



MID-AMERICA REGIONAL COUNCIL
AIR QUALITY PROGRAM

Ozone in the Kansas City Area: Recent Trends and Plans for the Future

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Overview

- Ground-level ozone basics
- Revisions to 2008 Ozone Standard
- Clean Air Action Plan





What is Ground Level Ozone?

- Chemically identical to upper-level ozone, BUT
- At ground level, is a man-made pollutant; hurts respiratory system
- Ozone not emitted directly – chemical reaction involving volatile organic compounds (VOC) and nitrogen oxides (NO_x)





Ozone Basics

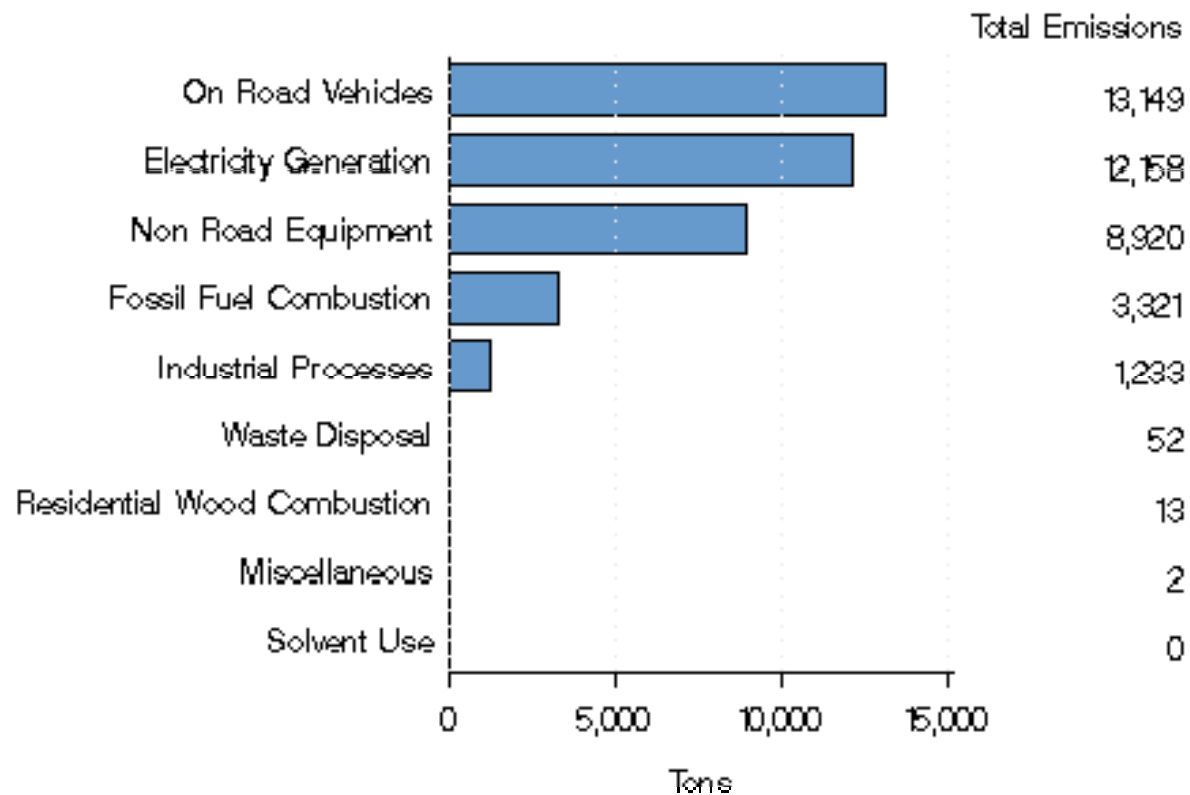
- VOCs, NOX come from cars, trucks, small businesses, utilities & large industry
- GLO concentrations typically highest on warm, sunny days
- Can trigger breathing problems, especially in those who have asthma, emphysema, or other respiratory conditions





