

**Louisville Metro Air Pollution Control District**  
**PM<sub>2.5</sub> Monitoring Report**  
**February 2014**

This report summarizes PM<sub>2.5</sub> data collected by Federal Reference Method (FRM) samplers. Measurements are reported as 24-hour averages in micro-grams per cubic meter (µg/m<sup>3</sup>). The data are subject to further quality assurance checks and are not final.

**PM<sub>2.5</sub> Monthly Data Summary for January 2014**

Site Name	Maximum		Minimum		Sample	Monthly
	Conc.	Date	Conc.	Date	Recovery	Average
Southwick	10.3	1/8/14	5.5	1/26/14	100.0%	7.3
*Durrett Lane	11.6	1/8/14	7.2	1/17/14	100.0%	8.6
Cannons Lane	8.9	1/2/14	6.1	1/23/14	100.0%	7.2
Watson Lane	10.6	1/2/14	5.5	1/17/14	100.0%	7.0
Overall	11.6	1/8/14	5.5	1/17/14	100.0%	7.5

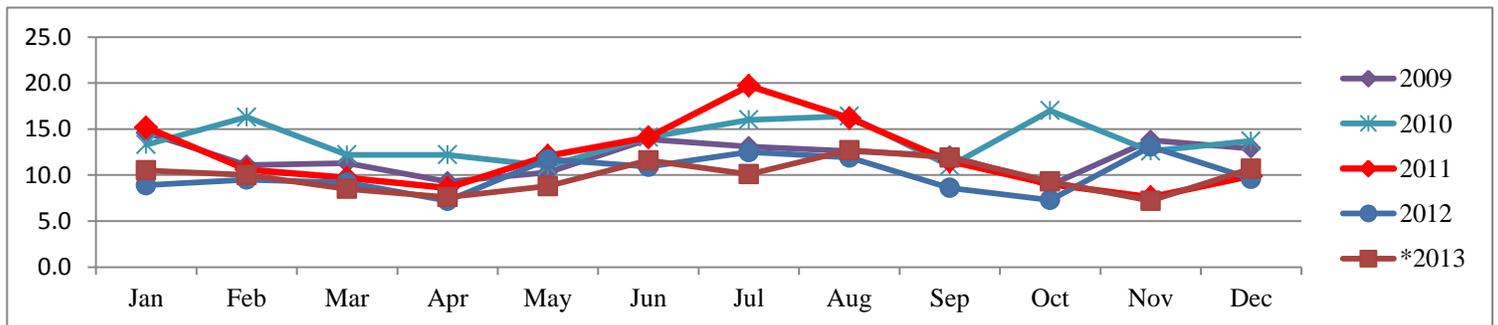
\*Durrett Lane replaced Wyandotte on 1/1/2014

**PM<sub>2.5</sub> Monthly Averages Tracking Table for 2003-2013**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Months >standard
2004	10.5	15.7	10.1	11.3	13.4	15.9	17.1	18.4	17.6	13.8	11.1	11.1	5
2005	11.7	17.1	14.3	13.1	14.9	19.6	20.2	19.8	24.1	16.1	12.6	15.5	7
2006	10.3	13.0	12.5	12.6	11.9	18.1	23.9	22.5	13.6	10.1	13.6	11.1	3
2007	9.3	12.2	14.9	11.2	18.4	19.9	18.3	22.8	16.9	11.1	12.5	14.1	5
2008	11.8	12.0	11.9	11.6	12.1	11.8	18.1	17.1	17.6	10.6	14.3	9.4	3
2009	14.6	11.1	11.3	9.3	10.3	13.9	13.1	12.6	12.1	8.9	13.8	12.9	0
2010	13.3	16.3	12.2	12.2	11.0	14.1	16.0	16.4	11.0	17.0	12.6	13.7	4
2011	15.2	10.6	9.7	8.6	12.1	14.1	19.7	16.2	11.5	9.0	7.6	9.9	3
2012	8.9	9.5	9.2	7.2	11.7	10.9	12.5	11.9	8.6	7.3	13.1	9.6	0
*2013	10.5	10.0	8.5	7.6	8.8	11.6	10.1	12.7	11.9	9.3	7.2	10.7	1
2014	7.5												
Average	11.2	13.1	11.5	10.5	12.5	15.0	16.9	17.0	14.5	11.3	11.8	11.8	

\*The new PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup> became effective on March 18, 2013

**PM<sub>2.5</sub> Monthly Averages 5-Year Trend**



**National Ambient Air Quality Standards (NAAQS):**

National Ambient Air Quality Standards consist of primary and secondary standards. The primary standards define levels of air quality which EPA judges are necessary, with an adequate margin of safety, to protect the public health. The secondary standards define levels of air quality which EPA judges necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. For PM<sub>2.5</sub> the levels of the primary and secondary standards are the same.

