



**Kentucky
Resources
Council**



**SIERRA
CLUB**

February 03, 2025

Jeaneanne Gettle
Regional Administrator
US EPA, Region 4

Via Regulations.gov

RE: Air Quality Designations; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment; Docket ID EPA-R04-OAR-2022-0789; Proposal at 90 Fed. Reg. 294 (Jan. 03, 2024)

Dear Ms. Jeaneanne Gettle:

Below, please find the comments of Kentucky Resources Council, Inc. and Sierra Club (together, “public interest commenters”) on Air Quality Designations; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment; Docket ID EPA-R04-OAR-2022-0789; Proposal at 90 Fed. Reg. 294 (Jan. 03, 2024).

Kentucky Resources Council is a statewide public-interest environmental law and advocacy organization. We work to protect Kentucky’s natural resources, promote policies for healthy communities, and assure that those who pollute our land, air, or water are held to account. Our members and constituents live and work—and their children play and attend school—in areas potentially impacted by this action. We hope you will take into consideration the comments below during your evaluation.

Sierra Club is a national nonprofit organization with 67 chapters and approximately 628,400 members—including over 5,100 in Kentucky—dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth’s ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club has long participated in State Implementation Plan rulemakings and litigation across the country to advocate for public health.

COMMENTS

I. Introduction & Background

In 2015, EPA updated the National Ambient Air Quality Standard (NAAQS) for ozone to 0.070 parts per million (ppm) based on the fourth-highest daily maximum 8-hour concentration, averaged across three consecutive years.¹ NAAQS are intended to be health-based standards designed to protect public welfare by limiting exposure to harmful concentrations of specific air pollutants. The Louisville KY-IN area, including Jefferson, Oldham, and Bullitt Counties in Kentucky and Clark and Floyd Counties in Indiana, were designated marginal nonattainment as part of EPA's initial designation process.² In 2022, both Indiana and Kentucky submitted requests to redesignate their respective portions of the area to attainment based on 2019-2021 monitoring data.³ The Indiana request was approved in July 2022,⁴ and EPA proposed approving the request from Kentucky in April 2023.⁵ The Kentucky request was not approved, and in January 2025 EPA proposed to deny the request based on more recent monitoring data.⁶

Redesignations are guided by Section 107(d)(3)(E) of the Clean Air Act, which requires the following elements each be met: (1) attainment of the applicable NAAQS; (2) approval of the applicable state implementation plan; (3) improvement in air quality due to permanent and enforceable reductions in emissions; (4) a fully approved a maintenance plan; and (5) the state has met all requirements applicable to the area.⁷

¹ EPA, *National Ambient Air Quality Standards for Ozone*, 80 Fed. Reg. 65,292 (Oct. 26, 2015).

² EPA, *Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards*, 83 Fed. Reg. 25,776 (Jun. 04, 2018).

³ EPA, *Air Plan Approval; Indiana; Redesignation of the Indiana Portion of the Louisville, Indiana-Kentucky Area to Attainment of the 2015 Ozone Standards*, 87 Fed. Reg. 39,750 (July 05, 2022); EPA, *Air Plan Approval and Air Quality Designation; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment*, 88 Fed. Reg. 23,598 (Apr. 18, 2023).

⁴ EPA, *Air Plan Approval; Indiana; Redesignation of the Indiana Portion of the Louisville, Indiana-Kentucky Area to Attainment of the 2015 Ozone Standards*, 87 Fed. Reg. 39,750 (July 05, 2022).

⁵ EPA, *Air Plan Approval and Air Quality Designation; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment*, 88 Fed. Reg. 23,598 (Apr. 18, 2023)

⁶ *Air Quality Designations; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment*; Docket ID EPA-R04-OAR-2022-0789; Proposal at 90 Fed. Reg. 294 (Jan. 03, 2024) ("Proposed Denial").

⁷ 42 U.S.C. § 7407(d)(3)(E).

