



Springfield/Southwest Missouri Area

CURRENT AIR QUALITY

The current and recent past air quality information for 8-hour ozone in the Springfield/Southwest Missouri area is shown below in Tables SW1 and SW2. Table SW1 contains the 4th highest concentration and Table SW2 contains the design value for each monitor/year pair. Figure SW1 denotes the locations of the monitors within the Springfield/Southwest Missouri ozone network.

TABLE SW1

Monitor	2000	2001	2002	2003	2004	2005	2006	2007	2008
S. Charleston	78	72	78	71					
Hillcrest	74	71	74	72	64	77	74	80	67
Fellows Lake									69
El Dorado Springs	94	74	82	80	71	79	75	74	67

TABLE SW2

Monitor	00-02 Avg	01-03 Avg.	02-04 Avg	03-05 Avg	04-06 Avg	05-07 Avg	06-08 Avg
S. Charleston	76	73					
Hillcrest	73	72	70	71	71	77	73
Fellows Lake							N/A
El Dorado Springs	83	78	77	76	75	76	72

The Fellows Lake location is new to the monitoring network in 2008 and was sited as a maximum concentration site downwind of the Springfield area. The El Dorado Springs monitor was originally sited as a rural, upwind site for Kansas City. This site is located in Cedar County and Table SW2 illustrates the design values are higher for this site than the other Southwest Missouri monitors. Based on the meteorological analyses conducted for this designation, the program did not identify sources with the Springfield area as a significant contributor to ozone at the El Dorado Springs. The analysis demonstrates on high ozone concentration days at El Dorado Springs that the predominant transport direction is south-southwest. The metropolitan areas that are “upwind” would be the Joplin and Tulsa, Oklahoma.

Also, Little Rock, Arkansas, is a potential upwind metropolitan area for Springfield. For Tulsa, the 2004-06 design value was 79 ppb and the 2005-07 design value was 80 ppb. No monitoring data exists for Joplin, Missouri at this time, but the 2009 ozone monitor

network will include a monitor north of Joplin. The Little Rock design values for 2004-06 and 2005-07 were 80 and 83 ppb, respectively.

As noted previously, the 2006-08 sampling data for this area demonstrates attainment of the 2008 ozone standard. However, the evaluation for the ozone recommendations is a process that will continue through the 2009 ozone monitoring season. Therefore, two distinct recommendations are being proposed at this time. The first is based on the 2005-07 dataset along with the contribution analyses for those monitors not meeting the standard. The second provides an attainment designation for the entire Southwest Missouri area based on 2006-08 data.

SPRINGFIELD/SOUTHWEST MISSOURI AREA EMISSION, POPULATION, AND TRAFFIC/COMMUTER INFORMATION

Table SW3 illustrates the precursor emissions and population data for the counties in Southwest Missouri. For Springfield, the data illustrates that Greene County has the majority of anthropogenic emissions for VOC (59%) and NO_x (73%) in the Springfield MSA. The next highest VOC emission totals are Taney County (38% MSA), Jasper County (34%), and Stone County (27%). The next highest NO_x emissions totals are Jasper (23%) and Newton (12%). Stone and Taney County are part of the Branson MSA, while Jasper and Newton are part of the Joplin MSA.

The population data for the area also provides a similar picture. Greene County is the most populated (263,980) followed by Jasper (115,240), Christian (73,066), and Newton (56,038). All the other counties have less than 50,000 population. Population growth rates over 15 percent between 2000 and 2007 were projected for Christian, Webster, and Taney Counties. Figure SW2 provides population density information for the area. The Springfield/Greene County area is the most densely populated, but northern Christian County provides a contiguous area of higher population density with Springfield. Further, the Branson and Joplin areas also illustrate a much higher population density than surrounding areas. Figure SW3 provides the urbanized area information for the region. This figure illustrates a very similar outcome as Figure SW2.

