DNC	DNC	DNC
Kent	22	7	0	10.8	F
Montgomery	7	1	0	2.8	D
Prince George's	27	6	0	12.0	F
Washington	12	1	0	4.5	F
Baltimore City	4	1	0	1.8	C

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anne Arundel	0	0	0	0.0	A	9.5	PASS
Baltimore	0	0	0	0.0	A	10.0	PASS
Calvert	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cecil	1	0	0	0.3	B	9.2	PASS
Charles	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dorchester	0	0	0	0.0	A	INC	INC
Frederick	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Garrett	0	0	0	0.0	A	7.6	PASS
Harford	0	0	0	0.0	A	10.3	PASS
Howard	INC	INC	INC	INC	INC	INC	INC
Kent	0	0	0	0.0	A	9.3	PASS
Montgomery	0	0	0	0.0	A	9.1	PASS
Prince George's	0	0	0	0.0	A	9.5	PASS
Washington	4	0	0	1.3	C	9.6	PASS
Baltimore City	1	0	0	0.3	B	9.8	PASS

MASSACHUSETTS

American Lung Association in Massachusetts

www.lung.org/massachusetts

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Barnstable	214,914	34,240	59,848	3,341	21,154	14,428	19,775	22,296	18,801
Berkshire	128,715	23,101	26,870	2,254	12,589	7,650	9,918	11,602	16,037
Bristol	554,194	117,153	86,881	11,432	52,757	29,120	35,837	43,379	66,553
Dukes	17,356	3,183	3,435	311	1,695	1,026	1,321	1,556	1,544
Essex	769,091	169,071	119,878	16,498	72,422	40,267	49,668	60,078	80,526
Franklin	70,862	12,919	12,896	1,261	6,960	4,090	5,174	6,168	8,397
Hampden	468,161	105,206	71,445	10,266	43,827	23,924	29,330	35,553	80,178
Hampshire	160,939	25,141	23,708	2,453	16,472	8,385	9,949	12,271	20,809
Middlesex	1,570,315	323,031	220,137	31,522	151,294	79,275	94,920	116,814	134,684
Norfolk	692,254	149,603	108,526	14,599	65,492	36,358	44,836	54,227	43,999
Plymouth	507,022	114,206	82,304	11,145	47,317	27,051	33,773	40,589	42,124
Suffolk	767,254	132,696	84,169	12,949	77,661	35,235	39,028	50,144	155,184
Worcester	813,475	178,647	114,684	17,433	76,959	41,485	50,174	61,522	90,611
Totals	**6,734,552**	**1,388,197**	**1,014,781**	**135,465**	**646,599**	**348,294**	**423,702**	**516,200**	**759,447**

MASSACHUSETTS

American Lung Association in Massachusetts

www.lung.org/massachusetts

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Barnstable	10	1	0	3.8	F
Berkshire	6	0	0	2.0	C
Bristol	12	2	0	5.0	F
Dukes	12	2	0	5.0	F
Essex	17	1	0	6.2	F
Franklin	INC	INC	INC	INC	INC
Hampden	14	0	0	4.7	F
Hampshire	13	0	0	4.3	F
Middlesex	5	1	0	2.2	D
Norfolk	12	0	0	4.0	F
Plymouth	INC	INC	INC	INC	INC
Suffolk	5	0	0	1.7	C
Worcester	5	1	0	2.2	D

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Barnstable	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berkshire	0	0	0	0.0	A	7.3	PASS
Bristol	0	0	0	0.0	A	7.1	PASS
Dukes	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Essex	0	0	0	0.0	A	6.7	PASS
Franklin	INC	INC	INC	INC	INC	INC	INC
Hampden	0	0	0	0.0	A	7.8	PASS
Hampshire	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Middlesex	INC	INC	INC	INC	INC	INC	INC
Norfolk	INC	INC	INC	INC	INC	INC	INC
Plymouth	0	0	0	0.0	A	INC	INC
Suffolk	0	0	0	0.0	A	8.4	PASS
Worcester	0	0	0	0.0	A	7.7	PASS

MICHIGAN

American Lung Association in Michigan

www.lung.org/michigan

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Allegan	113,847	28,295	17,159	2,896	9,320	7,737	8,730	8,998	12,851
Bay	106,179	22,273	19,434	2,280	9,055	7,753	9,084	9,255	17,614
Benzie	17,519	3,365	4,181	344	1,502	1,403	1,766	1,773	2,043
Berrien	155,233	34,868	27,670	3,569	12,992	11,079	12,951	13,195	26,842
Cass	51,608	10,978	10,007	1,124	4,372	3,850	4,598	4,675	7,555
Chippewa	38,321	7,307	6,179	748	3,367	2,698	3,015	3,085	6,623
Clinton	77,297	17,784	11,842	1,820	6,482	5,340	6,005	6,184	7,616
Genesee	412,895	96,726	64,751	9,900	34,359	28,345	32,082	32,933	87,632
Huron	32,065	6,288	7,515	644	2,740	2,553	3,201	3,219	4,469
Ingham	284,582	57,947	33,936	5,931	24,848	17,969	18,378	18,999	53,518
Kalamazoo	258,818	57,108	34,948	5,845	22,004	16,662	17,809	18,296	47,221
Kent	629,237	158,240	76,985	16,197	51,649	39,548	41,924	43,480	94,696
Lenawee	99,047	21,685	16,604	2,220	8,384	6,996	8,019	8,204	13,651
Macomb	860,112	188,185	133,954	19,262	73,143	60,025	67,470	69,411	104,347
Manistee	24,420	4,345	5,708	445	2,138	1,973	2,455	2,472	3,822
Mason	28,824	5,960	6,099	610	2,445	2,200	2,687	2,715	4,637
Missaukee	15,037	3,487	2,876	357	1,242	1,095	1,311	1,332	2,389
Monroe	149,824	33,622	23,580	3,441	12,659	10,595	12,007	12,379	15,436
Muskegon	172,344	40,942	26,008	4,191	14,304	11,679	13,091	13,465	33,197
Oakland	1,237,868	273,302	186,302	27,974	105,245	86,168	96,167	99,269	122,452
Ottawa	276,292	68,762	36,545	7,038	22,665	17,547	18,938	19,519	24,462
St. Clair	160,078	35,144	26,683	3,597	13,575	11,542	13,266	13,639	21,850
Schoolcraft	8,171	1,486	1,967	152	711	674	848	855	1,410
Tuscola	54,000	11,565	9,902	1,184	4,583	3,971	4,670	4,766	8,304
Washtenaw	356,874	70,355	42,878	7,201	31,447	22,978	23,585	24,444	48,651
Wayne	1,764,804	425,569	243,711	43,559	146,334	116,394	127,404	131,608	419,820
Wexford	32,886	7,668	5,778	785	2,725	2,336	2,731	2,787	6,171
Totals	**7,418,182**	**1,693,256**	**1,083,202**	**173,314**	**624,290**	**501,108**	**554,190**	**570,959**	**1,199,279**

MICHIGAN

American Lung Association in Michigan

www.lung.org/michigan

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allegan	38	13	0	19.2	F	0	0	0	0.0	A	8.3	PASS
Bay	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	7.8	PASS
Benzie	26	0	0	8.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berrien	36	3	1	14.2	F	0	0	0	0.0	A	8.4	PASS
Cass	25	1	2	10.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Chippewa	9	0	0	3.0	D	0	0	0	0.0	A	6.2	PASS
Clinton	12	2	0	5.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Genesee	21	3	0	8.5	F	1	0	0	0.3	B	8.1	PASS
Huron	17	3	0	7.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ingham	15	0	0	5.0	F	0	0	0	0.0	A	8.5	PASS
Kalamazoo	20	2	0	7.7	F	1	0	0	0.3	B	9.2	PASS
Kent	24	1	0	8.5	F	0	0	0	0.0	A	9.5	PASS
Lenawee	25	4	0	10.3	F	0	0	0	0.0	A	8.6	PASS
Macomb	29	1	1	10.8	F	0	0	0	0.0	A	8.6	PASS
Manistee	25	0	0	8.3	F	1	0	0	0.3	B	6.6	PASS
Mason	23	3	0	9.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Missaukee	18	0	0	6.0	F	0	0	0	0.0	A	5.7	PASS
Monroe	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	INC	INC
Muskegon	37	9	0	16.8	F	INC	INC	INC	INC	INC	INC	INC
Oakland	21	2	0	8.0	F	0	0	0	0.0	A	9.1	PASS
Ottawa	25	2	0	9.3	F	INC	INC	INC	INC	INC	INC	INC
St. Clair	23	0	1	8.3	F	1	0	0	0.3	B	9.1	PASS
Schoolcraft	16	3	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tuscola	15	1	0	5.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washtenaw	25	2	0	9.3	F	0	0	0	0.0	A	9.2	PASS
Wayne	27	1	1	10.2	F	9	0	0	3.0	D	11.5	PASS
Wexford	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC

MINNESOTA

American Lung Association in Minnesota

www.lung.org/minnesota

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Anoka	341,864	83,470	40,733	7,692	21,955	11,124	16,650	20,153	25,800
Becker	33,259	8,188	6,426	755	2,096	1,265	2,093	2,378	4,793
Beltrami	45,664	11,615	6,569	1,070	2,887	1,482	2,307	2,721	8,056
Carlton	35,571	8,088	5,782	745	2,315	1,289	2,046	2,386	4,086
Cass	28,559	6,024	6,790	555	1,868	1,227	2,099	2,336	4,434
Crow Wing	63,265	14,055	13,106	1,295	4,109	2,506	4,180	4,725	6,815
Dakota	412,529	103,094	49,966	9,500	26,284	13,345	20,064	24,214	29,892
Goodhue	46,423	10,615	8,586	978	3,001	1,770	2,886	3,309	4,377
Hennepin	1,212,064	269,867	151,476	24,868	80,231	39,225	58,789	71,063	154,785
Lake	10,680	2,006	2,623	185	719	474	811	902	1,098
Lyon	25,665	6,359	3,701	586	1,636	846	1,316	1,553	2,839
Mille Lacs	25,884	6,298	4,652	580	1,643	954	1,553	1,782	3,035
Olmsted	150,287	37,047	21,020	3,414	9,596	4,981	7,698	9,126	14,462
Ramsey	532,655	124,557	68,974	11,478	34,728	17,072	25,841	31,035	85,264
St. Louis	200,949	38,796	34,576	3,575	13,674	7,507	11,947	13,904	32,867
Scott	139,672	40,292	12,952	3,713	8,489	4,022	5,796	7,188	7,590
Stearns	152,912	34,709	20,633	3,198	10,052	4,973	7,578	9,062	19,537
Washington	249,283	62,752	31,928	5,783	15,805	8,285	12,610	15,101	14,735
Winona	51,097	9,330	7,708	860	3,550	1,762	2,716	3,224	7,400
Wright	129,918	37,335	14,603	3,440	7,875	3,923	5,867	7,104	7,700
Totals	**3,888,200**	**914,497**	**512,804**	**84,271**	**252,513**	**128,032**	**194,847**	**233,267**	**439,565**

MINNESOTA

American Lung Association in Minnesota

www.lung.org/minnesota

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Anoka	6	1	0	2.5	D
Becker	1	0	0	0.3	B
Beltrami	DNC	DNC	DNC	DNC	DNC
Carlton	1	0	0	0.3	B
Cass	DNC	DNC	DNC	DNC	DNC
Crow Wing	0	0	0	0.0	A
Dakota	DNC	DNC	DNC	DNC	DNC
Goodhue	0	0	0	0.0	A
Hennepin	INC	INC	INC	INC	INC
Lake	1	0	0	0.3	B
Lyon	4	0	0	1.3	C
Mille Lacs	0	0	0	0.0	A
Olmsted	3	0	0	1.0	C
Ramsey	DNC	DNC	DNC	DNC	DNC
St. Louis	1	0	0	0.3	B
Scott	3	0	0	1.0	C
Stearns	0	0	0	0.0	A
Washington	0	0	0	0.0	A
Winona	DNC	DNC	DNC	DNC	DNC
Wright	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anoka	0	0	0	0.0	A	7.5	PASS
Becker	INC	INC	INC	INC	INC	INC	INC
Beltrami	INC	INC	INC	INC	INC	INC	INC
Carlton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	INC	INC	INC	INC	INC	INC	INC
Crow Wing	INC	INC	INC	INC	INC	INC	INC
Dakota	0	0	0	0.0	A	8.0	PASS
Goodhue	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hennepin	1	0	0	0.3	B	8.7	PASS
Lake	INC	INC	INC	INC	INC	INC	INC
Lyon	1	0	0	0.3	B	6.8	PASS
Mille Lacs	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Olmsted	1	0	0	0.3	B	7.2	PASS
Ramsey	2	0	0	0.7	B	10.0	PASS
St. Louis	0	0	0	0.0	A	7.2	PASS
Scott	0	0	0	0.0	A	8.6	PASS
Stearns	1	0	0	0.3	B	7.0	PASS
Washington	2	0	0	0.7	B	8.8	PASS
Winona	INC	INC	INC	INC	INC	INC	INC
Wright	INC	INC	INC	INC	INC	INC	INC