II. EPA’s proposal to deny redesignation is sound and legally well-supported.

In its proposed denial, EPA correctly lays out the criteria for redesignation, and amply supports its interpretation of attainment as requiring *continuing* attainment.⁸

The first criterion for redesignation, attainment of the NAAQS, logically requires continuing attainment, not simply instantaneous attainment at a given date. As detailed in the Proposed Denial, this has also been the consistent interpretation by EPA, and has been supported by the courts, including in a previous challenge by the Commonwealth of Kentucky.⁹ EPA specifically noted in its original proposed approval of the redesignation request that it would “not take final action to approve the redesignation of the Kentucky portion of the Louisville KY-IN Area if the 3-year design value exceeds the NAAQS prior to EPA finalizing the redesignation.”¹⁰ Under the Clean Air Act, EPA may also redesignate an area as nonattainment *at any time* if data supports it.¹¹ That EPA could now redesignate the area as nonattainment based on the most recent data if it had been designated attainment further supports the interpretation of the criteria by EPA as requiring continuing attainment.

III. Additional monitoring data further supports EPA’s proposal.

EPA properly proposes denying the request to redesignate the area based on the most recent complete, quality-assured three-year data. However, based on both previous data and more recent data it is apparent that the improvement in air quality from 2019-2021 was temporary, rather than the result of permanent and enforceable reductions in emissions, as required by the third criteria for redesignation to attainment.

More recent data supports the denial, showing that the design value for the area is now likely even higher, and in fact is at a higher level than when the area was designated nonattainment seven years ago. Data for 2024 shows that the area exceeded the NAAQS 28 times on 13 days across the area last year. The 4th maximum observed value at the design value monitor, the Cannons Lane site, was 0.080 ppm last

⁸ Proposed Denial at 23,599-23,600.

⁹ Proposed Denial at 295; *Kentucky v. United States EPA*, NO. 96-4274, 1998 U.S. App. LEXIS 21686, at *7-10 (6th Cir. Sep. 2, 1998).

¹⁰ US EPA, *Air Plan Approval and Air Quality Designation; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment*, 88 Fed. Reg. 23,598, 23,601 (Apr. 18, 2023).

¹¹ § 107(d)(3)(A) (42 U.S.C. § 7407(d)(3)(A)); *see also Wis. Elec. Power Co. v. Costle*, 715 F.2d 323, 325 (7th Cir. 1983) (denying petition for review of redesignation of Milwaukee, Wisconsin area from attainment to nonattainment based on running average showing violation of NAAQS);

year, and the three-year average design value for 2022-2024 is 0.075 ppm.¹² This is higher than the level EPA noted in support of the original nonattainment designation for the area.¹³

Previous data also shows that the area was only attaining the NAAQS at the time of the request based on the EPA's use of the unconventional mathematical approach of truncating monitored averages rather than rounding. As Sierra Club pointed out in its comments on the proposed approval of Kentucky's request, by the time of that proposal, the most recent one-year fourth maximum monitored 8-hour average ozone level was 0.072 ppm, over the NAAQS of 0.070. The most recent three-year average was 0.07067 ppm, also over the NAAQS if one were to use the ordinary mathematical approach of rounding to the nearest significant digit.¹⁴ It also remains clear, as pointed out in Sierra Club's comments that:

[t]he three-year period used to justify the Louisville Area's designation does not represent a permanent, much less enforceable, reduction in emissions leading to air quality improvement. Instead, the 2019-2021 period is anomalous—particularly the outlier year 2019, in which all monitors decreased from the preceding year..... [T]he fact of the pandemic, the upswing in 2022, the knowledge that warmer temperatures are on the horizon all show a lack of a permanent and enforceable reduction in emissions.¹⁵

EPA should use the most recent data available to support its final determination in this proposal, which continues to support denial of the request to redesignate. Furthermore, even if looking at the data included in the original proposal, it continues

¹² Louisville Metro Air Pollution Control District Air Quality Report (Dec. 2024) at PDF 4-5, attached and fully incorporated to these comments.

¹³ EPA, *Louisville, KY-IN Nonattainment Area Final Area Designation for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document (TSD)* at 8, available at https://www.epa.gov/sites/default/files/2018-05/documents/ky_in_louisville_tsd_final.pdf; see also, EPA, *Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards*, 83 Fed. Reg. 25,776, 25,779 (Jun. 04, 2018). According to data from EPA's Air Quality System (AQS), the Commonwealth has flagged certain days in 2023 as including "exceptional events." Although it does not appear that EPA has "concurred" in excluding those events at this time, even if they were excluded the area's three year design value for 2022 to 2024 would still be 0.0737 ppm, or 0.073 ppm when truncated, still in exceedance of the NAAQS.

