

Kansas City Area Ozone Designation Meeting

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Missouri Department of Natural Resources

October 3, 2008

Kansas City, Missouri



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

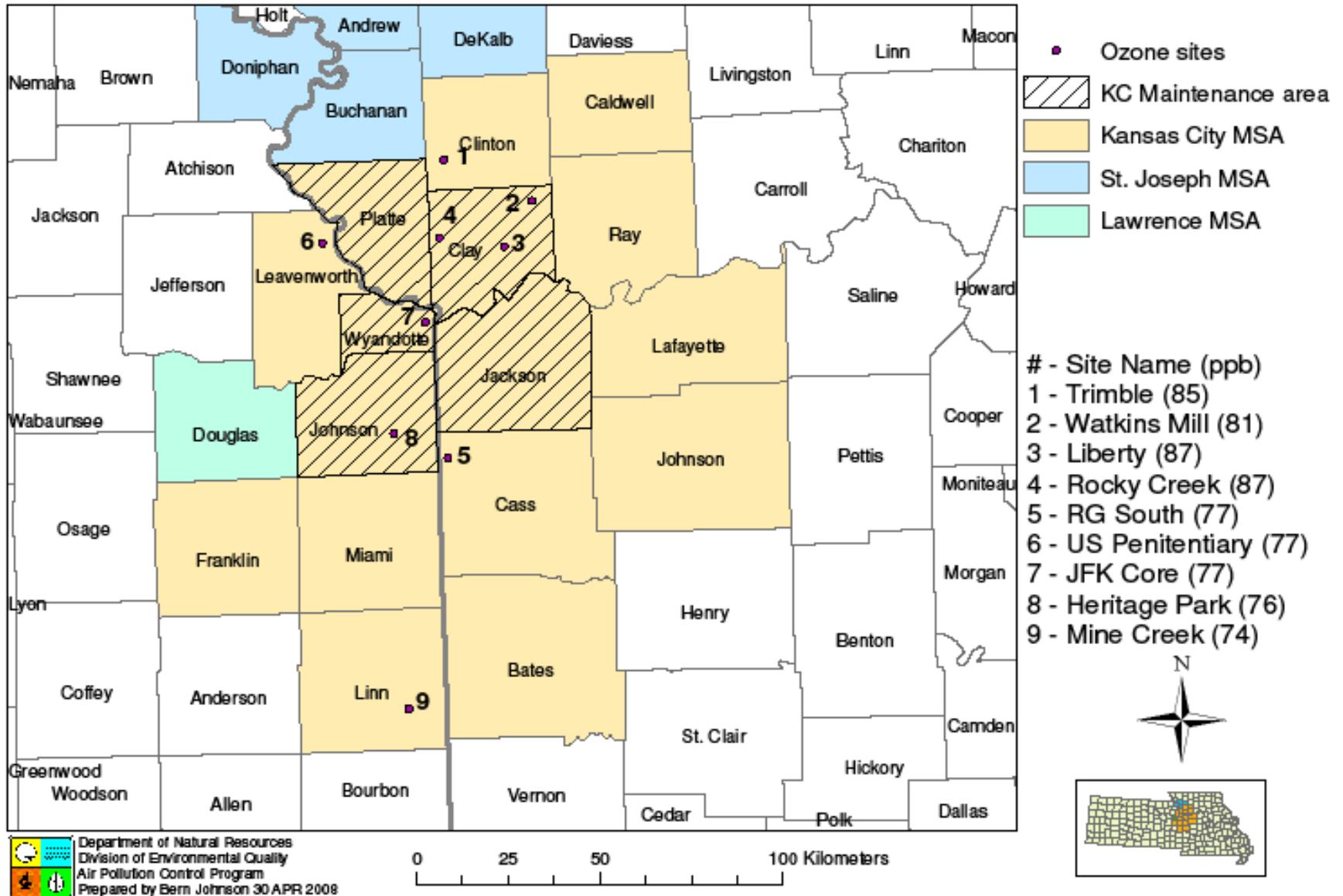
Presentation Overview

- Designation Process Review
- Draft Recommendation
- County-by-County Summary
- Next Steps/Stakeholder Involvement

