

2019 Ozone Season Summary for the Greater Kansas City Region

Summary

During the 2019 ozone season in the Greater Kansas City region, no Ozone Alerts were issued, and the eight-hour ozone concentrations monitored within our Air Quality Maintenance Area never exceeded the 70 part-per-billion (ppb) standard at any time. Table 1 shows the number of each type of forecast and the actual number of days which were monitored within each category.

Table 1. Forecast and Monitor Results

	Green	Yellow	Orange	Red
Actual	198	47	0	0
Forecasted	199	46	0	0

Implementation of the 2015 Ozone National Ambient Air Quality Standard

The U.S. Environmental Protection Agency is responsible for establishing a national standard for an acceptable concentration for ground-level ozone. Their evaluations led to a 2015 revision setting this health-based standard at 70 ppb averaged over eight hours. In addition, EPA also updated the Air Quality Index (AQI) – a public information tool that associates colors and health messages with ranges of air pollutant concentrations – to reflect the standard. Table 2 shows the ozone concentrations associated with each AQI color under the 2015 standard.

Table 2. Air Quality Index under the 2015 Ozone Standard

Category	AQI Value	2015 8-hour ozone (ppb)
Good (Green)	0 – 50	0 – 54
Moderate (Yellow)	51 – 100	55 – 70
Unhealthy for Sensitive Groups (Orange)	101 – 150	71 – 85
Unhealthy (Red)	151 – 200	86 – 105
Very Unhealthy (Purple)	201 – 300	106 – 200
Hazardous (Maroon)	301 – 500	> 200

2019 Monitor Map

Ozone measurements defining the air quality for the Greater Kansas City Air Quality Maintenance area are made at six monitors. Two additional nearby monitors at Trimble and Leavenworth provide useful forecasting information, and two distant monitors at Chanute and El Dorado offer some forecasting guidance on how pollution is moving into and out of our region. Map 1, on the next page, shows the location of all nearby monitors and their design value at the end of 2019.

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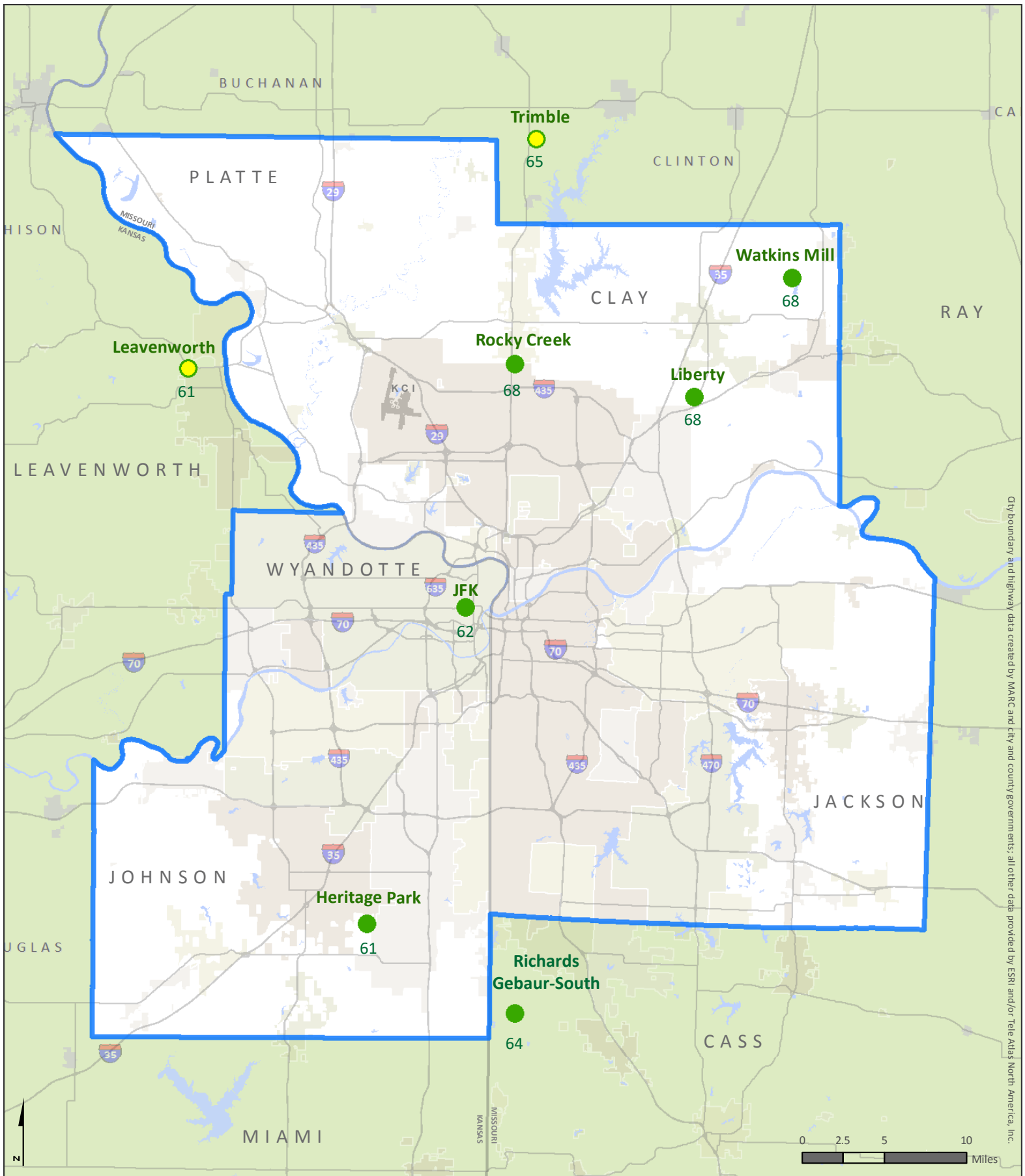
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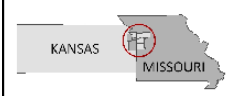
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Air Quality Monitoring Stations



