

2021 Ozone Season Review

Air Quality Advisory Committee

October 26, 2021



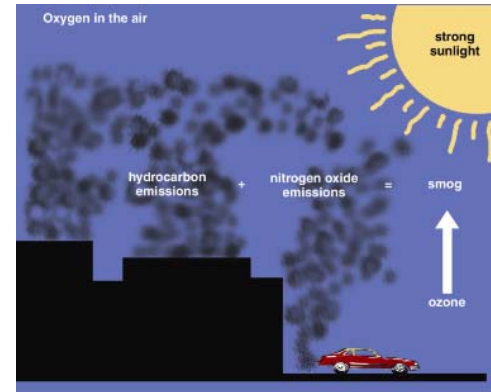
EAST-WEST GATEWAY
Council of Governments

Creating Solutions Across Jurisdictional Boundaries

Ground Level Ozone

Transportation-Related Pollutant of Concern

- ▶ Ozone is formed when hydrocarbons and nitrogen oxides from vehicle exhaust and other industrial processes have a chemical reaction with oxygen in the lower atmosphere
- ▶ Weather influences – strong sunshine, low wind speed, temperature 85° +
- ▶ Carried by wind



- ▶ Ozone affects children and the elderly
- ▶ High levels can cause headaches, fatigue and eye, nose and respiratory tract irritation
- ▶ Prolonged exposure can aggravate chronic heart disease and chronic respiratory ailments, like asthma

https://www.cdc.gov/climateandhealth/effects/air_pollution.htm



EAST-WEST GATEWAY
Council of Governments
Creating Solutions Across Jurisdictional Boundaries

