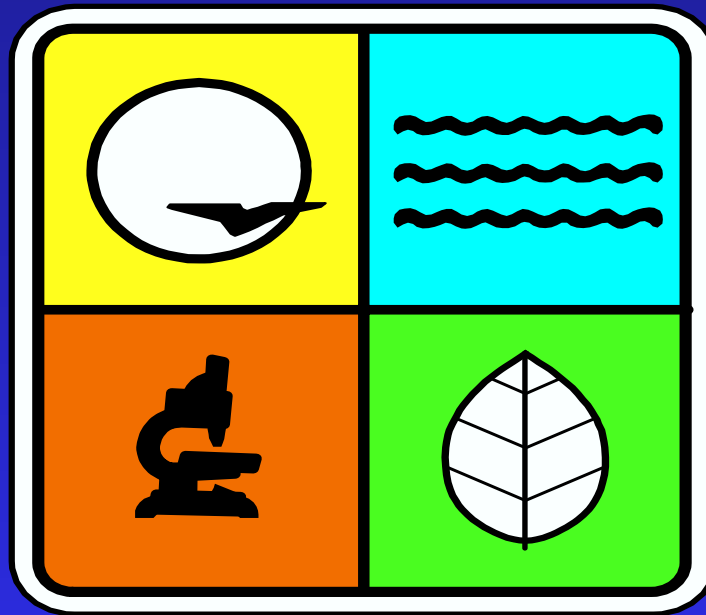


US EPA ARCHIVE DOCUMENT

Public Information and Consultation Meeting **BOUNDARY DESIGNATION**

Eight-hour Ozone Standard

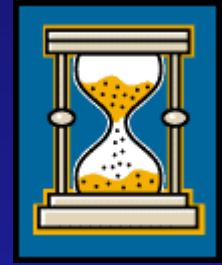


Refaat Mefrakis, P.E.

EPA's Request

- **Requested designation recommendations and documentation from each State Governor be submitted to the Regional Administrator by April 15, 2003.**

Consent Decree



- **Set April 15, 2004, as the date that area designations for the 8-hour ozone standard will be finalized by EPA.**

Missouri Submittal in 2000

- **Recommendation and technical support document in July 2000**

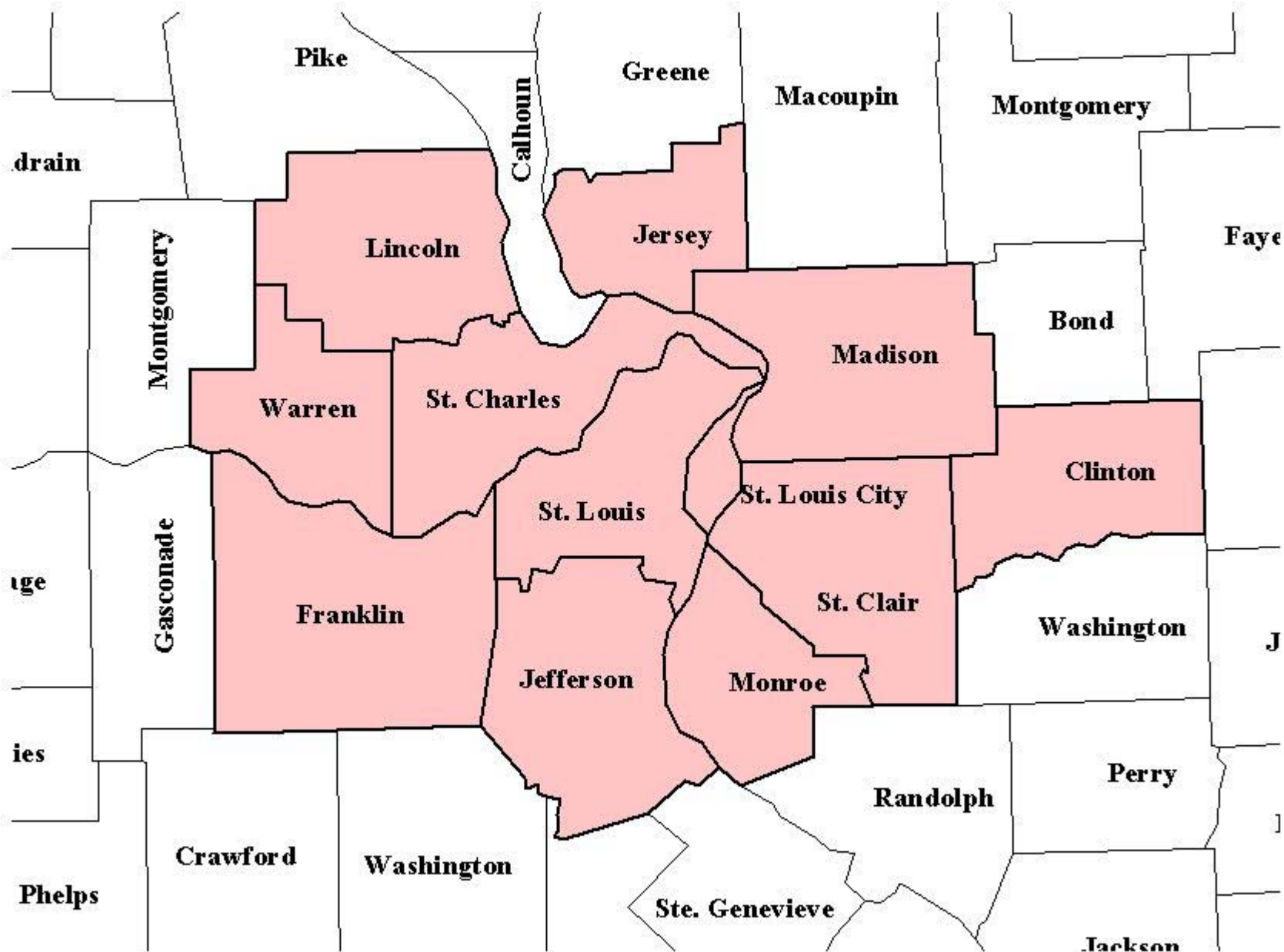
- <http://www.dnr.state.mo.us/alpd/apcp/homeapcp.htm>



Criteria for Establishing Boundaries

- Area designations are based on air quality data.
- Any area that does not meet **or that contributes to nearby** areas not meeting the ambient air quality standard.
- EPA recommends that **C/MSA** serve as the presumptive boundary for 8-hour ozone nonattainment areas.

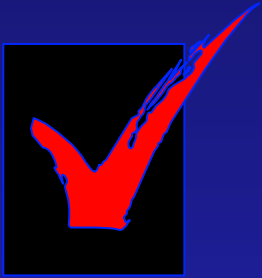
ST. LOUIS MSA





EPA Guidance for Establishing Boundaries

- **EPA asks states wishing to propose boundaries different than the C/MSA to address 11 different factors.**



Factors to Consider

- **Emission and Air Quality**
- **Population Density and Degree of Urbanization**
- **Monitoring Data**
- **Location of Emissions Sources**
- **Traffic and Commuting Pattern**
- **Expected Growth**



Factor to Consider Cont'd

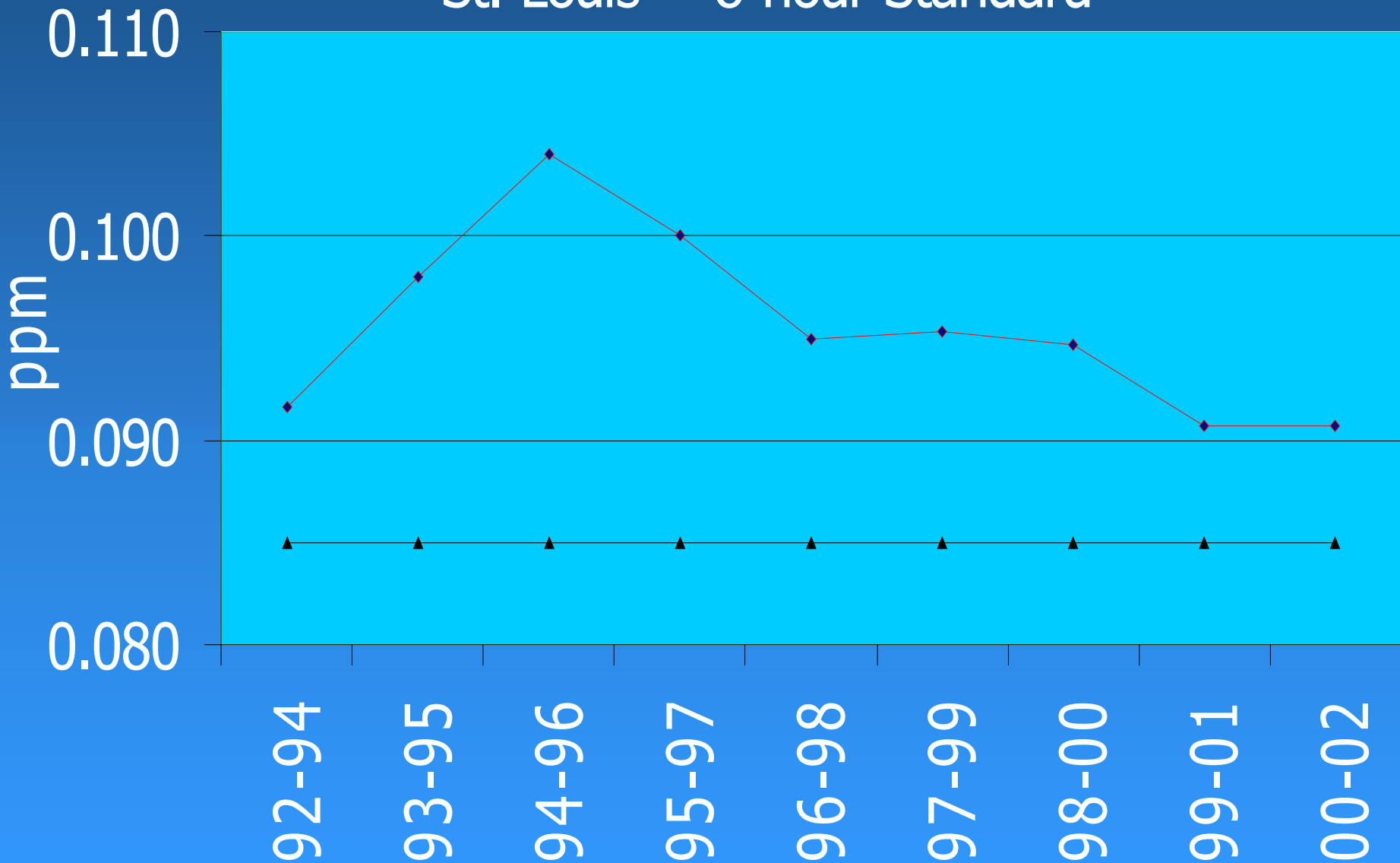
- **Meteorology**
- **Geography/ Topography**
- **Jurisdictional Boundaries**
- **Level of Control of Emission Sources**
- **Regional Emissions Reductions**

What's a Nonattainment Area?

