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Office of Air Quality
Planning and Standards
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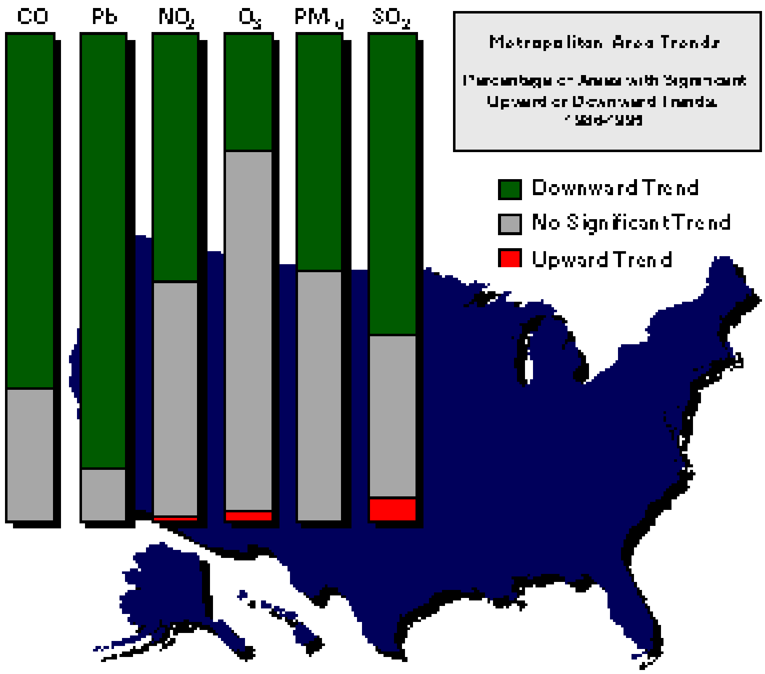
Air

EPA

National Air Quality and Emissions Trends Report, 1995



CHAPTER 1

Executive Summary

This is the twenty-third annual report documenting air pollution trends in the United States.[1–22] The primary emphasis of this report is on those pollutants for which the United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS). EPA set these standards to protect public health and welfare. Primary standards are designed to protect public health, including sensitive populations such as children and the elderly, while secondary standards protect public welfare, such as the effects of air pollution on vegetation, materials, and visibility. There are six *criteria* pollutants with primary standards: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter whose aerodynamic size is less than or equal to 10 micrometers (PM-10), and sulfur dioxide (SO_2).

This report tracks two kinds of trends for the criteria pollutants. **Air quality concentrations** are based on actual direct measurements of pollutant concentrations in the air at selected monitoring sites across the country, while **emissions** are calculated estimates of the total tonnage of these pollutants released into the air annually. Emissions estimates are derived from many factors, including the level of industrial activity, technology changes, fuel consumption, vehicle miles traveled (VMT), and other activities that cause air pollution. Emissions numbers also reflect changes in air pollution regulations and the installation of controls on the sources of emissions. Additional information on emissions estimates are contained in the companion report, *National Air Pollutant Emission Trends, 1900–1995.*[23]

The criteria pollutant analyses reported in Chapter 2 focus primarily on 10-year trends. Long-term trends based on available data from the 1970s and early 1980s are also provided. Additionally, changes in pollutant concentrations over the past year, and one-year snapshots of pollutant concentrations and emissions categories for 1995 are presented.

Figure 1-1 summarizes the long-term changes in emissions for all six NAAQS pollutants between 1970 and 1995. Emissions are used to portray long-term trends because they are available for longer time periods than air quality concentrations. The figure shows that emissions for all criteria pollutants except nitrogen oxides decreased between 1970 and 1995, the greatest improvement being a 98 percent decrease in lead emissions. These reductions occurred during a period of significant population and economic growth. Since 1970, total U.S. population increased 28 percent, VMT increased 116 percent, and the gross domestic product increased 99 percent, as noted in Figures 1-2 through 1-4.

Ten-year trends in air quality and emissions are summarized below:

Ten-Year Air Quality and Emissions Trends 1986–1995

	Air Quality % Change	Emissions % Change
Carbon Monoxide	-37%	-16%
Lead	-78%	-32%
Nitrogen Dioxide	-14%	-3% (NOx)
Ozone	-6%	-9% (VOC)
PM-10*	-22%	-17%
Sulfur Dioxide	-37%	-18%

*PM-10 % changes are based on 1988-1995 data.

Improvements in air quality between 1986 and 1995 are a direct result of effective implementation of clean air laws and regulations. Despite the growth in U.S. population,[24] total

VMT,[25] and gross domestic product[24] since 1970, there is strong evidence of a general trend of air quality improvement. This improvement is supported by the observed decrease in emissions of all criteria pollutants over the past 10 years.

While progress has been made, it is important not to lose sight of the magnitude of the air pollution problem that still remains. Based upon monitoring data submitted to EPA's data base, approximately 80 million people in the United States reside in counties that did not meet the air quality standard for at least one of the NAAQS pollutants for the single year 1995. Ground level ozone is the largest problem, based on both population and number of areas not meeting the standards. In 1995, 71 million people lived in counties that exceeded the ozone standard. These exceedances are due in part to the hot, dry summer which was conducive to ozone formation. However, 1995 is the fourth consecutive year that every monitoring site in the country met the NO_2 standard. With respect to SO_2, it is important to note that while most monitoring sites are currently meeting ambient standards, SO_2 problems in the United States are usually localized and are caused by point sources that are typically identified by modeling rather than by routine ambient monitoring.

The population estimates in Figure 1-5 are based upon only a single year of data, 1995, and only consider counties with monitoring data for each pollutant. These population estimates are intended to provide a relative measure of the extent of the problem for each pollutant in 1995. An individual *living* in a county may not actually be *exposed* to unhealthy air.

The number of people living in nonattainment areas as of August 1996 was approximately 127 million (based on the formal designations of nonattainment areas) as opposed to 80 million (based on those counties with air quality data that exceeded at least one NAAQS in 1995). There are two reasons for this difference in population estimates. First,

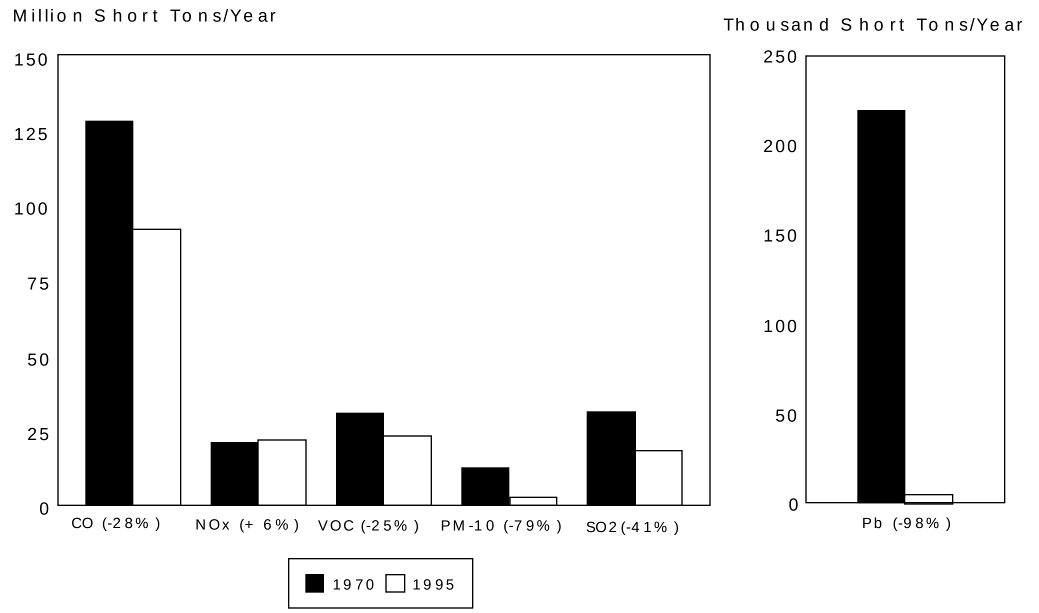
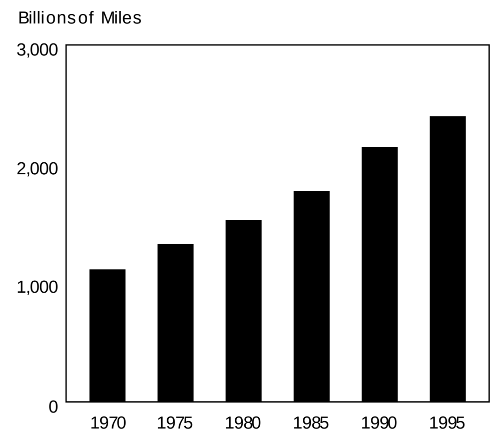


Figure 1-1. *Summary of emissions changes for all six NAAQS pollutants between 1970 and 1995.*

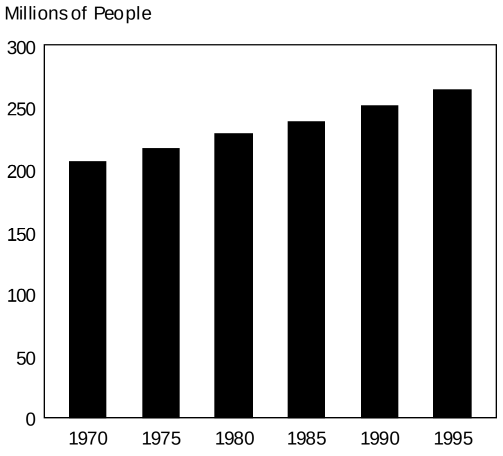
formal designations particularly for ozone may encompass entire metropolitan areas rather than just the county with the monitor. Second, formal designations are based on multiple years of data (rather than the most recent calender year) to account for a broader range of meteorological conditions.

While this report emphasizes trends in the six criteria pollutants, it also features information on related topics. Chapter 3 highlights the expanding Photochemical Assessment Monitoring Stations (PAMS) program, which is an intensive monitoring network set up to increase our knowledge of the underlying causes of ozone pollution and potential control strategies. PAMS monitoring sites are located in all ozone nonattainment areas classified as serious, severe, or extreme nonattainment areas. The 22 affected areas collect measurements of ozone, NO_x, and VOCs, as well as surface and upper air meteorology. While the hot dry summer in 1995 resulted in increases in ozone levels in many parts of the country between 1994 and 1995, the majority of the PAMS sites showed decreases in the



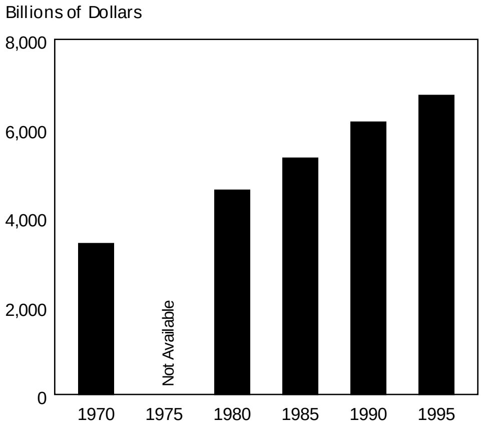
116% Increase, 1970 to 1995

Figure 1-3. *Total U.S. vehicle miles traveled, 1970–1995.*



28% Increase, 1970 to 1995

Figure 1-2. *Total U.S. population, 1970–1995.*



99% Increase, 1970 to 1995

Figure 1-4. *Total U.S. gross domestic product, 1970–1995.*

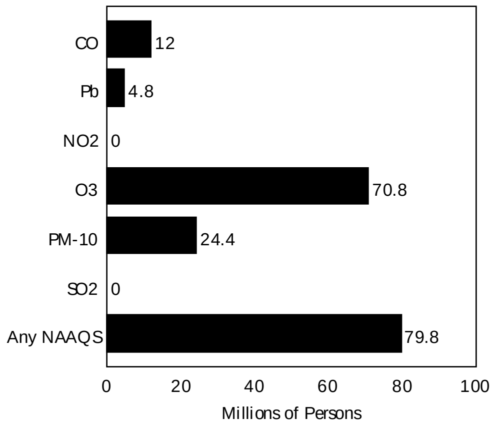


Figure 1-5. *Number of people living in counties with air quality levels above the NAAQS in 1995.*

concentrations of toxics and ozone-forming VOCs. Under more normal summertime conditions, meteorological conditions such VOC reductions would likely lead to decreases in ozone levels.

Chapter 4 presents information on air toxics, another set of pollutants regulated under the Clean Air Act which are known to cause, or suspected of causing, cancer or other serious health effects. This is the first year EPA has reported air toxic emissions based on the new, more extensive National Toxics Inventory (NTI). Data from the Toxics Release Inventory (TRI) were used as the foundation of this new national inventory. The development of NTI represents a significant improvement in characterization of air toxics because NTI shows that mobile and areas sources, which are not included in TRI, account for 70 percent of hazardous air pollutant emissions.

Chapter 5 summarizes the current status of nonattainment areas (those not meeting ambient air quality standards). Under the Clean Air Act Amendments of 1990, there were 274 areas designated nonattainment for at least one ambient standard. As of September 1996, 174 areas are still designated nonattainment, with particulate matter having the largest number (81), and ozone the second largest number (68) of areas. The current nonattainment areas for each criteria pollutant are displayed on one map in this chapter, while a second map depicts ozone nonattainment areas alone, color-coded to indicate the severity of the ozone problem in each area.

Chapter 6 characterizes air quality on a more local level in three ways. First, the chapter lists peak statistics for 1995 for each Metropolitan Statistical Area (MSA). Second, 10-year trends are assessed for each MSA using a statistical method which is new to this year's report. The results show that 16 MSAs have a statistically significant upward trend in at least one criteria pollutant, while 204 MSAs have a statistically significant downward trend in at least one criteria pollutant. The third way in which local air quality is evaluated is by looking at the Pollutant Standards Index (PSI) for the nation's 94 largest MSAs. The PSI analysis shows that between 1986 and 1995 the total number of "unhealthful" days decreased 54 percent in Los Angeles, 35 percent in Riverside, California, and 58 percent in the remaining major cities across the United States.

Finally, expanded tables of the air quality concentrations and emissions data described throughout this report are provided in Appendix A. Appendix B summarizes the methodology which is the basis for the trends statistics presented throughout this report, and also provides maps of the current monitoring network for each criteria pollutant.

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CHAPTER 2

Air Quality Trends

EPA has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants to protect public health and welfare. These six pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter whose aerodynamic size is less than or equal to 10 microns (PM-10), and sulfur dioxide (SO_2). Table 2-1 lists the NAAQS for each pollutant in terms of the level of the standard, the associated averaging time, and the form of the statistic used to evaluate compliance. There are primary standards for all of the criteria pollutants. Some pollutants (PM-10 and SO_2) have primary standards for both long-term (annual average) and short-term (24 hours or less) averaging times. Short-term standards are established to protect people from any adverse health effects associated with acute exposure to air pollution, while long-term standards are established to protect the population from any adverse health effects associated with chronic exposure to air pollution. The secondary standard, which protects public welfare (vegetation, materials, and visibility), is the same as the primary standard for most pollutants, with the exception of SO_2.

Table 2-1. *NAAQS in Effect in 1995*

Pollutant	**Primary (Health Related)**		**Secondary (Welfare Related)**	
	Type of Average	**Standard Level Concentration**[a]	**Type of Average**	**Standard Level Concentration**
CO	8-hour[b]	9 ppm (10 $\mu g/m^3$)	No Secondary Standard	
	1-hour[b]	35 ppm (40 $\mu g/m^3$)	No Secondary Standard	
Pb	Maximum Quarterly Average	1.5 $\mu g/m^3$	Same as Primary Standard	
NO_2	Annual Arithmetic Mean	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	
O_3	Maximum Daily 1-hour Average[c]	0.12 ppm (235 $\mu g/m^3$)	Same as Primary Standard	
PM-10	Annual Arithmetic Mean[d]	50 $\mu g/m^3$	Same as Primary Standard	
	24-hour[d]	150 $\mu g/m^3$	Same as Primary Standard	
SO_2	Annual Arithmetic Mean	0.030 ppm (80 $\mu g/m^3$)	3-hour[b]	0.50 ppm (1300 $\mu g/m^3$)
	24-hour[b]	0.14 ppm (365 $\mu g/m^3$)		

[a] Parenthetical value is an approximately equivalent concentration.

[b] Not to be exceeded more than once per year.

[c] The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is equal to or less than one, as determined according to Appendix H of the Ozone NAAQS.

[d] Particulate standards use PM-10 as the indicator pollutant. The annual standard is attained when the expected annual arithmetic mean concentration is less than or equal to 50 $\mu g/m^3$; the 24-hour standard is attained when the expected number of days per calendar year above 150 $\mu g/m^3$ is equal to or less than one, as determined according to Appendix K of the PM NAAQS.

Most trends information presented in this report is based on data from two principal indicators:

- Measurements of pollutant concentrations in the ambient air.
- Estimates of total national pollutant emissions.

National trends in air quality are derived from routine measurements recorded over time at monitoring sites located primarily in urban and suburban areas, and to a lesser extent in selected rural areas. These monitoring stations are operated by state, tribal, and local government agencies as well as some federal agencies. The national air quality trends calculated for this report were derived from the composite average of direct measurements of air concentrations obtained from ambient air quality monitoring sites (see Table A-10). The averaging times and air quality statistics used in these trends calculations relate directly to national ambient air quality standards.

EPA uses the most recent 10 years as the focus of ambient air pollution trends. Because it is important to base analyses of ambient trends on a consistent database, EPA selected a moving 10-year time frame to help avoid inconsistences in the data as a result of changes in the monitoring network (i.e. adding and discontinuing sites and/or changing monitoring methods). It is also informative to investigate trends over a 15 or 20 year time frame. However, the limited amount of data available in the earliest years of monitoring make these long-term trends suitable only for examining the general behavior of ambient concentrations. In addition to 10-year trends and long-term trends, EPA also analyzes one-year changes in ambient concentrations. One-year changes can be used to inform discussions of recent and future trends as well as current conditions but can also be heavily influenced by meteorological conditions.

Specific monitoring sites are included in the 10-year trend analysis only if they have complete data for a minimum of eight out of the 10 years. In 1987, the standard for Total Suspended Particulates (TSP) was replaced with the PM-10 standard. Therefore, PM-10 trend analyses are based on data collected at monitoring sites that have complete data for seven out of eight years between 1988 and 1995. This report contains data accumulated on criteria pollutants between 1986 and 1995 from 4800 monitoring stations around the country.

Another indicator of air quality trends is the estimated total of nationwide emissions. This estimate is based on engineering calculations of the amounts and kinds of pollutants emitted by automobiles, factories, and other sources over a given period.[1] There are also monitors known as continuous emissions monitors (CEMs) that have recently been installed at major electric utilities to measure actual emissions. This report incorporates data from CEMs collected between 1994 and 1995 for NOx and SO2 emissions at major electric utilities.

Although air pollutant concentrations can only be reduced over time by decreasing or eliminating pollutant emissions, changes in pollutant concentrations do not always track changes in pollutant emissions resulting from human activities. There are four primary reasons for the differences observed between trends in concentrations and trends in emissions estimates. First, because most monitors are positioned in urban, population-oriented locales, air quality trends are more likely to track changes in urban emissions rather than changes in total national emissions. Urban emissions are generally dominated by mobile sources, while rural areas may be dominated by large stationary sources such as power plants and smelters. Second, emissions for some pollutants are calculated or measured in a different form than the primary air pollutant. For example, concentrations of NO_2 are caused by emissions of oxides of nitrogen which include nitric oxide and NO_2. Also, concentrations of O_3 are caused by emissions of volatile organic compounds (VOCs) and oxides of nitrogen. Third, the amount of some pollutants measured at monitoring locations depends on what chemical reactions, if any, occur in the atmosphere during the time it takes the pollutant to travel from its source to the monitoring station. Fourth, meteorological conditions often control the formation and buildup of pollutants in the ambient air. For example, peak O_3 concentrations typically occur during hot, dry, stagnant summertime conditions (i.e., high temperature and strong solar insolation). In contrast, CO is predominately a cold weather problem with peak CO concentrations occurring during the winter months. The temporal variation in particulate levels may also be attributed to fluctuations in meteorological conditions, especially precipitation. Rainfall has the effect of reducing re-entrainment of particles and washing particles out of the air. Also, drier conditions are associated with an increase in the frequency of forest fires.

Carbon Monoxide (CO)

- **Air Quality Concentrations**
  - 1986–95 37% decrease
  - 1994–95 10% decrease
- **Emissions**
  - 1986–95 16% decrease
  - 1994–95 7% decrease

Nature and Sources

CO is a colorless, odorless, poisonous gas formed when carbon in fuels is not burned completely. It is a product of motor vehicle exhaust, which contributes about 60 percent of all CO emissions nationwide. In cities, as much as 95 percent of all CO emissions emanate from automobile exhaust. These emissions can result in high concentrations of CO, particularly in areas with heavy traffic congestion. Other sources of CO emissions include industrial processes, non-transportation fuel combustion, and natural sources such as wildfires. Peak CO concentrations typically occur during the colder months of the year when CO automotive "cold start" emissions are greater and nighttime inversion conditions are more frequent. Despite an overall downward trend in concentrations and emissions of CO, six metropolitan areas failed to meet the CO NAAQS in 1995.

Health Effects

CO enters the bloodstream and reduces oxygen delivery to the body's organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. At higher levels of exposure, healthy individuals are also affected. Visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, and difficulty in performing complex tasks are all associated with exposure to elevated CO levels. There are two primary NAAQS for ambient CO, a 1-hour average of 35 ppm and an 8-hour average of 9 ppm. These standards cannot be exceeded more than once per year.

Trends

Long-term improvements continued between 1986 and 1995. Figure 2-1 indicates that national average CO levels decreased 37 percent during the past 10 years as measured by the composite average of the annual second highest 8-hour concentration. These reductions in ambient CO levels occurred despite a 31 percent increase in vehicle miles traveled. Nationally, the composite average of exceedances of the CO NAAQS declined 95 percent since 1986. The large difference between the rate of change in concentrations and the percentage change in exceedances is due to the nature of the exceedance statistic (which is simply a count of a pass / fail indicator).

National total CO emissions decreased 16 percent since 1986 as illustrated in Figure 2-2. Because the urban CO monitoring network is primarily mobile-source oriented, the national CO air quality decrease of 37 percent more closely tracks the estimated 20 percent reduction in highway vehicle emissions. Figure 2-3 shows that all transportation sources now account for 81 percent of the nation's total CO emissions.

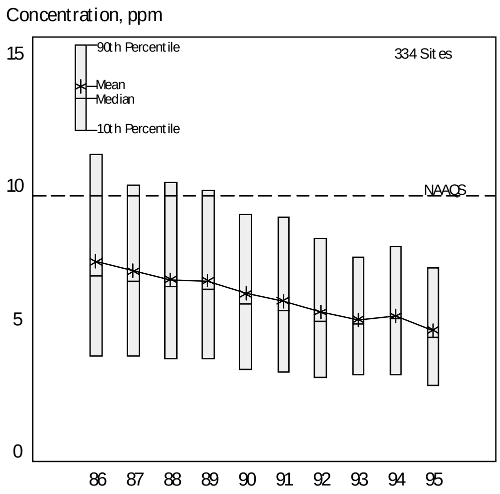


Figure 2-1. *Trend in second maximum non-overlapping 8-hour average CO concentrations, 1986–1995.*

The CO air quality improvement occurred across all monitoring environments—urban, suburban and rural monitoring sites. Figure 2-4 shows, as expected, that urban monitoring sites record higher CO concentrations, on average, than suburban sites, with the lowest levels found at the nine rural CO sites. During the past 10 years, composite mean CO 8-hour concentrations decreased 38 percent at 183 urban sites, 33 percent at 139 suburban locations, and 46 percent at nine rural sites.

Between 1994 and 1995, national average CO concentrations decreased 10 percent, while the average number of exceedances declined 50 percent. All 10 regions of the country experienced declines in composite mean ambient CO levels between 1994 and 1995. The 1995 national composite average ambient concentration is consistent with the long-term ambient CO trend and reverses the one year upturn in 1994 which coincided with the much colder than normal winters in the northeastern and north central regions of the country. Total CO emissions decreased 7 percent since 1994, while CO emissions from highway vehicles declined 5 percent since last year. These improvements in highway vehicle emissions are offset to some extent by the 4 percent increase in emissions from industrial processes.

The Clean Air Act Amendments (CAAA) of 1990 require oxygenated gasoline programs in a number of areas during the winter months to reduce tail pipe emissions of CO. A minimum oxygen content of 2.7% by weight is required in the gasoline to help burn the fuel more completely.[1,2] Areas are required to implement the program to help reach attainment of the federal CO standard. Thirty-six nonattainment areas implemented the program in 1992. Several areas since then have attained the standard, with 28 areas currently remaining in the program.

The map in Figure 2-5 shows the variations in CO concentrations across the country in 1995. The air quality indicator is the highest annual second maximum 8-hour concentration measured in each county. The bar chart to the left of the map displays the number of people living in counties within each concentration range. The colors on the map and bar chart correspond to the colors for the concentration ranges dis-

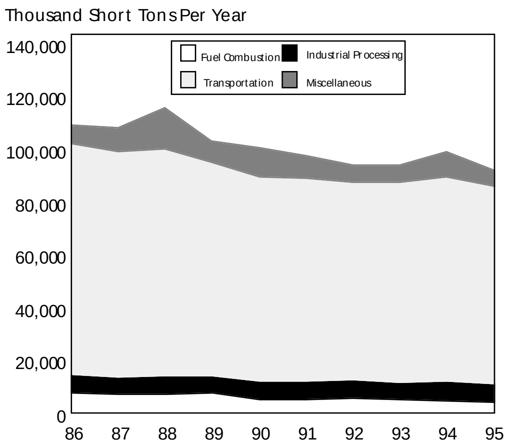


Figure 2-2. *National total CO emissions trend, 1986–1995.*

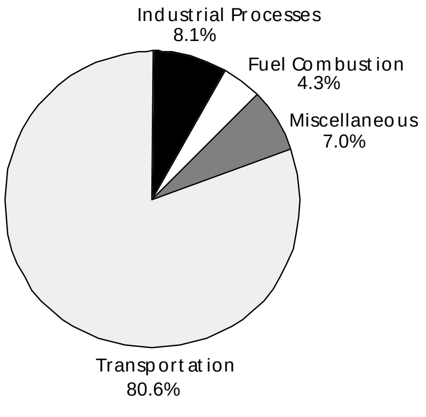


Figure 2-3. *CO emissions by source category, 1995.*

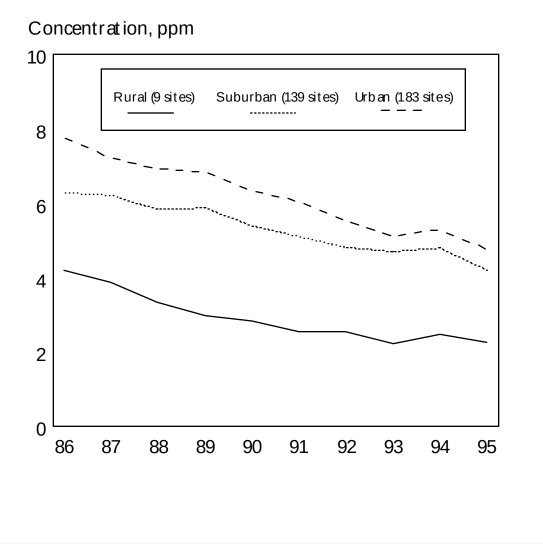


Figure 2-4. *CO second maximum 8-hour concentration trends by location, 1986–1995.*

played in the map legend. In 1995, six counties (with a total population of approximately 12 million) had second maximum 8-hour concentrations greater than 9 ppm. This is a decrease from 10 counties with a total population of 15 million people in 1994.

Figure 2-6 illustrates the improvement in ambient CO air quality during the past 20 years. Although there are differences in the mix of trend sites for the two periods (147 vs. 334 sites), there is evidence of a consistent decline in CO concentrations during the past 20 years.

The CO ambient trends plotting points and emissions totals by source category are listed in Tables A-1 and A-2. The plotting points for the 20-year trend charts are listed in Table A-9.

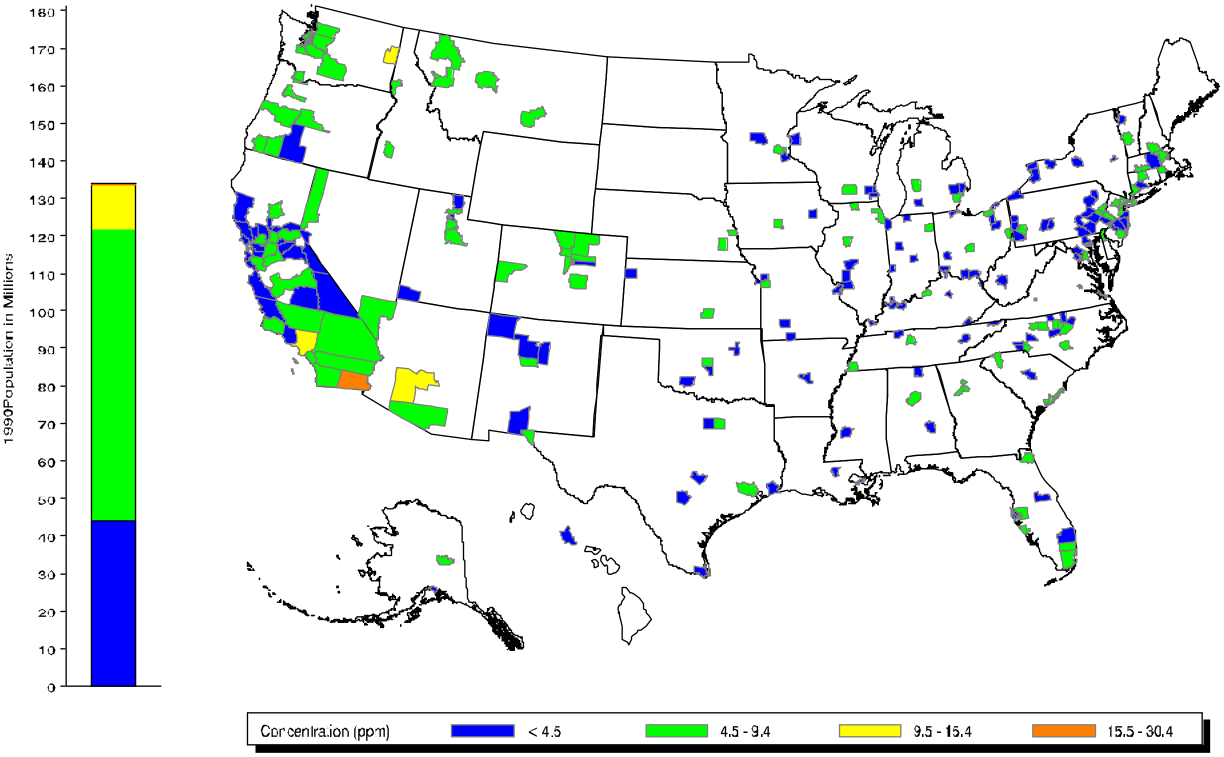


Figure 2-5. *Highest CO second maximum 8-hour concentration by county, 1995.*

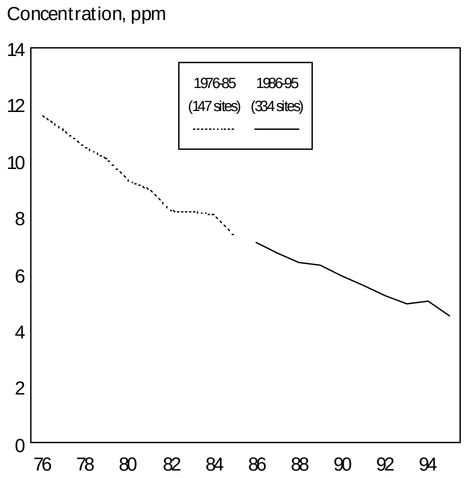


Figure 2-6. *Long-term ambient CO trend, 1976–1995.*

Lead (Pb)

- **Air Quality Concentrations**
  1986–95 78% decrease
  1994–95 no change

- **Emissions**
  1986–95 32% decrease
  1994–95 1% decrease

Nature and Sources

In the past, automotive sources were the major contributor of lead emissions to the atmosphere. As a result of EPA's regulatory efforts to reduce the content of lead in gasoline, the contribution from the transportation sector has declined. Today, smelters and battery plants, followed by highway vehicles, are the major sources of lead emissions to the atmosphere. The highest concentrations of lead are found in the vicinity of nonferrous smelters and other stationary sources of lead emissions.

Health Effects

Exposure to lead mainly occurs through the inhalation of air and the ingestion of lead in food, water, soil, or dust. It accumulates in the in the blood, bones, and soft tissues. Because it is not readily excreted, lead can also affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and / or behavioral disorders. Even at low doses, lead exposure is associated with changes in fundamental enzymatic, energy transfer, and homeostatic mechanisms in the body. At low doses, fetuses and children often suffer from central nervous system damage. Recent studies show that lead may be a factor in high blood pressure and subsequent heart disease. The primary NAAQS for lead is a quarterly average concentration not to exceed 1.5 µg / m^3.

Trends

Figure 2-7 indicates that between 1986 and 1995, maximum quarterly average lead concentrations decreased 78 percent; Figure 2-8

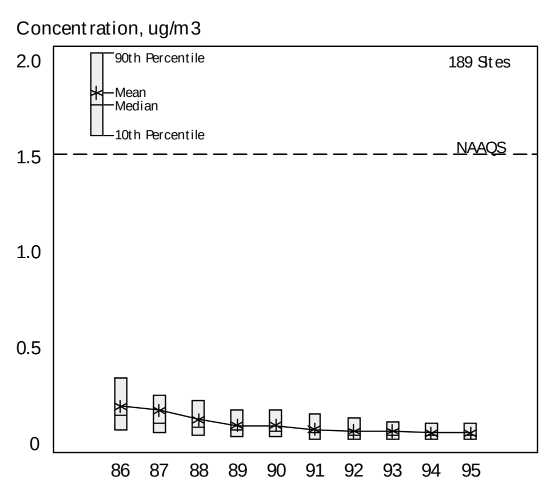


Figure 2-7. *Trend in maximum quarterly average Pb concentrations, 1986–1995.*

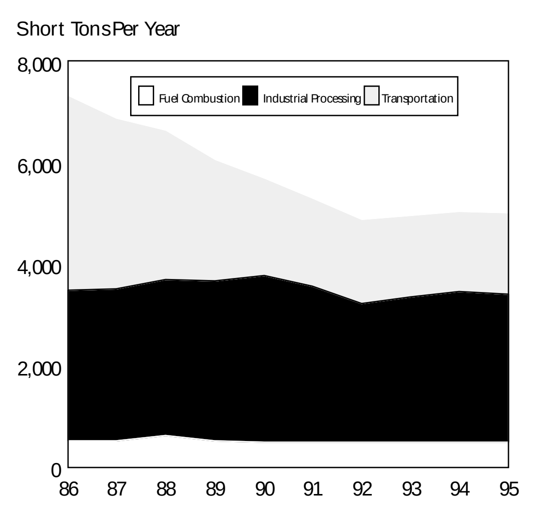


Figure 2-8. *National total Pb emissions trend, 1986–1995.*

shows that total lead emissions decreased 32 percent. These reductions are a direct result of the phase-out of leaded gasoline. Air quality trends at urban and suburban locations over this 10-year period appear to be quite similar according to Figure 2-9, which is not surprising since highway vehicles are the major source of emissions at both of these locations. Table A-3, which lists lead emissions by major source category, shows that highway vehicles accounted for 95 percent of the 10-year lead emissions decline.

The effect of the conversion to unleaded gasoline usage on ambient lead concentrations is even more impressive when viewed over a longer period as illustrated in Figure 2-10. Between 1976 and 1995, ambient concentrations of lead declined 97 percent. Between 1994 and 1995, national average lead concentrations (approaching the minimum detectable level) remained unchanged, while lead emissions declined 1 percent.

The large reductions in long-term lead emissions from transportation sources has changed the nature of the ambient lead problem in the United States. As Figure 2-11 shows, industrial processes were the major source of lead emissions in 1995, accounting for 59 percent of the total, or almost twice the transportation sector contribution of 32 percent. Because industrial processes are now responsible for all violations of the lead standard, the lead monitoring strategy focuses on these point sources of emissions. The map in Figure 2-12 shows the lead monitors oriented in the vicinity of major sources of lead emissions. In 1995, nine lead point sources had one or more site-oriented monitors that exceeded the NAAQS. These nine sources are ranked in Figure 2-12 according to the site with greatest maximum quarterly mean. Various enforcement and regulatory actions are being actively pursued by EPA and the States for these sources.

The map in Figure 2-13 shows the highest quarterly mean lead concentration by county in 1995. Nine counties, with a total population of 4.7 million and containing the point sources from Figure 2-12, did not meet the lead NAAQS in 1995. Note that the point-source oriented monitoring data were excluded from the trends analyses data presented in Figures 2-7 and 2-9.

