



Air Quality Analysis for Fine Particulate Matter (PM_{2.5})

The following information comes from the ambient air monitors operated by the state. Data from these monitors is uploaded to the EPA's Air Quality System database, which constitutes the official record of air quality data. The monitoring information provided in the charts below highlights air pollutant levels (if any) that are in violation of the National Ambient Air Quality Standards.

PM_{2.5} is airborne particulate matter with an aerodynamic diameter smaller than 2.5 micrometers. It results from both direct emissions from air pollution sources (primary PM_{2.5}) and from atmospheric reactions between gaseous species that form particulate matter (secondary PM_{2.5}). Airborne particulate matter can have adverse effects on the respiratory system and also on the heart.

In December 2012, EPA made the annual primary PM_{2.5} standard more stringent, reducing it from 15 to 12 micrograms per cubic meter, based on the three-year average of annual means. The 24-hour primary PM_{2.5} standard was retained at 35 micrograms per cubic meter, based on the 98th percentile of 24-hour measurements, averaged over three years.

In August 2018, EPA designated the Missouri portion of the St. Louis area as an attainment area for the previous annual PM_{2.5} standard of 15 µg/m³. The entire state is classified as unclassifiable/attainment based on the 24-hour PM_{2.5} standard.

No monitors in Missouri that represent the appropriate area spatial scale of representativeness for comparison to the annual standard have recorded violations of the annual PM_{2.5} standard of 12 µg/m³. The state of Missouri recommended to EPA a designation of attainment of the 2012 standard for the St. Louis area. EPA designated the area unclassifiable.

For more information about PM_{2.5}, see the following EPA website, which includes links to additional information on health effects, standards, implementation, and other information:

<http://www.epa.gov/airquality/particlepollution>



24-Hour PM_{2.5} Design Values^a

Annual summary through November 12, 2018

Site	County	98 th Percentile Values					Critical Values	Exceedances	Design Values		
		Micrograms per cubic meter (µg/m ³)							Year-to-date		
		2014	2015	2016	2017	2018 ^{cd}	CV - 35	>35 µg/m ³ (2006 Standard)	14-16	15-17	16-18 ^c
St. Louis											
Arnold West	Jefferson	25.2	24.3	18.8	17.8	18.5	69.9	1	23	20	18
Blair Street (Comb.) [^]	St. Louis City	27.8	23.3	19.6	17.5	18.9	69.4	0	24	20	19
Branch Street [~]	St. Louis City	27.0	22.9	21.1	18.3	20.3	67.1	0	24	21	20
Forest Park, I-64	St. Louis City	29.0	20.7	20.2	17.5	19.2	68.8	0	23	19	19
Ladue (Comb.) [^]	St. Louis	24.5	23.5	19.3	18.9	20.0	68.3	0	22	21	19
South Broadway	St. Louis City	25.2	25.7	20.2	18.3	19.1	68.0	0	24	21	19
Kansas City											
Liberty	Clay	22.0	17.6	14.6	14.5	15.7	77.4	0	18	16	15
Richard Gebaur South	Cass	24.1	20.7	14.0	15.7	15.2	76.8	0	20	17	15
Troost	Jackson	21.2	17.6	19.9	21.8	17.8	64.8	0	20	20	20
Blue Ridge, I-70	Jackson	18.3	17.0	13.9	17.4	17.2	75.2	0	16	16	16
Springfield											
MSU [†]	Greene	25.0	18.0	†	†	†	NA	†	***	†	†
Hillcrest High School*	Greene	-	18.1	15.2	15.9	17.7	75.4	0	***	16	16
Outstate											
El Dorado Springs	Cedar	18.7	18.3	15.5	14.7	19.8	76.3	0	18	16	17
St. Joseph Pump Station	Buchanan	22.5	21.0	17.1	18.6	18.1	70.8	0	20	19	18

^aQuality assured data through Dec. 31, 2017.

^cYear-to-date preliminary data. Do not quote, do not cite.

^d98th Percentile concentration measured year-to-date. 98th Percentile concentrations may change as more data is collected over the year.

[^]The Blair Street and Ladue Site's PM_{2.5} design value is based on a combined site level statistic. That is, if a FEM sample is missing on a given day, a valid collocated FRM sample on that day will be substituted consistent with 40 CFR Part 50, Appendix N, 3.0 (d)(2).

[~]The Branch Street monitor is classified as a unique middle scale monitoring site and not comparable to the annual PM_{2.5} NAAQS.

*Monitor relocated from MSU and began monitoring on April 16, 2015.

†Monitoring discontinued on April 15, 2015.

