



KENTUCKY'S AIR

KENTUCKY DIVISION FOR AIR QUALITY
FY2019 ANNUAL REPORT

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Welcome to the Kentucky

Division for Air Quality's FY2019
Annual Report.

This report details the division's accomplishments from July 1, 2018 through June 30, 2019. Due to varying schedules for data quality assurance, some data may be reported for the 2017 or 2018 calendar years.

Our Mission

To protect human health and the environment by achieving and maintaining acceptable air quality through:

- Operation of a comprehensive air monitoring network;
- Creating effective partnerships with air pollution sources and the public;
- Timely dissemination of accurate and useful information;
- The judicious use of program resources; and
- Maintenance of a reasonable and effective compliance assurance program.





Who We Are

- A team of environmental professionals dedicated to protecting Kentucky's air quality
- 150 funded positions located in Frankfort and throughout the Commonwealth in eight regional offices
- The third largest division within the Department for Environmental Protection

What We Do

- Air monitoring
- Regulation development
- Issue permits
- Respond to air quality complaints
- Ensure compliance with air quality regulations
- Education & outreach

Why We Do It

Protecting Human Health.

Human activities create air pollution. Too much air pollution is harmful to human health. That's why Congress enacted the Clean Air Act, which requires the U.S. Environmental Protection Agency (EPA) to set standards or "limits" for outdoor air pollutants. States, and sometimes local governments, are responsible for meeting those air quality standards.





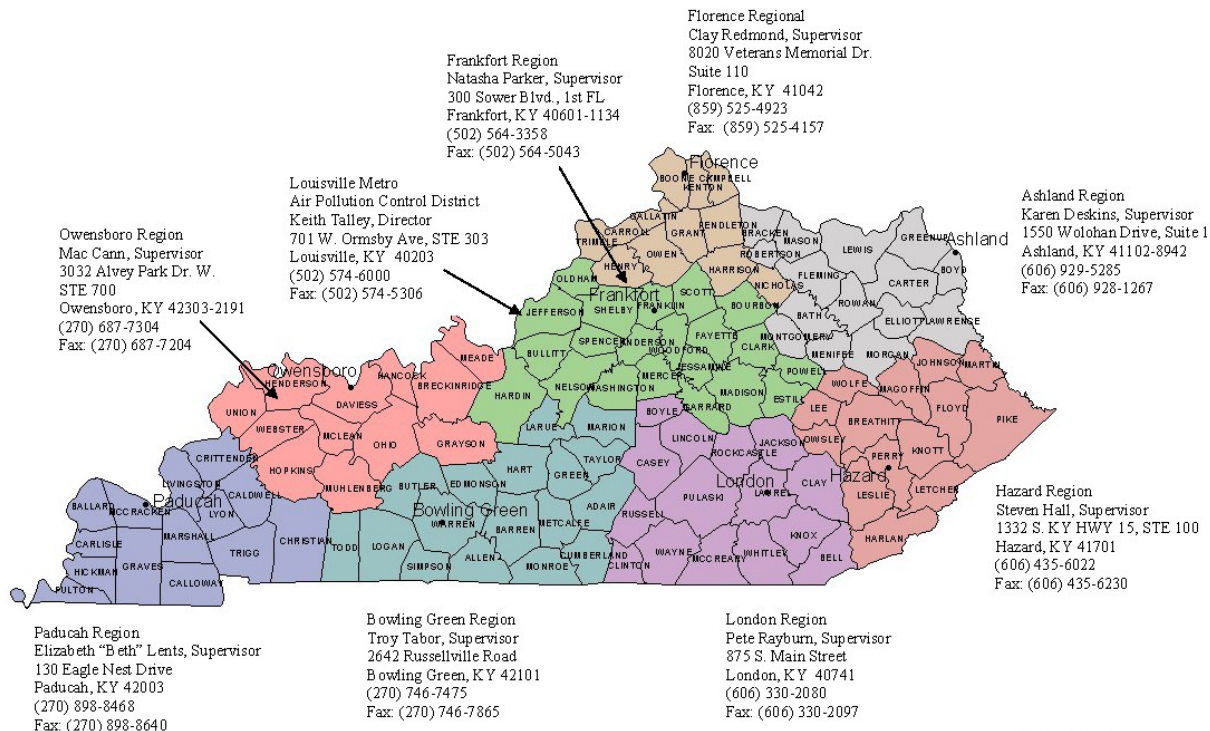
Why We Do It

Protecting the Environment.

Air pollution also harms the environment. Some plants such as milkweed, tulip poplar and soybeans are sensitive to air pollution. Airborne sulfur oxide and nitrogen oxide pollution can cause acid precipitation, which in turn harms forests and aquatic organisms. Air pollution can even damage man-made structures such as buildings and monuments.

Division for Air Quality Regional Office Boundaries

Environmental Emergency, 24-hour: (502) 564-2380 or (800) 928-2380



FY 2019 Highlights

The Division saw several key leadership changes in 2019.

The most significant of these was in the director's office, when Sean Alteri was appointed as Deputy Commissioner of the Department for Environmental Protection and Melissa Duff was appointed as the new DAQ director.

Key accomplishments for the fiscal year include:

- 3,181 compliance inspections performed with a 91 percent compliance rate
- 1,153 air pollution complaints investigated
- 773 permitting actions
- 369 air permits issued
- 15 major economic development projects
- Permit application forms updated
- \$231,000 in Clean Diesel grants awarded to 5 school districts
- New website unveiled
- Outreach programs reached 2,759 people in 17 counties

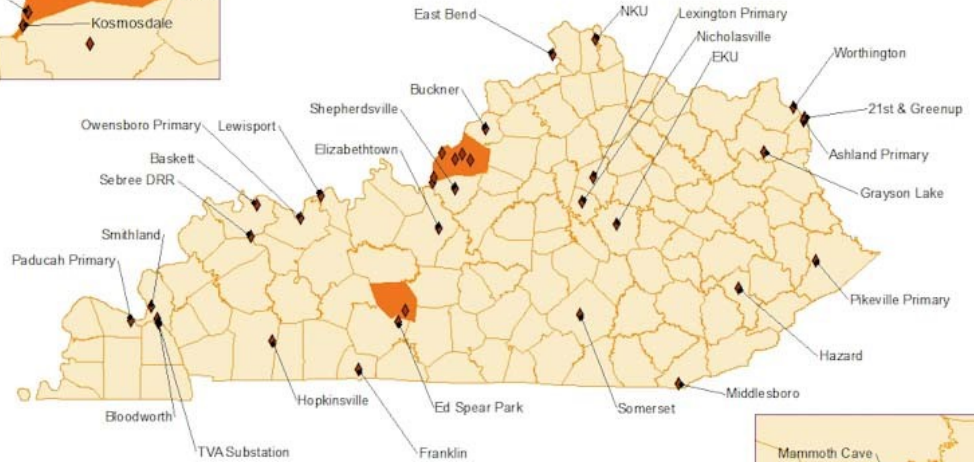
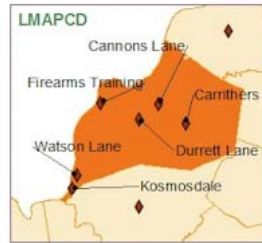
Kentucky's Air Monitoring Network

2018 Network

During 2018, the Kentucky Division for Air Quality operated 94 instruments, including 11 meteorological stations, located at 27 ambient air-monitoring sites in 24 Kentucky counties. The Louisville Metropolitan Air Pollution Control District operated an additional 33 instruments, including six meteorological stations, in Jefferson County.

When combined with the air-monitoring site operated at Mammoth Cave National Park, Kentucky's total ambient air monitoring network consisted of 133 instruments, including 18 meteorological stations, located at 34 sites across 26 counties of the Commonwealth.

While not associated with the division's air monitoring network, the EPA also operates two additional CASTNET ozone monitoring stations in Kentucky.





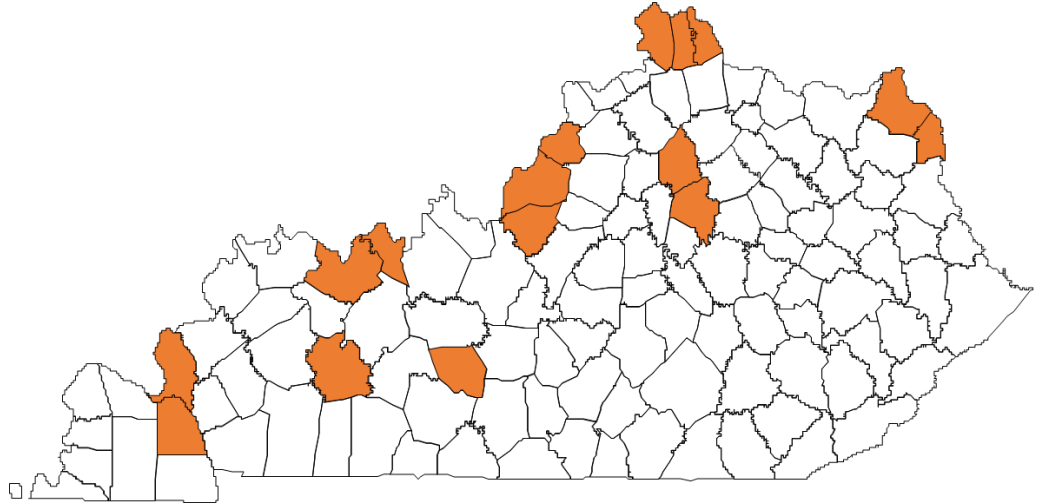
Monitoring Locations

Locations of ambient air monitoring stations are selected in accordance with EPA regulations (40 CFR 58, Appendix D). In general, monitors are placed in densely populated areas or near point sources of pollution.