MISSISSIPPI

American Lung Association in Mississippi

www.lung.org/mississippi

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Bolivar	33,768	8,644	4,620	1,007	1,863	1,832	2,666	3,182	10,882
DeSoto	170,913	45,705	20,205	5,325	9,342	9,072	12,821	15,532	17,112
Forrest	76,330	17,659	9,694	2,057	4,331	4,051	5,747	6,841	19,236
Grenada	21,666	5,145	3,589	599	1,226	1,274	1,927	2,287	5,287
Hancock	45,949	10,156	7,972	1,183	2,663	2,817	4,284	5,097	8,993
Harrison	199,058	48,357	26,343	5,634	11,209	10,991	15,807	18,996	36,288
Hinds	243,729	61,438	29,370	7,158	13,574	13,074	18,464	22,305	55,541
Jackson	141,137	34,169	20,026	3,981	7,973	8,037	11,740	14,108	21,723
Jones	68,290	17,480	10,600	2,037	3,768	3,851	5,771	6,852	16,272
Lauderdale	79,739	19,142	12,042	2,230	4,497	4,539	6,724	8,009	16,466
Lee	85,246	21,986	12,217	2,562	4,700	4,724	6,952	8,305	16,289
Yalobusha	12,276	2,792	2,244	325	703	747	1,155	1,362	2,832
Totals	**1,178,101**	**292,673**	**158,922**	**34,099**	**65,848**	**65,010**	**94,058**	**112,876**	**226,921**

MISSISSIPPI

American Lung Association in Mississippi

www.lung.org/mississippi

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bolivar	8	0	0	2.7	D
DeSoto	15	1	0	5.5	F
Forrest	DNC	DNC	DNC	DNC	DNC
Grenada	DNC	DNC	DNC	DNC	DNC
Hancock	4	0	0	1.3	C
Harrison	10	0	0	3.3	F
Hinds	2	1	0	1.2	C
Jackson	16	0	0	5.3	F
Jones	DNC	DNC	DNC	DNC	DNC
Lauderdale	0	0	0	0.0	A
Lee	2	0	0	0.7	B
Yalobusha	2	0	0	0.7	B

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bolivar	DNC	DNC	DNC	DNC	DNC	DNC	DNC
DeSoto	1	0	0	0.3	B	9.6	PASS
Forrest	1	0	0	0.3	B	10.5	PASS
Grenada	0	0	0	0.0	A	9.0	PASS
Hancock	0	0	0	0.0	A	8.8	PASS
Harrison	0	0	0	0.0	A	9.3	PASS
Hinds	0	0	0	0.0	A	9.9	PASS
Jackson	0	0	0	0.0	A	9.2	PASS
Jones	INC	INC	INC	INC	INC	INC	INC
Lauderdale	INC	INC	INC	INC	INC	INC	INC
Lee	INC	INC	INC	INC	INC	INC	INC
Yalobusha	DNC	DNC	DNC	DNC	DNC	DNC	DNC

MISSOURI

American Lung Association in Missouri

www.lung.org/missouri

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Andrew	17,379	3,985	3,035	447	1,305	1,172	1,454	1,575	1,834
Boone	172,717	35,353	18,114	3,962	13,551	9,338	10,500	12,242	31,804
Buchanan	89,486	20,517	13,098	2,300	6,755	5,540	6,667	7,386	15,129
Callaway	44,750	9,618	6,367	1,078	3,448	2,816	3,370	3,745	5,779
Cass	100,889	25,229	15,595	2,828	7,397	6,358	7,769	8,509	10,455
Cedar	13,952	3,207	3,354	359	1,031	1,031	1,344	1,410	2,946
Clay	233,682	58,398	29,834	6,545	17,228	13,719	16,252	18,196	21,041
Clinton	20,299	4,828	3,504	541	1,508	1,356	1,683	1,822	2,453
Greene	285,865	59,990	43,748	6,724	22,080	17,642	21,197	23,550	56,481
Jackson	683,191	164,068	92,529	18,389	50,952	41,102	49,018	54,632	111,130
Jasper	117,543	30,014	16,395	3,364	8,573	6,931	8,311	9,235	22,445
Jefferson	222,716	53,465	29,674	5,993	16,641	13,778	16,470	18,296	23,387
Lincoln	54,249	14,339	6,734	1,607	3,928	3,203	3,805	4,246	8,376
Monroe	8,707	1,968	1,809	221	652	625	796	847	1,353
Perry	19,202	4,617	3,195	517	1,423	1,251	1,543	1,679	2,194
St. Charles	379,493	92,357	50,200	10,352	28,216	22,986	27,401	30,523	25,281
Ste. Genevieve	17,914	3,980	3,099	446	1,360	1,230	1,525	1,652	2,310
St. Louis	1,001,876	223,659	165,139	25,068	75,996	65,873	80,823	88,275	93,882
Taney	54,230	11,523	10,693	1,292	4,140	3,738	4,697	5,054	9,819
St. Louis City	317,419	64,355	36,069	7,213	24,965	18,455	21,213	24,285	88,571
Totals	**3,855,559**	**885,470**	**552,185**	**99,246**	**291,150**	**238,145**	**285,836**	**317,159**	**536,670**

MISSOURI

American Lung Association in Missouri

www.lung.org/missouri

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Andrew	19	1	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boone	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Buchanan	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	10.8	PASS
Callaway	11	0	0	3.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	19	1	0	6.8	F	0	0	0	0.0	A	10.6	PASS
Cedar	19	1	0	6.8	F	0	0	0	0.0	A	8.8	PASS
Clay	36	6	0	15.0	F	0	0	0	0.0	A	8.9	PASS
Clinton	28	3	0	10.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	20	0	0	6.7	F	0	0	0	0.0	A	9.2	PASS
Jackson	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	9.6	PASS
Jasper	23	2	0	8.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	35	3	0	13.2	F	1	0	0	0.3	B	10.0	PASS
Lincoln	23	4	0	9.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Monroe	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	24	1	0	8.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Charles	38	7	0	16.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ste. Genevieve	18	2	0	7.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Louis	37	9	0	16.8	F	2	0	0	0.7	B	10.9	PASS
Taney	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Louis City	26	5	0	11.2	F	4	0	0	1.3	C	11.0	PASS

MONTANA

American Lung Association in Montana

www.lung.org/montana

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Fergus	11,442	2,329	2,626	166	859	700	832	908	1,640
Flathead	94,924	21,313	16,291	1,518	7,022	5,134	5,831	6,709	12,776
Lewis and Clark	65,856	14,329	10,698	1,021	4,936	3,503	3,930	4,573	7,736
Lincoln	19,125	3,521	4,744	251	1,449	1,258	1,519	1,655	3,622
Missoula	112,684	21,839	15,363	1,555	8,935	5,475	5,801	6,945	17,216
Phillips	4,192	946	858	67	305	245	289	322	648
Powder River	1,783	310	420	22	137	115	138	152	214
Ravalli	41,030	8,309	9,488	592	3,068	2,548	3,042	3,328	7,013
Richland	11,576	2,864	1,505	204	845	551	595	715	949
Rosebud	9,326	2,723	1,272	194	634	439	486	574	1,892
Silver Bow	34,680	7,104	5,991	506	2,651	1,876	2,111	2,427	6,575
Totals	**406,618**	**85,587**	**69,256**	**6,096**	**30,842**	**21,844**	**24,573**	**28,308**	**60,281**

MONTANA

American Lung Association in Montana

www.lung.org/montana

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Fergus	0	0	0	0	A
Flathead	0	0	0	0.0	A
Lewis and Clark	0	0	0	0.0	A
Lincoln	DNC	DNC	DNC	DNC	DNC
Missoula	0	0	0	0.0	A
Phillips	0	0	0	0	A
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
Silver Bow	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Fergus	1	0	0	0.3	B	INC	INC
Flathead	6	0	0	2.0	C	8.2	PASS
Lewis and Clark	11	0	0	3.7	F	8.1	PASS
Lincoln	2	0	0	0.7	B	10.5	PASS
Missoula	14	9	0	9.2	F	10.5	PASS
Phillips	1	0	0	0.3	B	INC	INC
Powder River	1	0	0	0.3	B	INC	INC
Ravalli	20	25	4	21.8	F	11.2	PASS
Richland	1	0	0	0.3	B	7.4	PASS
Rosebud	2	0	0	0.7	B	5.8	PASS
Silver Bow	14	6	0	7.7	F	9.9	PASS

NEBRASKA

American Lung Association in Nebraska

www.lung.org/nebraska

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Douglas	543,244	140,262	62,463	8,621	31,335	21,963	27,817	34,023	74,169
Hall	61,492	16,425	8,707	1,010	3,483	2,609	3,480	4,124	8,834
Knox	8,482	2,045	2,019	126	488	443	665	735	1,229
Lancaster	301,795	69,604	36,561	4,278	18,091	12,432	15,727	19,036	40,146
Sarpy	172,193	48,493	17,625	2,981	9,632	6,642	8,265	10,250	8,991
Scotts Bluff	36,465	8,950	6,446	550	2,113	1,693	2,366	2,725	5,563
Washington	20,258	4,825	3,245	297	1,184	949	1,298	1,541	1,450
Totals	**1,143,929**	**290,604**	**137,066**	**17,862**	**66,327**	**46,732**	**59,620**	**72,435**	**140,382**

NEBRASKA

American Lung Association in Nebraska

www.lung.org/nebraska

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Douglas	12	0	0	4.0	F
Hall	DNC	DNC	DNC	DNC	DNC
Knox	13	0	0	4.3	F
Lancaster	0	0	0	0.0	A
Sarpy	DNC	DNC	DNC	DNC	DNC
Scotts Bluff	INC	INC	INC	INC	INC
Washington	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Douglas	3	0	0	1.0	C	9.4	PASS
Hall	0	0	0	0.0	A	7.2	PASS
Knox	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lancaster	1	0	0	0.3	B	8.2	PASS
Sarpy	3	0	0	1.0	C	INC	INC
Scotts Bluff	0	0	0	0.0	A	5.3	PASS
Washington	1	0	0	0.3	B	8.3	PASS

NEVADA

American Lung Association in Nevada

www.lung.org/nevada

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Churchill	23,989	5,585	4,310	378	1,516	1,432	1,887	1,960	3,107
Clark	2,069,681	492,248	275,388	33,351	127,039	107,052	139,436	145,303	318,965
Douglas	47,536	8,667	11,666	587	3,309	3,484	4,651	4,827	4,861
Lyon	51,789	11,582	10,228	785	3,361	3,291	4,364	4,537	7,039
Washoe	440,078	98,655	64,302	6,684	27,801	24,140	31,627	32,983	67,110
White Pine	10,034	2,154	1,519	146	643	564	740	771	1,195
Carson City	54,522	11,199	10,464	759	3,592	3,439	4,546	4,725	9,940
Totals	**2,697,629**	**630,090**	**377,877**	**42,690**	**167,261**	**143,401**	**187,250**	**195,105**	**412,217**

NEVADA

American Lung Association in Nevada

www.lung.org/nevada

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Churchill	0	0	0	0.0	A
Clark	93	7	0	34.5	F
Douglas	DNC	DNC	DNC	DNC	DNC
Lyon	7	0	0	2.3	D
Washoe	18	0	0	6.0	F
White Pine	17	0	0	5.7	F
Carson City	8	0	0	2.7	D

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Churchill	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	5	2	0	2.7	D	9.9	PASS
Douglas	INC	INC	INC	INC	INC	INC	INC
Lyon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washoe	16	7	0	8.8	F	10.0	PASS
White Pine	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carson City	INC	INC	INC	INC	INC	INC	INC

NEW HAMPSHIRE

American Lung Association in New Hampshire

www.lung.org/newhampshire

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Belknap	60,305	11,776	11,988	1,135	4,926	3,429	4,140	4,921	5,922
Cheshire	76,115	14,182	13,181	1,367	6,333	4,069	4,760	5,737	8,467
Coos	31,653	5,588	6,892	538	2,639	1,889	2,306	2,717	4,508
Grafton	89,658	15,424	16,182	1,486	7,594	4,874	5,705	6,841	9,584
Hillsborough	405,184	87,938	56,271	8,474	32,563	19,876	22,651	27,995	34,507
Merrimack	147,171	29,322	23,655	2,826	12,052	7,696	8,957	10,910	13,390
Rockingham	300,621	62,005	45,837	5,975	24,382	15,636	18,188	22,356	18,267
Totals	**1,110,707**	**226,235**	**174,006**	**21,801**	**90,489**	**57,468**	**66,707**	**81,477**	**94,645**

NEW HAMPSHIRE

American Lung Association in New Hampshire

www.lung.org/newhampshire

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Belknap	0	0	0	0.0	A
Cheshire	2	0	0	0.7	B
Coos	4	0	0	1.3	C
Grafton	1	0	0	0.3	B
Hillsborough	8	0	0	2.7	D
Merrimack	2	0	0	0.7	B
Rockingham	12	0	0	4.0	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Belknap	0	0	0	0.0	A	5.5	PASS
Cheshire	4	0	0	1.3	C	8.8	PASS
Coos	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grafton	0	0	0	0.0	A	6.2	PASS
Hillsborough	0	0	0	0.0	A	7.2	PASS
Merrimack	0	0	0	0.0	A	7.5	PASS
Rockingham	0	0	0	0.0	A	8.5	PASS