The overall annual Vehicle Miles Traveled (VMT) information was obtained from the Central Regional Air Planning Association (CenRAP) regional inventory compiled from each state's Department of Transportation grown from 2002 to 2009. These data illustrate a consistent pattern of higher VMT in the urbanized areas around Springfield and Joplin with almost 2.6 billion VMT/year in Greene County and 2.1 billion VMT/year in Jasper/Newton Counties. The next highest county VMTs are Webster (851 million/year) and Christian (728 million/year). Figure SW4 includes traffic count information from MoDOT for 2007. This data illustrates the high volume of traffic on Interstate 44 going through the area with Highway 60 (going east from Springfield) and 65 (Springfield to Branson) also seeing substantial traffic on a daily basis.

To provide a spatial representation of ozone precursor emissions within the area, two sets of figures have been developed. The first set presented in Figures SW5 and SW6 contain

point source emission locations for NO_x and VOC, respectively. As expected, the largest numbers of point sources are located in Greene County along with the two largest NO_x sources in the region. The second set presented in Figures SW7 and SW8 contain the composite low-level emission information for the area (including on-road and non-road mobile, low-level point, and area source emissions). Figure SW7 presents the NO_x information for the area and Figure SW8 presents the VOC information for the area. These two figures also show the highest emission density in Springfield with some areas of higher emission density in the Joplin and Branson MSAs (especially for VOC – Figure SW8).

The Springfield/Southwest Missouri area has not been regulated for VOC/NO_x control under the previous ozone NAAQS. Therefore, there are few emission controls in this area related to reducing ozone formation. Nonetheless, the utility NO_x rule (10 CSR 10-6.350) requires the large power plants in this area to control NO_x emissions to a level of 0.35 pounds per million British thermal units (lb/MMBTU) or 0.68 lb/MMBTU for cyclone units firing tire-derived fuel. Also, the Clean Air Interstate Rule (CAIR) is expected to require a sizable NO_x reduction in these utility sources, even though the courts have remanded it back to EPA for substantial changes.

METEOROLOGICAL IMPACTS IN SPRINGFIELD/SOUTHWEST MISSOURI

When evaluating all the meteorological information for the Springfield/Southwest Missouri area, the trajectory analysis, the regime analysis, and the windroses), the strongest conclusion that can be reached is that winds flowing from the north do not lead to high ozone concentrations at the Hillcrest monitor (in Greene County) or the El Dorado Springs monitor (in Cedar County). The trajectory analysis for El Dorado Springs illustrate that when elevated ozone concentrations occur that the Kansas City and Springfield areas are not contributing frequently (one day for each area). The trajectory analysis does illustrate transport from the Joplin/Tulsa areas and extreme Northwestern Arkansas/Southwestern Missouri more frequently. The trajectory analyses for the Hillcrest monitor illustrate short trajectory lengths for all trajectories. This leads to the conclusion that the surface wind speeds on these days are lower than some of the other trajectory analysis and the days when ozone concentrations exceed the standard are with light and variable winds. Also, the 2003-07 windrose for the area during the months with ozone exceedances (April – September) provide that almost one-third of the time the winds are from the south or south-southeast. Further, the windrose has a very similar pattern for the peak ozone months in Missouri (June – August).

One other analysis was conducted to evaluate the number of 8-hour ozone exceedances within the last 6 years. In the Meteorological Analysis document, Table 12 illustrates the number of exceedances at every monitor. The monitoring network in Springfield is sparse compared to other metropolitan areas around the state. The number of exceedances for the Hillcrest monitor is 17 for the 75 ppb standard and 3 for the 84 ppb standard. The number of exceedances for the El Dorado Springs monitor was 20 for the 75 ppb standard and 1 for the 84 ppb standard. These numbers reflect the overall lower concentration design values for this area compared to Kansas City and St. Louis.

Overall, based on the analysis conducted by the department, the Springfield/Southwest Missouri area is impacted by source regions to the south and southwest along with local impacts from emission sources within the region.