NOx Sources

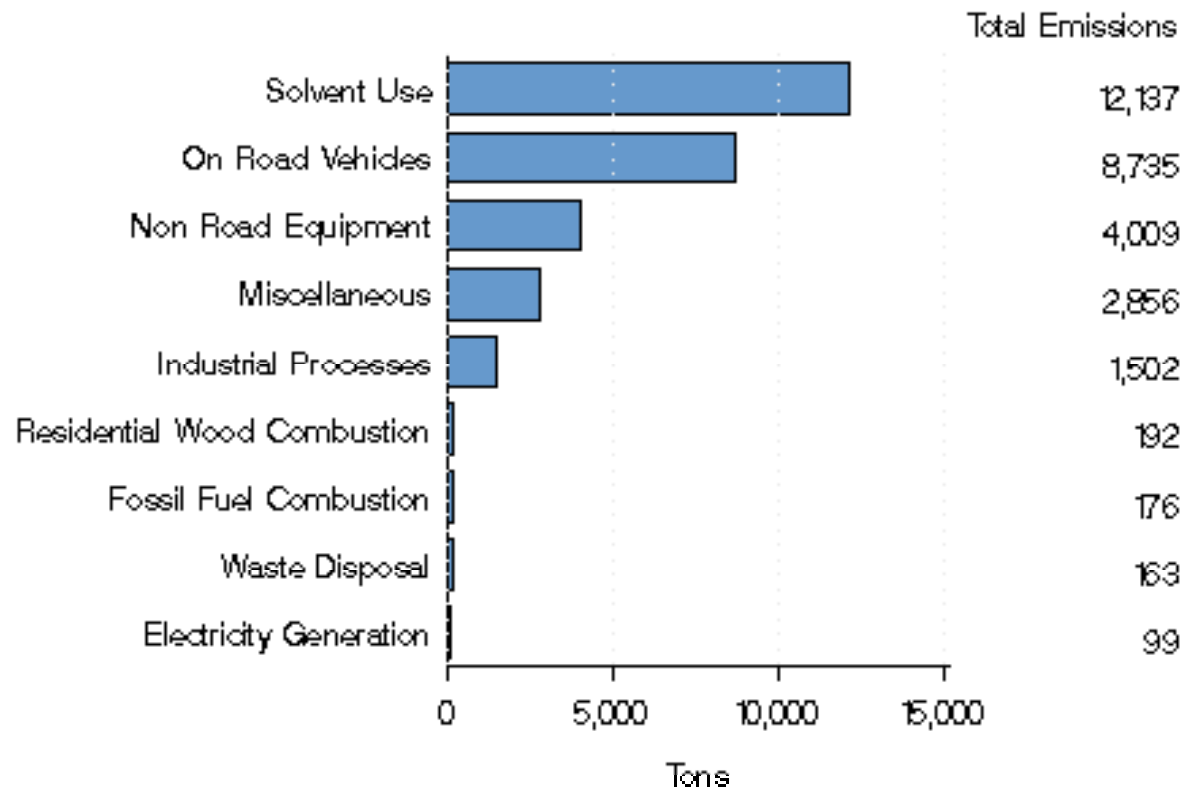
Nitrogen Oxides Emissions by Source Sector
in Jackson County, Missouri in 2005





VOC Sources

Volatile Organic Compounds Emissions by Source Sector
in Jackson County, Missouri in 2005





Response to Violations

- Regulatory plans already in place for 84 ppb standard
- Region has regulated VOCs for many years but not NOx
- Phase I contingency measures:
 - New NOx controls on a handful of sources
 - Diesel idling regulations
- Measures must be operational w/in 24 months of violation (i.e., by late 2009)





Current Ozone Standard

- Promulgated in 2008
- 75 parts per billion, lowered from 84ppb
- Primary standard set to protect public health





Current Design Values

Missouri	2004	2005	2006	2007	2008	2009		04-06	05-07	06-08	07-09*
Liberty	71	88	93	81	66	72		84	87	80	73
Watkins Mill	67	79	91	73	69	74		79	81	77	72
Rocky Creek	69	87	87	89	69	72		81	87	81	76
Richards-Gebaur	61	81	78	72	66	64		73	77	72	67
Trimble	71	87	85	83	70	75		81	85	79	76

Kansas	2004	2005	2006	2007	2008	2009		04-06	05-07	06-08	07-09*
JFK (KCK)	63	79	81	73	63	65		74	77	72	67
Heritage Park	66	81	76	71	62	63		74	76	69	65
Leavenworth	67	78	74	80	64	63		73	77	72	69