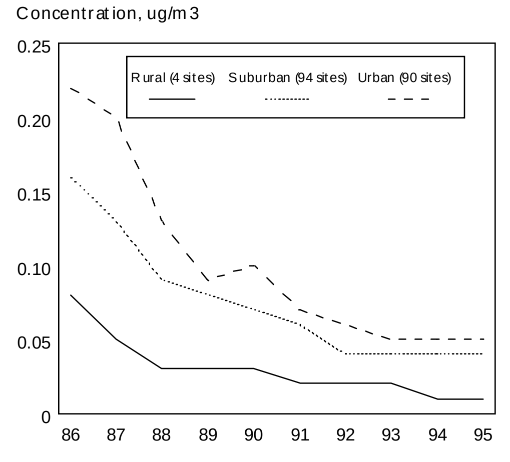


Figure 2-9. *Pb maximum quarterly mean concentration trends by location, 1986–1995.*

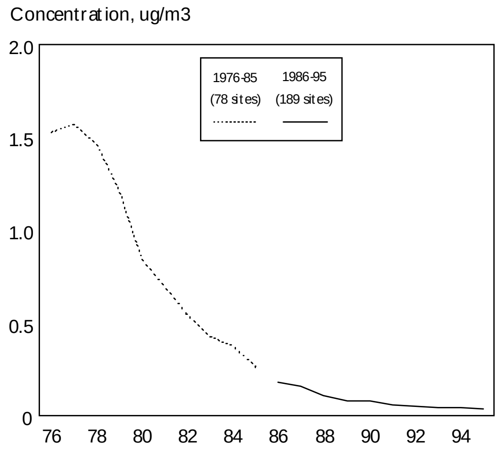


Figure 2-10. *Long-term ambient Pb trend, 1976–1995.*

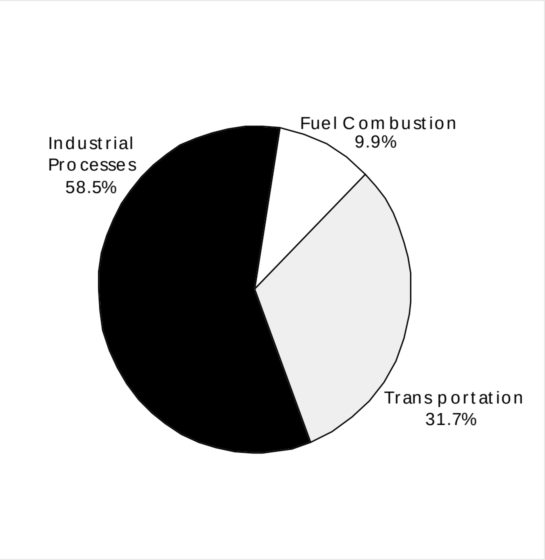
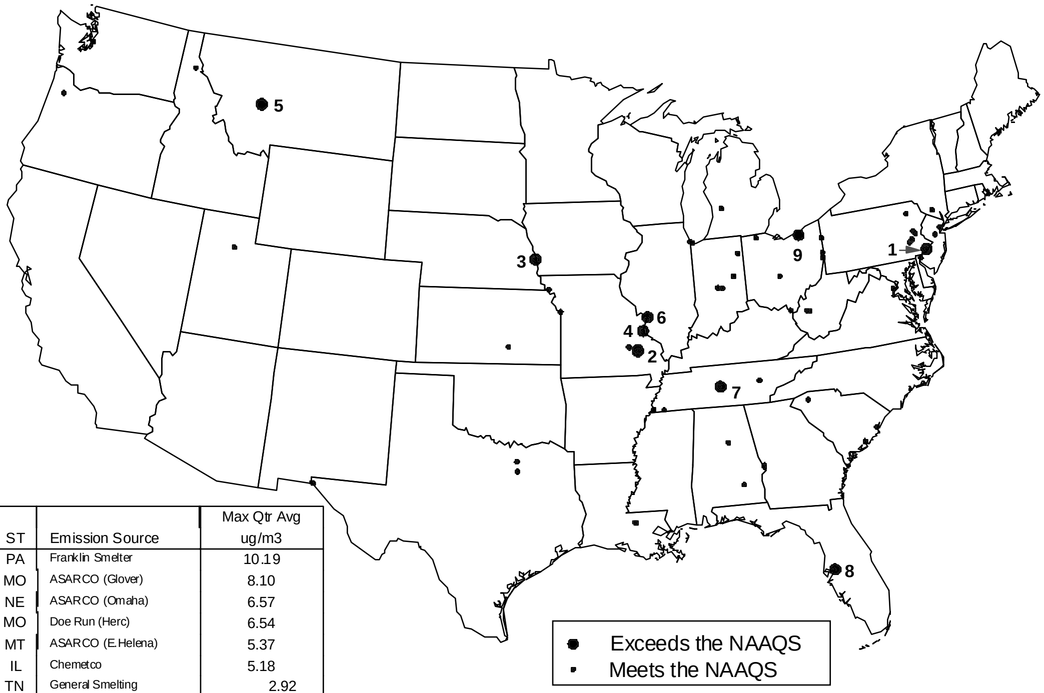


Figure 2-11. *Pb emissions by source category, 1995.*



Rank	ST	Emission Source	Max Qtr Avg ug/m3
1	PA	Franklin Smelter	10.19
2	MO	ASARCO (Glover)	8.10
3	NE	ASARCO (Omaha)	6.57
4	MO	Doe Run (Herc)	6.54
5	MT	ASARCO (E.Helena)	5.37
6	IL	Chemetco	5.18
7	TN	General Smelting	2.92
8	FL	Gulf Cost Lead	2.25
9	OH	Master Metals	1.63

Note: Site markers may overlap.

Figure 2-12. *Pb maximum quarterly concentration in the vicinity of Pb point sources, 1995.*

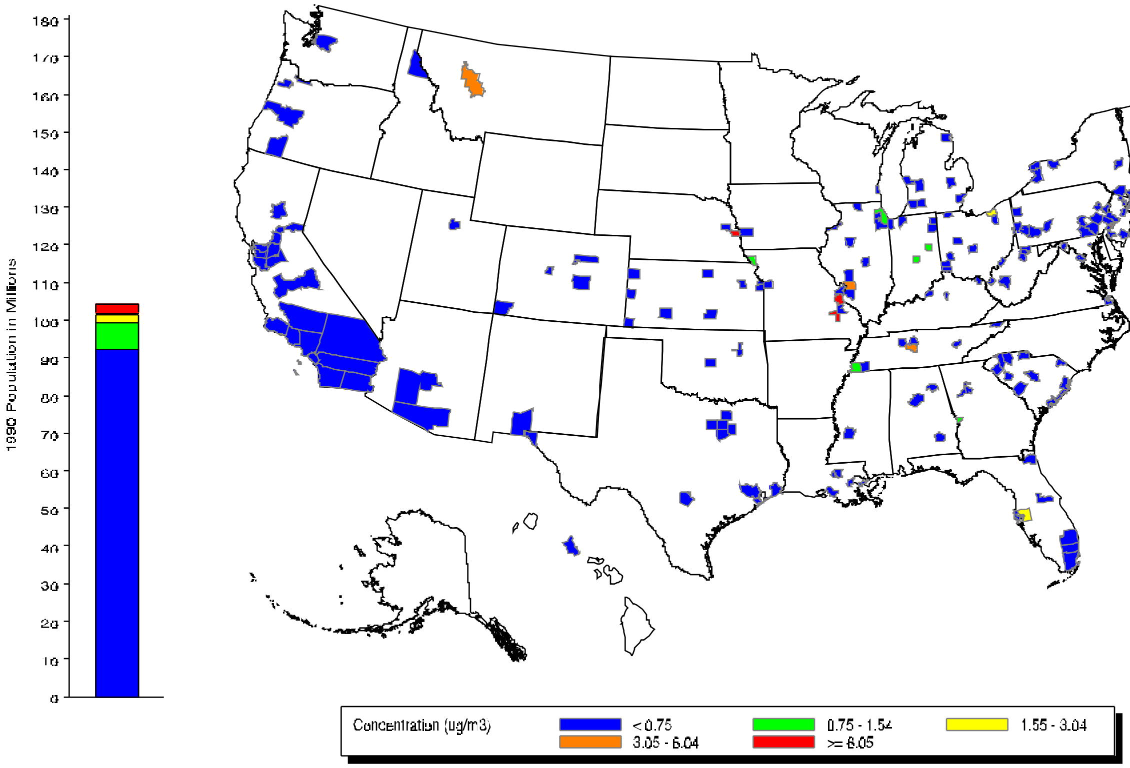


Figure 2-13. *Highest Pb maximum quarterly mean concentration by county, 1995.*

Nitrogen Dioxide (NO_2)

- **Air Quality Concentrations**
  1986–95 14% decrease
  1994–95 5% decrease
- **Emissions**
  1986–95 3% decrease
  1994–95 8% decrease

Nature and Sources

NO_2 belongs to a family of poisonous, highly reactive gases called oxides of nitrogen (NO_x). These gases form when fuel is burned at high temperatures, and come principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A suffocating, brownish gas, NO_2 is a strong oxidizing agent that reacts in the atmosphere to form corrosive nitric acid. It also plays a major role in the atmospheric reactions that produce ozone.

Health and Other Effects

NO_2 can irritate the lungs and lower resistance to respiratory infections such as influenza. The effects of short-term exposure are still unclear, but continued or frequent exposure to concentrations higher than those normally found in the ambient air may cause increased incidence of acute respiratory disease in children. The ambient NO_2 primary NAAQS is an annual mean concentration not to exceed 0.053 ppm. Oxides of nitrogen are an important precursor to both ozone and acidic precipitation (acid rain) and may affect both terrestrial and aquatic ecosystems. The regional transport and deposition of nitrogenous compounds arising from emissions of NO_x is a potentially significant contributor to such environmental effects as the growth of algae and subsequent unhealthy or toxic conditions for fish in the Chesapeake Bay and other estuaries. In some parts of the western United States, oxides of nitrogen have a significant impact on particulate matter concentrations.

Trends

Nationally, annual mean NO_2 concentrations remained relatively constant throughout the 1980s, followed by decreasing concentrations in the 1990s. The 1995 composite average of the NO_2 annual mean concentrations is 14 percent lower than the 1986 level, and five percent lower than the 1994 level, as illustrated in Figure 2-14.

The trend in national total emissions of NO_x is shown in Figure 2-15. Between 1986 and 1995, national total NO_x emissions decreased 3 percent. However, between 1994 and 1995 emissions decreased 8 percent. Title IV (Acid Deposition Control) of the 1990 CAAA specifies that between 1980 and 2010 total annual NO_x emissions will be reduced by approximately 10 percent (a reduction of 2 million tons). Although NO_x emissions are not affected by Title IV until 1996, Reasonably Available Control Technology (RACT) conditions must be met in 1995. Thus, low NO_x burners were often

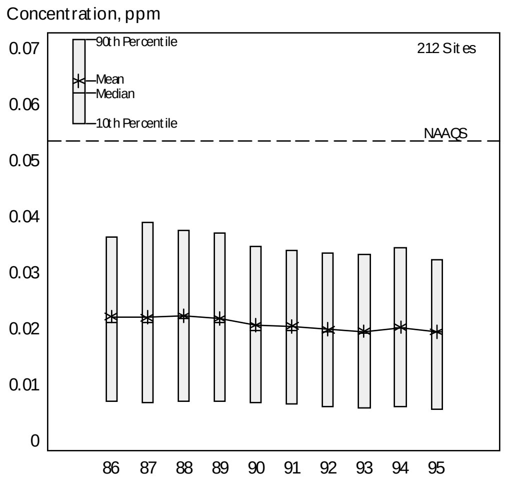


Figure 2-14. *Trend in annual NO_2 concentrations, 1986–1995.*

installed before the required date and are reflected in NO_x emissions declines between 1994 and 1995. In 1995, the two primary sources of the NO_x emissions were fuel combustion (46 percent) and transportation (49 percent) as shown in Figure 2-16. Table A-4 provides a listing of NO_x emissions by major source category.

Although the highest ambient NO_2 levels are typically observed in urban areas, Figure 2-17 shows that the ambient NO_2 air quality trends are similar across monitoring locations. Additionally, 1995 is the fourth consecutive year that all monitoring locations across the nation, including Los Angeles, met the federal NO_2 air quality standard (see Figure 2-18). Twenty-year trends in ambient NO_2 concentrations are not shown because the sites meeting the 1976–1985 completeness criteria (a total of 48 sites) are not representative of the mix of 212 sites in the current trends data base.

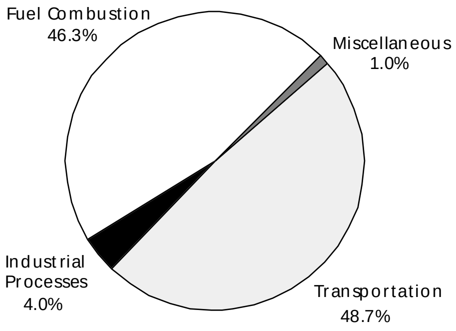


Figure 2-16. *NO_x emissions by source category, 1995.*

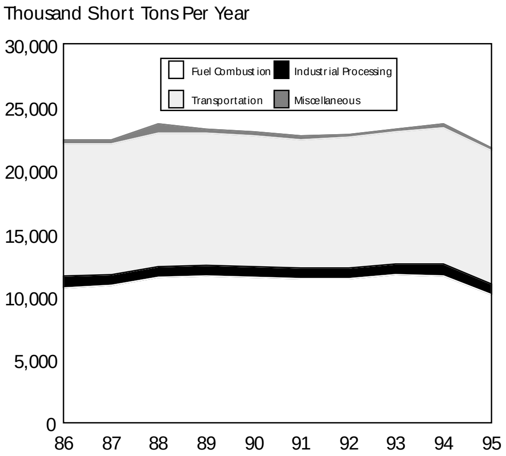


Figure 2-15. *National total NO_x emissions trend, 1986–1995.*

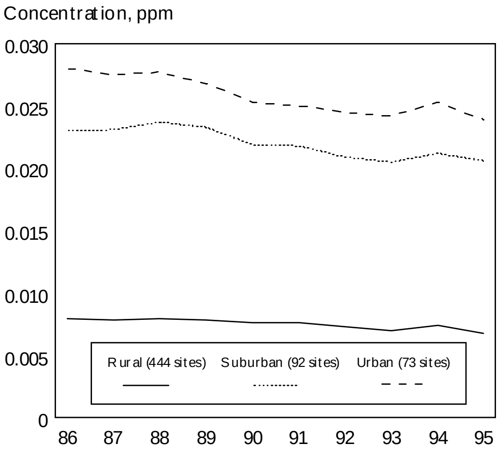


Figure 2-17. *NO_2 annual mean concentration trends by location, 1986–1995.*

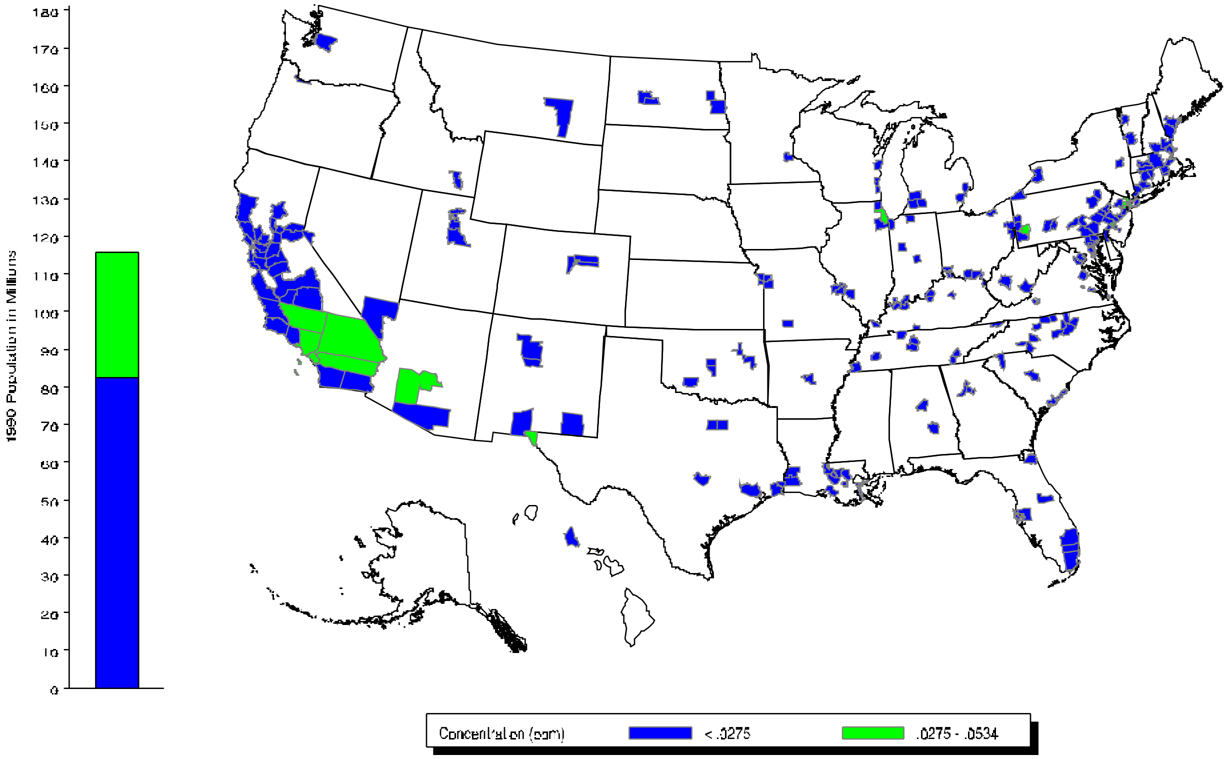


Figure 2-18. *Highest NO_2 annual mean concentration by county, 1995.*

Ozone (O_3)

- **Air Quality Concentrations**

1986–95	6% decrease
1994–95	4% increase

- **VOC Emissions**

1986–95	9% decrease
1994–95	2% decrease

Nature and Sources

Ground-level O_3 is the most complex, difficult to control, and pervasive of the six criteria pollutants. Unlike other pollutants, O_3 is not emitted directly into the air by specific sources. A poisonous form of pure oxygen, it is created when sunlight reacts with NO_x and VOCs in the air. There are thousands of sources of these gases. Some of the more common sources are gasoline vapors, chemical solvents, combustion products of various fuels, and consumer products. These products can be frequently found in large industrial facilities, gas stations, and small businesses such as bakeries and auto body repair shops. Often these "precursor" gases are emitted in one area, but the actual chemical reactions, stimulated by sunlight and temperature, take place in another. Combined emissions from motor vehicles and stationary sources can be carried hundreds of miles from their origins, forming high O_3 concentrations over very large regions. Approximately 70 million people lived in 108 counties with air quality levels above the primary O_3 NAAQS in 1995. Los Angeles has the highest number of exceedances of the O_3 NAAQS followed by Houston, then metropolitan areas in California and the Northeast.

Health and Other Effects

While O_3 in the upper atmosphere is beneficial in that it shields the earth from harmful ultraviolet rays, ground-level O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems (such as asthmatics) but healthy adults and children as well. Exposure to O_3 for six to seven hours, even at relatively low concentrations, has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during periods of moderate exercise. This decrease in lung function is often accompanied by such symptoms as chest pain, coughing, nausea, and pulmonary congestion. Recent studies provide evidence of an association between elevated ambient O_3 levels and increases in hospital admissions for respiratory problems in several U.S. cities. Though less well established in humans, animal studies have demonstrated that repeated exposure to O_3 over a period of months or years can produce permanent structural damage in the lungs and accelerate the rate of lung function decline and the aging of the lungs.

Ambient O_3 is also responsible for 1 to 2 billion dollars of agricultural crop yield loss in the United States each year. Because ground-level ozone interferes with the ability of plants to produce and store food, plants are more susceptible to disease, insect attack, other environmental pollutants, and harsh weather, resulting in, for example, yield loss in crops and biomass loss in tree seedlings.

Ozone also damages the foliage of trees and other plants, decreasing the beauty of our national parks and recreation areas, and has an impact on wildlife. For example, O_3 effects can reduce the ability of affected areas to provide habitats to endangered as well as other species. In an example affecting a common species, milkweed, long known for its sensitivity to O_3 and usefulness as an indicator species of elevated O_3 levels, is the sole food of the monarch butterfly larvae. Thus, a major risk associated with the loss of milkweed foliage for a season is that it might have significant indirect effects on the local monarch butterfly population.

Since 1986, over 3,000 new studies have been published on the health and ecological effects of ambient ozone. Many of these studies indicate that negative effects occur at levels lower than the current ambient standard for ozone. The current standard for O_3 is 0.12 ppm daily maximum 1-hour concentration, not to be exceeded more than once per year averaged over three calendar years.

EPA is currently reviewing the NAAQS for O_3 in accordance with the requirements of the Clean Air Act. The NAAQS for particulate matter is also currently under review (see the PM-10 section of this chapter) and the Agency plans to complete these reviews and propose decisions on whether to retain or revise both NAAQS by November 29, 1996, with final action planned for June 1997.[3] EPA is considering the recommendation of the Clean Air Science Advisory Committee (CASAC) "that the present 1-hour standard be eliminated and replaced with an 8-hour standard."[4]

Trends

Ground level O_3 (the primary constituent of smog) has remained a pervasive pollution problem throughout the United States. Ambient O_3 trends are influenced by year-to-year changes in meteorological conditions, population growth, and VOC to NO_x ratios as well as changes in emissions from ongoing control measures. Meteorological conditions in 1995 were highly conducive to peak O_3 formation, especially in the Midwest and Gulf states and throughout the East. Nationally, 1995 was the 33rd hottest summer in the last 100 years, while 1988 was the 3rd hottest. On a regional basis, the Northeast experienced its 3rd hottest summer, while the Central states had the 11th hottest summer. Figure 2-19 reveals that the 1995 composite national average daily maximum 1-hour O_3 concentration is 6 percent lower than the 1986 composite mean level. The national 1995 composite mean is 4 percent higher than the previous year and the same as the composite level recorded in 1990. The lowest national composite mean level was recorded in 1992 and the highest in 1988. The composite mean of the number of exceedances of the O_3 NAAQS declined 53 percent since 1986. In contrast to

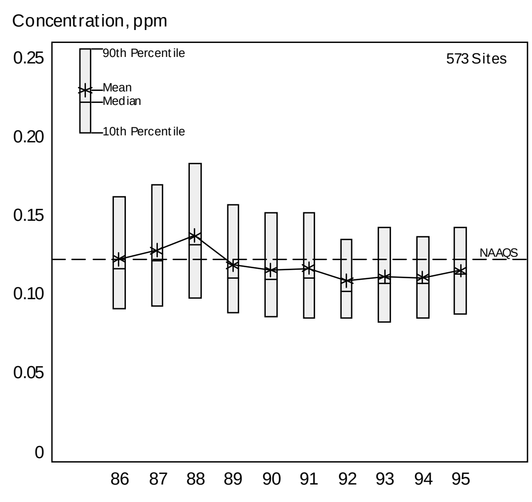


Figure 2-19. *Trend in annual second daily maximum 1-hour O_3 concentrations, 1986–1995.*

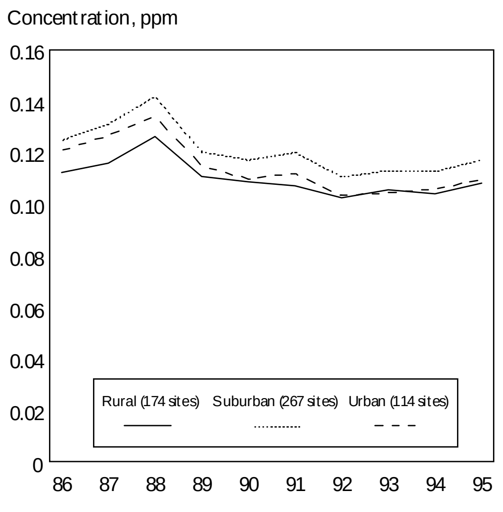


Figure 2-20. *O_3 second daily maximum 1-hour concentration trends by location, 1986–1995.*

the trend in concentrations, the composite mean of the number of exceedances declined 6 percent between 1994 and 1995, primarily as a result of the 24-percent reduction in the number of exceedances at sites in California.

Figure 2-20 shows that the trends in composite mean second daily maximum 1-hour concentrations are similar across monitoring environments, although the highest levels are typically found at suburban sites. During the past 10 years, the composite mean at 114 urban sites recorded the largest air quality improvement (a 9 percent decline in O_3 concentrations), followed by a decrease of 6 percent at 267 suburban sites, while O_3 levels declined 4 percent at 174 sites in rural locations.

As noted in a study by the National Academy of Science, and in previous Trends Reports, O_3 trends are affected by changing meteorological conditions that are conducive to O_3 formation.[5] EPA has developed a statistical model that attempts to factor out

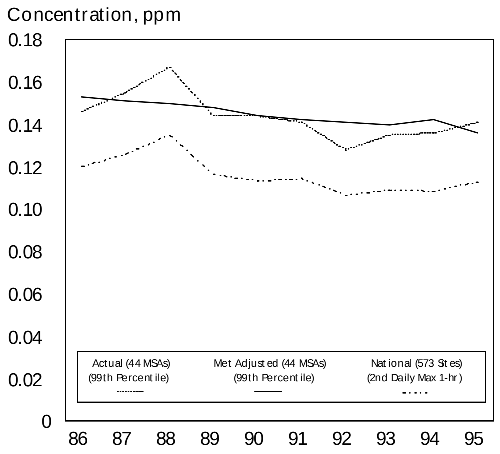


Figure 2-21. *O_3 meteorologically adjusted trend.*

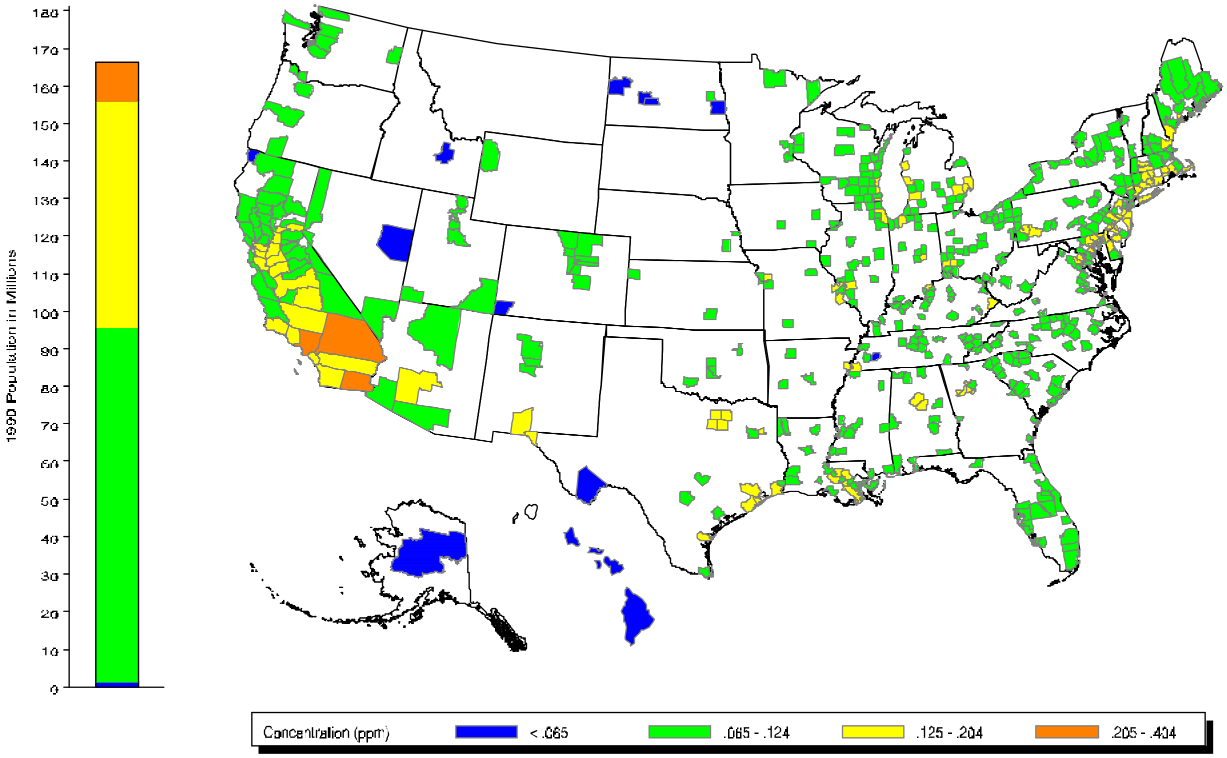


Figure 2-22. *Highest O_3 second daily maximum concentration by county, 1995.*

meteorological effects and helps to normalize the resulting trend estimates across years.[6] Figure 2-21 shows the results from application of the model in 44 major urban areas. While the raw data trends reflect the year-to-year variability in ozone conducive conditions, the meteorologically adjusted O_3 composite trend provides a more stable indicator of O_3 trends. For these 44 metropolitan areas, the adjusted trend shows continued improvement with an average decrease of about 1 percent per year since 1986.

The map in Figure 2-22 presents the highest second daily maximum 1-hour concentration by county in 1995. The accompanying bar chart to the left of the map reveals that in 1995 approximately 70 million people lived in 108 counties where the second daily maximum 1-hour concentration was above the level of the O_3 NAAQS.

Quantitative long-term ambient O_3 trends are difficult to assess due to changes in network design, siting criteria, spatial coverage and monitoring instrument calibration procedures over the past two decades. Figure 2-23 contrasts the 1976–1985 composite trend line based on 178 sites with the current 1986–1995 composite trend line based on 573 sites. Although the overall trend is downward, short-term upturns corresponding to O_3 conducive meteorology are evident. The shaded area in the late 1970s indicates the period corresponding to the old calibration procedure where concentration levels are less certain.

Figure 2-24 shows that emissions of VOCs (which contribute to O_3 formation) decreased 9 percent between 1986 and 1995. Recent control measures to reduce emissions include regulations to lower fuel volatility as well as NO_x and VOC emissions from tailpipes.[7] These measures are reflected in the 23 percent decrease in emissions from transportation sources, and the 31 percent decline in highway vehicle emissions. NO_x emissions (the other major precursor to O_3 formation) decreased 3 percent between 1986 and 1995. Nationally, the two major sources of VOC emissions are industrial processes (58 percent) and transportation sources (37 percent) as shown in Figure 2-25 and in Table A-5.

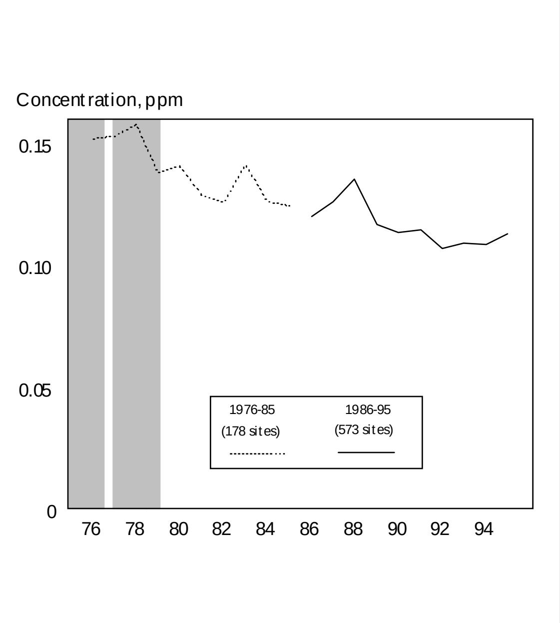


Figure 2-23. *Long-term ambient O_3 trend, 1976–1995.*

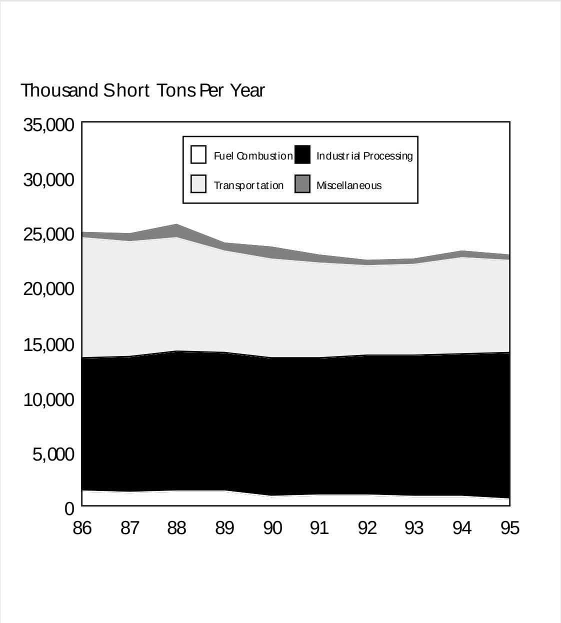


Figure 2-24. *National total VOC emissions trend, 1986–1995.*

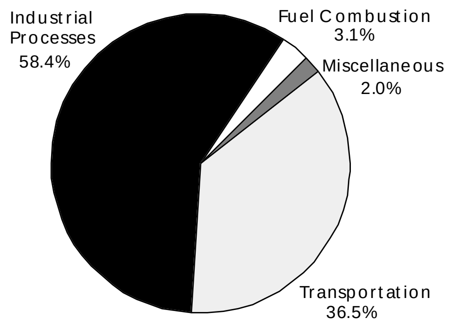


Figure 2-25. *VOC emissions by source category, 1995.*

Because detailed ambient air quality data is useful in understanding the air quality problems of a particular area, the 1990 CAAA called for improved monitoring of ozone and its precursors, VOC and NO_x. Photochemical Assessment Monitoring Stations (PAMS) were therefore developed and positioned in all ozone nonattainment areas classified as serious, severe, or extreme. The 22 affected areas collect measurements of ozone, NO_x, and a number of VOCs as well as surface and upper air meteorology. While the hot dry summer in 1995 resulted in increases in ozone levels in many parts of the country between 1994 and 1995, the majority of the PAMS sites showed decreases in the concentrations of toxics and ozone-forming VOCs. Under more normal summertime conditions, meteorological conditions such VOC reductions would likely lead to decreases in ozone levels. For a more detailed discussion of the PAMS program and VOC reductions, see Chapter 3 of this Report.

As required by the 1990 CAAA, a cleaner burning fuel known as reformulated gasoline (RFG) has been sold as of January 1, 1995 in those areas of the country with the worst ozone or smog problem. RFG is formulated to reduce automotive emissions of ozone-forming pollutants and toxic chemicals—it is estimated to reduce both VOC and toxic emissions by more than 15%. RFG sold during the summer ozone season has lower volatility than most conventional gasoline. Also, RFG has lower levels of certain compounds that contribute to air pollution and a minimum oxygen content of 2 percent, and a maximum benzene content of 1 percent.[8]

The RFG program is mandated year-round in 10 areas of the country (i.e., Los Angeles, San Diego, Hartford, New York, Philadelphia, Chicago, Baltimore, Houston, Milwaukee, and Sacramento). In addition to these required areas, several other parts of the country exceeding the ozone standard have voluntarily entered into the RFG program.[9] For a more detailed discussion of the RFG program and its impact, see Chapter 3 of this report.

Particulate Matter (PM-10)

- **Air Quality Concentrations**

1988–95	22% decrease
1994–95	4% decrease

- **Emissions**

1988–95	17% decrease
1994–95	6% decrease

Nature and Sources

Particulate matter is the general term for solid or liquid particles found in the atmosphere. Some particles are large or dark enough to be seen as soot or smoke. Others are so small they can be identified only with an electron microscope. Because particles originate from a variety of mobile and stationary sources, their chemical and physical compositions vary widely depending on location and time of year. In 1987, EPA replaced the earlier Total Suspended Particulate (TSP) standard with a PM-10 standard.[10] The PM-10 standard focuses on smaller particles that are likely to be responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract. PM-10 includes those particles whose aerodynamic size is less than or equal to a standard particle with a diameter of 10 micrometers (0.0004 inches).

Health and Other Effects

Based on studies of human populations exposed to ambient particle pollution (sometimes in the presence of SO_2) and laboratory studies of both animals and humans, areas of concern have been identified as: negative effects on breathing and respiratory systems, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. The elderly, children, and people with chronic obstructive pulmonary or cardiovascular disease, influenza, or asthma are especially sensitive to the effects of PM-10. In addition, particulate matter serves as a carrier for a variety of toxic metals and compounds, and is a major cause of reduced visibility in many parts of the United States.

There are both short- and long-term PM-10 NAAQS. The long-term standard specifies an expected annual arithmetic mean not to exceed 50 $\mu g/m^3$, while the short-term 24-hour standard of 150 $\mu g/m^3$ is not to be exceeded more than once per year.

EPA is currently reviewing the NAAQS for particulate matter in accordance with the requirements of the Clean Air Act. Under consideration is a new standard for the fine particles within PM-10 due to epidemiological evidence suggesting stronger associations of mortality and some morbidity effects with fine particles. A decision on whether to retain or revise the NAAQS for PM will be made by November 29, 1996, and final action is scheduled for mid-1997.[3]

Trends

Ambient monitoring networks were revised in 1987 to measure PM-10, so 1988 is the first complete year of PM-10 trends data for most monitors. Figures 2-26 and 2-27 show the change in measured concentrations at monitoring sites and the change in estimated emissions between 1988 and 1995. The national average of annual mean PM-10 concentrations decreased 22 percent, while PM-10 emissions decreased 17 percent. Between 1994 and 1995, mean PM-10 concentrations decreased 4 percent, while PM-10 emissions decreased a comparable 6 percent.

Urban and suburban sites have similar trends and comparable average concentration levels, as shown in Figure 2-28. The trends at rural sites are consistent with these urban and suburban patterns, although the composite mean level is significantly lower.

PM-10 emissions from traditionally inventoried sources decreased 17 percent since 1988. Figure 2-29 shows that the three major categories—fuel combustion, industrial processes, and transportation—contribute almost equally to the total. For the first time in recent years however, emissions in the industrial processes category were slightly higher than those for the fuel combustion category. Industrial process emissions increased 1 percent over 1994 levels, while fuel combustion emissions decreased 12 percent. Within the fuel combustion category, the largest decrease was in residential wood combustion, which declined more than 25 percent between 1994 and 1995. Table A-6 lists PM-10 emissions estimates from these sources for 1986–1995.

As shown in Figure 2-30, emissions from the traditionally inventoried source categories (fuel combustion, industrial processes, transportation) make up only 6 percent of total PM-10 emissions nationwide. The remaining emissions come from natural sources (wind erosion) and the miscellaneous category, which contains emissions for agriculture and forestry, wildfires and managed burning, and fugitive dust from paved and unpaved roads. Of these, fugitive dust makes up the greatest share of all PM-10 emissions (68 percent), followed by agriculture and forestry (20 percent). Miscellaneous and natural source PM-10 emissions estimates are provided in Table A-7.

The map in Figure 2-31 displays the highest second maximum 24-hour PM-10 concentration by county in 1995. When both the annual and 24-hour standards are considered, there were 24 million people living in 22 counties with PM-10 concentrations above the PM-10 NAAQS in 1995.

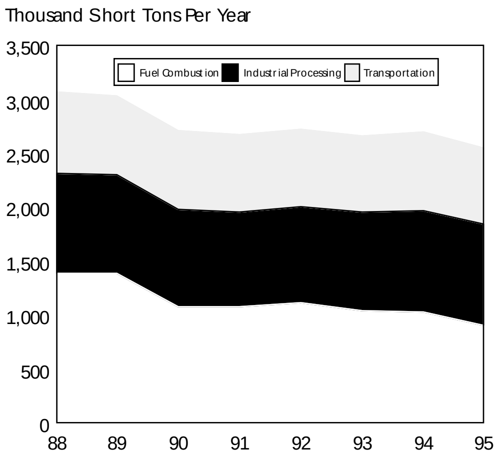


Figure 2-27. *National total PM-10 emissions trend, 1988–1995 (traditionally inventoried sources only).*

Note: These emissions estimates do not include estimates of particulate matter from secondary particle formation in the atmosphere.