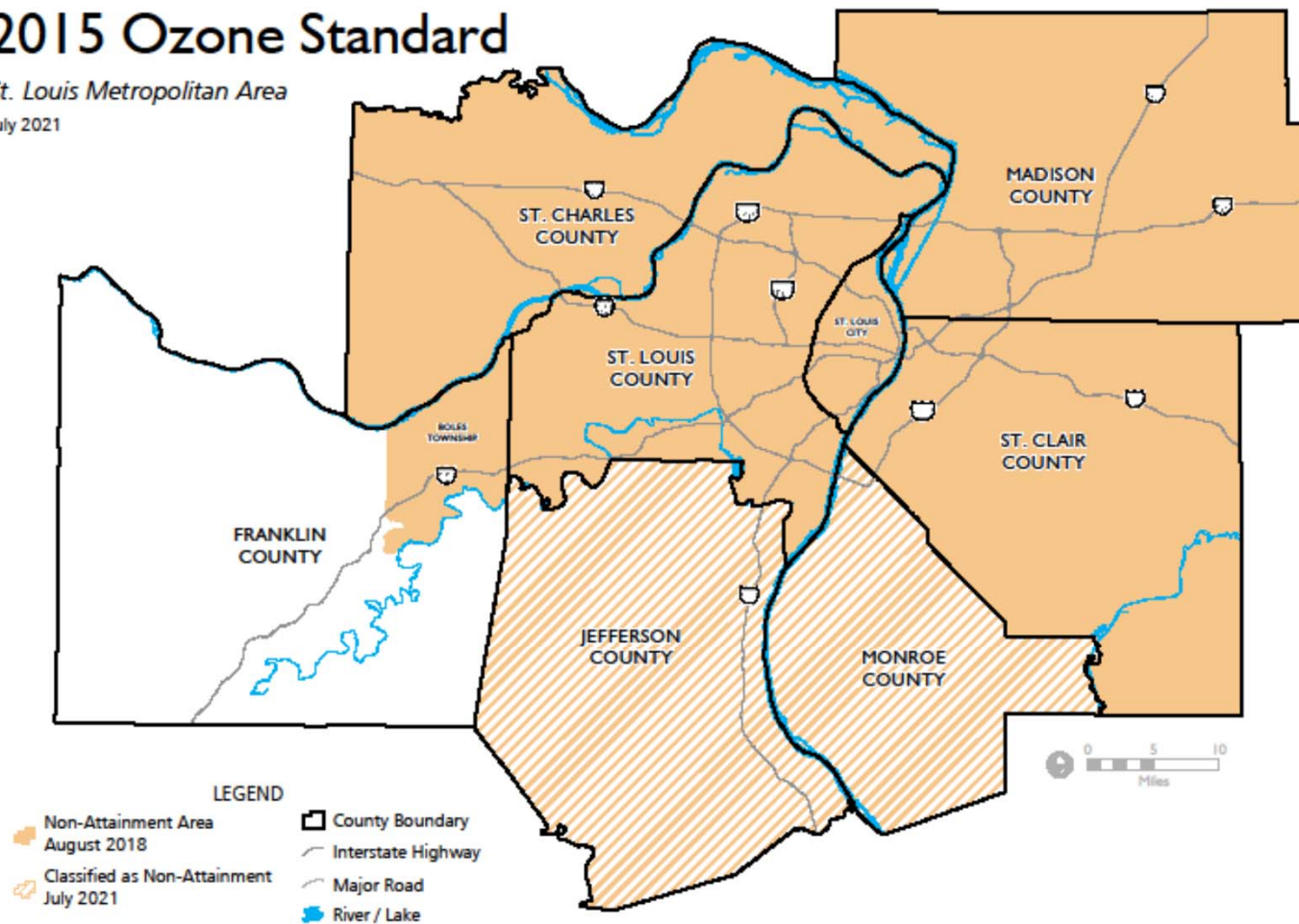
Ozone Data Sharing Project

- ▶ Ozone Season - March 1 to October 31
- ▶ East-West Gateway acts as a clearinghouse for ozone data
- ▶ Twelve hour period from 9 AM – 9 PM
- ▶ Initial quality assurance screening
- ▶ Prepare weekly and monthly reports



Non-Attainment Area 2015 Ozone Standard

St. Louis Metropolitan Area
July 2021



Sources: East-West Gateway Council of Governments



Ozone Monitors in the Non-Attainment Area

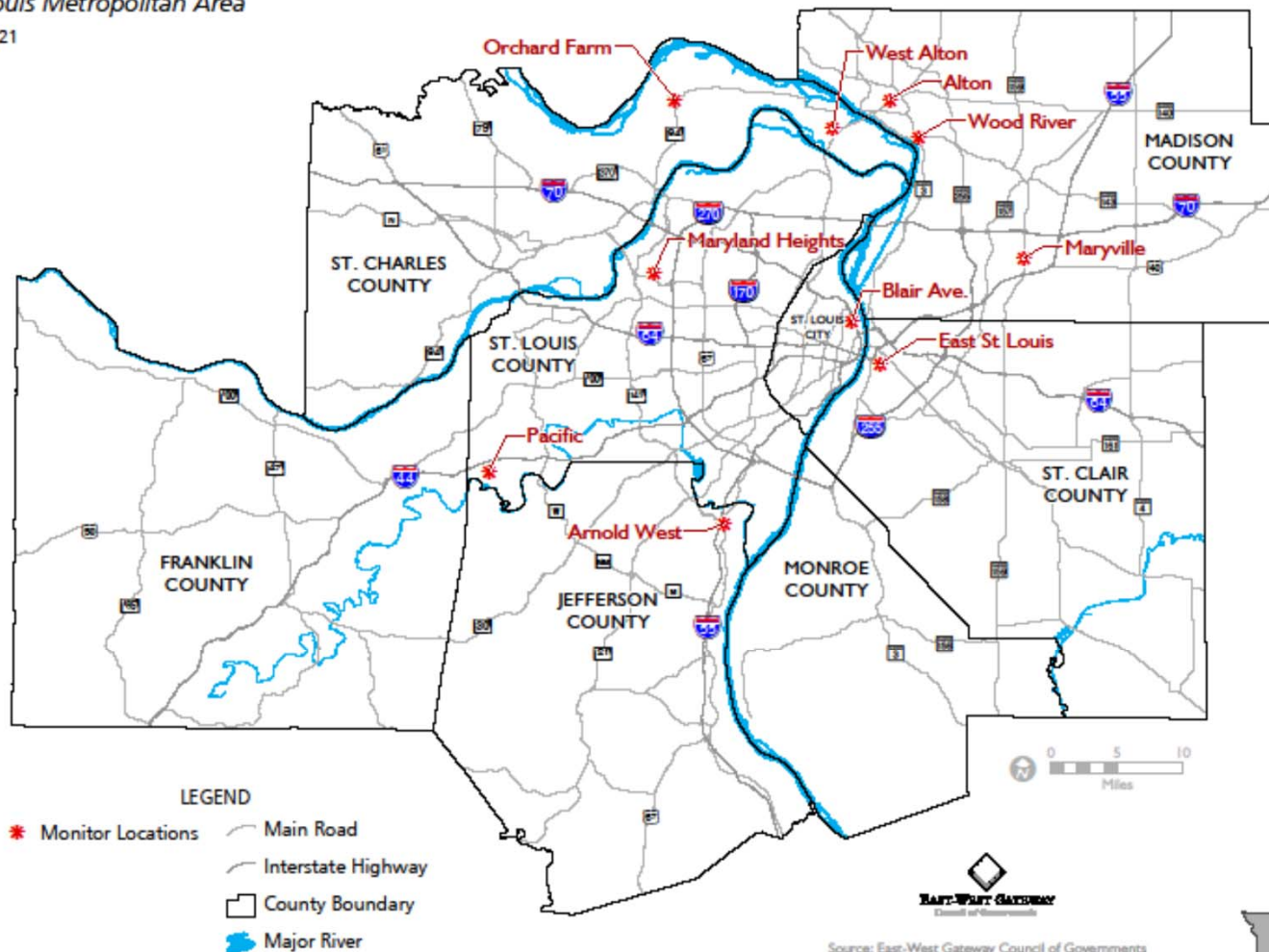
Monitor Name	County
Illinois	
Alton	Madison
Wood River	Madison
Maryville	Madison
East St. Louis	St. Clair
Missouri	
West Alton	St. Charles
Orchard Farm	St. Charles
Maryland Heights	St. Louis
Pacific	St. Louis
Blair Street	City of St. Louis
Arnold West	Jefferson