City boundary and highway data created by MARC and city and county governments; all other data provided by ESRI and/or Tele Atlas North America, Inc.



- in area monitor
 - out of area monitor
- Number = current Design Value.

Air Quality Maintenance Area

Note: Monitor stations not shown above - El Dorado Springs & Chanute



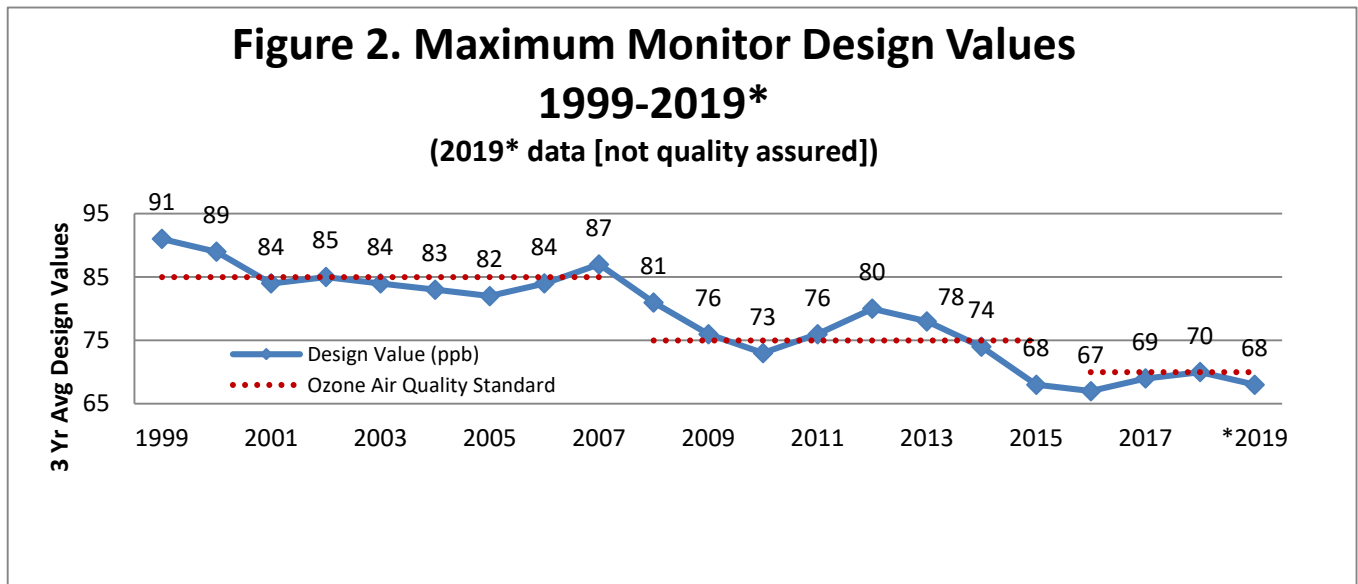
Kansas City Ozone Design Values, 2017 – 2019

An exceedance of the eight-hour ozone standard at a monitored location does not necessarily result in a violating monitor. Compliance with the eight-hour ozone standard is based on a rolling *three-year average of the fourth-highest ozone readings* from each monitor. Given the nature of its importance, this critical value – called the “Design Value,” is the number shown on Map 1 alongside the various regional ozone monitors. Table 3 shown below contains the fourth-high eight-hour annual readings as well as the design values calculated for each three-year average from 2012 – 2019.

Table 3. Fourth-High Readings and Design Values, 2012-2019

	<u>Fourth-High Eight-Hour Values</u>								<u>Design Values</u>					
	12	13	14	15	16	17	18	19	12-14	13-15	14-16	15-17	16-18	17-19
Missouri														
Liberty	84	67	65	62	66	69	74	63	72	64	64	65	69	68
Watkins Mill	86	67	67	64	66	69	72	63	73	66	65	66	69	68
Rocky Creek	86	71	66	68	69	70	72	61	74	68	67	69	70	68
Richards-Gebauer	78	64	65	65	61	63	66	64	69	64	63	63	63	64
Trimble	85	71	64	67	69	66	69	62	73	67	66	67	68	65
Kansas														
JFK (KCK)	82	66	63	63	64	61	69	58	70	64	63	62	64	62
Heritage Park	84	64	62	62	58	59	66	59	70	62	60	59	61	61
Leavenworth	80	66	68	59	62	59	64	61	71	64	63	60	61	61

*The 2019 eight-hour monitored ozone readings have not been quality assured and may contain errors. Readings in **bold** represent design values above the standard in effect at that time.