The site locations are reviewed annually to ensure adequate coverage is being provided and regulatory requirements are being met. See the [2018 Kentucky Ambient Air Monitoring Network Plan](#) for more information.

Kentucky Nonattainment Areas, 1994

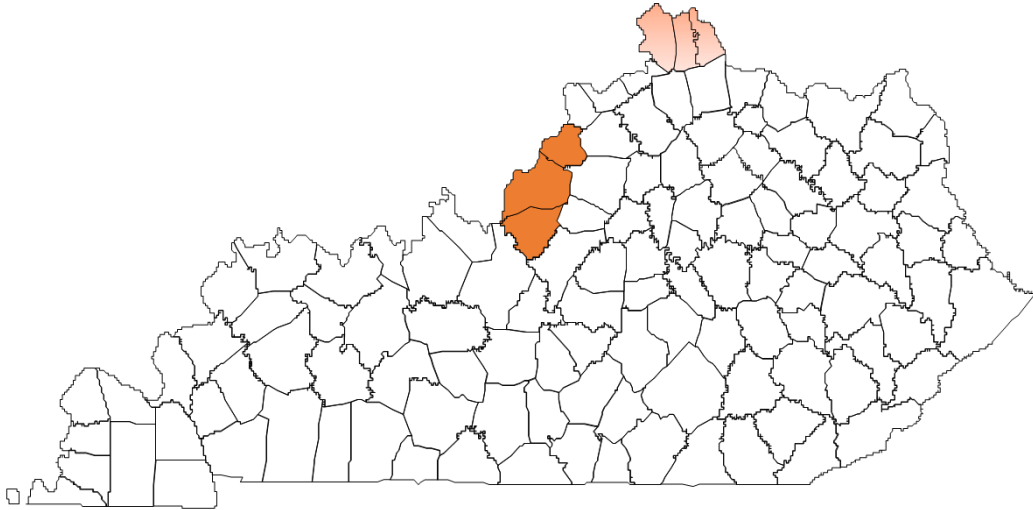
Twenty-five years ago, sixteen Kentucky counties failed to meet the National Ambient Air Quality Standards (NAAQS) for one or more criteria pollutants. The U.S. Environmental Protection Agency (EPA) designated these areas **nonattainment** because pollution levels in these counties exceeded the NAAQS.



Boone, Kenton, Campbell, Boyd, Greenup, Scott, Fayette, Oldham, Jefferson, Bullitt, Edmonson, Muhlenberg, Daviess, Hancock, Livingston and Marshall counties were all designated nonattainment for air quality standards in 1994.

Kentucky Nonattainment Areas, 2019

In 2019, only six counties were designated nonattainment. Bullitt, Jefferson and Oldham counties were nonattainment for the 2015 ozone standard, while Boone, Campbell and Kenton counties were designated “partial nonattainment” for the 2015 ozone standard. A localized portion of Jefferson County near Mill Creek was also designated nonattainment for the 2010 sulfur dioxide standard. However, air monitoring data show this area to be meeting the SO₂ standard.



National Ambient Air Quality Standards

The Clean Air Act directs the U.S. Environmental Protection Agency to establish National Ambient Air Quality Standards (NAAQS) for six criteria pollutants that are considered harmful to human health and the environment. The **primary standard** is designed to protect public health. The **secondary standard** is designed to protect public welfare. Welfare includes damage to plants and animals, impairment of visibility, and property damage.

National Ambient Air Quality Standards

Carbon Monoxide	Primary Standard	Secondary Standard
8-Hour Average	9 ppm	none
1-Hour Average	35 ppm	none
Lead	Primary Standard	Secondary Standard
Rolling 3-Month Average	0.15 μm^3	Same as primary
Nitrogen Dioxide	Primary Standard	Secondary Standard
Annual Average	53 ppb	Same as primary
1-Hour Average	100 ppb	none
Particulate Matter (PM₁₀)	Primary Standard	Secondary Standard
24-Hour Average	150 μm^3	Same as primary
Particulate Matter (PM_{2.5})	Primary Standard	Secondary Standard
Annual Average	12 μm^3	15 μm^3
24-Hour Average	35 μm^3	Same as primary
Ozone	Primary Standard	Secondary Standard
8-Hour Average	0.070 ppm	Same as primary
Sulfur Dioxide	Primary Standard	Secondary Standard
1-Hour Average	75 ppb	none
3-Hour Average	none	0.5 ppm

Understanding the Data

This PDF version of DAQ's FY 2019 annual report contains quality-assured data collected during calendar year 2018, as well as statewide trends for each of the criteria pollutants. An online version of this report is viewable at bit.ly/KYDAQ2019 . Please note that the online version is produced as a "Story Map" and may not be compatible with assistive technologies.

The data contained in this report summarizes the concentrations and **design values** of pollutants measured in Kentucky during the 2018 calendar year. A design value is a calculated metric that is used to determine compliance with a particular National Ambient Air Quality Standard (NAAQS). For many pollutants, a design value is calculated for each year and then averaged over a three-year period before being compared to a standard. However, some design values use alternative time intervals for calculation. For example, lead uses a 3-month rolling average and one of the primary NAAQS for nitrogen dioxide uses an annual average.

It is important to note that an exceedance of a particular pollutant is not the same as a violation of the NAAQS for that pollutant. Violations are determined according to the formula for each standard and involve the average of multiple measured values over a specific amount of time. Any data contained in this report is subject to change. The most current quality assured data-set can be obtained through a Kentucky Open Records request.



Carbon Monoxide

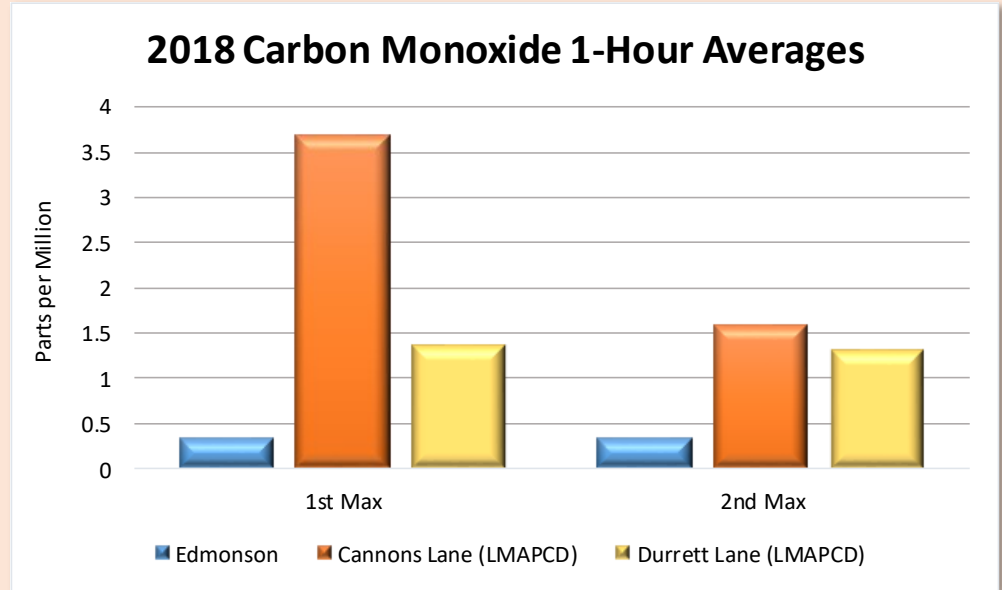
Primary NAAQS: 8-hour average not to exceed 9 parts per million (ppm) more than once per year; 1-hour average not to exceed 35 ppm more than once per year

Secondary NAAQS: None

Carbon monoxide (CO) is an odorless, colorless gas that is produced by the incomplete combustion of carbon-containing fuels. The primary source of carbon monoxide is exhaust from motor vehicles, including highway and off-road vehicles. Other sources include industrial processes, open burning, and kerosene or wood-burning stoves in homes.

There were no exceedances of the CO standards in 2018. The last exceedance of a standard occurred on Jan. 7, 1998, in Ashland when an 8-hour average of 11.7 ppm was recorded. All Kentucky counties are currently in attainment of the standards for carbon monoxide.