EPA's 2008 8-Hour Ozone Standard

- Primary standard – 75 ppb
- Secondary standard – 75 ppb
- Area meets the new standard if design value is less than or equal to 75 ppb
- 2005-07 Design Values
 - Kansas City = 87 ppb (81 ppb 2006-08)
 - El Dorado Springs = 76 ppb (72 ppb 2006-08)
 - Springfield = 77 ppb (73 ppb 2006-08)

2008 Kansas City Ozone Sites and 05-07 Design Values



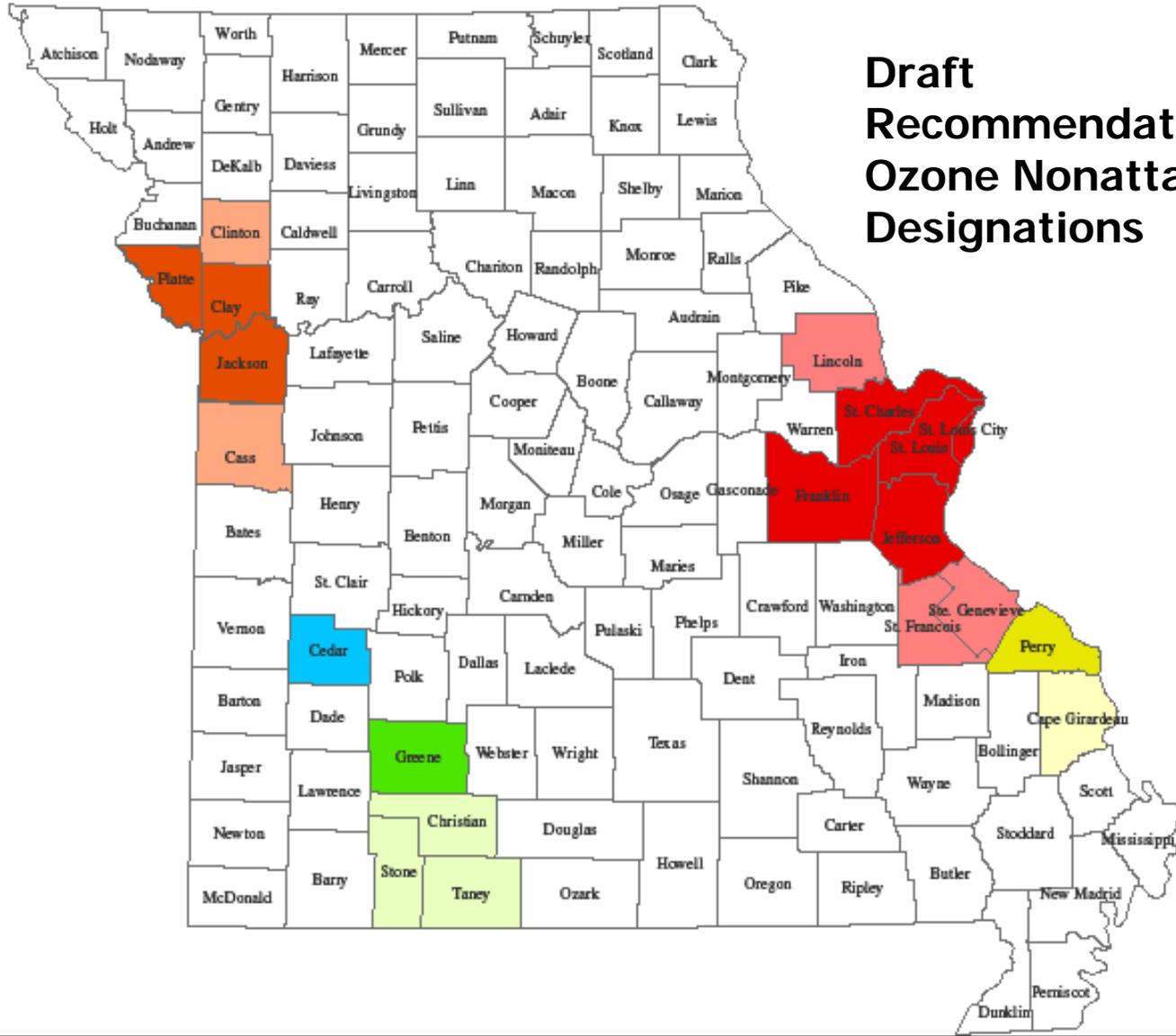
Questions to Determine Attainment Status

- Test #1 – Does a monitor in the area violate the standard?
- Test #2 – Do VOC and NO_x emission sources in each county contribute to ozone concentrations over the standard in a “nearby” area?

