

Kentucky's Air

FISCAL YEAR 2026 ANNUAL REPORT

Prepared by

Kentucky Division for Air Quality

eec.ky.gov/air

TEAM KENTUCKY

ENERGY AND ENVIRONMENT CABINET

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Welcome to the Kentucky Division for Air Quality's FY2026 Annual Report. This report details the Division's accomplishments from July 1, 2025, through June 30, 2026. Due to varying schedules for data quality assurance, some data may be reported for the 2024 or 2025 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
- Maintenance of a reasonable and effective compliance assurance program



Organization

The Division for Air Quality is part of the Kentucky Energy and Environment Cabinet (EEC) and is the third largest division within the Department for Environmental Protection. With a team of 150 environmental professionals working in Frankfort and eight regional offices across the commonwealth, the Division oversees air monitoring, permitting, regulation development, air program planning, compliance, facility and complaint inspections, and air quality outreach.

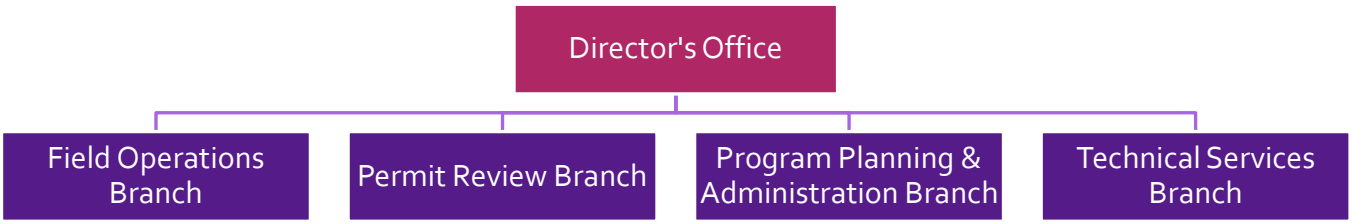


Figure 1: Division for Air Quality organizational chart

Air Quality Outreach

The Division for Air Quality promotes environmental stewardship and public participation through environmental education programs, resources, and community partnerships. With one full-time outreach specialist and 18 outreach team members from across the Division for Air Quality, the Clean Air for Kentucky Program reached more than 6,600 people during FY26, including:

- In-person outreach to 2,298 Kentucky students
- In-person outreach to 433 university students
- In-person outreach to 128 educators
- Attendance at festivals and community events reaching more than 4,370 people.



Figure 2: Jenna Nall (left) and Emily Gosney (right) brought particulate matter samplers to several outreach events last year.

Attainment Areas

The Clean Air Act directs the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for six criteria pollutants that are considered harmful to human health and the environment. Based on ambient air monitoring data, EPA designates an area as **attainment** (measured pollutants for a three-year design value do not exceed the NAAQS) or **nonattainment** (measured pollutants for a three-year design value exceed the NAAQS). During FY26:

- All areas were designated attainment/unclassifiable for PM, CO, NO_2, and lead.
- Bullitt, Jefferson, and Oldham counties remained designated nonattainment for the 2015 ozone standard.
- Henderson and Webster counties (partial) remained designated nonattainment for the 2010 sulfur dioxide (SO_2) standard.

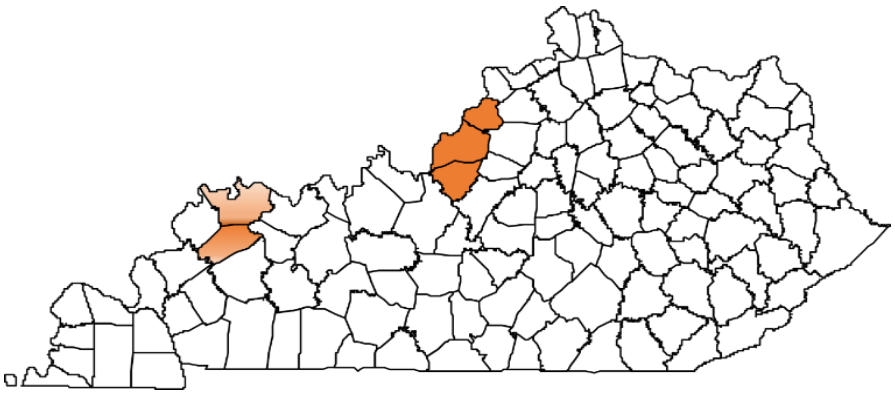


Figure 3: Kentucky Nonattainment Areas During FY26

Ozone

Effective Aug. 3, 2018, six Kentucky counties were designated nonattainment for the 2015 ozone standard: all of Bullitt, Jefferson and Oldham counties and the northern portions of Boone, Campbell, and Kenton counties.

- In Sept. 2022, the Division submitted requests to EPA to redesignate these areas as attainment. **Quality-assured air monitoring data demonstrated all these areas met the ozone NAAQS.**
- On Oct. 4, 2023, EPA published the Final Rule for Northern Kentucky, redesignating the area as attainment. On April 18, 2023, **EPA published the proposed redesignation for the Louisville area but failed to take further action.** In response, DAQ filed a lawsuit to force EPA to act on the Louisville area submittal.
- In January 2025, EPA published a second proposed rule, disapproving redesignation for the Louisville area. EPA also received adverse comments on this proposal.
- On June 11, 2025, the Louisville Metro Air Pollution Control District (LMAPCD) submitted a final ozone exceptional event demonstration to EPA Region IV for exceedances attributable to Canadian wildfires. In January 2026, EPA proposed to approve the 2023 exceptional event demonstration. Once final, this will lower the area's 2023 design value to 70 ppb.
- On Aug. 4, 2025, the Division submitted a reformulated gasoline (RFG) opt-out request to EPA. The RFG opt-out request demonstrated that removing the federal RFG requirements in Bullitt, Jefferson, and Oldham counties will not interfere with any applicable requirements concerning attainment or reasonable further progress in nonattainment or maintenance areas within the Commonwealth. On March 2, 2026, the EPA approved the Division's request with an effective date of May 27, 2026.
- EPA and the Energy and Environment Cabinet (Cabinet) entered into a Consent Decree for a final action to be taken on the Division's redesignation request for the Louisville area no later than December 2025. **In January 2026, EPA denied the Cabinet's request for redesignation. Both the Cabinet and Kentucky's Attorney General are suing EPA on that decision**. EPA asked the court for a voluntary remand and the parties have agreed. The Cabinet also sent a Petition for Reconsideration to the EPA Administrator.
- The Cabinet also worked with LMAPCD on an additional exceptional event demonstration, this time for 2024 wildfire smoke impacts.

Sulfur Dioxide

Portions of Henderson and Webster counties were designated nonattainment for the 2010 SO_2 standard, effective March 13, 2021. The Division worked on a redesignation request for the area until the monitor detected several exceedances that put the design value over the SO_2 standard of 75 ppb. At that point, the Division began working on an attainment plan. At the end of FY26, the attainment plan was awaiting approval.

Particulate Matter

On Feb. 7, 2024, the EPA announced a final rule for the $PM_{2.5}$ NAAQS, lowering the primary annual $PM_{2.5}$ standard from 12 µg/m^3 to 9 µg/m^3.

- On Feb. 7, 2025, the Division submitted Kentucky's initial area designation recommendations to EPA. Based on 2022-2024 monitoring data, the design values at all monitors were below the revised $PM_{2.5}$ standard; therefore, the Division recommended that Bell, Boyd, Campbell, Carter, Christian, Daviess, Fayette, Hardin, Jefferson, McCracken, Perry, Pike, Pulaski, and Warren counties be designated attainment.
- The Division recommended that the remainder of the state be designated attainment/unclassifiable.
- On March 6, 2024, the revised standard was challenged. In June 2026, the D.C. Circuit upheld the 2024 $PM_{2.5}$ NAAQS.