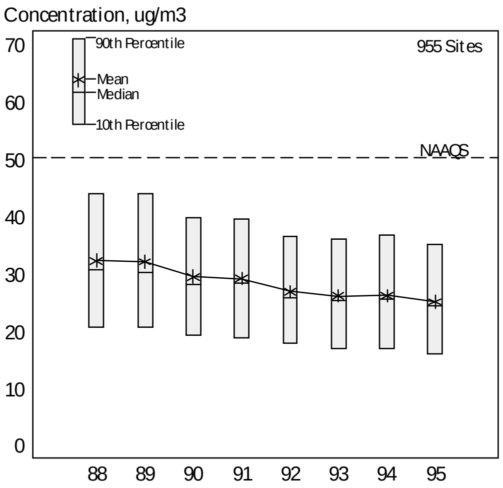


Figure 2-26. *Trend in annual mean PM-10 concentrations, 1988–1995.*

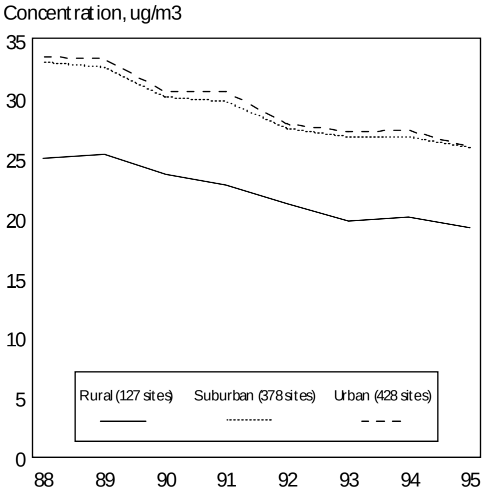


Figure 2-28. *PM-10 annual mean concentration trends by location, 1988–1995.*

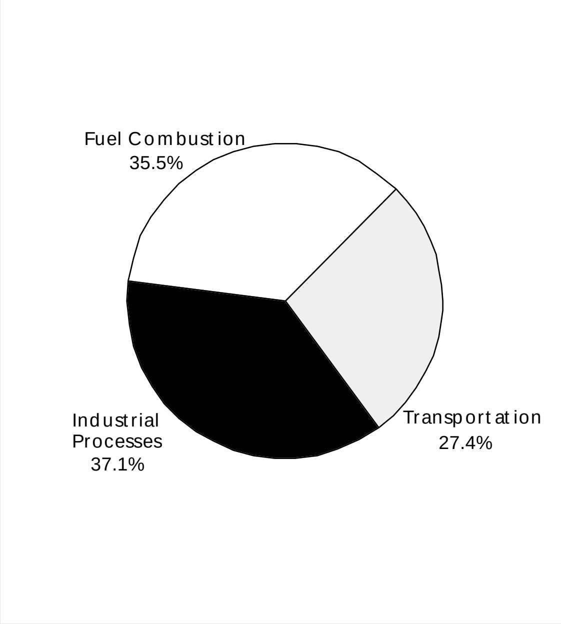


Figure 2-29. *PM-10 emissions from traditionally inventoried source categories, 1995.*

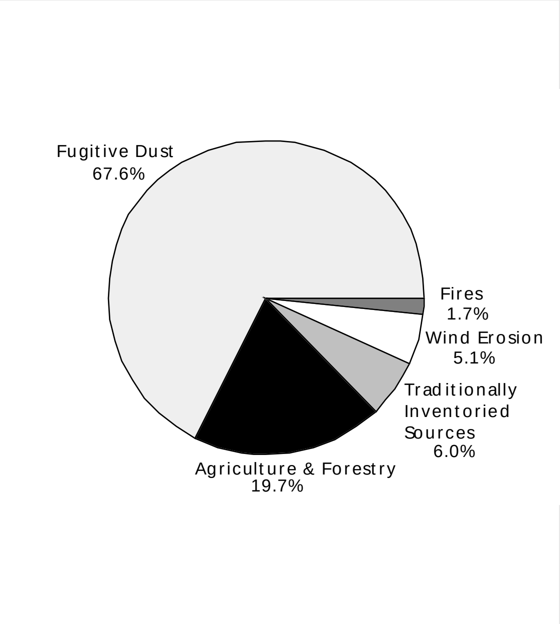


Figure 2-30. *PM-10 total emissions by source category, 1995.*

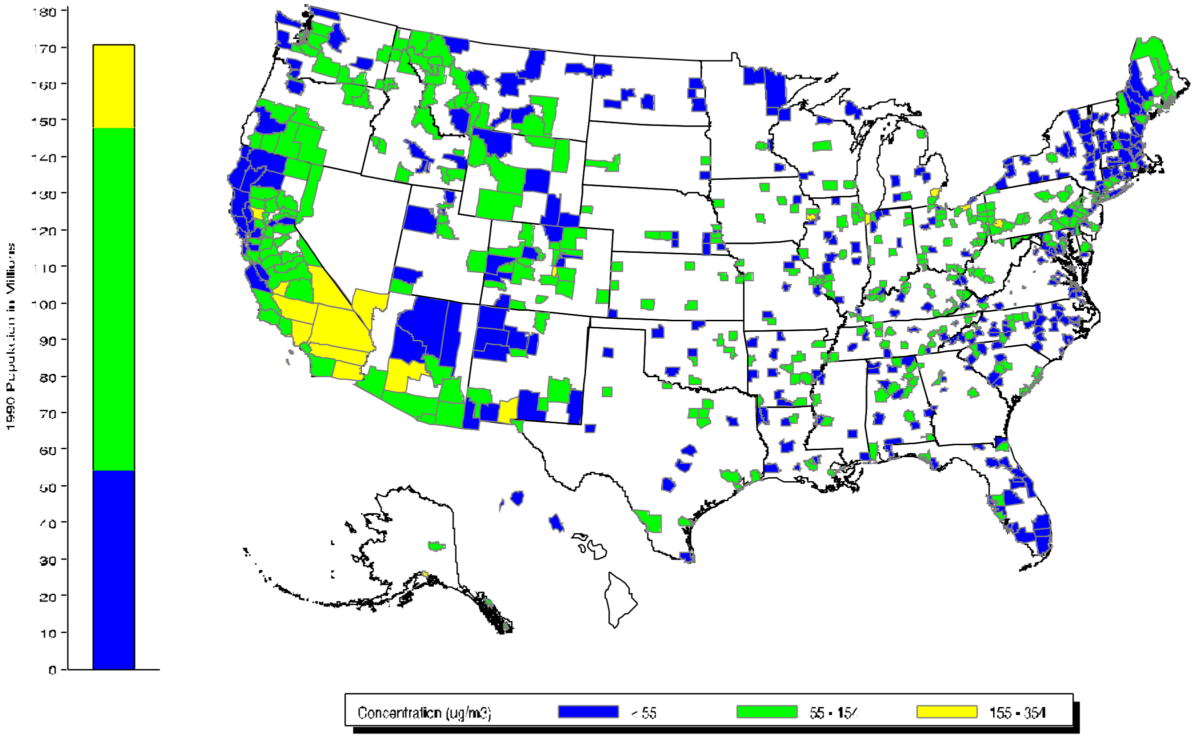


Figure 2-31. *Highest second maximum 24-hour PM-10 concentration by county, 1995.*

Sulfur Dioxide (SO_2)

- **Air Quality Concentrations**

1986–95	37% decrease
1994–95	17% decrease

- **Emissions**

1986–95	18% decrease
1994–95	13% decrease

Nature and Sources

SO_2 belongs to the family of sulfur oxide gases (SO_x). These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes. Most SO_2 monitoring stations are located in urban areas. The highest monitored concentrations of SO_2 are recorded in the vicinity of large industrial facilities.

Health and Other Effects

The major health concerns associated with exposure to high concentrations of SO_2 include effects on breathing, respiratory illness, alterations in the lungs' defenses, and aggravation of existing cardiovascular disease. Major subgroups of the population that are most sensitive to SO_2 include asthmatics and individuals with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) as well as children and the elderly. There are two primary NAAQS for SO_2 that address these health concerns: an annual mean concentration of 0.030 ppm (80 $\mu g/m^3$) not to be exceeded, and a 24-hour daily concentration of 0.14 ppm (365 $\mu g/m^3$) not to be exceeded more than once per year.

SO_2 also can produce damage to the foliage of trees and agricultural crops. Together, SO_2 and NO_x are the major precursors to acidic deposition (acid rain), which is associated with the acidification of lakes and streams, accelerated corrosion of buildings and monuments, and reduced visibility. The secondary SO_2 NAAQS, which protects against such damage, is a 3-hour average concentration of 0.50 ppm (1300 $\mu g/m^3$) not to be exceeded more than once per year.

Trends

The map in Figure 2-32 displays the highest second maximum 24-hour SO_2 concentration by county in 1995. There were no counties containing major SO_2 point sources that failed to meet the ambient SO_2 NAAQS in 1995. The national composite average of SO_2 annual mean concentrations decreased 37 percent between 1986 and 1995 (see Figure 2-33), while SO_2 emissions decreased 18 percent (see Figure 2-34). Between 1994 and 1995, national SO_2 mean concentrations decreased 17 percent, and SO_2 emissions decreased 13 percent.

It is important to emphasize that current SO_2 problems in the U.S. are caused by point sources that are usually identified by modeling rather than routing ambient monitoring. Historically, networks are positioned in population-oriented locales. However, 86 percent of total national SO_2 emissions (Figure 2-35), result from fuel combustion sources that tend to be located in less populated areas. Figure 2-36 reveals that composite annual mean concentrations at sites in suburban and urban locations decreased 40 and 41 percent, respectively, while ambient levels decreased 23 percent at rural sites. The progress in reducing ambient SO_2 concentrations during the past 20 years is portrayed in Figure 2-37. This reduction was accomplished by installing flue-gas control equipment at coal-fired generating plants, reducing emissions from industrial processing facilities such as smelters and sulfuric acid manufacturing plants, reducing the average sulfur content of fuels burned, and using cleaner fuels in residential and commercial burners.

In accordance with the Clean Air Act (CAA), EPA has reviewed and revised the air quality criteria upon which the existing NAAQS for sulfur oxides are based. EPA's final decision was that revisions of the NAAQS for sulfur oxides were currently not appropriate, aside from several minor technical changes.

Initiated by Title IV of the 1990 CAAA, the Acid Rain Program specifies that between 1980

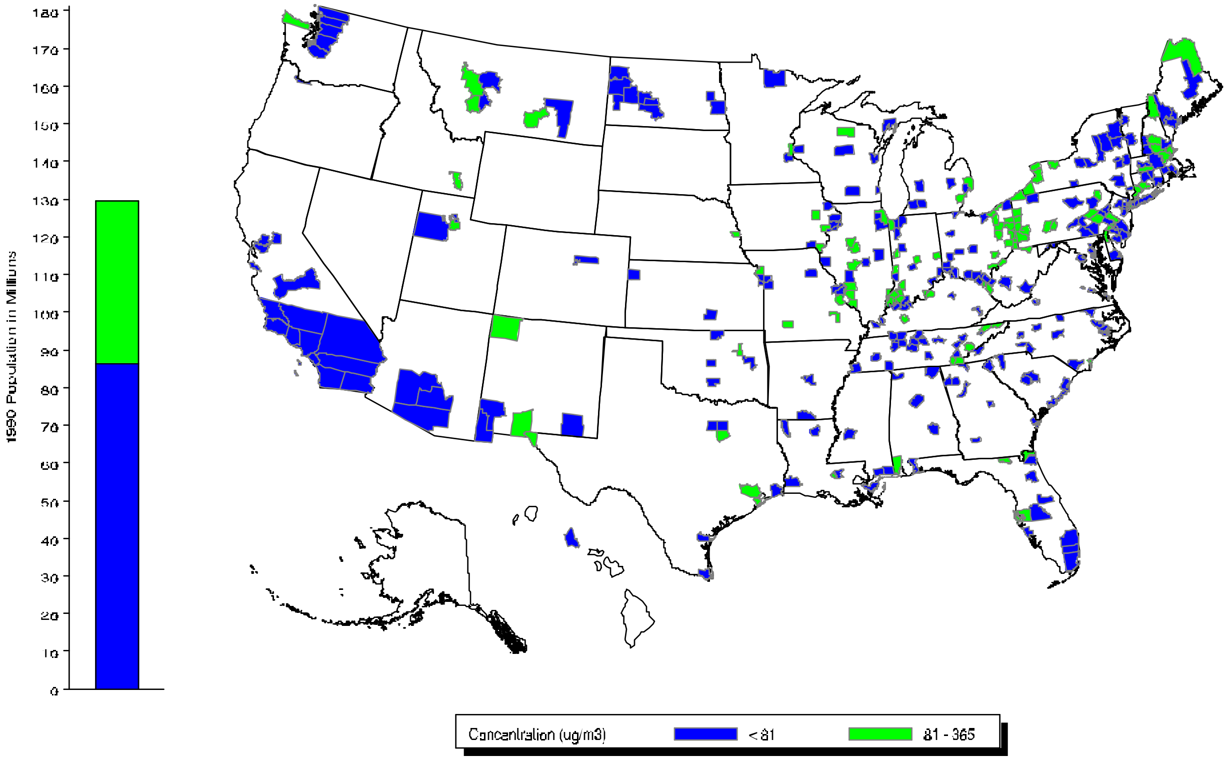


Figure 2-32. *Highest second maximum 24-hour SO_2 concentration by county, 1995.*

and 2010, total annual SO_2 emissions will be reduced by approximately 40 percent (10 million tons). The program will establish a new approach to environmental protection through the use of market incentives. The program sets a permanent cap on the total amount of SO_2 that may be emitted by electric utilities nationwide. The program is being implemented in two phases: Phase I began in 1995, will last until 1999, and currently involves 445 utility units; Phase II begins in 2000 and is expected to involve over 2000 units.[11]

For the 445 units participating in Phase I, actual emissions measured by continuous emissions monitoring systems were reduced by more than half relative to 1980 levels with emissions plummeting from 10.9 to 5.3 million tons. Emissions for these units were 3.4 million tons (or 39 percent) below the 1995 allowable emissions level of 8.7 million tons required by the 1990 CAAA.[11]

Many utilities installed scrubbers earlier than required since it was much less expensive

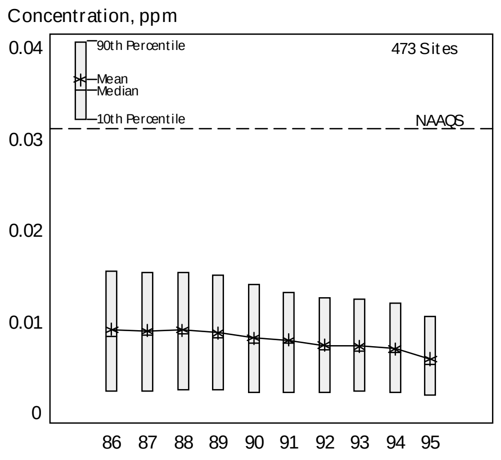


Figure 2-33. *Trend in annual mean SO_2 concentrations, 1986–1995.*

than previously thought. Other utilities switched to lower sulfur coal and also learned that the cost was not prohibitive. Utilities also participated in the annual allowance auctions held in March 1994, 1995, and 1996, where allowances declined in cost with each succeeding year. Thus, SO_2 compliance was often achieved earlier than EPA had anticipated as reflected by the decline in SO_2 emissions between 1994 and 1995.

According to a recent study prepared by the U.S. Geological Survey, reductions in emissions have resulted in rainfall being less acidic in 1995 due to the first year of implementation of the Acid Rain Program. The study reports a 10 to 25 percent drop in rainfall acidity.[11]

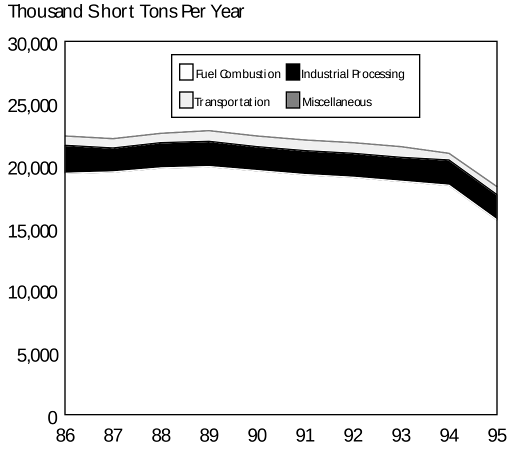


Figure 2-34. *National total SO_2 emissions trend, 1986–1995.*

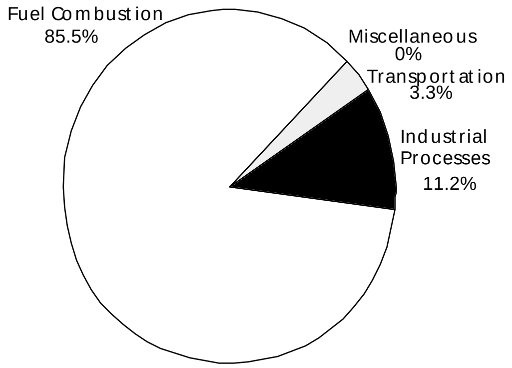
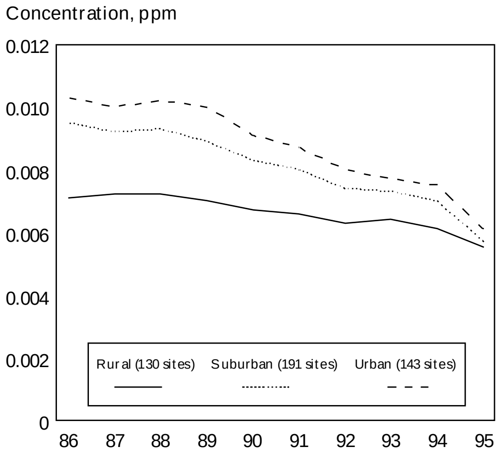


Figure 2-35. *SO_2 total emissions by source category, 1995.*



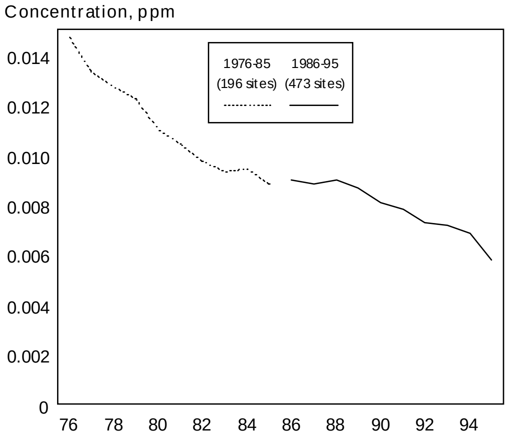


Figure 2-36. *SO$_2$ annual mean concentration trends by location, 1986–1995.*

Figure 2-37. *Long-term ambient SO$_2$ trend, 1976–1995.*

Visibility

Nature and Sources of the Problem

Visibility impairment occurs as a result of the scattering and absorption of light by particles and gases in the atmosphere. It is most simply described as the haze which obscures the clarity, color, texture, and form of what we see. The same particles linked to serious health effects [sulfates, nitrates, organic carbon, soot (elemental carbon), and soil dust] can significantly affect our ability to see.

Both primary and secondary particles contribute to visibility impairment. Primary particles, such as dust from roads and agricultural operations or elemental carbon from diesel and wood combustion, are emitted directly into the atmosphere. Secondary particles are formed in the atmosphere from primary gaseous emissions. Secondary particles of concern include sulfate formed from sulfur dioxide emissions, nitrates from nitrogen oxide emissions, and carbon-based particles formed from hydrocarbon emissions. Reduced visibility is primarily attributable to airborne particles, particularly those less than a few micrometers, in diameter, whereas the only primary gaseous pollutant that directly reduces visibility is nitrogen dioxide.

High relative humidity can significantly increase the effect of pollution on visibility. Some particles, such as sulfates, accumulate water and grow in size and become more efficient at scattering light. Poor summer visibility in the eastern United States is primarily the result of high sulfate concentrations exposed to high humidity levels.

Visibility conditions are commonly expressed in terms of three mathematically related metrics such as visual range, light extinction, and the deciview. Visual range is the maximum distance at which one can identify a black object against the horizon, and is typically described in miles or kilometers. Light extinction, inversely related to visual range, is the sum of light scattering and absorption by particles and gases in the atmosphere. It is typically expressed in terms of inverse megameters (Mm^{-1}), with larger values representing poorer visibility.

Changes in visual range and light extinction are not proportional to human perception, however. For example, a 5-mile change in visual range can be either very apparent or not perceptible, depending on the base line level of ambient pollution. The deciview was developed to address this situation. It describes perceived visual changes on a linear scale over its entire range, analogous to the decibel scale for sound. Under many scenic conditions, a change of one deciview is considered perceptible by the average person. A deciview of zero represents pristine conditions.

Long-TermTrends

Visibility impairment has been analyzed using data collected since 1960 at 280 monitoring stations located at airports across the country. These stations measure visual range, the maximum distance at which an observer can discern the outline of an object. Visibility trends can be inferred from long-term records of visual range. The maps in Figure 2-38 show U.S. visibility trends derived from such data.[12]

The maps show the amount of haze during the summer months of 1970, 1980, and 1990. The dark blue color represents the best visibility, and red represents the worst visibility. Overall, these maps show that annual average visibility impairment in the eastern United States increased greatly between 1970 and 1980, and decreased slightly between 1980 and 1990. This follows the overall trends in emissions of sulfur oxides during these periods.

IMPROVE Visibility Monitoring Network

In 1987, the IMPROVE (Interagency Monitoring of PROtected Visual Environments) visibility monitoring network was established as a cooperative effort between the EPA, National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish & Wildlife Service, and the states. The network is designed to track progress toward the Clean Air Act's national goal of remedying existing

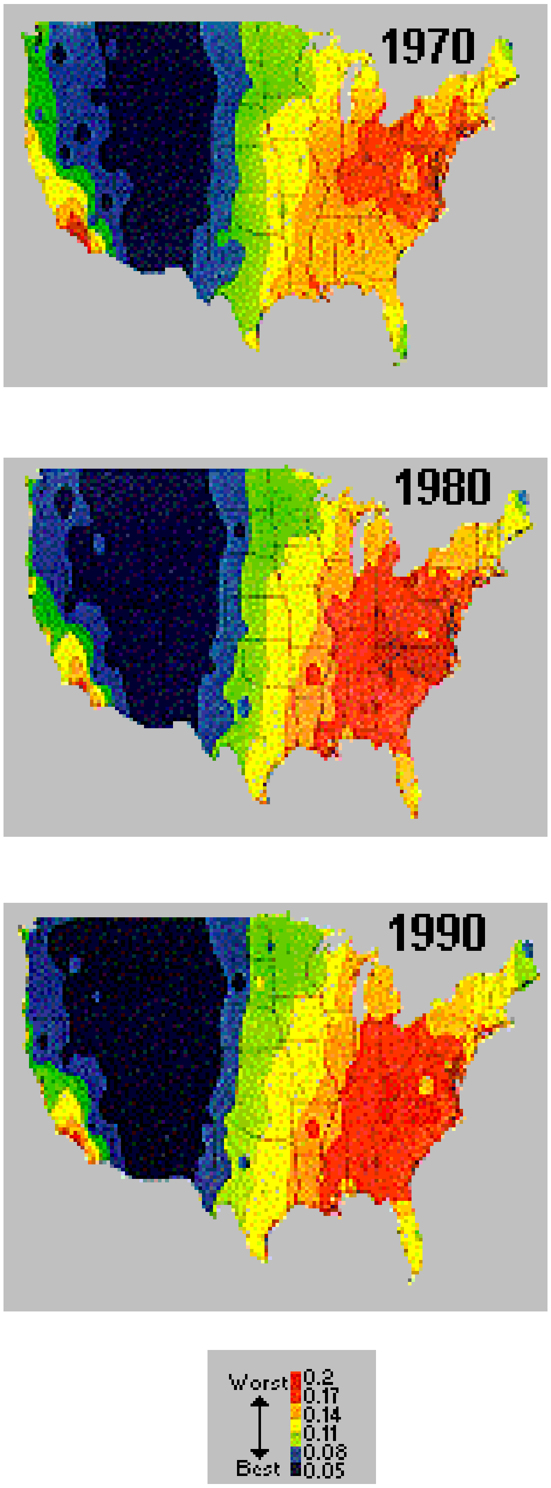


***Figure 2-38.** Trend of haze from airport visual data (July–September).*

and preventing future visibility impairment in Class I areas across the country, such as national parks and wilderness areas. It also provides information for determining the types of pollutants and sources primarily responsible for reduced visibility. The network now includes over 40 sites, and uses aerosol, optical, and photographic monitoring methods. It is the largest network in the country devoted to fully characterizing visibility.

Current Conditions

On an annual average basis, natural visibility conditions have been estimated at approximately 80–90 miles in the East and up to 140 miles in the West. Natural visibility varies by region primarily because of higher estimated background levels of fine particles in the East and the more significant effect of relative humidity on particle concentrations in the East than in the West. Current annual average conditions range from about 18–40 miles in the rural East and about 35–90 miles in the rural West.

Figure 2-39 illustrates annual average visibility impairment in terms of light extinction captured at IMPROVE sites between 1992 and 1995. The pie charts show the relative contribution of different particle constituents to visibility impairment. Annual average total light extinction due to these particles is indicated by the value next to each pie and by the size of each pie.[13]

In Figure 2-39, one can see that visibility impairment is generally greater in the rural East compared to most of the West. In the rural East, sulfates account for about 50–70 percent of annual average light extinction. Sulfate plays a particularly significant role in the humid summer months, most notably in the Appalachian, Northeast, and mid-South regions. Nitrates and organic and elemental carbon all account for between 10–15 percent of total light extinction in most Eastern locations.

In the rural West, sulfates also play a significant role, accounting for about 25–40 percent of total light extinction in most regions. However, sulfates account for over 50 percent

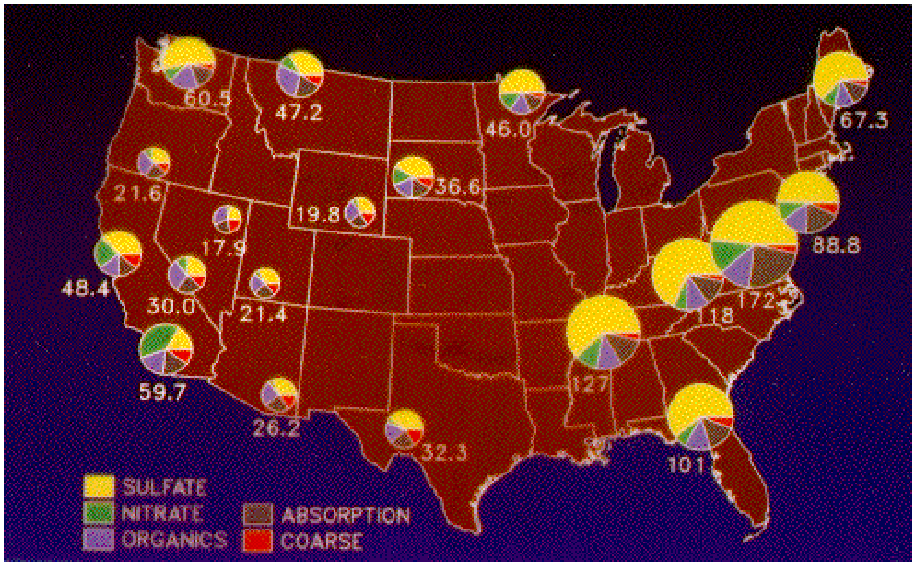


Figure 2-39. *Annual average light extinction (Mm^{-1}), 1992–1995 IMPROVE data.*

of annual average light extinction in the Cascades. Organic carbon typically is responsible for 15–35 percent of total light extinction in the rural West, elemental carbon (absorption) accounts for about 15–25 percent, and soil dust (coarse) accounts for about 10–20 percent. Nitrates typically account for less than 10 percent of total light extinction in Western locations, except in the southern California region, where it accounts for almost 40 percent.

Figure 2-40 also illustrates annual average visibility impairment from IMPROVE data for 1992 to 1995, expressed in deciviews. Note that the deciview scale is more compressed than the scale for visual range or light extinction. Most of the sites in the intermountain West and Colorado Plateau have annual impairment of 12 deciviews or less, whereas many rural locations in the East have values exceeding 23 deciviews.

One key to understanding visibility effects is understanding that the same amount of pollution can have dramatically different effects on visibility depending on existing conditions. It is important to note that visibility in cleaner environments is more sensitive to increases in fine particle concentrations than visibility in more polluted areas. This principle is illustrated in Figure 2-41, which characterizes visibility at Shenandoah National Park under a range of conditions. A clear day at Shenandoah can be represented by a visual range of 80 miles, with conditions approximating naturally-occurring visibility (i.e., without pollution created by human activities). An average day at Shenandoah is represented by a visual range of 18 miles, and is the result of an additional 10 ug/m^3 of fine particles in the atmosphere. The two bottom scenes, with visual ranges of 8 and 6 miles respectively, illustrate that the perceived change in visibility due to an additional 10 ug/m^3 of fine particles to an already degraded atmosphere is much less perceptible than adding this amount to a clean atmosphere. Thus, to achieve a given level of perceived visibility improvement, a larger reduction in fine particle concentrations is needed in more polluted areas. Conversely, a small amount of pollution in a clean area can dramatically decrease visibility.

A recent analysis of data from the IMPROVE network[13] fails to show uniform national trends in sulfur concentration, light absorption (primarily due to soot from fire or diesel combustion), or fine mass concentration. However, some trends can be shown for specific sites during certain seasons. For example, absorption in the winter season has decreased from 1984–1994 at Rocky Mountain and Crater Lake National Parks. A clear demonstration of decreased sulfur concentrations as a result of emissions reductions is found in the desert southwest at Chiricahua National Monument. Absorption and sulfur concentrations in the autumn at Great Smoky Mountain National Park have increased between 1985 and 1994. At Grand Canyon National Park in autumn, average sulfur concentrations have been increasing for the 25 percent most clear days.

Programs to Improve Visibility

EPA is developing a new regional haze program to address visibility impairment in national parks and wilderness areas that is caused by numerous sources located over broad regions. The program will build on recommendations received from the Grand Canyon Visibility Transport Commission as well as other committees. It will likely define a policy for achieving “reasonable progress” in improving visibility, as well as provide guidance on monitoring, modeling, and tracking emissions that cause haze. Because of common precursors and the regional nature of the ozone, PM, and regional haze problems, EPA is developing these implementation programs together in order to integrate future planning and control strategy efforts to the greatest extent possible.

Other air quality programs are expected to lead to emissions reductions that will improve visibility in certain regions of the country. The

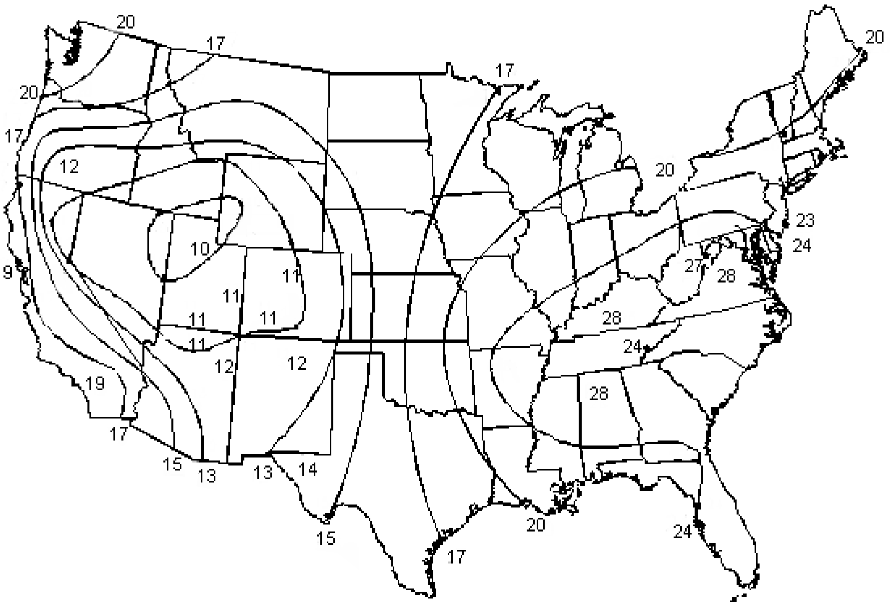


Figure 2-40. *Annual average visibility impairment in deciviews, 1992–1995 IMPROVE data.*

Figure 2-41. *Shenandoah National Park on clear and hazy days, and the effect of adding 10 ug/m^3 fine particles to each.*

Acid Rain program is designed to achieve significant reductions in sulfur oxide emissions, which is expected to reduce sulfate haze particularly in the Eastern United States. Better controls on sources of nitrogen oxides also can improve regional visibility conditions. EPA NAAQS, mobile source, and woodstove programs to reduce fuel combustion and soot emissions can benefit areas adversely impacted by visibility impairment due to sources of organic and elemental carbon.

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CHAPTER 3

PAMS: Enhanced Ozone & Precursor Monitoring

Of the six criteria pollutants, ozone (O_3) is the most pervasive. The most prevalent photochemical oxidant and an important contributor to “smog,” ozone is unique among the criteria pollutants in that it is not emitted directly into the air, but instead results from complex chemical reactions in the atmosphere between volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the presence of sunlight. Further, there are thousands of sources of VOCs and NO_x located across the country. To track and control ozone, EPA must develop an understanding of not only the pollutant, but the chemicals, reactions, and conditions that contribute to its formation as well.

Section 182(c)(1) of the 1990 CAAA called for improved monitoring of ozone and its precursors, VOC, and NO_x in order to obtain more comprehensive and representative data on ozone air pollution. Responding to this requirement, EPA promulgated regulations to initiate the PAMS (Photochemical Assessment Monitoring Stations) program in February 1993. The PAMS program requires the establishment of an enhanced monitoring network in all ozone nonattainment areas classified as serious, severe, or extreme. The 22 affected ozone areas listed in Table 3-1 cover 113 thousand square miles and have a total population of 79 million people.

Each PAMS network consists of as many as five monitoring stations, depending on the area’s population. These stations are carefully located based on meteorology, topography, and relative proximity to emissions of VOC and NO_x. Generally, each PAMS network consists of four different monitoring sites (Types 1, 2, 3, and 4) designed to fulfill unique data collection objectives. The Type 1 site is located upwind of the metropolitan area to measure ozone and precursors being transported into the area. The Type 2 site is referred to as the maximum precursor emissions impact site. As the name implies, it is designed to collect data on the type

Table 3-1. *Metropolitan Areas Requiring PAMS*

	Extreme
1.	Los Angeles-South Coast Air Basin, CA[1]
	Severe
2.	Baltimore, MD
3.	Chicago-Gary-Lake County (IL), IL-IN-WI[2]
4.	Houston-Galveston-Brazoria, TX
5.	Milwaukee-Racine, WI[2]
6.	New York-New Jersey-Long Island, NY-NJ-CT
7.	Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD
8.	San Diego, CA
9.	SE Desert Modified AQMA, CA[1]
10.	Ventura County, CA
	Serious
11.	Atlanta, GA
12.	Baton Rouge, LA
13.	Beaumont-Port Arthur, TX[3]
14.	Boston-Lawrence-Worchester, MA-NH
15.	Greater Connecticut, CT
16.	El Paso, TX
17.	Portsmouth-Dover-Rochester, NH-ME
18.	Providence-Pawtucket-Fall River, RI-MA
19.	Sacramento, CA
20.	San Joaquin Valley, CA
21.	Springfield, MA
22.	Washington, DC-MD-VA

1. Los Angeles-South Coast and SE Desert Mofied AQMA are combined into one PAMS area referred to as South Coast / SEDAB.
2. Chicago and Milwaukee are combined into one PAMS area referred to as Lake Michigan.
3. Beaumont was reclassified to moderate on 6/3/96, thus mitigating its PAMS requirements.

and magnitude of ozone precursor emissions emanating from the metropolitan area. The Type 2 sites are typically located downwind of the central business district and operate according to a more intensive monitoring schedule than other PAMS stations. The Type 2 sites measure a greater array of precursors and are also suited for the evaluation of urban air toxics. For larger nonattainment areas, a second Type 2 site is required in the second-most predominant wind direction. The Type 3 stations are intended to measure maximum ozone concentrations and are sited further downwind of the urban area and the Type 2 sites. The Type 4 PAMS sites are located downwind of the nonattainment area to assess ozone and precursor levels exiting the area and potentially contributing to the ozone problem in other areas. In addition to the surface monitoring sites described above, each PAMS area is also required to monitor upper air meteorology at one representative site. Regulations allow a 5-year transition or phase-in schedule for the program at a rate of at least one station per area per year. The first official year of implementation for PAMS was 1994.

The data collected at the PAMS sites include measurements of ozone, NO_x, a target list of VOCs including several carbonyls (see Table 3-2) as well as surface and upper air meteorology. Most PAMS sites measure 56 target hydrocarbons on either an hourly or 3-hour basis during the ozone season. The Type 2 sites also collect data on three carbonyl compounds (formaldehyde, acetaldehyde, and acetone) every three hours during the PAMS monitoring period. Included in the monitored VOC species are nine compounds classified as hazardous air pollutants (HAPs). All stations also measure ozone, NO_x, and surface meteorological parameters on an hourly basis.

Since its inception, the PAMS program has exhibited steady and successful growth. As of October 1996 there were a total of 65 operating PAMS sites, up from 37 in 1994 and 54 in 1995. The implementation process was expected to culminate in the summer of 1998 when approximately 90 sites would be operational in the originally designated PAMS areas. Because redesignations are anticipated for several ozone nonattainment areas, the list of areas that require PAMS may change and the implementation schedule may be extended.[1] Despite the ambitious schedule and "cutting edge" nature of the monitoring technologies employed, data from most sites operating in 1995 have been reported to the Aerometric Information Retrieval System (AIRS), EPA's national repository for air pollution data. Because of its complex technical nature and the magnitude of monitoring requirements, programmatic pragmatism is essential to PAMS continued success. For this reason, flexibility was designed into the PAMS regulations, allowing for submission and approval of alternative network designs and sampling schemes. For example, although there are 22 areas classified as serious, severe, or extreme for ozone, the flexibility of the program allowed areas in close proximity to one

Table 3-2. *PAMS Target List of VOCs*

Ethylene	2,3-Dimethylbutane	3-Methylheptane
Acetylene	2-Methylpentane	n-Octane
Ethane	3-Methylpentane	*Ethylbenzene
Propylene	2-Methyl-1-Pentene	*m/p-Xylene
Propane	*n-Hexane	*Styrene
Isobutane	Methylcyclopentane	*o-Xylene
1-Butene	2,4-Dimethylpentane	n-Nonane
n-Butane	*Benzene	Isopropylbenzene
trans-2-Butene	Cyclohexane	n-Propylbenzene
cis-2-Butene	2-Methylhexane	m-Ethyltoluene
Isopentane	2,3-Dimethylpentane	p-Ethyltoluene
1-Pentene	3-Methylhexane	1,3,5-Trimethylbenzene
n-Pentane	*2,2,4-Trimethylpentane	o-Ethyltoluene
Isoprene	n-Heptane	1,2,4-Trimethylbenzene
trans-2-Pentene	Methylcyclohexane	n-Decane
cis-2-Pentene	2,3,4-Trimethylpentane	1,2,3-Trimethylbenzene
2,2-Dimethylbutane	*Toluene	m-Diethylbenzene
Cyclopentane	2-Methylheptane	p-Diethylbenzene
Total NMOC		n-Undecane
	Carbonyls	
*Acetaldehyde	Acetone	*Formaldehyde
	*Hazardous Air Pollutants	

another to consolidate their monitoring operations; therefore, only 20 PAMS networks exist.

