

Louisville Metro Air Pollution Control District

PM_{2.5} Monitoring Report

November 2009

This report summarizes PM_{2.5} data collected by Federal Reference Method (FRM) samplers through November 2009. The data are subject to further quality assurance checks and are not final.

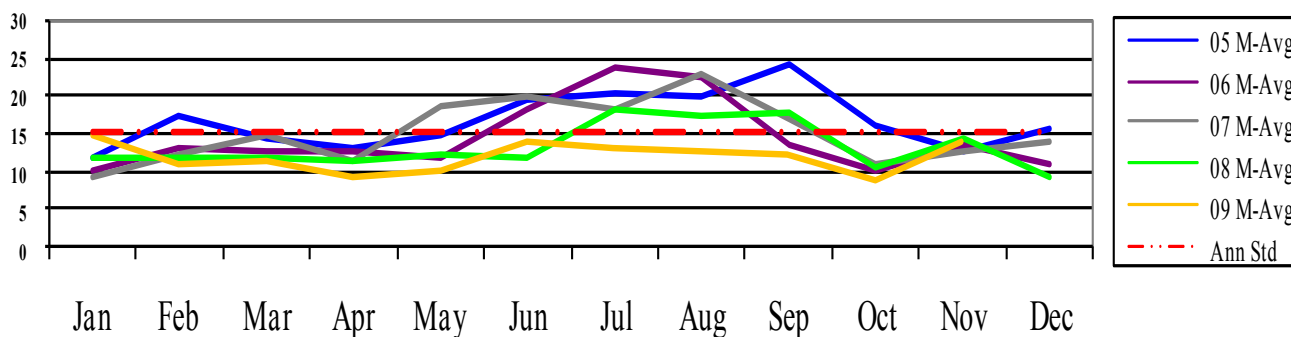
Table 1: PM_{2.5} Monthly Data Summary October November (µg/m³)

<u>Site Name</u>	<u>Daily Maximum Conc. & Date</u>	<u>Daily Minimum Conc. & Date</u>	<u>Sample Recovery</u>	<u>Monthly Average</u>
Southwick	27.6 (11/16)	4.2 (11/18)	97%	12.5
Wyandotte	25.8 (11/15)	1.7 (11/30)	100%	13.3
Cannons Lane	22.1 (11/15)	5.5 (11/18)	100%	12.4
Watson Lane	26.7 (11/15)	7.8 (11/03)	100%	16.8
Overall	27.6 (11/16)	1.7 (11/30)	99%	13.8

Table 2: PM_{2.5} Monthly Averages Tracking Table for 1999-2009

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Months >15.0 µg/m ³
Ann Std	15	15	15	15	15	15	15	15	15	15	15	15	
99 M-Avg	14.7	13.8	12.4	12.7	18.1	23.4	26.6	19.5	15.6	17.4	16.1	12.6	7
00 M-Avg	15.8	16.4	13.4	13.6	17.1	17.7	23.5	21.2	13.3	19.7	15.6	17.1	9
01 M-Avg	21.9	13.9	15.2	13.3	17.7	20.5	24.6	27.4	16.1	13.8	15.8	12.4	8
02 M-Avg	13.1	10.0	12.3	11.4	15.9	22.3	30.4	23.8	21.7	13.2	11.8	15.6	6
03 M-Avg	12.2	16.3	15	14.6	13.1	18.6	21.7	23	17.3	12.5	12	10.6	5
04 M-Avg	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
05 M-Avg	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
06 M-Avg	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
07 M-Avg	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
08 M-Avg	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
09 M-Avg	14.6	11.1	11.3	9.3	10.3	13.9	13.1	12.6	12.1	8.9	13.8		0

Chart 1: PM_{2.5} Monthly Averages Trends



National Ambient Air Quality Standards (NAAQS):

National Ambient Air Quality Standards consists 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_{2.5} the levels of the Primary and Secondary Standards are the same.

Annual Standard:

The annual standard is designed to provide an appropriate level of protection from long-term exposures to PM_{2.5}. Table 3 compares data collected from 2003 through year-to-date 2009 to the Annual National Ambient Air Quality Standard for PM_{2.5}. The Annual National Ambient Air Quality Standard for PM_{2.5} is met when the annual design value is less than or equal to 15.0 µg/m³. The design value is based on 3 consecutive, complete years of air quality data and is calculated by taking the 3-year average of annual means.

Table 3: PM_{2.5} Annual Means and Annual Design Values

Site Name	Annual Means µg/m ³							Annual Design Values 2003-2005	Annual Design Values 2004-2006	Annual Design Values 2005-2007	Annual Design Values 2006-2008	Annual Design Values 2007-2009
	2003	2004	2005	2006	2007	2008	2009 ¹					
Southwick	16.0	14.5	16.6	15.0	15.1	13.2	12.0	15.7	15.4	15.6	14.4	13.4
Wyandotte	15.4	14.0	16.4	15.2	14.9	13.4	12.3	15.3	15.2	15.5	14.5	13.5
Cannons Lane*	15.5	13.7	16.7	13.9	15.0	13.4	11.5	15.3	14.8	15.2	14.1	13.3
Watson Lane	14.9	12.6	16.4	13.7	15.4	12.8	11.6	14.7	14.2	15.1	13.9	13.3

Bold: Design value site for Louisville.

¹Year-to-date data for 2009.

* Cannons Lane replaced Barret in 2009. 2003-2008 data are from Barret.

24-Hour Standard:

The 24-Hour standard is designed to provide an appropriate level of protection from short-term exposures to PM_{2.5}. Table 4 compares data collected from 2003 through year-to-date 2009 to the 24-Hour National Ambient Air Quality Standard for PM_{2.5}. In December 2006 the EPA changed the 24-hour standard from 65µg/m³ to 35µg/m³. The standard is met when the 24-Hour design value is less than or equal to 35µg/m³. The design value is based on 3 consecutive, complete years of air quality data and is calculated by taking the average of the 98th percentile value for each of the 3 years. The 98th percentile is the daily value out of a year of PM_{2.5} monitoring data below which 98 percent of all daily values fall.

Table 4: 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 2003-2005	24-Hour Design Values 2004-2006	24-Hour Design Values 2005-2007	24-Hour Design Values 2006-2008	24-Hour Design Values 2007-2009
	2003	2004	2005	2006	2007	2008	2009 ¹					
Southwick	36.3	31.1	42.9	36.0	34.1	28.7	24.2	36.8	36.7	37.7	32.9	29.0
Wyandotte	37.9	30.6	40.1	36.3	33.5	29.5	25.7	36.2	35.7	36.6	33.1	29.6
Cannons Lane*	35.5	28.8	43.2	36.7	31.9	30.7	24.0	35.8	36.2	37.3	33.1	28.9
Watson Lane	33.0	25.8	36.5	32.5	32.5	28.6	24.5	31.8	31.6	33.8	31.2	28.5

Bold: Design Value for Louisville.

¹Year-to-date data for 2009.

* Cannons Lane replaced Barret in 2009. 2003-2008 data are from Barret.