Air Pollution Complaints

During FY26, **the Division for Air Quality received a total of 1,408 air pollution complaints.** Most complaints fell into three categories: open burning, odors, and fugitive emissions. Figure 4 displays the most common complaints by category with the following data:

- 346 odor complaints, of which 21 resulted in notices of violation (6 percent)
- 706 open burning complaints, of which 180 resulted in notices of violation (25 percent)
- 210 fugitive emissions complaints, of which 17 resulted in notices of violation (8 percent)

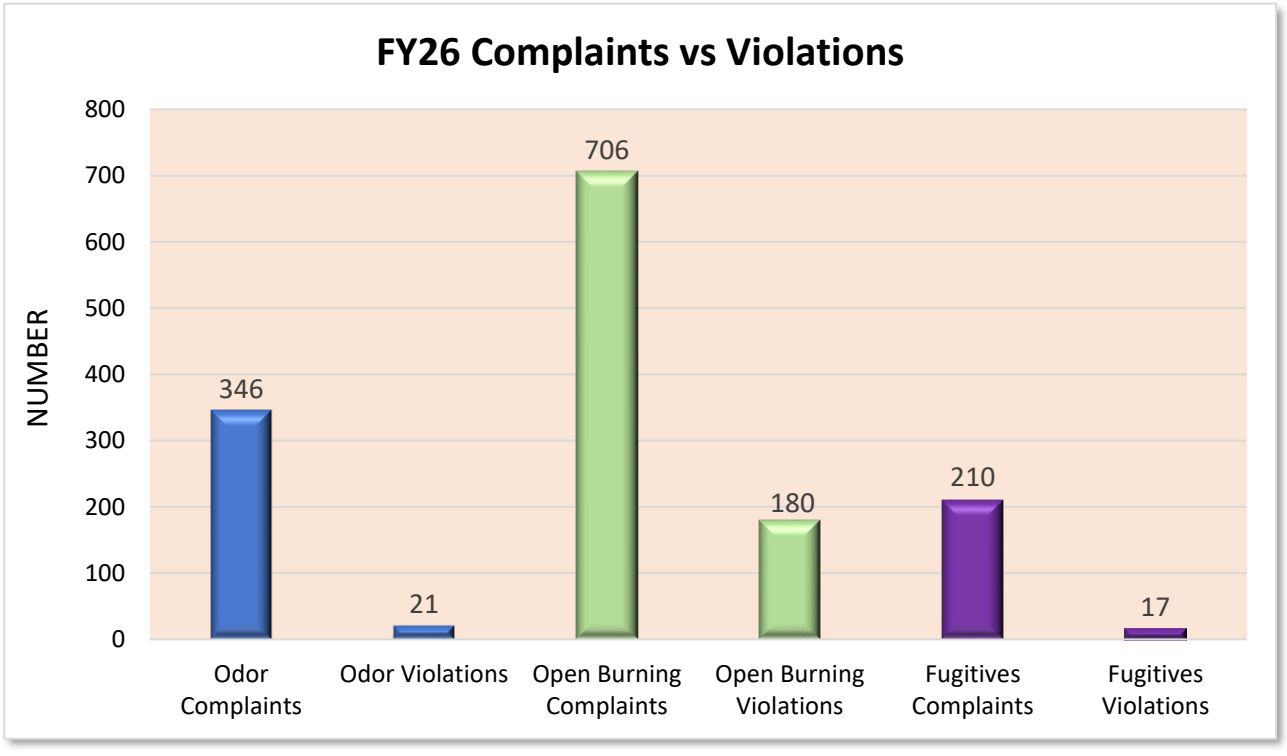


Figure 4: FY26 Complaints vs Violations

Compliance Inspections

- 3,010 compliance inspections
- 87 percent compliance rate

Field Operations Branch staff completed 3,010 compliance inspections of various types at mostly permitted sources (Conditional Major, Title V, & Minor). Nine percent of inspections resulted in documented violations; four percent resulted in notices of violation.

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

Asbestos

Compliance with asbestos regulations is overseen by the Field Operations Branch. **During FY26, staff conducted 591 asbestos-related activities**. Asbestos activities include The Asbestos Hazard Emergency Response Act (AHERA) reviews and National Emission Standards for Hazardous Air Pollutants (NESHAP) inspections and investigations from asbestos notifications and complaints.

Permitting

- 324 air permits issued
- 590 permitting actions (Table 1)
- 4 economic development projects

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

At the close of the fiscal year, the branch had issued 324 permits (initial, renewals, revisions for stationary and portable sources), with 307 applications in-house. PRB also issued new air permits or permit modifications for 4 economic development-referred projects during FY26. These projects were completed in partnership with the Cabinet for Economic Development.

Type of Permit Action	Number
Major Permit Applications	46
Conditional Major Permit Applications	66
Minor Permit Applications	212
Registrations	219
Administrative Amendments	47

Table 1: Permitting Actions during FY26

Program Funding & Planning

Fiscal Management

The Division operates primarily on Title V (pronounced "Title Five") emissions fees and federal grant funds. Funding under the Title V program is mandated by the Clean Air Act through air pollutant emission fees, which are assessed to permitted air pollution sources in the commonwealth that meet specific criteria. Kentucky statute further authorizes the division to charge fees sufficient to cover the cost of implementing and carrying out the requirements of the air quality program.

During FY26, **86 percent of the Division's funding came from emissions fees** under the Title V program. Another **13 percent came from federal grant funds**. The remaining funding came from asbestos license application fees, tank truck permits, and proceeds from asset sales.

How are Emission Fees Calculated?

The Division surveys permitted sources subject to the Title V fee program each year. Once the agency has determined the overall cost of the program for the year, the number of tons of emitted pollutants are divided into the projected operating cost to calculate a per ton cost, and each source within the Title V programs is issued a bill based on that per ton cost.

At the same time, EPA determines a minimum cost per ton of pollutant that an agency should charge to fund the Title V permitting program. Figure 5 shows the comparison between EPA's presumptive minimum and the actual cost per ton that the Division has charged over the last twenty years. As emissions from Kentucky facilities have decreased with time, the per ton fee has necessarily increased.