*LMAPCD = Louisville Metro Air Pollution Control District
Edmonson monitor operated by the National Park Service (NPS)*



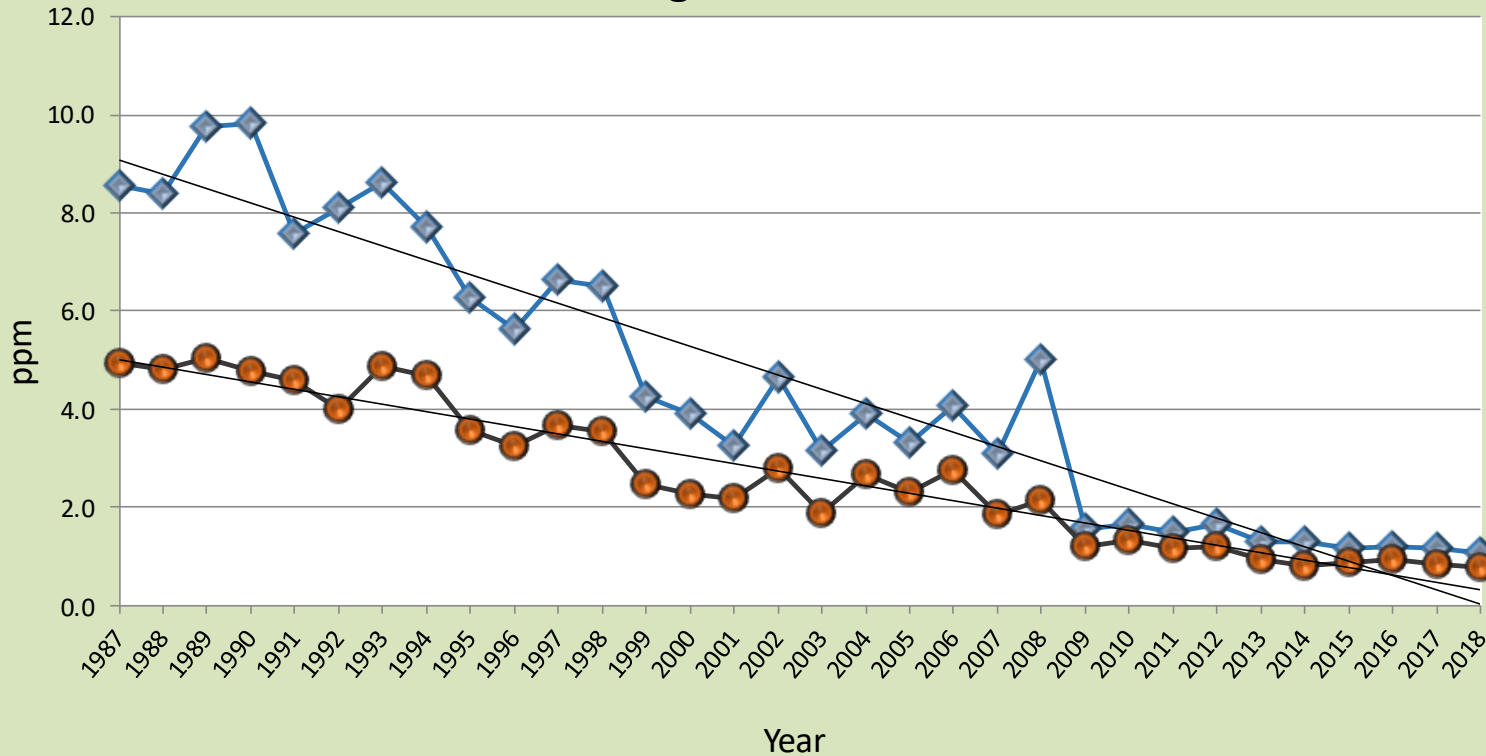
Statewide Averages for Carbon Monoxide

Statewide averages for carbon monoxide (CO) have declined substantially since 1986, primarily due to improved emission controls on motor vehicles.

This table presents the statewide 1-hour and 8-hour averages of the second highest reading of CO from 1986 through 2018. For reference, the current 8-hour primary standard for CO is 9 parts per million (ppm), and the current 1-hour primary standard for CO is 35 ppm.

Year	Statewide Average (ppm) Based upon Second Maximum 1-Hour Averages	Statewide Average (ppm) Based upon Second Maximum 8-Hour Averages	Year	Statewide Average (ppm) Based upon Second Maximum 1-Hour Averages	Statewide Average (ppm) Based upon Second Maximum 8-Hour Averages
1986	8.71	4.60	2003	3.15	1.88
1987	8.56	4.93	2004	3.90	2.65
1988	8.39	4.80	2005	3.30	2.30
1989	9.76	5.04	2006	4.05	2.75
1990	9.83	4.77	2007	3.10	1.85
1991	7.57	4.57	2008	5.00	2.15
1992	8.09	3.99	2009	1.55	1.20
1993	8.62	4.88	2010	1.67	1.33
1994	7.69	4.68	2011	1.50	1.17
1995	6.26	3.58	2012	1.66	1.20
1996	5.64	3.24	2013	1.28	0.93
1997	6.63	3.68	2014	1.30	0.80
1998	6.51	3.53	2015	1.16	0.87
1999	4.27	2.47	2016	1.21	0.93
2000	3.88	2.28	2017	1.15	0.83
2001	3.25	2.17	2018	1.07	0.77
2002	4.66	2.79			

Statewide Averages for Carbon Monoxide



◆ Statewide Average: Based upon Second Maximum 1-Hour Averages

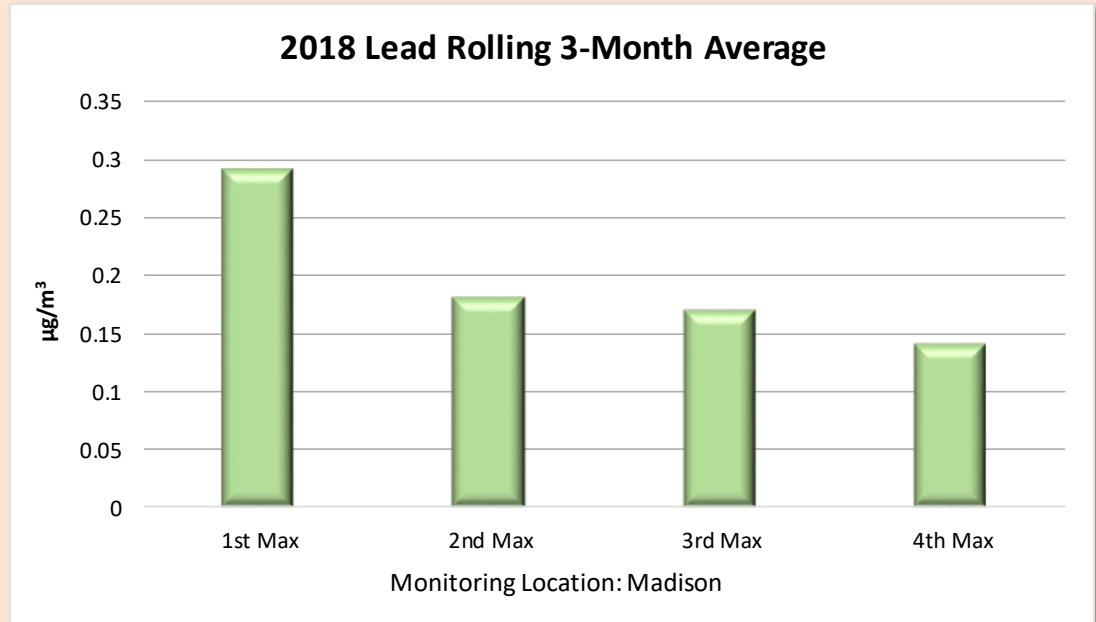
Lead

Primary NAAQS: Rolling 3-month average not to exceed 0.15 micrograms per meter squared ($\mu\text{g}/\text{m}^3$)

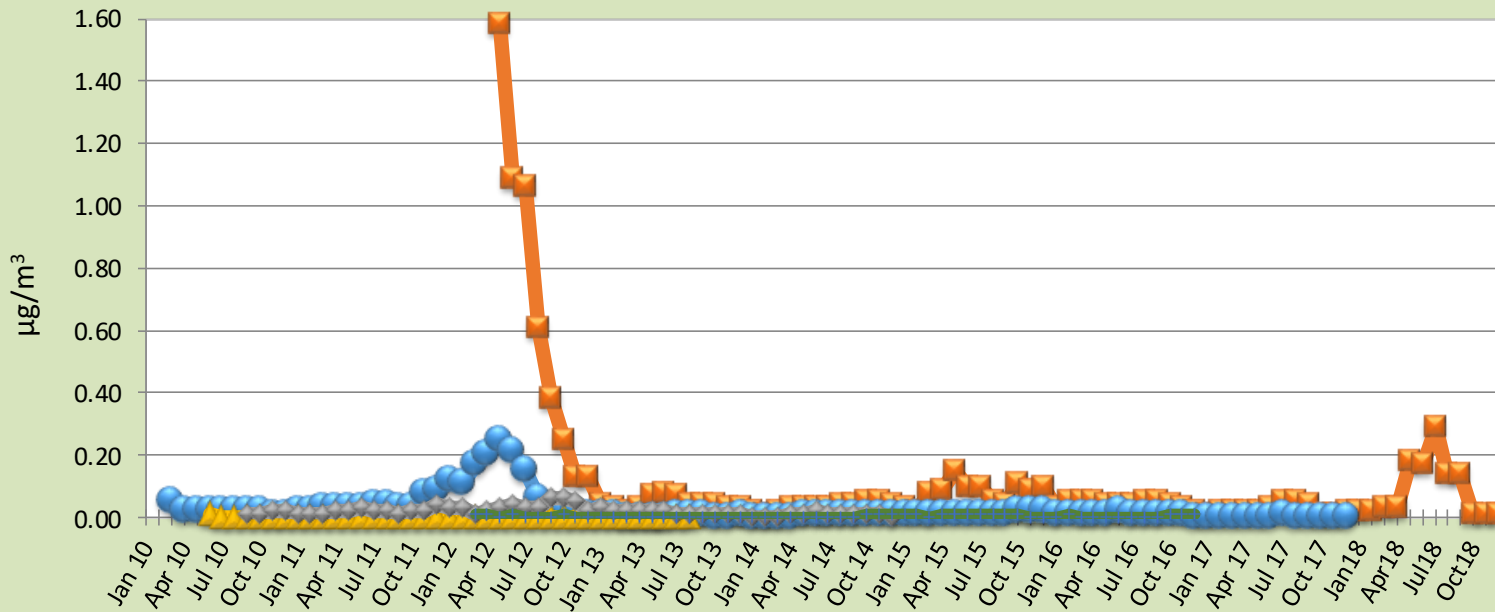
Secondary NAAQS: Same as primary standard