Draft Recommendation

- Nonattainment (Missouri)
 - Kansas City – Cass, Clay, Clinton, Jackson, Platte
- All other Missouri counties in the Kansas City area attainment

Draft Recommendation Ozone Nonattainment Designations



- Downwind Monitor violation - EDS
- Potential contribution - Springfield
- Potential contribution - Farrar
- Monitor violation - Kansas City
- Monitor violation - Springfield
- Downwind monitor violation - Farrar
- Monitor Violation - St. Louis
- Nonattainment - St. Louis
- Maintenance - Kansas City

Contribution Summary

County	Maint. Area/ MSA	2009 VOC Total % (TPD)	2009 NO _x Total % (TPD)	2007 Pop. % (1000)	Total Non- Met Summary
Jackson	Yes/Yes	35.3 (59.4)	35.6 (92.1)	40.6 (667)	111.5
Johnson (KS)	Yes/Yes	29.1 (49.0)	21.5 (55.5)	32.0 (526)	82.6
Wyandotte (KS)	Yes/Yes	14.2 (23.9)	17.1 (44.1)	9.4 (154)	40.6
Clay	Yes/Yes	14.7 (24.8)	9.2 (23.6)	12.9 (212)	36.8
Platte	Yes/Yes	6.7 (11.3)	16.6 (43.0)	5.2 (85)	28.5
Douglas (KS)	No/No	6.6 (11.2)	11.7 (30.3)	6.9 (113)	25.3
Linn (KS)	No/Yes	2.1 (3.5)	16.2 (41.9)	0.6 (10)	18.9
Buchanan	No/No	6.2 (10.4)	5.8 (15.0)	5.3 (86)	17.2
Henry	No/No	4.9 (8.3)	9.3 (24.1)	1.4 (22)	15.6
Cass	No/Yes	5.3 (8.9)	3.6 (9.4)	5.9 (97)	14.8
Leavenworth (KS)	No/Yes	3.8 (6.5)	2.6 (6.8)	4.5 (74)	11.0
Miami (KS)	No/Yes	2.7 (4.5)	4.9 (12.7)	1.9 (31)	9.5
Johnson	No/Yes	3.4 (5.8)	2.4 (6.2)	3.2 (52)	9.0

Contribution Summary (cont'd)

County	Maint. Area/ MSA	2009 VOC Total % (TPD)	2009 NO _x Total % (TPD)	2007 Pop. % (1000)	Total Non- Met Summary
Lafayette	No/Yes	3.7 (6.2)	3.2 (8.4)	2.0 (33)	8.9
Franklin (KS)	No/Yes	2.7 (4.5)	2.7 (7.1)	1.6 (26)	7.0
Ray	No/Yes	1.8 (3.1)	1.7 (4.5)	1.4 (23)	5.0
Bates	No/Yes	2.1 (3.5)	1.5 (4.0)	1.0 (17)	4.7
Jefferson (KS)	No/No	2.0 (3.4)	1.5 (3.8)	1.1 (18)	4.6
Clinton	No/Yes	1.9 (3.2)	1.2 (3.2)	1.3 (21)	4.4
Andrew	No/No	1.8 (3.0)	1.5 (3.8)	1.0 (17)	4.3
Atchison (KS)	No/No	1.4 (2.3)	1.3 (3.3)	1.0 (17)	3.7
Anderson (KS)	No/No	1.2 (2.0)	1.4 (3.6)	0.5 (8)	3.1
De Kalb	No/No	1.2 (2.1)	0.9 (2.3)	0.7 (12)	2.9
Caldwell	No/Yes	0.8 (1.3)	0.9 (2.3)	0.6 (9)	2.2

County-by-County Summary

- **Jackson County (Nonattainment)**
 - Largest emissions for both VOC (59.4 TPD) and NO_x (92.1 TPD) in the Kansas City area
 - No ozone monitoring in this county
 - Largest population in the area (666,890)
 - Largest annual VMT in the area (5.9 billion VMT/year)
 - Meteorological analysis is supportive of frequent contribution
 - 5% population growth rate predicted between 2000 and 2020
 - Located in the current 8-hour ozone maintenance area
 - Emission reductions have been realized from previous VOC/NO_x control requirements