URBANIZATION AND OTHER INFORMATION REQUESTED IN THE EPA GUIDANCE

The three different MSA boundaries are of interest to the designation process: Springfield, Joplin, and Branson. These boundaries are shown with the monitoring site information in Figure SW1. As seen in Table SW4, there is population growth from 2000-2020 above 30% for the following counties in Southwest Missouri: Christian (98% growth), Taney (49% growth), Webster (48% growth), Polk (34% growth), Stone (31% growth), and Jasper (30% growth). The particular areas of interest with respect to growth are Christian County with over 100,000 projected in 2020, Jasper County with over 150,000 people projected in 2020, and Taney County with almost 60,000 people projected in 2020. It should be noted that Dade and Cedar Counties have a flat or decreasing population between 2000 and 2020 based on these projections.

Employment data were also incorporated into Table SW3. This data can provide a better understanding about counties with a small population, but large industrial/commercial activity. This trend can be found in the Branson area in southwest Missouri. The ratio of employment to population in Taney County is considerably higher than other counties in the area (excluding Greene and Jasper). It should be noted that Greene County has 83% of the employment in the Springfield MSA.

There are significant geographic or topographic features that impact ozone concentrations in the Springfield/Southwest region of Missouri.

The traffic and commuting pattern information is the final EPA criteria for evaluation. The workplace/resident relationship data was obtained from United States Census Bureau, Longitudinal Employer-Household Dynamics Program via Cornell University for the year 2004. This data is a projection of employees and their employer's block group locations. The department aggregated that information from Missouri's 1.8 million individual block group level data points to summarize the commuter relationships between counties in each region of interest. This data is summarized in Table SW5 and provides a matrix of residence versus employment location. Several important pieces of information can be gained from review of this data.

- 1) The vast majority of employed people who live in any one of the 3 MSAs in southwest Missouri work in the same MSA (the only exception is Dallas County in the Springfield MSA).
- 2) There is some interconnection between the MSAs especially between the Springfield MSA and the Branson MSA. There are 7,999 people who commute either from the Springfield MSA to the Branson MSA or vice versa. Also, there are 5,908 people that commute from Springfield MSA to Joplin MSA or vice versa.

- 3) Christian County is the most connected to Greene County with over two-thirds of employed residents working in Greene County.
- 4) Stone and Dade Counties have the highest percentage of employed residents working in the Springfield MSA for counties outside the MSA (18% and 19%, respectively).
- 5) Cedar County and its 5,091 employed residents are not strongly connected to any of the MSAs in the area. For example, only 252 employed residents work in Greene County.

SUMMARY

Based on the first test for designation (the monitored violation test) using the 2005-07 design values, Greene County and Cedar County should be designated nonattainment for the 2008 ozone NAAQS. With the 2008 ozone season data verified and quality assured, the 2006-08 design values for both sites are in attainment of the NAAQS. Therefore, the ozone recommendation will provide two alternative scenarios for the Southwest Missouri region. One, based on 2005-07 data will highlight the counties with monitored violations and the contribution areas for each monitored area. The other, based on the 2006-08 data, will likely request a finding of attainment for all counties in the Southwest Missouri region. In order to understand the second test for designation (contribution to monitored violation), the following table summarizes the information for all fifteen (15) counties in the evaluation process.

TABLE SW6

County	MSA	2009 VOC Total % (TPD)	2009 NOx Total % (TPD)	2007 Pop. % (1000)	Total Non- Meteorological Summary
Greene	SPR	58.8 (23.3)	72.9 (44.1)	62.8 (264)	194.6
Jasper	JPLN	33.8 (13.4)	22.9 (13.9)	27.4 (115)	84.1
Taney	BRAN	37.8 (15.0)	8.5 (5.1)	10.9 (46)	57.2
Newton	JPLN	16.2 (6.4)	11.7 (7.1)	13.3 (56)	41.3
Stone	BRAN	27.2 (10.8)	6.0 (5.1)	7.5 (32)	40.7
Christian	SPR	14.2 (5.6)	8.4 (5.1)	17.4 (73)	40.0
Barry	None	17.6 (7.0)	7.1 (4.3)	8.6 (36)	33.4
Lawrence	None	13.8 (5.5)	9.2 (5.6)	9.0 (38)	32.3
Webster	SPR	11.8 (4.7)	10.0 (6.0)	8.6 (36)	30.3
Polk	SPR	9.2 (3.7)	5.8 (3.5)	7.2 (30)	22.1
McDonald	SPR	10.9 (4.3)	4.8 (2.9)	5.5 (23)	21.2
Cedar	None	11.7 (4.6)	3.4 (2.1)	3.3 (14)	18.3
Barton	None	6.9 (2.8)	6.1 (3.7)	3.0 (13)	16.1
Dallas	SPR	6.1 (2.4)	2.9 (1.8)	4.0 (17)	12.9
Dade	None	7.1 (2.8)	3.3 (2.0)	1.8 (8)	12.2