¹⁴ Comment of Sierra Club re: Air Plan Approval and Air Quality Designation; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area (May 18, 2023), Docket ID EPA-R04-OAR-2022-0789-0012.

¹⁵ *Id.* at 11-12

to be clear based on the full picture that the temporary dip in ozone levels was not the result of permanent and enforceable reductions. The hard data that Kentucky provided to justify attainment backs up this conclusion, showing minimal decreases in emissions between the nonattainment and attainment years.

Thank you for your consideration of these comments. Kentucky Resources Council and Sierra Club have worked for many years to protect Kentuckians from the harmful effects of air pollution. Based on air quality data and sound science, our organizations urge EPA to finalize its denial of Kentucky's request to redesignate areas within the state as in attainment for the 8-hour ozone NAAQS.

Sincerely,

/s/ Ashley Wilmes
Ashley Wilmes, Esq.
Executive Director
Kentucky Resources Council

/s/ Nathaniel Shoaff
Nathaniel Shoaff
Senior Attorney
Sierra Club

Public Interest Commenters' Attachment A:

Louisville Metro Air Pollution Control District Air Quality Report (Dec. 2024)

Louisville Metro Air Pollution Control District PM_{2.5} Monitoring Report December 2024

This report summarizes PM_{2.5} data collected by Federal Reference Method (FRM) and Federal Equivalent Method (FEM) instruments. Measurements are reported as 24-hour averages in micro-grams per cubic meter (µg/m³). The data are subject to further quality assurance checks and are not final.

PM_{2.5} Monthly Data Summary for November 2024

Site Name	Maximum		Minimum		Sample Recovery	Monthly Average
	Conc.	Date	Conc.	Date		
Algonquin Parkway	13.1	11/18/24	2.6	11/21/24	100.0%	7.1
Durrett Lane	12.6	11/18/24	2.4	11/21/24	100.0%	7.2
Cannons Lane	10.8	11/28/24	2.3	11/21/24	100.0%	6.1
Carrithers	12.4	11/28/24	2.6	11/21/24	100.0%	6.6
Watson Lane	14.1	11/2/24	2.2	11/21/24	93.3%	7.8
Jeffersonville, IN	11.6	11/28/24	2.8	11/21/24	100.0%	7.0
New Albany, IN	12.3	11/18/24	2.6	11/1/24	60.0%	8.2
Overall	14.1	11/2/24	2.2	11/21/24	93.3%	7.1

PM_{2.5} Monthly Averages Tracking Table for 2015-2024

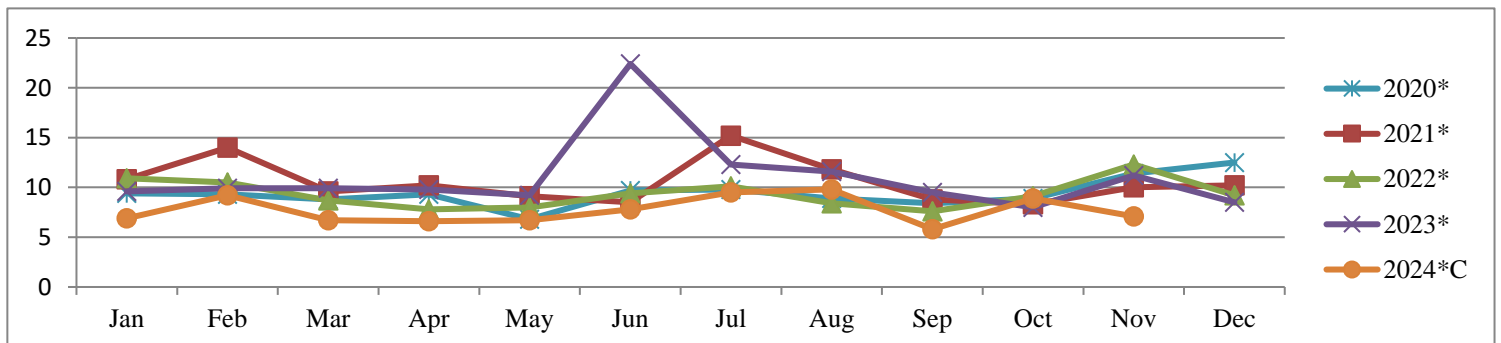
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Months >Annual Standard
2015**	10.9	11.0	11.3	6.9	10.2	10.1	13.1	10.0	9.7	7.5	8.5	7.7	1
2016**	8.9	9.5	6.4	7.1	7.1	8.5	7.4	8.9	9.3	8.1	11.3	9.3	0
2017**	7.7	8.1	6.6	5.8	7.2	6.7	11.3	9.3	8.5	6.8	10.5	10.7	0
2018**	9.7	9.6	8.4	6.5	11.0	10.4	11.9	11.7	7.2	7.1	12.9	11.0	1
2019*	11	11.0	11.1	8.2	9.6	8.2	10.6	8.8	10.4	8.2	11.4	12.0	0
2020*	9.4	9.3	8.8	9.3	6.8	9.7	9.8	8.9	8.4	8.9	11.4	12.5	1
2021*	10.8	14.0	9.6	10.2	9.1	8.5	15.2	11.8	8.8	8.3	10.0	10.2	2
2022*	10.9	10.5	8.7	7.8	8.0	9.4	10.1	8.4	7.6	9.1	12.3	9.2	1
2023*	9.6	9.9	9.9	9.8	9.2	22.4	12.3	11.6	9.5	8.0	11.2	8.5	2
2024* ^C	6.9	9.2	6.7	6.6	6.7	7.8	9.5	9.8	5.8	8.9	7.1		2
Average	9.6	10.2	8.8	7.8	10.3	10.2	11.1	9.9	8.5	8.1	10.7	10.1	