2008 Standard Revision

- US EPA has reconsidered the 2008 Standard and proposed a range of 60-70ppb
- Response to concerns that 75ppb does not adequately protect public health
- EPA has reviewed original studies, public comments and CASAC recommendations





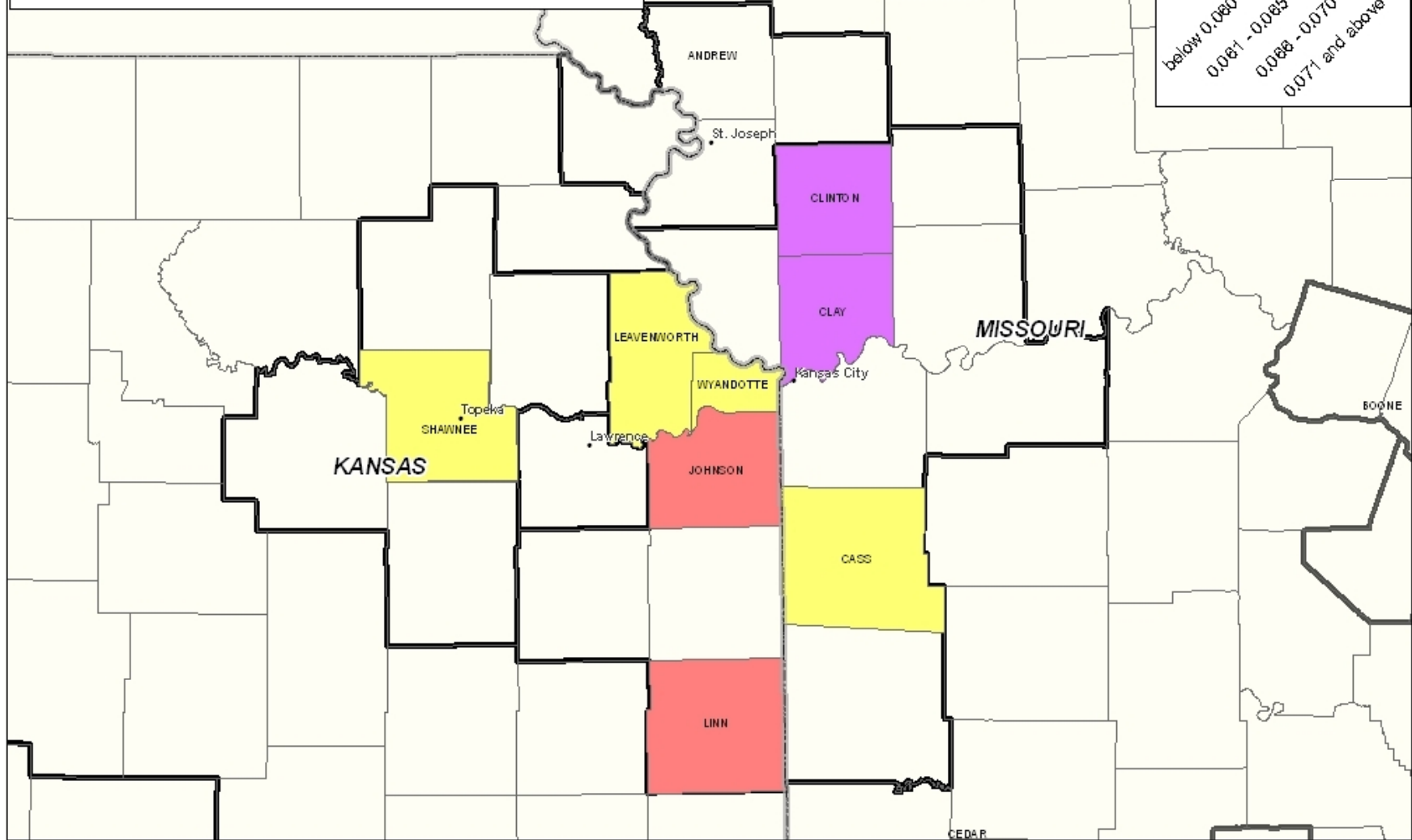
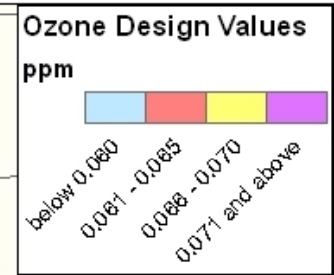
How low can it go?