Percentages in Table SW6 are based on Springfield MSA totals and are used to provide a comparative understanding on the overall emission inventory and population of the area. Other parameters, like total Vehicle Miles Traveled (VMT) or population density for

each county, could have been evaluated. However, the use of these factors would potentially double count the importance of mobile emissions when using (VMT) or population when considering the use of population density. For the Southwest Missouri Region, the following counties will receive no additional evaluation due to lack of contribution: Polk, McDonald, Cedar, Barton, Dallas, and Dade.

Further, based on the findings of this analysis, Cedar County does not have sufficient ozone precursor emissions to be found to contribute to the ozone problem in Cedar County. Therefore, the recommendation for Cedar County is a nonattainment designation as a rural transport area under Clean Air Act, Section 182(h).

The meteorology of ozone formation in the Southwest Missouri Region should be considered into this summary, in at least a qualitative fashion. As discussed previously, northerly winds are not conducive to ozone formation in Southwest Missouri. For the two monitors in the region, all the remaining counties warrant some additional consideration because they are to the south, east, or west of the monitoring sites.

Greene County is already included in the 2005-07 nonattainment area due to monitored violation. However, of the counties in this area, it contributes the most ozone precursor emissions to the ozone problem.

The two counties in the Joplin MSA, also, contain a high level of VOC and NO_x emissions. The population growth rate for Newton County also signals potentially higher emissions for the Joplin area. The Joplin area is also urbanized and includes an area of higher population density than the surrounding area. However, since these counties are more distant, are part of a stand-alone statistical area that serves as a regional employment center, and the connection to the Springfield MSA or Cedar County is not sufficiently strong; the counties within the Joplin MSA are not being recommended for inclusion in either area. This conclusion is based on the Clean Air Act language for contribution to “nearby” violations. Missouri has determined the lack of “connectivity”, distance from the metropolitan complex, and the fact that Joplin is not contiguous with the Springfield MSA supports the exclusion from the Springfield and Cedar County nonattainment areas. Further, one of the major NO_x sources in Jasper County is the Empire District – Asbury power plant. Under the Clean Air Interstate Rule and/or the Missouri statewide NO_x rule (10 CSR 10-6.350), this source has control requirements to limit NO_x emissions. Also, there is no continuous urbanized area along Highway 44 between Springfield and Joplin. It is important to note that under the most recent revision to Missouri’s statewide ozone network, the Joplin area will begin ozone monitoring for the 2009 ozone season.

The two counties in the Branson MSA contain a high level of anthropogenic precursor emissions. This area is moderately connected to the Springfield MSA and is a high population growth area (Taney County nearly 50% growth between 2000 and 2020). The Branson area is upwind of and contiguous to the Springfield MSA and Hillcrest monitor on a frequent basis based on the windrose and trajectory analyses conducted by the department. The Branson area is also urbanized and includes areas of higher population

density than surrounding areas. Overall, the high level of emissions in these two counties and the large projected growth of the area are the primary rationale for the recommendation of a nonattainment designation using the 2005-07 design values.

Christian County is part of the Springfield MSA and the north-central portion of the county is part of a contiguous urbanized and population dense area near Springfield. The emission totals from Christian County are moderately high for the area and its location due south of the Greene County monitor also indicates a high frequency of potential contribution to violations to the north. Christian County is the most “connected” county to Greene County using the 2004 residence/employment data. The growth rate between 2000 and 2020 for Christian County is the highest in the entire state of Missouri at almost 100%. The projected population will exceed 100,000 and the growth of this county will impact ozone concentrations in the future. The level of existing emissions, the upwind nature of the county, and the extraordinary projected growth are the rationale for inclusion of Christian County in the recommended Springfield ozone nonattainment area using 2005-07 design values.