Lead is a soft, blue-gray metal that has historically been used in motor fuels, paint, plumbing and batteries. Since the 1970s when the U.S. EPA mandated the phase out of lead in gasoline, airborne lead concentrations have plummeted. By regulation, lead monitoring is now only required near major sources of lead.

In 2018, the division operated one lead monitoring site at Eastern Kentucky University in Richmond. There were several exceedances of the lead NAAQS in 2012 and 2018; all were related to a compliance issue with a single stationary source.



Three-Month Rolling Averages for Lead



3-Month Rolling Averages (End Month)

- EKU
- Mayfield Elementary
- Lockwood *
- Salem Elementary *
- Cannons Lane (LMAPCD)*

*Monitoring

Nitrogen Dioxide

Primary NAAQS:

Annual arithmetic mean must not exceed 53 parts per billion (ppb)

3-year average of the 98th percentile of daily maximum one-hour averages must not exceed 100 ppb

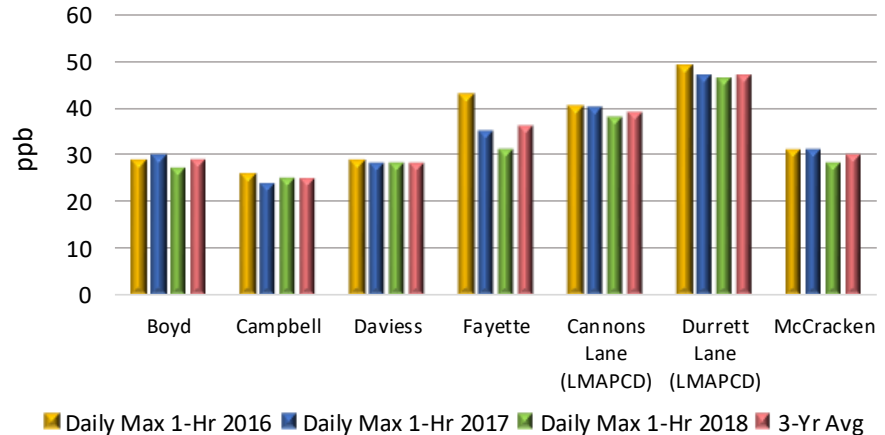
Secondary NAAQS: Annual arithmetic mean must not exceed 53 ppb

Nitrogen dioxide is a reddish brown gas that is produced during high-temperature combustion. During combustion, nitrogen and oxygen combine to form a family of highly reactive gases called nitrogen oxides (NO_x), which include nitrogen dioxide (NO₂) and nitrogen oxide (NO). Major combustion sources that produce NO₂ include motor vehicles, power plants, incinerators, boilers, and chemical processes. NO₂ is also produced through a photochemical reaction between NO and sunlight.

There have been no recorded exceedances of an NO₂ NAAQS since the inception of sampling in 1970. All Kentucky counties are currently in attainment of the standards for nitrogen dioxide.

*LMAPCD: Louisville Metro Air Pollution Control District
Firearms Tr.: LMAPCD Firearms Training monitoring station*

Daily Maximum One-Hour Averages for Nitrogen Dioxide, 2016 - 2018



Statewide Averages for Nitrogen Dioxide

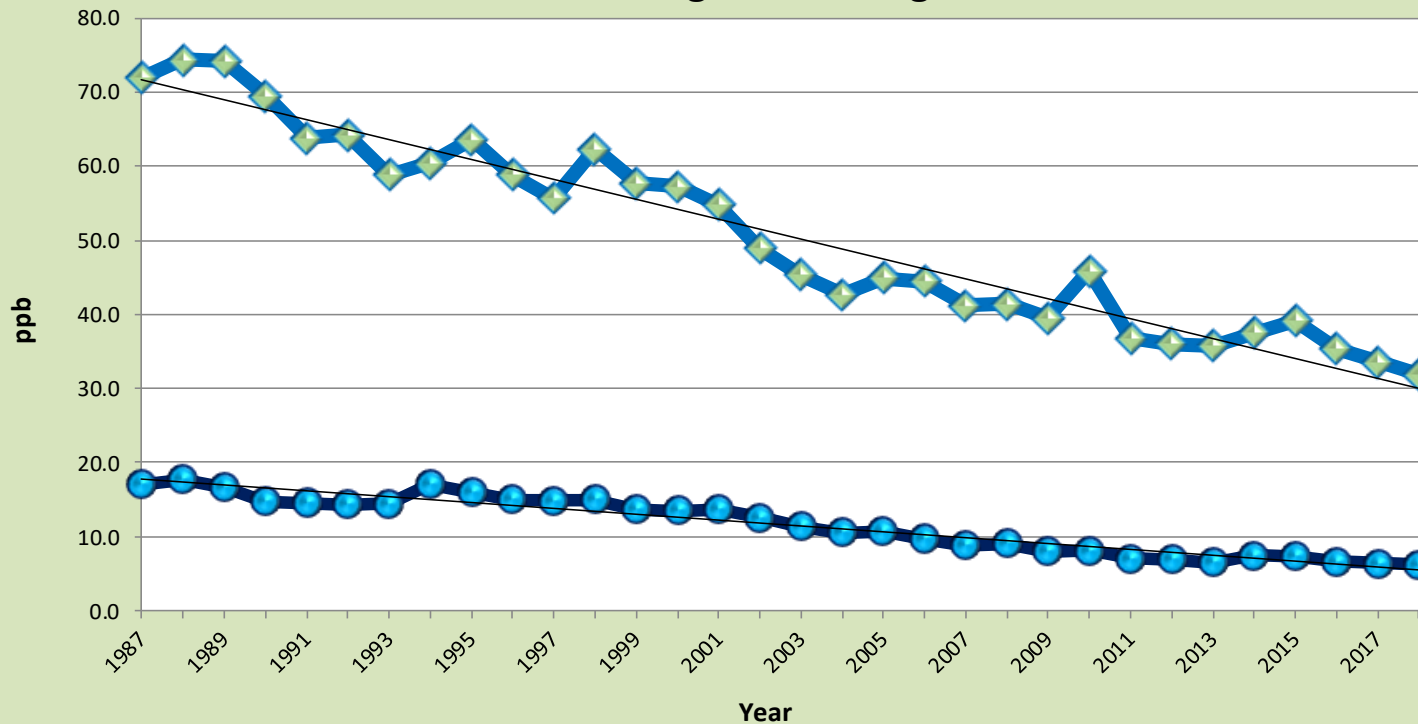
Statewide averages for nitrogen dioxide (NO₂) show a steady downward trend over the past three decades, primarily due to the installation and use of pollution control devices on motor vehicles, power plants and industrial boilers.

This table presents the statewide averages of NO₂ from 1987 through 2018. The data is represented in two different ways: A statewide average of the annual averages from each monitoring station; and the statewide average of the 98th percentile 1-hour daily maximums. For reference, the annual standard for nitrogen dioxide is 53 ppb and the 1-hour standard is 100 ppb.

Year	Statewide Average (ppb) Based upon Annual Arithmetic Means	Statewide Average (ppb) Based upon 98th Percentile 1-Hour Daily Maximums
1987	17.09	72.00
1988	17.72	74.38
1989	16.61	74.14
1990	14.76	69.57
1991	14.50	63.83
1992	14.34	64.20
1993	14.40	58.85
1994	17.02	60.42
1995	15.97	63.55
1996	14.90	58.82
1997	14.88	55.64
1998	14.95	62.36
1999	13.68	57.64
2000	13.48	57.27
2001	13.72	54.77
2002	12.51	48.92

Year	Statewide Average (ppb) Based upon Annual Arithmetic Means	Statewide Average (ppb) Based upon 98th Percentile 1-Hour Daily Maximums
2003	11.30	45.33
2004	10.46	42.63
2005	10.72	44.88
2006	9.67	44.44
2010	8.05	45.83
2011	7.04	36.68
2012	6.94	35.97
2013	6.48	35.75
2014	7.48	37.44
2015	7.35	39.17
2016	6.57	35.37
2017	6.32	33.55
2018	6.20	31.89

Statewide Averages for Nitrogen Dioxide



- ◆ Statewide Average: Based upon 98th Percentile 1-Hour Daily Maximums
- Statewide Average: Based upon Annual Arithmetic Means

Ozone

Primary & Secondary NAAQS: 3-year average of the 4th highest daily maximum 8-hr concentration not to exceed 0.070 parts per million.