- EPA Staff and the Clean Air Scientific Advisory Committee (CASAC) recommendations in 2008 were 60-70ppb
- Reconsideration does not require changes, but changes are anticipated
- Could change our air quality boundary significantly

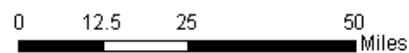


Unofficial Ozone Design Values 07-09

Kansas City Metro



- City
- 2008 MSA
- COUNTIES



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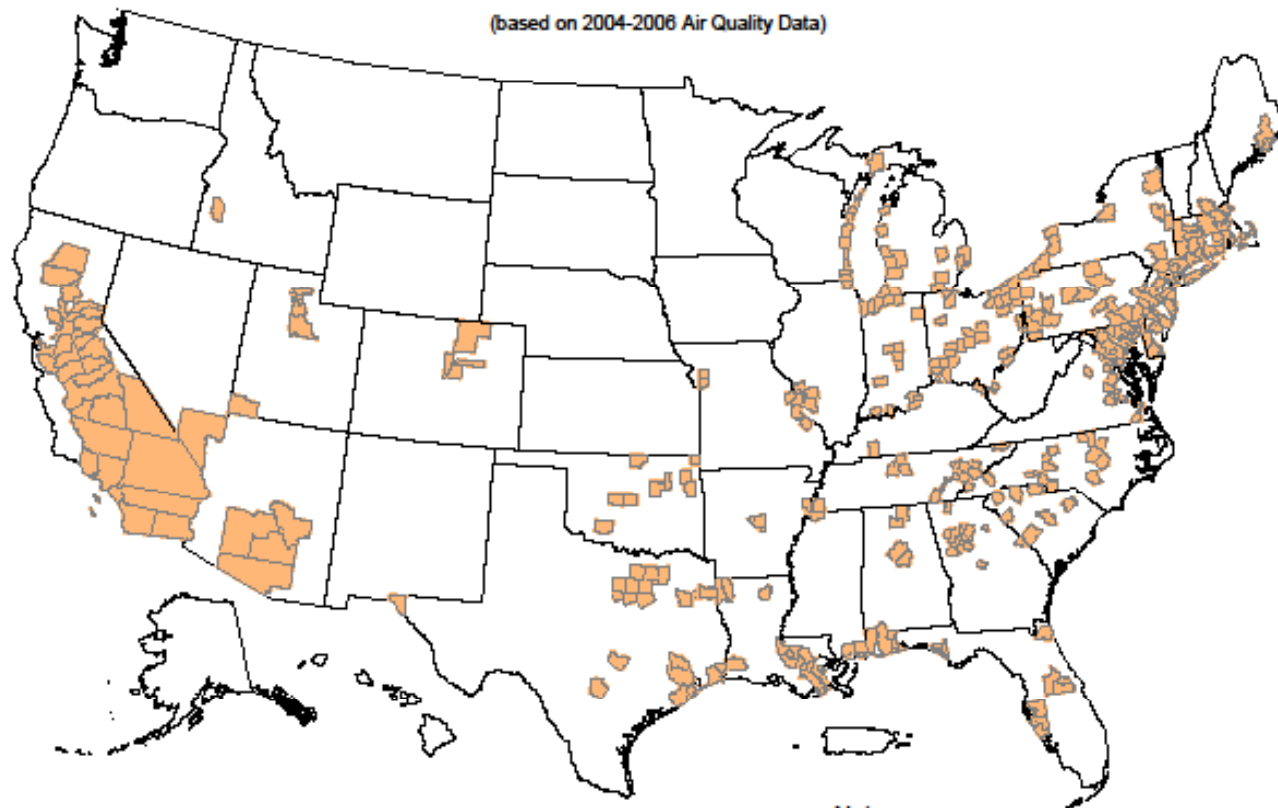


Source:
US Census Bureau, 2008

Estimates are based on the most recent data (2004 – 2006). EPA will not designate areas as nonattainment on these data, but likely on data from 2006 – 2008 or later, which we expect to show improved air quality.