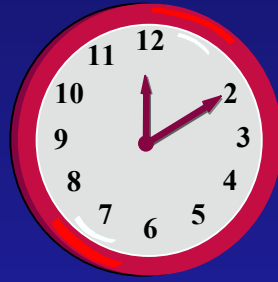
- Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

8-hour Design Values

St. Louis 8-hour Standard



Summary of Timeline



- States are to update recommended designation during 2003.
- Promulgate air quality designation in April of 2004.
- State Implementation Plans are due by 2007.



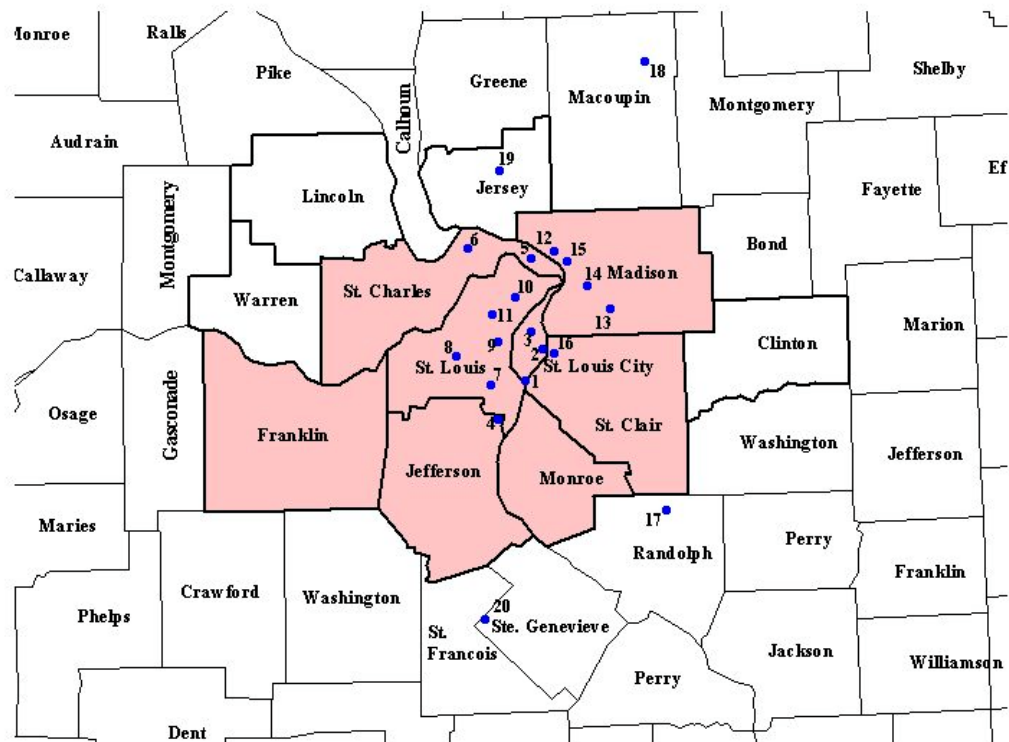
Technical Support Document

Jeffry D. Bennett, P. E.

Progress to Date



- **Review of July 2000 recommendation and technical support document**
- **Collection of “new” information (air quality monitoring data, emissions, traffic count/VMT, population)**

CURRENT MONITORING LOCATIONS IN THE ST. LOUIS AREA



● Current Monitors

- | | |
|------------------|-----------------------|
| 1 South Broadway | 11 Breckenridge Hills |
| 2 Clark | 12 Alton (IL) |
| 3 Margaretta | 13 Maryville (IL) |
| 4 Arnold | 14 Edwardsville (IL) |
| 5 West Alton | 15 Wood River (IL) |
| 6 Orchard Farm | 16 E. St. Louis (IL) |
| 7 Sunset Hills | 17 Houston (IL) |
| 8 Queeny Park | 18 Nilwood (IL) |
| 9 Ladue | 19 Jerseyville (IL) |
| 10 Ferguson | 20 Bonne Terre |

 MSA
 STL Non-Attainment Area



Missouri Department of Natural Resources
 Air and Land Protection Division
 Air Pollution Control Program
 Cartography by Donald Cripe, January 2003

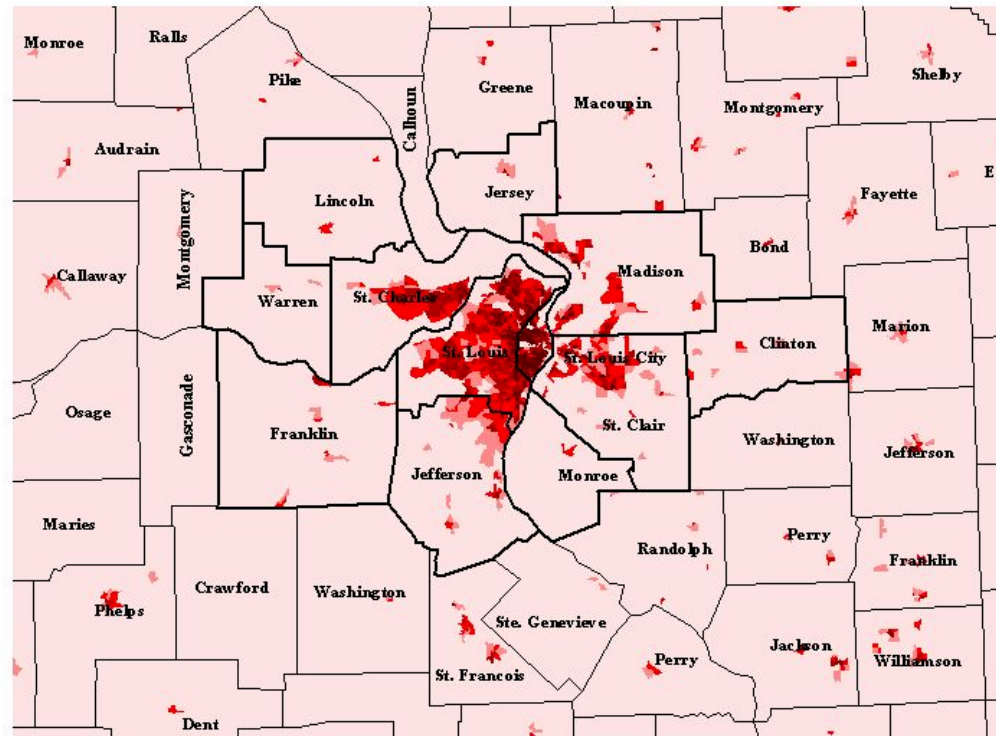
8-hour Ozone Design Values

Monitor	95-97	96-98	97-99	98-00	99-01	00-02
	Average	Average	Average	Average	Average	Average
West Alton	100	95	95	94	90	90
Orchard Farm	93	90	91	92	90	90
Jerseyville (IL)	84	85	91	91	89	89
S. Lindbergh	83	84	89	89	88	89
Queeny Park	81	82	85	90	88	88
Newstead	83	81	83	-	-	-
Margaretta						88
Arnold	90	87	92	91	89	86
Ferguson	88	87	89	88	85	86
St. Ann	85	84	87	87	-	-
Breckenridge						86*
E. St. Louis (IL)	78	76	80	82	82	85
Bonne Terre		88	88	90	85	84
Alton (IL)	93	86	86	81	82	84
Clayton – Hunter	83	81	82	83	81	84
S. Broadway	82	79	79	81	81	82
Edwardsville (IL)	88	86	87	86	81	81
Wood River (IL)	89	87	85	82	80	80
Nilwood (IL)	83	81	80	82	80	80
Maryville (IL)	88	87	85	82	78	80
Houston (IL)	78	78	78	80	78	79
Clark & Tucker	72	75	78	74	73	73