Ozone is a colorless gas that is not emitted directly into the atmosphere from sources. Instead, ozone forms in the lower atmosphere from a photochemical reaction between volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the presence of sunlight.

3-Yr Average of 4th Highest Daily Maximum 8-Hour Concentration

Monitoring Site	PPM
Bell	0.061
Boone	0.064
Boyd	0.064
Bullitt	0.066
Campbell	0.067
Carter	0.063
Christian	0.06
Daviess	0.065
Edmonson (NPS)	0.063
Fayette	0.064
Greenup	0.06
Hancock	0.064
Hardin	0.065
Henderson	0.068
Watson Lane (LMAPCD)	0.068

Monitoring Site	PPM
Cannons Lane (LMAPCD)	0.075
Bates Elementary (LMAPCD)	0.070
Jessamine	0.063
Livingston	0.066
Paducah	0.063
Morgan (CASTNET)	0.064
Oldham	0.067
Perry	0.058
Pike	0.059
Pulaski	0.06
Simpson	0.063
Trigg	0.062
Warren	0.061
Washington (CASTNET)	0.064

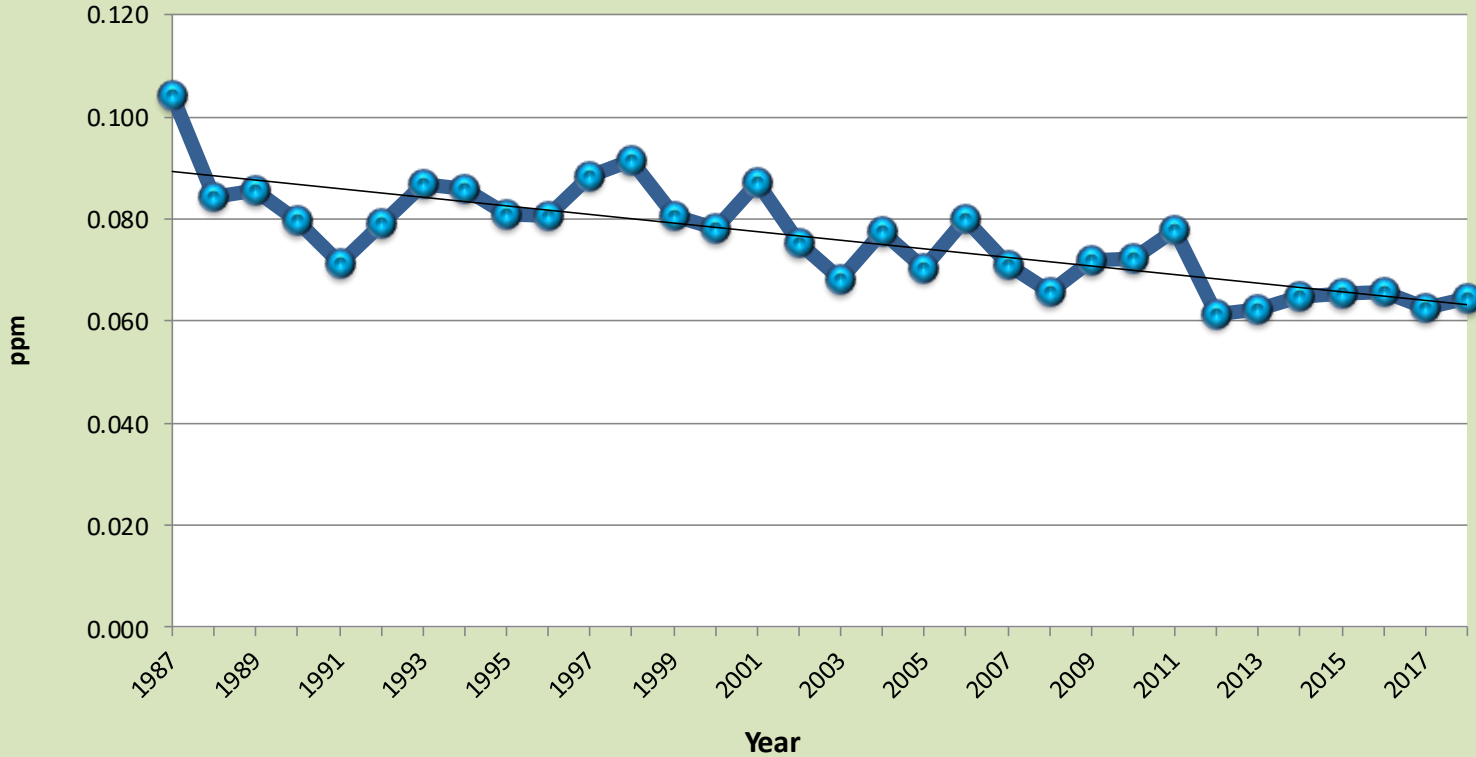
In 2018, three sites measured eight-hour ozone concentrations greater than 0.070 ppm; however, the fourth highest daily maximum eight-hour ozone concentration at each of these sites was less than the level of the standard. In 2018, the fourth highest daily maximum eight-hour ozone concentration measured at Cannons Lane (Jefferson County) was above the level of the standard. The 2016 -2018 three-year average at this site was also above the level of the NAAQS. Ozone concentrations at all other Kentucky sites were below the level of the standard.

LMAPCD: Louisville Metro Air Pollution Control District

NPS: National Park System monitor

CASTNET: EPA-operated monitor

Statewide Averages for Ozone



● Statewide Average: Based upon Fourth Maximum 8-Hour Averages

Fine Particulate Matter (PM_{2.5})

Primary NAAQS:

3-year average of the annual weighted mean not to exceed 12.0 micrograms per meter cubed ($\mu\text{g}/\text{m}^3$)

3-year average of the 98th percentile of 24-hour concentrations not to exceed 35 $\mu\text{g}/\text{m}^3$

Secondary NAAQS: 3-year average of the annual weighted mean not to exceed 15.0 $\mu\text{g}/\text{m}^3$

3-year average of the 98th percentile of 24-hour concentrations not to exceed 35 $\mu\text{g}/\text{m}^3$

Fine particulate matter (PM_{2.5}) is a mixture of solid particles and liquid droplets that are 2.5 microns or smaller in size. Sources include power plants, wood burning, industrial processes, and combustion. Fine particulates are also formed in the atmosphere when gases such as sulfur dioxide, nitrogen oxides and VOCs are transformed through chemical reactions.

There were no exceedances of the three-year 24-hour standard nor the three-year annual standard during the 2016 - 2018 averaging period. All Kentucky counties are currently in attainment for the PM_{2.5} standards.

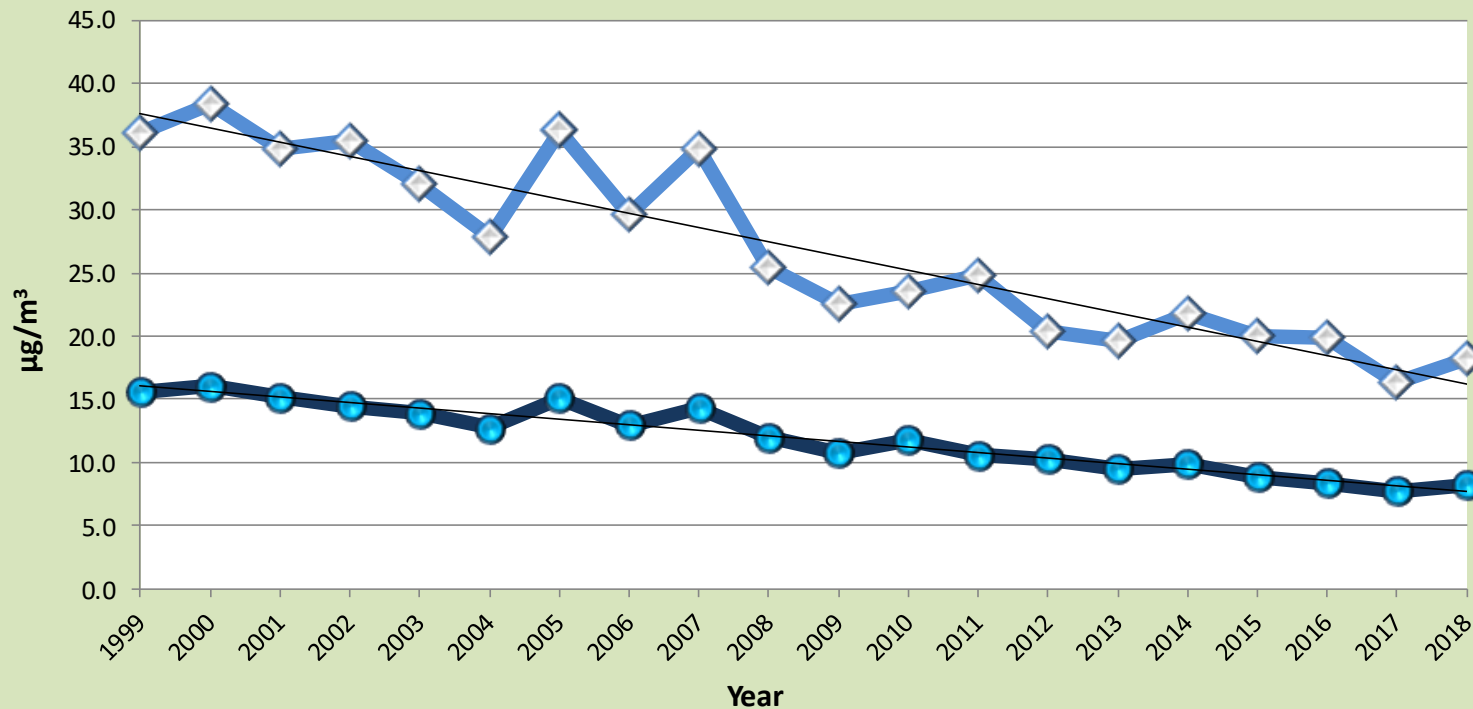
LMAPCD: Louisville Metro Air Pollution Control District