Counties with Monitors Violating the 2008 8-Hour Ozone Standard of 0.075 parts per million (ppm)

(based on 2004-2006 Air Quality Data)



Notes:

¹ 345 monitored counties violate the 2008 8-hour ozone standard of 0.075 parts per million (ppm).

² Monitored air quality data can be obtained from the AQS system at <http://www.epa.gov/ttn/airs/airsaqs/>



Monitored Counties Anticipated to be in Violation of EPA's Proposed Levels of NAAQS Ozone Standards

Counties in Violation (646 total)	Potential Standards (ppb)
76	84
321	75
496	70
586	65
623	60

Source: National Association of Regional Councils





Regulatory Impact Analysis

- EPA conducted an RIA in 2007 during the previous revision process
- The RIA estimated by year 2020...

Setting the Ozone Standard to...	Will Reap \$X in Monetized Benefits Annually*
75ppb	\$1.5-\$22 billion
70ppb	\$2.5-\$33 billion
65ppb	\$4.3-\$57 billion

*Reflects the monetized benefits of fewer restricted activity days, reduced hospital visits, school absences and premature death.





Proposed Timeline

Milestone	Date
Proposed rule for revised standard	December 21, 2009
Final rule for revised standard	August 31, 2010
States/tribal designation recommendations to EPA	December 2010
EPA notifies states/tribes concerning modifications to recommendations (120 day letter)	March 2011
Effective date of designations	August 2011
State Implementation Plans (SIPs) due	December 2013





How are we preparing?

- Clean Air Action Plan Update
- Sustainable Skylines Initiative
- Workplace Partnership
- Long Range Transportation Plan





Clean Air Action Plan

- Developed in 2004
- Comprehensive voluntary plan for reducing emissions before EPA requires it
- Targets both stationary and mobile sources
- Short-, intermediate- and long-term measures
- Four categories of strategies: power plants, diesel engines, public education, and sustainability





Clean Air Action Plan

- Power Plant Emissions Reduction
 - KCP&L's La Cygne, Iatan and Sibley plants all received SCRs and/or Low NOx Burners
- Diesel Emissions Reduction
 - On-Road Retrofits and Replacements
 - Construction Equipment Replacements
 - Locomotive Retrofits
 - Idle Reduction Policies and Programs





Workplace Partnership

- Over 170 area businesses and local governments listed as participants
- Promotes voluntary actions by employees and ozone awareness
- Support materials and opportunities for employees to participate in challenges
- Recognition in print and radio advertising





Sustainability

- Adopt land use policies to protect air quality – Smart Growth, transit supportive development, Creating Quality Places
- Increase tree planting, green space preservation – Mitigate urban heat island effect, add value and improve aesthetics of built environment
- Smart Moves – will help reduce dependence on single occupant vehicles





Updates to the CAAP

- Not a static document
- Being updated to include:
 - Project implementation
 - New partners
 - New projects and ideas





Updates to the CAAP

- As defined in the proposed update...
“Is there a clear direction the region is heading with regards to sustainability efforts, specifically related to air quality, energy efficiency and climate change? If no clear direction, what type of facilitation or leadership is necessary in order to achieve a unified goal for regional emission reductions and energy efficiency measures to be most effective?”





Updates to the CAAP

- Additional Stakeholder Representation:
“What stakeholders, including other MARC committees and community groups, are appropriate and essential to be engaged in the process of defining this portion of the update? How might we engage those that historically have not been well represented?”





Adaptive Scenario

- Promotes “nodes and corridors” approach to development
- Preserves natural resources and increases walkability and access to transit
- Accommodates economic growth in a more fiscally and environmentally sustainable manner





Updates to the CAAP

- Currently in initial stages of stakeholder involvement
- Involvement in the process will also keep stakeholders up to date with State Implementation Plan (SIP) development
- Update process will lead into SIP process and provide voluntary support to regulatory agencies





In conclusion...

- Kansas City's ozone woes are real and imminent
- Voluntary action now could lead to less regulatory action in the future
- The CAAP is the region's cohesive plan for voluntary emission reduction action
- Involvement in the process means your voice is heard





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Thank you!
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