** Data from FRM Instruments

* Data from continuous FEM Instruments

^C Updated Algorithm Applied (Dec 2023)

PM_{2.5} Monthly Averages 5-Year Trend



National Ambient Air Quality Standard for PM_{2.5} - Annual Standard:

The annual standard is designed to provide an appropriate level of protection from long-term exposure to PM_{2.5}. On February 7, 2024, the EPA strengthened the annual PM_{2.5} NAAQS from 12.0 µg/m³ to 9.0 µg/m³ and the final rule establishing this new standard became effective on May 6, 2024. The annual design value is calculated by averaging the annual means of 3 consecutive complete years of air quality data. The table below compares data collected from 2018 through year-to-date 2024 to the PM_{2.5} annual standard.

PM_{2.5} Annual Means and Annual Design Values *

Site Name	Annual Means µg/m ³							Annual Design Values				
	2018	2019	2020	2021	2022	2023	2024	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Algonquin	9.6	9.1	8.1	9.0	7.9	9.6	7.9	8.9	8.7	8.3	8.8	8.5
Durrett Lane	10.1	9.6	8.8	9.9	8.4	10.2	7.9	9.5	9.4	9.0	9.5	8.8
Cannons Lane	8.9	8.4	7.9	8.7	7.3	9.1	7.2	8.4	8.3	8.0	8.4	7.9
Carrithers	NA	8.4	7.9	8.8	7.9	9.5	7.3	8.2	8.4	8.2	8.7	8.2
Watson Lane	10.3	9.1	8.8	9.4	8.5	9.9	8.0	9.4	9.1	8.9	9.3	8.8
Jeffersonville	9.2	8.5	8.8	9.9	9.1	10.5	8.4	8.8	9.1	9.3	9.8	9.3
New Albany	NA	NA	NA	NA	NA	8.4	6.5	NA	NA	NA	8.4	7.4

Bold: Design value for Louisville

* Design Values have been updated and back-corrected using the new T640 algorithm

National Ambient Air Quality Standard for PM_{2.5} - 24-Hour (Daily) Standard:

The 24-hour standard is designed to provide an appropriate level of protection from short-term exposure to PM_{2.5}. The standard is met when the 24-hour design value is less than or equal to 35 µg/m³. The design value is calculated by determining the 98th percentile of daily 24-hour averages for each year and then averaging the annual 98th percentile over 3 consecutive years. The table below compares data collected from 2018 through