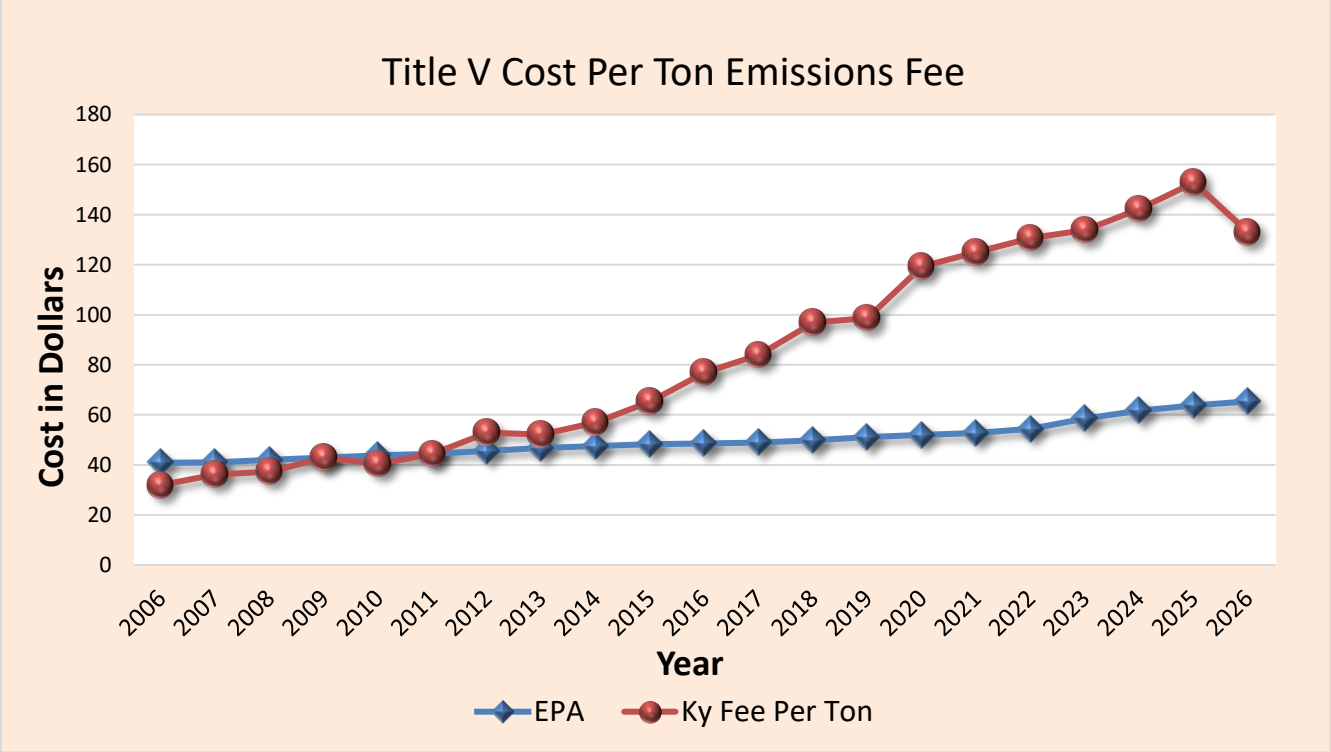


Figure 5: EPA's presumptive minimum vs. DAQ's per ton fee.

Emissions Inventory

The Emissions Inventory Section surveys over 1,300 facilities per year to determine actual air pollutant emissions for the previous calendar year. Air emission fees are generated based on actual emissions in a calendar year. Sources are surveyed annually and charged a per ton fee for emissions.

Table 2 displays data for the 2024 calendar year. At the time of publication of this report, data for the 2025 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 2024
Carbon monoxide	50,647
Nitrogen dioxide	47,530
Particulate matter 2.5	6,174
Particulate matter 10	10,670
Sulfur dioxide	43,283
Volatile organic compounds (as an ozone precursor)	68,536

Table 2: Regulated Pollutant Emissions, Calendar Year 2024

Kentucky Greenhouse Gas Emissions

Considering that some gases have a higher warming potential than others, emissions of greenhouse gases are typically expressed in "carbon dioxide equivalent" (CO_2e) 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 tons or more of CO_2e 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	2021 Actual Emissions (tons)	2022 Actual Emissions (tons)	2023 Actual Emissions (tons)	2024 Actual Emissions (tons)
Carbon dioxide	67,589,118	67,798,373	61,678,694	66,719,012
Methane	94,983	102,870	96,796	111,539
Nitrous oxide	4,071	3,861	3,592	3,741
CO2e (metric tonnes)	64,667,792	64,992,066	58,407,443	64,276,075
CO2e (tons)	71,284,038	71,641,490	64,383,167	70,852,243

Table 3: Kentucky Greenhouse Gas Emissions Reported, 2021-2024

Air Dispersion Modeling

Air dispersion modeling is an important tool that supports air program planning and permit review. Air modeling data is used to verify, adjust, or establish limits in permits, justify permit conditions, support the State Implementation Plan, and to protect public health and air quality.

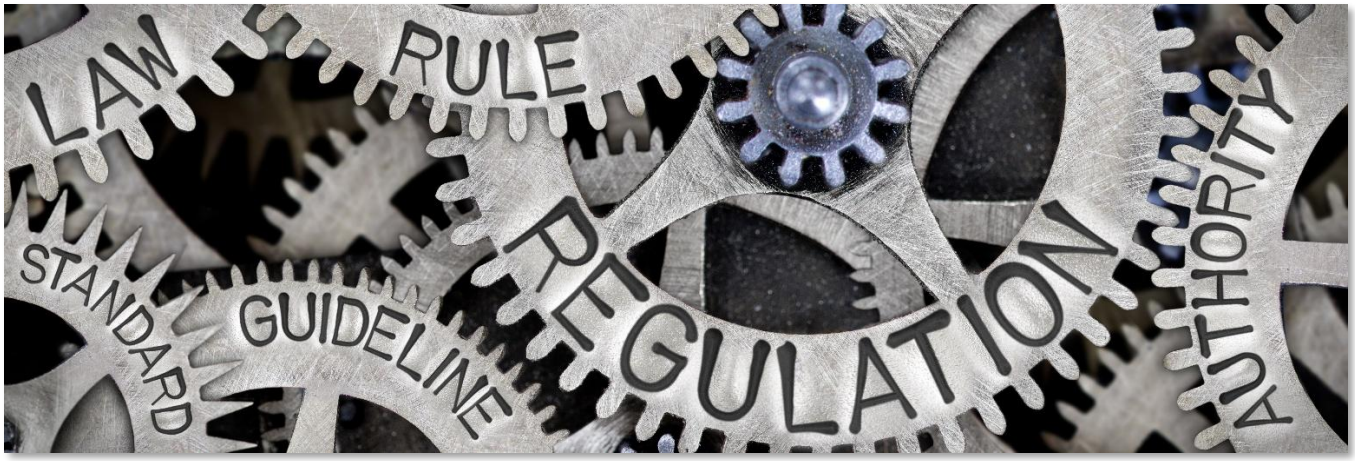
During FY26, the following assessments and demonstrations were completed:

- **37 air toxics modeling demonstrations** in compliance with 401 KAR 63:020 for affected facility applications that emit hazardous and/or toxic substances.
- **7 PSD permit application reviews** in compliance with 401 KAR 51:017 and EPA's Guideline on Air Quality Models, 40 CFR Part 51, Appendix W. One of the demonstrations was for an Economic Development project.
- **2 SO_2 criteria pollutant model demonstrations**
- **1 MOVES model demonstration** performed for Louisville Metro Air Pollution Control District
- **1 risk assessment modeling review** performed for the Kentucky Division of Waste Management

Regional Haze

Regional haze is pollution that impairs natural visibility over a large region, including national parks, forests, and wilderness areas (known as "Class I" areas). As part of the Clean Air Act Amendments and further regulations adopted by the EPA, states must develop plans to restore natural visibility conditions in the 156 Class I areas throughout the nation by the year 2064. Kentucky's Mammoth Cave National Park is included in the list of Class I areas.

Revisions to state plans for Regional Haze are required periodically to ensure progress is being made toward long term goals. Kentucky's draft State Implementation Plan (SIP) revision concentrates on reducing sulfur dioxide (SO_2) emissions from facilities shown to impact Class I areas. **On December 3, 2025, the SIP Revision for the second implementation period was submitted to EPA.**



Regulation Development

During FY26, the Regulation Development Section finalized amendments to the following Kentucky Administrative Regulations:

- 401 KAR 60:005, *Standards of performance for new stationary sources.* The update includes amendments to the New Source Performance Standards (NSPS) through July 1, 2025.
- 401 KAR 63:002, *National emission standards for hazardous air pollutants*. The update includes amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) though July 1, 2025.

State Implementation Plan

During FY26, the Energy and Environment Cabinet submitted three final revisions to Kentucky's SIP:

- **July 3, 2025** – Final 2008 Ozone NAAQS 2nd 10-Year Maintenance Plan for Northern Kentucky
- **December 4, 2025** – Final Kentucky 2024 Secondary SO_2 NAAQS Initial Area Designation recommendations
- **December 30, 2025** – 2010 SO_2 Data Requirements Rule Annual Report

Diesel Emissions Reduction Act Grant

The Diesel Emissions Reduction Act (DERA) 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 administers this program with funding provided through the federal DERA grant.



During FY25 through FY26:

- **Fayette County Public Schools** was the sole school district selected to receive $247,500 in funding.
- Funding will replace a total of **six** older model diesel school buses with new diesel buses.
- The new buses will emit **56.4 percent less particulate matter and 76.5 percent less nitrogen oxide** pollution than the older buses they replaced.