***Three-year design value can not be calculated. Design value in red and bold is a violation of the NAAQS.

CV - 35: The critical value (CV) for the 24-hour PM_{2.5} NAAQS is the current year's 98th percentile which, if monitored, could yield a violation of the 2006 24-Hour PM_{2.5} NAAQS for the most current three year period. (CV = 106.5 µg/m³ – last year's 98th percentile – previous year's 98th percentile)

The highlighted field indicates that the data set does not meet the completeness criteria of 40 CFR Part 50 Appendix N, Section 4 for the given site. Use of incomplete data for designation purposes is subject to EPA approval consistent with 40 CFR Part 50 Appendix N, 4.(d).

For more information about the implications of the daily Air Quality Index (AQI) for PM_{2.5} concentrations and related health messages go to <http://www.airnow.gov/>

Disclaimer: Data presented on this page is not the Official EPA Air Quality System (AQS) data record and does not constitute the official data record used for regulatory purposes. However, efforts are made to present historical data that closely resembles the results queried from AQS, but rounding or calculation differences can occur.



Annual PM_{2.5} Design Values^a

Annual summary through November 12, 2018

Site	County	Annual Average Values					Critical Values	Exceedances	Design Values		
		Micrograms per cubic meter (µg/m ³)							Year-to-date		
		2014	2015	2016	2017	2018 ^{cd}	CV - 12	2018 ^c	14-16	15-17	16-18 ^c
St. Louis											
Arnold West	Jefferson	10.5	11.6	8.3	8.2	7.3	19.7	34	10.1	9.3	7.9
Blair Street (Comb.) [^]	St. Louis City	11.4	10.4	8.5	7.9	8.3	19.8	45	10.1	8.9	8.2
Branch Street [~]	St. Louis City	12.0	10.4	9.7	9.1	9.1	17.4	71	10.7	9.7	9.3
Forest Park, I-64	St. Louis City	10.9	9.2	8.7	8.3	8.4	19.2	46	9.6	8.7	8.5
Ladue (Comb.) [^]	St. Louis	10.5	10.3	8.7	9.4	9.1	18.1	59	9.8	9.5	9.1
South Broadway	St. Louis City	10.1	11.1	8.1	7.8	8.9	20.3	59	9.8	9.0	8.3
Kansas City											
Liberty	Clay	8.8	8.1	6.4	6.7	6.0	23.1	22	7.8	7.1	6.4
Richard Gebaur South	Cass	10.5	8.6	6.3	6.9	6.4	23.0	22	8.5	7.3	6.5
Troost	Jackson	9.2	8.2	8.9	9.9	7.5	17.4	36	8.8	9.0	8.8
Blue Ridge, I-70	Jackson	7.6	7.3	6.2	7.8	8.0	22.2	36	7.0	7.1	7.3
Springfield											
MSU [†]	Greene	9.4	8.8	†	†	†	NA	†	***	†	†
Hillcrest High School*	Greene	-	7.3	7.1	7.4	7.6	21.7	31	***	7.3	7.4
Outstate											
El Dorado Springs	Cedar	8.0	7.1	6.6	6.8	7.6	22.8	57	7.2	6.8	7.0
St. Joseph Pump Station	Buchanan	10.6	9.7	8.1	8.6	8.9	19.5	53	9.5	8.8	8.5
							571				

^aQuality assured data through Dec. 31, 2017.

^cYear-to-date preliminary data. Do not quote, do not cite.

^dAnnual Average concentration measured year-to-date. Annual averages may increase or decrease as more data is collected over the year.

[^]The Blair Street and Ladue Site's PM_{2.5} design value is based on a combined site level statistic. That is, if a FEM sample is missing on a given day, a valid collocated FRM sample on that day will be substituted consistent with 40 CFR Part 50, Appendix N, 3.0 (d)(2).

[~]The Branch Street monitor is classified as a unique middle scale monitoring site and not comparable to the annual PM_{2.5} NAAQS. The concentrations reported are for informational purposes, only.

*Monitor relocated from MSU and began monitoring on April 16, 2015.

†Monitoring discontinued on April 15, 2015.