PM_{2.5} Annual 98th Percentiles and 24-Hour Design Values *

Site Name	Annual 98 th Percentile Value µg/m ³							24-Hour Design Values				
	2018	2019	2020	2021	2022	2023	2024	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Algonquin	20.9	20.1	16.9	24.6	17.2	29.8	16.3	19.3	20.5	19.6	23.9	21.1
Durrett Lane	24.7	22.4	21.4	26.8	20.2	30.4	16.1	22.8	23.5	22.8	25.8	22.2
Cannons Lane	20.3	18.5	18.6	24.4	18.2	29.9	16.5	19.1	20.5	20.4	24.2	21.5
Carrithers	NA	19.1	17.8	25.9	19.8	32.3	15.4	18.5	20.9	21.2	26.0	22.5
Watson Lane	24.3	20.5	20.4	25.3	20.2	28.9	16.8	21.7	22.1	22.0	24.8	22.0
Jeffersonville	25.5	18.3	20.7	24.7	21.5	30.1	18.4	21.5	21.2	22.3	25.4	23.3
New Albany	NA	NA	NA	NA	NA	26.3	13.1	NA	NA	NA	26.3	19.7

Bold: Design value for Louisville

* Design Values have been updated and back-corrected using the new T640 algorithm

Louisville Metro Air Pollution Control District
8-Hour Ozone Monitoring Report
December 2024

This report summarizes ozone data collected by Automated Equivalent Method (AEM) ozone analyzers located within the Louisville Metropolitan Statistical Area. Measurements are reported as 8-hour averages in parts-per-billion (ppb). The data are subject to further quality assurance checks and are not final.

2024 8-Hour Ozone Maximum Values and Exceedances through October 31st

Date	# of 8-Hour Exceeds	# of Days Exceeds	Charlestown Clark County IN	New Albany Floyd County IN	Carrithers Jefferson County KY	Watson Lane Jefferson County KY	Cannons Lane Jefferson County KY	Algonquin Parkway Jefferson County KY	Buckner Oldham County KY	Shepherdsville Bullitt County KY
04/15/24	0	0	60.5	55.8	58.2	50.0	60.0	51.2	62.8	54.6
05/19/24	0	0	54.6	57.5	58.8	69.1	60.3	61.0	56.8	65.7
05/20/24	0	0	66.1	56.5	59.7	53.8	61.6	56.7	60.2	59.5
06/12/24	5	1	74.5	87.8	68.6	66.1	86.8	88.1	64.5	72.0
06/13/24	1	1	73.5	59.6	64.1	55.3	66.5	61.8	68.1	61.6
06/16/24	0	0	NA	65.8	54.5	52.1	60.0	63.0	58.5	58.0
06/20/24	2	1	64.1	64.0	70.7	70.0	83.7	81.0	56.3	56.5
06/21/24	1	1	61.1	58.0	71.8	60.8	67.7	60.1	60.0	70.8
07/07/24	1	1	56.5	61.2	58.0	63.6	62.2	71.8	52.0	59.5
07/08/24	3	1	66.2	58.3	73.0	53.7	72.3	60.7	81.7	51.6
07/20/24	0	0	56.2	55.8	55.6	66.3	58.0	61.2	58.1	56.3
07/25/24	0	0	50.3	52.6	58.6	NA	55.8	54.8	51.6	66.7
07/26/24	0	0	60.3	60.6	62.8	70.0	64.7	64.5	62.2	64.1
08/04/24	0	0	52.7	51.3	57.1	55.5	68.8	59.7	54.7	62.1
08/05/24	2	1	55.3	51.0	82.3	52.7	80.1	52.5	58.7	67.1
08/06/24	2	1	69.0	63.7	73.8	53.6	66.5	61.1	72.6	51.1
08/14/24	0	0	54.6	62.8	NA	59.0	58.3	68.5	52.7	56.2
08/26/24	3	1	85.1	60.5	69.8	55.8	82.2	61.1	71.6	58.1
08/27/24	2	1	70.1	59.5	67.3	54.5	75.8	58.6	77.1	56.3
08/28/24	1	1	70.0	63.0	73.8	60.8	70.2	62.3	69.1	64.7
08/29/24	4	1	73.5	65.7	75.0	60.1	74.2	66.2	71.2	65.1
09/04/24	1	1	67.3	67.3	65.1	46.5	73.3	69.7	59.1	54.1
10/05/24	0	0	NA	62.0	61.7	60.2	63.1	62.6	64.0	56.7
Exceeds	28	13	4	1	6	0	8	3	5	1
Truncated 4th Maximum			73	65	73	66	80	69	71	66

Values in **BOLD/RED** exceed the level of the 2015 ozone standard of 70 ppb (parts-per-billion).