Kentucky's Air Monitoring Network

During the 2025 monitoring year, KDAQ operated 66 instruments and one meteorological station, located at 24 ambient air monitoring sites in 23 Kentucky counties. LMAPCD operated an additional 29 instruments and five meteorological stations in Jefferson County.

When combined with the air monitoring site operated by the National Park Service (NPS) at Mammoth Cave National Park, the total ambient air monitoring network consisted of 96 instruments and 7 meteorological stations, located at 30 sites across 25 counties of the commonwealth. While not associated with the Division's air monitoring network, the EPA operates two additional CASTNET ozone monitoring stations in Kentucky.

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.

Ambient Air Monitoring Network Map

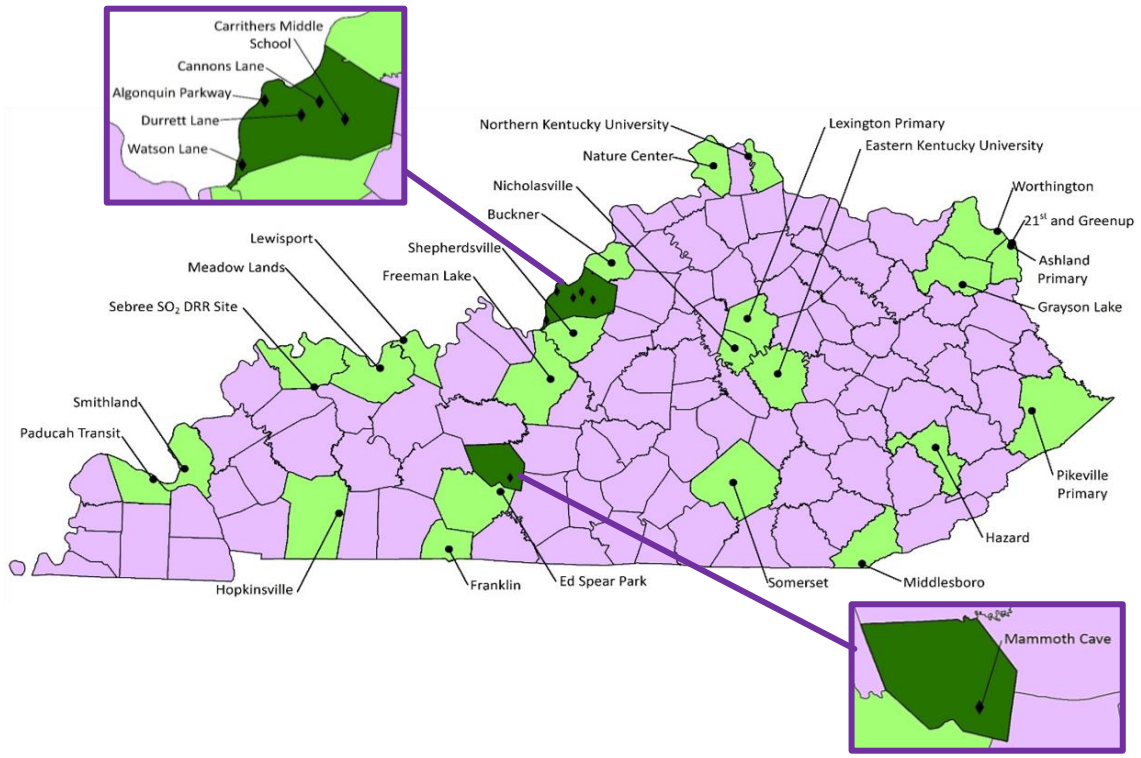


Figure 6: Kentucky's Ambient Air Monitoring Network map for the 2025 monitoring year

Understanding the Data

This annual report contains quality-assured data collected through calendar year 2025. The data summarizes criteria pollutant averages represented as statewide trends, as well as 2025 **design values** for each air monitoring site. A design value is a calculated metric that is used to determine compliance with a particular National Ambient Air Quality Standard (NAAQS). Design values are calculated in accordance with 40 CFR Part 50 and vary from pollutant to pollutant. For example, lead uses a 3-month rolling average and one of the primary NAAQS for nitrogen dioxide uses an annual average.

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. Trends charts in this report are for reference only and do not demonstrate attainment for any area.

Carbon Monoxide (CO)

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 2025. All Kentucky counties are currently in attainment of the standards.

Carbon Monoxide Design Values

Site	1-Hour Design Value (ppm)	8-Hour Design Value (ppm)
Cannons Lane (LMAPCD)	1.7	1.0
Durrett Lane (LMAPCD)	1.4	0.8

Table 4: Carbon monoxide design values for 2025, measured in parts per million (ppm)

Statewide averages for carbon monoxide (CO) have declined substantially since 1987, primarily due to improved emission controls on motor vehicles. Figure 7 displays the statewide 1-hour and 8-hour averages of the second highest reading of CO from 1995 through 2025, with downward trend lines marked.

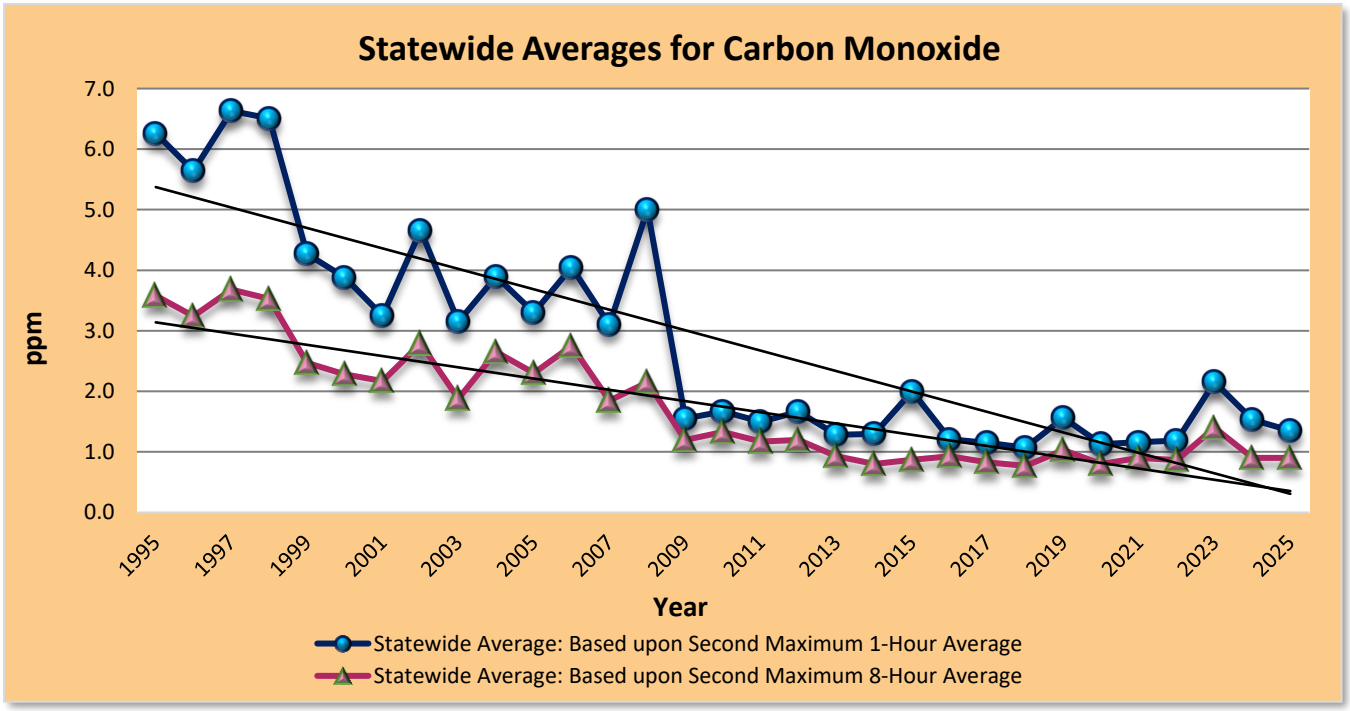


Figure 7: Statewide Averages for carbon monoxide from 1995-2025, measured in parts per million (ppm)

Lead (Pb)

Primary NAAQS: Rolling 3-month average not to exceed 0.15 micrograms per meter cubed (µg/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.