Firearms Training: LMAPCD Firearms Training monitoring station

24-Hour 98th Percentile, 3-Yr Average

NAME	$\mu\text{g}/\text{m}^3$
Bell	24
Boyd	16
Campbell	18
Carter	14
Christian	16
Daviess	18
Fayette	18
Hardin	17
Henderson	18
Southwick Comm. Ctr. (LMAPCD)	19
Watson Lane (LMAPCD)	20
Cannons Lane (LMAPCD)	19
Durrett Lane (LMAPCD)	21
Firearms Training (LMAPCD)	21
McCracken	17
Madison	18
Perry	19
Pike	19
Pulaski	16
Warren	17

Statewide Averages for PM_{2.5}



◆ Statewide Average: Based upon 98th Percentile 24-Hour Concentrations
● Statewide Average: Based upon Annual Weighted Means

Particulate Matter (PM₁₀)

Primary NAAQS: Expected number of days with a maximum 24-hour concentration greater than 150 micrograms per meter cubed ($\mu\text{g}/\text{m}^3$) must be less than or equal to one, on average over three years.

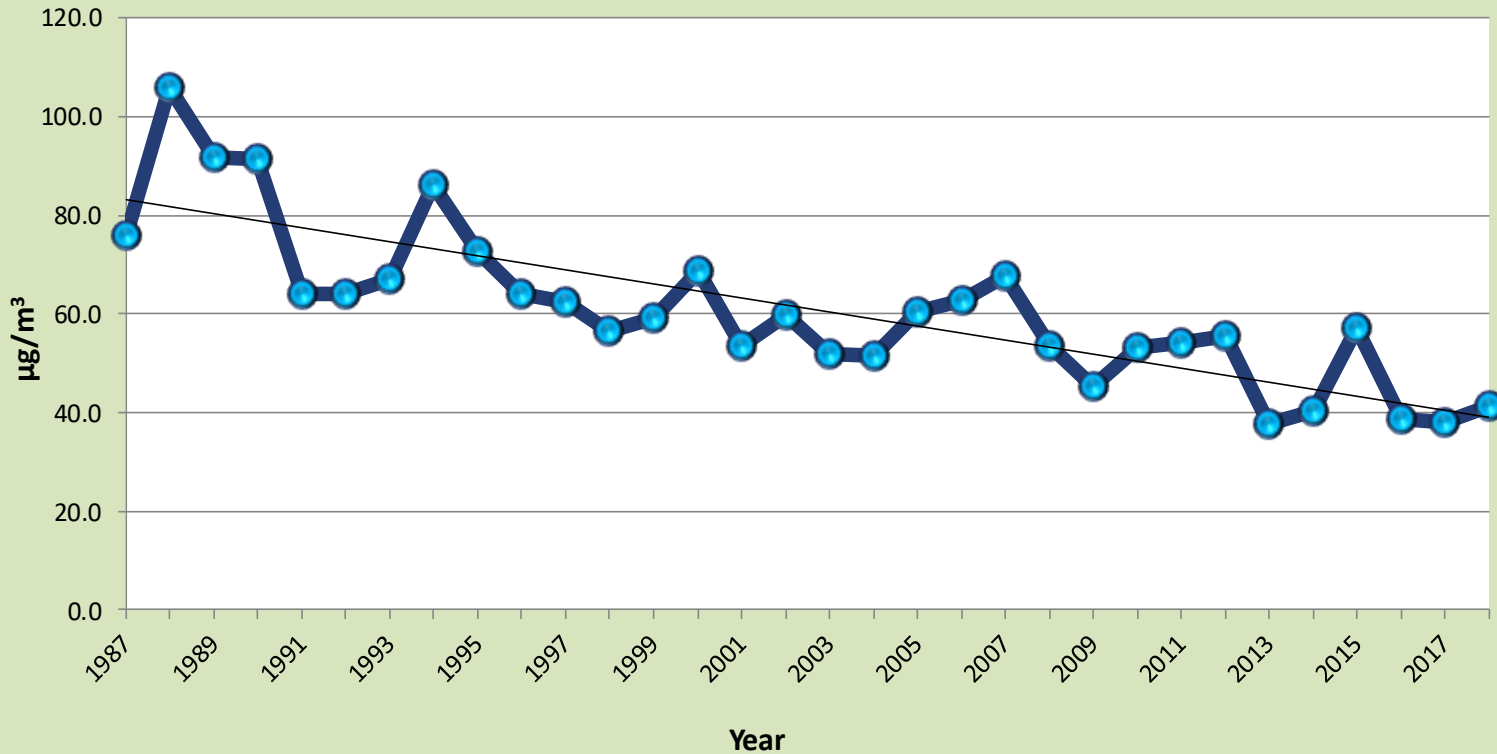
Secondary NAAQS: Same as Primary Standard

Coarse particulate matter of 10 microns or less in diameter is known as PM₁₀. Common sources of PM₁₀ are prescribed fires, construction activities, agricultural practices, metal recycling, and smokestacks. There were no exceedances of the annual PM₁₀ standard in 2018. The last exceedance of the standard occurred on March 22, 2012 at the Ashland site, which is located next to a metals recycler. All Kentucky counties are currently in attainment for the PM₁₀ standards.

2018 Maximum 24-Hr Concentrations for PM₁₀ ($\mu\text{g}/\text{m}^3$)

Monitoring Site	1st Max	2nd Max	3rd Max	4th Max
Boyd	52	47	45	43
Carter	21	20	18	16
Fayette	62	51	36	27
Henderson	28	27	27	25
Watson Lane (LMAPCD)	48	44	43	42
Firearms Training (LMAPCD)	45	43	42	41
Livingston	46	27	26	24
McCracken	46	33	29	28

Statewide Averages for PM₁₀



● Statewide Average: Based upon Annual Maximum 24-Hour Concentrations

Sulfur Dioxide (SO₂)

Primary NAAQS: 3-year average of the 99th percentile of the daily maximum 1-hour concentration not to exceed 75 ppb

Secondary NAAQS: 3-hour concentrations not to exceed 0.5 ppm (500 ppb) more than once per year

Sulfur dioxide (SO₂) is a colorless gas that has a pungent odor at concentrations exceeding 0.5 ppm. SO₂ is produced during the combustion of sulfur-containing fuels, ore smelting, petroleum processing, and the manufacturing of sulfuric acid. Nationwide, coal-fired power plants are the largest sources of SO₂.