The remaining counties (Barry, Lawrence, and Webster) also have moderately high emission totals and are located upwind on a portion of the days for the Hillcrest monitor based on the trajectory analysis. The non-meteorological data composite for these counties is somewhat less than the other counties discussed above (low 30s vs. above 40 for the counties above). Further, the urbanization and population density for these counties is less than the counties documented above. All these counties have far less than 50,000 population although Webster County has a growth rate of 48% from 2000 to 2020. To be clear, the population for all three counties population is projected to be less than 50,000 people in 2020. Based on the combination of these contribution factors for Barry, Lawrence, and Webster Counties; the department has decided to recommend an attainment designation for these counties.

Based on Table SW6 and the meteorological conditions related to high ozone formation, there are several conclusions that can be drawn from the summarized data. Greene County emissions contribute most to ozone concentrations at the Hillcrest monitor. The high emission totals (along with corresponding ozone impact) for the Branson MSA counties (Taney and Stone) along their proximity to the Springfield MSA led to the conclusion that these counties also contribute to the Springfield ozone nonattainment area. Christian County contains a portion of the continuous urbanized complex including Springfield, has the highest projected population growth rate in Missouri from 2000-2020 (~100% growth), is upwind under certain meteorological conditions associated with high ozone concentrations in Springfield, is located inside the Springfield MSA, and has medium combined VOC/NO_x emissions (>10 TPD). These factors lead to the finding of contribution for the Springfield monitoring site.

Webster, Polk, and Dallas Counties are in the Springfield MSA. However, the emissions and population from Polk and Dallas are not sufficient to warrant any further evaluation for contribution to the Hillcrest monitor. Further, these areas are downwind of Greene County during periods of elevated ozone concentration. Webster County is the next most

populated county after Christian County in the Springfield MSA, but does not include any portion of continuous urbanization from Springfield. Webster has a projected growth rate of nearly 50%, but the 2020 projected population is still less than 50,000. The combined emissions in Webster County are nearly the same as Christian and it is upwind of the Springfield monitor under certain meteorological conditions. However, it is not upwind under the predominant ozone season wind directions of south and south-southeast. The combination of these factors leads to the conclusion that Webster County does not contribute frequently and significantly to ozone in the proposed Springfield nonattainment area.

Barry County is not part of or contiguous with the Springfield MSA and is more rural in nature than other counties in this evaluation. Notwithstanding the moderately high emission totals for the area; the distance to the downwind monitor, the relatively small population, and the lack of connection to the Springfield area are sufficient to determine Barry County does not have a significant contribution to the Springfield monitor. Lawrence County is not part of, but is contiguous with the Springfield MSA. Lawrence has a very similar emission total to Barry County and is not strongly connected to either the Joplin or Springfield MSAs. Lawrence has a relatively low population and the population is projected to grow 20% between 2000 and 2020. The evaluation of these factors supports a finding of less than significant contribution to the Springfield ozone monitor. The Joplin MSA Counties (Jasper and Newton) were found to be a separate emission area due to distance from the Springfield urban center, status as a large employment center (>75,000 employees), and somewhat limited connection to the Springfield MSA. This finding led to the conclusion that Jasper and Newton Counties do not contribute to the downwind Hillcrest monitoring site.

To summarize, the recommendation for designations in the Springfield/Southwest Missouri region are as follows:

2006-08 design value	All counties in the region attainment
2005-07 design value	Springfield Nonattainment Area Greene, Christian, Taney, Stone Cedar County Nonattainment under Section 182(h) All other counties in the region attainment

COUNTY BY COUNTY SUMMARY

The following is a county-by-county summary of the factors that were considered in the inclusion/exclusion evaluation for the Springfield 8-hour ozone nonattainment area. These factors include precursor emissions, air quality data, population, urbanization, commuter/traffic patterns (“connectivity”), meteorology, growth, and jurisdictional boundaries. In addition, if special consideration should be given to some additional factors (i.e. location of emission sources in the county or distance from the core

metropolitan area), this is also presented. All factors in the applicable EPA guidance were considered, but some are not relevant to the area (geography/topography, overall emission reductions).