BOLD denotes monitors that exceed the 85 ppb cutoff

*2001 and 2002 data only

2000 POPULATION DENSITY FOR COUNTIES IN THE ST. LOUIS AREA



Population Density

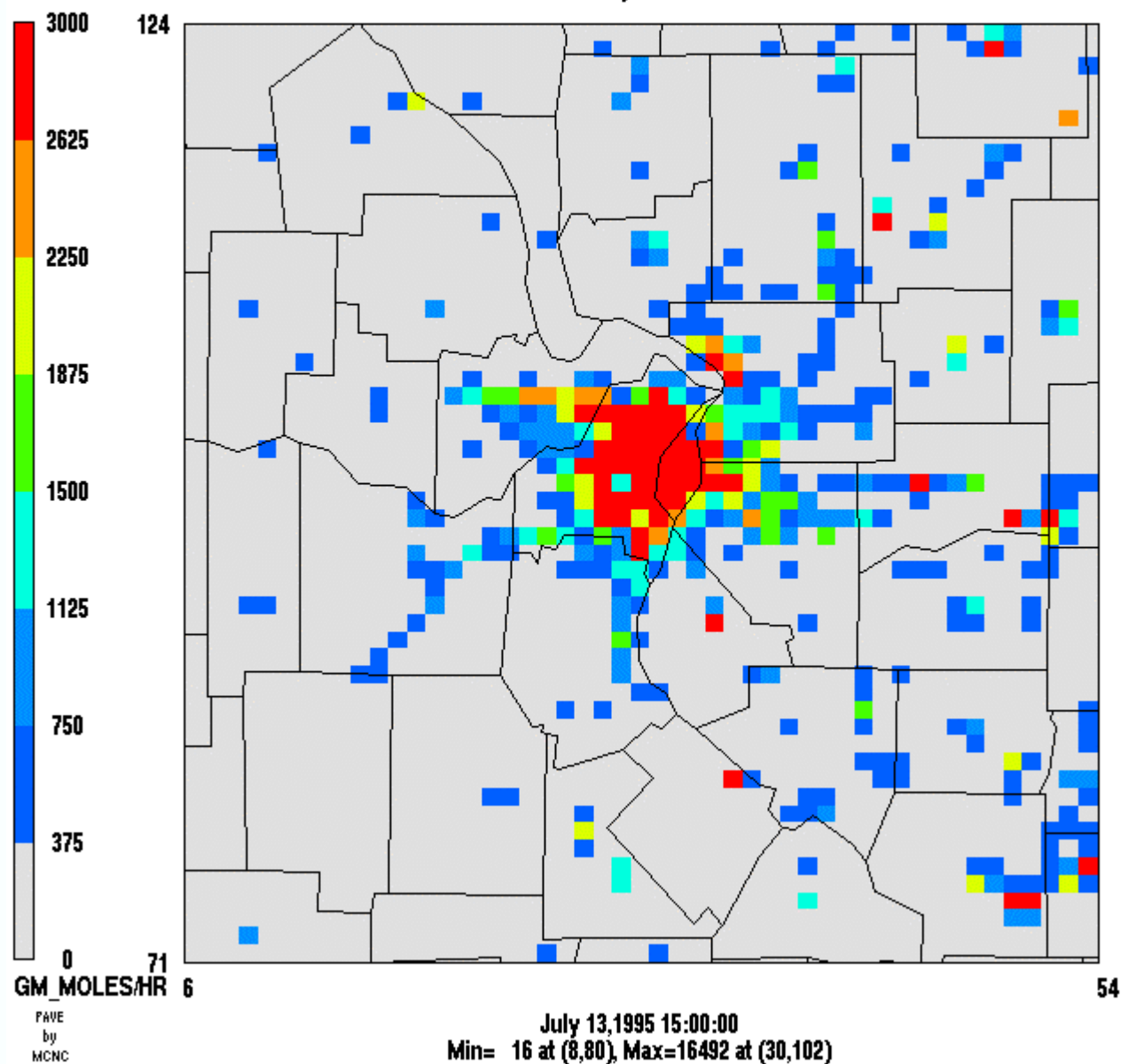


Population and Emissions Summary

	1990	2000	1999 NOx (TPD)				1999 VOC (TPD)			
	population	population	Point	Area	Mobile	Total	Point	Area	Mobile	Total
MISSOURI										
ST. LOUIS	993,529	1,016,315	24.0	51.7	108.8	184.5	18.0	55.8	65.1	138.9
ST. LOUIS CITY	396,685	348,189	7.6	21.8	28.5	57.9	12.6	16.0	17.0	45.6
ST. CHARLES	212,907	283,883	63.0	16.2	24.5	103.7	6.6	13.0	14.7	34.3
JEFFERSON	171,380	198,099	35.1	6.7	17.7	59.5	3.2	7.3	10.6	21.1
FRANKLIN	80,603	93,807	33.6	9.4	12.4	55.4	3.6	5.4	8.3	17.3
Lincoln	28,892	38,944	0.4	1.4	4.0	5.8	0.4	4.2	2.5	7.0
Warren	19,534	24,525	0.4	1.1	4.4	5.9	0.5	4.0	2.8	7.2
Missouri MSA	1,903,530	2,003,762	164.1	108.4	200.3	472.8	44.8	105.8	121.0	271.6
St. Francois	48,904	55,641	1.3	1.5	5.2	8.0	0.3	5.5	3.2	9.0
Washington	20,380	23,344	0.1	0.4	2.2	2.7	0.2	2.4	2.2	4.7
Crawford	19,173	22,804	0.1	0.8	4.4	5.3	0.7	3.6	2.8	7.1
Pike	15,969	18,351	29.7	1.6	2.5	33.8	8.3	2.7	1.6	12.6
Ste. Genevieve	16,037	17,842	11.5	0.8	3.4	15.7	0.5	1.9	2.1	4.5
Gasconade	14,006	15,342	0.2	0.8	1.8	2.8	0.4	2.4	1.1	3.9
Montgomery	11,355	12,136	0.3	1.1	4.0	5.4	0.0	1.9	2.5	4.4
ILLINOIS										
MADISON	249,238	258,941	57.3	11.8	27.5	96.6	12.9	24.2	13.7	50.9
ST. CLAIR	262,852	256,082	4.7	10.4	26.0	41.0	4.4	21.2	13.0	38.6
MONROE	22,422	27,619	0.7	3.2	3.3	7.1	0.2	4.9	1.8	6.8
Clinton	33,944	35,535	8.4	4.6	3.8	16.7	0.4	7.6	3.0	11.0
Jersey	20,539	21,668	0.0	2.8	2.2	5.0	0.4	2.7	3.0	6.0
Illinois MSA	588,995	599,845	71.0	32.8	62.8	166.5	18.3	60.7	34.3	113.2