County-by-County Summary

- **Clay County (Nonattainment)**
 - Third largest emission in Kansas City for VOC (24.8 TPD) and NOx emissions of 23.6 TPD
 - All monitors within the county monitor a violation of the standard (highest design value – Liberty and Rocky Creek 87 ppb) for 2005-07
 - Third largest population (211,952)
 - Third largest VMT in the area (2.3 billion/year)
 - Meteorological analysis is supportive of frequent contribution
 - 42% population growth between 2000 and 2020 (over 250,000 in 2020)
 - Located in the current Kansas City ozone maintenance area
 - Emission reductions have been realized from previous VOC/NOx control requirements

County-by-County Summary

- **Platte County (Nonattainment)**
 - Fourth largest emission in Kansas City for NO_x (43.0 TPD) and VOC emissions of 11.3 TPD
 - No ozone monitoring in the county
 - Population over 75,000 (84,881)
 - Fifth largest VMT in the area (1.4 billion/year)
 - Meteorological analysis is somewhat supportive of frequent contribution
 - 39% population growth between 2000 and 2020 (over 100,000 in 2020)
 - Located in the current Kansas City ozone maintenance area
 - Emission reductions have been realized from previous VOC/NO_x control requirements

County-by-County Summary

■ **Buchanan County (Attainment)**

- Combined emissions of nearly 25 TPD (VOC - 10.4 TPD and NOx - 15.0 TPD)
- No ozone monitoring in county; monitoring recommended to begin north of St. Joseph in 2009
- Population of more than 75,000 (86,485)
- Some connection to the Kansas City metropolitan area (6,100 residents working in the maintenance area)
- Medium VMT (803 million VMT/year)
- Meteorological analysis shows very limited contribution to all Kansas City monitors
- 5% projected population growth between 2000 and 2020
- Buchanan County is the center of the St. Joseph MSA, located adjacent to the Kansas City maintenance area
- Largest NOx emission source part of the statewide utility NOx rule

County-by-County Summary

■ Henry County (Attainment)

- Combined emissions over 30 TPD (VOC – 8.3 TPD and NOx – 24.1 TPD)
- No ozone monitoring in this county
- Population of less than 25,000 (22,398)
- Limited connection to Kansas City metropolitan area (along US-50)
- Low VMT (411 million VMT/year)
- Meteorological analysis is supportive of frequent contribution
- 7% projected population growth between 2000 and 2020
- Located adjacent to the Kansas City MSA
- Largest NOx emission source part of the statewide utility NOx rule

County-by-County Summary

■ **Cass County (Nonattainment)**

- Combined emissions over 15 TPD (VOC - 8.9 TPD and NOx – 9.4 TPD)
- Richards Gebaur South monitor violates the 8-hour ozone standard using 2005-07 (design value – 77 ppb), but demonstrates attainment of standard (design value – 72 ppb) using current 2006-08 data
- Population of nearly 100,000 (97,133)
- Largest connection to the Kansas City maintenance area for a county outside the area
- High VMT (1.1 billion VMT/year)
- Meteorological analysis is supportive of frequent contribution
- 48% projected population growth between 2000 and 2020 (over 120,000 people in 2020)
- Located within the Kansas City MSA, and upwind of the current Kansas City ozone maintenance area

County-by-County Summary

■ **Johnson County (Attainment)**

- Combined emissions under 15 TPD (VOC - 5.8 TPD and NOx – 6.2 TPD)
- No ozone monitoring in this county
- Population of more than 50,000 (51,928)
- 4,530 residents work in current Kansas City maintenance area
- Medium VMT (612 million VMT/year) – along US Highway 50
- Meteorological analysis shows limited support for contribution
- 20% projected population growth between 2000 and 2020
- Located in the Kansas City MSA

County-by-County Summary

■ **Lafayette County (Attainment)**

- Combined emissions under 15 TPD (VOC - 6.2 TPD and NOx – 8.4 TPD)
- No ozone monitoring in this county
- Population of less than 50,000 (32,677)
- 5,367 residents work in current Kansas City maintenance area
- Medium VMT (759 million VMT/year) – along Interstate 70
- Meteorological analysis shows limited support for contribution
- Flat population growth between 2000 and 2020
- Located in the Kansas City MSA