NEW JERSEY

American Lung Association in New Jersey

www.lung.org/newjersey

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Atlantic	275,209	60,845	43,515	5,735	17,678	12,309	18,166	21,297	40,761
Bergen	933,572	202,136	149,280	19,053	60,322	42,143	62,267	72,967	70,557
Camden	511,038	119,156	72,794	11,232	32,300	21,723	31,489	37,125	65,551
Cumberland	157,389	37,409	21,453	3,526	9,890	6,439	9,254	10,953	28,287
Essex	795,723	192,202	98,394	18,117	49,703	32,033	45,247	53,770	130,059
Gloucester	290,951	66,762	41,118	6,293	18,471	12,588	18,216	21,463	23,626
Hudson	669,115	136,106	71,979	12,829	43,880	25,605	34,698	41,904	117,129
Hunterdon	126,067	26,673	19,795	2,514	8,186	6,072	8,946	10,447	5,742
Mercer	371,537	81,321	51,229	7,665	23,913	15,770	22,625	26,763	41,715
Middlesex	836,297	184,214	112,007	17,364	53,725	34,979	49,900	59,145	67,331
Monmouth	629,279	140,241	98,379	13,219	40,308	28,783	42,437	49,676	51,001
Morris	499,727	111,252	76,865	10,487	32,017	22,642	33,271	38,994	24,782
Ocean	586,301	137,822	128,590	12,991	37,138	28,047	44,483	51,247	68,832
Passaic	508,856	124,026	66,745	11,691	31,708	20,708	29,599	35,062	90,553
Union	552,939	131,992	72,145	12,441	34,673	22,908	32,696	38,708	60,679
Warren	106,917	22,618	17,095	2,132	6,949	4,976	7,348	8,597	8,747
Totals	**7,850,917**	**1,774,775**	**1,141,383**	**167,289**	**500,860**	**337,725**	**490,641**	**578,119**	**895,352**

NEW JERSEY

American Lung Association in New Jersey

www.lung.org/newjersey

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Atlantic	9	3	0	4.5	F
Bergen	19	0	0	6.3	F
Camden	29	7	0	13.2	F
Cumberland	14	3	0	6.2	F
Essex	18	0	0	6.0	F
Gloucester	24	4	0	10.0	F
Hudson	18	1	0	6.5	F
Hunterdon	16	0	0	5.3	F
Mercer	29	0	0	9.7	F
Middlesex	24	1	0	8.5	F
Monmouth	17	3	0	7.2	F
Morris	16	1	0	5.8	F
Ocean	22	2	0	8.3	F
PASSaic	7	1	0	2.8	D
Union	DNC	DNC	DNC	DNC	DNC
Warren	3	0	0	1.0	C

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Atlantic	0	0	0	0.0	A	8.3	PASS
Bergen	0	0	0	0.0	A	8.8	PASS
Camden	1	0	0	0.3	B	9.1	PASS
Cumberland	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Essex	2	0	0	0.7	B	9.0	PASS
Gloucester	0	0	0	0.0	A	9.2	PASS
Hudson	1	0	0	0.3	B	10.6	PASS
Hunterdon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mercer	0	0	0	0.0	A	8.8	PASS
Middlesex	0	0	0	0.0	A	8.1	PASS
Monmouth	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Morris	0	0	0	0.0	A	8.7	PASS
Ocean	0	0	0	0.0	A	7.8	PASS
PASSaic	0	0	0	0.0	A	8.9	PASS
Union	5	0	0	1.7	C	10.5	PASS
Warren	0	0	0	0.0	A	8.7	PASS

NEW MEXICO

American Lung Association in New Mexico

www.lung.org/newmexico

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Bernalillo	675,551	154,745	95,770	10,323	51,832	28,666	40,878	57,666	124,091
Doña Ana	213,676	54,339	30,240	3,625	15,937	8,641	12,329	17,177	58,462
Eddy	56,395	14,805	7,864	988	4,128	2,326	3,328	4,692	7,863
Grant	29,096	6,063	7,005	404	2,233	1,563	2,340	3,142	5,437
Lea	69,999	21,264	7,313	1,419	4,899	2,477	3,462	4,957	11,231
Luna	24,673	6,399	5,125	427	1,789	1,175	1,743	2,344	7,386
Rio Arriba	39,777	9,668	6,567	645	2,959	1,803	2,617	3,658	9,503
Sandoval	137,608	33,881	20,844	2,260	10,238	6,007	8,651	12,180	17,264
San Juan	123,785	33,749	16,159	2,251	8,961	4,931	7,018	9,936	25,680
Santa Fe	148,164	28,869	29,088	1,926	11,638	7,514	11,025	15,273	20,700
Valencia	75,817	18,645	11,713	1,244	5,636	3,339	4,818	6,773	18,156
Totals	**1,594,541**	**382,427**	**237,688**	**25,511**	**120,250**	**68,441**	**98,209**	**137,798**	**305,773**

NEW MEXICO

American Lung Association in New Mexico

www.lung.org/newmexico

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bernalillo	22	0	0	7.3	F
Doña Ana	57	1	0	19.5	F
Eddy	14	0	0	4.7	F
Grant	0	0	0	0.0	A
Lea	3	0	0	1.0	C
Luna	4	0	0	1.3	C
Rio Arriba	INC	INC	INC	INC	INC
Sandoval	0	0	0	0.0	A
San Juan	16	0	0	5.3	F
Santa Fe	1	0	0	0.3	B
Valencia	10	0	0	3.3	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bernalillo	3	1	0	1.5	C	6.5	PASS
Doña Ana	0	1	0	0.5	B	6.2	PASS
Eddy	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grant	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lea	1	0	0	0.3	B	7.8	PASS
Luna	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rio Arriba	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sandoval	DNC	DNC	DNC	DNC	DNC	DNC	DNC
San Juan	0	0	0	0.0	A	4.5	PASS
Santa Fe	0	0	0	0.0	A	INC	INC
Valencia	DNC	DNC	DNC	DNC	DNC	DNC	DNC

NEW YORK

American Lung Association in New York

www.lung.org/newyork

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Albany	308,171	58,398	47,255	5,100	26,837	14,421	18,294	24,769	39,589
Bronx	1,438,159	366,951	161,607	32,049	116,017	56,886	69,572	96,658	440,989
Chautauqua	132,053	27,612	23,893	2,412	11,104	6,604	8,655	11,503	24,433
Chemung	87,770	19,124	14,943	1,670	7,309	4,268	5,553	7,431	15,101
Dutchess	296,579	59,794	45,951	5,222	25,264	14,255	18,259	24,850	28,417
Erie	922,835	190,910	152,635	16,674	78,135	44,527	57,507	77,257	136,135
Essex	38,679	6,695	8,115	585	3,380	2,127	2,835	3,729	4,356
Franklin	51,262	10,188	7,619	890	4,402	2,397	3,042	4,147	8,393
Hamilton	4,715	713	1,264	62	416	301	416	536	537
Herkimer	63,744	13,437	11,993	1,174	5,332	3,255	4,298	5,693	10,279
Jefferson	119,103	29,517	14,532	2,578	9,725	4,747	5,837	7,989	17,009
Kings	2,621,793	611,571	317,555	53,414	217,867	107,096	131,572	181,292	607,086
Madison	72,369	14,723	11,473	1,286	6,150	3,489	4,483	6,077	7,962
Monroe	749,857	160,894	116,048	14,052	63,052	34,932	44,689	60,392	103,280
New York	1,636,268	240,767	234,905	21,028	151,434	74,580	92,192	125,471	280,877
Niagara	213,525	43,441	37,051	3,794	18,071	10,686	13,928	18,687	28,129
Oneida	232,871	49,600	40,681	4,332	19,518	11,420	14,892	19,852	38,971
Onondaga	468,196	102,618	71,673	8,963	39,101	21,769	27,856	37,723	72,873
Orange	376,099	97,713	47,302	8,534	29,857	15,937	19,998	27,625	49,122
Oswego	120,913	26,167	17,500	2,285	10,129	5,597	7,115	9,737	22,618
Putnam	99,487	21,318	14,716	1,862	8,300	4,799	6,152	8,464	6,144
Queens	2,321,580	472,945	315,716	41,306	199,166	103,281	129,022	177,022	352,481
Rensselaer	159,774	32,217	24,336	2,814	13,649	7,541	9,614	13,071	19,990
Richmond	473,279	105,141	69,085	9,183	39,406	21,661	27,552	37,548	67,827
Rockland	323,866	89,778	48,094	7,841	25,010	14,140	18,216	24,508	46,955
Saratoga	224,921	47,567	35,664	4,154	18,892	10,837	13,960	18,926	15,977
Steuben	98,394	21,977	17,151	1,919	8,113	4,848	6,345	8,479	16,098
Suffolk	1,502,968	334,242	229,106	29,192	124,640	70,661	90,657	123,247	113,319
Tompkins	104,691	16,173	12,833	1,413	9,671	4,426	5,318	7,341	17,123
Ulster	180,445	33,353	31,326	2,913	15,649	9,140	11,867	15,957	23,615
Wayne	92,051	20,322	15,224	1,775	7,611	4,513	5,869	7,923	11,678
Westchester	972,634	222,364	152,132	19,421	80,049	45,536	58,636	79,215	98,067
Totals	**16,509,051**	**3,548,230**	**2,349,378**	**309,898**	**1,393,256**	**740,675**	**934,203**	**1,273,120**	**2,725,430**

NEW YORK

American Lung Association in New York

www.lung.org/newyork

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Albany	7	0	0	2.3	D
Bronx	22	0	0	7.3	F
Chautauqua	17	2	0	6.7	F
Chemung	INC	INC	INC	INC	INC
Dutchess	6	0	0	2.0	C
Erie	18	1	0	6.5	F
Essex	6	1	0	2.5	D
Franklin	0	0	0	0.0	A
Hamilton	3	0	0	1.0	C
Herkimer	0	0	0	0.0	A
Jefferson	11	0	0	3.7	F
Kings	DNC	DNC	DNC	DNC	DNC
Madison	INC	INC	INC	INC	INC
Monroe	11	1	0	4.2	F
New York	11	0	0	3.7	F
Niagara	11	1	0	4.2	F
Oneida	INC	INC	INC	INC	INC
Onondaga	8	0	0	2.7	D
Orange	0	0	0	0.0	A
Oswego	4	0	0	1.3	C
Putnam	4	0	0	1.3	C
Queens	20	0	0	6.7	F
Rensselaer	INC	INC	INC	INC	INC
Richmond	22	2	0	8.3	F
Rockland	11	1	0	4.2	F
Saratoga	2	0	0	0.7	B
Steuben	0	0	0	0.0	A
Suffolk	17	6	0	8.7	F
Tompkins	6	0	0	2.0	C
Ulster	INC	INC	INC	INC	INC
Wayne	5	0	0	1.7	C
Westchester	19	2	0	7.3	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albany	0	0	0	0.0	A	7.3	PASS
Bronx	0	0	0	0.0	A	9.3	PASS
Chautauqua	0	0	0	0.0	A	INC	INC
Chemung	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dutchess	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	0	0	0	0.0	A	8.7	PASS
Essex	0	0	0	0.0	A	4.1	PASS
Franklin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Herkimer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kings	0	0	0	0.0	A	9.3	PASS
Madison	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Monroe	0	0	0	0.0	A	7.7	PASS
New York	0	0	0	0.0	A	10.1	PASS
Niagara	INC	INC	INC	INC	INC	INC	INC
Oneida	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Onondaga	0	0	0	0.0	A	6.7	PASS
Orange	0	0	0	0.0	A	7.4	PASS
Oswego	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Putnam	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Queens	0	0	0	0.0	A	8.2	PASS
Rensselaer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richmond	0	0	0	0.0	A	INC	INC
Rockland	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Saratoga	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Steuben	0	0	0	0.0	A	6.0	PASS
Suffolk	0	0	0	0.0	A	7.7	PASS
Tompkins	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ulster	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wayne	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Westchester	DNC	DNC	DNC	DNC	DNC	DNC	DNC

NORTH CAROLINA

American Lung Association in North Carolina

www.lung.org/northcarolina

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Alamance	155,792	35,618	25,126	4,093	9,386	9,671	12,747	13,512	27,115
Alexander	37,392	7,836	7,069	900	2,317	2,508	3,396	3,533	5,923
Avery	17,773	2,866	3,615	329	1,162	1,241	1,680	1,739	3,041
Buncombe	250,539	48,657	45,342	5,591	15,757	16,524	22,062	23,125	33,936
Caldwell	81,484	17,188	14,531	1,975	5,054	5,432	7,294	7,662	15,102
Carteret	68,811	12,652	14,996	1,454	4,416	4,994	6,918	7,087	9,945
Caswell	23,082	4,386	4,517	504	1,472	1,620	2,204	2,294	4,317
Catawba	154,534	35,500	25,004	4,080	9,331	9,744	12,888	13,672	24,642
Chatham	68,698	13,914	16,205	1,599	4,302	5,008	7,070	7,122	9,404
Cumberland	326,328	84,051	35,336	9,659	18,704	16,907	20,623	22,977	55,792
Davidson	164,072	37,259	27,527	4,282	9,958	10,550	14,053	14,847	27,440
Davie	41,434	9,066	7,977	1,042	2,549	2,827	3,860	4,006	5,681
Duplin	59,882	14,886	9,472	1,711	3,517	3,642	4,809	5,094	16,419
Durham	294,460	64,911	32,651	7,459	17,746	16,048	19,526	21,838	46,899
Edgecombe	54,933	12,719	9,308	1,462	3,311	3,510	4,685	4,935	13,925
Forsyth	365,298	86,706	52,567	9,964	21,746	21,767	28,141	30,285	69,871
Franklin	62,860	14,487	9,555	1,665	3,798	3,926	5,142	5,508	9,401
Gaston	211,127	48,786	31,852	5,606	12,706	12,968	16,922	18,124	34,776
Graham	8,644	1,832	1,925	211	534	610	853	864	1,754
Granville	58,500	12,462	8,937	1,432	3,617	3,730	4,872	5,234	8,664
Guilford	512,119	116,655	70,643	13,406	30,792	30,139	38,495	41,729	86,041
Haywood	59,471	10,969	14,108	1,261	3,806	4,396	6,184	6,243	8,961
Jackson	40,981	7,014	7,262	806	2,628	2,635	3,462	3,641	8,748
Johnston	181,423	47,882	22,252	5,502	10,445	10,221	12,953	14,201	27,504
Lee	59,662	15,101	8,935	1,735	3,478	3,536	4,622	4,929	10,830
Lenoir	58,485	13,386	10,453	1,538	3,540	3,814	5,140	5,376	12,806
Lincoln	79,829	17,496	12,708	2,011	4,905	5,146	6,789	7,245	12,626
McDowell	44,965	9,307	8,333	1,070	2,798	3,019	4,074	4,255	7,685
Macon	33,875	6,399	8,947	735	2,155	2,585	3,716	3,684	6,061
Martin	23,454	4,850	4,843	557	1,466	1,653	2,280	2,347	4,584
Mecklenburg	1,012,539	248,710	101,666	28,581	59,222	53,446	64,548	72,888	151,386
Mitchell	15,311	2,854	3,590	328	979	1,131	1,589	1,607	2,894
Montgomery	27,395	6,342	5,069	729	1,649	1,787	2,423	2,517	5,564
New Hanover	216,298	41,940	34,175	4,820	13,528	13,387	17,339	18,511	37,908
Person	39,132	8,527	6,835	980	2,407	2,584	3,463	3,646	7,236
Pitt	175,354	38,449	19,898	4,418	10,552	9,468	11,517	12,834	39,398

NORTH CAROLINA (cont.)