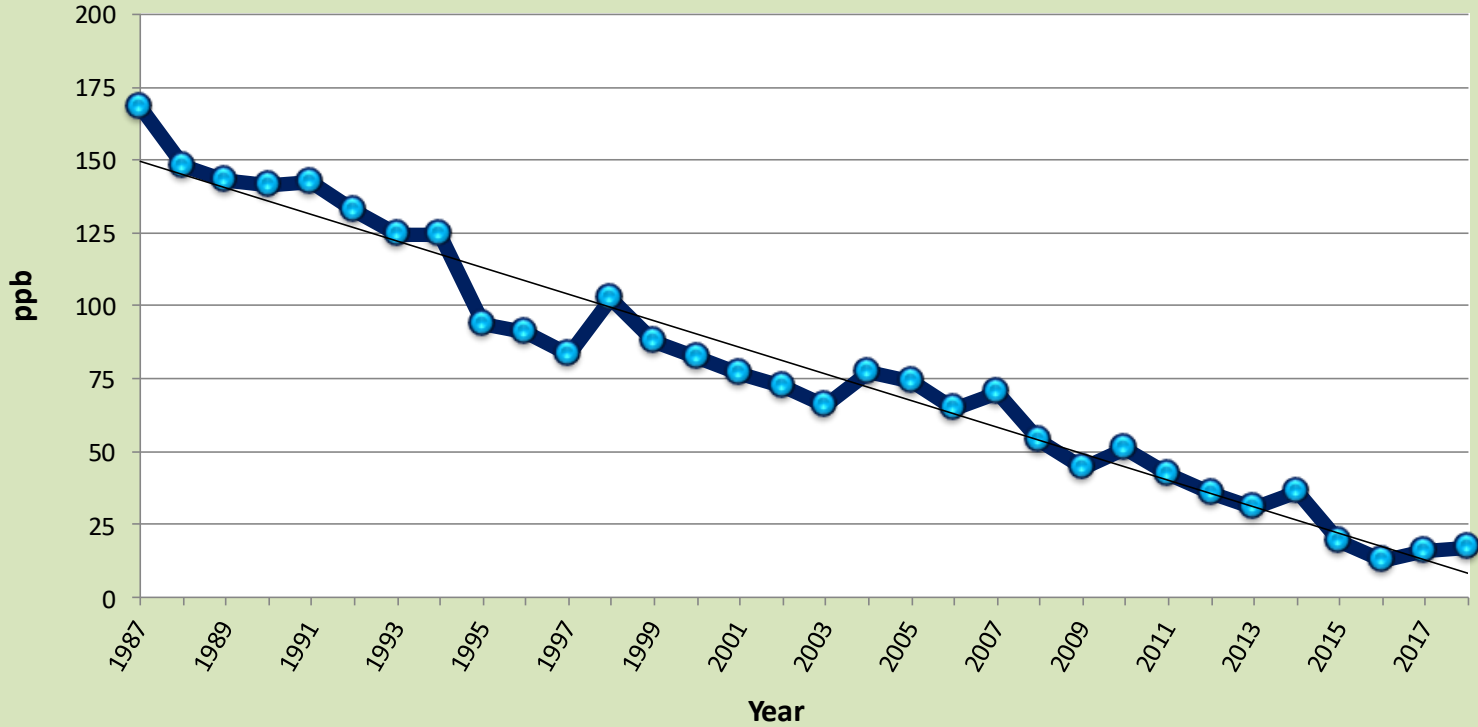
During 2018, one site recorded six exceedances of the daily one-hour standard of 75 ppb. That site, located near Sebree, Kentucky, was established to characterize maximum hourly sulfur dioxide concentrations for specific stationary sources. No other exceedances were recorded in the state.

Annual Daily Maximum 1-Hr Averages for Sulfur Dioxide (ppb)

NAME	2016	2017	2018	3-Yr Avg
Boyd	6	7	8	7
Campbell	12	16	9	12
Daviess	25	17	17	20
Edmonson (NPS)	3	3	5	4
Fayette	3	4	5	4
Greenup	8	7	11	9
Henderson (Baskett)	14	10	13	12
Henderson (Sebree)		94	102	98
Watson Lane	26	14	16	19
Cannons Lane	8	7	8	8
Firearms Training	16	11	12	13
Jessamine	5	3	3	4
McCracken	16	12	10	13

LMAPCD: Louisville Metro Air Pollution Control District; NPS: Monitor Operated by the National Park Service at Mammoth Cave; Firearms Training: LMAPCD Firearms Training monitoring station

Statewide Averages for Sulfur Dioxide

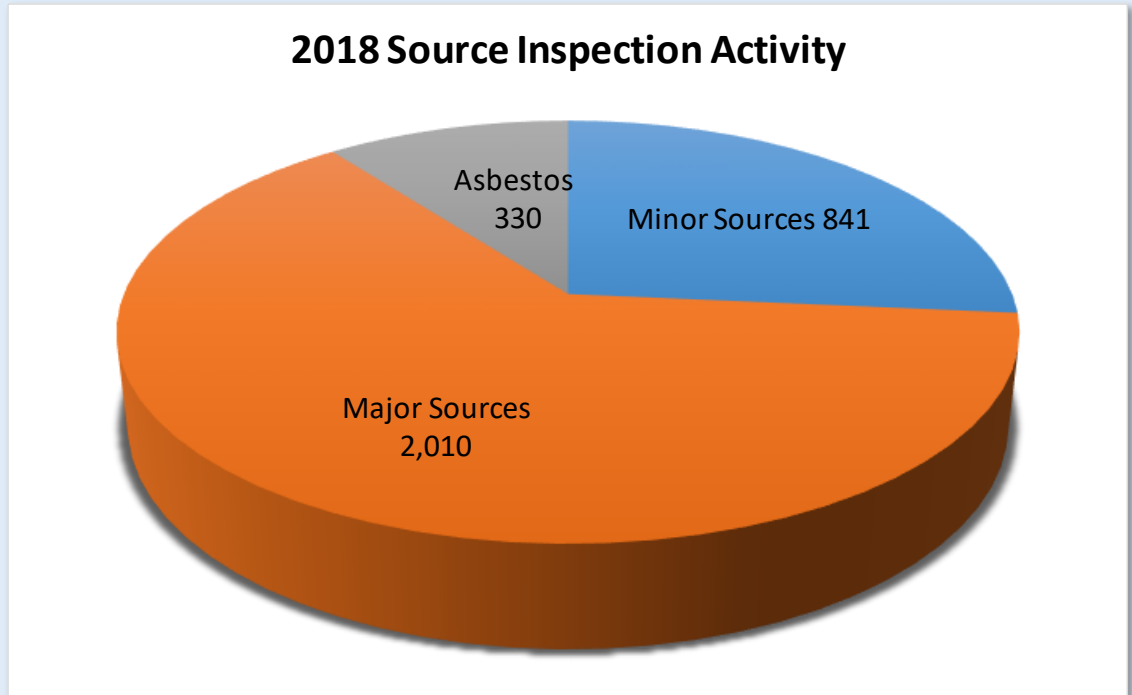


● Statewide Average: Based upon 99th Percentile 1-Hour Averages

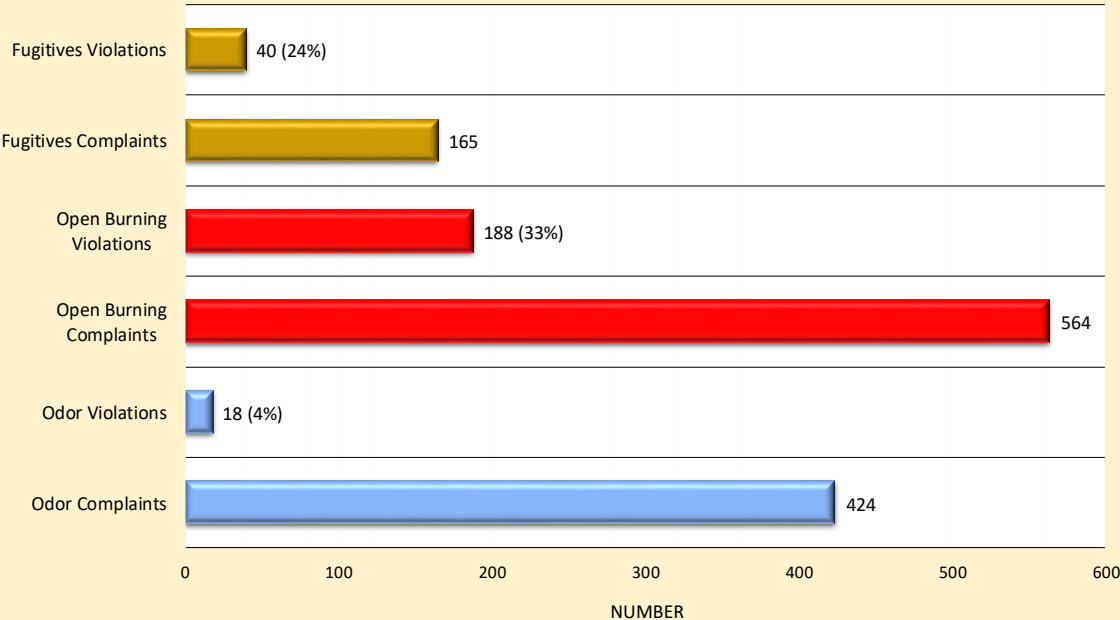
Inspections

In calendar year 2018, Field Operations Branch staff completed **3,181** compliance inspections of various types at mostly permitted sources (major Title V, minor); **91 percent of inspected sources were found to be compliant.**

- Inspection activities for major and minor facilities include annual certification reviews, full compliance evaluation and partial compliance evaluations.
- Asbestos inspection activities include AHERA and NESHAP inspections.
- Inspection activities include excess emissions reviews, performance test reviews, semi-annual monitoring reviews, engineering inspections, follow-ups, infrared camera inspections, performance test observations and record reviews for all permitted facilities.



2018 Primary Complaints vs Resulting Violations



Air Pollution Complaints

During 2018, the division received a total of **1,153 complaints**:

- 165 complaints were about fugitive emissions, 40 of which resulted in notices of violation
- 424 complaints were about odor, of which 18 resulted in notices of violation
- 564 complaints were about open burning, of which 188 resulted in notices of violation

In general, an air quality complaint represents a single incident about which one or more calls have been received. For example, a single incident of tire burning may generate several citizen calls to DAQ. Those calls are counted collectively as a single complaint, since they refer to a single incident.