County-by-County Summary

- **Ray and Caldwell Counties (Attainment)**
 - Combined emissions less than 10 TPD (Ray/Caldwell VOC – 3.1/1.3 TPD and NO_x -4.5/2.3 TPD)
 - No ozone monitoring in either county
 - Population of less than 25,000 (Ray 23,482 and Caldwell 9,284)
 - Some connection to the Kansas City maintenance area for Ray and very limited connection to the maintenance area for Caldwell
 - Low VMT (Ray 216 million and Caldwell 177 million VMT/year)
 - Meteorological analysis suggest downwind of the Kansas City area under predominant winds
 - Both counties are projected to grow less than 15% between 2000 and 2020 (2020 population of less than 25,000 for both)
 - Both located in the Kansas City MSA with Ray adjacent to current Kansas City maintenance area

County-by-County Summary

■ **Bates County (Attainment)**

- Combined emissions less than 10 TPD (VOC – 3.5 TPD and NOx – 4.0 TPD)
- No ozone monitoring in county
- Population of less than 20,000 (17,034)
- Limited connection to the Kansas City area
- Low VMT (338 million VMT/year)
- Meteorological analysis is somewhat supportive of frequent contribution
- 9% projected population growth between 2000 and 2020
- Located in the Kansas City MSA

County-by-County Summary

■ Clinton County (Nonattainment)

- Combined emissions under 10 TPD (VOC - 3.2 TPD and NOx – 3.2 TPD)
- Trimble monitor in violation of the standard (2005-07 design value – 85 ppb; 2006-08 design value – 79 ppb)
- Population of less than 25,000 (20,894)
- Moderate connection to the current Kansas City maintenance area (4,156 residents working in KC MA)
- Low VMT (356 million VMT/year)
- Meteorological analysis illustrates the Trimble monitor is a recipient of ozone and precursors from the upwind Kansas City area)
- 31% population growth between 2000 and 2020 (nearly 25,000 in 2020)
- Located in the Kansas City MSA, adjacent to the Kansas City maintenance area

County-by-County Summary

■ **Andrew and De Kalb Counties (Attainment)**

- Combined emissions less than 10 TPD (both VOC less than 4 TPD and both NO_x less than 4 TPD)
- No ozone monitoring in counties; monitoring recommended to begin north of St. Joseph in 2009
- Populations of less than 20,000
- Very limited connection to the Kansas City metropolitan area
- Low VMT (Both less than 400 million VMT/year)
- Meteorological analysis suggest downwind of the Kansas City area under predominant winds
- Both counties are projected to grow less than 12% between 2000 and 2020 (2020 population of less than 20,000 for both)
- Both counties are located in the St. Joseph MSA and are not adjacent to the Kansas City MSA

Timeline for Implementation

<u>Milestone</u>	<u>Date</u>
EPA Administrator signed final rule	March 12, 2008
Effective Day of final rule (60 days following the publication in the Federal Register)	June 2008
State provide recommendations on designations to EPA	March 2009 (based on 2005-2007 monitoring data)
Final Designations by EPA	March 2010
Effective Date of Designations	Summer 2010
SIPs Due	Summer 2013
Attainment Dates	2013-2030 depending on severity of problem

Opportunity for Input

- Review technical support document and proposed recommendation posted on the webpage for ozone designation process
 - <http://www.dnr.mo.gov/env/apcp/ozone/8hourdesignationprocess.htm>
- Provide comments on the recommendation or any data, if necessary

Next Steps in Designation Process

- Today's meeting is the last meeting for this process
 - Designations proposed at this time are not necessarily final
 - Still have an opportunity to review technical data and rationale for recommendation and provide comments
- The overall draft recommendation will be made available for the entire state of Missouri by November 4th
 - 30 days prior to the public hearing before the Missouri Air Conservation Commission on December 4, 2008

Missouri Timeline for Boundary Designation Submission

- Public comment period
 - Comment period to start in early November
- Public hearing
 - December 4th MACC meeting
- MACC adoption of boundary recommendations
 - February MACC meeting

Questions/Comments?

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