American Lung Association in North Carolina

www.lung.org/northcarolina

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Robeson	134,760	34,916	17,571	4,012	7,780	7,608	9,699	10,539	43,106
Rockingham	91,696	19,213	16,870	2,208	5,706	6,213	8,394	8,785	17,540
Rowan	138,630	31,539	22,641	3,624	8,383	8,729	11,546	12,230	24,137
Swain	14,274	3,234	2,643	372	862	922	1,247	1,294	2,716
Union	218,568	62,408	24,735	7,172	12,245	11,961	15,069	16,648	23,279
Wake	998,691	249,875	99,953	28,715	58,240	53,252	64,618	72,962	112,936
Watauga	52,560	6,949	7,451	799	3,498	3,159	3,903	4,268	12,227
Wayne	124,456	30,020	18,040	3,450	7,364	7,366	9,536	10,240	28,355
Yancey	17,614	3,396	4,137	390	1,116	1,289	1,813	1,830	3,590
Totals	**6,877,185**	**1,603,213**	**937,270**	**184,234**	**410,926**	**402,673**	**514,163**	**557,906**	**1,122,165**

NORTH CAROLINA

American Lung Association in North Carolina

www.lung.org/northcarolina

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alamance	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.4	PASS
Alexander	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Avery	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Buncombe	2	0	0	0.7	B	0	0	0	0.0	A	8.2	PASS
Caldwell	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carteret	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caswell	5	0	0	1.7	C	0	0	0	0.0	A	8.8	PASS
Catawba	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.1	PASS
Chatham	0	1	0	0.5	B	0	0	0	0.0	A	7.4	PASS
Cumberland	5	0	0	1.7	C	0	0	0	0.0	A	8.9	PASS
Davidson	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.8	PASS
Davie	5	1	0	2.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Duplin	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	7.7	PASS
Durham	6	1	0	2.5	D	0	0	0	0.0	A	8.1	PASS
Edgecombe	4	1	0	1.8	C	INC	INC	INC	INC	INC	INC	INC
Forsyth	12	2	0	5.0	F	0	0	0	0.0	A	8.7	PASS
Franklin	4	1	0	1.8	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gaston	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.5	PASS
Graham	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Granville	4	1	0	1.8	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Guilford	8	1	0	3.2	D	0	0	0	0.0	A	8.5	PASS
Haywood	4	0	0	1.3	C	0	0	0	0.0	A	8.7	PASS
Jackson	5	0	0	1.7	C	0	0	0	0.0	A	7.6	PASS
Johnston	5	1	0	2.2	D	0	0	0	0.0	A	7.6	PASS
Lee	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Lenoir	1	0	0	0.3	B	INC	INC	INC	INC	INC	INC	INC
Lincoln	10	1	0	3.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McDowell	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	8.7	PASS
Macon	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Martin	1	0	0	0.3	B	0	0	0	0.0	A	7.2	PASS
Mecklenburg	20	4	0	8.7	F	0	0	0	0.0	A	9.2	PASS
Mitchell	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	INC	INC
Montgomery	1	1	0	0.8	B	0	0	0	0.0	A	8.0	PASS
New Hanover	2	0	0	0.7	B	0	0	0	0.0	A	6.7	PASS
Person	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pitt	3	1	0	1.5	C	0	0	0	0.0	A	7.7	PASS

NORTH CAROLINA (cont.)

American Lung Association in North Carolina

www.lung.org/northcarolina

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Robeson	DNC	DNC	DNC	DNC	DNC
Rockingham	9	0	0	3.0	D
Rowan	11	1	1	4.8	F
Swain	0	0	0	0.0	A
Union	6	0	1	2.7	D
Wake	6	1	0	2.5	D
Watauga	DNC	DNC	DNC	DNC	DNC
Wayne	DNC	DNC	DNC	DNC	DNC
Yancey	1	1	0	0.8	B

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Robeson	0	0	0	0.0	A	8.4	PASS
Rockingham	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rowan	0	0	0	0.0	A	9.1	PASS
Swain	0	0	0	0.0	A	8.0	PASS
Union	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wake	0	0	0	0.0	A	10.3	PASS
Watauga	0	1	0	0.5	B	7.3	PASS
Wayne	0	0	0	0.0	A	8.8	PASS
Yancey	DNC	DNC	DNC	DNC	DNC	DNC	DNC

NORTH DAKOTA

American Lung Association in North Dakota

www.lung.org/northdakota

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Billings	901	171	160	11	63	37	64	69	69
Burke	2,245	525	404	34	149	91	159	168	185
Burleigh	90,503	20,545	13,094	1,337	6,089	3,278	5,409	6,020	7,160
Cass	167,005	36,924	18,048	2,402	11,425	5,238	8,040	9,573	18,221
Dunn	4,399	997	627	65	294	164	271	304	412
McKenzie	10,996	3,229	915	210	674	317	473	589	934
Mercer	8,746	1,952	1,490	127	582	362	619	672	629
Oliver	1,850	417	346	27	123	80	140	148	194
Williams	32,130	8,183	3,022	532	2,087	977	1,476	1,805	2,174
Totals	**318,775**	**72,943**	**38,106**	**4,746**	**21,486**	**10,546**	**16,649**	**19,348**	**29,978**

NORTH DAKOTA

American Lung Association in North Dakota

www.lung.org/northdakota

HIGH OZONE DAYS 2012–2014

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
Williams	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Billings	0	0	0	0.0	A	4.5	PASS
Burke	0	0	0	0.0	A	5.6	PASS
Burleigh	1	0	0	0.3	B	5.7	PASS
Cass	1	0	0	0.3	B	6.4	PASS
Dunn	1	0	0	0.3	B	4.8	PASS
McKenzie	1	0	0	0.3	B	4.6	PASS
Mercer	1	0	0	0.3	B	5.3	PASS
Oliver	2	0	0	0.7	B	5.2	PASS
Williams	INC	INC	INC	INC	INC	INC	INC

OHIO

American Lung Association in Ohio

www.lung.org/ohio

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Allen	105,040	24,507	16,715	2,555	8,738	6,614	8,156	9,380	17,839
Ashtabula	99,175	22,375	17,231	2,332	8,307	6,590	8,317	9,504	20,547
Athens	64,713	10,084	7,350	1,051	6,002	3,719	4,029	4,854	16,630
Butler	374,158	90,879	49,325	9,474	30,879	22,239	26,342	31,016	52,128
Clark	136,554	31,178	24,452	3,250	11,391	9,006	11,423	12,960	24,315
Clermont	201,560	48,781	28,204	5,085	16,616	12,484	15,091	17,700	22,370
Clinton	41,835	10,041	6,376	1,047	3,451	2,624	3,221	3,731	5,584
Cuyahoga	1,259,828	271,080	207,118	28,259	107,221	82,026	101,553	116,813	241,829
Delaware	189,113	52,173	21,797	5,439	14,948	10,777	12,608	15,064	8,952
Fayette	28,800	6,925	4,746	722	2,369	1,838	2,296	2,631	4,440
Franklin	1,231,393	291,522	133,768	30,390	102,988	68,640	77,062	92,814	208,629
Geauga	94,295	22,760	16,993	2,373	7,717	6,382	8,199	9,335	7,299
Greene	163,820	33,939	25,557	3,538	14,117	10,428	12,673	14,662	20,447
Hamilton	806,631	187,730	114,279	19,570	67,366	49,264	59,121	69,068	138,939
Jefferson	67,694	13,233	13,224	1,379	5,877	4,751	6,099	6,887	13,050
Knox	61,167	14,252	9,997	1,486	5,086	3,887	4,825	5,531	8,724
Lake	229,230	47,994	41,204	5,003	19,594	15,638	19,805	22,596	20,156
Lawrence	61,623	13,821	10,541	1,441	5,175	4,032	5,055	5,777	10,643
Licking	169,390	40,085	25,814	4,179	14,038	10,681	13,107	15,195	22,272
Lorain	304,216	69,289	49,658	7,223	25,461	19,732	24,538	28,239	43,499
Lucas	435,286	101,087	63,487	10,538	36,348	26,834	32,427	37,748	87,923
Madison	43,918	9,333	6,099	973	3,768	2,751	3,278	3,859	4,890
Mahoning	233,204	47,735	44,613	4,976	20,021	16,100	20,615	23,298	42,601
Medina	176,029	41,406	27,307	4,316	14,601	11,335	14,010	16,247	12,230
Miami	103,900	24,078	17,967	2,510	8,635	6,794	8,563	9,765	10,920
Montgomery	533,116	119,832	88,606	12,492	44,797	34,233	42,532	48,703	101,914
Noble	14,363	2,612	3,414	272	1,258	1,117	1,503	1,667	1,888
Portage	161,882	31,203	23,726	3,253	14,233	10,294	12,284	14,370	21,810
Preble	41,586	9,727	7,135	1,014	3,446	2,733	3,447	3,940	5,340
Scioto	77,258	17,002	12,974	1,772	6,531	4,990	6,204	7,099	20,049
Stark	375,736	82,402	66,476	8,590	31,729	24,969	31,511	35,886	54,744
Summit	541,943	117,662	87,731	12,266	46,020	35,256	43,573	50,251	71,490
Trumbull	205,175	43,014	39,709	4,484	17,492	14,206	18,280	20,624	34,593
Warren	221,659	57,356	28,881	5,979	17,894	13,231	15,811	18,655	12,441
Washington	61,213	12,306	11,788	1,283	5,279	4,251	5,446	6,154	9,307
Wood	129,590	26,828	18,013	2,797	11,210	7,837	9,212	10,787	16,448
Totals	**9,046,093**	**2,046,231**	**1,372,275**	**213,310**	**760,603**	**568,285**	**692,219**	**802,808**	**1,416,880**

OHIO

American Lung Association in Ohio

www.lung.org/ohio

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allen	25	1	0	8.8	F	0	0	0	0.0	A	INC	INC
Ashtabula	10	2	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Athens	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.2	PASS
Butler	35	4	0	13.7	F	0	0	0	0.0	A	11.2	PASS
Clark	28	1	0	9.8	F	0	0	0	0.0	A	10.2	PASS
Clermont	18	5	1	9.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	13	4	0	6.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cuyahoga	30	8	0	14.0	F	7	0	0	2.3	D	12.4	FAIL
Delaware	19	1	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	13	1	0	4.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Franklin	32	2	1	12.3	F	0	0	0	0.0	A	10.3	PASS
Geauga	18	2	0	7.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	13	1	0	4.8	F	0	0	0	0.0	A	9.7	PASS
Hamilton	34	5	0	13.8	F	1	0	0	0.3	B	11.7	PASS
Jefferson	18	0	0	6.0	F	1	0	0	0.3	B	10.9	PASS
Knox	9	1	0	3.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	35	6	1	15.3	F	0	0	0	0.0	A	8.7	PASS
Lawrence	9	1	0	3.5	F	0	0	0	0.0	A	9.2	PASS
Licking	16	2	0	6.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lorain	12	2	0	5.0	F	0	0	0	0.0	A	9.1	PASS
Lucas	25	3	0	9.8	F	0	0	0	0.0	A	10.1	PASS
Madison	12	1	0	4.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mahoning	8	2	0	3.7	F	0	0	0	0.0	A	10.5	PASS
Medina	11	1	0	4.2	F	0	0	0	0.0	A	INC	INC
Miami	16	1	0	5.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	19	1	0	6.8	F	1	0	0	0.3	B	INC	INC
Noble	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Portage	6	1	0	2.5	D	0	0	0	0.0	A	INC	INC
Preble	13	1	0	4.8	F	0	0	0	0.0	A	9.4	PASS
Scioto	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.0	PASS
Stark	24	1	0	8.5	F	1	0	0	0.3	B	11.7	PASS
Summit	1	1	0	0.8	B	0	0	0	0.0	A	10.7	PASS
Trumbull	17	2	0	6.7	F	0	0	0	0.0	A	9.8	PASS
Warren	16	2	0	6.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	13	1	0	4.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC

OKLAHOMA

American Lung Association in Oklahoma

www.lung.org/oklahoma

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Adair	22,186	5,943	3,219	695	1,589	1,343	1,778	2,007	5,975
Bryan	44,486	10,540	7,502	1,233	3,306	2,808	3,767	4,157	8,258
Caddo	29,317	7,313	4,578	856	2,149	1,832	2,439	2,731	6,399
Canadian	129,582	34,287	15,604	4,012	9,340	7,266	9,432	10,800	9,811
Carter	48,821	12,456	7,640	1,458	3,552	3,047	4,059	4,544	7,870
Cherokee	48,341	11,160	7,321	1,306	3,627	2,923	3,873	4,316	9,584
Cleveland	269,908	60,279	32,201	7,054	20,521	15,042	19,409	22,131	32,649
Comanche	125,033	30,318	13,787	3,548	9,276	6,648	8,530	9,763	21,256
Cotton	6,150	1,468	1,119	172	457	419	566	628	1,081
Creek	70,632	17,069	11,936	1,997	5,229	4,648	6,228	6,955	10,966
Dewey	4,914	1,284	952	150	353	332	453	495	595
Jefferson	6,292	1,523	1,225	178	464	439	597	657	1,411
Kay	45,478	11,428	8,228	1,337	3,314	2,980	4,034	4,437	8,040
Lincoln	34,619	8,504	5,887	995	2,551	2,306	3,091	3,460	5,089
Love	9,773	2,462	1,788	288	712	647	877	965	1,204
McClain	37,313	9,624	5,471	1,126	2,709	2,302	3,045	3,444	3,788
McCurtain	33,050	8,485	5,618	993	2,396	2,132	2,867	3,184	6,805
Mayes	40,816	9,926	6,988	1,162	3,014	2,688	3,608	4,019	7,085
Oklahoma	766,215	195,960	95,761	22,932	55,829	43,220	56,267	64,037	134,346
Osage	47,981	10,937	8,861	1,280	3,613	3,332	4,497	4,996	7,670
Ottawa	32,105	7,984	5,795	934	2,347	2,083	2,820	3,093	6,863
Pittsburg	44,626	9,910	8,091	1,160	3,383	3,019	4,069	4,503	9,134
Pottawatomie	71,811	17,463	11,209	2,044	5,305	4,459	5,932	6,627	11,971
Sequoyah	41,358	9,964	7,001	1,166	3,064	2,713	3,636	4,054	11,377
Tulsa	629,598	160,865	81,791	18,825	45,889	36,355	47,508	54,012	91,246
Totals	**2,640,405**	**657,152**	**359,573**	**76,901**	**193,990**	**154,982**	**203,381**	**230,011**	**420,473**

OKLAHOMA

American Lung Association in Oklahoma

www.lung.org/oklahoma

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adair	15	1	0	5.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bryan	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caddo	14	0	0	4.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Canadian	19	0	0	6.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carter	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cherokee	17	0	0	5.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cleveland	22	1	0	7.8	F	INC	INC	INC	INC	INC	INC	INC
Comanche	13	1	0	4.8	F	INC	INC	INC	INC	INC	INC	INC
Cotton	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Creek	22	2	0	8.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dewey	17	0	0	5.7	F	INC	INC	INC	INC	INC	INC	INC
Jefferson	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kay	23	1	0	8.2	F	2	0	0	0.7	B	INC	INC
Lincoln	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Love	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
McClain	15	1	0	5.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McCurtain	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mayes	25	3	0	9.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oklahoma	45	3	0	16.5	F	0	0	0	0.0	A	9.3	PASS
Osage	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ottawa	16	2	0	6.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pittsburg	15	0	0	5.0	F	3	0	0	1.0	C	9.7	PASS
Pottawatomie	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sequoyah	15	2	0	6.0	F	0	0	0	0.0	A	9.7	PASS
Tulsa	48	5	1	19.2	F	0	0	0	0.0	A	9.3	PASS

OREGON

American Lung Association in Oregon

www.lung.org/oregon

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Clackamas	394,972	87,767	63,796	6,367	31,114	18,081	26,225	28,765	37,450
Columbia	49,459	11,059	8,476	802	3,870	2,323	3,409	3,726	5,880
Crook	20,998	4,065	5,078	295	1,674	1,119	1,749	1,864	3,809
Deschutes	170,388	36,354	31,170	2,637	13,513	8,032	11,930	12,947	22,298
Harney	7,126	1,445	1,604	105	564	367	567	607	1,489
Jackson	210,287	44,070	42,394	3,197	16,671	10,195	15,443	16,626	37,566
Josephine	83,599	16,350	20,760	1,186	6,640	4,445	7,004	7,437	16,921
Klamath	65,455	14,068	12,570	1,021	5,164	3,128	4,694	5,075	14,092
Lake	7,838	1,449	1,799	105	634	414	639	685	1,429
Lane	358,337	68,413	62,334	4,963	29,455	16,575	24,260	26,412	64,722
Linn	119,356	27,658	20,648	2,006	9,270	5,408	7,983	8,678	22,559
Marion	326,110	82,929	46,969	6,016	24,845	13,499	19,329	21,223	56,064
Multnomah	776,712	153,407	92,605	11,129	64,521	31,980	43,516	48,669	141,562
Umatilla	76,705	19,825	10,824	1,438	5,812	3,161	4,511	4,962	13,041
Washington	562,998	136,994	66,765	9,938	43,915	22,526	30,967	34,562	69,403
Totals	**3,230,340**	**705,853**	**487,792**	**51,207**	**257,663**	**141,253**	**202,226**	**222,240**	**508,285**

OREGON

American Lung Association in Oregon

www.lung.org/oregon

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Clackamas	2	0	0	0.7	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	2	0	0	0.7	B
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	2	0	0	0.7	B
Washington	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Clackamas	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Crook	8	2	0	3.7	F	9.9	PASS
Deschutes	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Harney	6	1	0	2.5	D	9.1	PASS
Jackson	7	2	1	4.0	F	10.8	PASS
Josephine	2	1	0	1.2	C	8.8	PASS
Klamath	9	2	0	4.0	F	10.2	PASS
Lake	17	9	0	10.2	F	11.0	PASS
Lane	16	0	0	5.3	F	9.2	PASS
Linn	INC	INC	INC	INC	INC	INC	INC
Marion	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Multnomah	3	0	0	1.0	C	7.4	PASS
Umatilla	1	0	0	0.3	B	INC	INC
Washington	7	0	0	2.3	D	7.7	PASS

PENNSYLVANIA

American Lung Association in Pennsylvania

www.lung.org/pennsylvania

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Adams	101,714	20,992	18,585	2,272	7,880	5,748	8,260	9,483	10,492
Allegheny	1,231,255	234,334	213,797	25,367	98,074	67,737	96,403	110,810	157,151
Armstrong	67,785	13,378	13,643	1,448	5,266	4,024	5,862	6,693	9,259
Beaver	169,392	33,322	33,352	3,607	13,206	9,923	14,411	16,465	19,507
Berks	413,691	94,534	65,745	10,233	31,466	21,689	30,615	35,402	57,336
Blair	125,955	25,897	24,360	2,803	9,732	7,144	10,387	11,828	18,367
Bradford	61,784	13,674	12,088	1,480	4,657	3,549	5,174	5,903	7,884
Bucks	626,685	133,940	104,520	14,499	48,332	35,032	49,519	57,530	40,794
Cambria	137,732	26,637	28,067	2,883	10,762	8,093	11,833	13,452	20,177
Centre	158,742	24,519	19,759	2,654	13,612	7,498	10,070	11,738	24,881
Chester	512,784	120,430	74,595	13,037	38,846	26,607	36,983	43,241	36,496
Clearfield	81,191	15,135	15,324	1,638	6,447	4,684	6,746	7,729	12,401
Cumberland	243,762	49,471	41,555	5,355	19,120	13,167	18,734	21,531	20,894
Dauphin	271,453	61,041	41,504	6,608	20,802	14,200	19,886	23,109	35,668
Delaware	562,960	126,171	84,703	13,658	43,259	29,115	40,683	47,277	59,610
Elk	31,194	6,177	6,380	669	2,415	1,887	2,753	3,148	3,220
Erie	278,443	60,762	43,925	6,578	21,504	14,614	20,567	23,797	43,476
Franklin	152,892	35,088	27,810	3,798	11,492	8,298	12,004	13,697	17,932
Greene	37,843	7,217	6,456	781	3,015	2,089	2,962	3,416	5,718
Indiana	87,706	16,086	15,030	1,741	7,068	4,739	6,732	7,721	13,966
Lackawanna	212,719	42,519	39,907	4,603	16,616	11,939	17,253	19,690	31,412
Lancaster	533,320	128,671	87,385	13,929	39,794	27,486	39,175	44,979	54,499
Lawrence	88,771	18,187	17,697	1,969	6,839	5,160	7,529	8,576	11,441
Lebanon	136,359	31,262	25,025	3,384	10,246	7,418	10,748	12,252	14,442
Lehigh	357,823	81,411	57,273	8,813	27,255	18,673	26,404	30,471	44,744
Luzerne	318,829	62,535	60,424	6,769	25,000	18,093	26,159	29,868	48,547
Lycoming	116,508	24,194	20,424	2,619	9,054	6,378	9,120	10,469	17,789
Mercer	114,884	23,309	22,800	2,523	8,886	6,615	9,651	10,977	15,793
Monroe	166,314	35,344	25,067	3,826	12,943	9,058	12,586	14,757	21,663
Montgomery	816,857	179,572	133,847	19,439	62,699	43,906	62,133	71,843	56,743
Northampton	300,654	62,183	52,220	6,731	23,396	16,535	23,584	27,136	29,019
Perry	45,634	10,082	7,245	1,091	3,499	2,492	3,500	4,079	3,919
Philadelphia	1,560,297	346,345	195,315	37,492	122,144	72,745	98,912	115,524	389,485
Somerset	76,218	13,972	15,521	1,512	6,034	4,543	6,622	7,547	9,641
Tioga	42,274	8,432	8,290	913	3,291	2,413	3,514	3,996	6,551
Washington	208,187	41,114	39,403	4,451	16,271	12,025	17,347	19,885	21,640
Westmoreland	359,320	67,688	74,239	7,327	28,187	21,694	31,687	36,135	35,717
York	440,755	98,721	70,142	10,687	33,703	23,481	33,082	38,359	44,232
Totals	**11,250,686**	**2,394,346**	**1,843,422**	**259,191**	**872,809**	**600,489**	**849,590**	**980,512**	**1,472,506**

PENNSYLVANIA

American Lung Association in Pennsylvania

www.lung.org/pennsylvania

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	11	0	0	3.7	F	4	0	0	1.3	C	10.0	PASS
Allegheny	39	5	0	15.5	F	18	1	0	6.5	F	13.0	FAIL
Armstrong	22	2	0	8.3	F	0	0	0	0.0	A	10.6	PASS
Beaver	25	3	0	9.8	F	0	0	0	0.0	A	11.3	PASS
Berks	15	0	0	5.0	F	17	0	0	5.7	F	10.6	PASS
Blair	13	2	0	5.3	F	4	0	0	1.3	C	11.7	PASS
Bradford	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bucks	29	2	0	10.7	F	15	0	0	5.0	F	10.4	PASS
Cambria	9	1	0	3.5	F	2	0	0	0.7	B	11.6	PASS
Centre	7	1	0	2.8	D	3	0	0	1.0	C	9.1	PASS
Chester	21	3	0	8.5	F	2	0	0	0.7	B	9.9	PASS
Clearfield	5	1	0	2.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cumberland	DNC	DNC	DNC	DNC	DNC	14	0	0	4.7	F	10.4	PASS
Dauphin	10	0	0	3.3	F	12	0	0	4.0	F	INC	INC
Delaware	27	1	0	9.5	F	3	0	0	1.0	C	12.3	FAIL
Elk	6	1	0	2.5	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	16	3	0	6.8	F	1	0	0	0.3	B	11.4	PASS
Franklin	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	17	0	0	5.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Indiana	20	3	0	8.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lackawanna	5	0	0	1.7	C	0	0	0	0.0	A	INC	INC
Lancaster	15	1	0	5.5	F	25	1	0	8.8	F	11.6	PASS
Lawrence	14	1	0	5.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lebanon	14	0	0	4.7	F	17	0	0	5.7	F	12.7	FAIL
Lehigh	12	1	0	4.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Luzerne	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lycoming	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mercer	27	5	0	11.5	F	0	0	0	0.0	A	10.1	PASS
Monroe	3	0	0	1.0	C	0	0	0	0.0	A	8.7	PASS
Montgomery	16	0	0	5.3	F	4	0	0	1.3	C	9.3	PASS
Northampton	10	1	0	3.8	F	13	0	0	4.3	F	10.5	PASS
Perry	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Philadelphia	33	4	0	13.0	F	7	0	0	2.3	D	11.5	PASS
Somerset	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tioga	4	0	0	1.3	C	INC	INC	INC	INC	INC	INC	INC
Washington	23	0	0	7.7	F	0	0	0	0.0	A	11.5	PASS
Westmoreland	17	2	0	6.7	F	0	0	0	0.0	A	10.1	PASS
York	15	1	0	5.5	F	4	0	0	1.3	C	10.7	PASS