Program Funding

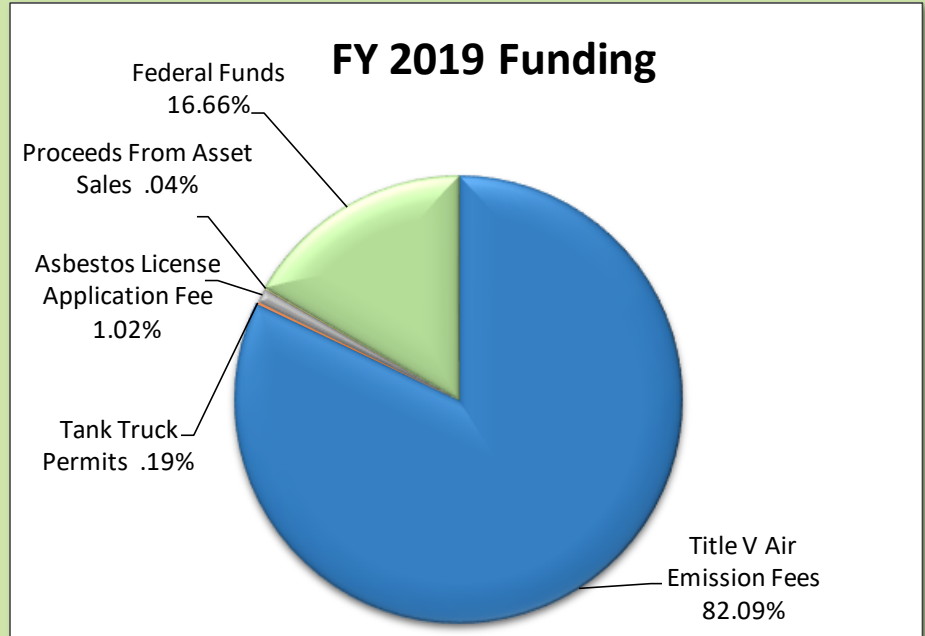
The division operates primarily on Title V (pronounced “Title Five”) emissions fees and federal grant funds. Funding under the Title V program mandated by the Clean Air Act is through air pollutant emission fees assessed to permitted air pollution sources in the state that meet specific criteria.

State statute authorizes the division to charge fees sufficient to cover the cost of implementing and carrying out the requirements of the Title V program.

82 percent of the division’s funding comes from emissions fees under the Title V program. Another 16.6 percent comes from federal grant funds. The remaining funding comes from asbestos license application fees, tank truck permits, and proceeds from asset sales.

Proposed Funding Changes

In 2018, the division began evaluating a proposed change to the fee structure, which would more accurately reflect program workload and create a sustainable funding mechanism. The proposed fee structure would include annual fees, emission fees, and registration fees.



Emissions Inventory

The Emissions Inventory Section surveys nearly 1,200 plants per year to determine actual air pollutant emissions for the previous calendar year. Title V fees are generated based on actual emissions in a calendar year. Sources are surveyed annually and charged a per ton fee for emissions.

At the time of publication of this report, data for the 2018 calendar year was still being verified. It takes approximately nine months to verify and complete the inventory for the previous year.

Pollutant	Tons Emitted in 2017
Carbon monoxide	63,733
Nitrogen dioxide	63,308
Particulate matter 2.5	6,072
Particulate matter 10	12,237
Sulfur dioxide	64,481
Volatile organic compounds (as an ozone precursor)	45,094



Kentucky Greenhouse Gas Emissions

Because some gases have a higher warming potential than others, emissions of greenhouse gases are typically expressed in "carbon dioxide equivalent" (CO₂e) in order to allow their impacts to be directly compared. EPA's Greenhouse Reporting Rule requires reporting of greenhouse gases from sources that emit 25,000 metric tonnes or more of CO₂e per year in the U.S.

Although the division is not required to report greenhouse gas emissions on behalf of facilities, the Emissions Inventory Section collects this data when available.

Greenhouse Gas	2013 Actual Emissions (tons)	2014 Actual Emissions (tons)	2015 Actual Emissions (tons)	2016 Actual Emissions (tons)	2017 Actual Emissions (tons)
Carbon dioxide	96,288,161	100,438,102	92,176,908	86,531,345	73,655,105
Methane	112,528	100,197	88,373	89,313	88,675
Nitrous oxide	3,736	3,810	3,519	3,891	3,190
CO ₂ e (metric tonnes)	90,545,487	94,096,177	86,712,303	81,703,900	69,838,096
CO ₂ e (tons)	99,809,319	103,723,251	95,583,925	90,063,137	76,983,327



Regulation Development

From July 2018 through June 2019, the Regulatory Development Section filed amendments to three administrative regulations, which updated permitting and compliance forms and designation statuses in the Commonwealth. All of the new forms are now available in an Excel format that is electronically fillable and easily duplicated.

State Implementation Plan

During FY19, the Energy and Environment Cabinet (EEC) submitted three final revisions to [Kentucky's SIP](#):

- Nov. 16, 2018 - Final revision to Kentucky's Regional Haze SIP, requesting EPA approval to rely on the Cross State Air Pollution Rule instead of the Clean Air Interstate Rule as an alternate to Best Available Retrofit Technology.
- Nov. 16, 2018 - Final revision to the NO₂ Good Neighbor SIP, requesting EPA approval to find that Kentucky meets the requirements for the 2010 1-hour NO₂ primary NAAQS.
- Jan. 11, 2019 - Final revision to the 2015 Ozone Infrastructure SIP, certifying that Kentucky's existing SIP addresses requirements necessary to implement the 2015 ozone NAAQS.

Clean Diesel Grant

The Kentucky Clean Diesel Grant Program provides financial support for projects that protect human health and improve air quality by reducing harmful emissions from diesel school buses. The Division for Air Quality administers this program with funding provided through the federal Diesel Emissions Reduction Act.

During FY 2019, a total of **\$231,237** was awarded to school districts in Bullitt, Jefferson, Franklin, Letcher and Green counties through the Kentucky Clean Diesel Grant Program. The five school districts replaced a total of ten older-model, diesel school buses with new diesel buses. The new buses emit 98 percent less particulate matter and 90 percent less nitrogen oxide pollution than the older buses they replaced.

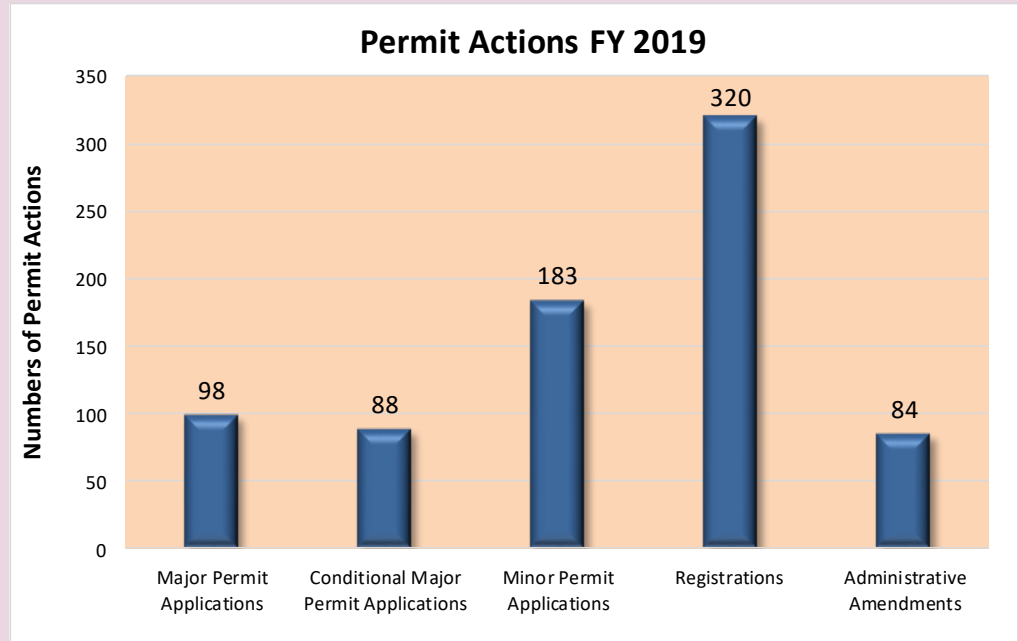


Air Permitting

The Permit Review Branch issues air permits for industrial and commercial sources that release pollutants into the air. Air permits include information on which pollutants are being released, how much may be released, and what kinds of steps the source's owner or operator is required to take to reduce the pollution. Permits also include plans to measure and report air pollution emitted.

During FY19, the Permit Review Branch issued 359 permits. 15 of these were considered major economic development projects completed in partnership with the Cabinet for Economic Development. At the close of FY19, the branch had 173 pending applications in-house.

During FY19, division scientists performed reviews of modeling or refined modeling for two PSD pollutant analyses and 33 air toxic assessments. These reviews included performing near-field modeling analyses or the thorough review and comment of reported modeling analyses.



Outreach

The Division for Air Quality promotes environmental stewardship and public participation through environmental education outreach ; partnerships with universities, local governments and organizations; communication through social media and the cabinet’s webzine; and membership in state and national organizations

During FY19, Environmental education programs reached **2,759 people in 17 counties** during FY 2019, including:

- 1,262 K-12 students
- 824 general public
- 386 conference attendees
- 126 public officials
- 114 educators
- 47 university students