Lead Design Values

Site	1st Max	2nd Max	3rd Max	4th Max	Observations > 0.15	Design Value
EKU	0.02	0.02	0.02	0.02	0	0.09

Table 5: 2025 Top 3-month averages and design values, measured in micrograms per cubic meter

In 2025, the Division operated one lead monitoring site at Eastern Kentucky University. There were several exceedances of the lead NAAQS in 2018; all were related to a compliance issue with a single stationary source. Figure 8 displays the three-month rolling averages for lead from January 2015 – December 2025, measured in micrograms per cubic meter (µg/m^3). Data is shown for two discontinued monitoring sites as well as the current site at EKU.

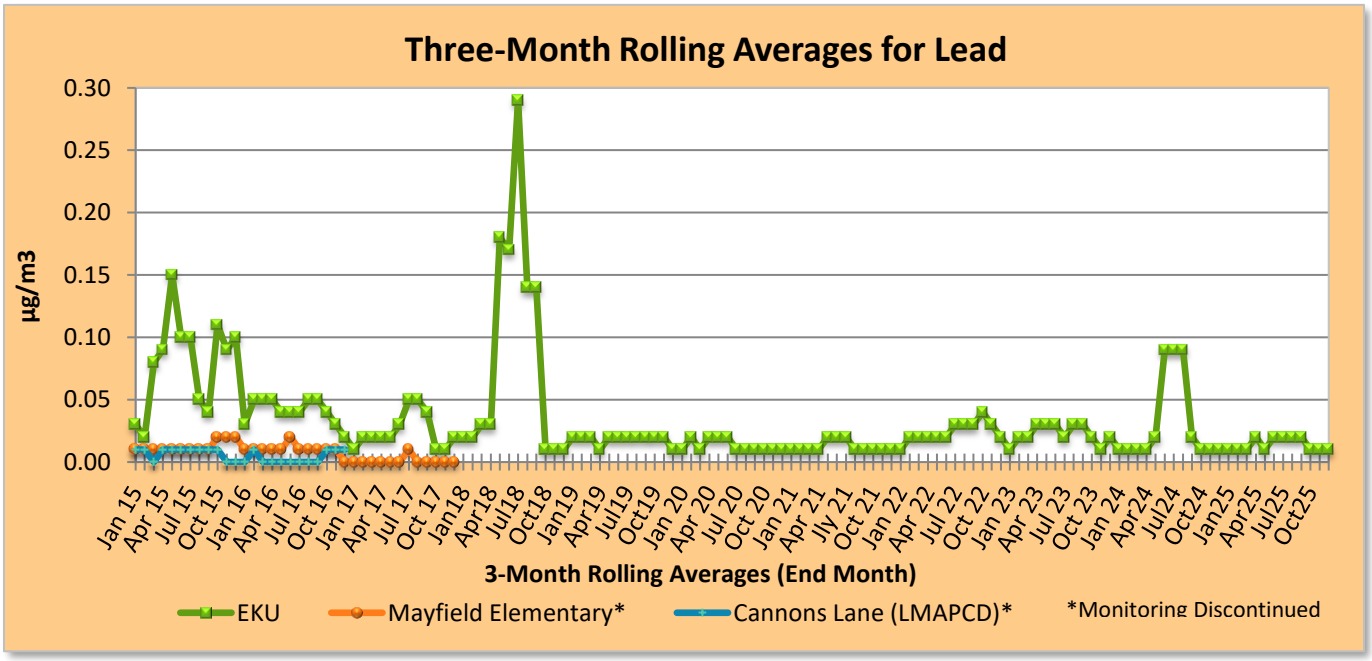


Figure 8: Three-month rolling averages for lead from Jan. 2015 – Dec. 2025, measured in micrograms per cubic meter

Nitrogen Dioxide (NO_2)

Primary NAAQS:
3-year average of the 98th percentile of daily maximum one-hour averages must not exceed 100 parts per billion (ppb)**.** Annual arithmetic mean must not exceed 53 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 (NOx), which include nitrogen dioxide (NO_2) and nitrogen oxide (NO). Major combustion sources that produce NO_2 include motor vehicles, power plants, incinerators, boilers, and chemical processes. NO_2 is also produced through a photochemical reaction between NO and sunlight.

There have been no recorded exceedances of an NO_2 NAAQS since the inception of sampling in 1970. All Kentucky counties are currently in attainment of the standards for nitrogen dioxide.

Nitrogen Dioxide Design Values

County/Site Name	1-Hour Design Value	Annual Design Value
Boyd	29	5
Campbell	24	5
Daviess	25*	5
Fayette	38	7
Cannons Lane (LMAPCD)	39	8
Durrett Lane (LMAPCD)	46	13
McCracken	34	5

*Table 6: Nitrogen dioxide design values for 2025, measured in parts per billion. * Data does not meet design value validity*

Statewide averages for nitrogen dioxide (NO_2) have declined substantially since the 1990s. Figure 9 displays the statewide 1-hour and annual averages of NO_2 from 1995 through 2025, with downward trend lines marked.

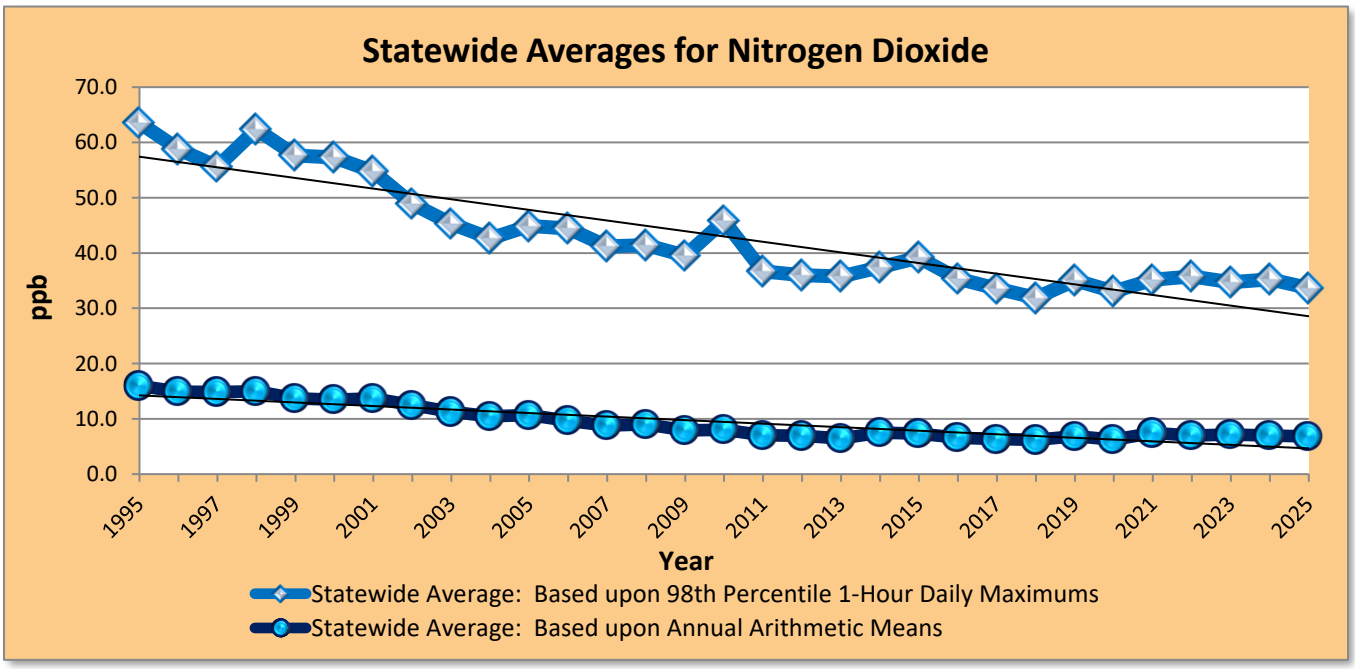


Figure 9: Statewide averages for NO_2 from 1995-2025, measured in parts per billion

Ozone (O_3)

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.