This standard applies to air monitoring data beginning with the 2016 ozone season.

NA - Indicates data were not available.

8-Hour Ozone Exceedances:

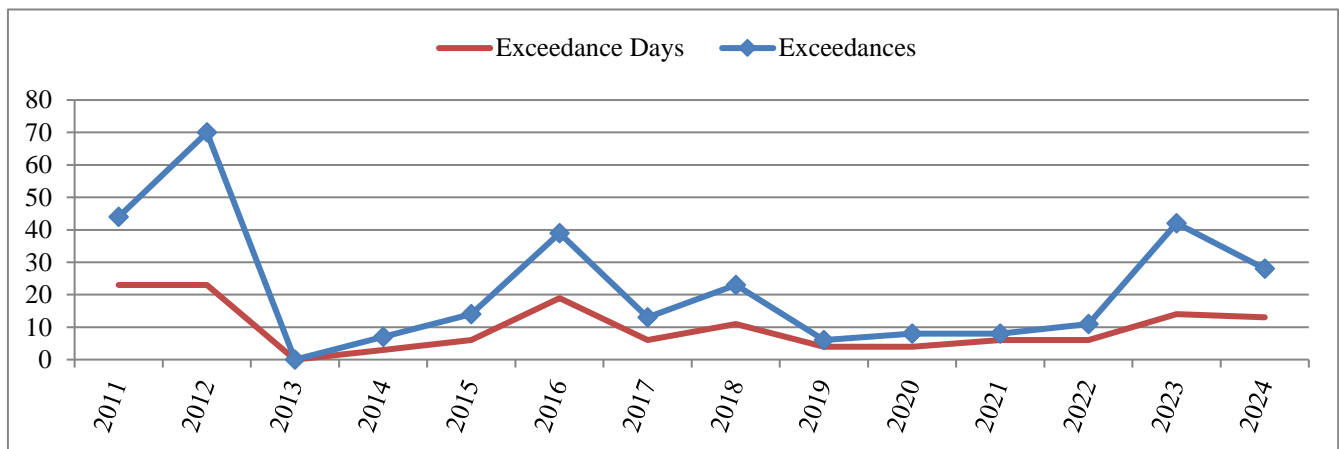
The National Ambient Air Quality Standard for ozone is measured as an 8-hour average. An ozone exceedance occurs when the highest 8-hour average for each day is greater than the NAAQS. The NAAQS was lowered from 80 ppb to 75 ppb in 2007 and from 75 ppb to 70 ppb in 2016. The data below list the number of exceedances based on the NAAQS at the time the data were collected.

2011-2024 8-Hour Ozone Exceedance Summary through October 31st

Year	CT	NA	B&C	WL	CL	AP	Buck	Shep	Louisville MSA Total		Jefferson County Total	
									Exceedances	Days	Exceedances	Days
2011	6	5	6	5	8		13	1	44	23	19	14
2012	8	13	7	11	13		14	4	70	23	31	17
2013	0	0	0	0	0		0	0	0	0	0	0
2014	1	2	0	2	2		0	0	7	3	4	3
2015	3	0	4	1	4		2	0	14	6	9	5
2016	7	6	5	3	14		3	1	39	19	22	16
2017	1	5	1	1	4		1	0	13	6	6	4
2018	4	5	3	2	6		1	2	23	11	11	8
2019	1	0	2	0	2		1	0	6	4	4	2
2020	0	1	1	1	4		0	1	8	4	6	4
2021	0	0	4	1	1		1	1	8	6	6	5
2022	1	0	1	1	6		2	0	11	6	8	6
2023	5	4	7	5	9	5	1	6	42	14	26	13
2024	4	1	6	0	8	3	5	1	28	13	17	12

* Carrithers replaced Bates in 2018. Data through 2017 are from Bates.