***Three-year design value can not be calculated. Design value in red and bold is a violation of the NAAQS.

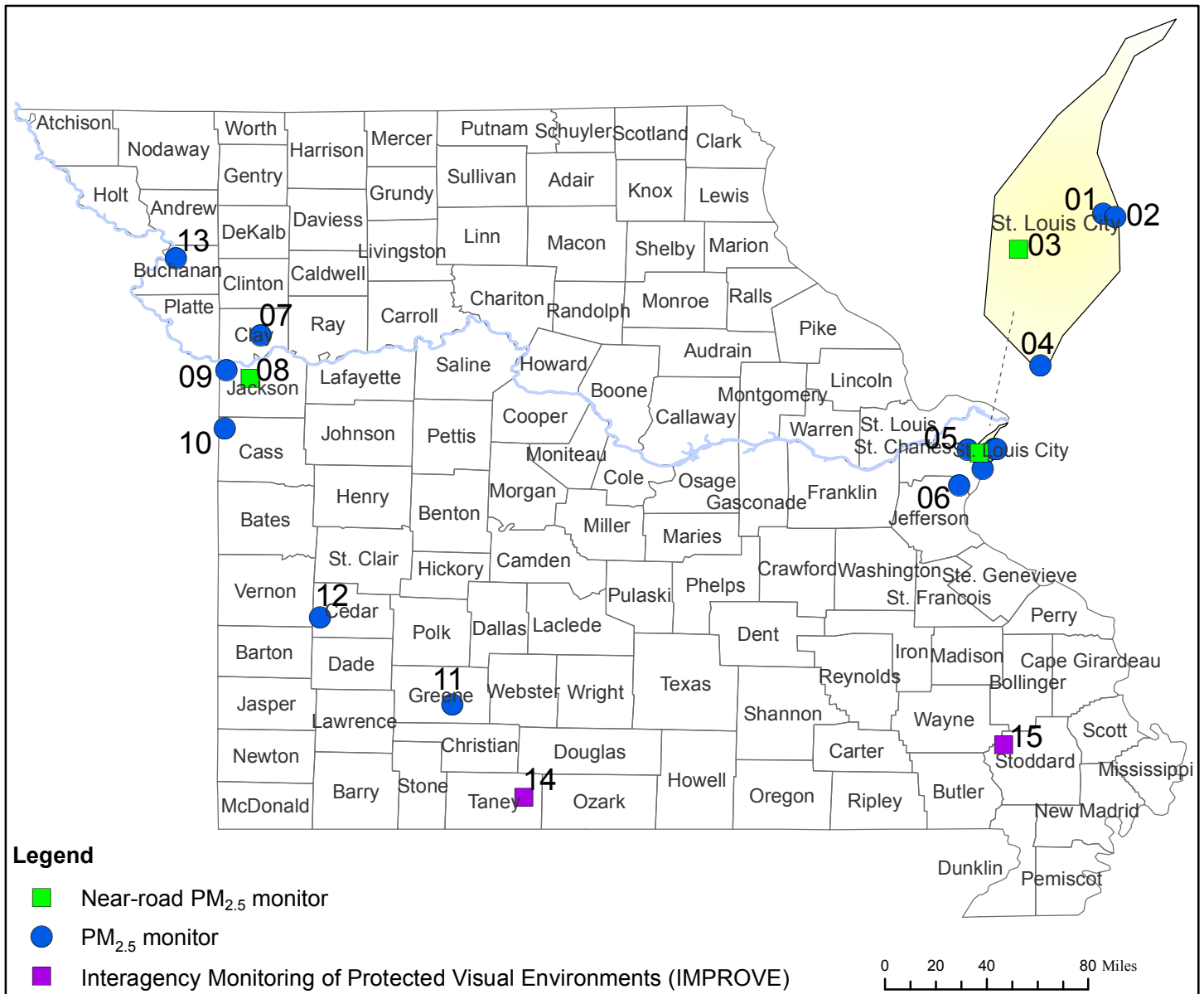
CV - 12: The critical value (CV) for the Annual PM_{2.5} NAAQS is the current year's annual average which, if monitored, could yield a violation of the 2012 annual PM_{2.5} NAAQS for the most current three year period. (CV = 36.15 µg/m³ – last year's annual average – previous year's annual average)

The highlighted field indicates that the data set does not meet the completeness criteria of 40 CFR Part 50 Appendix N, Section 4 for the given site. Use of incomplete data for designation purposes is subject to EPA approval consistent with 40 CFR Part 50 Appendix N, 4 .(d).

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Missouri's PM_{2.5} Monitoring Network, 2018



Site # Site Name

St. Louis Area

- 01 Blair Street
- 02 Branch Street**
- 03 Forest Park
- 04 South Broadway
- 05 Ladue
- 06 Arnold West

Kansas City Area

- 07 Liberty
- 08 Blue Ridge, I-70
- 09 Troost
- 10 Richard Gebaur-South

Site # Site Name

Springfield Area

- 11 Hillcrest High School^^

Outstate Area

- 12 El Dorado Springs
- 13 St. Joseph Pump Station
- 14 Hercules Glades
- 15 Mingo

**Middle Scale (City block dimension ranging 100 meters to 0.5 kilometers);
Not to be compared to the annual standard

^^Began monitoring in 2015