Greene County

- 1) Largest emissions for both VOC (23.3 TPD) and NO_x (44.1 TPD) in Southwest Missouri
- 2) Ozone monitoring for the 2005-07 period at the Hillcrest monitor shows a violation of the standard (77 parts per billion [ppb]); current 2006-08 data shows attainment of the standard (73 ppb)
- 3) Largest population in the area (263,980)
- 4) Core metropolitan area (Springfield) is in Greene County
- 5) Largest annual VMT in the area (2.1 billion VMT/year)
- 6) Meteorological analysis is supportive of frequent contribution
- 7) 27% population growth between 2000 and 2020 (over 300,000 in 2020)
- 8) Located in the Springfield MSA
- 9) Two largest industrial NO_x sources are included in the Missouri statewide NO_x rule and in CAIR

Jasper County

- 1) Second largest emission in Southwest Missouri for NO_x (13.9 TPD) and third largest for VOC (13.4 TPD)
- 2) No ozone monitoring in the Joplin area (new monitoring will begin in 2009)
- 3) Second largest population in the area (115,240)
- 4) Limited connection to the core metropolitan area (Springfield) and contains part of its own economic/employment center
- 5) Second largest VMT in the area (1.2 billion VMT/year)
- 6) Meteorological analysis is supportive of contribution to El Dorado Springs monitor
- 7) 30% population growth between 2000 and 2020 (136,000 in 2020)
- 8) Located in the Joplin MSA and not contiguous with the Springfield MSA
- 9) Largest industrial NO_x source is included in the Missouri statewide NO_x rule and in CAIR

Taney County

- 1) Second largest emission in Southwest Missouri for VOC (15.0 TPD) and 5.1 TPD for NO_x
- 2) No ozone monitoring in the Branson area
- 3) Population of less than 50,000 (45,721)
- 4) Some connection to the core metropolitan area (Springfield) 8,000 commuters per day from Branson area
- 5) Medium VMT (622 million VMT/year)

- 6) Meteorological analysis is supportive of contribution to the Hillcrest monitor
- 7) 49% population growth between 2000 and 2020 (59,000 in 2020)
- 8) Located in the Branson MSA and contiguous with the Springfield MSA

Newton County

- 1) Third largest emission in Southwest Missouri for NO_x (7.1 TPD) and VOC (6.4 TPD)
- 2) No ozone monitoring in the Joplin area (new monitoring will begin in 2009)
- 3) Population of more than 50,000 (56,038)
- 4) Limited connection to the core metropolitan area (Springfield) and contains part of its own economic/employment center
- 5) Third largest VMT in the area (944 million/year)
- 6) Meteorological analysis is supportive of contribution to El Dorado Springs monitor
- 7) 18% population growth between 2000 and 2020 (62,000 in 2020)
- 8) Located in the Joplin MSA and not contiguous with the Springfield MSA

Stone County

- 1) Fourth largest emission in Southwest Missouri for VOC (10.8 TPD) and 5.1 TPD for NO_x
- 2) No ozone monitoring in the Branson area
- 3) Population of less than 50,000 (31,552)
- 4) Some connection to the core metropolitan area (Springfield) 8,000 commuters per day from Branson area
- 5) Small VMT (400 million VMT/year)
- 6) Meteorological analysis is supportive of contribution to Hillcrest monitor
- 7) 31% population growth between 2000 and 2020 (40,000 in 2020)
- 8) Located in the Branson and contiguous with the Springfield MSA

Christian County

- 1) Combined emissions over 10 TPD (VOC - 5.6 TPD and NO_x - 5.1 TPD)
- 2) No ozone monitoring in county
- 3) Second largest population in the Springfield MSA (73,066)
- 4) North central portion of county is contiguous with the Springfield metropolitan complex
- 5) Medium VMT (728 million VMT/year)
- 6) Meteorological analysis is supportive of contribution to Hillcrest monitor
- 7) Largest projected population growth in Missouri between 2000 and 2020 (nearly 100% - 107,000 in 2020)
- 8) Located in the Springfield MSA