Ozone's chemistry makes it more likely to form during warm, sunny weather. Vehicle and factory emissions, open burning, and wildfire smoke are some of the largest sources of NOx and VOCs, which contribute to ozone formation.

In 2025, eight sites measured 8-hour ozone concentrations greater than 0.070 ppm. The fourth highest daily maximum 8-hour ozone concentration was above the standard at three Kentucky sites. A valid 2023-2025 3-year average (design value) was at or below the level of the standard for all Kentucky sites except for the Cannons Lane and Carrithers Middle School sites in Jefferson County.

Ozone Design Values

County/Site Name	Design Value
Algonquin (LMAPCD)	0.070
Bell	0.059
Boone	0.070
Boyd	0.064
Bullitt	0.068
Campbell	0.069
Cannons Lane (LMAPCD)	0.073
Carrithers Middle School (LMAPCD)	0.071
Carter	0.059
Christian	0.065
Daviess	0.067*
Edmonson (NPS)	0.064
Fayette	0.064
Greenup	0.059
Hancock	0.066
Hardin	0.063*
Jessamine	0.065
Livingston	0.064
McCracken	0.064
Morgan	0.060
Oldham	0.069
Perry	0.057
Pike	0.057
Pulaski	0.058
Simpson	0.066
Warren	0.062
Washington	0.064
Watson Lane (LMAPCD)	0.068

*Table 7: Ozone design values for 2025, measured in parts per million (LMAPCD = Louisville Metro Air Pollution Control District) *Data does not meet DV validity*

Figure 10 on the following page displays the statewide averages of ozone from 1995-2025, measured in parts per million. Though statewide ozone averages have varied from year to year, the overall trend is downward.

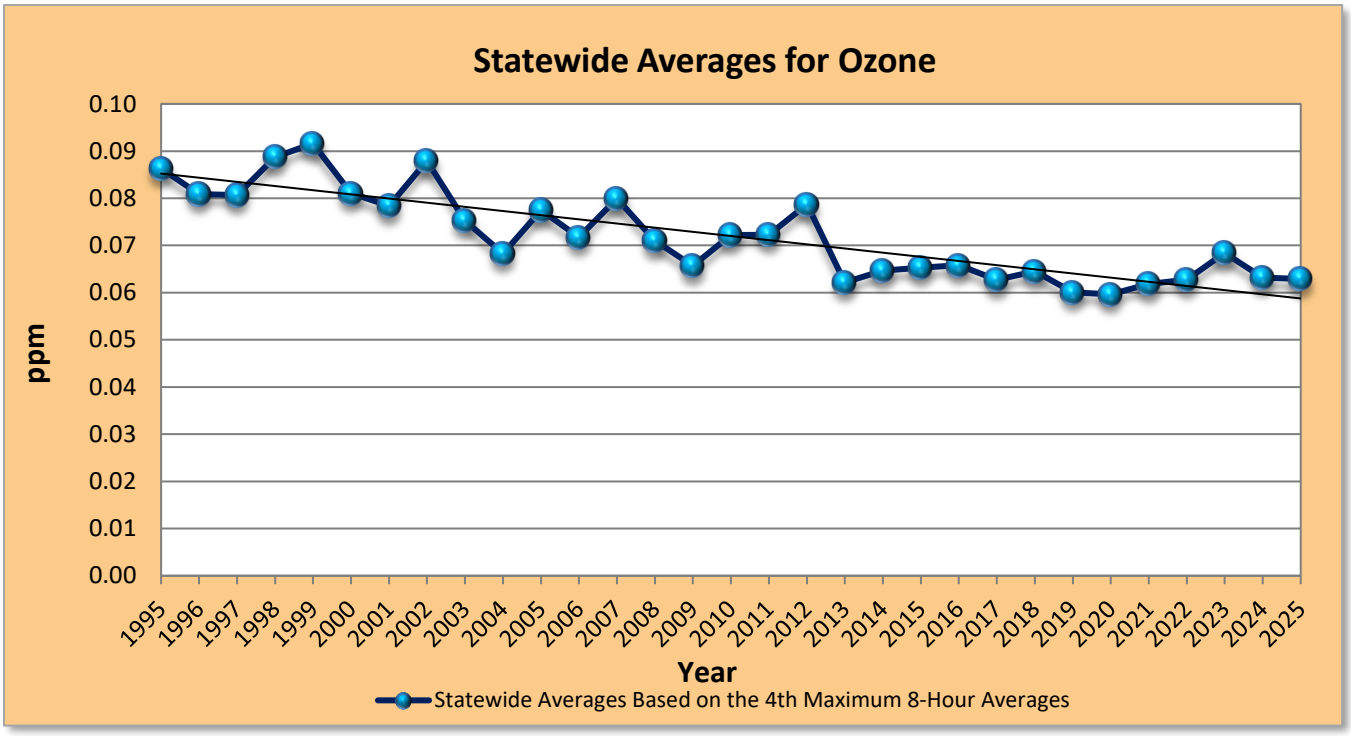


Figure 10: Statewide averages for ozone from 1995-2025, measured in parts per million

Fine Particulate Matter ($PM_{2.5}$)

Primary NAAQS: 3-year average of the annual weighted mean not to exceed 9.0 micrograms per meter cubed ($\mu g/m^3$); 3-year average of the 98th percentile of 24-hour concentrations not to exceed 35 $\mu g/m^3$

Secondary NAAQS: 3-year average of the annual weighted mean not to exceed 15.0 $\mu g/m^3$; 3-year average of the 98th percentile of 24-hour concentrations not to exceed 35 $\mu g/m^3$

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 2023 - 2025 averaging period. All Kentucky counties are currently in attainment for the $PM_{2.5}$ standards.

Figure 11 on the following page displays the statewide annual and 24-hour averages of fine particulate matter from 2005 to 2025, measured in micrograms per cubic meter. The uptick of $PM_{2.5}$ levels in 2023 was partially influenced by several Canadian wildfire smoke events.

Fine Particulate Matter Design Values

County/Site	Annual Design Value	24-Hour Design Value
Bell	8.5	21
Boyd	7.2	19
Campbell	7.2	19
Carter	5.9	16
Christian	7.7	18
Daviess	8.5*	22*
Fayette	7.2*	19*
Hardin	7.1*	20*
Jessamine	6.6*	16*
Algonquin Parkway (LMAPCD)	8.7	22
Cannons Lane (LMAPCD)	7.9	22
Carrithers Middle School (LMAPCD)	8.1	22
Durrett Lane (LMAPCD)	8.8	23
Watson Lane (LMAPCD)	8.7	22
McCracken	7.5*	18*
Perry	7.3	20
Pike	6.3	18
Pulaski	7.1	17
Warren	6.9	18

Table 8: Fine particulate matter ($PM_{2.5}$) design values for 2025, measured in micrograms per cubic meter(µg/m³) (LMAPCD = Louisville Metro Air Pollution Control District).
** Data does not meet DV validity*