RHODE ISLAND

American Lung Association in Rhode Island

www.lung.org/rhodeisland

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Kent	165,128	31,962	28,684	3,564	14,434	8,110	11,560	13,457	15,259
Providence	631,974	133,247	89,684	14,857	53,731	27,452	38,101	44,446	110,850
Washington	126,653	22,817	22,692	2,544	11,244	6,305	9,010	10,439	12,453
Totals	**923,755**	**188,026**	**141,060**	**20,964**	**79,409**	**41,867**	**58,671**	**68,342**	**138,562**

RHODE ISLAND

American Lung Association in Rhode Island

www.lung.org/rhodeisland

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Kent	13	0	0	4.3	F
Providence	18	1	0	6.5	F
Washington	14	3	0	6.2	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Kent	0	0	0	0.0	A	5.2	PASS
Providence	1	0	0	0.3	B	7.4	PASS
Washington	0	0	0	0.0	A	INC	INC

SOUTH CAROLINA

American Lung Association in South Carolina

www.lung.org/southcarolina

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Abbeville	24,965	5,371	4,833	495	1,635	1,601	2,145	2,560	5,178
Aiken	164,753	36,412	28,861	3,355	10,723	10,192	13,408	16,153	26,875
Anderson	192,810	44,900	32,819	4,138	12,359	11,690	15,340	18,502	31,752
Berkeley	198,205	48,401	24,307	4,460	12,550	10,781	13,345	16,543	26,592
Charleston	381,015	77,013	55,173	7,097	25,423	22,204	28,023	34,245	62,336
Cherokee	56,024	13,403	8,532	1,235	3,565	3,269	4,207	5,125	12,295
Chesterfield	46,125	10,602	7,362	977	2,973	2,798	3,626	4,424	11,991
Colleton	37,771	8,692	7,016	801	2,429	2,382	3,177	3,811	8,566
Darlington	67,799	15,650	11,203	1,442	4,362	4,123	5,379	6,527	16,800
Edgefield	26,553	5,139	4,214	474	1,793	1,660	2,132	2,613	4,122
Florence	139,231	33,670	20,819	3,103	8,830	8,044	10,321	12,584	26,454
Greenville	482,752	113,304	68,832	10,441	30,915	27,591	35,024	42,878	69,140
Lexington	277,888	65,761	39,526	6,060	17,765	16,082	20,432	25,118	37,932
Oconee	75,192	15,316	16,232	1,411	4,989	5,024	6,855	8,094	12,986
Pickens	120,368	23,657	18,329	2,180	8,078	7,047	8,959	10,858	22,174
Richland	401,566	88,251	45,505	8,132	26,234	21,387	25,894	32,191	59,816
Spartanburg	293,542	69,467	44,189	6,401	18,744	17,070	21,904	26,703	50,359
York	245,346	60,687	32,152	5,592	15,476	13,774	17,289	21,398	35,172
Totals	**3,231,905**	**735,696**	**469,904**	**67,795**	**208,844**	**186,719**	**237,458**	**290,326**	**520,540**

SOUTH CAROLINA

American Lung Association in South Carolina

www.lung.org/southcarolina

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Abbeville	1	0	0	0.3	B
Aiken	0	0	0	0.0	A
Anderson	4	1	0	1.8	C
Berkeley	0	0	0	0.0	A
Charleston	0	0	0	0.0	A
Cherokee	8	0	0	2.7	D
Chesterfield	1	1	0	0.8	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	1	0	0	0.3	B
Lexington	DNC	DNC	DNC	DNC	DNC
Oconee	0	0	0	0.0	A
Pickens	0	0	0	0.0	A
Richland	3	0	0	1.0	C
Spartanburg	4	0	0	1.3	C
York	3	0	0	1.0	C

HIGH PARTICLE POLLUTION DAYS 2012–2014

	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
	1	0	0	0.3	B	8.4	PASS
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	0	0	0	0.0	A	8.1	PASS
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	0	0	0	0.0	A	8.8	PASS
	0	0	0	0.0	A	9.1	PASS
	1	0	0	0.3	B	9.4	PASS
	1	0	0	0.3	B	9.7	PASS
	INC	INC	INC	INC	INC	INC	INC
	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
	DNC	DNC	DNC	DNC	DNC	DNC	DNC

SOUTH DAKOTA

American Lung Association in South Dakota

www.lung.org/southdakota

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Brookings	33,314	6,551	3,482	604	2,032	1,230	1,782	1,872	4,230
Brown	38,408	9,113	6,151	840	2,197	1,656	2,744	2,664	4,375
Codington	27,938	6,805	4,339	627	1,582	1,198	1,969	1,928	2,848
Custer	8,445	1,428	2,162	132	520	479	879	803	876
Jackson	3,274	1,118	437	103	162	121	198	194	1,097
Meade	26,951	6,479	3,698	597	1,536	1,106	1,753	1,757	2,712
Minnehaha	182,882	45,888	22,271	4,229	10,280	7,200	11,072	11,354	20,429
Pennington	108,242	25,953	16,684	2,392	6,166	4,631	7,586	7,436	14,908
Union	15,029	3,817	2,330	352	836	652	1,072	1,054	937
Totals	**444,483**	**107,152**	**61,554**	**9,874**	**25,311**	**18,274**	**29,056**	**29,061**	**52,412**

SOUTH DAKOTA

American Lung Association in South Dakota

www.lung.org/southdakota

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Brookings	1	0	0	0.3	B
Brown	DNC	DNC	DNC	DNC	DNC
Codington	DNC	DNC	DNC	DNC	DNC
Custer	3	0	0	1.0	C
Jackson	0	0	0	0.0	A
Meade	1	0	0	0.3	B
Minnehaha	6	0	0	2.0	C
Pennington	DNC	DNC	DNC	DNC	DNC
Union	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
	1	0	0	0.3	B	8.2	PASS
	0	0	0	0.0	A	7.0	PASS
	0	0	0	0.0	A	8.4	PASS
	0	0	0	0.0	A	3.4	PASS
	0	0	0	0.0	A	4.6	PASS
	DNC	DNC	DNC	DNC	DNC	DNC	DNC
	1	0	0	0.3	B	8.3	PASS
	0	0	0	0.0	A	6.7	PASS
	1	0	0	0.3	B	9.1	PASS

TENNESSEE

American Lung Association in Tennessee

www.lung.org/tennessee

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Anderson	75,528	15,894	14,264	1,548	5,322	6,803	7,570	8,448	11,583
Blount	126,339	26,626	23,289	2,593	8,892	11,294	12,494	13,983	18,270
Claiborne	31,592	6,201	5,839	604	2,262	2,840	3,126	3,505	7,248
Davidson	668,347	144,015	74,039	14,026	46,208	51,058	49,941	59,351	128,113
DeKalb	19,268	4,346	3,366	423	1,330	1,677	1,840	2,068	3,797
Dyer	37,935	9,133	6,273	889	2,563	3,180	3,456	3,901	7,324
Hamilton	351,220	74,326	56,199	7,239	24,593	29,825	31,837	36,234	54,383
Jefferson	52,677	10,932	10,043	1,065	3,724	4,729	5,263	5,867	9,061
Knox	448,644	96,283	64,963	9,377	31,219	36,762	38,300	44,097	77,218
Lawrence	42,274	10,541	7,402	1,027	2,828	3,555	3,925	4,393	9,080
Loudon	50,771	10,065	12,455	980	3,654	4,886	5,765	6,233	6,802
McMinn	52,626	11,417	9,829	1,112	3,676	4,675	5,195	5,799	8,943
Madison	98,178	22,625	14,646	2,203	6,705	8,083	8,543	9,777	19,635
Maury	85,515	20,161	12,766	1,964	5,804	7,086	7,521	8,599	13,026
Meigs	11,701	2,399	2,322	234	831	1,081	1,217	1,351	2,400
Montgomery	189,961	51,694	16,301	5,035	12,139	12,682	11,831	14,375	25,803
Putnam	74,165	15,773	12,029	1,536	5,180	6,114	6,509	7,392	14,844
Roane	52,748	10,441	11,185	1,017	3,788	5,019	5,729	6,319	9,418
Rutherford	288,906	72,318	27,796	7,043	19,067	20,873	20,055	24,082	41,601
Sevier	95,110	20,102	16,849	1,958	6,683	8,411	9,219	10,367	16,582
Shelby	938,803	239,364	109,047	23,312	61,830	71,635	72,201	84,747	211,505
Sullivan	157,047	31,271	31,921	3,046	11,238	14,508	16,365	18,127	28,608
Sumner	172,706	42,052	25,278	4,096	11,603	14,165	15,007	17,179	19,349
Williamson	205,226	57,574	23,828	5,607	13,093	16,018	16,468	19,232	11,420
Wilson	125,376	30,387	18,188	2,959	8,439	10,400	11,020	12,630	12,458
Totals	**4,452,663**	**1,035,940**	**610,117**	**100,892**	**302,673**	**357,358**	**370,397**	**428,057**	**768,471**

TENNESSEE

American Lung Association in Tennessee

www.lung.org/tennessee

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Anderson	3	1	0	1.5	C
Blount	8	0	0	2.7	D
Claiborne	2	0	0	0.7	B
Davidson	20	2	0	7.7	F
DeKalb	4	1	0	1.8	C
Dyer	DNC	DNC	DNC	DNC	DNC
Hamilton	8	2	0	3.7	F
Jefferson	8	2	1	4.3	F
Knox	13	2	1	6.0	F
Lawrence	DNC	DNC	DNC	DNC	DNC
Loudon	13	2	0	5.3	F
McMinn	INC	INC	INC	INC	INC
Madison	DNC	DNC	DNC	DNC	DNC
Maury	DNC	DNC	DNC	DNC	DNC
Meigs	INC	INC	INC	INC	INC
Montgomery	DNC	DNC	DNC	DNC	DNC
Putnam	DNC	DNC	DNC	DNC	DNC
Roane	DNC	DNC	DNC	DNC	DNC
Rutherford	INC	INC	INC	INC	INC
Sevier	3	2	0	2.0	C
Shelby	28	5	1	12.5	F
Sullivan	9	1	0	3.5	F
Sumner	28	2	0	10.3	F
Williamson	8	0	0	2.7	D
Wilson	14	2	0	5.7	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anderson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Blount	INC	INC	INC	INC	INC	INC	INC
Claiborne	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Davidson	INC	INC	INC	INC	INC	INC	INC
DeKalb	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dyer	INC	INC	INC	INC	INC	INC	INC
Hamilton	0	0	0	0.0	A	9.6	PASS
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	INC	INC	INC	INC	INC	INC	INC
Lawrence	INC	INC	INC	INC	INC	INC	INC
Loudon	INC	INC	INC	INC	INC	INC	INC
McMinn	INC	INC	INC	INC	INC	INC	INC
Madison	INC	INC	INC	INC	INC	INC	INC
Maury	INC	INC	INC	INC	INC	INC	INC
Meigs	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	INC	INC	INC	INC	INC	INC	INC
Putnam	INC	INC	INC	INC	INC	INC	INC
Roane	1	0	0	0.3	B	INC	INC
Rutherford	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sevier	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Shelby	INC	INC	INC	INC	INC	INC	INC
Sullivan	INC	INC	INC	INC	INC	INC	INC
Sumner	INC	INC	INC	INC	INC	INC	INC
Williamson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wilson	DNC	DNC	DNC	DNC	DNC	DNC	DNC