**National Ambient Air Quality Standard for PM<sub>2.5</sub> - Annual Standard:**

The annual standard is designed to provide an appropriate level of protection from long-term exposure to PM<sub>2.5</sub>. The standard is met when the annual design value is less than or equal to 12 µg/m<sup>3</sup>. The standard changed from 15 µg/m<sup>3</sup> to 12 µg/m<sup>3</sup> on March 18, 2013. 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 2007 through year-to-date 2013 to the PM<sub>2.5</sub> annual standard.

**PM<sub>2.5</sub> Annual Means and Annual Design Values**

Site Name	Annual Means µg/m <sup>3</sup>							Annual Design Values				
	2007	2008	2009	2010	2011	2012	2013	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013
Southwick	15.1	13.2	12.2	13.5	12.1	9.6	7.3	13.5	13.0	12.6	11.7	9.7
Wyandotte	14.9	13.4	12.5	13.7	12.3	10.3	8.6	<b>13.6</b>	<b>13.2</b>	<b>12.8</b>	12.1	<b>10.4</b>
Cannons Lane*	15.0	13.4	11.7	13.3	11.5	9.9	7.2	13.4	12.8	12.1	11.6	9.5
Watson Lane	15.4	12.8	11.6	14.8	11.9	10.3	7.0	13.2	13.1	12.8	<b>12.3</b>	9.7

**Bold:** Design value for Louisville

\* Cannons Lane replaced Barret in 2009. 2007-2008 data are from Barret

**National Ambient Air Quality Standard for PM<sub>2.5</sub> - 24-Hour (Daily) Standard:**

The 24-hour standard is designed to provide an appropriate level of protection from short-term exposure to PM<sub>2.5</sub>. The standard is met when the 24-hour design value is less than or equal to 35 µg/m<sup>3</sup>. The design value is based on 3 consecutive complete years of air quality data and is calculated by taking the average of the 98<sup>th</sup> percentile value for each of the 3 years. The 98<sup>th</sup> percentile value is the 24-hour average out of a year of PM<sub>2.5</sub> monitoring data below which 98 percent of all 24-hour averages fall. The table below compares data collected from 2007 through year-to-date 2013 to the 24-hour standard for PM<sub>2.5</sub>.

**PM<sub>2.5</sub> Annual 98<sup>th</sup> Percentiles and 24-Hour Design Values**

Site Name	Annual 98 <sup>th</sup> Percentile Value µg/m <sup>3</sup>							24-Hour Design Values				
	2007	2008	2009	2010	2011	2012	2013	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013
Southwick	34.1	28.7	24.3	27.5	28.0	19.4	10.3	29.0	26.8	26.6	25.0	19.2
Wyandotte	33.5	29.5	25.7	28.8	26.8	22.1	11.6	<b>29.6</b>	<b>28.0</b>	<b>27.1</b>	25.9	20.2
Cannons Lane*	31.9	30.7	24.1	25.8	27.0	19.5	8.9	28.9	26.9	25.6	24.1	18.5
Watson Lane	32.5	28.6	24.7	26.1	31.3	20.6	10.6	28.6	26.5	27.4	<b>26.0</b>	<b>20.8</b>

**Bold:** Design value for Louisville

\* Cannons Lane replaced Barret in 2009. 2007-2008 data are from Barret

**Louisville Metro Air Pollution Control District  
Air Monitoring Report for Sulfur Dioxide (SO<sub>2</sub>)  
February 2014**

On June 2, 2010, EPA strengthened the primary National Ambient Air Quality Standard for SO<sub>2</sub>. 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 SO<sub>2</sub>. The new standard took effect August 23, 2010.

**Exceedances of the 1-Hour SO<sub>2</sub> 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.

**SO<sub>2</sub> Daily Maximums and Exceedances 2014 through January 31<sup>st</sup>**

Date	Fire Arms Training		Watson Lane Elementary		Cannons Lane NCore		New Albany Indiana	
	Exceeds	Daily Max	Exceeds	Daily Max	Exceeds	Daily Max	Exceeds	Daily Max
01/12/14		21.2		8.3		21.1		24.2
01/13/14		31.6		2.3		1.2		11.1
01/29/14		4.0		51.7		8.5		4.6
01/31/14		1.8		2.0		0.8		43.8
Totals/Max		31.6		51.7		21.1		43.8
99 <sup>th</sup> Percentile		31.6		51.7		21.1		43.8

"-" Indicates no data was available.