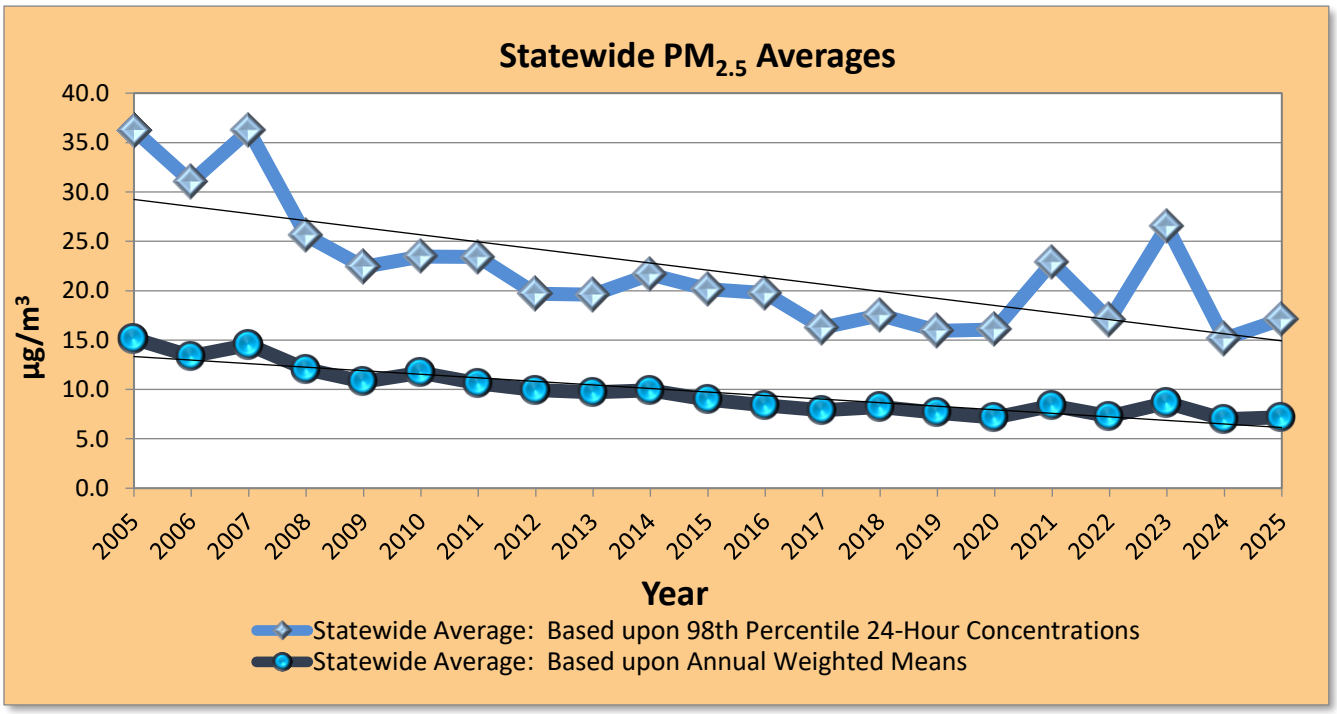


Figure 11: Statewide $PM_{2.5}$ averages from 2005-2025, measured in micrograms per cubic meter

Course Particulate Matter (PM_{10})

Primary NAAQS: Expected number of days with a maximum 24-hour concentration greater than 150 micrograms per meter cubed ($\mu g/m^3$) 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 PM_{10}. Common sources of PM_{10} are prescribed fires, construction activities, agricultural practices, metal recycling, and smokestacks.

There were no exceedances of the annual PM_{10} standard in 2025. 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 PM_{10} standards.

Coarse Particulate Matter Design Values

Monitoring Site	1st Max	2nd Max	3rd Max	4th Max	Estimated Exceedance (Design Value)
Boyd	52	49	42	37	0
Carter	21	19	16	15	0
Fayette	26	25	25	24	0
Algonquin Parkway (LMAPCD)	82	75	72	67	0
Cannons Lane (LMAPCD)	35	33	31	31	0

Table 9: PM_{10} maximum 24-hour concentrations and design values for 2025, measured in micrograms per cubic meter

Figure 12 displays the statewide average of the annual maximum 24-hour concentration for PM_{10} from 2005-2025, measured in $\mu g/m^3$ (micrograms per cubic meter). The average is calculated using the first maximum PM_{10} measurement at each monitoring location.

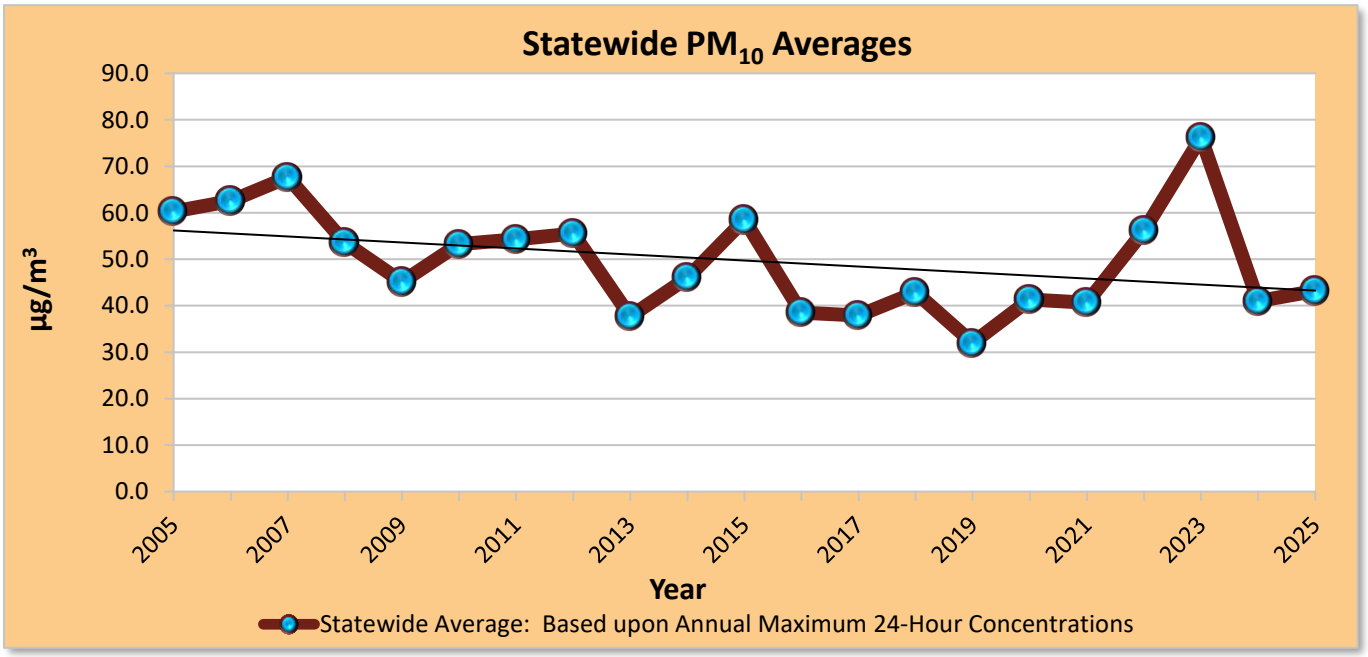


Figure 12: Statewide PM_{10} averages, 2005-2025

Sulfur Dioxide (SO_2)

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

Secondary NAAQS: 3-year average of the annual mean, not to exceed 10 ppb

Sulfur dioxide (SO2) is a colorless gas that has a pungent odor at concentrations exceeding 0.5 ppm. SO_2 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 SO_2.

During 2025, one site recorded 3 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.

Sulfur Dioxide Design Values

County	Design Value
Boyd	5
Campbell	6
Daviess	9*
Edmondson (NPS)	2*
Fayette	3
Greenup	6
Henderson	81

County	Design Value
Algonquin (LMAPCD)	6*
Cannons Lane (LMAPCD)	9
Watson Lane (LMAPCD)	18
Jessamine	5
McCracken	11

*Table 10: Sulfur dioxide (SO_2) design values for 2025, measured in parts per billion. NPS=National Park Service; LMAPCD=Louisville Metro Air Pollution Control District; Data marked with * do not meet design value criteria.*

Figure 13 on the following page displays the annual statewide averages for sulfur dioxide from 1995 to 2025, measured in parts-per-billion (ppb). The dramatic decline of sulfur dioxide levels is one of Kentucky's biggest air quality success stories. Emission controls on coal-fired power plants, as well as the trading allowances in the federal Acid Rain Program have directly contributed to the decline in ambient SO_2 concentrations across the region.