TEXAS

American Lung Association in Texas

www.lung.org/texas

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Bell	329,140	91,323	32,494	6,431	15,514	11,702	16,678	23,504	45,622
Bexar	1,855,866	485,751	209,357	34,205	90,282	71,191	103,824	145,494	331,898
Bowie	93,275	22,229	14,412	1,565	4,759	4,094	6,242	8,535	17,526
Brazoria	338,124	90,770	36,759	6,392	16,403	13,114	19,209	27,147	32,543
Brewster	9,173	1,802	1,784	127	499	456	714	961	1,262
Cameron	420,392	132,864	52,210	9,356	19,035	15,603	23,271	31,998	143,568
Collin	885,241	240,553	86,046	16,939	42,680	33,492	48,492	69,316	62,032
Dallas	2,518,638	676,575	243,840	47,642	121,044	92,895	133,218	189,558	480,160
Denton	753,363	196,521	65,706	13,838	36,579	27,662	39,256	56,571	64,947
Ellis	159,317	43,073	18,923	3,033	7,753	6,375	9,473	13,295	17,299
El Paso	833,487	235,582	94,071	16,589	39,384	31,156	45,551	63,576	190,846
Galveston	314,198	77,464	40,120	5,455	15,840	13,209	19,763	27,664	44,194
Gregg	123,204	31,767	17,463	2,237	6,099	5,139	7,759	10,662	21,713
Harris	4,441,370	1,205,210	409,083	84,866	212,318	161,275	229,868	328,434	759,184
Harrison	67,336	16,774	10,002	1,181	3,391	2,914	4,435	6,093	11,071
Hidalgo	831,073	279,329	86,220	19,669	36,156	28,161	40,905	56,889	275,840
Hood	53,921	11,117	12,980	783	2,946	2,909	4,715	6,205	6,562
Hunt	88,493	21,145	13,589	1,489	4,531	3,937	6,021	8,270	17,603
Jefferson	252,235	59,755	33,856	4,208	12,820	10,623	15,883	22,047	50,051
Johnson	157,456	41,568	20,748	2,927	7,753	6,517	9,801	13,621	20,492
Kaufman	111,236	30,756	13,117	2,166	5,363	4,401	6,536	9,166	15,114
McLennan	243,441	60,396	32,655	4,253	12,117	9,903	14,742	20,319	46,019
Montgomery	518,947	138,889	62,529	9,780	25,375	20,952	31,196	43,761	55,864
Navarro	48,195	12,629	7,808	889	2,398	2,126	3,287	4,469	9,567
Nueces	356,221	89,967	46,356	6,335	17,699	14,569	21,719	30,140	58,798
Orange	83,433	20,585	12,579	1,450	4,227	3,664	5,597	7,694	13,175
Parker	123,164	30,105	18,221	2,120	6,285	5,485	8,388	11,604	11,997
Polk	46,079	9,439	9,175	665	2,494	2,313	3,649	4,903	7,687
Randall	128,220	31,183	17,391	2,196	6,451	5,335	7,977	11,027	12,181
Rockwall	87,809	24,343	10,375	1,714	4,241	3,506	5,222	7,336	5,944
Smith	218,842	54,448	33,970	3,834	10,997	9,458	14,433	19,662	38,908
Tarrant	1,945,360	526,956	198,779	37,106	93,711	73,574	106,743	151,493	291,534
Travis	1,151,145	265,211	97,085	18,675	57,617	41,916	58,297	84,066	188,959
Victoria	91,081	23,515	13,273	1,656	4,516	3,843	5,829	7,993	14,135
Webb	266,673	90,675	23,076	6,385	11,485	8,627	12,253	17,360	85,109
Totals	**19,945,148**	**5,370,269**	**2,096,052**	**378,154**	**960,762**	**752,096**	**1,090,945**	**1,540,830**	**3,449,404**

TEXAS

American Lung Association in Texas

www.lung.org/texas

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bell	14	1	0	5.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bexar	32	6	0	13.7	F	0	0	0	0.0	A	8.5	PASS
Bowie	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.2	PASS
Brazoria	24	8	1	12.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brewster	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cameron	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC
Collin	46	3	0	16.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dallas	43	7	0	17.8	F	1	0	0	0.3	B	10.7	PASS
Denton	71	6	0	26.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ellis	17	1	1	6.8	F	0	0	0	0.0	A	9.6	PASS
El Paso	22	0	0	7.3	F	9	5	0	5.5	F	11.0	PASS
Galveston	13	0	0	4.3	F	INC	INC	INC	INC	INC	INC	INC
Gregg	11	0	0	3.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Harris	49	9	2	22.2	F	1	0	0	0.3	B	11.6	PASS
Harrison	11	0	0	3.7	F	0	0	0	0.0	A	9.5	PASS
Hidalgo	0	0	0	0.0	A	0	0	0	0.0	A	INC	INC
Hood	23	3	0	9.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hunt	9	1	0	3.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	24	2	1	9.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	29	0	1	10.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kaufman	9	1	0	3.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McLennan	8	1	0	3.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	22	0	0	7.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Navarro	6	1	0	2.5	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nueces	3	0	0	1.0	C	3	0	0	1.0	C	10.1	PASS
Orange	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Parker	24	2	0	9.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Polk	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Randall	15	0	0	5.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockwall	20	1	1	7.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Smith	11	0	0	3.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tarrant	70	10	2	29.7	F	2	0	0	0.7	B	10.3	PASS
Travis	10	2	0	4.3	F	0	0	0	0.0	A	9.4	PASS
Victoria	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Webb	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC

UTAH

American Lung Association in Utah

www.lung.org/utah

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Box Elder	51,518	16,875	6,294	1,138	3,024	1,359	2,325	2,774	5,947
Cache	118,343	36,806	10,196	2,482	7,088	2,718	4,171	5,154	16,303
Carbon	20,660	5,548	3,161	374	1,320	621	1,104	1,295	3,178
Daggett	1,117	257	237	17	75	39	74	84	88
Davis	329,692	109,941	30,154	7,413	19,155	7,918	12,587	15,517	23,606
Duchesne	20,380	6,983	2,228	471	1,168	505	843	1,014	2,328
Garfield	5,024	1,273	957	86	328	168	314	361	589
Salt Lake	1,091,742	309,309	104,910	20,855	68,208	28,129	44,485	55,027	128,385
San Juan	15,251	4,908	1,820	331	903	407	693	832	4,366
Tooele	61,598	21,247	5,285	1,433	3,519	1,454	2,290	2,844	4,956
Uintah	36,867	12,467	3,346	841	2,126	873	1,385	1,706	3,512
Utah	560,974	195,605	40,251	13,188	31,749	11,802	17,516	21,978	69,472
Washington	151,948	43,049	29,710	2,903	9,498	4,699	8,975	10,082	19,330
Weber	240,475	70,164	26,702	4,731	14,854	6,374	10,490	12,731	29,322
Totals	**2,705,589**	**834,432**	**265,251**	**56,261**	**163,015**	**67,065**	**107,253**	**131,400**	**311,382**

UTAH

American Lung Association in Utah

www.lung.org/utah

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Box Elder	20	0	0	6.7	F
Cache	6	0	0	2.0	C
Carbon	10	0	0	3.3	F
Daggett	INC	INC	INC	INC	INC
Davis	10	0	0	3.3	F
Duchesne	25	22	5	22.7	F
Garfield	4	0	0	1.3	C
Salt Lake	33	1	0	11.5	F
San Juan	4	0	0	1.3	C
Tooele	11	1	0	4.2	F
Uintah	41	24	18	37.7	F
Utah	29	1	0	10.2	F
Washington	15	0	0	5.0	F
Weber	30	1	0	10.5	F

HIGH PARTICLE POLLUTION DAYS 2012–2014

24-Hour					Annual	
Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
6	1	0	2.5	D	7.7	PASS
38	14	0	19.7	F	9.2	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
13	0	0	4.3	F	8.2	PASS
INC	INC	INC	INC	INC	INC	INC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
44	11	0	20.2	F	9.3	PASS
DNC	DNC	DNC	DNC	DNC	DNC	DNC
3	0	0	1.0	C	6.2	PASS
INC	INC	INC	INC	INC	INC	INC
21	15	0	14.5	F	9.0	PASS
0	0	0	0.0	A	INC	INC
22	7	0	10.8	F	9.3	PASS

VERMONT

American Lung Association in Vermont

www.lung.org/vermont

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Bennington	36,445	7,099	7,736	576	3,292	2,015	2,504	2,532	5,035
Chittenden	160,531	30,073	21,176	2,442	15,013	7,342	8,097	9,127	16,626
Rutland	60,086	11,028	11,662	895	5,525	3,252	3,952	4,079	7,774
Totals	**257,062**	**48,200**	**40,574**	**3,914**	**23,830**	**12,609**	**14,552**	**15,737**	**29,435**

VERMONT

American Lung Association in Vermont

www.lung.org/vermont

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bennington	2	0	0	0.7	B
Chittenden	0	0	0	0.0	A
Rutland	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bennington	0	0	0	0.0	A	6.3	PASS
Chittenden	0	0	0	0.0	A	6.6	PASS
Rutland	3	0	0	1.0	C	8.6	PASS

VIRGINIA

American Lung Association in Virginia

www.lung.org/virginia

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Albemarle	104,489	21,923	17,254	2,020	7,123	5,501	7,177	8,424	8,982
Arlington	226,908	38,935	21,043	3,588	15,955	9,936	11,560	14,025	19,117
Caroline	29,778	6,990	4,497	644	1,967	1,522	1,973	2,326	3,206
Charles City	7,023	1,112	1,498	102	516	451	612	714	919
Chesterfield	332,499	81,199	42,573	7,483	21,635	16,224	20,575	24,476	27,051
Fairfax	1,137,538	271,243	130,491	24,995	74,372	53,831	66,978	80,162	75,137
Fauquier	68,248	16,338	10,185	1,506	4,494	3,589	4,674	5,522	4,980
Frederick	82,377	19,398	12,518	1,788	5,440	4,251	5,526	6,515	6,233
Giles	16,815	3,489	3,355	322	1,158	970	1,310	1,523	2,254
Hanover	101,918	23,180	15,969	2,136	6,818	5,469	7,155	8,435	6,140
Henrico	321,924	75,395	44,341	6,948	21,219	15,886	20,267	24,009	34,985
Loudoun	363,050	106,602	28,589	9,823	21,904	14,808	17,642	21,441	14,077
Madison	13,157	2,768	2,698	255	905	775	1,053	1,223	1,598
Page	23,848	4,847	4,714	447	1,651	1,382	1,863	2,169	3,991
Prince Edward	23,074	3,804	3,559	351	1,651	1,170	1,481	1,746	4,822
Prince William	446,094	125,131	36,956	11,531	27,408	18,485	22,066	26,772	31,917
Roanoke	93,785	19,500	18,395	1,797	6,451	5,367	7,224	8,409	7,498
Rockbridge	22,327	3,874	5,413	357	1,612	1,431	1,983	2,287	2,884
Rockingham	78,171	17,505	14,048	1,613	5,256	4,255	5,660	6,611	8,906
Stafford	139,992	37,524	12,749	3,458	8,773	6,117	7,415	8,964	7,952
Wythe	29,121	5,863	5,725	540	2,020	1,683	2,265	2,638	4,493
Alexandria City	150,575	26,741	15,232	2,464	10,548	6,894	8,206	9,911	14,266
Bristol City	17,184	3,429	3,412	316	1,192	974	1,309	1,521	3,696
Hampton City	136,879	29,768	18,743	2,743	9,202	6,742	8,539	10,125	20,149
Lynchburg City	79,047	15,777	11,100	1,454	5,404	3,691	4,609	5,444	17,175
Norfolk City	245,428	49,895	24,401	4,598	16,620	10,578	12,512	15,089	49,728
Roanoke City	99,428	21,936	14,770	2,021	6,675	5,054	6,501	7,675	19,938
Salem City	25,483	5,069	4,349	467	1,762	1,372	1,797	2,107	2,393
Suffolk City	86,806	21,651	11,256	1,995	5,609	4,209	5,349	6,354	11,668
Virginia Beach City	450,980	102,990	55,493	9,491	29,827	21,219	26,451	31,519	37,886
Totals	**4,953,946**	**1,163,876**	**595,326**	**107,251**	**325,169**	**233,837**	**291,730**	**348,139**	**454,041**

VIRGINIA

American Lung Association in Virginia

www.lung.org/virginia

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albemarle	2	0	0	0.7	B	0	0	0	0.0	A	7.6	PASS
Arlington	20	4	0	8.7	F	0	0	0	0.0	A	9.0	PASS
Caroline	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Charles City	10	1	0	3.8	F	0	0	0	0.0	A	7.9	PASS
Chesterfield	6	0	0	2.0	C	0	0	0	0.0	A	INC	INC
Fairfax	19	2	1	8.0	F	1	0	0	0.3	B	8.4	PASS
Fauquier	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Frederick	3	0	0	1.0	C	1	0	0	0.3	B	9.2	PASS
Giles	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hanover	4	2	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henrico	5	3	0	3.2	D	0	0	0	0.0	A	8.3	PASS
Loudoun	7	0	0	2.3	D	0	0	0	0.0	A	8.7	PASS
Madison	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Page	3	0	0	1.0	C	0	0	0	0.0	A	7.8	PASS
Prince Edward	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Prince William	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Roanoke	3	0	0	1.0	C	INC	INC	INC	INC	INC	INC	INC
Rockbridge	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockingham	2	0	0	0.7	B	0	0	0	0.0	A	8.6	PASS
Stafford	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wythe	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Alexandria City	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Bristol City	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.6	PASS
Hampton City	7	1	0	2.8	D	0	0	0	0.0	A	7.5	PASS
Lynchburg City	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	7.6	PASS
Norfolk City	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	7.9	PASS
Roanoke City	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC
Salem City	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.6	PASS
Suffolk City	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Virginia Beach City	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.0	PASS

WASHINGTON

American Lung Association in Washington

www.lung.org/washington

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Chelan	74,588	18,077	13,024	1,181	5,273	3,654	4,863	5,497	10,298
Clallam	72,715	12,836	19,539	838	5,639	4,292	6,260	6,713	11,518
Clark	451,008	113,811	62,050	7,434	31,314	20,634	25,966	30,320	44,213
King	2,079,967	435,969	253,231	28,476	151,837	95,642	115,015	136,509	230,750
Kitsap	254,183	53,039	40,823	3,464	18,716	12,593	16,232	18,691	27,550
Pierce	831,928	199,866	105,373	13,055	58,493	37,511	46,000	54,142	106,432
Skagit	120,365	27,109	22,546	1,771	8,707	6,093	8,208	9,198	18,627
Snohomish	759,583	176,088	91,715	11,502	54,094	34,736	42,185	50,529	73,930
Spokane	484,318	108,830	71,532	7,108	34,828	22,933	29,042	33,531	76,910
Thurston	265,851	58,836	40,416	3,843	19,224	12,762	16,272	18,766	31,197
Whatcom	208,351	42,077	32,158	2,748	15,390	10,060	12,753	14,566	31,842
Yakima	247,687	73,891	31,719	4,826	16,075	10,398	12,998	14,992	50,044
Totals	**5,850,544**	**1,320,429**	**784,126**	**86,247**	**419,590**	**271,308**	**335,794**	**393,454**	**713,311**