EPA is continually evaluating and refining the PAMS program with input from the participating organizations. In 1994, EPA and the states identified sample-handling procedures which caused the data to be unreliable for certain monitored VOC species; EPA subsequently removed theses species from the required target list. Currently, EPA is considering overall program modifications in an effort to optimize the networks and reduce costs.

EPA believes that data gathered by PAMS will greatly enhance the ability of state and local air pollution control agencies to effectively evaluate ozone nonattainment conditions and identify cost-effective control strategies. Further, the agency anticipates that the measurements will be of substantial value in verifying ozone precursor emissions inventories and in corroborating estimates of area-wide emissions reductions. The data will be used to evaluate, adjust, and provide input to the photochemical grid models utilized by the states to develop ozone control strategies and demonstrate their success. PAMS will provide information to evaluate population risk exposure, expand the data base available to confirm attainment/nonattainment decisions, and develop ozone and ozone precursor trends. EPA is extremely committed to the analysis and interpretation of PAMS data. Approximately three million federal dollars are allocated annually to state, local, and consolidated environmental agencies for data characterization and analysis.

EPA participates with programs and organizations such as the Northeast States for Coordinated Air Use Management (NESCAUM), the North American Research Strategy for Tropospheric Ozone (NARSTO), and the Mid-Atlantic Regional Air Management Association (MARAMA) in their analytical endeavors. The Agency also recently began conducting PAMS analysis workshops to share and elicit feedback on current analytical techniques and their applicability. Although the PAMS program is still young, comprehensive analysis and interpretation of its data are already being performed. EPA recently released the inaugural issue of the *PAMS 1996 Data Analysis Results Report* which chronicles real PAMS analysis examples from these earlier studies. This report, intended for annual updates, focuses on all sectors of PAMS analysis and its associated benefits. Topics include: ozone episode characterization; VOC characterization; emissions inventory review/refinement; emission-based model support; observation-based model support; and quality assurance/quality control. Although detailed discussion of the *PAMS 1996 Data Analysis Results Report* content is beyond the scope of this chapter, copies of the report and other information concerning PAMS data analysis can be obtained from EPA's Emissions, Monitoring, and Analysis Division.[2]

Because the emphasis of this report is on air quality and ambient trends, this chapter will focus on those topics as they relate to PAMS. It is currently too early in the development and implementation of the PAMS program to assess overall and network-specific trends in the ambient concentrations of ozone precursors. However, some limited 1994 and 1995 summary data for selected precursors at PAMS sites, as well as basic ozone statistics, are provided in this report's data appendix. Table A-12 shows ozone exceedance counts and annual maximum concentrations for operational PAMS sites. Table A-13 presents summer season statistics for various precursors computed from 1-hour and 3-hour samples. Table A-14 provides annual and seasonal speciated VOC statistics calculated from 24-hour samples. The VOC parameters highlighted in Tables A-13 and A-14 were selected based on their toxicity and/or their high ozone-forming potential (as discussed further in this chapter). Space limitations of this report prohibit inclusion of a more expansive set of comprehensive statistics. The statistics in these three tables are presented merely to relay shifts in the severity of the ozone problem in the affected areas and highlight year-to-year changes in concentration levels of "important" precursors. The reader is cautioned that these results are preliminary and subject to change. Site data shown may not reflect actual conditions within the entire represented nonattainment area; aggregate data may not accurately reflect conditions across all PAMS networks. For specific data qualifications, see table endnotes.

Between 1994 and 1995, composite average annual daily maximum ozone concentrations at operational (both years) PAMS sites increased about 7 percent; this is slightly more than the 4 percent overall national increase noted in Chapter 2 for aggregate annual second daily maximum ozone concentrations. Note also, as discussed in Chapter 2, that concentrations of ozone adjusted for the effects of meteorology at 44 major urban areas showed a downward trend during this same time period. The number of measured ozone NAAQS exceedances increased more than 12 percent between 1994 and 1995 at matched (both years reported) PAMS sites. Only two of the 20 PAMS areas, South Coast / SEDAB and El Paso, showed aggregate drops in exceedance counts. Preliminary checks of 1996 ozone data revealed significant reductions in concentration levels and measured exceedances from the 1995 levels (in some cases below the 1994 levels). Although there were substantial increases in ozone concentrations at most PAMS sites between 1994 and 1995, the majority of PAMS sites showed decreases in the ozone precursors highlighted in Tables A-13 and A-14. A summary of the 1994–1995 changes for these compounds is shown in Table 3-3. Of the 14 ozone precursors evaluated, summer mean concentration levels of only isoprene had more sites with statistically significant increases (1994 to 1995) than statistically significant decreases. Annual mean concentration levels of only n-hexane had more sites with statistically significant increases than statistically significant decreases.

Of the featured parameters, benzene showed the most dramatic declines. Federally mandated reformulated gasoline (RFG), which has reduced benzene and aromatic content, was required in “severe” and “extreme” ozone nonattainment areas beginning in 1995. (Note that additional areas were allowed to “opt-in”

Table 3-3. *Summary of Mean Concentration Changes for Selected VOCs, 1994–1995*

	Summer Data (1- and 3--hr samples)								Annual Data (24-hr samples)		
	All Sites				Type 2 Sites				All Sites		
	Number of Sites			Median	Number of Sites			Median	Number of Sites		
Parameter	**Total**	**#Up**	**#Down**	**Change**	**Total**	**#Up**	**#Down**	**Change**	**Total**	**#Up**	**#Down**
Total NMOC	19	4	13	-18%	13	3	10	-18%	4	1	2
2,2,4-Trimethylpentane	17	4	11	-23%	11	3	6	-24%	4	1	2
Acetaldehyde	6	1	3	-14%	5	0	3	-14%	1	0	1
Benzene	19	2	17	-38%	12	1	11	-41%	7	0	5
Ethylbenzene	17	2	12	-23%	11	2	6	-22%	8	0	3
Ethylene	17	2	11	-16%	11	1	6	-13%	4	1	2
Formaldehyde	6	2	2	+4%	5	1	2	+3%	1	0	0
Isoprene	17	6	4	-2%	11	3	4	-5%	4	2	2
M/P Xylene	14	2	8	-21%	10	2	5	-6%	8	0	3
N-hexane	17	6	9	-8%	11	3	6	-8%	4	2	1
O-xylene	17	2	13	-18%	11	2	7	-11%	7	0	2
Propylene	17	3	10	-15%	11	1	8	-15%	4	0	3
Styrene	17	4	8	-17%	11	3	4	-8%	8	0	3
Toluene	17	2	11	-23%	11	2	6	-23%	8	0	4

Note: “#Up” and “#Down” refer to the number of sites with a 1994-1995 mean concentration that was statistically significant. Thus, the total number of sites may not equal the sum of the numbers in the columns labeled “#Up” and “#Down”.

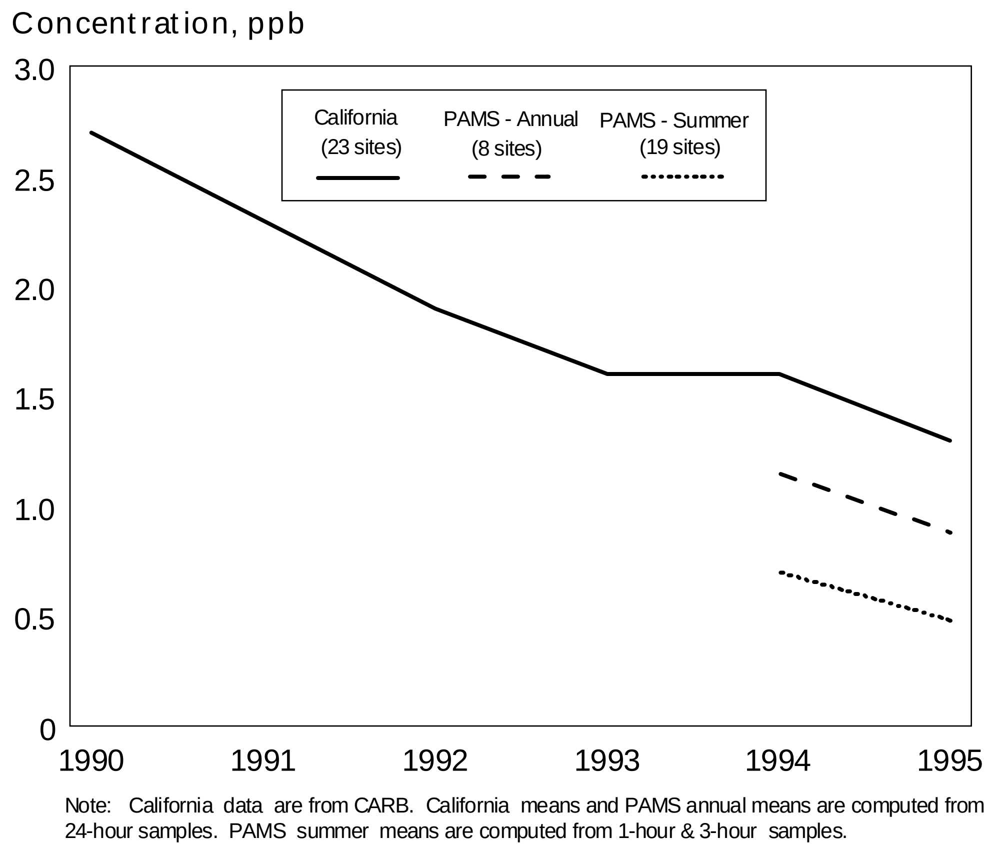


Figure 3-1. *PAMS 1994–1995 changes in benzene levels compared to California benzene trend (CARB).*

to the RFG program). Benzene emissions from motor vehicles were expected to drop an estimated 30 to 40 percent after the introduction of RFG; this decrease was predicted to be "detectable in ambient data as a relatively abrupt change occurring between the summers of 1994 and 1995."[3] Of the 19 PAMS sites that reported data in 1994 and 1995, the median reduction in benzene concentrations was 38 percent. A greater proportion of sites in RFG areas showed statistically significant decreases in average benzene and other highlighted mobile-related VOC concentrations than did sites in areas that did not use RFG. In Figure 3-1, PAMS composite average annual and summer benzene means for 1994 and 1995 are plotted along with a recently released California benzene trend from the California Air Resources Board (CARB).[4] Although there are notable differences in the mean levels, the relative changes between 1994 and 1995 are quite similar.

Of all the targeted VOC species, the seven most prevalent (in parts per billion Carbon, ppbC) at the Type 2 maximum precursor emissions PAMS sites, based on 1995 summer averages, are shown in Table 3-4. Although the compounds and rankings vary slightly from site to site, four compounds are present on most lists: isopentane, toluene, propane, and ethane. Similar results have been found in earlier studies.[5] On average, the top seven compounds at each Type 2 site accounted for about 50 percent of the total targeted ppbC. Though all the PAMS targeted VOCs (as well as additional reactive sources of carbon) contribute to the formation of ozone, some contribute more significantly than others. In 1994, William Carter of the University of California published a set of "ozone forming potential" factors known as the Maximum Incremental Reactivity (MIR) scale.[6] The MIR technique was adapted by the State of California in setting automotive emissions standards. Applying the MIR factors to the means used in Table 3-4, a different set of compounds appears on top (see Table 3-5). The top seven reactivity-weighted compounds overall at the 17 Type 2 sites shown are formaldehyde, m&p-xylenes, ethylene, acetaldehyde, propylene, toluene, and isoprene. The targeted carbonyls formaldehyde and acetaldehyde ranked high overall in spite of the fact that they were not reported at several of the sites. Although applying the factors to episode or period (e.g. morning) data may be more appropriate, the simple conversion illustrated does correspond favorably to prior studies. A 1994 analysis by the Ambient Monitoring and Assessment Committee of NESCAUM found comparable ranking results for the sites in just their region.[7] The NESCAUM study found the five most active ozone-forming VOCs during studied ozone episodes to be formaldehyde, isoprene, acetaldehyde, m&p-xylene, and toluene. These five compounds accounted for more than 75 percent of the ozone-forming potential during the studied episodes. The top seven species at each site listed in Table 3-5 accounted for less (65 percent) of the total PAMS targeted ozone-forming potential, but that discrepancy can most likely be linked to the use of overall summer averages as opposed to episode averages. Because of their high overall rankings for ozone-forming potential at the Type 2 sites, summary statistics for the top seven compounds listed in Table 3-5 are included in the Appendix A. Additional parameters were selected because of their toxicity. (Notice the

Table 3-4. *Most Abundant Targeted VOCs at Type 2 PAMS Sites–Summer 1995*
(Numbers indicate ranking: 1=most prevalent)

PAMS Area – Site Name	**Isopentane**	**Toluene**	**Propane**	**Ethane**	**Acetone**	**Formaldehyde**	**n-Butane**	**Ethylene**	**m&p-Xylenes**	**Acetaldehyde**	**N-Pentane**	**Other**	
Baltimore – Morgan State	2	3	4	1				6				5,7	(n-Heptane, Acetylene)
Baton Rouge – Capitol	2	5	3	1			4	6			7		
Beaumont – Jeff. Co. Airport	2		4	1			6	3			5	7	(Isobutane)
Boston – Lynn	1	2	6	4	3	7						5	(Isoprene)
El Paso – Chamizal	3	1	2				5	7	6		4		
Houston – Clinton Drive	1	4	3	2			6				7	5	(n-Hexane)
Lake Michigan – Chicago-Jardine	1	2	6	4	5	3						7	(Benzene)
Lake Michigan – Milwaukee	5	6	7	4	1	3				2			
New York – Bronx Botanical Gardens	3	1		2	7		6	5	4				
Philadelphia – East Lycoming	1	3	2	5	7		4					6	(2-methylpentane)
Providence – E. Providence	1	2	3	4	5	6	7						
San Diego – El Cajon	1	2	3	7				5	4		6		
San Diego – Overland	1	2	3	6				4	5		7		
South Coast / SEDAB – Pico Rivera	2	3	1	4			5		6			7	(n-Undecane)
Springfield – Chicopee	1	4		6	3	2					7	5	(Isoprene)
Ventura Co. – El Rio	7		4		1	2	6			3		5	(Isobutane)
Washington – McMillan Reservoir	1	2	5	3				7	4		6		

overlap between these two groups: formaldehyde, m&p-xylenes, acetaldehyde, and toluene are both HAPs and on the top seven reactivity-weighted list.)

Although the compounds shown in Table 3-5 have the highest ozone-forming potential overall at the Type 2 sites, a blanket reduction in these compounds may not necessarily reduce ozone levels. Sometimes NO_x reductions as opposed to VOC reductions will contribute more to reducing ozone concentrations. Because ozone concentrations are sensitive to shifts in the relative abundance of VOC and NO_x, the VOC to NO_x ratio is helpful in ozone control strategy planning.

The morning VOC to NO_x ratio is typically mentioned as a useful starting point for evaluating which type of controls (VOC and / or NO_x) to consider.[7] A VOC to NO_x ratio less than about 6 implies that the area is "VOC-limited" and areas where the ratio is greater than about 10 are considered to be "NO_x-limited." In a VOC-limited area, VOC reductions will be most effective in reducing ozone concentrations, while NO_x reductions may actually increase them. In a NO_x-limited area, NO_x controls will be the most effective at reducing ozone concentrations. However, unlike NO_x controls, VOC reductions "always have benefits, or at worst no effect, and never have any adverse effect on air quality."[8] When VOC to NO_x ratios fall somewhere in between 6 and 10, ozone concentrations in the region may be sensitive to changes in VOC and / or NO_x.[9] VOC to NO_x ratios computed from summer morning (6–9 a.m. DST) means are provided in Table 3-6. Although more intricate analyses should be utilized in actual strategic planning (such as evaluation of the entire distribution of daily / hourly ratios and absolute concentration levels, more emphasis on the ratios for episode days, consideration of aloft measurements, etc.), the ratios shown do evoke a sense of the heterogeneity of conditions across networks and the necessity of supplementary analysis. Note that many of the ratios fall between 6 and 10. Also, because over time an area may convert from one regime to another

Table 3-5. *Top Reactivity-Weighted Targeted VOCs at Type 2 PAMS Sites–Summer 1995*

PAMS Area – Site Name	Formaldehyde	m&p-Xylenes	Ethylene	Acetaldehyde	Toluene	Propylene	Isoprene	1,2,4-trimethylbenzene	Isopentane	Other	
Baltimore – Morgan State		3	1		4	2	5	6	7		
Baton Rouge – Capitol	1	6	2			3	5		7	4	(1,2,3-Trimethylbenzene)
Beaumont – Jeff. Co. Airport		5	1			2			3	4,6,7	(n-Pentane; n-Butane; Isobutane)
Boston – Lynn	1	3	5	4	6		2	7			
El Paso – Chamizal		1	2		3	4		5	7	6	(o-Xylene)
Houston – Clinton Drive		2			3	1		6	4	7	(o-Xylene)
Lake Michigan – Chicago–Jardine	1	2	4	5	6	7		3			
Lake Michigan – Milwaukee	1	4	3	2	5	6		7			
New York – Bronx Botanical Gardens	1	3	2		4	5	7	6			
Philadelphia – East Lycoming	1	5	2	4	7	3				6	(1-Pentene)
Providence – E. Providence	1	2	5	4	6		3		7		
San Diego – El Cajon	1	2	3	5	4	7		6			
San Diego – Overland	1	3	2	7	6	5				4	(o-Xylene)
South Coast / SEDAB – Pico Rivera		2	6		4					1,3,5,7	(1,3,5-Trimethylbenzene; 1,2,3-Trimethylbenzene; m-Diethylbenzene; o-Xylene)
Springfield – Chicopee	1	7	4	3	5		2		6		
Ventura Co. – El Rio	1	7		2				6		3,4,5	(Acetone; t-2-Butene; 1,2,3-Trimethylbenzene)
Washington – McMillan Reservoir		1	3		2	4	5	7	6		

Table 3-6. *Summer 6–9 a.m. VOC:NO_x Ratios at Type 2 PAMS Sites, 1994–1995*

Area – Site	1994	1995
Baltimore – Morgan State		6.3
Baton Rouge – Capitol	7.0	12.1
Boston – Lynn	4.7	4.0
Connecticut – E. Hartford	4.8	
Lake Michigan – Chicago–Jardine		7.0
Lake Michigan – Gary		3.3
Lake Michigan – Milwaukee	6.8	3.8
New York – Bronx Botanical Garden		2.8
Providence – E. Providence	9.5	7.8
Sacramento – Del Paso	20.5	13.9
San Diego – El Cajon	7.6	5.3
San Diego – Overland	5.4	3.6
San Joaquin - Clovis-Villa		8.6
San Joaquin – Golden St. Av.	7.8	7.0
South Coast/SEDAB – Pico Rivera	4.8	5.8
Springfield – Chicopee	6.8	4.0
Ventura Co. – El Rio	7.1	12.0
Washington – McMillan Reservoir	5.8	3.6

Notes

1. VOC to NOx ratios are computed from 6–9 a.m. DST summer site means;
2. Data are only shown for years/sites that reported both parameters in at least two months of the summer ozone season. The summer ozone season is June–August for all states but CA; in CA the season is July–September.

(VOC-limited to NO_x-limited or vice versa), frequent reevaluation of the ratio as well as other factors is critical.

The VOC to NO_x ratio is just one example of the myriad of information produced by the PAMS networks invaluable to the development and evaluation of ozone control strategies and programs. A few other examples include: upper air and surface meteorological data capable of identifying transport trajectories, inter-species (benzene/toluene, xylene/toluene) components sufficient to quantify airmass aging, inputs to statistical models (regression and neural network analysis) capable of forecasting high ozone concentrations and identifying vital VOC species, and continuous speciated detail useful for corroborating inventories and validating photochemical models. (For detailed discussion of these topics, see the previously noted *PAMS 1996 Data Analysis Results Report*). In addition, the networks will provide long-term perspectives on changes in atmospheric concentrations of ozone and its precursors (some of which are also hazardous air pollutants), provide information to evaluate population exposure, and most importantly, deliver a more complete understanding of the complex problem of ozone so that we may move toward the best solution.

References and Notes

1. Beaumont was recently reclassified on June 3, 1996 to "moderate" thus mitigating its PAMS requirements. St. Louis and Dallas are expected to be reclassified as "serious," thus requiring them to implement PAMS.
2. Contact Mark Schmidt at voice (919) 541-2416, or via Internet at 'mschmidt@epamail.epa.gov'.
3. Stoeckenius et al, *Recommendations for Analysis of PAMS Data*, Systems Application International, 1994
4. Donald Hammond, *Ambient Trends of Benzene in California from 1990 through 1995,* presented at the U.S. EPA / A&WMA International Symposium on Measurement of Toxics and Related Air Pollutants, RTP, NC, 5 / 7-9 / 96.
5. *National Air Quality and Emissions Trends Report, 1994,* EPA-454 / R-95-014, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, November 1995.
6. W.P.L Carter (1994), Development of Ozone Reactivity Scales for Volatile Organic Compounds, *J. Air & Waste Manage. Assoc.* 44:881-899.
7. *Preview of 1994 Ozone Precursor Concentrations in the Northeastern United States,* The Ambient Monitoring and Assessment Committee, NESCAUM, 1995, R. Poirot, ed. Boston, MA.
8. Ralph E. Morris, *Review of Recent Ozone Measurement and Modeling Studies in the Eastern United States*, ENVIRON Corporation, 1995.
9. The VOC to NO_x ratio is insufficient in-and-of-itself to determine whether VOC and / or NO_x control will be most effective in reducing ozone levels. It must be tempered with some knowledge about the total emission reduction that will be necessary to achieve the standard as well as some knowledge regarding the cost and technical feasibility of implementing requisite control measures.

CHAPTER 4

Air Toxics

The Air Toxics Program

Background

Hazardous air pollutants, also commonly referred to as air toxics, are pollutants which cause, or may cause, severe health effects or ecosystem damage. Examples of air toxics include dioxins, benzene, arsenic, beryllium, mercury, and vinyl chloride. The Clean Air Act (CAA) lists 188 pollutants as hazardous air pollutants (HAPs) and targets them for regulation in section 112 (b)(1) of the CAA. Air toxics are emitted from all types of sources, including large industrial sources, small stationary sources, and mobile sources.

Control of air toxic pollutants differs in focus from control of the six principle NAAQS pollutants. For the six NAAQS pollutants, control strategies are used in geographic areas where the national air quality standards have been violated. In contrast, EPA has focused on identifying the sources of air toxics and developing nationwide technology-based performance standards for these sources. The objective is to ensure that sources of air toxic pollution are as well controlled as technology will allow regardless of geographic location.

The air toxics program and the NAAQS program complement each other. Many air toxics are emitted in the form of particles or as organic compounds. Control efforts to meet the NAAQS for ozone and PM-10 can also reduce air toxic emissions. Further, as air pollution control strategies for automobiles become more stringent, air toxic emissions that can result from vehicles are also reduced. Requirements under the air toxics program can also significantly reduce emissions of some of the six NAAQS pollutants. For example, EPA's final air toxics rule for organic chemical manufacturing is expected to reduce VOC emissions (which form ozone or ground-level smog) by nearly 1 million tons annually. Also, the implementation of programs requiring the use of reformulated gasoline may have resulted in the significantly reduced benzene concentrations discussed in Chapter 3 of this report.

The air toxics program is especially important in reducing air emissions at or near isolated industrial locations and in controlling pollutants that are toxic even when emitted in small amounts. Additionally, EPA has developed mechanisms to prevent sudden, catastrophic releases like the Bhopal chemical plant explosion in 1985. Companies handling or using toxic chemicals are required by EPA to develop programs to prevent accidental releases and to contain any releases in the event they should occur.

Health Effects

At sufficient concentrations and exposure durations, human health effects from air toxics can include cancer, poisoning, and immediate illness. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory effects. Hazardous air pollutants may also be deposited onto soil or into water bodies, thereby affecting ecological systems and eventually human health.

In addition to inhalation exposure from HAPs, indirect exposures from some HAPs can occur particularly through the ingestion of food. These HAPs can bio-accumulate in body tissues and magnify up the food web, meaning each level accumulates the toxics and passes the burden along to the next level of the food web. Top consumers in the food web, usually consumers of large fish, may accumulate chemical concentrations many millions of times greater than the concentrations present in the water. As a result, fish consumption advisories have been issued in hundreds of water bodies nationwide, including the Great Lakes. Adverse effects range from immune system disease and reproductive problems in wildlife to subtle developmental and neurological impacts on children and fetuses.

Ecological effects attributable to bio-accumulating HAPs can be subtle or delayed in onset. These effects include immune function impairment, reproductive problems, and neurological changes—all of which can affect population survival.

Emissions Sources

There are approximately 4.4 million tons of air toxics released to the air each year. Due to the considerable uncertainty in evaluating these pollutants, the air toxics issue has been described more often in qualitative, rather than quantitative, terms. In addition, ambient concentration data for individual air toxic pollutants is limited (both spatially and temporally) in comparison to the long-term nationwide monitoring for the six criteria pollutants. For these reasons, characterization of the air toxics issue in this chapter relies on emissions data. However, it is important to note that in an effort to understand the ozone problem, EPA is beginning to develop a monitoring strategy to evaluate ambient concentrations of certain ozone-forming VOCs. Photochemical Assessment Monitoring Stations (PAMS) collect data on concentrations of ozone and its precursors. Because many ozone precursors are also air toxics, ambient data collected from PAMS sites is being used to evaluate the toxics problem as well as the ozone problem. Preliminary analysis of measurements of individual VOCs in urban areas classified as serious, severe, or extreme ozone nonattainment areas indicate that concentrations of certain toxic VOCs in those areas appear to be declining. In particular, benzene levels showed a significant decline between 1994 and 1995 (38 percent), possibly as a result of the use of reformulated gasoline in those areas. It should be noted that PAMS measurements have only been taken for three years, and that continuing efforts in the PAMS program will provide more confidence in evaluating the long-term trends of benzene and other VOCs. For a more detailed discussion of the PAMS program, see Chapter 3 of this report.

The Office of Air Quality Planning and Standards (OAQPS) is currently developing a National Toxics Inventory (NTI) which includes all of the 188 hazardous air pollutants (HAPs, as identified in the CAA) emitted from 796 categories of point, area, and mobile sources[1]. Data from the Toxic Release Inventory (TRI) were used as the foundation of this inventory. However, TRI data are significantly limited in several key aspects as a tool for comprehensively characterizing the scope of the air toxics issue. For example, TRI does not include estimates of air toxics emissions from mobile and area sources[2]. Therefore, NTI has incorporated other data to create a more complete inventory[3]. Data resulting from EPA studies required by sections 112k and 112(c)(6) of the CAA as well as the Mercury Study, the Utility Air Toxics Study, and data used to develop Maximum Achievable Control Technologies (MACT) standards, have been incorporated into NTI. In addition, state and local data such as the California Air Resources Board's (CARB) Hot Spots Report have been used in NTI.

NTI and its use of non-TRI data represent a significant improvement in the characterization of the air toxics issue. As shown in Figure 4-1, NTI indicates that area sources account for approximately 31 percent of toxic emissions, and mobile sources account for 39 percent of toxic emissions (relative to the 188 listed HAPs). Further, NTI suggests that TRI data alone represent less than half of the total emissions from the point source category. Further analyses based on NTI data for a list of 37 selected toxics pollutants are summarized below.

Table 4-1 provides information on the effects associated with each pollutant and the current NTI annual emissions estimate for each pollutant. In addition, Table 4-1 identifies those hazardous air pollutants that are also tropospheric ozone and/or particulate matter precursors. It should be noted that these 37 pollutants account for approximately 86 percent of the total annual emissions of the 188 listed HAPs. Figure 4-2 shows the geographic distribution of total toxic pollutants by state for high, medium, and low emissions categories. Table 4-2 lists the 20 top emitting source categories for 37 pollutants including point, area and mobile sources. These 20 source categories account for 79 percent of toxic emissions (relative to the listed HAPs). As mentioned earlier, area, and mobile sources collectively account for 70 percent of toxic emissions; in fact, the first two source categories, on-road motor vehicles and residential wood combustion, account for approximately 47 percent of the HAPs emitted annually.

Air Toxics Regulation and Implementation Status

The 1990 CAAA greatly expanded the number of industries affected by national air toxic emissions controls. The emissions reductions from these controls are just beginning to be realized for some industries. Large industrial complexes (major sources) such as chemical plants, oil refineries, marine tank vessel loading, aerospace manufacturers, steel mills,

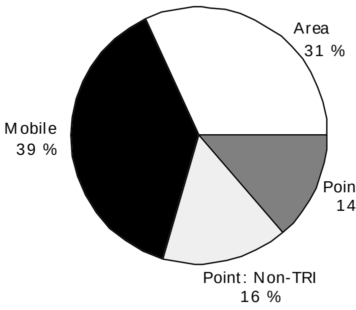


Figure 4-1. *HAP emissions by source category, 1990.*

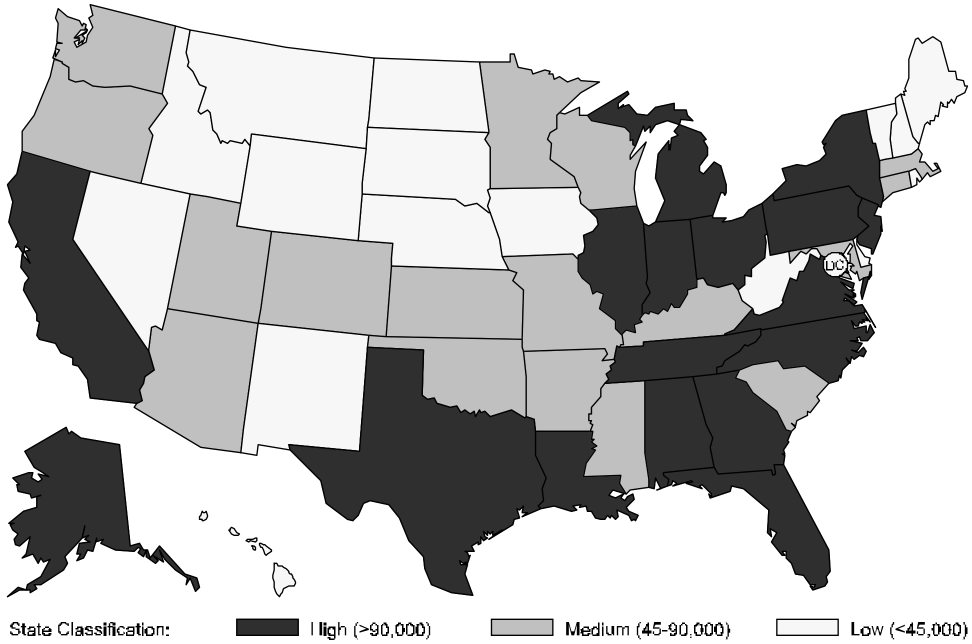


Figure 4-2. *HAP emissions by state, 1990.*

Table 4-1. *37 Toxic Pollutants—Ranked by Annual Emissions Totals*

Pollutant	Highly Toxic Pollutant[a]	Environmentally Persistent[b]	Effects from Acute Exposure	Ozone Precursor	PM or PM Precursor	National Emissions (tons/year)
Toluene				x	x	1.22E+06
POM (PAHs)	x	x		x	x	7.53E+05
Benzene	x			x		5.72E+05
Formaldehyde			x	x		2.81E+05
Xylenes				x	x	1.87E+05
1,3-Butadiene	x			x		1.23E+05
Tetrachloroethylene			x			1.09E+05
Acetaldehyde				x		9.53E+04
Trichloroethylene				x		5.33E+04
Acrolein	x		x	x		4.93E+04
Methylene chloride		x				4.34E+04
Hydrazine	x			x		3.94E+04
Glycol ethers				x		2.30E+04
Styrene				x		1.67E+04
Arsenic compounds	x	x			x	1.36E+04
Chloroform		x		x		6.93E+03
Nickel compounds	x	x			x	5.36E+03
Lead compounds	x	x			x	3.76E+03
Manganese compounds	x	x			x	1.70E+03
Ethylene dichloride	x			x		1.27E+03
Bis(2-chloroethyl) ether	x					7.90E+02
Cadmium compounds	x	x			x	7.90E+02
Acrylonitrile	x			x		6.98E+02
Ethylene oxide	x	x	x	x		6.52E+02
Vinyl chloride	x			x		5.17E+02
Chromium compounds	x	x			x	2.94E+02
MDI	x			x		2.73E+02
Mercury compounds	x	x			x	2.46E+02
2,4-Toluene diisocyanate	x		x	x		4.50E+01
Antimony compounds	x	x				2.18E+01
Ethylene dibromide	x					1.68E+01
Acrylamide	x			x		1.44E+01
Beryllium compounds	x	x				9.29E+00
Phosgene	x	x	x	x		2.85E+00
2,3,7,8-TCDF	x			x	x	1.44E-02
2,3,7,8-TCDD	x			x	x	1.56E-03
Coke oven emissions	x				x	*

* Coke oven gas emissions not included in Version 2 of the National Toxic Inventory.

[a] Highly toxic HAP are those HAP with a reference concentration of less than 5.0E-03^{-3}mg/m^3 (noncancer effects); a weight of evidence classification of A (known human carcinogen) or B1 (probable human carcinogen); or, a verified unit risk estimate of greater than 2.0 E-05^{-5} (ug/m^3)$^{-1}$ and a weight of evidence classification of A or B.

[b] HAP for which there is potential for persistence in the environment of greater than 14 days.

and a number of surface coating operations are some of the industries being controlled for toxic air pollution. Where warranted, smaller sources (area sources) of toxic air pollution such as dry cleaning operations, solvent cleaning, commercial sterilizers, secondary lead smelters, and chrome plating are also affected. Within the next 10 years, the air toxics program is projected to reduce emissions of toxic air pollutants by well over 1.5 million tons annually.

Emissions Reductions through Air Toxics Regulation

The regulation of air toxics emissions through the process outlined in Section 112 of the 1990 CAAA, referred to as maximum achievable control technology (MACT) regulations, is beginning to achieve significant emissions reductions of HAPs as well as criteria pollutants. As Figure 4-3 shows, as of October 1996 MACT standards have been promulgated for 47 source categories, representing all MACT standards in the 2- and 4-year groups. Sources are required to comply with these standards within 3 years of the effective date of the regulation, with some exceptions. EPA estimates reductions of 983,000 tons per year in HAP emissions and reductions of about 1,810,000 tons per year from the combined emissions of PM-10 (a criteria pollutant) and volatile organic compounds (ozone precursors).

The MACT standards producing these emissions reductions are listed in Figures 4-4 and 4-5, along with an estimate of the associated HAP reductions unique to each standard. The 10 MACT standards in Figure 4-4, which are collectively responsible for the majority of the HAP emissions decreases, individually produce reductions ranging from 7,000 to 506,000 tons per year. The 10 MACT standards in Figure 4-5 reduce emissions of hazardous air

Table 4-2. *Top 20 Sources of Toxic Emissions for 37 Toxic Pollutants, 1990*

Rank	NTI Source Category Description	Total Annual Emission of the 37 Toxic Pollutants (tons/year)
1	On-road motor vehicles	1.52E+06
2	Residential wood combustion	5.25E+05
3	Glycol dehydrators	2.45E+05
4	Consumer and commercial product solvent use	2.22E+05
5	Non-road mobile vehicles	2.09E+05
6	Forest fires	1.91E+05
7	Prescribed burning	1.31E+05
8	Industrial wood waste combustion	9.93E+04
9	Dry cleaning	8.98E+04
10	Halogenated solvent cleaning	5.77E+04
11	Utility coal combustion	3.96E+04
12	Gasoline distribution; stage II	2.27E+04
13	Primary aluminum production	1.80E+04
14	Industrial coal combustion	1.69E+04
15	Manufacture of motor vehicles and car bodies	1.51E+04
16	Gasoline distribution, stage 1	1.37E+04
17	Plastics foam products	1.36E+04
18	Commercial printing, gravure	1.27E+04
19	Pulp mills	1.21E+04
20	Structure fires	1.18E+04

pollutants which have very significant health impacts such as dioxin, chromium, lead, mercury, cadmium, arsenic, coke oven emissions, 1,3-butadiene, and benzene.

The specific pollutants whose emissions are reduced by the MACT program are detailed in Table 4-3 and further in the Table A-21 in the Data Appendix. In Table 4-3, the standards listed control one or more of the specified pollutants. Those pollutants that are potentially controlled by a standard are designated by an "x". Some of these HAPs are of particular interest to the special studies discussed in the next section.

Special Studies

As required by the 1990 CAAA, EPA is also conducting special studies to assess the magnitude and effects of air toxics focusing on specific sources, receptors, and pollutants. Summaries of examples of such examinations are presented below.

The Great Waters Study

Section 112(m)(5) of the CAA requires a study and reports to Congress every two years assessing the extent of atmospheric deposition of HAPs and other pollutants to the Great Lakes, the Chesapeake Bay, Lake Champlain, and coastal waters, and the need for new regulations to protect these water bodies. The pollutants of concern to this effort include nitrogen compounds, mercury, and pesticides in addition to other HAPs. There are extensive research programs underway through this program to provide new understanding of the complicated issue of atmospheric deposition of air pollution to water bodies. New scientific findings will be incorporated into each required biennial report to Congress and appropriate regulatory recommendations will be made based on those findings. This statute provides the authority to introduce new regulations or influence those under development in order to prevent adverse effects from these pollutants to human health and the environment.