Historical Graph of 8-Hour Ozone Exceedances



Site Abbreviation Decoder		
CT - Charlestown	WL - Watson Lane	Buck - Buckner
NA - New Albany	CL - Cannons Lane	Shep - Shepherdsville
B&C - Bates & Carrithers	AP - Algonquin Parkway	

National Ambient Air Quality Standard for Ozone - 8-Hour Standard:

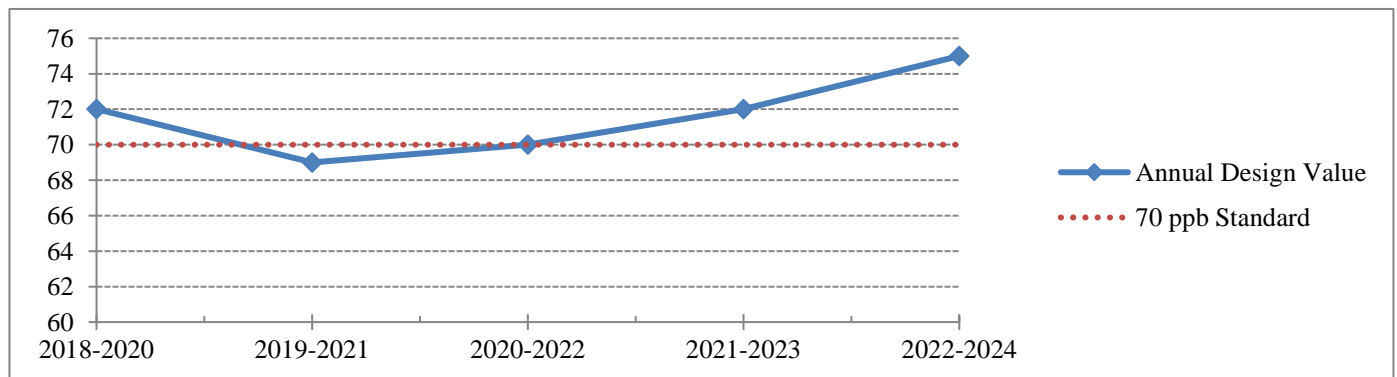
Attainment of the 8-hour standard for ozone at an individual monitor is achieved when the three-year average of the annual fourth-highest daily maximum (4th maximum) 8-hour average ozone concentration is less than 71 ppb. This three-year average is the design value for that monitor. The Louisville MSA row represents the largest 4th maximum and design value* for all monitors within the MSA.

8-Hour Ozone 4th Maximums and Design Values through October 31st

Site Name	4 th Maximums							8-Hour Design Values				
	2018	2019	2020	2021	2022	2023	2024	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Charlestown	71	64	63	63	64	72	73	66	63	63	66	69
New Albany	73	63	66	64	63	71	65	67	64	64	66	66
Carrithers	70	64	68	73	67	72	73	67	68	69	70	70
Watson Lane	69	65	63	67	67	71	66	65	65	65	68	68
Cannons Lane	77	68	71	69	72	75	80	72	69	70	72	75
Algonquin	NA	NA	NA	NA	NA	72	69	NA	NA	NA	NA	
Buckner	69	65	61	65	63	69	71	65	63	63	65	67
Shepherdsville	68	63	65	65	63	74	66	65	64	64	67	67
Louisville MSA	77	68	71	73	72	75	80	72	69	70	72	75

* Design Value calculations are approximations based on preliminary summary data and may differ from official design value calculations

8-Hour Ozone Design Value Trend Chart



**Louisville Metro Air Pollution Control District
Air Monitoring Report for Sulfur Dioxide (SO₂)
December 2024**

On June 2, 2010, EPA strengthened the primary National Ambient Air Quality Standard for SO₂. Specifically, EPA replaced the existing annual (30 ppb) and 24-hour (140 ppb) primary standards with a new 1-hour standard set at 75 ppb. The 1-hour standard was set to better protect public health by reducing exposure to high short-term concentrations of SO₂. The new standard took effect August 23, 2010.

Exceedances of the 1-Hour SO₂ Standard:

An exceedance occurs when a measured 1-hour average is greater than 75 ppb. Since up to twenty-four 1-hour averages are recorded each day, multiple exceedances may occur in one day. However, only the maximum 1-hour average (Daily Max) for each day is used in determining if the area is in compliance with the standard. The table below indicates the number of exceedances and the daily maximums reported thus far this year. The data are subject to further quality assurance checks and are not final.