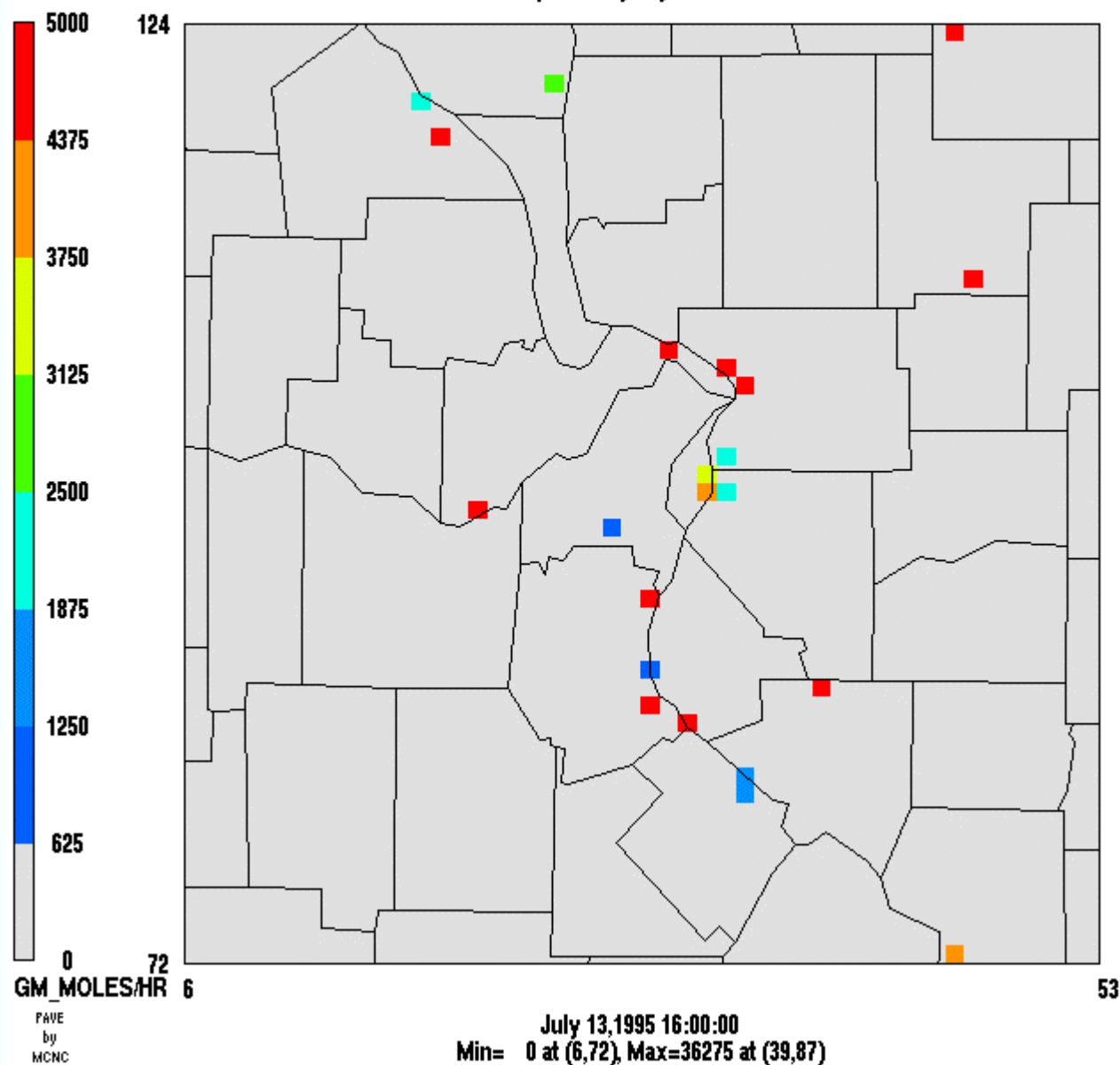
Total Low-level NOx Emissions

2003 Attainment Demonstration Inventory
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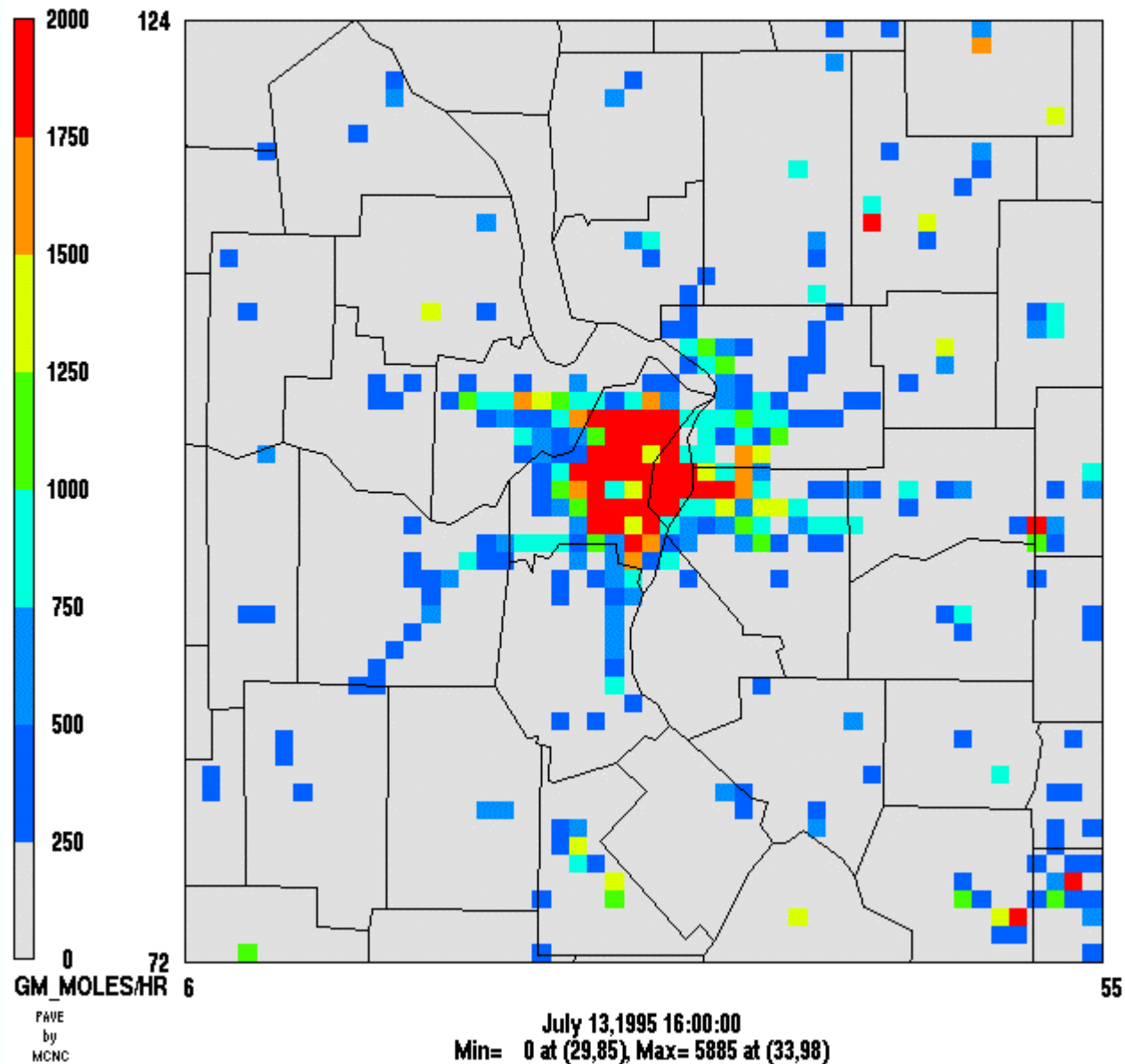
Elevated Point Source NOx Emissions

2003 Attainment Demonstration Inventory
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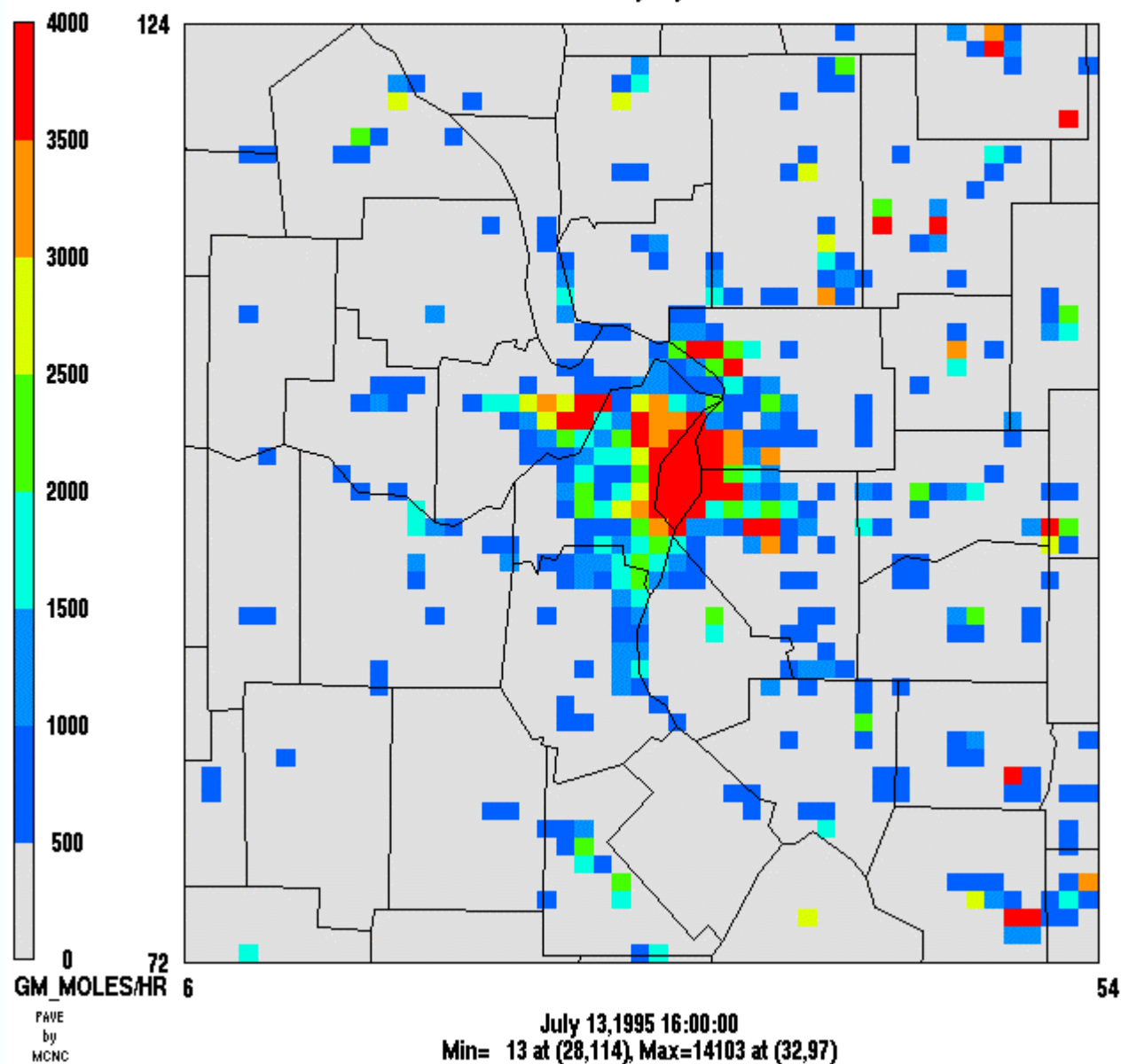
Mobile Source VOC Emissions