Utility Air Toxics Study

As mandated by Section 112(n)(1)(A) of the CAA, the Agency is studying HAP emissions from fossil fuel fired (coal, oil, and gas) electric utilities and the associated hazards to public health. A draft utility report identifies 67 HAPs in the emissions database. The report predicts that in the next two decades, there will be

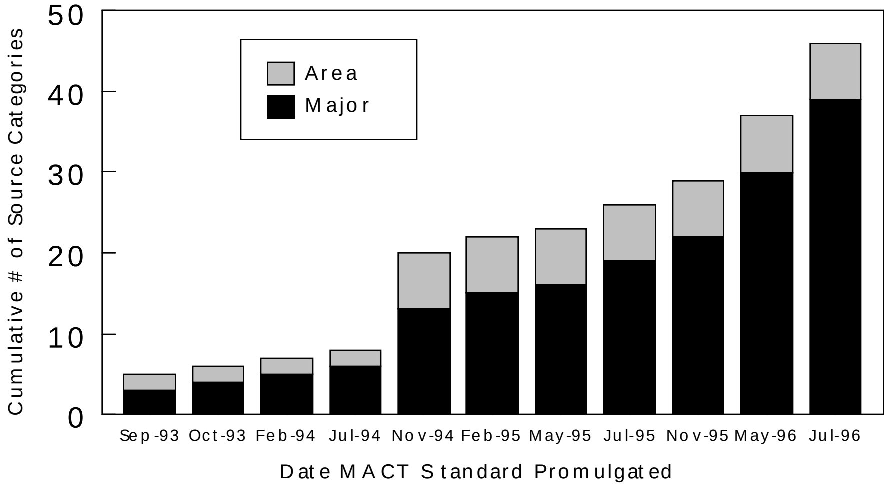


Figure 4-3. *MACT source categories.*

Table 4-3. *Major Pollutants Controlled by Promulgated MACT Standards (All 2- and 4-Year Standards)*

MACT or Sec. 129 Standard	Pollutant					
	Chromium	**Metals (Pb, Hg, Cd, As) & Compounds**	**Coke Oven Emiss, POM Naphthalene**	**TCE, Perc, 111-TCA Carbon Tet. Chloroform Methylene Chloride Methyl Chloride**	**Benzene Toluene Xylenes Ethyl-Benzene Styrene**	**Hexane**
Perc Dry Cleaning				x		
Coke Ovens			x			
HON	Many HAPs Are Controlled					
Ind Cooling Twrs	x					
Comm Sterilizers						
Chromium Elec.	x					
Magnetic Tape					x	
Stage I Gaso Mkt					x	
Degreasers				x		
P & R II						
Secondary Lead		x				
Petro Refineries					x	
Aerospace	x		x	x		
Marine Tank Vess					x	x
Wood Furniture					x	
Shipbuilding					x	
Off-Site Waste			x	x	x	
Printing & Pub					x	
Poly & Resins IV					x	
Poly & Resins I				x	x	x

Note: The demarkation "x" implies that the standard controls one or more of the specified pollutants.

roughly a 30 percent increase in HAP emissions from coal-fired utilities and roughly a 50 percent decline in HAP emissions from oil-fired utilities. These projections are primarily based on anticipated energy demands and changes in fuel usage, but also account for other factors such as expected controls.

The Mercury Study

The Mercury Study is a comprehensive study of mercury emissions from anthropogenic sources in the United States, an assessment of the public health and ecological effects of such emissions, an analysis of technologies to control mercury emissions, and the costs of such control. The study is mandated by section 112(n)(1)(B) of the CAA. A number of observations can be made regarding trends in mercury emissions. The overall consumption of mercury is generally declining in industrial or manufacturing sources that use mercury. Industrial consumption of mercury has declined by about a third between 1988 and 1993. Much of this decline can be attributed to the elimination of mercury as a paint additive and the reduction of mercury in batteries. Reducing mercury in manufactured products is important because emissions of mercury are likely to occur when these products are broken or discarded. Based on trends in mercury use, EPA predicts that manufacturing use of mercury will continue to decline with chlorine production from mercury cell chlor-alkali plants. These plants continue to account for most of the use in, and emissions from, the manufacturing sector. Secondary production of mercury will continue to increase as more recycling facilities begin operations to recover mercury from

Table 4-3. *Major Pollutants Controlled by Promulgated MACT Standards (All 2- and 4-Year Standards) (continued)*

MACT or Sec. 129 Standard	Pollutant								
	Epichloro-hydrin Chloroprene	1,3-Butadiene	Ethylene Oxide	MEK MIBK	Ethylene Glycol Glycol Ethers	Methanol Formaldehyde Acetaldehyde	Acrylonitrile	HCl	Dioxane
Perc Dry Cleaning									
Coke Ovens									
HON	Many HAPs Are Controlled								
Ind Cooling Twrs									
Comm Sterilizers			x						
Chromium Elec.									
Magnetic Tape				x					
Stage I Gaso Mkt									
Degreasers									
P & R IIx									
Secondary Lead		x							
Petro Refineries									
Aerospace				x					
Marine Tank Vess									
Wood Furniture				x	x	x			
Shipbuilding				x	x				
Off-Site Waste				x		x			
Printing & Pub				x	x	x			
Poly & Resins IV		x			x	x	x		x
Poly & Resins I	x	x					x	x	

Note: The demarkation "x" implies that the standard controls one or more of the specified pollutants.

discarded products and wastes. A significant decrease will occur in mercury emissions from municipal waste combustors and medical waste incinerators if the regulations proposed by EPA for these source categories are fully implemented. Based on predictions in energy demands and fuel usage, mercury emissions from utility boilers are expected to increase. The Mercury Study is expected to be completed in 1999.

The Specific Pollutants Strategy

Section 112(c)(6) of the CAA requires EPA to identify the sources of 90 percent of air emissions of alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans, and 2,3,7,8-tetrachlordibenzo-p-dioxin. The Agency is required to develop a strategy to promulgate standards for these sources by the year 2000.

The Urban Area Source Program

Section 112(k) of the CAA requires EPA to develop a strategy that will subject the sources of HAP emissions in urban areas to standard controls and thereby reduce cancer risk from those HAPs by 75 percent. Research to determine which HAPs and sources will be included in the strategy are currently under development.

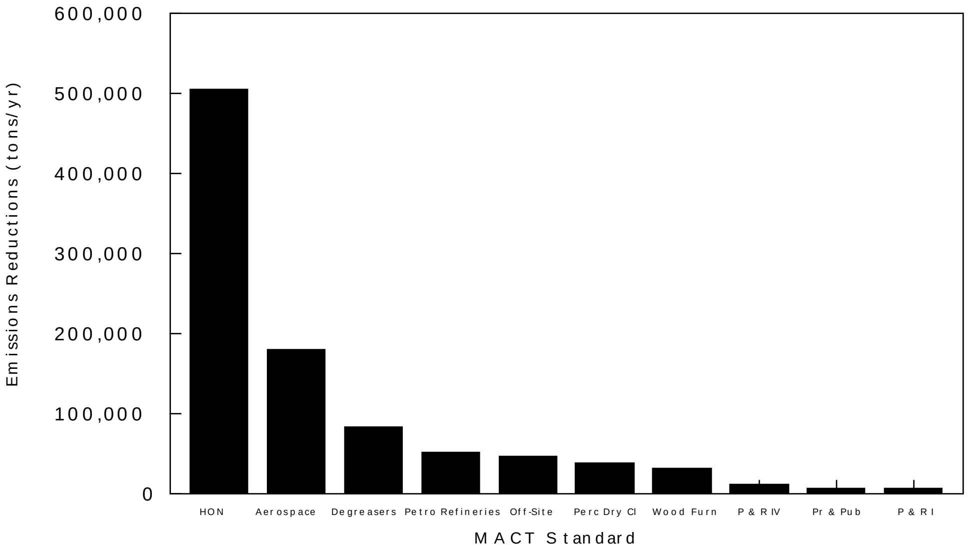


Figure 4-4. *Emissions reductions, >5000 tons per year.*
(See Table 4-3 for a listing of MACT standards.)

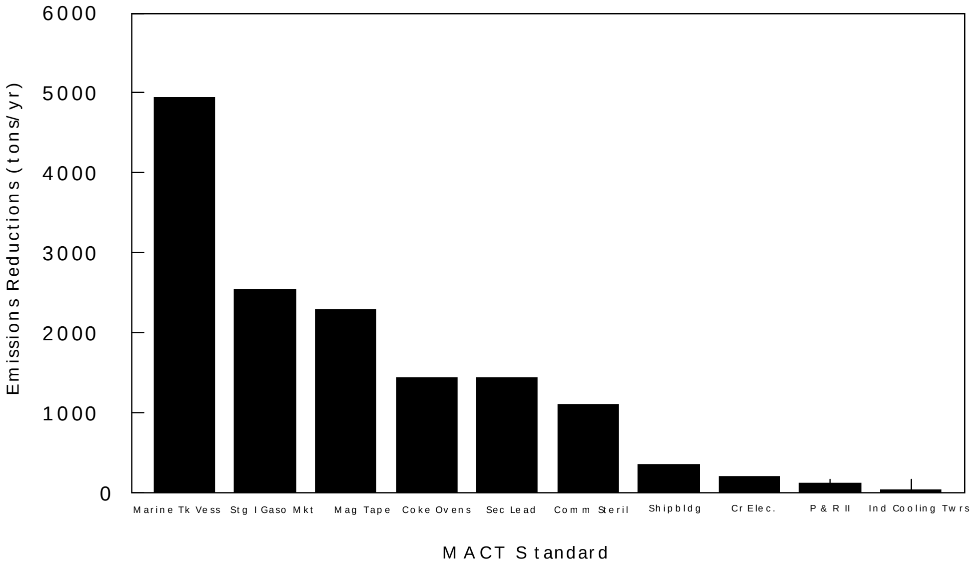


Figure 4-5. *Emissions reductions, <5000 tons per year.*
(See Table 4-3 for a listing of MACT standards.)

Notes

1. This report references the number of hazardous air pollutants identified in Section 112(b)(1) of the Clean Air Act as 188 rather than 189 (as in previous reports) due to the Agency's modification of the list to remove caprolactam (Hazardous Air Pollutant List; Modification, 61 FR 30816, June 18, 1996).

2. In addition to the absence of emissions estimates for area and mobile source categories, there are other significant limitations in the inventory's portrayal of overall HAP emissions. First, facilities with Standard Industrial Classification (SIC) codes outside the range of 20 to 39 (the manufacturing SIC range) are not required to report. Therefore, HAP emissions from facilities such as mining operations, electric utilities, and oil and gas production operations are not represented in the TRI. Further, TRI data are self-reported by the emitting facilities, and TRI does not require facilities to perform any actual monitoring or testing to develop their TRI estimates. Consequently, the accuracy of the reported data may vary from facility to facility and year to year. Finally, the original TRI list only required reporting for 173 of the 188 HAPs identified in the CAAA.

3. It should be noted that the National Toxics Inventory (NTI) is a work in progress and additional Maximum Achievable Control Technology (MACT) studies still need to be added along with state and local toxic inventory data and results from Title V surveys.

CHAPTER 5

Nonattainment Areas

This chapter provides general information on geographical regions known as nonattainment areas. When an area does not meet the air quality standard for one of the criteria pollutants, it may be subject to the formal rule-making process which designates it nonattainment. The Clean Air Act Amendments (CAAA) of 1990 further classify ozone (O_3), carbon monoxide (CO), and some particulate matter (PM-10) nonattainment areas based on the magnitude of the area's problem. Nonattainment classifications may be used to specify what air pollution reduction measures an area must adopt, and when the area must reach attainment. The technical details underlying these classifications are discussed in the *Code of Federal Regulations*, Part 81 (40 CFR 81).

Figure 5-1 shows the location of the nonattainment areas for each criteria pollutant. Figure 5-2 identifies the ozone nonattainment

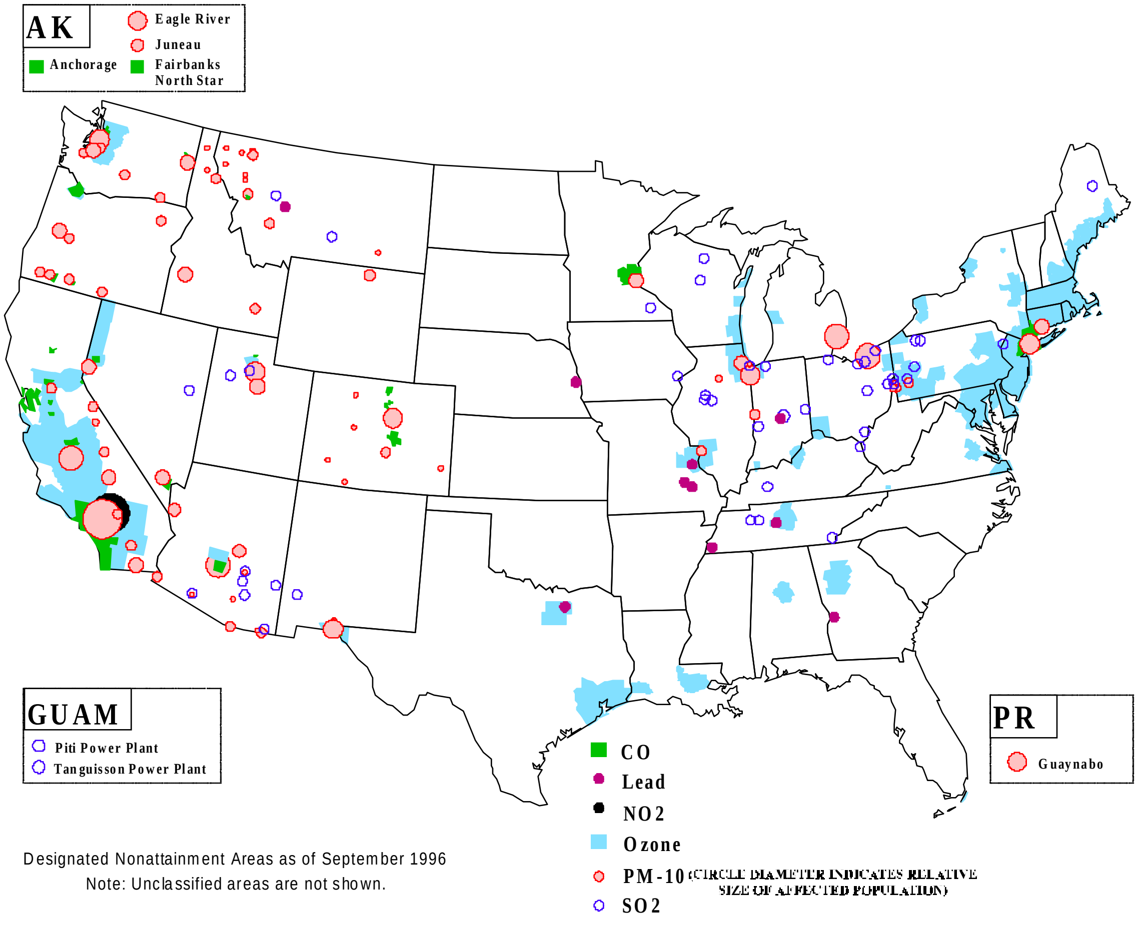
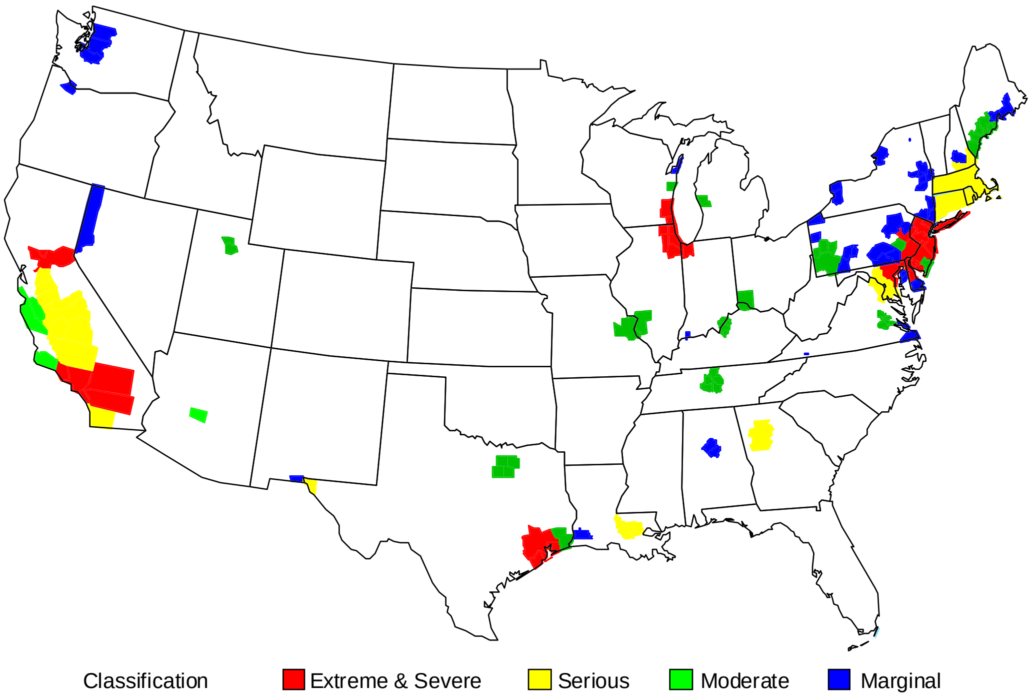


Figure 5-1. *Location of nonattainment areas for criteria pollutants.*

areas by degree of severity. A condensed summary of nonattainment areas can be found in Table A-15 in Appendix A. As of September 1996, there were a total of 174 nonattainment areas on the condensed nonattainment list, compared to 274 areas in 1990. The areas on the condensed list are generally Metropolitan Statistical Areas (MSAs) shown alphabetically by state. A more detailed listing is contained in the *Code of Federal Regulations*, Part 81 (40 CFR 81). In Table A-15, the population numbers are based on 1990 Census figures. For nonattainment areas defined as partial counties, only population totals for the applicable portion were used if available; otherwise, the entire county population totals are shown. When a larger nonattainment area encompasses a smaller one, double-counting the population in the “All” column is avoided by only counting the population of the larger area. When two nonattainment areas only partially overlap, as in Figure A-2, the areas are counted as two distinct nonattainment areas and are listed on separate lines. There are approximately 127 million people living in areas currently designated as nonattainment.

Table 5-1 shows the total number of nonattainment areas for each pollutant and provides comparable statistics for each year since the CAAA designations were implemented. Note that transitional and incomplete areas are excluded from these counts. Since September 1995 the total number of nonattainment areas dropped by 16. The following nine redesignations to attainment for ozone have occurred:

- Lexington–Fayette, KY
- Tampa–St. Petersburg–Clearwater, FL



As of September 1996
Note: Transitional, Unclassified, and Incomplete areas are not shown.

Figure 5-2. *O_3 nonattainment areas by degree of severity.*

- Columbus, OH
- Canton, OH
- Cleveland–Akron–Lorain, OH
- Grand Rapids, MI
- Kewaunee Co, WI
- Sheboygan Co, WI
- Walworth Co, WI
- Youngston, OH[1]

Since September 1995 these six[2] CO areas have been redesignated to attainment:

- Baltimore, MD
- Washington, DC
- Boston, MA
- Hartford, CT
- Philadelphia, PA
- Albequerque, NM

Since September 1995, the number of lead and PM-10 nonattainment areas declined by one. Fayette, TN came into attainment for lead, and Persque Isle, ME came into attainment for PM-10. Nitrogen dioxide (NO_2) and sulfur dioxide (SO_2) counts remained the same.

Table 5-1. *Number of Nonattainment Areas for NAAQS Pollutants*

Pollutant	CAAA 1990 Designations	Number as of: Aug. 1992	Sep. 1993	Sep. 1994	Sep. 1995	Sep. 1996
CO	42	38	41	38	36	31
Pb	12	12	13	13	11	10
NO_2	1	1	1	1	1	1
O_3	98	97	94	91	77	68
PM-10	70	70	70	83	82	81
SO_2	51	50	46	47	43	43

Notes

1. This area was redesignated to attainment, but the rest of its MSA remains in nonattainment for ozone. The population in the condensed list has been adjusted accordingly.
2. Note the difference between the CO total in 1995 and 1996 in Table 5-1 is five areas as opposed to six areas because the Portland Vancouver CO nonattainment area was split into two separate areas.

CHAPTER 6

Metropolitan Area Trends

While most of this report discusses air quality trends on a national scale, there is great interest in local air quality trends. This chapter presents trends in criteria pollutants for Metropolitan Statistical Areas (MSAs) in the United States. Table A-16 gives the 1995 peak statistics for all MSAs, providing a snapshot of the most recent year. Ten-year trends are shown for the 255 MSAs having adequate data. Table A-17 lists these MSAs and reports criteria pollutant trends as significant upward or downward, or not significant, based on a statistical analysis described in the following section. Another way to assess trends in MSAs is to examine the Pollutant Standards Index (PSI) value.[1,2] Tables A-18 and A-19 list the number of days with PSI values greater than 100 for the nation's 94 largest metropolitan areas. A discussion of the PSI analysis rounds out this chapter on MSA trends.

Metropolitan Statistical Area Trends Analysis

The focus of this analysis is on examining 10-year air quality trends for MSAs. The data used for this analysis are based on pollutant concentrations from the subset of ambient monitoring sites that meet the same trends criteria set forth in Appendix B. A total of 255 MSAs had at least one monitoring site meeting these criteria. Note that some pollutants are not considered a problem in some MSAs. Therefore, no ongoing efforts exist to monitor these pollutants in these areas. Consequently, not all pollutants are represented in every MSA.

For each of the 10 years between 1986 and 1995, and for each pollutant with available data, spatial averages were obtained for each of the 255 MSAs by averaging all monitoring data in their respective MSA. This process resulted in one value per MSA per year for each pollutant. While there are seasonal aspects of certain pollutants and, therefore, seasonality in monitoring intensity among MSAs, these averages provide a consistent year to year value with which to assess trends. To test for statistically significant trends, a linear regression was applied to these data. Since the underlying pollutant distributions cannot always be assumed normal, the regression analysis was based upon a nonparametric method, commonly referred to as the Theil test.[3,4,5] Because this method bases statistical significance on changes during the entire 10-year period, it is possible to detect an upward or downward trend even when the concentration level of the first year equals the concentration level of the last year. Because this method uses a median estimator, it is not influenced by single extreme values.

Table 6-1 summarizes the trends analysis performed on the 255 MSAs. It shows that there were no upward trends in CO, lead, and PM-10 (annual mean) at any of the MSAs over the past decade. Of the 225 MSAs, 204 had downward trends in at least one of the criteria pollutants, and only 16 had upward trends. A closer look at these 16 MSAs reveals that all but one is well below the NAAQS for the respective pollutant, meaning that their upward trends are not immediately in danger of violating the NAAQS. These results demonstrate significant improvements in urban air quality over the past decade.

The Pollutant Standards Index

PSI values are derived from pollutant concentrations. They are reported daily in all metropolitan areas of the United States with

Table 6-1. *Summary of MSA Trend Analysis, by Pollutant*

		Total # MSAs	# MSAs UP	# MSAs DOWN	# MSAs with No Significant Change
CO	Second Max, 8-Hour	139	0	102	37
Pb	Max Quarterly Mean	94	0	84	10
NO_2	Annual Arithmetic Mean	86	1	44	41
O_3	Second Daily Max, 1-Hour	183	4	43	136
PM-10	Second Max, 24-Hour	221	3	55	163
PM-10	Weighted Annual Mean	221	0	108	113
SO_2	Second Max, 24-Hour	144	3	77	64
SO_2	Annual Arithmetic Mean	144	7	90	47

populations exceeding 200,000 and are used to assess air quality over large urban areas. The PSI is usually reported as a number (between 0 and 500) or a word (e.g., "unhealthful") and is featured on local TV or radio news programs and in newspapers.

The Pollutant Standards Index (PSI) is computed for PM-10, SO_2, CO, O_3, and NO_2 and is based on their short-term National Ambient Air Quality Standards (NAAQS), Federal Episode Criteria, and Significant Harm Levels. Lead is the only criteria pollutant not included in the index because it does not have a short-term NAAQS, a Federal Episode Criteria, or a Significant Harm Level. The five PSI color categories and their respective health effect descriptors are listed in Table 6-2.

The PSI integrates information on criteria pollutant concentrations across an entire monitoring network into a single number that represents the worst daily air quality experienced in an urban area. For each of the criteria pollutants, concentrations are converted into an index value between 0 and 500. The pollutant with the highest index value is reported as the PSI for that day. Therefore, the PSI does not take into account the possible adverse effects associated with combinations of pollutants (i.e. synergism).[1,2]

A PSI value of 100 corresponds to the standard established under the Clean Air Act (CAA), and a PSI value greater than 100 indicates that at least one criteria pollutant exceeded air quality standards on a given day; therefore, air quality would be in the unhealthful range on that day. Relatively high PSI values activate public health warnings. For example, a PSI of 200 initiates a First Stage Alert at which time sensitive populations (the elderly and persons with respiratory illnesses) are advised to remain indoors and reduce physical activity. A PSI of 300 initiates a Second Stage Alert at which time the general public is advised to avoid outdoor activity.

Summary of PSI Analyses

Of the five criteria pollutants used to calculate PSI, CO, O_3, PM-10, and SO_2 generally contribute to the PSI value. Nitrogen dioxide is rarely the highest pollutant measured because it does not have a short-term NAAQS and can only be included when concentrations exceed one of the Federal Episode Criteria or Significant Harm Levels. Ten-year PSI trends are based on daily maximum pollutant concentrations from the subset of ambient monitoring sites that have complete data for a minimum of eight out of the 10 years.

Since a PSI value greater than 100 indicates that the level of the NAAQS for at least one criteria pollutant has been exceeded on a given day, the number of days with PSI values greater than 100 provides an indicator of air quality in urban areas. Figure 6-1 shows the trend in the

Table 6-2. *Pollutant Standards Index Values with Pollutant Concentration, Health Descriptors, and PSI Colors*

INDEX VALUE	AIR QUALITY LEVEL	POLLUTANT LEVELS PM-10 (24-hour) ug/m^3	SO$_2$ (24-hour) ug/m^3	CO (8-hour) ppm	O$_3$ (1-hour) ppm	NO$_2$ (1-hour) ppm	HEALTH EFFECT DESCRIPTOR	PSI COLORS
500	SIGNIFICANT HARM	600	2,620	50	0.6	2.0	HAZARDOUS	RED
400	EMERGENCY	500	2,100	40	0.5	1.6		
300	WARNING	420	1,600	30	0.4	1.2	VERY UNHEALTHFUL	ORANGE
200	ALERT	350	800	15	0.2	0.6	UNHEALTHFUL	YELLOW
100	NAAQS	150	365	9	0.12	a	MODERATE	GREEN
50	50% OF NAAQS	50	80[b]	4.5	0.06	a	GOOD	BLUE
0		0	0	0	0	a		

[a] No index values reported at concentration levels below those specified by "Alert Level" criteria.
[b] Annual primary NAAQS.

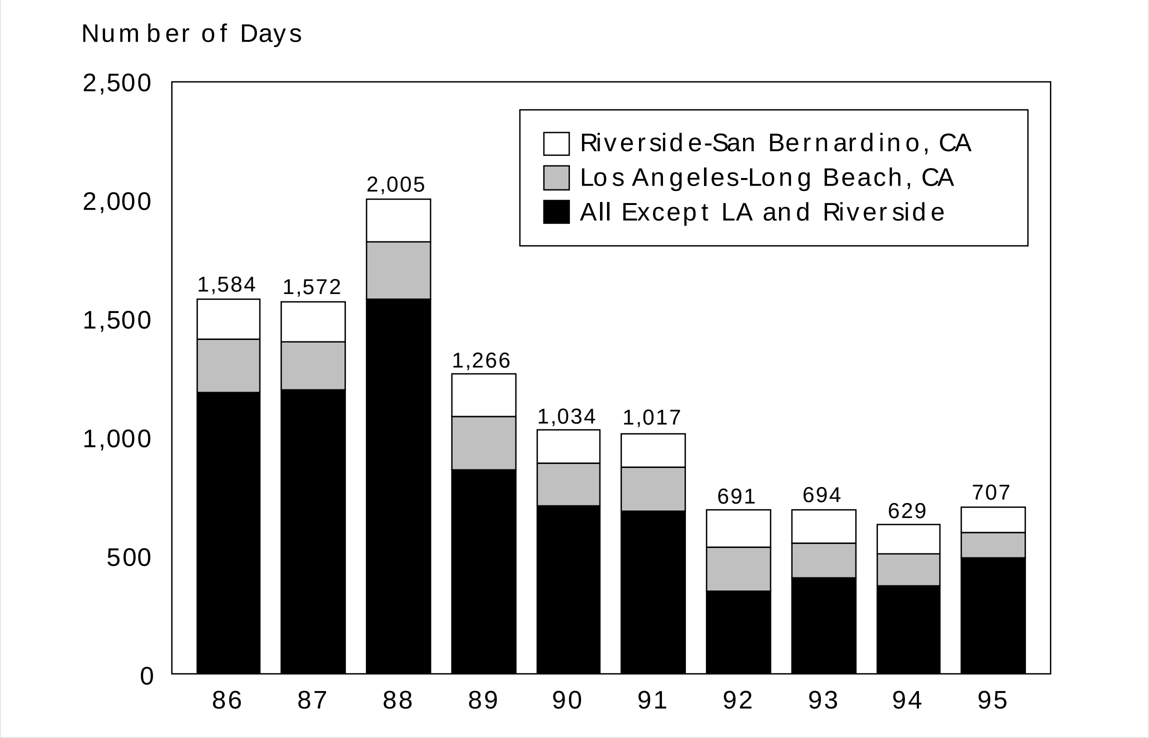


Figure 6-1. *Number of days with PSI values > 100, 1986–1995.*

number of days with PSI values greater than 100 summed across the nation's 94 largest metropolitan areas (those cities with total 1990 population greater than 500,000). Because of their magnitude, PSI totals for Los Angeles, CA and Riverside, CA are shown separately. The long-term air quality improvement in urban areas is evident in this figure. Between 1986 and 1995, the total number of days with PSI values greater than 100 decreased 54 percent in Los Angeles, 35 percent in Riverside, and 58 percent in the remaining major cities across the United States.

PSI estimates depend on the number of pollutants monitored as well as the number of monitoring sites where data are collected. The more pollutants and sites that are available in an area, the better the estimate of the maximum PSI for a given day. Ozone accounts for the majority of days with PSI values above 100, but is collected at only a small number of sites in each area. Table A-20 shows that the percentage of days with PSI values greater than 100 attributed to ozone has increased from 67 percent in 1986 to 92 percent in 1995. This increase reveals a clear trend that ozone increasingly accounts for those days above the 100 level and reflects the success in achieving lower CO and PM-10 concentrations. However, the typical one-in-six day sampling schedule for most PM-10 sites limits the number of days that PM-10 can factor into the PSI determination.

References

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2. *Code of Federal Regulations*, 40 CFR Part 58, Appendix G.

3. T. Fitz-Simons and D. Mintz, "Assessing Environmental Trends with Nonparametric Regression in the SAS Data Step," American Statistical Association 1995 Winter Conference, Raleigh, NC, January, 1995.

4. Freas, W.P. and E.A. Sieurin, "A Nonparametric Calibration Procedure for Multi-source Urban Air Pollution Dispersion Models", presented at the Fifth Conference on Probability and Statistics in Atmospheric Sciences, American Meteorological Society, Las Vegas, NV, November 1977.

5. M. Hollander and D.A. Wolfe, *Nonparametric Statistical Methods*, John Wiley and Sons, Inc., New York, NU, 1973.

APPENDIX A

Data Tables

Table A-1. *National Air Quality Trends Statistics for Criteria Pollutants, 1986–1995*

Statistic	Units	# of Sites	Percentile	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Carbon Monoxide													
2nd Max. 8hr.	PPM	334	95th	12.4	12.0	11.3	11.4	10.5	9.9	8.6	8.1	8.1	7.8
"	"	"	90th	11.1	9.9	10.0	9.7	8.8	8.7	7.9	7.2	7.6	6.8
"	"	"	75th	8.9	8.3	7.8	7.8	7.1	7.0	6.4	5.8	6.1	5.5
"	"	"	50th	6.5	6.3	6.1	6.0	5.5	5.2	4.8	4.7	4.9	4.2
"	"	"	25th	4.8	4.6	4.3	4.4	4.2	3.8	3.7	3.6	3.7	3.2
"	"	"	10th	3.5	3.5	3.4	3.4	3.0	2.9	2.7	2.8	2.8	2.4
"	"	"	5th	2.9	2.9	2.8	2.7	2.5	2.3	2.3	2.2	2.1	2.1
"	"	"	Arith. Mean	7.1	6.7	6.4	6.3	5.9	5.6	5.2	4.9	5.0	4.5
Est. Exceedance	Number	334	Arith. Mean	2.1	1.5	1.2	1.2	0.7	0.5	0.3	0.1	0.2	0.1
Lead													
Max. Qtr.	ug/m3	189	95th	0.43	0.43	0.30	0.23	0.26	0.19	0.15	0.16	0.14	0.13
"	"	"	90th	0.33	0.24	0.21	0.16	0.16	0.14	0.12	0.10	0.09	0.09
"	"	"	75th	0.21	0.15	0.12	0.10	0.08	0.05	0.06	0.05	0.05	0.05
"	"	"	50th	0.13	0.09	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.03
"	"	"	25th	0.09	0.06	0.05	0.04	0.03	0.02	0.02	0.02	0.01	0.01
"	"	"	10th	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01
"	"	"	5th	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
"	"	"	Arith. Mean	0.18	0.16	0.11	0.11	0.08	0.08	0.05	0.05	0.04	0.04
Nitrogen Dioxide													
Arith. Mean	PPM	212	95th	0.047	0.043	0.047	0.044	0.041	0.043	0.039	0.038	0.041	0.039
"	"	"	90th	0.036	0.038	0.037	0.036	0.034	0.034	0.033	0.033	0.034	0.032
"	"	"	75th	0.027	0.028	0.028	0.027	0.026	0.025	0.025	0.025	0.025	0.024
"	"	"	50th	0.020	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.020	0.019
"	"	"	25th	0.014	0.014	0.014	0.013	0.012	0.012	0.012	0.012	0.012	0.012
"	"	"	10th	0.007	0.006	0.007	0.007	0.006	0.006	0.006	0.005	0.006	0.005
"	"	"	5th	0.004	0.004	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004
"	"	"	Arith. Mean	0.022	0.021	0.022	0.021	0.020	0.020	0.019	0.019	0.020	0.019
Ozone													
2nd Max. 1hr.	PPM	573	95th	0.190	0.190	0.210	0.190	0.180	0.175	0.160	0.160	0.155	0.160
"	"	"	90th	0.160	0.167	0.181	0.155	0.150	0.150	0.133	0.140	0.134	0.140
"	"	"	75th	0.131	0.140	0.153	0.125	0.121	0.125	0.114	0.120	0.118	0.124
"	"	"	50th	0.114	0.119	0.129	0.108	0.107	0.108	0.100	0.105	0.105	0.111
"	"	"	25th	0.099	0.104	0.110	0.097	0.095	0.096	0.090	0.092	0.094	0.099
"	"	"	10th	0.089	0.090	0.096	0.086	0.084	0.083	0.083	0.080	0.083	0.085
"	"	"	5th	0.080	0.085	0.086	0.080	0.076	0.075	0.077	0.075	0.075	0.077
"	"	"	Arith. Mean	0.120	0.126	0.135	0.116	0.113	0.115	0.107	0.109	0.109	0.113
Est. Exceedance	Number	573	Arith. Mean	5.6	6.0	8.1	4.5	3.7	3.8	3.1	2.8	2.8	2.6

Table A-1. *National Air Quality Trends Statistics for Criteria Pollutants, 1986–1995 (continued)*

Statistic	Units	# of Sites	Percentile	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PM-10													
Annual Avg.	ug/m3	955	95th	—	—	52.4	52.3	46.4	45.9	42.0	41.5	39.9	39.3
"	"	"	90th	—	—	43.9	43.9	39.6	39.3	36.3	35.8	36.5	35.0
"	"	"	75th	—	—	37.6	36.7	34.2	33.4	31.0	30.0	30.4	29.2
"	"	"	50th	—	—	30.5	30.0	27.9	28.1	25.6	25.2	25.4	24.2
"	"	"	25th	—	—	25.5	25.3	23.2	23.5	21.8	20.9	21.0	19.9
"	"	"	10th	—	—	20.4	20.5	19.0	18.5	17.6	16.8	16.8	15.9
"	"	"	5th	—	—	17.2	17.5	16.3	15.1	14.1	13.4	13.1	12.5
"	"	"	Arith. Mean	—	—	32.1	31.9	29.4	29.1	26.7	26.0	26.1	25.0
Sulfur Dioxide													
Arith. Mean	PPM	473	95th	0.0181	0.0178	0.0187	0.0180	0.0163	0.0155	0.0144	0.0145	0.0135	0.0118
"	"	"	90th	0.0153	0.0152	0.0153	0.0150	0.0139	0.0131	0.0125	0.0123	0.0120	0.0103
"	"	"	75th	0.0122	0.0117	0.0116	0.0114	0.0106	0.0099	0.0096	0.0092	0.0090	0.0078
"	"	"	50th	0.0083	0.0083	0.0084	0.0081	0.0076	0.0076	0.0068	0.0067	0.0065	0.0052
"	"	"	25th	0.0054	0.0052	0.0053	0.0050	0.0045	0.0047	0.0042	0.0040	0.0037	0.0034
"	"	"	10th	0.0023	0.0022	0.0024	0.0024	0.0021	0.0021	0.0021	0.0023	0.0021	0.0010
"	"	"	5th	0.0015	0.0014	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014	0.0015	0.0014
"	"	"	Arith. Mean	0.0090	0.0088	0.0089	0.0086	0.0080	0.0078	0.0073	0.0071	0.0069	0.0057
2nd Max. 24hr.	PPM	472	95th	0.1057	0.0897	0.0924	0.0920	0.0798	0.0706	0.0695	0.0683	0.0714	0.0573
"	"	"	90th	0.0802	0.0714	0.0721	0.0744	0.0641	0.0592	0.0569	0.0561	0.0573	0.0477
"	"	"	75th	0.0561	0.0525	0.0557	0.0523	0.0489	0.0450	0.0441	0.0416	0.0435	0.0336
"	"	"	50th	0.0397	0.0384	0.0403	0.0386	0.0340	0.0324	0.0309	0.0282	0.0317	0.0221
"	"	"	25th	0.0250	0.0242	0.0256	0.0237	0.0210	0.0208	0.0191	0.0187	0.0189	0.0153
"	"	"	10th	0.0115	0.0103	0.0134	0.0126	0.0103	0.0095	0.0099	0.0099	0.0084	0.0076
"	"	"	5th	0.0073	0.0061	0.0076	0.0073	0.0057	0.0069	0.0057	0.0053	0.0050	0.0046
"	"	"	Arith. Mean	0.0442	0.0415	0.0438	0.0416	0.0374	0.0343	0.0332	0.0320	0.0330	0.0260

Table A-2. *National Carbon Monoxide Emissions Estimates, 1986–1995 (thousand short tons)*

Source Category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
FUEL COMBUSTION	***7,548***	***6,960***	***7,372***	***7,441***	***5,064***	***5,356***	***5,601***	***4,953***	***4,884***	***3,960***
Electric Utilities	*291*	*300*	*313*	*319*	*314*	*315*	*313*	*322*	*325*	*324*
coal	208	217	229	231	233	233	235	245	246	248
oil	24	20	25	26	20	19	15	16	15	10
gas	48	53	48	51	51	51	51	49	53	55
internal combustion	11	10	11	11	11	12	11	12	12	11
Industrial	*650*	*649*	*669*	*672*	*677*	*667*	*672*	*670*	*671*	*672*
coal	87	85	87	87	86	72	80	77	80	81
oil	46	46	46	46	46	52	47	47	50	49
gas	242	252	265	271	276	274	276	276	273	273
other	172	171	173	173	171	170	170	170	170	170
internal combustion	103	96	98	96	98	99	99	99	98	98
Other	*6,607*	*6,011*	*6,390*	*6,450*	*4,072*	*4,373*	*4,616*	*3,961*	*3,888*	*2,964*
residential wood	6,316	5,719	6,086	6,161	3,781	4,090	4,332	3,679	3,607	2,683
other	291	292	303	288	291	283	283	283	281	281
INDUSTRIAL PROCESSES	***7,067***	***6,851***	***7,034***	***7,013***	***6,914***	***6,815***	***6,909***	***7,009***	***7,160***	***7,439***
Chemical & Allied Product Mfg.	*1,853*	*1,798*	*1,917*	*1,925*	*1,940*	*1,944*	*1,964*	*1,998*	*2,048*	*2,237*
Metals Processing	*2,079*	*1,984*	*2,101*	*2,132*	*2,080*	*1,992*	*2,044*	*2,091*	*2,166*	*2,223*
Petroleum & Related Industries	*451*	*455*	*441*	*436*	*435*	*412*	*410*	*398*	*390*	*379*
Other Industrial Processes	*715*	*713*	*711*	*716*	*717*	*710*	*719*	*732*	*751*	*767*
Solvent Utilization	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*
Storage & Transport	*51*	*50*	*56*	*55*	*55*	*54*	*55*	*56*	*58*	*65*
Waste Disposal & Recycling	*1,916*	*1,850*	*1,806*	*1,747*	*1,686*	*1,701*	*1,717*	*1,732*	*1,746*	*1,766*
TRANSPORTATION	***87,330***	***85,381***	***85,581***	***80,568***	***77,500***	***76,675***	***74,759***	***75,471***	***77,490***	***74,246***
On-Road Vehicles	*73,347*	*71,250*	*71,081*	*66,050*	*62,858*	*62,074*	*59,859*	*60,202*	*61,833*	*58,624*
Non-Road Sources	*13,984*	*14,131*	*14,500*	*14,518*	*14,642*	*14,601*	*14,900*	*15,269*	*15,657*	*15,622*
MISCELLANEOUS	***7,254***	***8,820***	***15,863***	***8,121***	***11,173***	***8,530***	***6,774***	***6,700***	***9,245***	***6,455***
Structural Fires	*242*	*242*	*242*	*242*	*242*	*242*	*242*	*242*	*242*	*242*
Agricultural Fires	*441*	*483*	*612*	*571*	*552*	*549*	*559*	*573*	*589*	*612*
Prescribed Burning	*4,300*	*4,300*	*4,300*	*4,300*	*4,300*	*4,300*	*4,300*	*4,300*	*4,300*	*4,300*
Forest Wildfires	*2,271*	*3,795*	*10,709*	*3,009*	*6,079*	*3,439*	*1,674*	*1,586*	*4,115*	*1,301*
TOTAL ALL SOURCES	**109,199**	**108,012**	**115,849**	**103,144**	**100,650**	**97,376**	**94,043**	**94,133**	**98,779**	**92,099**

Note: Some columns may not sum to totals due to rounding.