- Illinois monitors are operated by the Illinois Environmental Protection Agency
- Missouri monitors are operated by the Missouri Department of Natural Resources

Ozone Monitor Network

St. Louis Metropolitan Area

July 2021



Exceedances March - October 2021*

DATE	TOTAL EXCEEDANCES	MAXIMUM VALUES OF EXCEEDANCE (ppb)
June 11, 2021	1	75
June 15, 2021	1	72
June 16, 2021	1	76
June 17, 2021	1	74
July 22, 2021	6	73, 73, 76, 74, 71, 77
July 23, 2021	1	71
July 26, 2021	1	71
July 27, 2021	2	74, 78
July 28, 2021	4	99, 72, 83, 99
August 17, 2021	1	77
August 25, 2021	1	71
September 28, 2021	2	73, 76
Total	22	

*2021 data to be quality assured



EAST-WEST GATEWAY

Council of Governments

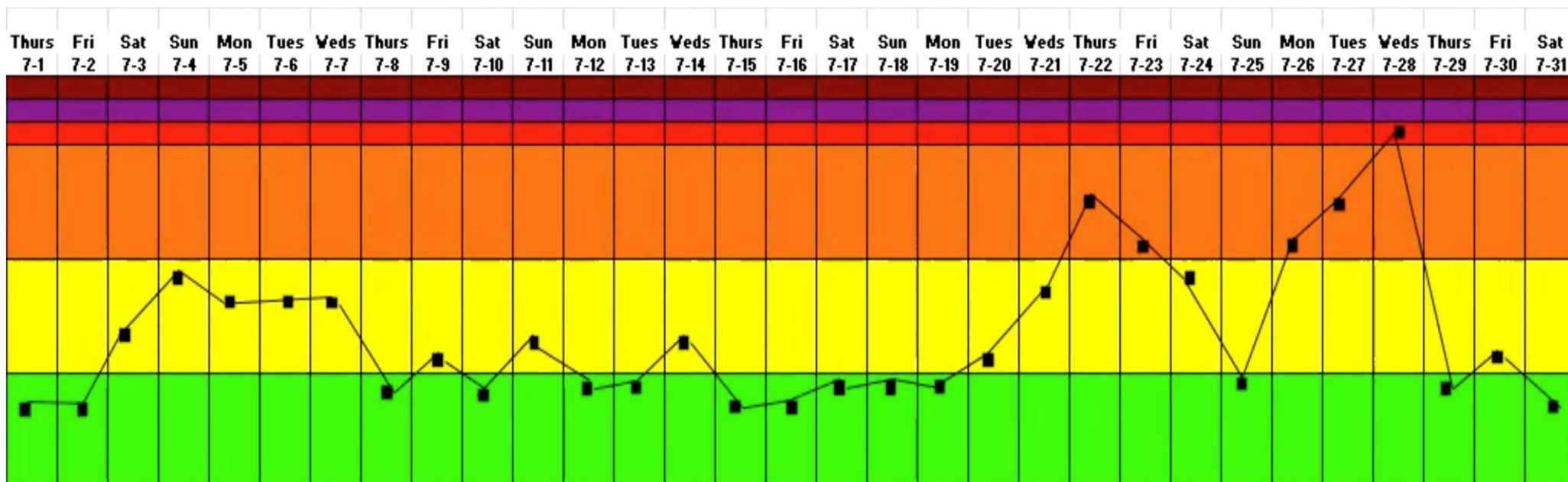
Creating Solutions Across Jurisdictional Boundaries