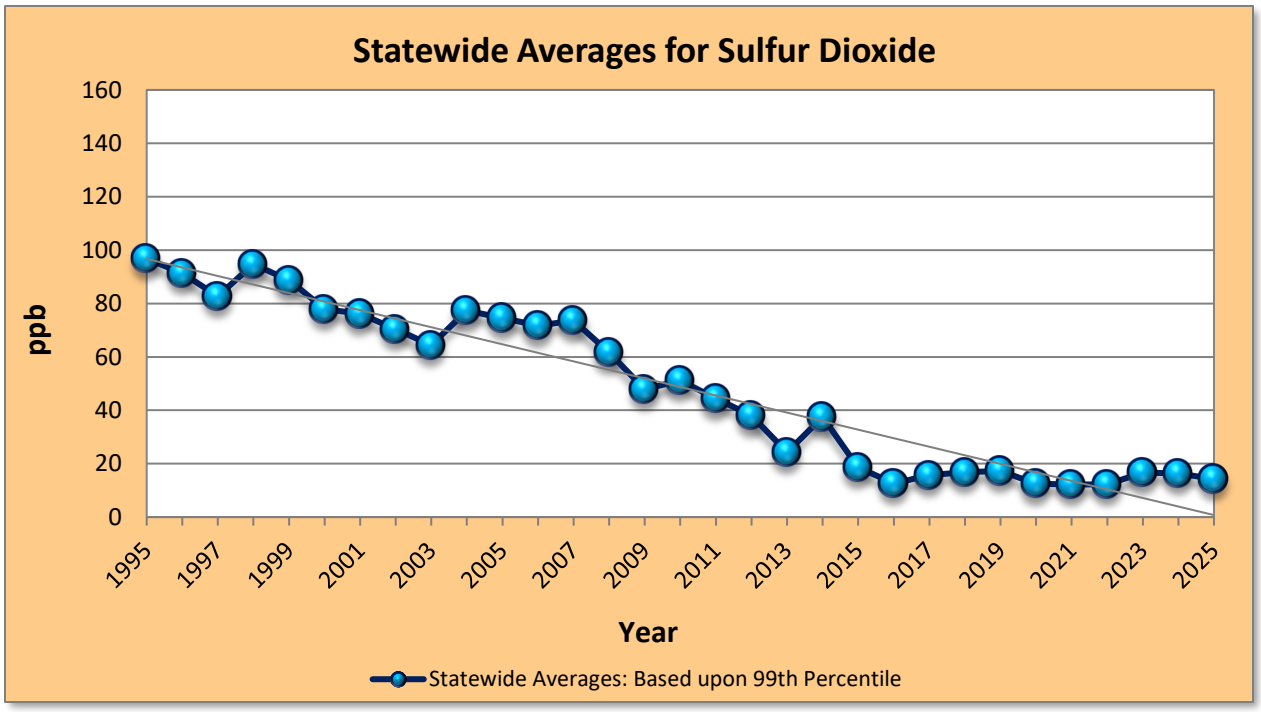


Figure 13: Statewide SO_2 averages from 1995-2025, measured in parts per billion (ppb)

APPENDIX A: The National Ambient Air Quality Standards

The Clean Air Act requires EPA to set standards for six criteria air pollutants to protect public health (Primary Standard) and welfare (Secondary Standard). "Welfare" includes damage to plants and animals, impairment of visibility, and property damage.

Carbon Monoxide	**Primary Standard**	**Secondary Standard**
8-Hour Average	9 ppm	None
1-Hour Average	35 ppm	None
Lead	**Primary Standard**	**Secondary Standard**
Rolling Three-Month Average	0.15 μ/m^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 (PM_{10})	**Primary Standard**	**Secondary Standard**
24-Hour Average	150 μ/m^3	Same as Primary
Particulate Matter ($PM_{2.5}$)	**Primary Standard**	**Secondary Standard**
Annual Average	9 μ/m^3	15 μ/m^3
24-Hour Average	35 μ/m^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	10 ppb, annual mean averaged over 3 years

Figure 14: The National Ambient Air Quality Standards

Glossary

Asbestos Hazard Emergency Response Act (AHERA): This act requires schools to inventory their asbestos materials and document strategies for dealing with these materials.

Ambient air quality: The level of pollution in the air outside.

Attainment: When an area meets the national air quality standard set by the federal EPA for a particular pollutant.

Clean Air Act: Federal clean air program established by Congress in 1963.

Class I Area: Areas of special natural, scenic, or historic importance are known as "Class 1 Areas," and are protected to maintain long distance, panoramic views.

Criteria Pollutant: A regulated air pollutant subject to National Ambient Air Quality Standards (NAAQS). Currently, there are six criteria pollutants under the Clean Air Act: Carbon monoxide, lead, ozone, particulate matter, nitrogen oxides and sulfur dioxide.

Emissions Inventory: A list of sources of air contaminants, containing for each source the amount of each contaminant emitted.

Exceedance (of NAAQS): One occurrence of a measured or modeled concentration that exceeds the specified concentration level of a National Ambient Air Quality Standard (NAAQS) for the averaging period specified by that standard.

Fugitive Emissions: Emissions of air pollutants from nonpoint sources into the open air. The most common form of fugitive emissions is dust from gravel quarries, construction sites, unpaved roadways, grain bins, and open fields.

Hazardous Air Pollutant (HAP): Any pollutant listed in Subsection B of Section 112 of the Clean Air Act.

Inspection: A scheduled determination of compliance with an existing regulation.

Investigation: A complaint driven determination of compliance with an existing regulation.

Major Source: A stationary source that emits and has the potential to emit 100 tons per year or more of a regulated air pollutant.

Minor Source: A stationary source that emits and has the potential to emit less than the major source threshold.

Mobile Source: A *moving*, non-stationary source of air pollutants, such as motor vehicles, ships, airplanes, construction equipment, etc.

National Ambient Air Quality Standards (NAAQS): Standards established by the United States Environmental Protection Agency (EPA) under authority of the Clean Air Act that apply for outdoor air throughout the country.

National Emissions Standards for Hazardous Air Pollutants (NESHAP): With respect to asbestos, NESHAP governs renovation and demolition activities and requires safe handling, removal (when applicable), and disposal of asbestos from facilities (everything except for single private homes).

Nonattainment: A designation applied by EPA to an area does not meet the National Ambient Air Quality Standard set by the U.S. EPA for a particular pollutant.

Notification: Required reporting by facilities of regulated activities. For example, facilities are required to notify the Division for Air Quality of certain air emission releases or upcoming asbestos disturbance (removal/demolition activities).

Primary Standard: A National Ambient Air Quality Standard which establishes limits on specific criteria pollutants to protect public health, including the health of sensitive populations such as children, asthmatics, and the elderly.

Promulgate: To officially announce, publish, make known to the public; to formally announce a statute or decision by the court.

Secondary Standard: A National Ambient Air Quality Standard which establishes limits on specific criteria pollutants to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

Stationary Source: An emission source that does not move, also known as a point source. Stationary sources include factories, power plants, cement plants, and quarries.

Synthetic Minor: A facility that has a Potential to Emit (PTE) that could exceed major Title V thresholds, but they have agreed to control emissions below major threshold. Synthetic minors include conditional major facilities.

Title V: Any source that has the PTE of greater than 100 tons per year of criteria pollutants or 10/25 tons per year of a single HAP or any combined HAP.

Toxic Air Pollutant: A subset of the pollutants listed as Hazardous Air Pollutants by the U.S. EPA.



DIVISION FOR AIR QUALITY

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