Under the 2015 eight-hour standard, *violations* will occur when the three-year average is 71 ppb or higher. Figure 2 shows the trendline of design values, or three-year averages of the fourth-high eight-hour readings, from 1999 to 2019.

2019 Ozone Data & SkyCasts

Table 4 summarizes the SkyCasts and highest daily eight-hour monitor ozone readings for the 2019 ozone season. It includes all days that were forecasted to be a yellow day *or* had a maximum eight-hour ozone reading greater than or equal to 55 ppb. *Green SkyCast days with maximum eight-hour ozone values less than 55 ppb—days that were accurately forecasted to be green are not be listed.*

**Table 4. Summary of 2019 SkyCasts and Daily Maximum Eight-hour Ozone Values
March 1 – October 31, 2019**

Date	Daily Max 8-Hr Value (ppb)*	Monitor(s) Recording Max Value	SkyCast	Date	Daily Max 8-Hr Value (ppb)*	Monitor(s) Recording Max Value	SkyCast
April				6/8	68	Richards Gebauer	Yellow
4/8	58	Watkins Mill	Green	6/10	55	Richards Gebauer	Green
4/10	67	Rocky Creek, Richards Gebauer	Green	6/14	55	Rocky Creek	Green
				6/15	54	Liberty	Yellow
4/11	41	Liberty, Watkins Mill, Rocky Creek	Yellow	6/16	51	Liberty	Yellow
4/15	56	Rocky Creek	Yellow	6/18	48	Rocky Creek, Richards Gebauer	Yellow
4/16	63	Liberty	Yellow	6/20	59	Rocky Creek	Yellow
4/20	58	Rocky Creek, Richards Gebauer	Green	6/25	58	Liberty, Watkins Mill	Yellow
4/26	57	Watkins Mill	Green	6/26	65	Richards Gebauer	Yellow
May				6/27	44	Watkins Mill	Yellow
5/6	57	Rocky Creek, Liberty	Green	6/28	46	Rocky Creek	Yellow
5/13	45	Rocky Creek	Yellow	6/29	54	Rocky Creek	Yellow
5/14	58	Rocky Creek	Green	6/30	60	Rocky Creek	Yellow
5/15	59	Rocky Creek	Yellow	July			
5/16	58	Liberty	Green	7/1	55	Rocky Creek	Yellow
5/17	58	Rocky Creek	Yellow	7/2	60	Rocky Creek	Yellow
5/26	54	Rocky Creek	Green	7/3	62	Rocky Creek	Green
5/30	58	Richards Gebauer	Green	7/6	57	Richards Gebauer	Green
5/31	58	Liberty	Yellow	7/7	45	Heritage Park	Yellow
June				7/8	48	Liberty	Yellow
6/1	60	Liberty	Green	7/10	48	Liberty	Yellow
6/2	56	Richards Gebauer	Yellow	7/12	54	Rocky Creek	Yellow
6/5	61	Liberty	Yellow	7/13	56	Rocky Creek	Yellow
6/6	53	Richards Gebauer	Yellow	7/16	63	Liberty	Yellow
6/7	64	Richards Gebauer	Green	7/19	54	Rocky Creek	Yellow

*The 2019 eight-hour monitored ozone readings have not been quality assured and may contain errors. Readings in **bold** represent eight-hour peak concentrations above the 70 ppb standard.

**Table 4. (Cont.) Summary of 2019 SkyCasts and Daily Maximum Eight-hour Ozone Values
March 1 – October 31, 2019**

Date	Daily Max 8-Hr Value (ppb)*	Monitor(s) Recording Max Value	SkyCast	Date	Daily Max 8-Hr Value (ppb)*	Monitor(s) Recording Max Value	SkyCast
7/21	50	Liberty	Yellow	8/7	56	Rocky Creek, Liberty	Green
7/24	64	Rocky Creek	Yellow	8/10	55	Rocky Creek	Green
7/26	59	Rocky Creek	Green	8/12	57	Liberty	Yellow
7/27	67	Liberty	Yellow	8/18	55	Liberty	Green
7/28	61	Rocky Creek	Yellow	September			
7/29	55	Richards Gebauer	Green	9/1	51	JFK	Yellow
August				9/5	55	Rocky Creek	Yellow
8/3	63	Liberty	Green	9/16	64	Watkins Mill	Yellow
8/4	63	Liberty	Yellow	9/17	59	Rocky Creek	Yellow
8/5	63	Liberty	Yellow	9/18	49	Watkins Mill	Yellow
8/6	50	Rocky Creek	Yellow				

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