Exceedances March - October 2021

- ▶ 12 days
- ▶ 22 exceedances
 - ▶ 12 in Missouri
 - ▶ 10 in Illinois
- ▶ All ten monitors reported exceedances



July 2021* AQI Calendar

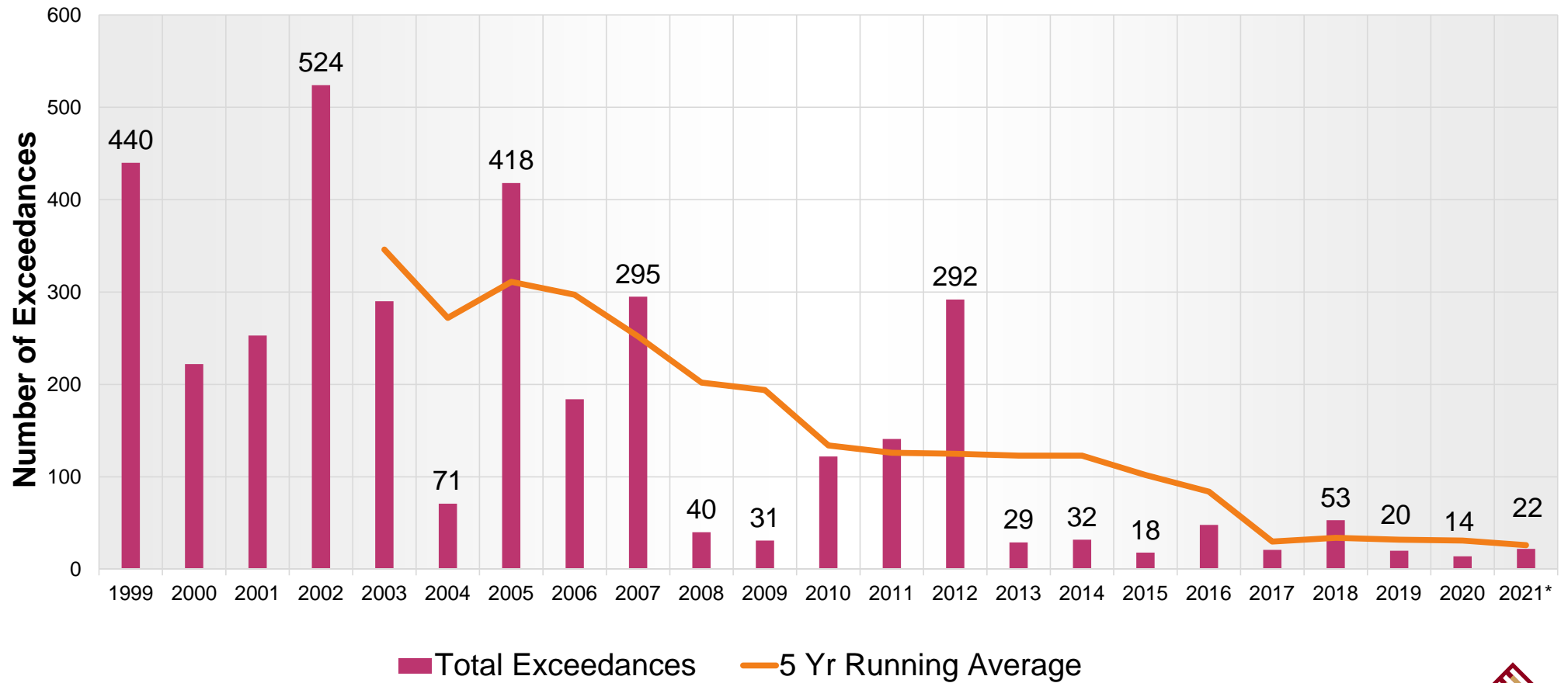


Air Quality Index					
Good	Moderate	Unhealthy for sensitive groups	Unhealthy	Very Unhealthy	Hazardous
0 ↔ 50	51 ↔ 100	101 ↔ 150	151 ↔ 200	201 ↔ 300	301 ↔ +