2003 Attainment Demonstration Inventory
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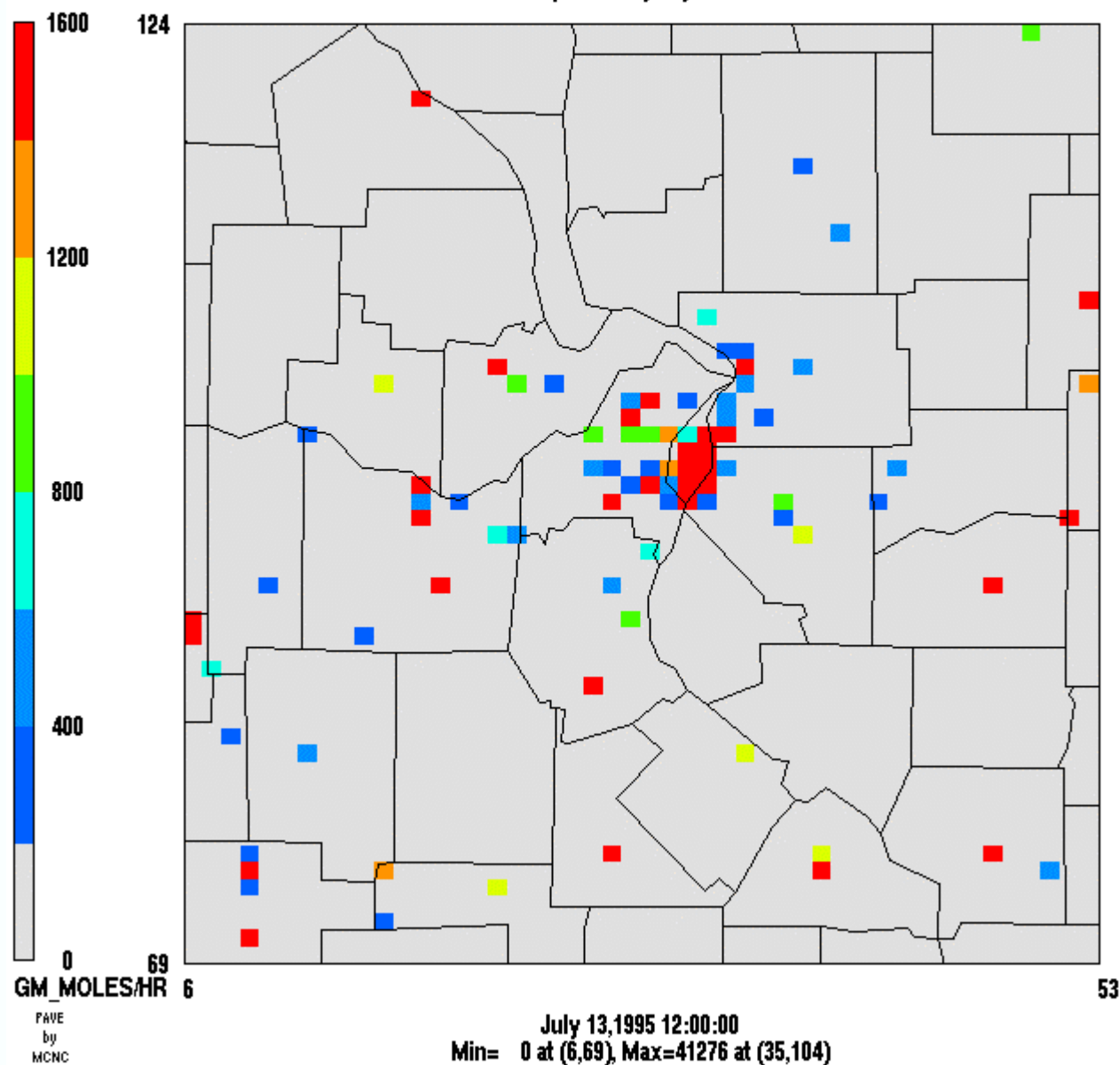
Area Source VOC Emissions

2003 Attainment Demonstration Inventory
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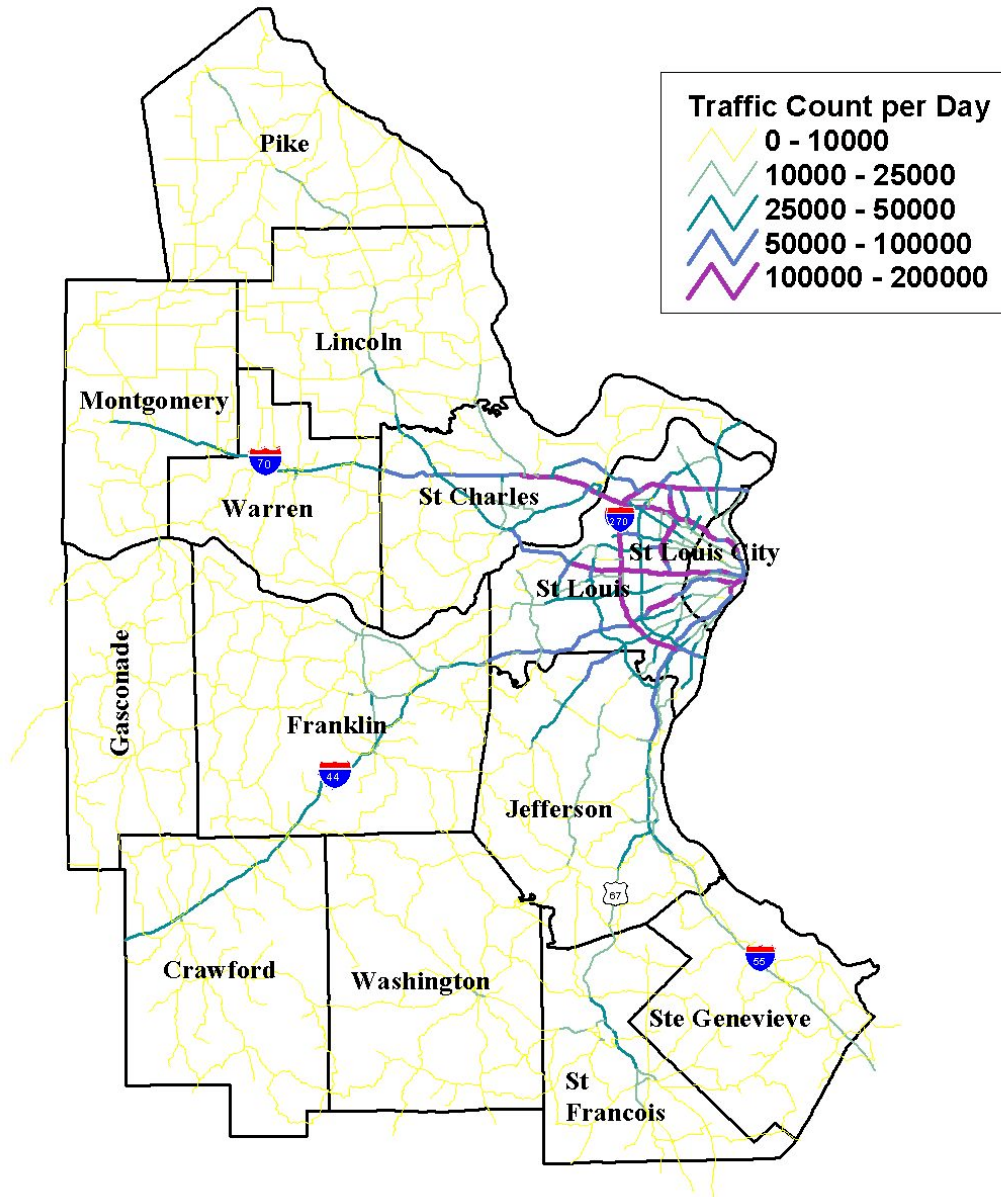


Low-level Point Source VOC Emissions

2003 Attainment Demonstration Inventory
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2001 TRAFFIC COUNT FOR MISSOURI COUNTIES IN THE ST. LOUIS AREA



Regional NOx Controls

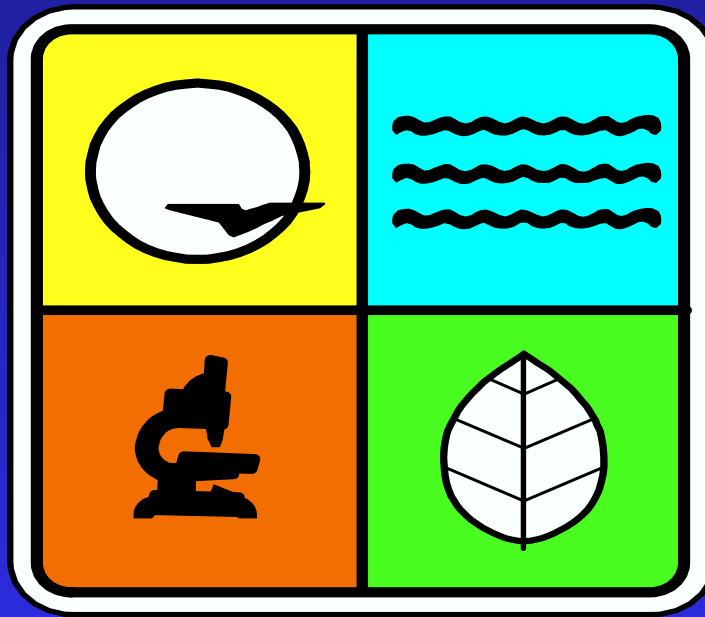
- **10 CSR 10-6.350 -- Missouri Statewide NOx Trading Rule**
- **Control of emissions from electric generating units in eastern 1/3 of Missouri to 0.25 lb NOx/MMBTU and 0.35 lb NOx/MMBTU in western 2/3 of Missouri**

Summary

- MDNR will continue to collect and review information to be used in support of the 8-hour designation recommendation
- Upon completion of that effort (including input from the affected communities), MDNR will propose boundary designations for areas in Missouri

Public Information and Consultation Meeting BOUNDARY DESIGNATION

Eight-hour Ozone Standard



Refaat Mefrakis, P.E.