Table A-3. *National Lead Emissions Estimates, 1986–1995 (short tons)*

Source Category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
FUEL COMBUSTION	***516***	***510***	***511***	***505***	***500***	***495***	***491***	***495***	***493***	***493***
Electric Utilities	*69*	*64*	*66*	*67*	*64*	*61*	*59*	*61*	*61*	*63*
coal	50	48	46	46	46	46	47	49	49	49
oil	19	16	20	21	18	15	12	12	12	14
Industrial	*25*	*22*	*19*	*18*	*18*	*18*	*18*	*19*	*18*	*17*
Coal	17	14	14	14	14	15	14	14	14	14
Oil	8	8	5	4	3	3	4	5	4	3
Other	*422*	*425*	*426*	*420*	*418*	*416*	*414*	*415*	*414*	*413*
misc. fuel comb. (except res.)	400	400	400	400	400	400	400	400	400	400
residential other	11	14	16	12	10	9	7	8	8	6
other	11	10	10	8	8	7	7	7	6	7
INDUSTRIAL PROCESSES	***2,972***	***3,004***	***3,090***	***3,161***	***3,278***	***3,081***	***2,734***	***2,869***	***2,957***	***2,914***
Chemical & Allied Product Mfg.	*108*	*123*	*136*	*136*	*136*	*132*	*93*	*92*	*96*	*80*
Metals Processing	*1,820*	*1,835*	*1,965*	*2,088*	*2,169*	*1,975*	*1,773*	*1,899*	*1,979*	*1,937*
Other Industrial Processes	*199*	*202*	*172*	*173*	*169*	*167*	*56*	*54*	*53*	*55*
Waste Disposal & Recycling	*844*	*844*	*817*	*765*	*804*	*807*	*812*	*824*	*829*	*842*
TRANSPORTATION	***3,808***	***3,343***	***2,911***	***2,368***	***1,888***	***1,704***	***1,637***	***1,580***	***1,577***	***1,578***
On-Road Vehicles	*3,589*	*3,121*	*2,700*	*2,161*	*1,690*	*1,519*	*1,444*	*1,401*	*1,388*	*1,387*
Non-Road Sources	*219*	*222*	*211*	*207*	*197*	*186*	*193*	*179*	*189*	*191*
TOTAL ALL SOURCES	**7,296**	**6,857**	**6,513**	**6,034**	**5,666**	**5,280**	**4,862**	**4,945**	**5,028**	**4,986**

Note: Some columns may not sum to totals due to rounding.

Table A-4. *National Nitrogen Oxides Emissions Estimates, 1986–1995 (thousand short tons)*

Source Category	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**
FUEL COMBUSTION	***10,668***	***10,897***	***11,457***	***11,552***	***11,483***	***11,382***	***11,421***	***11,696***	***11,631***	***10,077***
Electric Utilities	*6,909*	*7,128*	*7,530*	*7,607*	*7,516*	*7,488*	*7,475*	*7,773*	*7,698*	*6,233*
coal	6,061	6,278	6,668	6,708	6,698	6,662	6,694	7,008	6,915	5,556
oil	246	204	260	272	210	201	160	169	153	87
gas	552	599	551	578	558	569	568	543	576	549
internal combustion	50	48	50	49	50	56	52	53	55	42
Industrial	*3,065*	*3,063*	*3,187*	*3,209*	*3,256*	*3,175*	*3,216*	*3,197*	*3,206*	*3,137*
coal	613	596	617	615	613	512	571	550	568	562
oil	300	292	296	294	297	338	305	306	318	302
gas	1,433	1,505	1,584	1,625	1,656	1,641	1,651	1,650	1,634	1,610
other	120	119	121	120	119	117	118	118	118	116
internal combustion	599	552	569	556	570	567	571	572	567	547
Other	*694*	*706*	*740*	*736*	*712*	*719*	*730*	*726*	*727*	*707*
commercial/institutional coal	36	37	39	38	39	39	38	38	38	36
commercial/institutional oil	110	121	117	106	99	98	101	102	102	98
commercial/institutional gas	139	144	157	159	164	164	166	167	168	166
misc. fuel comb. (except residential)	12	11	11	11	11	11	11	11	11	10
residential wood	77	69	74	75	46	50	53	45	44	33
residential other	320	323	343	347	352	358	361	363	364	364
INDUSTRIAL PROCESSES	***872***	***841***	***860***	***852***	***851***	***837***	***853***	***866***	***888***	***872***
Chemical & Allied Product Mfg.	*264*	*255*	*274*	*273*	*276*	*278*	*284*	*286*	*291*	*283*
Metals Processing	*80*	*75*	*82*	*83*	*81*	*78*	*80*	*81*	*84*	*84*
Petroleum & Related Industries	*109*	*101*	*100*	*97*	*100*	*97*	*96*	*95*	*95*	*91*
Other Industrial Processes	*328*	*320*	*315*	*311*	*306*	*297*	*305*	*315*	*328*	*323*
Solvent Utilization	*3*	*3*	*3*	*3*	*2*	*2*	*3*	*3*	*3*	*3*
Storage & Transport	*2*	*2*	*2*	*2*	*2*	*2*	*3*	*3*	*3*	*3*
Waste Disposal & Recycling	*87*	*85*	*85*	*84*	*82*	*83*	*83*	*84*	*85*	*85*
TRANSPORTATION	***10,550***	***10,315***	***10,575***	***10,526***	***10,331***	***10,170***	***10,325***	***10,495***	***10,767***	***10,601***
On-Road Vehicles	*7,773*	*7,651*	*7,661*	*7,682*	*7,488*	*7,373*	*7,440*	*7,510*	*7,672*	*7,605*
Non-Road Sources	*2,777*	*2,664*	*2,914*	*2,844*	*2,843*	*2,796*	*2,885*	*2,985*	*3,095*	*2,996*
MISCELLANEOUS	***257***	***351***	***726***	***292***	***373***	***283***	***249***	***219***	***374***	***228***
TOTAL ALL SOURCES	**22,348**	**22,403**	**23,618**	**23,222**	**23,038**	**22,672**	**22,847**	**23,276**	**23,661**	**21,779**

Note: Some columns may not sum to totals due to rounding.

Table A-5. *National Volatile Organic Compounds Emissions Estimates, 1986–1995 (thousand short tons)*

Source Category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
FUEL COMBUSTION	***1,396***	***1,282***	***1,360***	***1,372***	***919***	***977***	***1,022***	***899***	***886***	***709***
Electric Utilities	*34*	*34*	*37*	*37*	*36*	*36*	*35*	*36*	*36*	*35*
coal	24	25	27	27	27	27	27	29	29	29
oil	7	6	7	7	6	5	4	5	4	3
gas	2	2	2	2	2	2	2	2	2	2
internal combustion	1	1	1	1	1	1	1	1	1	1
Industrial	*133*	*131*	*136*	*134*	*135*	*135*	*135*	*134*	*135*	*135*
coal	7	7	7	7	7	6	7	7	7	7
oil	16	16	16	16	16	18	16	16	17	16
gas	57	57	61	61	61	61	61	61	61	61
other	36	36	36	36	35	36	35	35	36	36
internal combustion	16	15	15	15	15	15	15	15	15	15
Other	*1,230*	*1,117*	*1,188*	*1,200*	*749*	*807*	*853*	*729*	*715*	*539*
residential wood	1,199	1,085	1,155	1,169	718	776	822	698	684	509
other	*31*	*32*	*33*	*31*	*31*	*30*	*31*	*30*	*30*	*30*
INDUSTRIAL PROCESSES	***12,138***	***12,329***	***12,736***	***12,630***	***12,637***	***12,538***	***12,701***	***12,851***	***13,054***	***13,352***
Chemical & Allied Product Mfg.	*1,412*	*1,410*	*1,513*	*1,506*	*1,526*	*1,533*	*1,546*	*1,557*	*1,577*	*1,617*
Metals Processing	*73*	*70*	*74*	*74*	*72*	*69*	*72*	*74*	*77*	*77*
Petroleum & Related Industries	*666*	*655*	*645*	*639*	*643*	*634*	*638*	*631*	*630*	*628*
Other Industrial Processes	*395*	*394*	*408*	*403*	*401*	*398*	*403*	*406*	*411*	*422*
Solvent Utilization	*5,626*	*5,743*	*5,945*	*5,964*	*5,975*	*5,918*	*6,031*	*6,156*	*6,313*	*6,394*
Storage and Transport	*1,673*	*1,801*	*1,842*	*1,753*	*1,759*	*1,720*	*1,745*	*1,757*	*1,773*	*1,803*
Waste Disposal & Recycling	*2,293*	*2,256*	*2,310*	*2,290*	*2,262*	*2,265*	*2,268*	*2,271*	*2,273*	*2,411*
TRANSPORTATION	***10,912***	***10,515***	***10,396***	***9,295***	***8,974***	***8,621***	***8,231***	***8,309***	***8,656***	***8,356***
On-Road Vehicles	*8,874*	*8,477*	*8,290*	*7,192*	*6,854*	*6,499*	*6,072*	*6,103*	*6,401*	*6,104*
Non-Road Sources	*2,039*	*2,038*	*2,106*	*2,103*	*2,120*	*2,122*	*2,159*	*2,206*	*2,255*	*2,252*
MISCELLANEOUS	***544***	***652***	***1,227***	***639***	***1,069***	***741***	***466***	***516***	***685***	***446***
Other Combustion	*543*	*651*	*1,226*	*638*	*1,068*	*740*	*465*	*515*	*684*	*445*
structural fires	44	44	44	44	44	44	44	44	44	44
agricultural fires	61	67	85	79	77	76	78	79	82	85
prescribed burning	179	179	179	179	179	179	179	179	179	179
forest wildfires	259	361	918	335	768	440	164	212	379	137
Health Services	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
TOTAL ALL SOURCES	**24,991**	**24,778**	**25,719**	**23,935**	**23,599**	**22,877**	**22,420**	**22,575**	**23,281**	**22,865**

Note: Some columns may not sum to totals due to rounding.

Table A-6. *National Particulate Matter (PM-10) Emissions Estimates, 1986–1995 (thousand short tons)*

Source Category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
FUEL COMBUSTION	***1,421***	***1,335***	***1,384***	***1,385***	***1,077***	***1,078***	***1,111***	***1,042***	***1,030***	***904***
Electric Utilities	*288*	*284*	*279*	*273*	*282*	*248*	*247*	*268*	*262*	*258*
coal	273	271	264	258	269	234	236	255	248	248
oil	11	9	10	11	9	10	8	9	9	5
gas	1	1	1	1	1	1	1	1	1	1
internal combustion	3	3	3	3	3	4	3	3	3	3
Industrial	*244*	*239*	*244*	*243*	*241*	*236*	*237*	*235*	*238*	*239*
coal	71	67	70	70	69	57	64	62	64	65
oil	49	48	48	48	48	55	49	50	52	51
gas	45	44	45	44	45	44	44	44	43	43
other	77	78	79	78	77	77	77	77	77	77
internal combustion	3	3	3	3	3	3	3	3	3	3
Other	*889*	*812*	*862*	*869*	*553*	*594*	*626*	*540*	*530*	*408*
residential wood	837	758	807	817	501	542	574	488	478	356
other	*51*	*54*	*55*	*52*	*52*	*51*	*52*	*52*	*52*	*52*
INDUSTRIAL PROCESSES	***947***	***923***	***931***	***915***	***902***	***883***	***896***	***912***	***934***	***946***
Chemical & Allied Product Mfg.	*59*	*58*	*62*	*63*	*63*	*62*	*64*	*64*	*65*	*66*
Metals Processing	*132*	*126*	*136*	*137*	*136*	*130*	*133*	*136*	*141*	*145*
Petroleum & Related Industries	*31*	*31*	*30*	*29*	*29*	*28*	*28*	*27*	*27*	*26*
Other Industrial Processes	*390*	*384*	*386*	*378*	*374*	*362*	*368*	*377*	*391*	*393*
Solvent Utilization	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*
Storage and Transport	*58*	*56*	*56*	*56*	*57*	*55*	*56*	*57*	*59*	*60*
Waste Disposal & Recycling	*274*	*265*	*259*	*251*	*242*	*244*	*246*	*248*	*251*	*253*
TRANSPORTATION	***729***	***710***	***756***	***739***	***729***	***717***	***722***	***715***	***732***	***697***
On-Road Vehicles	*356*	*360*	*369*	*367*	*357*	*349*	*343*	*321*	*320*	*304*
Non-Road Sources	*372*	*350*	*387*	*372*	*372*	*367*	*379*	*395*	*411*	*393*
TOTAL ALL SOURCES	**3,096**	**2,968**	**3,071**	**3,039**	**2,708**	**2,677**	**2,729**	**2,669**	**2,696**	**2,547**

Table A-7. *Miscellaneous and Natural Source PM-10 Emissions Estimates, 1986–1995 (thousand short tons)*

Source Category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Agriculture & Forestry	*7,183*	*7,326*	*7,453*	*7,320*	*7,364*	*7,332*	*7,223*	*7,231*	*7,121*	*8,389*
Other Combustion	*798*	*967*	*1,683*	*891*	*1,178*	*921*	*760*	*743*	*1,017*	*727*
wildfires	226	389	1,086	300	590	333	171	152	424	130
managed burning	513	519	538	532	529	529	530	532	535	538
other	59	59	59	59	59	59	59	59	59	59
Fugitive Dust	*29,075*	*29,139*	*30,287*	*29,229*	*27,725*	*27,883*	*28,384*	*29,930*	*31,194*	*28,809*
unpaved roads	11,673	11,110	12,379	11,798	11,338	11,873	11,540	12,482	12,043	11,997
paved roads	5,262	5,530	5,900	5,769	5,992	5,969	5,942	6,095	6,380	6,468
other	12,139	12,499	12,008	11,662	10,396	10,042	10,901	11,353	12,771	10,343
NAT. SOURCES (wind erosion)	***10,324***	***1,577***	***18,110***	***12,101***	***4,362***	***10,095***	***4,626***	***1,978***	***2,593***	***2,163***
TOTAL ALL SOURCES	**47,380**	**39,008**	**57,534**	**49,542**	**40,629**	**46,231**	**40,994**	**39,883**	**41,925**	**40,089**

Note: Some columns may not sum to totals due to rounding.

Table A-8. *National Sulfur Dioxide Emissions Estimates, 1986–1995 (thousand short tons)*

Source Category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
FUEL COMBUSTION	***19,428***	***19,445***	***19,761***	***19,927***	***19,598***	***19,295***	***19,019***	***18,732***	***18,420***	***15,658***
Electric Utilities	*15,701*	*15,715*	*15,990*	*16,218*	*15,898*	*15,788*	*15,418*	*15,191*	*14,792*	*12,013*
coal	14,860	15,034	15,224	15,408	15,227	15,101	14,840	14,546	14,236	11,561
oil	811	651	734	779	639	652	546	612	522	412
gas	1	1	1	1	1	1	1	1	1	8
internal combustion	30	29	31	30	31	35	32	32	34	31
Industrial	*3,116*	*3,068*	*3,111*	*3,086*	*3,106*	*2,915*	*3,002*	*2,942*	*3,029*	*3,046*
coal	1,828	1,817	1,856	1,840	1,843	1,547	1,722	1,661	1,715	1,743
oil	828	807	806	812	823	935	845	848	882	873
gas	370	356	360	346	352	348	348	346	345	343
other	84	82	83	82	82	79	81	80	80	81
internal combustion	6	6	6	6	6	6	6	6	6	6
Other	*611*	*662*	*660*	*624*	*595*	*592*	*599*	*599*	*599*	*599*
commercial/institutional coal	161	164	172	169	176	175	173	171	169	168
commercial/institutional oil	267	310	295	274	233	232	238	241	242	248
commercial/institutional gas	2	2	2	2	2	2	2	2	2	2
misc. fuel comb. (except residential)	1	1	1	1	1	1	1	1	1	1
residential wood	11	10	11	11	7	7	8	6	6	5
residential other	169	175	180	167	175	176	177	178	177	176
INDUSTRIAL PROCESSES	***2,256***	***1,976***	***2,052***	***2,010***	***1,985***	***1,928***	***1,957***	***1,982***	***2,029***	***2,057***
Chemical & Allied Product Mfg.	*432*	*425*	*449*	*440*	*440*	*440*	*447*	*450*	*457*	*471*
Metals Processing	*888*	*648*	*707*	*695*	*663*	*633*	*650*	*667*	*692*	*720*
Petroleum & Related Industries	*469*	*445*	*443*	*429*	*440*	*422*	*417*	*409*	*406*	*385*
Other Industrial Processes	*427*	*418*	*411*	*405*	*401*	*391*	*401*	*413*	*431*	*438*
Solvent Utilization	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Storage and Transport	*4*	*4*	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*5*
Waste Disposal & Recycling	*35*	*35*	*36*	*36*	*36*	*36*	*37*	*37*	*37*	*37*
TRANSPORTATION	***748***	***771***	***806***	***837***	***836***	***836***	***851***	***795***	***584***	***596***
On-Road Vehicles	*527*	*538*	*553*	*570*	*571*	*570*	*578*	*517*	*301*	*304*
Non-Road Sources	*221*	*233*	*253*	*267*	*265*	*266*	*273*	*278*	*283*	*292*
MISCELLANEOUS	***9***	***13***	***27***	***10***	***14***	***10***	***9***	***8***	***14***	***8***
TOTAL ALL SOURCES	**22,442**	**22,204**	**22,647**	**22,785**	**22,433**	**22,068**	**21,836**	**21,517**	**21,047**	**18,319**

Note: Some columns may not sum to totals due to rounding.

Table A-9. *National Long-Term Air Quality Trends, 1976–1995*

Year	CO 2nd Max. 8hr. ppm	NO_2 Arith. Mean ppm	Ozone 2nd Max. 1hr. ppm	Pb Max. Qtr. ug/m^3	PM-10 Wtd. Arith. Mean ug/m^3	SO_2 Arith. Mean ppm
1976-85	***(147 sites)***	***(48 sites)***	***(149 sites)***	***(78 sites)***	**—**	***(196 sites)***
1976	11.6	0.0285	0.152	1.525	—	0.0147
1977	11.1	0.0280	0.153	1.571	—	0.0133
1978	10.5	0.0298	0.158	1.465	—	0.0127
1979	10.1	0.0294	0.138	1.214	—	0.0122
1980	9.3	0.0271	0.141	0.843	—	0.0110
1981	9.0	0.0261	0.129	0.696	—	0.0104
1982	8.2	0.0247	0.126	0.547	—	0.0097
1983	8.2	0.0245	0.141	0.428	—	0.0093
1984	8.1	0.0252	0.126	0.380	—	0.0094
1985	7.3	0.0249	0.124	0.266	—	0.0088
1986-95	***(334 sites)***	***(212 sites)***	***(573 sites)***	***(189 sites)***	***(955 sites)***	***(473 sites)***
1986	7.1	0.0216	0.120	0.184	—	0.0090
1987	6.7	0.0214	0.126	0.164	—	0.0088
1988	6.4	0.0218	0.135	0.108	32.1	0.0089
1989	6.3	0.0213	0.116	0.083	32.0	0.0086
1990	5.9	0.0201	0.113	0.083	29.4	0.0080
1991	5.6	0.0199	0.114	0.062	29.1	0.0078
1992	5.2	0.0193	0.107	0.053	26.7	0.0073
1993	4.9	0.0189	0.109	0.048	26.0	0.0071
1994	5.0	0.0197	0.109	0.045	26.1	0.0068
1995	4.5	0.0188	0.113	0.043	25.0	0.0057

Table A-10. *National Air Quality Trends Statistics by Monitoring Location, 1986–1995*

Statistic	Units	# of Sites	Location	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Carbon Monoxide													
2nd Max. 8hr.	ppm	9	Rural	4.2	3.8	3.3	3.0	2.8	2.6	2.5	2.2	2.5	2.3
"	"	139	Suburban	6.3	6.2	5.8	5.9	5.4	5.1	4.8	4.7	4.8	4.2
"	"	183	Urban	7.8	7.2	6.9	6.9	6.4	6.1	5.5	5.1	5.3	4.8
Lead													
Max. Qtr.	ug/m^3	4	Rural	0.080	0.050	0.030	0.030	0.030	0.020	0.020	0.020	0.010	0.010
"	"	94	Suburban	0.160	0.130	0.090	0.060	0.070	0.060	0.040	0.040	0.040	0.040
"	"	90	Urban	0.220	0.200	0.130	0.090	0.100	0.070	0.060	0.050	0.050	0.050
Nitrogen Dioxide													
Arith. Mean	ppm	44	Rural	0.0080	0.0079	0.0080	0.0790	0.0076	0.0076	0.0073	0.0070	0.0074	0.0068
"	"	92	Suburban	0.0230	0.0231	0.0237	0.0233	0.0219	0.0218	0.0209	0.0205	0.0212	0.0206
"	"	73	Urban	0.0280	0.0275	0.0277	0.0268	0.0253	0.0250	0.0245	0.0242	0.0253	0.0239
Ozone													
2nd Max. 1hr.	ppm	174	Rural	0.1125	0.1157	0.1261	0.1110	0.1089	0.1069	0.1023	0.1054	0.1038	0.1082
"	"	267	Suburban	0.1248	0.1310	0.1418	0.1203	0.1171	0.1200	0.1106	0.1130	0.1126	0.1172
"	"	114	Urban	0.1208	0.1266	0.1341	0.1147	0.1099	0.1119	0.1033	0.1044	0.1060	0.1095
PM-10													
Wtd. Arith. Mean	ug/m^3	127	Rural	—	—	25.01	25.34	23.62	22.79	21.23	19.77	20.09	19.23
"	"	378	Suburban	—	—	33.06	32.63	30.13	29.75	27.51	26.79	26.80	25.92
"	"	428	Urban	—	—	33.50	33.34	30.60	30.56	27.87	27.24	27.33	25.98
Sulfur Dioxide													
Arith. Mean	ppm	130	Rural	0.0071	0.0072	0.0072	0.0070	0.0067	0.0066	0.0063	0.0064	0.0061	0.0055
"	"	191	Suburban	0.0095	0.0092	0.0093	0.0089	0.0083	0.0080	0.0074	0.0073	0.0070	0.0057
"	"	143	Urban	0.0103	0.0100	0.0102	0.0100	0.0091	0.0087	0.0080	0.0077	0.0075	0.0061

Table A-11. *Maximum Air Quality Concentrations by County, 1995*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
1	AL	CALHOUN CO	116,034	.	.	.	.	62	.
2	AL	CLAY CO	13,252	.	.	.	0.117	.	.
3	AL	COLBERT CO	51,666	.	.	.	0.081	49	47
4	AL	DE KALB CO	54,651	.	.	.	.	68	.
5	AL	ELMORE CO	49,210	.	.	.	0.102	.	.
6	AL	ESCAMBIA CO	35,518	.	.	.	.	51	.
7	AL	ETOWAH CO	99,840	.	0.06	.	.	63	.
8	AL	FRANKLIN CO	27,814	.	.	.	.	45	.
9	AL	GENEVA CO	23,647	.	.	.	0.087	.	.
10	AL	HOUSTON CO	81,331	.	.	.	.	56	.
11	AL	JACKSON CO	47,796	.	.	.	.	52	58
12	AL	JEFFERSON CO	651,525	6.7	0.09	.	0.132	95	43
13	AL	LAWRENCE CO	31,513	.	.	.	0.098	.	.
14	AL	MADISON CO	238,912	3.6	.	.	0.102	61	.
15	AL	MARENGO CO	23,084	.	.	.	.	37	.
16	AL	MOBILE CO	378,643	.	.	.	0.108	67	140
17	AL	MONTGOMERY CO	209,085	1	.	0.0112	0.092	58	46
18	AL	MORGAN CO	100,043	.	.	.	.	52	.
19	AL	PIKE CO	27,595	.	0.51	.	.	49	.
20	AL	RUSSELL CO	46,860	.	.	.	.	54	.
21	AL	SHELBY CO	99,358	.	.	0.0114	0.129	52	.
22	AL	SUMTER CO	16,174	.	.	.	0.086	.	.
23	AL	TALLADEGA CO	74,107	.	.	.	.	64	.
24	AL	TUSCALOOSA CO	150,522	.	.	.	.	63	.
25	AL	WALKER CO	67,670	.	.	.	.	53	.
26	AK	ANCHORAGE BOROUGH	226,338	8.4	.	.	.	192	.
27	AK	FAIRBANKS NORTH STAR BOROUGH	77,720	11.8	.	.	.	87	.
28	AK	JUNEAU BOROUGH	26,751	.	.	.	.	88	.
29	AK	KETCHIKAN GATEWAY BOROUGH	13,828	.	.	.	.	86	.
30	AK	YUKON-KOYUKUK CA	8,478	.	.	.	0.059	.	.
31	AZ	COCHISE CO	97,624	.	.	.	.	77	.
32	AZ	COCONINO CO	96,591	.	.	.	0.075	32	.
33	AZ	GILA CO	40,216	.	.	.	.	90	.
34	AZ	GRAHAM CO	26,554	.	.	.	.	87	.
35	AZ	MARICOPA CO	2,122,101	9.9	0.06	0.0326	0.13	160	21
36	AZ	NAVAJO CO	77,658	.	.	.	.	22	.
37	AZ	PIMA CO	666,880	5.9	0.02	0.0203	0.105	106	10
38	AZ	PINAL CO	116,379	.	.	.	.	.	52
39	AZ	SANTA CRUZ CO	29,676	.	.	.	.	59	.
40	AZ	YAVAPAI CO	107,714	.	.	.	.	23	.
41	AZ	YUMA CO	106,895	.	.	.	0.093	68	.
42	AR	ARKANSAS CO	21,653	.	.	.	.	72	.
43	AR	ASHLEY CO	24,319	.	.	.	.	58	.
44	AR	CRAIGHEAD CO	68,956	.	.	.	.	69	.
45	AR	CRITTENDEN CO	49,939	.	.	.	0.14	57	.
46	AR	GARLAND CO	73,397	.	.	.	.	53	.
47	AR	JEFFERSON CO	85,487	.	.	.	.	62	.
48	AR	MARION CO	12,001	.	.	.	.	42	.
49	AR	MILLER CO	38,467	.	.	.	.	55	.
50	AR	MONTGOMERY CO	7,841	.	.	.	0.08	.	.
51	AR	NEWTON CO	7,666	.	.	.	0.078	.	.
52	AR	OUACHITA CO	30,574	.	.	.	.	45	.
53	AR	PHILLIPS CO	28,838	.	.	.	.	51	.
54	AR	POLK CO	17,347	.	.	.	.	49	.
55	AR	POPE CO	45,883	.	.	.	.	48	.
56	AR	PULASKI CO	349,660	3.7	.	0.0108	0.111	67	20
57	AR	SEBASTIAN CO	99,590	.	.	.	.	56	.
58	AR	UNION CO	46,719	.	.	.	.	52	72
59	AR	WASHINGTON CO	113,409	.	.	.	.	46	.
60	AR	WHITE CO	54,676	.	.	.	.	59	.
61	CA	ALAMEDA CO	1,279,182	3.7	0.01	0.0211	0.149	52	.
62	CA	AMADOR CO	30,039	2.2	.	.	0.123	.	.
63	CA	BUTTE CO	182,120	4.7	0	0.0141	0.091	60	.
64	CA	CALAVERAS CO	31,998	1.3	.	.	0.113	57	.
65	CA	COLUSA CO	16,275	.	.	.	0.103	171	.
66	CA	CONTRA COSTA CO	803,732	2.7	0.05	0.0189	0.147	72	20
67	CA	DEL NORTE CO	23,460	.	.	.	0.051	40	.
68	CA	EL DORADO CO	125,995	5.3	.	0.0114	0.121	64	.
69	CA	FRESNO CO	667,490	8.3	0	0.0225	0.15	120	26
70	CA	GLENN CO	24,798	.	.	.	0.092	75	.
71	CA	HUMBOLDT CO	119,118	.	.	.	.	47	.
72	CA	IMPERIAL CO	109,303	19.7	0.04	0.0158	0.205	170	45

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
73	CA	INYO CO	18,281	1.8	.	.	0.071	337	.
74	CA	KERN CO	543,477	4.9	0	0.0286	0.166	160	28
75	CA	KINGS CO	101,469	.	.	0.015	0.095	170	.
76	CA	LAKE CO	50,631	.	.	.	0.07	22	.
77	CA	LOS ANGELES CO	8,863,164	11.6	0.06	0.0462	0.214	156	31
78	CA	MADERA CO	88,090	.	.	.	0.113	100	.
79	CA	MARIN CO	230,096	2.9	.	0.0176	0.084	48	.
80	CA	MARIPOSA CO	14,302	.	.	.	0.108	65	.
81	CA	MENDOCINO CO	80,345	1	.	0.0094	0.073	51	.
82	CA	MERCED CO	178,403	.	.	0.0118	0.13	89	.
83	CA	MODOC CO	9,678	.	.	.	.	78	.
84	CA	MONO CO	9,956	3.9	.	.	0.11	79	.
85	CA	MONTEREY CO	355,660	1.9	.	0.0105	0.08	47	.
86	CA	NAPA CO	110,765	3.3	.	0.014	0.112	46	.
87	CA	NEVADA CO	78,510	.	.	.	0.099	84	.
88	CA	ORANGE CO	2,410,556	7.3	0.04	0.0393	0.131	144	14
89	CA	PLACER CO	172,796	2.6	0	0.0174	0.145	53	.
90	CA	PLUMAS CO	19,739	.	.	.	0.092	64	.
91	CA	RIVERSIDE CO	1,170,413	5.8	0.04	0.0298	0.2	236	11
92	CA	SACRAMENTO CO	1,041,219	6.5	0.03	0.0218	0.154	80	14
93	CA	SAN BENITO CO	36,697	.	.	.	0.094	38	.
94	CA	SAN BERNARDINO CO	1,418,380	5.9	0.04	0.046	0.234	158	22
95	CA	SAN DIEGO CO	2,498,016	5.5	0.03	0.0257	0.144	118	40
96	CA	SAN FRANCISCO CO	723,959	5	0.01	0.021	0.083	48	13
97	CA	SAN JOAQUIN CO	480,628	5.2	0	0.0219	0.128	127	.
98	CA	SAN LUIS OBISPO CO	217,162	2.4	.	0.0126	0.104	97	75
99	CA	SAN MATEO CO	649,623	3.5	.	0.019	0.116	42	.
100	CA	SANTA BARBARA CO	369,608	4.9	0	0.021	0.13	64	14
101	CA	SANTA CLARA CO	1,497,577	5.8	0.02	0.0266	0.135	62	.
102	CA	SANTA CRUZ CO	229,734	1	.	0.005	0.085	85	20
103	CA	SHASTA CO	147,036	.	.	.	0.095	47	.
104	CA	SIERRA CO	3,318	.	.	.	.	56	.
105	CA	SISKIYOU CO	43,531	.	.	.	0.07	45	.
106	CA	SOLANO CO	340,421	5.1	.	0.015	0.113	51	18
107	CA	SONOMA CO	388,222	2.4	.	0.0148	0.088	46	.
108	CA	STANISLAUS CO	370,522	5.4	0	0.0216	0.125	111	.
109	CA	SUTTER CO	64,415	4.1	.	0.0135	0.112	110	.
110	CA	TEHAMA CO	49,625	.	.	.	0.11	56	.
111	CA	TRINITY CO	13,063	.	.	.	.	37	.
112	CA	TULARE CO	311,921	4.2	.	0.0233	0.125	120	.
113	CA	TUOLUMNE CO	48,456	2.6	.	.	0.103	.	.
114	CA	VENTURA CO	669,016	3.9	0	0.0241	0.156	73	7
115	CA	YOLO CO	141,092	2.9	.	.	0.108	120	.
116	CO	ADAMS CO	265,038	5.1	0.05	0.0225	0.09	97	34
117	CO	ALAMOSA CO	13,617	.	.	.	.	125	.
118	CO	ARAPAHOE CO	391,511	2.1	.	0.026	0.087	33	.
119	CO	ARCHULETA CO	5,345	.	.	.	.	97	.
120	CO	BOULDER CO	225,339	5.2	.	.	0.095	61	.
121	CO	DELTA CO	20,980	.	.	.	.	69	.
122	CO	DENVER CO	467,610	9.5	0.09	0.0348	0.098	80	49
123	CO	DOUGLAS CO	60,391	.	.	.	0.098	32	.
124	CO	EAGLE CO	21,928	.	.	.	.	39	.
125	CO	EL PASO CO	397,014	5.5	0.01	.	0.081	72	.
126	CO	FREMONT CO	32,273	.	.	.	.	64	.
127	CO	GARFIELD CO	29,974	.	.	.	.	72	.
128	CO	GUNNISON CO	10,273	.	.	.	.	96	.
129	CO	JEFFERSON CO	438,430	4.6	.	0.01	0.102	57	.
130	CO	LAKE CO	6,007	.	0	.	.	.	.
131	CO	LA PLATA CO	32,284	.	.	.	.	40	.
132	CO	LARIMER CO	186,136	5.2	.	.	0.083	47	.
133	CO	MESA CO	93,145	5.4	.	.	.	48	.
134	CO	MONTEZUMA CO	18,672	.	0	.	0.056	.	.
135	CO	MONTROSE CO	24,423	.	.	.	.	32	.
136	CO	PITKIN CO	12,661	.	.	.	.	83	.
137	CO	PROWERS CO	13,347	.	.	.	.	132	.
138	CO	PUEBLO CO	123,051	.	.	.	.	86	.
139	CO	ROUTT CO	14,088	.	.	.	.	135	.
140	CO	SAN MIGUEL CO	3,653	.	.	.	.	103	.
141	CO	SUMMIT CO	12,881	.	.	.	.	72	.
142	CO	TELLER CO	12,468	.	.	.	.	266	.
143	CO	WELD CO	131,821	5.3	.	.	0.093	59	.
144	CT	FAIRFIELD CO	827,645	5.4	0.02	0.0243	0.141	76	90

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
145	CT	HARTFORD CO	851,783	7	0.03	0.0165	0.128	45	61
146	CT	LITCHFIELD CO	174,092	.	.	.	0.119	36	.
147	CT	MIDDLESEX CO	143,196	.	.	.	0.154	40	.
148	CT	NEW HAVEN CO	804,219	3.7	0.06	0.0251	0.165	76	100
149	CT	NEW LONDON CO	254,957	.	.	.	0.14	47	46
150	CT	TOLLAND CO	128,699	.	.	0.0077	0.127	.	36
151	CT	WINDHAM CO	102,525	.	.	.	.	38	.
152	DE	KENT CO	110,993	.	.	.	0.137	.	.
153	DE	NEW CASTLE CO	441,946	4.6	.	0.0173	0.141	76	258
154	DE	SUSSEX CO	113,229	.	.	.	0.11	62	66
155	DC	WASHINGTON	606,900	6.2	.	0.0248	0.125	74	59
156	FL	ALACHUA CO	181,596	.	.	.	.	38	.
157	FL	BAY CO	126,994	.	.	.	.	58	.
158	FL	BREVARD CO	398,978	.	.	.	0.084	30	.
159	FL	BROWARD CO	1,255,488	6.7	0.02	0.0107	0.103	48	22
160	FL	COLLIER CO	152,099	.	.	.	.	34	.
161	FL	DADE CO	1,937,094	5.1	0.01	0.0148	0.106	54	11
162	FL	DUVAL CO	672,971	4.6	0.03	0.0157	0.124	61	32
163	FL	ESCAMBIA CO	262,798	.	.	.	0.12	54	70
164	FL	GULF CO	11,504	.	.	.	.	47	.
165	FL	HAMILTON CO	10,930	.	.	.	.	48	91
166	FL	HILLSBOROUGH CO	834,054	5	2.25	0.0114	0.109	77	159
167	FL	LEE CO	335,113	.	.	.	0.088	30	.
168	FL	LEON CO	192,493	.	.	.	0.096	.	.
169	FL	MANATEE CO	211,707	.	.	.	0.092	40	.
170	FL	NASSAU CO	43,941	.	.	.	.	43	148
171	FL	ORANGE CO	677,491	3.9	0	0.0101	0.104	41	16
172	FL	OSCEOLA CO	107,728	.	.	.	0.091	.	.
173	FL	PALM BEACH CO	863,518	3.9	0	0.0117	0.087	37	49
174	FL	PASCO CO	281,131	.	.	.	0.092	.	.
175	FL	PINELLAS CO	851,659	3.2	0	0.0115	0.086	48	90
176	FL	POLK CO	405,382	.	.	.	0.09	40	38
177	FL	PUTNAM CO	65,070	.	.	.	.	39	61
178	FL	ST JOHNS CO	83,829	.	.	.	0.091	.	.
179	FL	ST LUCIE CO	150,171	.	.	.	0.07	.	.
180	FL	SARASOTA CO	277,776	5.9	.	.	0.099	60	31
181	FL	SEMINOLE CO	287,529	.	.	.	0.093	34	.
182	FL	VOLUSIA CO	370,712	.	.	.	0.091	38	.
183	GA	BALDWIN CO	39,530	.	.	.	.	.	34
184	GA	BARTOW CO	55,911	.	.	.	.	.	41
185	GA	CHATHAM CO	216,935	.	.	.	0.089	.	60
186	GA	CHATTOOGA CO	22,242	.	.	.	.	80	.
187	GA	DE KALB CO	545,837	4.5	0.03	0.0156	0.147	51	.
188	GA	DOUGHERTY CO	96,311	.	.	.	.	.	17
189	GA	DOUGLAS CO	71,120	.	.	.	0.14	.	.
190	GA	ELBERT CO	18,949	.	.	.	.	45	.
191	GA	FANNIN CO	15,992	.	.	.	0.093	.	42
192	GA	FLOYD CO	81,251	.	.	.	.	.	36
193	GA	FULTON CO	648,951	5.2	0.07	0.0189	0.145	58	56
194	GA	GLYNN CO	62,496	.	.	.	0.08	.	.
195	GA	GWINNETT CO	352,910	.	.	.	0.123	.	.
196	GA	MUSCOGEE CO	179,278	.	0.78	.	0.113	41	.
197	GA	RICHMOND CO	189,719	.	.	.	0.118	.	.
198	GA	ROCKDALE CO	54,091	.	.	0.0064	0.146	.	.
199	GA	SPALDING CO	54,457	.	.	.	.	48	.
200	GA	WASHINGTON CO	19,112	.	.	.	.	74	.
201	HI	HAWAII CO	120,317	.	.	.	0.05	.	.
202	HI	HONOLULU CO	836,231	2.7	0.01	0.0044	0.056	45	23
203	HI	KAUAI CO	51,177	.	.	.	.	34	.
204	HI	MAUI CO	100,374	.	.	.	0.055	.	.
205	ID	ADA CO	205,775	6.4	.	.	.	95	.
206	ID	BANNOCK CO	66,026	.	.	0.0143	.	91	96
207	ID	BLAINE CO	13,552	.	.	.	.	38	.
208	ID	BONNER CO	26,622	.	.	.	.	79	.
209	ID	BONNEVILLE CO	72,207	.	.	.	.	51	.
210	ID	BUTTE CO	2,918	.	.	.	0.062	.	.
211	ID	CANYON CO	90,076	.	.	.	.	79	.
212	ID	CARIBOU CO	6,963	.	.	.	.	65	.
213	ID	KOOTENAI CO	69,795	.	.	.	.	70	.
214	ID	LEMHI CO	6,899	.	.	.	.	78	.
215	ID	LEWIS CO	3,516	.	.	.	.	81	.
216	ID	MADISON CO	23,674	.	.	.	.	72	.