*2021 data to be quality assured

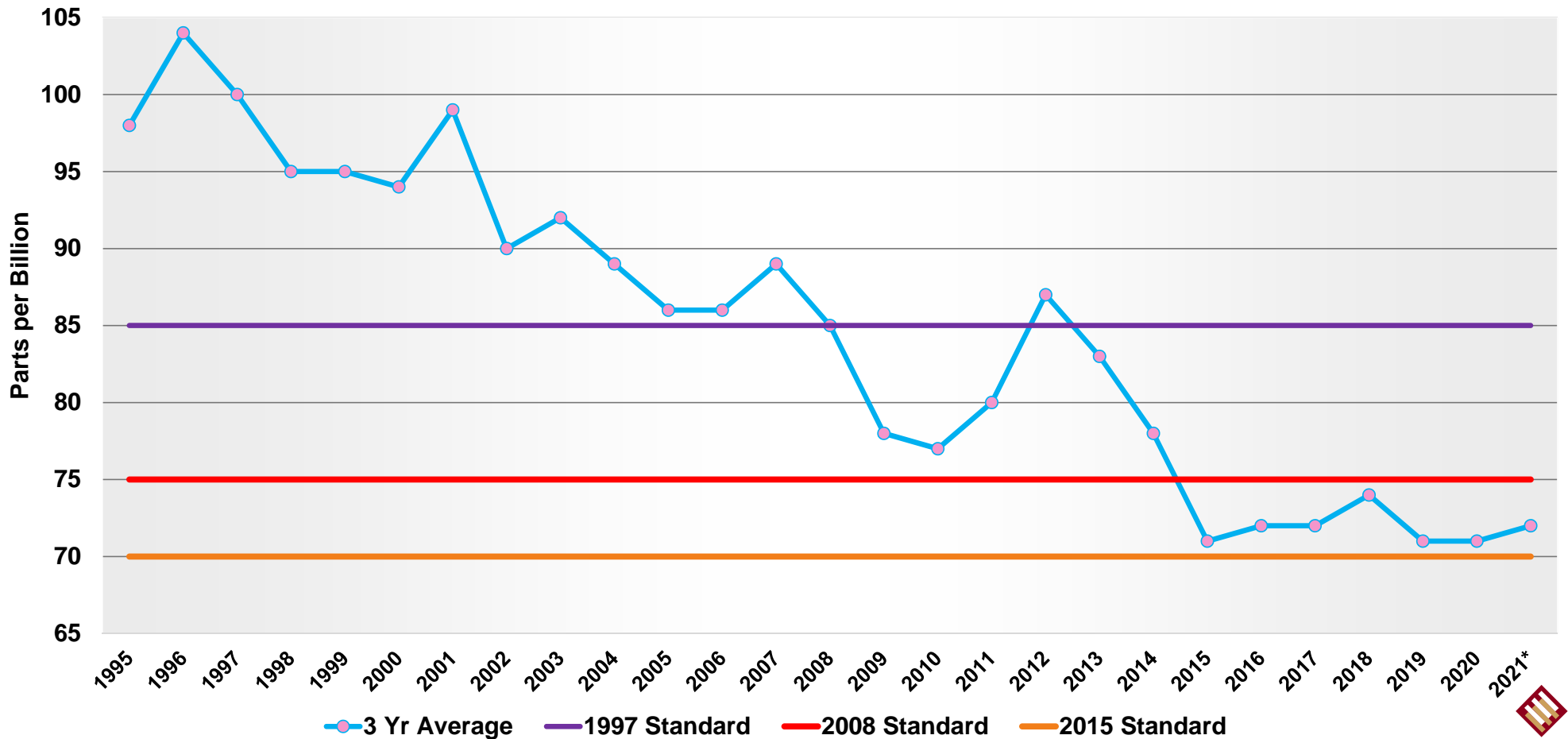
St. Louis Region 1999 - 2021* Exceedances

Based on 2015 Standard



*2021 data to be quality assured

St. Louis Region General Ozone Trends 1995 – 2021*



*2019 - 2021 Three-Year Average may be 69 ppb. Average is preliminary, . Data to be quality assured.

Incomplete Data March – October 2021

Missouri		
Monitor	# of Days	# of Hours
Arnold West	1	4
Blair St.	1	12
Orchard Farm	1	12
Maryland Heights	4	42
Pacific	3	28
Foley West*	1	4

Illinois		
Monitor	# of Days	# of Hours
Maryville	7	70
Alton	5	52
Wood River	8	80
East St. Louis	1	4
Houston*	5	60
Jerseyville*	1	5
Nilwood*	20	229

In 2021 all of the incomplete data has been due to equipment malfunctions.

* Outside the non-attainment area for the 2015 eight-hour ozone standard

Questions?

Carol Lawrence
Manager, Environmental Services
carol.Lawrence@ewgateway.org

Maureen McCarthy
Environmental Services Planner
maureen.mccarthy@ewgateway.org



EAST-WEST GATEWAY
Council of Governments

Creating Solutions Across Jurisdictional Boundaries