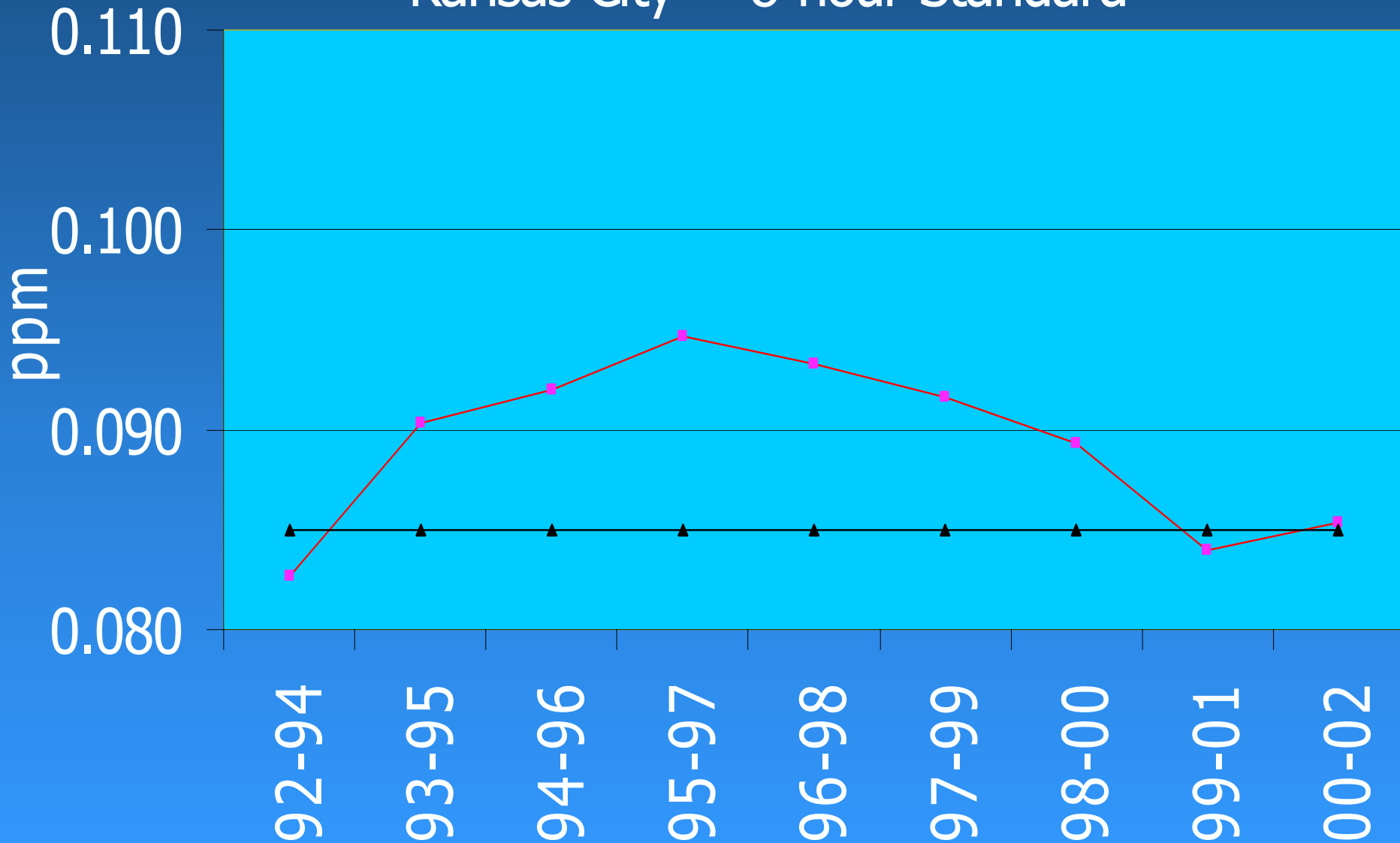
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8-hour Design Values

■ Kansas City ▲ 8-hour Standard

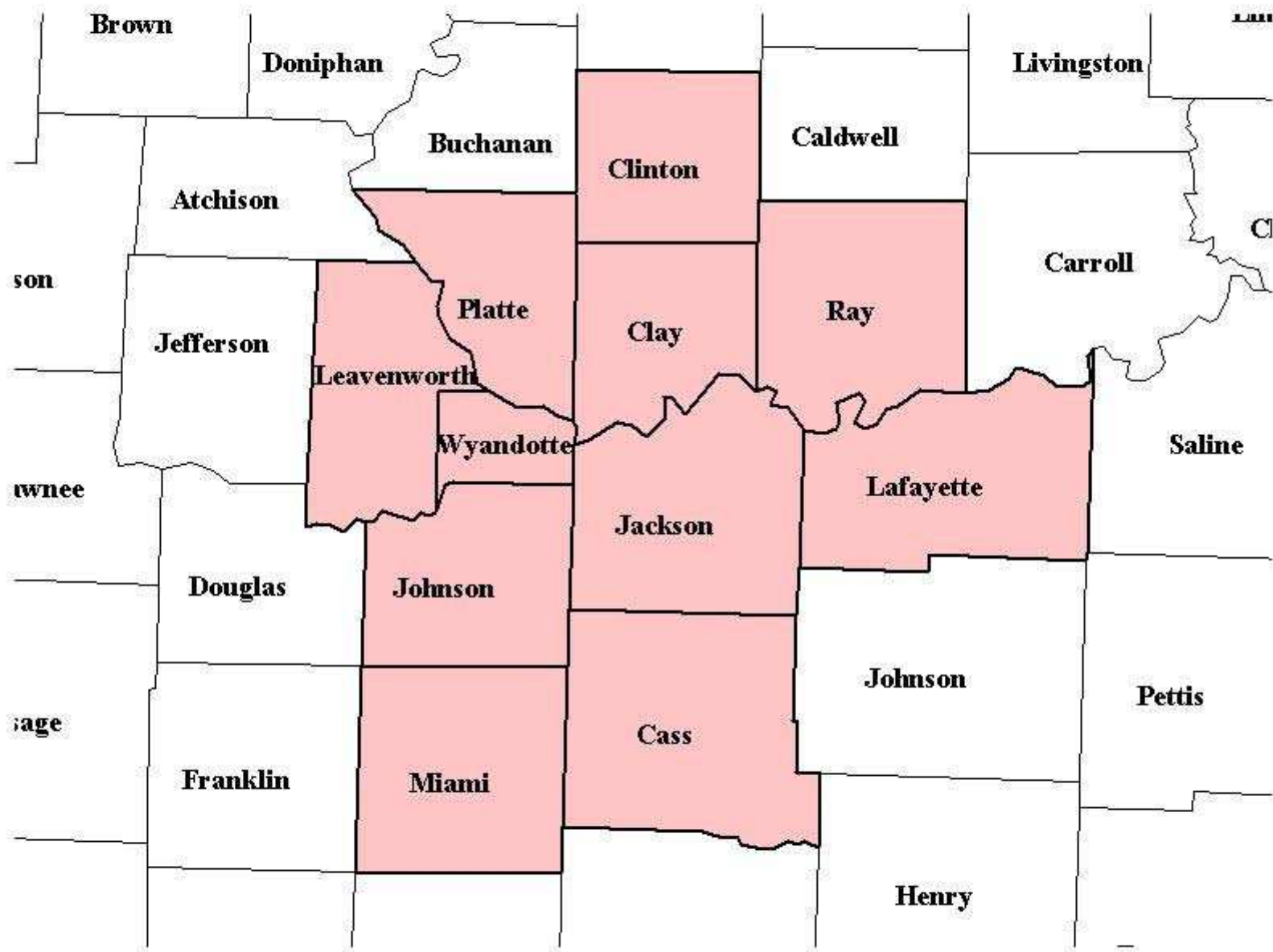




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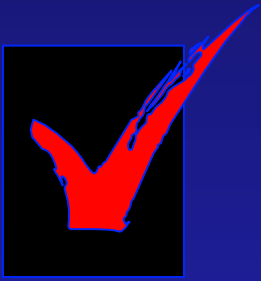
KANSAS CITY MSA





EPA Guidance for Establishing Boundaries

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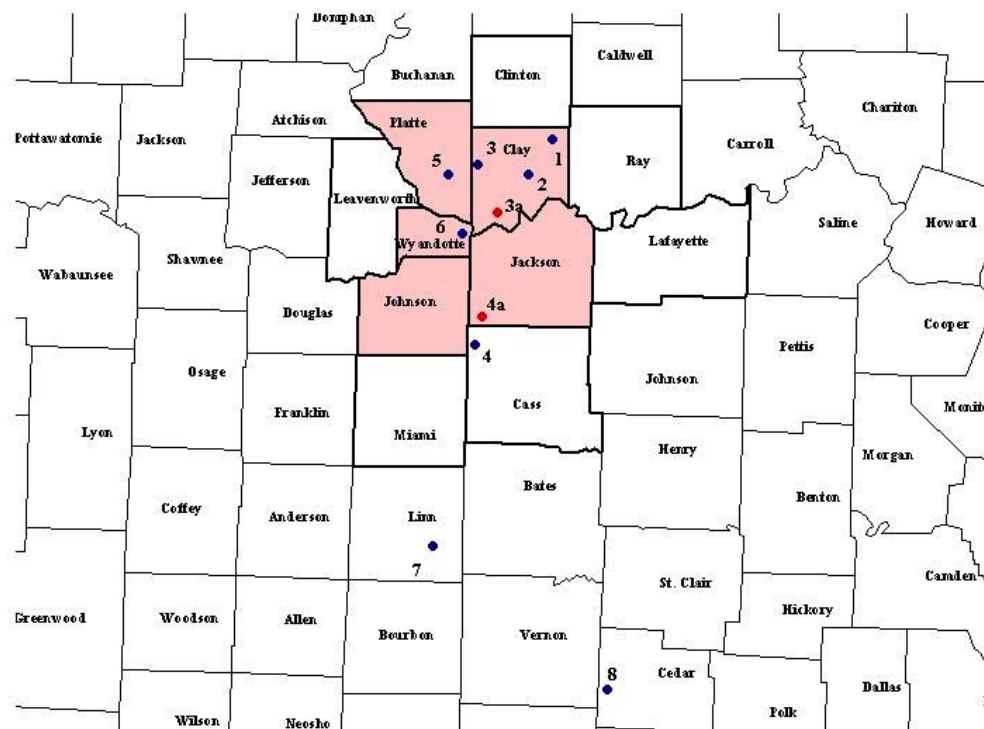
Technical Support Document

Jeffry D. Bennett, P. E.