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
217	ID	MINIDOKA CO	19,361	.	.	.	.	49	.
218	ID	NEZ PERCE CO	33,754	6.3	.	.	.	63	.
219	ID	SHOSHONE CO	13,931	.	0.18	.	.	112	.
220	ID	TWIN FALLS CO	53,580	.	.	.	.	58	.
221	IL	ADAMS CO	66,090	.	.	.	0.087	60	80
222	IL	CHAMPAIGN CO	173,025	.	.	.	0.095	50	28
223	IL	COLES CO	51,644	.	.	.	.	42	.
224	IL	COOK CO	5,105,067	5.1	0.99	0.0322	0.14	112	101
225	IL	DU PAGE CO	781,666	.	0.09	.	0.104	62	45
226	IL	EFFINGHAM CO	31,704	.	.	.	0.095	.	.
227	IL	JACKSON CO	61,067	.	.	.	.	53	.
228	IL	JERSEY CO	20,539	.	.	.	0.113	.	.
229	IL	KANE CO	317,471	.	.	.	0.117	.	.
230	IL	LAKE CO	516,418	.	.	0.008	0.116	.	.
231	IL	LA SALLE CO	106,913	.	.	.	.	107	.
232	IL	MC HENRY CO	183,241	.	.	.	0.113	.	.
233	IL	MACON CO	117,206	.	0.03	.	0.097	58	63
234	IL	MACOUPIN CO	47,679	0.8	0.01	.	0.106	42	28
235	IL	MADISON CO	249,238	4.3	5.18	.	0.134	106	218
236	IL	PEORIA CO	182,827	5.6	0.03	.	0.099	42	153
237	IL	RANDOLPH CO	34,583	.	.	.	0.108	142	117
238	IL	ROCK ISLAND CO	148,723	.	0.01	.	0.085	52	27
239	IL	ST CLAIR CO	262,852	.	0.1	0.0214	0.122	71	153
240	IL	SANGAMON CO	178,386	3.2	.	.	0.1	43	162
241	IL	TAZEWELL CO	123,692	.	.	.	.	52	287
242	IL	WABASH CO	13,111	.	.	.	.	.	138
243	IL	WILL CO	357,313	.	0.03	0.0066	0.119	64	47
244	IL	WINNEBAGO CO	252,913	4.5	0.03	.	0.104	45	.
245	IN	ALLEN CO	300,836	4.7	0.04	.	0.112	64	.
246	IN	CLARK CO	87,777	.	.	.	0.132	68	.
247	IN	DAVIESS CO	27,533	.	.	.	.	.	111
248	IN	DEARBORN CO	38,835	.	.	.	.	.	64
249	IN	DE KALB CO	35,324	.	0	.	.	101	.
250	IN	DELAWARE CO	119,659	.	1.2	.	.	.	.
251	IN	DUBOIS CO	36,616	.	.	.	.	63	.
252	IN	ELKHART CO	156,198	.	.	.	0.102	.	.
253	IN	FLOYD CO	64,404	.	.	.	0.115	.	102
254	IN	FOUNTAIN CO	17,808	.	.	.	.	.	128
255	IN	GIBSON CO	31,913	.	.	.	.	.	240
256	IN	HAMILTON CO	108,936	.	.	.	0.111	.	.
257	IN	HANCOCK CO	45,527	.	.	.	0.125	.	.
258	IN	JASPER CO	24,960	.	.	.	.	49	30
259	IN	JEFFERSON CO	29,797	.	.	.	.	.	71
260	IN	KOSCIUSKO CO	65,294	.	.	.	0.1	.	.
261	IN	LAKE CO	475,594	4	0.19	0.023	0.12	157	101
262	IN	LA PORTE CO	107,066	.	0.02	.	0.149	28	53
263	IN	MADISON CO	130,669	.	.	.	0.115	52	.
264	IN	MARION CO	797,159	4.2	0.94	0.0198	0.115	79	111
265	IN	MORGAN CO	55,920	.	.	.	.	.	54
266	IN	PIKE CO	12,509	.	.	.	.	.	125
267	IN	PORTER CO	128,932	.	.	.	0.123	86	51
268	IN	POSEY CO	25,968	.	.	.	.	.	89
269	IN	ST JOSEPH CO	247,052	3.2	.	0.0166	0.114	54	.
270	IN	SPENCER CO	19,490	.	.	0.0093	.	43	70
271	IN	SULLIVAN CO	18,993	.	.	.	.	.	60
272	IN	TIPPECANOE CO	130,598	1.4	.	0.0147	0.104	63	67
273	IN	VANDERBURGH CO	165,058	3.7	.	0.0122	0.114	71	120
274	IN	VERMILLION CO	16,773	.	.	.	.	63	.
275	IN	VIGO CO	106,107	2.9	.	.	0.099	68	92
276	IN	WARRICK CO	44,920	.	.	.	0.115	68	160
277	IN	WAYNE CO	71,951	.	.	.	.	.	92
278	IA	BLACK HAWK CO	123,798	.	.	.	.	71	.
279	IA	CERRO GORDO CO	46,733	.	.	.	.	136	.
280	IA	CLINTON CO	51,040	.	.	.	.	88	58
281	IA	DELAWARE CO	18,035	.	.	.	.	36	.
282	IA	DUBUQUE CO	86,403	.	.	.	.	.	71
283	IA	LEE CO	38,687	.	.	.	.	.	112
284	IA	LINN CO	168,767	2.6	.	.	0.075	62	116
285	IA	MUSCATINE CO	39,907	.	.	.	.	.	321
286	IA	POLK CO	327,140	5.7	.	.	0.087	97	.
287	IA	POTTAWATTAMIE CO	82,628	.	0.41	.	.	.	.
288	IA	SCOTT CO	150,979	.	.	.	0.101	157	57

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
289	IA	VAN BUREN CO	7,676	.	.	.	0.082	.	23
290	IA	WOODBURY CO	98,276	.	.	.	.	62	.
291	KS	CLOUD CO	11,023	.	0.01	.	.	57	.
292	KS	FORD CO	27,463	.	0.01	.	.	61	.
293	KS	GREELEY CO	1,774	.	0.01	.	.	64	.
294	KS	JOHNSON CO	355,054	.	0.01	.	.	56	.
295	KS	MORTON CO	3,480	.	0.01	.	.	38	.
296	KS	SEDGWICK CO	403,662	5.7	0.02	.	0.1	102	15
297	KS	SHAWNEE CO	160,976	.	0.01	.	.	65	.
298	KS	SHERMAN CO	6,926	0.4	0.01	.	0.08	57	3
299	KS	WYANDOTTE CO	161,993	3.9	0.03	0.0203	0.113	104	52
300	KY	BELL CO	31,506	4.2	.	.	0.092	65	.
301	KY	BOONE CO	57,589	.	.	.	0.108	.	.
302	KY	BOYD CO	51,150	3.8	.	0.0156	0.123	79	125
303	KY	BULLITT CO	47,567	.	.	0.0119	0.116	64	.
304	KY	CAMPBELL CO	83,866	.	.	0.0198	0.115	70	72
305	KY	CARTER CO	24,340	.	.	.	.	61	.
306	KY	CHRISTIAN CO	68,941	.	.	.	0.101	.	.
307	KY	DAVIESS CO	87,189	4.2	.	0.0125	0.109	79	73
308	KY	EDMONSON CO	10,357	.	.	.	0.085	.	.
309	KY	FAYETTE CO	225,366	3	.	0.017	0.108	62	42
310	KY	FLOYD CO	43,586	.	.	.	.	77	.
311	KY	GRAVES CO	33,550	.	.	.	0.089	.	.
312	KY	GREENUP CO	36,742	.	0.04	.	0.118	.	62
313	KY	HANCOCK CO	7,864	.	.	.	0.115	.	70
314	KY	HARDIN CO	89,240	.	.	.	0.117	48	.
315	KY	HARLAN CO	36,574	.	.	.	.	74	.
316	KY	HENDERSON CO	43,044	2.7	.	0.0172	0.108	79	78
317	KY	JEFFERSON CO	664,937	6.1	0.06	0.0217	0.119	70	105
318	KY	JESSAMINE CO	30,508	.	.	.	0.098	.	.
319	KY	KENTON CO	142,031	3.1	.	0.0219	0.114	67	.
320	KY	LAWRENCE CO	13,998	.	.	.	0.099	54	.
321	KY	LIVINGSTON CO	9,062	.	.	.	0.108	50	64
322	KY	MC CRACKEN CO	62,879	2.6	.	0.0117	0.099	60	52
323	KY	MC LEAN CO	9,628	.	.	.	0.107	.	.
324	KY	MADISON CO	57,508	.	.	.	.	68	.
325	KY	MARSHALL CO	27,205	.	.	.	.	57	.
326	KY	MUHLENBERG CO	31,318	.	.	.	.	.	91
327	KY	OLDHAM CO	33,263	.	.	.	0.108	.	.
328	KY	PERRY CO	30,283	.	.	.	0.092	69	33
329	KY	PIKE CO	72,583	.	.	.	0.125	67	.
330	KY	PULASKI CO	49,489	.	.	.	0.107	54	.
331	KY	SCOTT CO	23,867	.	.	.	0.107	.	.
332	KY	SIMPSON CO	15,145	.	.	0.0124	0.101	.	.
333	KY	TRIGG CO	10,361	.	.	.	.	73	.
334	KY	WARREN CO	76,673	.	.	.	.	51	.
335	KY	WHITLEY CO	33,326	.	.	.	.	71	.
336	KY	WOODFORD CO	19,955	.	0.06	.	.	.	.
337	LA	ASCENSION PAR	58,214	.	.	.	0.12	.	.
338	LA	BEAUREGARD PAR	30,083	.	.	0.0063	0.12	.	.
339	LA	BOSSIER PAR	86,088	.	.	.	0.092	52	10
340	LA	CADDO PAR	248,253	.	.	.	0.102	50	.
341	LA	CALCASIEU PAR	168,134	.	.	0.006	0.113	54	48
342	LA	EAST BATON ROUGE PAR	380,105	4	0.13	0.0178	0.134	42	45
343	LA	GRANT PAR	17,526	.	.	.	0.095	.	.
344	LA	IBERVILLE PAR	31,049	.	.	0.0102	0.133	58	.
345	LA	JACKSON PAR	15,705	.	.	.	.	40	.
346	LA	JEFFERSON PAR	448,306	.	.	0.0114	0.111	.	.
347	LA	LAFAYETTE PAR	164,762	.	.	.	0.109	47	.
348	LA	LAFOURCHE PAR	85,860	.	.	.	0.141	.	.
349	LA	LIVINGSTON PAR	70,526	.	.	0.0045	0.125	.	.
350	LA	ORLEANS PAR	496,938	4	0.03	0.0212	0.098	50	.
351	LA	OUACHITA PAR	142,191	.	.	.	0.095	111	18
352	LA	POINTE COUPEE PAR	22,540	.	.	0.0068	0.107	.	.
353	LA	RAPIDES PAR	131,556	.	.	.	.	45	.
354	LA	ST BERNARD PAR	66,631	.	.	.	0.093	.	58
355	LA	ST CHARLES PAR	42,437	.	.	.	0.115	66	.
356	LA	ST JAMES PAR	20,879	.	.	0.0123	0.127	.	.
357	LA	ST JOHN THE BAPTIST PAR	39,996	.	0.41	.	0.118	.	.
358	LA	ST MARY PAR	58,086	.	0.04	0.0107	0.104	.	.
359	LA	WEST BATON ROUGE PAR	19,419	.	0.04	0.0157	0.112	56	88
360	ME	ANDROSCOGGIN CO	105,259	.	.	.	.	46	68

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
361	ME	AROOSTOOK CO	86,936	.	.	.	.	65	130
362	ME	CUMBERLAND CO	243,135	.	.	0.005	0.116	86	57
363	ME	FRANKLIN CO	29,008	.	.	.	.	49	.
364	ME	HANCOCK CO	46,948	.	.	.	0.121	65	.
365	ME	KENNEBEC CO	115,904	.	.	.	0.091	83	.
366	ME	KNOX CO	36,310	.	.	.	0.123	55	.
367	ME	OXFORD CO	52,602	.	.	.	0.093	54	58
368	ME	PENOBSCOT CO	146,601	.	.	.	0.1	92	54
369	ME	PISCATAQUIS CO	18,653	.	.	.	0.087	.	.
370	ME	SAGADAHOC CO	33,535	.	.	.	0.139	.	.
371	ME	SOMERSET CO	49,767	.	.	.	0.088	34	.
372	ME	WASHINGTON CO	35,308	.	.	.	0.107	.	.
373	ME	YORK CO	164,587	.	.	0.008	0.129	33	.
374	MD	ALLEGANY CO	74,946	.	.	.	.	56	40
375	MD	ANNE ARUNDEL CO	427,239	.	.	0.0119	0.153	63	57
376	MD	BALTIMORE CO	692,134	3.2	.	0.022	0.137	46	.
377	MD	CARROLL CO	123,372	.	.	.	0.119	.	.
378	MD	CECIL CO	71,347	.	.	.	0.146	42	.
379	MD	CHARLES CO	101,154	.	.	.	0.112	.	.
380	MD	FREDERICK CO	150,208	.	.	.	.	59	.
381	MD	GARRETT CO	28,138	.	.	.	.	58	.
382	MD	HARFORD CO	182,132	.	.	0.0098	0.143	.	.
383	MD	KENT CO	17,842	.	.	.	0.122	.	.
384	MD	MONTGOMERY CO	757,027	3.4	.	.	0.121	57	.
385	MD	PRINCE GEORGES CO	729,268	6.3	.	.	0.124	51	.
386	MD	WASHINGTON CO	121,393	.	.	.	.	53	.
387	MD	WICOMICO CO	74,339	.	.	.	.	33	.
388	MD	BALTIMORE	736,014	5.8	0.03	0.0262	0.14	73	61
389	MA	BARNSTABLE CO	186,605	.	.	.	0.134	.	.
390	MA	BERKSHIRE CO	139,352	.	.	.	0.086	.	.
391	MA	BRISTOL CO	506,325	.	.	.	0.138	43	57
392	MA	ESSEX CO	670,080	.	0	0.0163	0.119	28	87
393	MA	HAMPDEN CO	456,310	8.4	0.01	0.0224	0.128	52	81
394	MA	HAMPSHIRE CO	146,568	.	.	0.0069	0.129	32	34
395	MA	MIDDLESEX CO	1,398,468	7.8	.	.	0.113	32	104
396	MA	NORFOLK CO	616,087	.	.	0.0215	.	29	.
397	MA	PLYMOUTH CO	435,276	.	.	.	0.104	.	.
398	MA	SUFFOLK CO	663,906	3.7	0.01	0.0305	0.106	58	85
399	MA	WORCESTER CO	709,705	4.2	.	0.0206	0.118	39	60
400	MI	ALLEGAN CO	90,509	.	.	0.0075	0.145	.	.
401	MI	ALPENA CO	30,605	.	0.01	.	.	74	.
402	MI	BENZIE CO	12,200	.	.	.	0.111	.	.
403	MI	BERRIEN CO	161,378	.	.	.	0.115	.	.
404	MI	CALHOUN CO	135,982	.	.	.	.	55	.
405	MI	CASS CO	49,477	.	.	.	0.11	.	.
406	MI	CLINTON CO	57,883	.	.	.	0.088	.	.
407	MI	DELTA CO	37,780	.	.	.	.	.	22
408	MI	GENESEE CO	430,459	.	0.01	.	0.097	46	43
409	MI	HURON CO	34,951	.	.	.	0.119	.	.
410	MI	INGHAM CO	281,912	.	.	.	0.104	.	.
411	MI	KALAMAZOO CO	223,411	1.7	0.01	0.014	0.108	53	38
412	MI	KENT CO	500,631	4.6	0.01	.	0.117	54	29
413	MI	LENAWEE CO	91,476	.	.	.	0.11	.	.
414	MI	MACOMB CO	717,400	4.2	.	0.0146	0.129	.	52
415	MI	MARQUETTE CO	70,887	.	.	.	.	42	.
416	MI	MASON CO	25,537	.	.	.	0.125	.	.
417	MI	MONROE CO	133,600	.	.	.	.	55	.
418	MI	MUSKEGON CO	158,983	.	0.01	.	0.142	.	.
419	MI	OAKLAND CO	1,083,592	4.1	.	.	0.125	.	.
420	MI	OTTAWA CO	187,768	.	.	.	0.116	.	.
421	MI	SAGINAW CO	211,946	.	.	.	.	26	.
422	MI	ST CLAIR CO	145,607	.	.	.	0.135	.	114
423	MI	VAN BUREN CO	70,060	.	0.01	0.0082	.	.	41
424	MI	WASHTENAW CO	282,937	.	.	.	0.113	.	.
425	MI	WAYNE CO	2,111,687	6.6	0.11	0.0216	0.114	159	125
426	MN	ANOKA CO	243,641	.	.	.	0.112	.	.
427	MN	CARLTON CO	29,259	.	.	.	.	42	.
428	MN	DAKOTA CO	275,227	1.2	.	0.0191	0.093	.	56
429	MN	HENNEPIN CO	1,032,431	5	.	.	.	57	.
430	MN	KOOCHICHING CO	16,299	.	.	.	0.085	29	15
431	MN	LAKE CO	10,415	.	.	.	0.069	.	.
432	MN	OLMSTED CO	106,470	.	.	.	.	49	.

Table A-11. Maximum Air Quality Concentrations by County, 1995 (continued)

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
433	MN	RAMSEY CO	485,765	7.4	.	.	.	88	.
434	MN	ST LOUIS CO	198,213	.	.	.	.	45	.
435	MN	STEARNS CO	118,791	4.3	.	.	.	.	.
436	MN	WASHINGTON CO	145,896	.	.	.	0.114	49	98
437	MS	ADAMS CO	35,356	.	.	.	0.092	.	.
438	MS	COAHOMA CO	31,665	.	.	.	.	46	.
439	MS	DE SOTO CO	67,910	.	.	.	0.108	.	.
440	MS	FRANKLIN CO	8,377	.	.	.	0.094	.	.
441	MS	HANCOCK CO	31,760	.	.	.	0.111	.	.
442	MS	HARRISON CO	165,365	.	.	.	.	.	63
443	MS	HINDS CO	254,441	4.4	0.09	.	0.09	68	19
444	MS	JACKSON CO	115,243	.	.	.	0.096	35	28
445	MS	JONES CO	62,031	.	.	.	.	46	.
446	MS	LAUDERDALE CO	75,555	.	.	.	0.091	.	.
447	MS	LEE CO	65,581	.	.	.	0.097	.	.
448	MS	MADISON CO	53,794	.	.	.	0.089	.	.
449	MS	SHARKEY CO	7,066	.	.	.	0.096	.	.
450	MS	WARREN CO	47,880	.	.	.	0.086	45	.
451	MS	WASHINGTON CO	67,935	.	.	.	.	57	.
452	MO	AUDRAIN CO	23,599	.	.	.	.	58	.
453	MO	BUCHANAN CO	83,083	.	.	.	.	101	112
454	MO	CHRISTIAN CO	32,644	.	.	.	.	140	.
455	MO	CLAY CO	153,411	3.8	.	0.0129	0.134	.	49
456	MO	COLE CO	63,579	.	.	.	.	44	.
457	MO	GREENE CO	207,949	4.1	.	0.0118	0.105	39	216
458	MO	HOLT CO	6,034	.	1.16	.	.	.	.
459	MO	IRON CO	10,726	.	8.1	.	.	.	198
460	MO	JACKSON CO	633,232	4.7	0.01	0.0173	0.087	77	61
461	MO	JEFFERSON CO	171,380	.	6.54	.	0.125	45	159
462	MO	MARION CO	27,682	.	.	.	.	51	.
463	MO	MONROE CO	9,104	.	.	.	0.094	38	29
464	MO	PLATTE CO	57,867	.	.	0.0091	0.122	.	29
465	MO	ST CHARLES CO	212,907	.	.	0.0112	0.136	58	58
466	MO	ST FRANCOIS CO	48,904	.	0.06	.	.	.	.
467	MO	ST LOUIS CO	993,529	3.6	0.03	0.022	0.117	67	61
468	MO	TANEY CO	25,561	2	.	.	.	.	.
469	MO	ST LOUIS	396,685	5	.	0.0262	0.123	88	89
470	MT	BIG HORN CO	11,337	.	.	.	.	61	.
471	MT	BROADWATER CO	3,318	.	.	.	.	59	39
472	MT	CASCADE CO	77,691	6.2	.	.	.	52	43
473	MT	FERGUS CO	12,083	.	.	.	.	25	.
474	MT	FLATHEAD CO	59,218	6.5	.	.	.	133	.
475	MT	GALLATIN CO	50,463	.	.	.	.	124	.
476	MT	GLACIER CO	12,121	.	.	.	.	37	.
477	MT	JEFFERSON CO	7,939	.	.	.	.	65	210
478	MT	LAKE CO	21,041	.	.	.	.	109	.
479	MT	LEWIS AND CLARK CO	47,495	.	5.37	.	.	91	108
480	MT	LINCOLN CO	17,481	.	.	.	.	89	.
481	MT	MADISON CO	5,989	.	.	.	.	29	.
482	MT	MISSOULA CO	78,687	6.6	.	.	.	81	.
483	MT	PARK CO	14,562	.	.	.	.	78	.
484	MT	PHILLIPS CO	5,163	.	.	.	.	40	.
485	MT	RAVALLI CO	25,010	.	.	.	.	74	.
486	MT	ROOSEVELT CO	10,999	.	.	.	.	35	.
487	MT	ROSEBUD CO	10,505	.	.	0.0054	.	99	36
488	MT	SANDERS CO	8,669	.	.	.	.	97	.
489	MT	SILVER BOW CO	33,941	.	.	.	.	84	.
490	MT	STILLWATER CO	6,536	.	.	.	.	26	.
491	MT	YELLOWSTONE CO	113,419	6.6	.	.	.	35	208
492	NE	ADAMS CO	29,625	.	.	.	.	53	.
493	NE	BUFFALO CO	37,447	.	.	.	.	83	.
494	NE	CASS CO	21,318	.	.	.	.	115	.
495	NE	DAWSON CO	19,940	.	.	.	.	100	.
496	NE	DODGE CO	34,500	.	0.08	.	.	.	.
497	NE	DOUGLAS CO	416,444	7.5	6.57	.	0.088	90	111
498	NE	GAGE CO	22,794	.	.	.	.	26	.
499	NE	HALL CO	48,925	.	.	.	.	31	.
500	NE	LANCASTER CO	213,641	6.2	.	.	0.07	54	.
501	NE	NEMAHA CO	7,980	.	.	.	.	46	.
502	NE	OTOE CO	14,252	.	.	.	.	58	.
503	NE	SARPY CO	102,583	.	.	.	.	52	.
504	NE	SCOTTS BLUFF CO	36,025	.	.	.	.	76	.

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
505	NV	CLARK CO	741,459	9.2	.	0.0274	0.091	177	.
506	NV	DOUGLAS CO	27,637	2.5	.	0.01	0.083	.	.
507	NV	WASHOE CO	254,667	6	.	.	0.083	94	.
508	NV	WHITE PINE CO	9,264	.	.	.	0.057	.	.
509	NH	CHESHIRE CO	70,121	.	.	.	0.082	60	67
510	NH	COOS CO	34,828	.	.	.	.	79	94
511	NH	HILLSBOROUGH CO	336,073	7.6	.	0.0132	0.111	36	81
512	NH	MERRIMACK CO	120,005	.	.	.	0.082	31	110
513	NH	ROCKINGHAM CO	245,845	.	.	0.0122	0.13	37	46
514	NH	STRAFFORD CO	104,233	.	.	.	.	37	.
515	NH	SULLIVAN CO	38,592	.	.	.	0.088	32	33
516	NJ	ATLANTIC CO	224,327	4.7	0.03	.	0.116	66	29
517	NJ	BERGEN CO	825,380	5	.	0.0287	0.122	78	78
518	NJ	BURLINGTON CO	395,066	4.4	.	.	.	.	70
519	NJ	CAMDEN CO	502,824	4	.	0.0239	0.138	66	75
520	NJ	CUMBERLAND CO	138,053	.	.	.	0.126	.	41
521	NJ	ESSEX CO	778,206	5.3	0.23	0.0314	0.114	77	74
522	NJ	GLOUCESTER CO	230,082	.	.	.	0.139	40	54
523	NJ	HUDSON CO	553,099	8.1	0.05	0.0259	0.125	87	77
524	NJ	HUNTERDON CO	107,776	.	.	.	0.115	.	.
525	NJ	MERCER CO	325,824	.	.	0.0157	0.132	45	.
526	NJ	MIDDLESEX CO	671,780	5.3	0.07	0.0186	0.15	51	46
527	NJ	MONMOUTH CO	553,124	3.6	.	.	0.147	.	.
528	NJ	MORRIS CO	421,353	5.1	.	0.0117	0.125	.	70
529	NJ	OCEAN CO	433,203	3.9	.	.	0.149	.	.
530	NJ	PASSAIC CO	453,060	.	0.03	.	.	71	.
531	NJ	SALEM CO	65,294	.	0.02	.	.	.	.
532	NJ	UNION CO	493,819	7.7	.	0.0387	0.108	69	66
533	NJ	WARREN CO	91,607	.	.	.	.	65	.
534	NM	BERNALILLO CO	480,577	7.6	.	0.0176	0.095	112	.
535	NM	CHAVES CO	57,849	.	.	.	.	65	.
536	NM	CIBOLA CO	23,794	.	.	.	.	36	.
537	NM	DONA ANA CO	135,510	4.4	0.1	0.0049	0.135	272	94
538	NM	EDDY CO	48,605	.	.	0.0057	.	.	17
539	NM	GRANT CO	27,676	.	.	.	.	66	42
540	NM	HIDALGO CO	5,958	.	.	.	.	28	70
541	NM	LEA CO	55,765	.	.	.	.	51	.
542	NM	LUNA CO	18,110	.	.	.	.	48	.
543	NM	MC KINLEY CO	60,686	.	.	.	.	36	.
544	NM	OTERO CO	51,928	.	.	.	.	22	.
545	NM	SANDOVAL CO	63,319	1.6	.	0.0102	0.1	51	.
546	NM	SAN JUAN CO	91,605	2.7	.	.	.	30	118
547	NM	SANTA FE CO	98,928	2.3	.	.	.	34	.
548	NM	TAOS CO	23,118	.	.	.	.	81	.
549	NM	VALENCIA CO	45,235	.	.	.	0.076	.	.
550	NY	ALBANY CO	292,594	.	0.04	0.0141	0.106	52	59
551	NY	BRONX CO	1,203,789	3.6	.	0.0357	0.12	66	138
552	NY	BROOME CO	212,160	.	.	.	.	43	.
553	NY	CHAUTAUQUA CO	141,895	.	.	.	0.104	48	114
554	NY	CHEMUNG CO	95,195	.	.	.	0.088	43	37
555	NY	DUTCHESS CO	259,462	.	.	.	0.115	.	.
556	NY	ERIE CO	968,532	3.1	0.04	0.0211	0.099	48	133
557	NY	ESSEX CO	37,152	.	.	.	0.103	28	21
558	NY	FRANKLIN CO	46,540	.	.	.	.	44	.
559	NY	GREENE CO	44,739	.	.	.	.	38	.
560	NY	HAMILTON CO	5,279	.	.	.	0.101	.	21
561	NY	HERKIMER CO	65,797	.	.	.	0.088	29	22
562	NY	JEFFERSON CO	110,943	.	.	.	0.113	.	.
563	NY	KINGS CO	2,300,664	7.9	0.13	0.0329	0.131	68	102
564	NY	MADISON CO	69,120	.	.	.	0.096	.	38
565	NY	MONROE CO	713,968	3.4	0.04	.	0.103	53	128
566	NY	NASSAU CO	1,287,348	5	.	0.0247	.	63	77
567	NY	NEW YORK CO	1,487,536	7.9	0.07	0.0417	.	93	123
568	NY	NIAGARA CO	220,756	2	0.02	.	0.106	47	133
569	NY	ONEIDA CO	250,836	.	.	.	0.095	42	.
570	NY	ONONDAGA CO	468,973	3.3	.	.	0.103	59	42
571	NY	ORANGE CO	307,647	.	0.11	.	0.115	.	.
572	NY	PUTNAM CO	83,941	.	.	.	0.127	41	39
573	NY	QUEENS CO	1,951,598	.	.	.	0.123	.	79
574	NY	RENSSELAER CO	154,429	.	.	.	.	44	19
575	NY	RICHMOND CO	378,977	.	0.03	.	0.125	65	64
576	NY	ROCKLAND CO	265,475	.	.	.	.	22	.

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
577	NY	SARATOGA CO	181,276	.	.	.	0.101	39	.
578	NY	SCHENECTADY CO	149,285	4.3	.	.	0.095	42	42
579	NY	STEUBEN CO	99,088	.	.	.	.	41	.
580	NY	SUFFOLK CO	1,321,864	.	.	.	0.146	53	75
581	NY	ULSTER CO	165,304	.	.	.	0.092	47	25
582	NY	WARREN CO	59,209	.	.	.	.	39	30
583	NY	WAYNE CO	89,123	.	.	.	0.111	.	.
584	NY	WESTCHESTER CO	874,866	.	0.03	.	0.124	50	.
585	NC	ALAMANCE CO	108,213	.	.	.	.	59	.
586	NC	ALEXANDER CO	27,544	.	.	.	.	48	13
587	NC	BEAUFORT CO	42,283	.	.	.	.	31	45
588	NC	BUNCOMBE CO	174,821	.	.	.	0.085	71	.
589	NC	CABARRUS CO	98,935	.	.	.	.	42	.
590	NC	CALDWELL CO	70,709	.	.	.	0.095	.	.
591	NC	CAMDEN CO	5,904	.	.	.	0.093	.	.
592	NC	CASWELL CO	20,693	0.3	.	0.006	0.108	.	.
593	NC	CATAWBA CO	118,412	.	.	.	.	51	.
594	NC	CHATHAM CO	38,759	0.4	.	0.004	0.102	43	20
595	NC	COLUMBUS CO	49,587	.	.	.	.	.	34
596	NC	CUMBERLAND CO	274,566	5.4	.	.	0.104	38	.
597	NC	DAVIDSON CO	126,677	.	.	.	.	56	.
598	NC	DAVIE CO	27,859	.	.	.	.	25	.
599	NC	DUPLIN CO	39,995	.	.	.	0.077	.	.
600	NC	DURHAM CO	181,835	5.4	.	0.011	0.101	51	.
601	NC	EDGECOMBE CO	56,558	.	.	.	.	48	.
602	NC	FORSYTH CO	265,878	6.2	.	0.0159	0.117	66	65
603	NC	FRANKLIN CO	36,414	0.6	.	0.007	0.091	.	.
604	NC	GASTON CO	175,093	4	.	.	.	.	.
605	NC	GRANVILLE CO	38,345	0.6	.	0.007	0.109	48	.
606	NC	GUILFORD CO	347,420	5.8	.	.	0.111	57	.
607	NC	HALIFAX CO	55,516	.	.	.	.	51	.
608	NC	HARNETT CO	67,822	.	.	.	.	53	.
609	NC	HAYWOOD CO	46,942	.	.	.	0.107	41	.
610	NC	HENDERSON CO	69,285	.	.	.	.	46	.
611	NC	JOHNSTON CO	81,306	.	.	.	0.104	.	.
612	NC	LINCOLN CO	50,319	0.9	.	0.011	0.106	41	42
613	NC	MC DOWELL CO	35,681	.	.	.	.	52	.
614	NC	MARTIN CO	25,078	.	.	.	0.089	.	19
615	NC	MECKLENBURG CO	511,433	5.4	.	0.0164	0.118	58	27
616	NC	MITCHELL CO	14,433	.	.	.	.	71	.
617	NC	NEW HANOVER CO	120,284	.	.	.	.	38	164
618	NC	NORTHAMPTON CO	20,798	.	.	.	0.101	.	25
619	NC	ONSLOW CO	149,838	.	.	.	.	38	.
620	NC	ORANGE CO	93,851	5.8	.	.	.	.	.
621	NC	PASQUOTANK CO	31,298	.	.	.	.	31	.
622	NC	PERSON CO	30,180	.	.	.	0.094	.	31
623	NC	PITT CO	107,924	.	.	.	0.098	35	.
624	NC	ROBESON CO	105,179	.	.	.	.	44	.
625	NC	ROCKINGHAM CO	86,064	.	.	0.009	0.088	.	.
626	NC	ROWAN CO	110,605	0.9	.	0.01	0.111	42	.
627	NC	SWAIN CO	11,268	.	.	.	0.077	43	15
628	NC	WAKE CO	423,380	6.6	.	0.016	0.108	45	.
629	NC	WATAUGA CO	36,952	.	.	.	.	34	.
630	NC	WAYNE CO	104,666	.	.	.	.	34	.
631	NC	WILSON CO	66,061	.	.	.	.	45	.
632	NC	YANCEY CO	15,419	.	.	.	0.111	.	.
633	ND	BILLINGS CO	1,108	.	.	.	.	.	18
634	ND	BURLEIGH CO	60,131	.	.	.	.	36	.
635	ND	CASS CO	102,874	.	.	0.0075	0.044	46	19
636	ND	DUNN CO	4,005	.	.	.	.	.	17
637	ND	GRAND FORKS CO	70,683	.	.	.	.	40	.
638	ND	MC KENZIE CO	6,383	.	.	.	0.062	.	15
639	ND	MERCER CO	9,808	.	.	0.0057	0.061	33	57
640	ND	MORTON CO	23,700	.	.	.	.	.	71
641	ND	OLIVER CO	2,381	.	.	0.0032	0.061	.	42
642	ND	STARK CO	22,832	.	.	.	.	31	.
643	ND	STEELE CO	2,420	.	.	0.0027	0.067	48	10
644	ND	WILLIAMS CO	21,129	.	.	.	.	33	30
645	OH	ADAMS CO	25,371	0.3	.	0.0069	.	.	67
646	OH	ALLEN CO	109,755	.	.	.	0.106	47	40
647	OH	ASHTABULA CO	99,821	.	.	.	0.104	.	51
648	OH	ATHENS CO	59,549	.	.	.	.	46	.
649	OH	BELMONT CO	71,074	.	.	.	.	78	111