Barry County

- 1) Combined emissions over 10 TPD (VOC - 7.0 TPD and NO_x - 4.3 TPD)
- 2) No ozone monitoring in county
- 3) Population of less than 50,000 (36,197)
- 4) No strong connection to the Springfield or Joplin metropolitan areas
- 5) Low VMT (393 million VMT/year)
- 6) Meteorological analysis is somewhat supportive of contribution to both El Dorado Springs and Hillcrest monitor
- 7) 20% projected population growth between 2000 and 2020
- 8) Not located in or adjacent to the Springfield MSA

Lawrence County

- 1) Combined emissions over 10 TPD (VOC - 5.5 TPD and NO_x - 5.6 TPD)
- 2) No ozone monitoring in county
- 3) Population of less than 50,000 (37,650)
- 4) Some connection to the Springfield or Joplin metropolitan area (I-44)
- 5) Medium VMT (851 million VMT/year)
- 6) Meteorological analysis is somewhat supportive of contribution to both El Dorado Springs and Hillcrest
- 7) 20% projected population growth between 2000 and 2020
- 8) Not located in, but adjacent to the Springfield MSA

Webster County

- 1) Combined emissions over 10 TPD (VOC - 4.7 TPD and NO_x – 6.0 TPD)
- 2) No ozone monitoring in county
- 3) Population of less than 50,000 (35,927)
- 4) Somewhat connected to the Springfield metropolitan area (along I-44)
- 5) Medium VMT (689 million VMT/year)
- 6) Meteorological analysis is somewhat supportive of contribution to Hillcrest
- 7) 48% projected population growth between 2000 and 2020 (2020 population of 46,000)
- 8) Located in the Springfield MSA

Polk and Dallas Counties

- 1) Combined emissions under 10 TPD (Polk/Dallas VOC - 3.7 / 2.4 TPD and NO_x – 3.5 / 1.8 TPD)
- 2) No ozone monitoring in counties
- 3) Population of less than 50,000 (Polk/Dallas - 30,216 / 16,831)
- 4) Some connection to the Springfield metropolitan area
- 5) Low VMT (Polk – 447 million and Dallas 216 million VMT/year)
- 6) Meteorological analysis suggests these counties are downwind of the Springfield area
- 7) Polk 34% and Dallas 27% projected population growth between 2000 and 2020 (2020 population of less than 40,000 for both counties)

- 8) Located in the Springfield MSA

McDonald, Barton, and Dade Counties

- 1) Combined emissions under 10 TPD (all VOC less than 4.3 TPD and all NO_x less than 3.7 TPD)
- 2) No ozone monitoring in counties
- 3) Population of less than 50,000 (all counties less than 25,000)
- 4) Limited connection to the Springfield metropolitan area
- 5) Low VMT (all counties less than 325 million VMT/year)
- 6) Meteorological analysis suggest these counties might contribute to the El Dorado Springs monitor
- 7) All counties are projected to grow less than 20% between 2000 and 2020 (2020 population of less than 30,000 for all counties)
- 8) Not located in, but Dade is adjacent to the Springfield MSA

Cedar County

- 1) Combined emissions under 10 TPD (VOC – 4.6 TPD and NO_x – 2.1 TPD)
- 2) Ozone monitoring for 2005-07 at the El Dorado Springs monitor shows a violation of the standard (76 ppb); current 2006-08 data shows attainment of the standard (72 ppb)
- 3) Population of less than 50,000 (13,729)
- 4) Very limited connection to the Springfield metropolitan area
- 5) Low VMT (145 million VMT/year)
- 6) Meteorological analysis suggests this county is downwind of the Joplin/Tulsa or Northwest Arkansas areas
- 7) Projected population decrease between 2000 and 2020 (-1.7%)
- 8) Located not in, but adjacent to the Springfield MSA