Progress to Date

- **Review of July 2000 recommendation and technical support document**
 - <http://www.dnr.state.mo.us/alpd/apcp/homeapcp.htm>
- **Collection of “new” information (air quality monitoring data, emissions, traffic count/VMT, population, meteorology)**

MONITORING LOCATIONS IN THE KANSAS CITY AREA

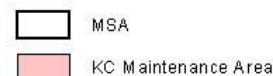


● Current Monitors

- 1 Watkins Mill State Park
- 2 Liberty
- 3 Rocky Creek
- 4 Richards Gebaur - South
- 5 KCI Airport
- 6 JFK - Wyandotte Co (KS)
- 7 Mine Creek (KS)
- 8 El Dorado Springs

● Relocated Monitors

- 3a Worlds of Fun
- 4a Richards Gebaur



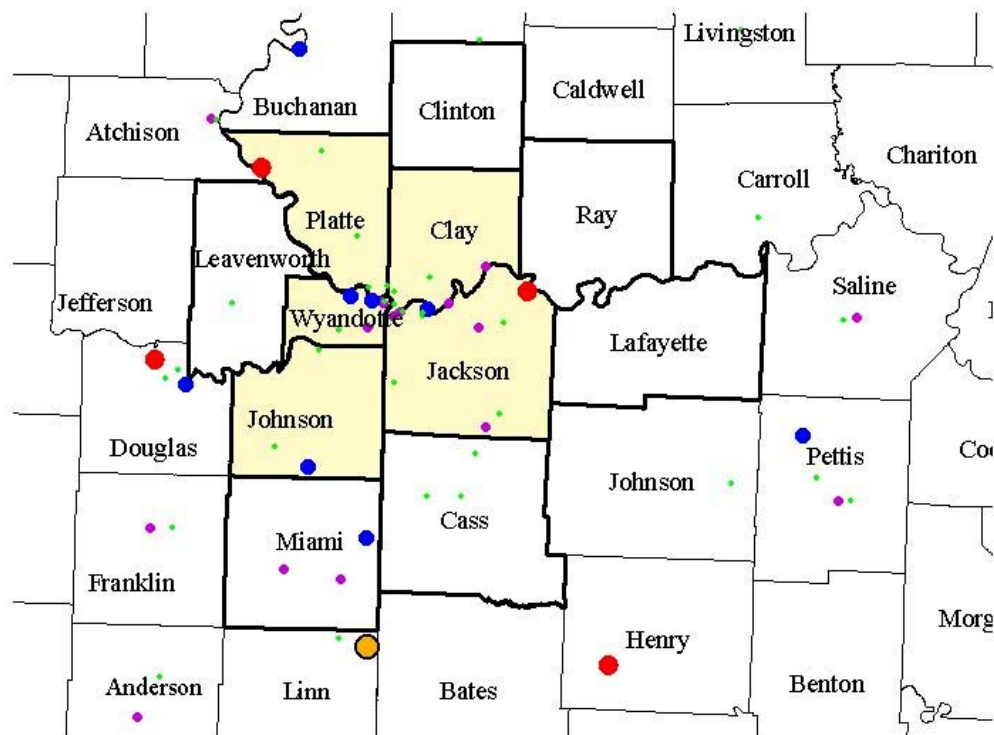
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	Average	Average	Average	Average	Average	Average
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Watkins Mill	91	89	90	86	80	80
KCI	86	86	85	85	81	84
Worlds of Fun	80	80	83	85	82	-
Richards Gebaur	73	72	75			
Richards Gebaur South						79
Rocky Creek						91**
Wyandotte Co. (KS)	85	84	82	84	80	81
El Dorado Springs				88	84	83
Mine Creek (KS)				81	79	76

BOLD denotes monitors that exceed the 85 ppb cutoff

**2002 Data Only at Rocky Creek

NOx POINT SOURCES KANSAS AND MISSOURI



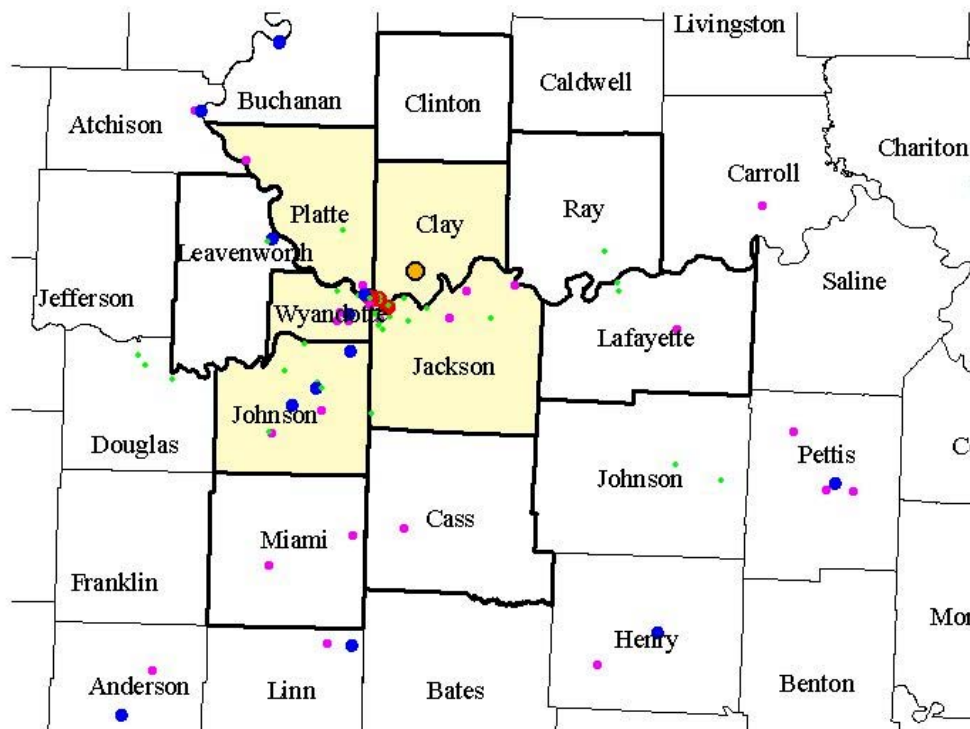
MSA
 KC Maintenance Area

NOx Emissions in TPY

- 25-100
- 100-1,000
- 1,000-5,000
- 5,000-25,000
- 25,000+



VOC POINT SOURCES KANSAS AND MISSOURI



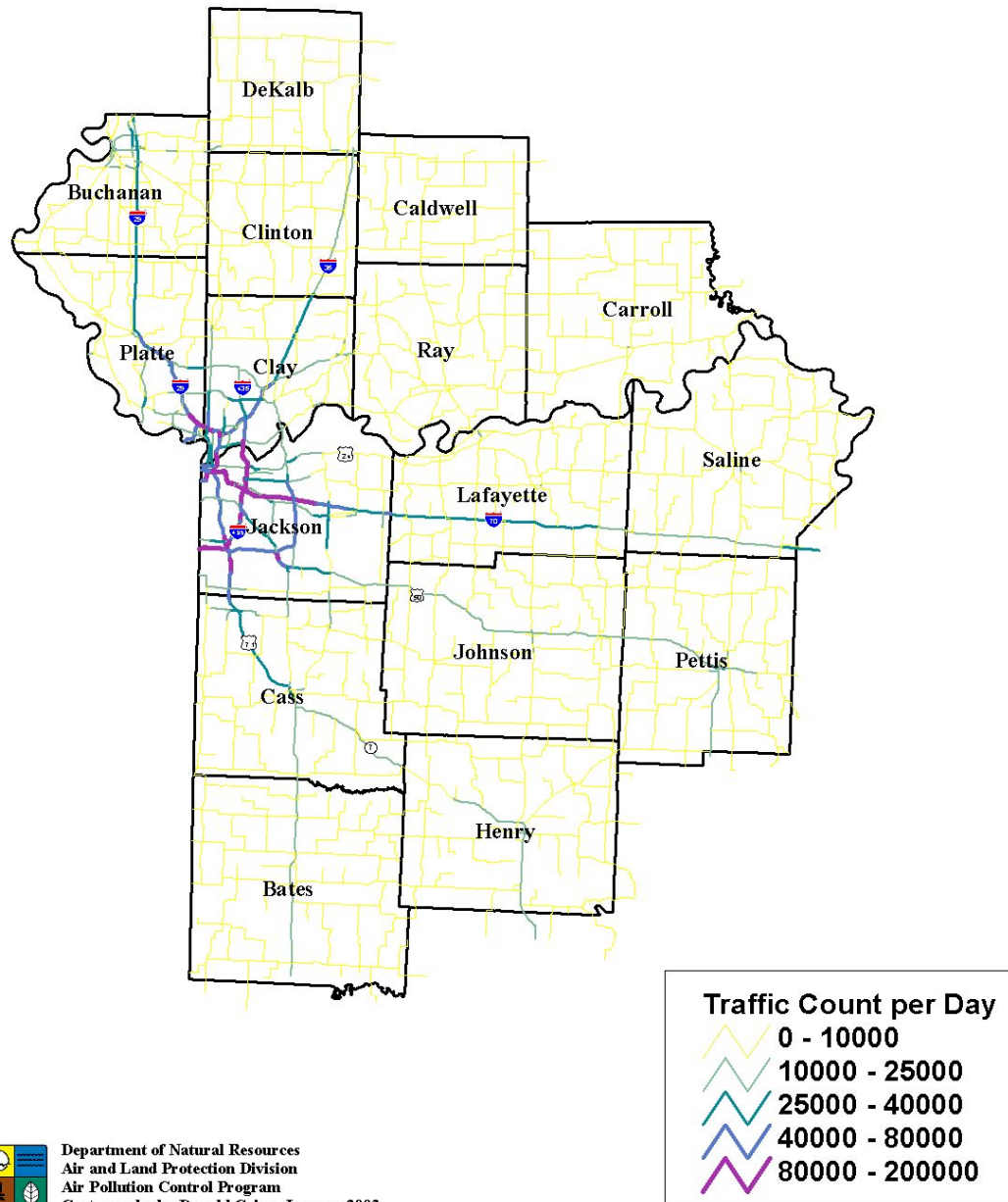
MSA
 KC Maintenance Area

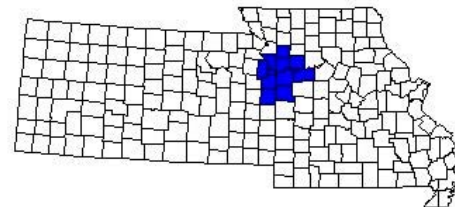
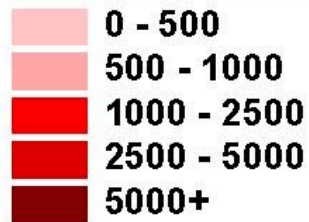
VOC Emissions in TPY