WASHINGTON

American Lung Association in Washington

www.lung.org/washington

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Chelan	DNC	DNC	DNC	DNC	DNC
Clallam	0	0	0	0.0	A
Clark	1	0	0	0.3	B
King	8	0	0	2.7	D
Kitsap	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 2012–2014

	24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Chelan	1	2	0	1.3	C	INC	INC
Clallam	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	2	0	0	0.7	B	INC	INC
King	6	0	0	2.0	C	6.6	PASS
Kitsap	0	0	0	0.0	A	INC	INC
Pierce	11	0	0	3.7	F	7.5	PASS
Skagit	INC	INC	INC	INC	INC	INC	INC
Snohomish	7	1	0	2.8	D	7.8	PASS
Spokane	3	0	0	1.0	C	7.9	PASS
Thurston	INC	INC	INC	INC	INC	INC	INC
Whatcom	0	0	0	0.0	A	INC	INC
Yakima	16	2	0	6.3	F	8.9	PASS

WEST VIRGINIA

American Lung Association in West Virginia

www.lung.org/westvirginia

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Berkeley	110,497	26,725	14,685	2,516	9,326	10,928	10,805	10,988	14,356
Brooke	23,530	4,179	5,063	393	2,139	2,716	2,906	2,910	3,416
Cabell	97,109	19,524	16,488	1,838	8,552	9,970	10,325	10,282	20,377
Gilmer	8,618	1,189	1,283	112	820	908	906	904	1,851
Greenbrier	35,450	6,910	7,566	651	3,155	4,033	4,324	4,333	7,308
Hancock	30,112	5,961	6,069	561	2,678	3,418	3,612	3,640	3,841
Harrison	68,761	14,750	12,329	1,389	5,986	7,369	7,666	7,716	9,412
Kanawha	190,223	38,945	34,502	3,667	16,769	20,670	21,490	21,644	31,400
Marion	56,803	11,306	10,295	1,064	5,025	6,053	6,318	6,319	9,920
Marshall	32,416	6,508	6,345	613	2,872	3,626	3,817	3,844	4,820
Monongalia	103,463	16,535	11,147	1,557	9,574	9,714	9,267	9,198	21,601
Ohio	43,328	8,322	8,451	783	3,870	4,785	5,046	5,055	7,506
Raleigh	78,241	16,620	14,220	1,565	6,812	8,294	8,677	8,692	13,163
Tucker	6,927	1,182	1,572	111	636	826	889	892	1,152
Wood	86,237	18,171	16,019	1,711	7,541	9,365	9,798	9,858	14,609
Totals	**971,715**	**196,827**	**166,034**	**18,531**	**85,755**	**102,675**	**105,847**	**106,274**	**164,732**

WEST VIRGINIA

American Lung Association in West Virginia

www.lung.org/westvirginia

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Berkeley	1	0	0	0.3	B
Brooke	DNC	DNC	DNC	DNC	DNC
Cabell	8	1	0	3.2	D
Gilmer	1	0	0	0.3	B
Greenbrier	2	0	0	0.7	B
Hancock	16	0	0	5.3	F
Harrison	DNC	DNC	DNC	DNC	DNC
Kanawha	15	0	0	5.0	F
Marion	DNC	DNC	DNC	DNC	DNC
Marshall	DNC	DNC	DNC	DNC	DNC
Monongalia	7	0	0	2.3	D
Ohio	12	1	0	4.5	F
Raleigh	DNC	DNC	DNC	DNC	DNC
Tucker	2	0	0	0.7	B
Wood	8	0	0	2.7	D

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Berkeley	1	0	0	0.3	B	10.4	PASS
Brooke	0	0	0	0.0	A	11.1	PASS
Cabell	0	0	0	0.0	A	9.8	PASS
Gilmer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greenbrier	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	0	0	0	0.0	A	10.0	PASS
Harrison	0	0	0	0.0	A	9.1	PASS
Kanawha	0	0	0	0.0	A	10.2	PASS
Marion	0	0	0	0.0	A	9.7	PASS
Marshall	0	0	0	0.0	A	11.1	PASS
Monongalia	0	0	0	0.0	A	8.8	PASS
Ohio	1	0	0	0.3	B	10.4	PASS
Raleigh	0	0	0	0.0	A	INC	INC
Tucker	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	0	0	0	0.0	A	9.8	PASS

WISCONSIN

American Lung Association in Wisconsin

www.lung.org/wisconsin

		AT-RISK GROUPS							
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Ashland	16,103	3,645	2,810	370	1,274	685	1,005	1,197	2,303
Brown	256,670	62,432	33,496	6,339	20,213	9,653	13,477	16,540	29,879
Columbia	56,615	12,671	9,150	1,287	4,518	2,381	3,426	4,133	4,866
Dane	516,284	108,748	61,557	11,042	42,739	18,624	25,615	31,642	67,242
Dodge	88,574	18,373	14,429	1,865	7,225	3,753	5,400	6,512	8,158
Door	27,766	4,660	7,340	473	2,292	1,464	2,297	2,629	3,016
Eau Claire	101,564	20,839	14,291	2,116	8,399	3,802	5,417	6,540	13,916
Fond du Lac	101,759	22,324	16,881	2,267	8,158	4,270	6,194	7,430	9,698
Forest	9,127	1,878	1,987	191	730	425	650	755	1,519
Grant	51,829	10,526	8,460	1,069	4,258	2,062	3,018	3,588	7,043
Jefferson	84,395	18,870	12,652	1,916	6,772	3,405	4,848	5,881	8,594
Kenosha	168,068	40,577	21,004	4,120	13,296	6,334	8,739	10,813	25,089
Kewaunee	20,444	4,501	3,859	457	1,621	908	1,348	1,595	1,807
La Crosse	118,011	24,041	17,407	2,441	9,749	4,551	6,522	7,853	14,121
Manitowoc	80,160	16,960	14,908	1,722	6,439	3,594	5,294	6,298	8,558
Marathon	135,780	31,796	21,609	3,228	10,695	5,558	8,023	9,654	13,287
Milwaukee	956,406	233,769	116,067	23,735	75,542	33,895	47,083	57,835	205,183
Outagamie	182,006	43,921	23,942	4,459	14,362	6,939	9,677	11,892	17,857
Ozaukee	87,470	19,244	15,314	1,954	6,975	3,837	5,587	6,696	4,276
Racine	195,163	46,606	28,785	4,732	15,346	7,831	11,122	13,525	24,966
Rock	161,188	38,494	24,323	3,908	12,662	6,388	9,159	11,059	23,554
Sauk	63,379	14,580	10,781	1,480	4,999	2,643	3,870	4,615	7,429
Sheboygan	115,290	26,246	18,698	2,665	9,151	4,811	6,945	8,360	10,165
Taylor	20,540	4,865	3,751	494	1,595	895	1,323	1,570	2,363
Vilas	21,398	3,602	6,213	366	1,747	1,172	1,876	2,122	3,126
Walworth	103,527	22,702	15,862	2,305	8,347	4,174	5,980	7,222	13,748
Waukesha	395,118	88,374	65,101	8,973	31,487	16,920	24,367	29,402	22,536
Totals	**4,134,634**	**945,244**	**590,677**	**95,974**	**330,591**	**160,974**	**228,261**	**277,358**	**554,299**

WISCONSIN

American Lung Association in Wisconsin

www.lung.org/wisconsin

	HIGH OZONE DAYS 2012–2014					HIGH PARTICLE POLLUTION DAYS 2012–2014						
						24-Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ashland	1	0	0	0.3	B	0	0	0	0.0	A	5.2	PASS
Brown	13	1	0	4.8	F	3	0	0	1.0	C	8.5	PASS
Columbia	14	1	0	5.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dane	9	2	0	4.0	F	1	0	0	0.3	B	9.3	PASS
Dodge	18	1	0	6.5	F	0	0	0	0.0	A	8.4	PASS
Door	19	4	0	8.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Eau Claire	2	0	0	0.7	B	0	0	0	0.0	A	7.9	PASS
Fond du Lac	16	1	0	5.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Forest	4	0	0	1.3	C	0	0	0	0.0	A	INC	INC
Grant	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.7	PASS
Jefferson	18	1	0	6.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kenosha	42	9	0	18.5	F	0	0	0	0.0	A	9.0	PASS
Kewaunee	12	4	0	6.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Crosse	2	0	0	0.7	B	0	0	0	0.0	A	8.2	PASS
Manitowoc	23	5	0	10.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marathon	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Milwaukee	27	9	0	13.5	F	1	0	0	0.3	B	10.3	PASS
Outagamie	13	1	0	4.8	F	2	0	0	0.7	B	8.4	PASS
Ozaukee	27	6	0	12.0	F	0	0	0	0.0	A	7.9	PASS
Racine	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rock	17	0	0	5.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sauk	8	1	0	3.2	D	0	0	0	0.0	A	7.4	PASS
Sheboygan	42	8	0	18.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Taylor	2	0	0	0.7	B	0	0	0	0.0	A	6.8	PASS
Vilas	2	0	0	0.7	B	0	0	0	0.0	A	5.1	PASS
Walworth	19	1	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Waukesha	10	1	0	3.8	F	0	0	0	0.0	A	10.2	PASS

WYOMING

American Lung Association in Wyoming

www.lung.org/wyoming

				AT-RISK GROUPS					
				Lung Diseases					
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Cardiovascular Disease	Diabetes	Poverty
Albany	37,811	6,236	3,708	536	2,640	1,740	1,761	2,074	8,547
Big Horn	11,930	3,014	2,287	259	747	663	841	851	1,251
Campbell	48,320	13,540	3,434	1,163	2,907	1,984	2,118	2,512	3,391
Carbon	15,854	3,783	2,184	325	1,010	798	946	1,019	1,851
Converse	14,097	3,478	1,987	299	889	714	857	917	1,299
Crook	7,248	1,706	1,303	147	464	406	514	528	602
Fremont	40,703	10,393	6,607	893	2,538	2,122	2,606	2,714	5,558
Goshen	13,514	2,710	2,766	233	905	796	1,004	1,016	1,762
Laramie	96,389	22,699	13,776	1,950	6,167	4,870	5,762	6,173	10,165
Natrona	81,624	19,512	10,469	1,676	5,197	3,982	4,619	5,040	8,262
Park	28,989	5,933	5,823	510	1,931	1,707	2,164	2,195	3,049
Sheridan	30,032	6,481	5,492	557	1,972	1,696	2,118	2,180	2,890
Sublette	10,057	2,413	1,272	207	640	500	591	644	675
Sweetwater	45,010	12,168	4,275	1,045	2,746	1,974	2,190	2,494	4,346
Teton	22,930	4,372	2,805	376	1,552	1,151	1,305	1,451	1,751
Uinta	20,904	6,228	2,309	535	1,228	934	1,082	1,193	2,081
Weston	7,201	1,553	1,300	133	473	406	507	523	901
Totals	**532,613**	**126,219**	**71,797**	**10,844**	**34,006**	**26,443**	**30,984**	**33,524**	**58,381**

WYOMING

American Lung Association in Wyoming

www.lung.org/wyoming

HIGH OZONE DAYS 2012–2014

County	Orange	Red	Purple	Wgt. Avg.	Grade
Albany	6	0	0	2.0	C
Big Horn	INC	INC	INC	INC	INC
Campbell	6	1	0	2.5	D
Carbon	0	0	0	0.0	A
Converse	INC	INC	INC	INC	INC
Crook	INC	INC	INC	INC	INC
Fremont	4	0	0	1.3	C
Goshen	DNC	DNC	DNC	DNC	DNC
Laramie	5	0	0	1.7	C
Natrona	2	0	0	0.7	B
Park	DNC	DNC	DNC	DNC	DNC
Sheridan	DNC	DNC	DNC	DNC	DNC
Sublette	4	0	0	1.3	C
Sweetwater	1	0	0	0.3	B
Teton	2	0	0	0.7	B
Uinta	1	0	0	0.3	B
Weston	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2012–2014

	24-Hour					Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albany	0	0	0	0.0	A	4.8	PASS
Big Horn	INC	INC	INC	INC	INC	INC	INC
Campbell	0	1	0	0.5	B	INC	INC
Carbon	INC	INC	INC	INC	INC	INC	INC
Converse	1	0	0	0.3	B	INC	INC
Crook	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fremont	2	0	0	0.7	B	7.4	PASS
Goshen	INC	INC	INC	INC	INC	INC	INC
Laramie	0	0	0	0.0	A	4.7	PASS
Natrona	1	0	0	0.3	B	4.8	PASS
Park	0	0	0	0.0	A	4.4	PASS
Sheridan	0	0	0	0.0	A	7.2	PASS
Sublette	5	6	0	4.7	F	INC	INC
Sweetwater	1	0	0	0.3	B	5.5	PASS
Teton	1	0	0	0.3	B	5.2	PASS
Uinta	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Weston	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

The American Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease, through research, education and advocacy. The work of the American Lung Association is focused on four strategic imperatives: to defeat lung cancer; to improve the air we breathe; to reduce the burden of lung disease on individuals and their families; and to eliminate tobacco use and tobacco-related diseases. 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.

AMERICAN LUNG ASSOCIATION.