SO₂ Daily Maximums and Exceedances through November 30th

Date	Algonquin Parkway		Watson Lane Elementary		Cannons Lane NCore		New Albany Indiana	
	Exceeds	Daily Max	Exceeds	Daily Max	Exceeds	Daily Max	Exceeds	Daily Max
01/03/24		2.3		2.9		9.9		2.3
01/09/24		1.2		6.9		3.0		0.3
01/22/24		4.3		1.8		1.0		2.9
02/18/24		1.4		9.7		8.2		0.9
02/19/24		3.7		5.7		4.4		6.8
02/20/24		3.6		15.6		1.9		2.2
02/21/24		8.5		1.3		1.5		3.0
03/05/24		4.4		2.0		1.4		4.3
03/11/24		2.3		3.7		9.7		1.7
03/14/24		6.1		5.7		2.1		2.3
03/28/24		2.0		12.4		1.4		0.7
04/01/24		4.2		3.6		3.4		1.5
04/15/24		0.9		3.1		6.3		1.9
04/22/24		0.7		7.4		1.5		1.6
04/29/24		1.6		4.1		2.9		4.3
05/02/24		1.3		1.2		3.0		6.7
05/20/24		5.2		5.1		3.0		3.6
05/22/24		2.5		21.9		4.5		3.4
05/25/24		1.4		4.8		10.0		1.7
Totals/Max	0	9.6	0	25.1	0	22.2	0	6.9
99 th Percentile		6.1		21.9		9.9		5.5

NA - Indicates data were not available

**Louisville Metro Air Pollution Control District
Air Monitoring Report for Sulfur Dioxide (SO₂)
December 2024**

Continuation of SO₂ Daily Maximums and Exceedances through November 30th

Date	Algonquin Parkway		Watson Lane Elementary		Cannons Lane NCore		New Albany Indiana	
	Exceeds	Daily Max	Exceeds	Daily Max	Exceeds	Daily Max	Exceeds	Daily Max
06/08/24		1.7		4.0		7.7		4.1
06/12/24		1.9		16.3		1.7		1.8
06/14/24		2.2		15.3		22.2		2.5
06/20/24		6.2		7.1		1.8		3.9
07/14/24		1.4		22.4		5.4		1.4
07/15/24		1.5		17.9		3.6		2.0
07/16/24		1.4		8.8		6.7		1.5
07/21/24		3.5		2.5		3.4		3.6
08/27/24		2.3		9.9		10.4		2.3
08/29/24		5.7		7.3		1.9		5.0
08/30/24		9.6		13.4		8.1		3.5
09/04/24		1.8		23.7		1.3		2.0
09/06/24		2.0		6.4		6.2		2.1
09/17/24		3.5		1.1		3.0		4.5
09/19/24		5.1		6.8		1.7		1.8
09/20/24		1.8		25.1		4.1		2.3
10/08/24		2.5		1.8		2.0		6.9
10/12/24		2.4		10.1		6.0		1.5
10/19/24		0.8		14.2		3.0		1.3
10/28/24		5.1		3.5		1.1		3.5
11/01/24		1.4		1.0		1.1		5.5
11/23/24		1.4		4.0		3.6		1.3
11/25/24		3.2		2.4		3.0		1.6
11/30/24		2.5		8.7		2.6		2.9
Totals/Max	0	9.6	0	25.1	0	22.2	0	6.9
99 th Percentile		6.1		21.9		9.9		5.5

NA - Indicates data were not available

Attainment of the SO₂ Standard:

Attainment of the new standard is achieved when the 3-year average of the 99th percentile annual distribution of the daily maxima is less than or equal to 75 ppb. Since this value can be calculated from historical data, the table below indicates those values based on 2018-2024 data.

SO₂ Annual 99th Percentiles and Annual Design Values

Site Name	Annual 99 th Percentiles (ppb)							Annual Design Values				
	2018	2019	2020	2021	2022	2023	2024	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Watson Lane	16	15	15	13	12	13	22	15	14	13	12	15
Algonquin	12	6	5	4	4	6	6	8	5	4	5	5
Cannons Lane	8	9	8	9	8	8	10	8	9	8	8	9
New Albany	9	7	4	4	5	5	6	7	5	4	4	5

* Design Value calculations are approximations based on preliminary summary data and may differ from official design value calculations