- 25 - 50
- 50.01 - 100
- 100.01 - 300
- 300.01 - 1,000
- 1,000+

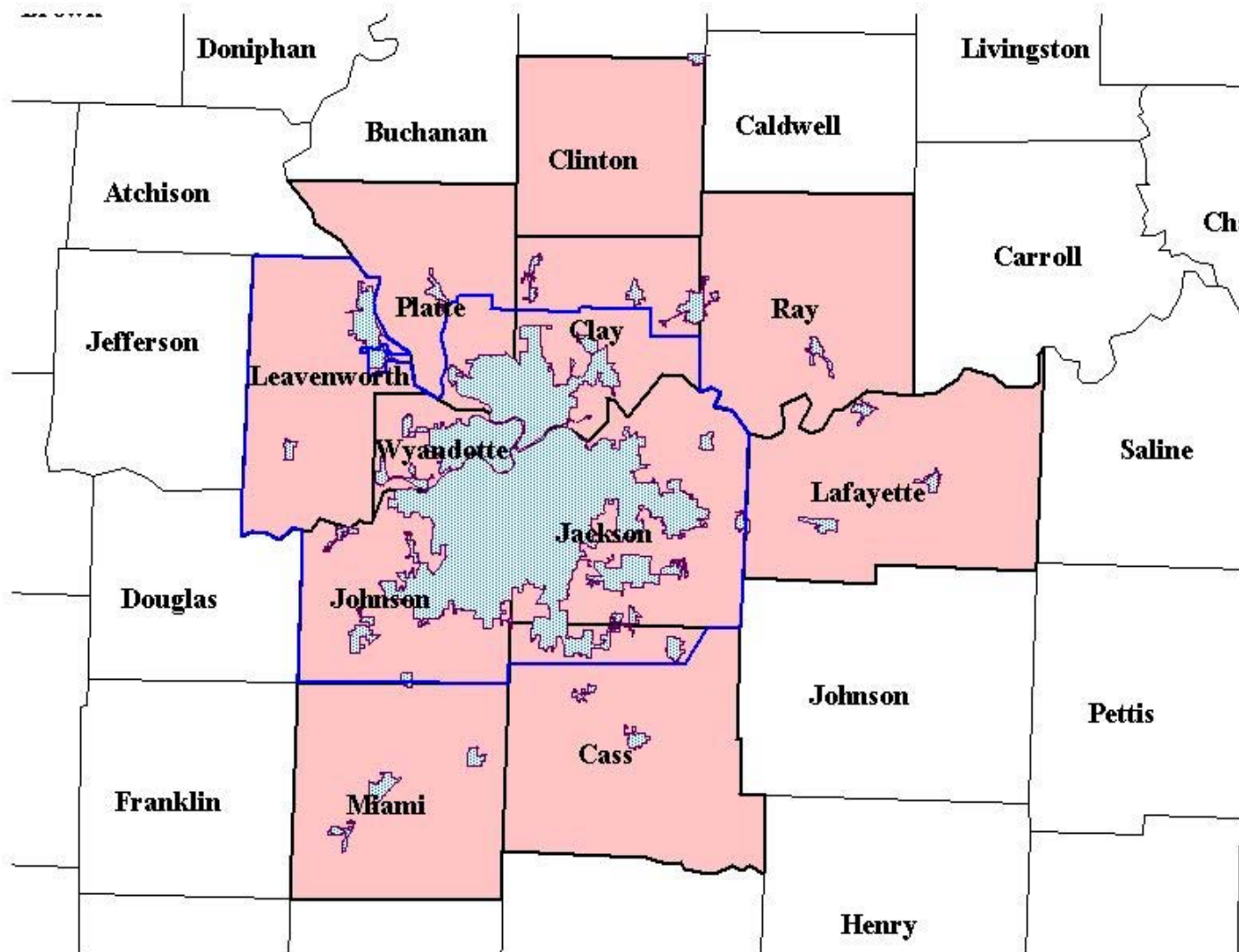


2001 TRAFFIC COUNT FOR MISSOURI COUNTIES IN THE KANSAS CITY AREA

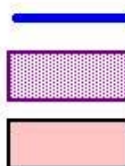




KANSAS CITY AREA BOUNDARIES



Department of Natural Resources
Air and Land Protection Division
Air Pollution Control Program
Cartography by Donald Cripe, January 2003



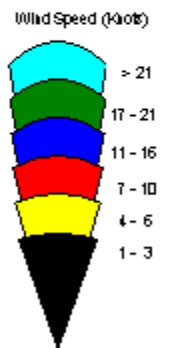
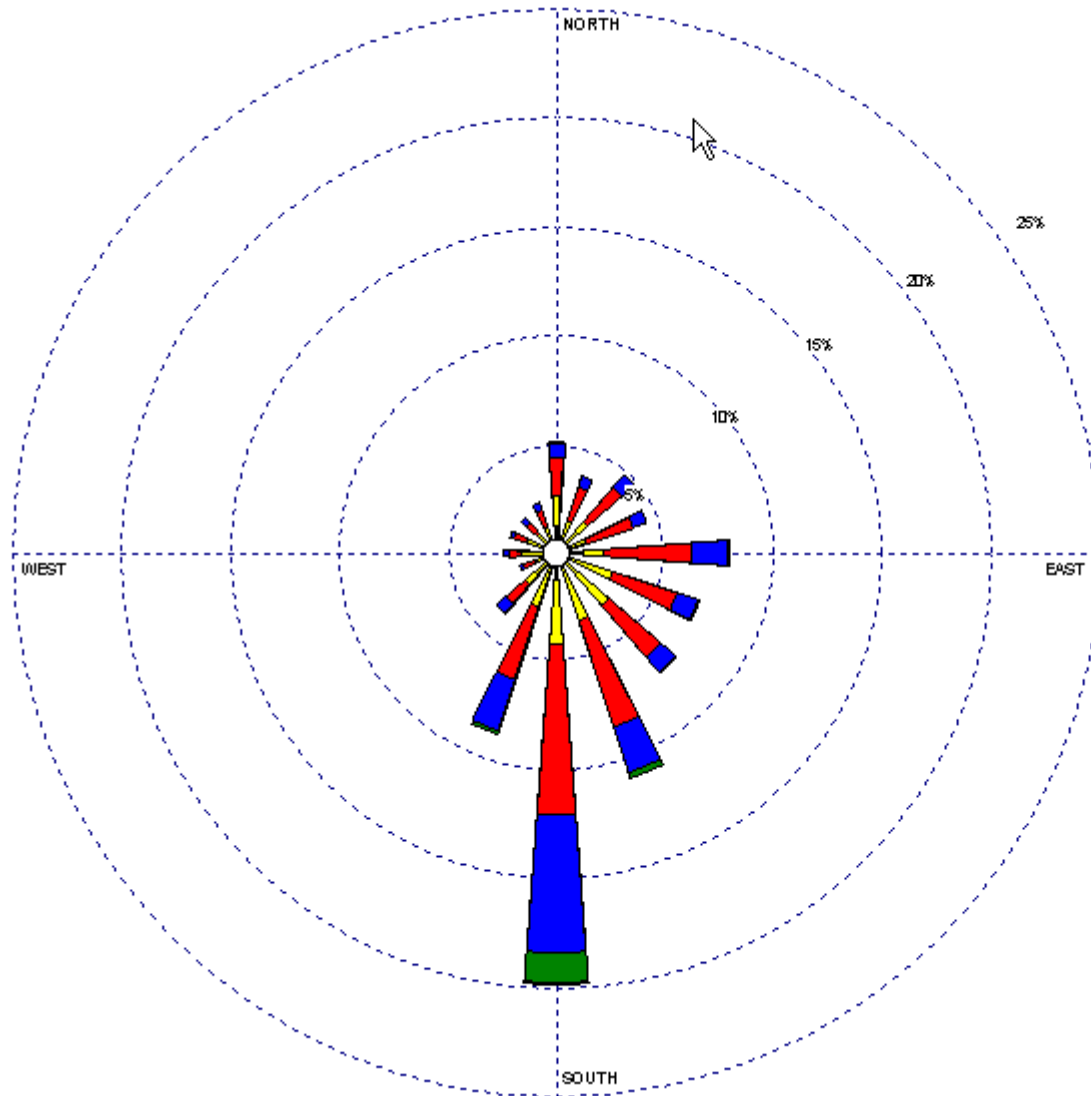
MPO BOUNDARY

URBAN AREAS

MSA



KC Windrose (June - August)



Regional NOx Controls

- **10 CSR 10-6.350 -- Missouri Statewide NOx Trading Rule**
- **Control of emissions in western 2/3 of Missouri to 0.35 lb NOx/MMBTU from electric generating units**

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