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
650	OH	BUTLER CO	291,479	.	0.1	.	0.133	99	52
651	OH	CLARK CO	147,548	.	.	.	0.123	.	44
652	OH	CLERMONT CO	150,187	.	.	.	0.116	.	62
653	OH	CLINTON CO	35,415	.	.	.	0.121	.	.
654	OH	COLUMBIANA CO	108,276	.	.	0.0196	.	88	104
655	OH	CUYAHOGA CO	1,412,140	8.2	1.63	0.0273	0.112	173	94
656	OH	FRANKLIN CO	961,437	4.9	0.14	.	0.108	83	51
657	OH	FULTON CO	38,498	.	0.43	.	.	.	.
658	OH	GREENE CO	136,731	.	.	.	.	51	.
659	OH	HAMILTON CO	866,228	4	0.06	0.0243	0.123	82	69
660	OH	HANCOCK CO	65,536	.	.	.	.	44	.
661	OH	JEFFERSON CO	80,298	5.7	.	0.02	0.115	111	150
662	OH	KNOX CO	47,473	.	.	.	0.104	.	.
663	OH	LAKE CO	215,499	2.1	.	.	0.118	50	131
664	OH	LAWRENCE CO	61,834	.	.	.	0.11	57	71
665	OH	LICKING CO	128,300	.	.	.	0.116	.	.
666	OH	LOGAN CO	42,310	.	0.44	.	0.109	.	.
667	OH	LORAIN CO	271,126	.	.	.	0.106	67	52
668	OH	LUCAS CO	462,361	3.1	.	.	0.111	68	66
669	OH	MADISON CO	37,068	.	.	.	0.113	.	.
670	OH	MAHONING CO	264,806	.	.	.	0.11	130	95
671	OH	MEDINA CO	122,354	.	.	.	0.114	.	.
672	OH	MEIGS CO	22,987	.	.	.	.	.	119
673	OH	MIAMI CO	93,182	.	.	.	0.102	.	.
674	OH	MONROE CO	15,497	.	.	.	.	57	.
675	OH	MONTGOMERY CO	573,809	3.7	0.05	.	0.109	64	40
676	OH	MORGAN CO	14,194	.	.	.	.	.	131
677	OH	NOBLE CO	11,336	.	.	.	.	58	.
678	OH	OTTAWA CO	40,029	.	.	.	.	45	.
679	OH	PORTAGE CO	142,585	.	.	.	0.115	.	.
680	OH	PREBLE CO	40,113	.	.	.	0.099	.	.
681	OH	RICHLAND CO	126,137	.	.	.	.	61	.
682	OH	SANDUSKY CO	61,963	.	.	.	.	74	.
683	OH	SCIOTO CO	80,327	0.4	.	0.0077	.	65	59
684	OH	SENECA CO	59,733	.	.	.	.	81	.
685	OH	STARK CO	367,585	3	.	.	0.12	66	85
686	OH	SUMMIT CO	514,990	3.7	0.03	.	0.119	71	120
687	OH	TRUMBULL CO	227,813	.	.	.	0.113	64	.
688	OH	TUSCARAWAS CO	84,090	.	.	.	.	.	130
689	OH	WARREN CO	113,909	.	.	.	0.128	.	.
690	OH	WASHINGTON CO	62,254	.	.	.	0.111	.	.
691	OH	WYANDOT CO	22,254	.	.	.	.	65	.
692	OK	CARTER CO	42,919	.	.	.	.	56	.
693	OK	CLEVELAND CO	174,253	2.8	.	0.0117	0.109	77	.
694	OK	COMANCHE CO	111,486	3.1	.	0.008	0.092	52	.
695	OK	GARVIN CO	26,605	.	.	.	.	.	42
696	OK	KAY CO	48,056	.	.	.	.	50	59
697	OK	MC CLAIN CO	22,795	.	.	.	0.109	.	.
698	OK	MAYES CO	33,366	.	.	.	.	57	.
699	OK	MUSKOGEE CO	68,078	.	.	0.0072	.	62	49
700	OK	OKLAHOMA CO	599,611	7.3	0.02	0.0138	0.12	48	17
701	OK	TULSA CO	503,341	4.4	0.09	0.0158	0.121	70	117
702	OK	WOODWARD CO	18,976	.	.	.	.	45	.
703	OR	CLACKAMAS CO	278,850	.	.	.	0.106	24	.
704	OR	COLUMBIA CO	37,557	.	.	.	0.081	.	.
705	OR	DESCHUTES CO	74,958	5.2	.	.	.	82	.
706	OR	DOUGLAS CO	94,649	.	.	.	.	36	.
707	OR	JACKSON CO	146,389	6	0.02	.	0.091	76	.
708	OR	JOSEPHINE CO	62,649	6.3	.	.	.	62	.
709	OR	KLAMATH CO	57,702	4.1	.	.	.	66	.
710	OR	LAKE CO	7,186	.	.	.	.	81	.
711	OR	LANE CO	282,912	5.4	0.02	.	0.087	135	.
712	OR	MARION CO	228,483	5.5	.	.	.	.	.
713	OR	MULTNOMAH CO	583,887	7	0.04	0.0152	.	58	30
714	OR	UMATILLA CO	59,249	.	.	.	.	72	.
715	OR	UNION CO	23,598	.	.	.	.	98	.
716	OR	YAMHILL CO	65,551	.	0.28	.	.	.	.
717	PA	ALLEGHENY CO	1,336,449	5.9	0.1	0.0319	0.138	193	223
718	PA	BEAVER CO	186,093	2.5	0	0.0183	0.106	56	209
719	PA	BERKS CO	336,523	3.9	0.73	0.021	0.116	54	87
720	PA	BLAIR CO	130,542	1.7	.	0.0128	0.112	70	97
721	PA	BUCKS CO	541,174	5	0.04	0.0203	0.137	75	91

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
722	PA	CAMBRIA CO	163,029	3.5	0.06	0.0154	0.101	61	110
723	PA	CARBON CO	56,846	.	0.07	.	.	.	.
724	PA	CHESTER CO	376,396	.	.	.	.	83	.
725	PA	DAUPHIN CO	237,813	2.6	0.04	0.02	0.113	67	52
726	PA	DELAWARE CO	547,651	.	0.05	0.02	0.126	105	100
727	PA	ERIE CO	275,572	3.2	.	0.0148	0.105	94	131
728	PA	LACKAWANNA CO	219,039	2.6	.	0.0177	0.11	76	118
729	PA	LANCASTER CO	422,822	2.4	0.04	0.0157	0.124	73	48
730	PA	LAWRENCE CO	96,246	4.3	.	0.019	0.101	104	84
731	PA	LEHIGH CO	291,130	4.8	.	0.0182	0.109	56	74
732	PA	LUZERNE CO	328,149	3	.	0.0144	0.105	65	70
733	PA	LYCOMING CO	118,710	.	.	.	0.091	59	71
734	PA	MERCER CO	121,003	.	0.05	.	0.113	72	84
735	PA	MONTGOMERY CO	678,111	4.1	0.04	0.02	0.114	57	65
736	PA	NORTHAMPTON CO	247,105	4.6	0.04	0.0225	0.116	70	71
737	PA	PERRY CO	41,172	.	.	0.0071	0.103	59	37
738	PA	PHILADELPHIA CO	1,585,577	5.6	10.19	0.0318	0.13	295	105
739	PA	SCHUYLKILL CO	152,585	1.8	.	.	.	.	85
740	PA	WARREN CO	45,050	.	.	.	.	.	68
741	PA	WASHINGTON CO	204,584	2.8	.	0.0173	0.116	74	117
742	PA	WESTMORELAND CO	370,321	.	0.06	.	0.127	72	.
743	PA	YORK CO	339,574	2.7	0.04	0.0211	0.097	66	51
744	RI	KENT CO	161,135	.	.	0.004	0.136	37	.
745	RI	PROVIDENCE CO	596,270	7	.	0.0224	0.131	76	73
746	SC	ABBEVILLE CO	23,862	.	.	.	0.096	.	.
747	SC	AIKEN CO	120,940	.	0.01	.	0.091	40	.
748	SC	ANDERSON CO	145,196	.	0.01	.	0.115	38	.
749	SC	BARNWELL CO	20,293	.	.	.	0.085	34	.
750	SC	BERKELEY CO	128,776	.	.	.	0.087	.	.
751	SC	CHARLESTON CO	295,039	6.4	0.01	0.0111	0.092	55	51
752	SC	CHEROKEE CO	44,506	.	.	.	0.106	.	.
753	SC	CHESTER CO	32,170	.	.	.	0.116	.	.
754	SC	DARLINGTON CO	61,851	.	.	.	0.089	.	.
755	SC	DILLON CO	29,114	.	0.02	.	.	.	.
756	SC	EDGEFIELD CO	18,375	.	.	.	0.092	.	.
757	SC	FAIRFIELD CO	22,295	.	.	.	.	47	.
758	SC	GEORGETOWN CO	46,302	.	0.01	.	.	85	43
759	SC	GREENVILLE CO	320,167	5.3	0.03	0.0174	.	94	18
760	SC	GREENWOOD CO	59,567	.	0.02	.	.	.	.
761	SC	LEXINGTON CO	167,611	.	.	.	.	137	38
762	SC	OCONEE CO	57,494	.	.	.	0.093	.	10
763	SC	PICKENS CO	93,894	.	.	.	0.107	.	.
764	SC	RICHLAND CO	285,720	4	0.01	0.0128	0.105	96	19
765	SC	SPARTANBURG CO	226,800	.	0.01	.	0.12	43	.
766	SC	UNION CO	30,337	.	.	.	0.098	.	.
767	SC	WILLIAMSBURG CO	36,815	.	.	.	0.082	.	.
768	SC	YORK CO	131,497	.	0.01	.	0.117	45	.
769	SD	BROOKINGS CO	25,207	.	.	.	.	63	.
770	SD	MINNEHAHA CO	123,809	.	.	.	.	54	.
771	SD	PENNINGTON CO	81,343	.	.	.	.	115	.
772	TN	ANDERSON CO	68,250	.	.	.	0.113	.	57
773	TN	BENTON CO	14,524	.	.	.	.	23	.
774	TN	BLOUNT CO	85,969	.	.	.	0.124	48	139
775	TN	BRADLEY CO	73,712	.	.	0.0148	.	48	85
776	TN	COFFEE CO	40,339	.	.	.	0.105	57	29
777	TN	DAVIDSON CO	510,784	7.3	0.09	0.0144	0.11	70	53
778	TN	DICKSON CO	35,061	.	0.02	.	0.12	56	21
779	TN	DYER CO	34,854	.	.	.	0.112	.	.
780	TN	FAYETTE CO	25,559	.	0.05	.	.	.	.
781	TN	GILES CO	25,741	.	.	.	.	23	.
782	TN	HAMBLEN CO	50,480	.	.	.	.	12	49
783	TN	HAMILTON CO	285,536	.	.	.	0.113	59	.
784	TN	HARDIN CO	22,633	.	.	.	.	.	48
785	TN	HAWKINS CO	44,565	.	.	.	.	.	107
786	TN	HAYWOOD CO	19,437	.	.	.	0.097	.	.
787	TN	HENRY CO	27,888	.	.	.	.	83	.
788	TN	HOUSTON CO	7,018	.	.	.	.	.	43
789	TN	HUMPHREYS CO	15,795	.	.	.	.	.	63
790	TN	JEFFERSON CO	33,016	.	.	.	0.123	.	.
791	TN	KNOX CO	335,749	4.1	.	.	0.12	64	.
792	TN	MC MINN CO	42,383	.	.	0.0131	.	65	68
793	TN	MADISON CO	77,982	.	.	0.0172	0.062	51	62

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO_2 24-hr (ugm)
794	TN	MAURY CO	54,812	.	.	.	.	60	.
795	TN	MONTGOMERY CO	100,498	2.1	.	0.0095	.	64	65
796	TN	POLK CO	13,643	.	.	.	.	.	170
797	TN	PUTNAM CO	51,373	.	.	.	0.091	51	22
798	TN	ROANE CO	47,227	.	0.19	.	.	58	53
799	TN	RUTHERFORD CO	118,570	.	.	.	0.085	.	.
800	TN	SEVIER CO	51,043	.	.	.	0.091	.	.
801	TN	SHELBY CO	826,330	6.6	1.53	0.0272	0.136	72	50
802	TN	STEWART CO	9,479	.	.	.	.	.	31
803	TN	SULLIVAN CO	143,596	3	0.18	0.0177	0.114	59	99
804	TN	SUMNER CO	103,281	.	.	.	0.124	.	76
805	TN	WASHINGTON CO	92,315	.	.	.	.	56	.
806	TN	WILLIAMSON CO	81,021	.	3.1	0.0033	0.105	.	15
807	TN	WILSON CO	67,675	.	.	.	0.104	.	78
808	TX	BELL CO	191,088	.	.	.	.	42	.
809	TX	BEXAR CO	1,185,394	4.3	0.03	.	0.121	42	.
810	TX	BRAZORIA CO	191,707	.	.	.	0.148	.	.
811	TX	BREWSTER CO	8,681	.	.	.	0.058	.	.
812	TX	CAMERON CO	260,120	2.6	.	.	0.084	49	7
813	TX	COLLIN CO	264,036	.	0.69	.	0.132	73	.
814	TX	DALLAS CO	1,852,810	5.9	0.19	0.0233	0.144	75	22
815	TX	DENTON CO	273,525	.	.	.	0.145	.	.
816	TX	ECTOR CO	118,934	.	.	.	.	38	.
817	TX	ELLIS CO	85,167	.	0.44	.	.	81	81
818	TX	EL PASO CO	591,610	7.9	0.19	0.0344	0.126	138	142
819	TX	GALVESTON CO	217,399	.	0.03	.	0.198	78	233
820	TX	GREGG CO	104,948	.	.	.	0.145	.	.
821	TX	HARRIS CO	2,818,199	5.2	0.02	0.0255	0.2	92	138
822	TX	JEFFERSON CO	239,397	1.7	0.02	0.01	0.149	56	80
823	TX	KAUFMAN CO	52,220	.	0.04	.	.	.	.
824	TX	LUBBOCK CO	222,636	.	.	.	.	149	.
825	TX	NUECES CO	291,145	.	.	.	0.128	56	58
826	TX	ORANGE CO	80,509	.	.	0.0103	0.12	.	.
827	TX	POTTER CO	97,874	.	.	.	.	35	.
828	TX	SMITH CO	151,309	.	.	.	0.111	51	.
829	TX	TARRANT CO	1,170,103	3.3	0.04	0.02	0.143	60	11
830	TX	TRAVIS CO	576,407	3.5	.	0.0211	0.105	41	.
831	TX	VICTORIA CO	74,361	.	.	.	0.104	.	.
832	TX	WEBB CO	133,239	.	.	.	.	55	.
833	TX	WICHITA CO	122,378	.	.	.	.	57	.
834	UT	CACHE CO	70,183	3.9	.	.	0.072	48	.
835	UT	DAVIS CO	187,941	3.2	.	0.0197	0.115	48	29
836	UT	GRAND CO	6,620	.	.	.	.	62	.
837	UT	IRON CO	20,789	.	.	.	.	34	.
838	UT	SALT LAKE CO	725,956	5.5	0.06	0.0225	0.115	129	89
839	UT	SAN JUAN CO	12,621	.	.	.	0.068	.	.
840	UT	TOOELE CO	26,601	.	.	.	.	50	7
841	UT	UTAH CO	263,590	7.1	.	0.0225	0.095	103	.
842	UT	WASHINGTON CO	48,560	3	.	.	0.077	73	.
843	UT	WEBER CO	158,330	6.7	.	0.0242	0.101	93	.
844	VT	BENNINGTON CO	35,845	.	.	.	0.089	39	.
845	VT	CHITTENDEN CO	131,761	2.5	.	0.0168	0.085	45	16
846	VT	RUTLAND CO	62,142	4.6	.	0.0132	.	45	73
847	VT	WASHINGTON CO	54,928	.	.	.	.	42	.
848	VT	WINDHAM CO	41,588	.	.	.	.	40	.
849	VA	ARLINGTON CO	170,936	4.6	.	0.023	0.118	51	.
850	VA	CAROLINE CO	19,217	.	.	0.0065	0.098	.	.
851	VA	CARROLL CO	26,594	.	.	.	.	53	.
852	VA	CHARLES CITY CO	6,282	.	.	0.0112	0.106	.	61
853	VA	CHESTERFIELD CO	209,274	.	.	.	0.124	54	.
854	VA	CULPEPER CO	27,791	.	.	.	.	51	.
855	VA	FAIRFAX CO	818,584	4.3	0.03	0.0233	0.132	50	57
856	VA	FAUQUIER CO	48,741	.	.	.	0.096	.	.
857	VA	FREDERICK CO	45,723	.	.	.	0.098	.	.
858	VA	HANOVER CO	63,306	.	.	.	0.12	.	.
859	VA	HENRICO CO	217,881	.	.	.	0.108	50	.
860	VA	HENRY CO	56,942	.	.	.	0.093	.	.
861	VA	ISLE OF WIGHT CO	25,053	.	.	.	.	26	.
862	VA	KING WILLIAM CO	10,913	.	.	.	.	46	.
863	VA	LOUDOUN CO	86,129	.	.	.	.	45	.
864	VA	NORTHUMBERLAND CO	10,524	.	.	.	.	44	.
865	VA	PRINCE WILLIAM CO	215,686	.	.	0.0109	0.126	49	.

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO$_2$ AM (ppm)	O$_3$ 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO$_2$ 24-hr (ugm)
866	VA	ROANOKE CO	79,332	.	.	0.0127	0.093	.	27
867	VA	SMYTH CO	32,370	.	.	.	.	56	.
868	VA	STAFFORD CO	61,236	.	.	.	0.111	.	.
869	VA	TAZEWELL CO	45,960	.	.	.	.	47	.
870	VA	WARREN CO	26,142	.	.	.	.	47	.
871	VA	WISE CO	39,573	.	.	.	.	49	.
872	VA	WYTHE CO	25,466	.	.	.	0.095	.	.
873	VA	YORK CO	42,422	.	.	.	.	27	.
874	VA	ALEXANDRIA	111,183	3.8	.	0.0256	0.115	52	49
875	VA	BRISTOL	18,426	.	.	.	.	56	.
876	VA	CHARLOTTESVILLE	40,341	.	.	.	.	53	.
877	VA	CHESAPEAKE	151,976	.	0.02	.	.	39	.
878	VA	COVINGTON	6,991	.	.	.	.	50	.
879	VA	FREDERICKSBURG	19,027	.	.	.	.	52	.
880	VA	HAMPTON	133,793	.	.	.	0.099	39	41
881	VA	LYNCHBURG	66,049	.	.	.	.	54	.
882	VA	MARTINSVILLE	16,162	.	.	.	.	56	.
883	VA	NEWPORT NEWS	170,045	3.4	.	.	.	.	.
884	VA	NORFOLK	261,229	5.1	0.03	0.0178	.	43	73
885	VA	RICHMOND	203,056	2.8	.	0.0222	.	55	41
886	VA	ROANOKE	96,397	5.2	.	.	.	88	.
887	VA	SUFFOLK	52,141	.	.	.	0.113	40	.
888	VA	WINCHESTER	21,947	.	.	.	.	46	.
889	WA	ADAMS CO	13,603	.	.	.	.	34	.
890	WA	ASOTIN CO	17,605	.	.	.	.	65	.
891	WA	BENTON CO	112,560	.	.	.	.	64	.
892	WA	CHELAN CO	52,250	.	.	.	.	44	.
893	WA	CLALLAM CO	56,464	.	.	.	0.072	39	228
894	WA	CLARK CO	238,053	6.3	.	.	0.108	35	.
895	WA	COWLITZ CO	82,119	.	.	.	.	46	.
896	WA	GRAYS HARBOR CO	64,175	.	.	.	.	18	.
897	WA	KING CO	1,507,319	6.5	0.51	0.019	0.099	117	53
898	WA	KITSAP CO	189,731	5	.	.	.	65	.
899	WA	PIERCE CO	586,203	6.3	.	.	0.089	94	53
900	WA	SKAGIT CO	79,555	.	.	.	.	.	73
901	WA	SNOHOMISH CO	465,642	6.5	.	.	0.079	88	36
902	WA	SPOKANE CO	361,364	11.2	.	.	0.08	103	.
903	WA	THURSTON CO	161,238	5.5	.	.	.	65	.
904	WA	WALLA WALLA CO	48,439	.	.	.	.	91	.
905	WA	WHATCOM CO	127,780	.	.	.	0.079	43	48
906	WA	YAKIMA CO	188,823	7.1	.	.	.	72	.
907	WV	BERKELEY CO	59,253	.	0.02	.	.	.	.
908	WV	BROOKE CO	26,992	.	.	.	.	77	116
909	WV	CABELL CO	96,827	.	0.04	.	0.122	.	51
910	WV	FAYETTE CO	47,952	.	.	.	.	57	.
911	WV	GREENBRIER CO	34,693	.	.	0.005	0.104	.	34
912	WV	HANCOCK CO	35,233	6.7	0.05	.	0.108	161	342
913	WV	HARRISON CO	69,371	.	0.01	.	.	.	.
914	WV	KANAWHA CO	207,619	2.4	0.02	0.0202	0.111	55	66
915	WV	MARION CO	57,249	.	0.03	.	.	.	.
916	WV	MARSHALL CO	37,356	.	.	.	.	.	196
917	WV	MONONGALIA CO	75,509	.	0.02	.	.	56	108
918	WV	OHIO CO	50,871	5	.	.	0.104	62	122
919	WV	PUTNAM CO	42,835	.	.	.	.	57	.
920	WV	WAYNE CO	41,636	.	.	.	.	53	152
921	WV	WOOD CO	86,915	.	0.02	.	0.122	56	107
922	WI	BROWN CO	194,594	.	.	.	0.112	.	46
923	WI	COLUMBIA CO	45,088	.	.	.	0.105	.	.
924	WI	DANE CO	367,085	4.6	.	.	0.1	55	48
925	WI	DODGE CO	76,559	.	.	.	0.088	.	.
926	WI	DOOR CO	25,690	.	.	.	0.121	.	.
927	WI	DOUGLAS CO	41,758	.	.	.	.	50	.
928	WI	FLORENCE CO	4,590	.	.	.	0.078	.	.
929	WI	FOND DU LAC CO	90,083	.	.	.	0.091	.	.
930	WI	JEFFERSON CO	67,783	.	.	.	0.098	.	.
931	WI	KENOSHA CO	128,181	.	.	.	0.127	.	.
932	WI	KEWAUNEE CO	18,878	.	.	.	0.12	.	.
933	WI	MANITOWOC CO	80,421	.	.	0.0035	0.122	.	.
934	WI	MARATHON CO	115,400	.	.	.	0.088	82	58
935	WI	MILWAUKEE CO	959,275	3.9	0.05	0.0239	0.126	59	65
936	WI	ONEIDA CO	31,679	.	.	.	0.076	.	153
937	WI	OUTAGAMIE CO	140,510	.	.	.	0.105	.	.

Table A-11. *Maximum Air Quality Concentrations by County, 1995 (continued)*

	State	County	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO$_2$ AM (ppm)	O$_3$ 2nd MAX (ppm)	PM-10 2nd MAX (ugm)	SO$_2$ 24-hr (ugm)
938	WI	OZAUKEE CO	72,831	.	.	0.0085	0.126	.	.
939	WI	POLK CO	34,773	1.1	.	.	0.096	.	.
940	WI	RACINE CO	175,034	4.3	.	.	0.113	.	.
941	WI	ROCK CO	139,510	.	.	.	0.103	.	.
942	WI	ST CROIX CO	50,251	.	.	.	0.09	.	12
943	WI	SAUK CO	46,975	.	.	.	0.102	.	.
944	WI	SHEBOYGAN CO	103,877	.	.	.	0.122	.	.
945	WI	VERNON CO	25,617	.	.	.	0.085	41	.
946	WI	VILAS CO	17,707	.	.	.	.	29	.
947	WI	WALWORTH CO	75,000	.	.	.	0.1	.	.
948	WI	WASHINGTON CO	95,328	.	.	.	0.099	.	.
949	WI	WAUKESHA CO	304,715	2.9	.	.	0.102	72	.
950	WI	WINNEBAGO CO	140,320	.	.	.	0.098	.	.
951	WY	ALBANY CO	30,797	.	.	.	.	53	.
952	WY	CAMPBELL CO	29,370	.	.	.	.	112	.
953	WY	FREMONT CO	33,662	.	.	.	.	94	.
954	WY	LARAMIE CO	73,142	.	.	.	.	36	.
955	WY	NATRONA CO	61,226	.	.	.	.	42	.
956	WY	PARK CO	23,178	.	.	.	.	36	.
957	WY	SHERIDAN CO	23,562	.	.	.	.	124	.
958	WY	SWEETWATER CO	38,823	.	.	.	.	82	.
959	WY	TETON CO	11,172	.	.	.	0.065	77	.

CO = Highest second maximum non-overlapping 8-hour concentration *(Applicable NAAQS is 9 ppm)*
Pb = Highest quarterly maximum concentration *(Applicable NAAQS is 1.5 ug/m^3)*
NO$_2$ = Highest arithmetic mean concentration *(Applicable NAAQS is 0.053 ppm)*
O$_3$ = Highest second daily maximum 1-hour concentration *(Applicable NAAQS is 0.12 ppm)*
PM-10 = Highest second maximum 24-hour concentration *(Applicable NAAQS is 150 ug/m^3)*
Data from exceptional events not included.
SO$_2$ = Highest second maximum 24-hour concentration *(Applicable NAAQS is 365 ug/m^3)*
WTD = Weighted
AM = Annual mean
UGM = Units are micrograms per cubic meter
PPM = Units are parts per million

Note: The reader is cautioned that this summary is not adequate in itself to numerically rank MSAs according to their air quality. The monitoring data represent the quality of air in the vicinity of the monitoring site but may not necessarily represent urban-wide air quality.

Table A-12. *Operating Surface PAMS Sites – Ozone Summary, 1995*

		1994		1995			
	Site	Total	Absolute	# Exceedances		Absolute Max	
Area – Site	**Type**	**Exceed.**	**Max. (ppb)**	**All months**	**Summer**	**All mo. (ppb)**	**Occurred**
Atlanta – Conyers	3	0	124	5	4	166	M7 D15 H17
Atlanta – South DeKalb	2	0	122	8	8	171	M8 D18 H13
Atlanta – Tucker	2	(ND)	(ND)	3	3	149	M8 D18 H16
Atlanta – Sites reporting both years		0		13			
Baltimore – Aldino	3	5	141	7	7	179	M7 D15 H15
Baltimore – Essex	2	0	120	4	4	137	M6 D19 H17
Baltimore – Fort Meade	1	5	163	4	4	174	M7 D15 H14
Baltimore – Lums Pond	4	2	134	5	5	184	M7 D15 H17
Baltimore – Morgan State	2	(ND)	(ND)	6	6	156	M6 D20 H16
Baltimore – Sites reporting both years		12		20			
Baton Rouge – Bayou Plaquemine	1/3	0	123	2	2	130	M7 D28 H11
Baton Rouge – Capitol	2	2	143	2	2	143	M6 D27 H13
Baton Rouge – New Pride	1/3	(ND)	(ND)	1	0	148	M7 D16 H14
Baton Rouge – Pride	1/3	0	97	0	0	96	M5 D23 H15
Baton Rouge – Sites reporting both years		2		4			
Beaumont – Pt. Arthur	2	0	105	5	2	155	M4 D12 H13
Beaumont – Sites reporting both years		0		5			
Boston – Arcadia National Park	4	(ND)	(ND)	1	1	134	M8 D 1 H19
Boston – Borderland	1	(ND)	(ND)	0	0	89	M8 D31 H14
Boston – Lynn	2	1	130	1	1	125	M8 D 1 H21
Boston – Newbury	3	0	101	1	1	125	M8 D10 H16
Boston – Sites reporting both years		1		2			
Connecticut – Cape Eliz., ME	4	1	148	1	1	161	M8 D 1 H16
Connecticut – E. Hartford	2	2	169	2	2	138	M7 D13 H16
Connecticut – Stafford	3	1	129	2	2	131	M6 D30 H17
Connecticut – Sites reporting both years		4		5			
El Paso – Ascarte Park	1	5	153	1	1	134	M7 D27 H12
El Paso – Chamizal	2	0	120	3	0	126	M9 D 6 H11
El Paso – N. Campbell	2	2	131	1	0	130	M9 D 6 H11
El Paso – UTEP	3	1	152	0	0	120	M9 D 6 H11
El Paso – Sites reporting both years		8		5			
Houston – Aldine	1	12	172	11	9	189	M6 D 1 H17
Houston – Clinton Dr.	2	4	150	14	6	187	M9 D 7 H13
Houston – Deer Park	2	6	169	18	14	218	M9 D 3 H13
Houston – NW Harris	4	14	173	9	3	165	M6 D27 H14
Houston – Sites reporting both years		36		52			
Lake Michigan – Braidwood	1	(ND)	(ND)	0	0	116	M6 D23 H15
Lake Michigan – Camp Logan	4	1	132	0	0	114	M7 D30 H17
Lake Michigan – Chicago–Jardine	2	(ND)	(ND)	2	2	143	M8 D12 H16
Lake Michigan – Gary	2	(ND)	(ND)	0	0	116	M7 D14 H13
Lake Michigan – Harrington Beach	3	1	175	2	2	143	M7 D31 H15
Lake Michigan – Holland	3	0	121	4	4	178	M7 D13 H15
Lake Michigan – Manitowoc	4	2	163	1	1	126	M7 D31 H16
Lake Michigan – Milwaukee	2	2	148	0	0	124	M7 D30 H17
Lake Michigan – Sites reporting both years		5		7			
New York – Bronx Botanical G	2	(ND)	(ND)	1	1	131	M7 D14 H14
New York – New Brunswick	1	0	63	5	5	150	M7 D27 H15
New York – Sites reporting both years		0		5			
Philadelphia – East Lycoming	2	0	110	0	0	120	M7 D15 H13
Philadelphia – Lums Pond	1	2	134	5	5	184	M7 D15 H17

Table A-12. *Operating Surface PAMS Sites – Ozone Summary, 1995 (continued)*

		1994		1995			
	Site	Total	Absolute	# Exceedances		Absolute Max	
Area – Site	Type	Exceed.	Max. (ppb)	All months	Summer	All mo. (ppb)	Occurred
Philadelphia – New Brunswick	4	0	63	5	5	150	M7 D27 H15
Philadelphia – Rider College	3	4	144	4	4	134	M7 D25 H14
Philadelphia – Sites reporting both years		6		14			
Portsmouth – Kittery, ME	2	(ND)	(ND)	3	3	127	M6 D30 H15
Portsmouth – Sites reporting both years							
Providence – E. Providence	2	1	141	2	2	145	M7 D14 H19
Providence – Truro	4	0	111	3	3	143	M6 D19 H16
Providence – W. Greenwich	1	1	152	3	3	157	M7 D14 H17
Providence – Sites reporting both years		2		8			
Sacramento – Del Paso	2	1	145	7	5	154	M7 D31 H12
Sacramento – Elk Grove – Bruceville	1	0	110	0	0	120	M9 D19 H13
Sacramento – Folsom	3	6	143	7	6	156	M9 D19 H16
Sacramento – Sites reporting both years		7		14			
San Diego – Alpine	3	9	147	9	5	146	M6 D11 H12
San Diego – El Cajon	2	0	110	1	1	135	M7 D11 H14
San Diego – Overland	2	0	102	0	0	120	M7 D27 H15
San Diego – Sites reporting both years		9		10			
San Joaquin – Arvin	3	17	147	19	15	151	M7 D27 H14
San Joaquin – Clovis–Villa	2	9	144	7	7	152	M8 D 1 H13
San Joaquin – Golden St. Av.	2	0	122	1	1	126	M8 D 3 H11
San Joaquin – Parlier	3	3	130	9	9	143	M9 D14 H16
San Joaquin – Sites reporting both years		29		36			
South Coast/SEDAB – Azusa	3	72	251	63	50	212	M7 D29 H13
South Coast/SEDAB – Banning	2	25	196	14	12	176	M7 D24 H17
South Coast/SEDAB – Pico Rivera	2	21	218	17	13	180	M9 D 2 H12
South Coast/SEDAB – Upland	4	79	253	66	49	235	M9 D 2 H14
South Coast/SEDAB – Sites reporting both years		197		160			
Springfield – Agawam	1	1	125	2	2	136	M7 D13 H18
Springfield – Chicopee	2	2	128	2	2	140	M6 D30 H17
Springfield – Ware	3	3	132	2	2	138	M6 D30 H17
Springfield – Sites reporting both years		6		6			
Ventura Co. – El Rio	2	0	115	0	0	124	M10 D2 H13
Ventura Co. – Simi Valley	3	15	164	22	16	169	M7 D29 H14
Ventura Co. – Sites reporting both years		15		22			
Washington – Corbin	1	0	101	0	0	109	M8 D18 H15
Washington – Fort Meade	3	5	163	4	4	174	M7 D15 H14
Washington – Lums Pond	4	2	134	5	5	184	M7 D15 H17
Washington – McMillan Reserv.	2	2	135	1	1	155	M7 D15 H12
Washington – Sites reporting both years		9		10			
Total – Sites reporting both years		**345**	**139.9**	**388**		**149.5**	

Table A-13. PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
NITRIC OXIDE (ppb)													
Composite average	1995	All	Sites = 31		7.1	20.2	32.1						
	1994	All			7.3	19.7	31.0						
Composite average	1995	1	Sites = 3		5.3	14.7	24.8						
	1994	1			8.0	18.0	27.8						
Composite average	1995	2	Sites = 16		8.1	22.0	36.2						
	1994	2			8.9	21.9	35.7						
Composite average	1995	3	Sites = 10		5.7	17.9	27.0						
	1994	3			5.2	16.4	24.6						
Composite average	1995	4	Sites = 5		6.8	18.1	28.2						
	1994	4			6.7	18.2	26.7						
Atlanta–South DeKalb	1995	2	2176 1-hr	276 1-hr	13.3	32.6	49.5	0	295.0	M6 D15 H 7	25.6	47.9	60.3
	1994	2											
Atlanta–Tucker	1995	2	1973 1-hr	251 1-hr	6.4	11.9	16.5	6	96.0	M6 D23 H 6	6.2	14.4	16.8
	1994	2											
Atlanta–Conyers	1995	3	2142 1-hr	273 1-hr	3.5	7.1	10.3	0	46.0	M8 D30 H 7	3.4	7.9	10.2
	1994	3											
Baltimore–Fort Meade	1995	1	2092 1-hr	264 1-hr	3.0	9.1	16.0	6	70.0	M7 D31 H 6	6.8	13.2	16.7
	1994	1											
Baltimore–Essex	1995	2											
	1994	2	2058 1-hr	271 1-hr	10.8	22.6	52.0	6	213.0	M8 D23 H22	22.0	27.7	46.0
Baltimore–Morgan State	1995	2	2143 1-hr	260 1-hr	2.5	7.0	14.2	7	63.0	M6 D 1 H 2	5.4	8.7	11.9
	1994	2											
Baltimore–Aldino	1995	3	2189 1-hr	276 1-hr	1.3	3.2	5.8	6	32.0	M8 D 8 H 5	1.9	3.2	4.9
	1994	3											
Baltimore–Lums Pond	1995	4	2111 1-hr	273 1-hr	7.2	17.0	28.9	7	111.0	M6 D 5 H 5	11.5	21.8	26.2
	1994	4	2018 1-hr	259 1-hr	9.4	18.9	28.2	6	156.0	M8 D 9 H 6	12.0	24.9	31.1
Baton Rouge–Pride	1995	1/3											
	1994	1/3	2057 1-hr	270 1-hr	1.8	3.0	4.4	6	18.0	M6 D 4 H 7	1.4	2.1	2.6
Baton Rouge–New Pride	1995	1/3	2093 1-hr	276 1-hr	0.6	1.9	3.0	5	16.0	M7 D24 H11	1.3	2.0	2.6
	1994	1/3											
Baton Rouge–Bayou Plaquemine	1995	1/3	2116 1-hr	276 1-hr	2.8	6.7	12.2	6	45.0	M6 D14 H 1	4.1	6.7	9.2
	1994	1/3	2086 1-hr	276 1-hr	5.8	10.5	15.8	5	48.0	M6 D 4 H 5	5.4	7.3	8.8
Baton Rouge–Capitol	1995	2	2104 1-hr	276 1-hr	6.4	17.1	31.4	6	144.0	M6 D26 H23	12.9	18.8	26.5
	1994	2	2109 1-hr	274 1-hr	8.6	22.7	36.1	6	115.0	M8 D10 H 0	12.4	19.9	25.2
Boston–Lynn	1995	2	2153 1-hr	266 1-hr	2.8	6.3	10.4	6	56.0	M8 D 8 H 6	4.1	7.3	9.6
	1994	2	2143 1-hr	266 1-hr	2.4	5.2	9.4	6	64.0	M8 D31 H11	3.9	5.3	9.4
Boston–Newbury	1995	3	2163 1-hr	267 1-hr	0.4	1.4	2.9	0	20.0	M8 D21 H 6	1.4	3.0	4.2
	1994	3											
Connecticut–E. Hartford	1995	2	2186 1-hr	274 1-hr	3.3	11.6	19.0	6	92.0	M8 D31 H 6	8.6	16.0	19.0
	1994	2	2033 1-hr	253 1-hr	12.2	21.4	31.5	6	213.0	M8 D11 H 4	29.0	33.3	39.5
Connecticut–Stafford	1995	3	2040 1-hr	256 1-hr	0.4	1.9	3.9	6	37.0	M8 D31 H 6	1.9	4.6	6.3
	1994	3											
Connecticut–Cape Eliz., ME	1995	4	1902 1-hr	250 1-hr	0.5	1.2	2.3	7	8.8	M6 D29 H 8	1.0	1.5	2.1
	1994	4	2077 1-hr	274 1-hr	0.5	1.0	2.2	7	10.2	M6 D11 H 5	0.8	1.2	1.7
Dallas–Hinton	1995	2	1868 1-hr	246 1-hr	9.0	28.1	40.3	6	232.0	M6 D13 H 6	18.1	34.5	44.1
	1994	2											
El Paso–N. Campbell	1995	2	1717 1-hr	231 1-hr	18.5	32.5	51.5	6	210.0	M7 D 5 H21	18.8	22.0	34.9
	1994	2	2043 1-hr	270 1-hr	18.9	37.2	57.1	6	150.0	M6 D26 H22	17.2	23.8	29.5
El Paso–UTEP	1995	3	1945 1-hr	257 1-hr	8.7	17.2	39.7	6	166.0	M7 D26 H 6	15.9	20.4	32.5
	1994	3	1744 1-hr	233 1-hr	5.7	14.9	25.4	6	163.0	M6 D30 H 6	10.4	20.0	25.6
Houston–Aldine	1995	1	2068 1-hr	275 1-hr	6.0	20.3	33.2	6	160.0	M6 D15 H 6	14.0	24.5	31.2
	1994	1	1966 1-hr	255 1-hr	8.9	24.6	39.5	6	141.0	M6 D17 H 6	13.8	22.2	28.2
Houston–Clinton Dr.	1995	2	1868 1-hr	261 1-hr	10.7	34.1	48.2	6	227.0	M8 D28 H 6	19.8	35.8	42.2
	1994	2	1762 1-hr	248 1-hr	11.2	29.1	43.0	6	124.0	M8 D19 H 6	14.4	24.2	26.2
Lake Michigan–Braidwood	1995	1	2134 1-hr	271 1-hr	0.8	2.0	3.4	6	36.0	M7 D14 H 3	1.6	2.2	3.8
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	2149 1-hr	271 1-hr	40.2	66.1	103.8	7	262.0	M8 D17 H 7	33.3	47.4	48.6
Lake Michigan–Chicago–Jardine	1995	2	1959 1-hr	250 1-hr	5.3	12.5	26.9	7	110.0	M7 D21 H23	10.4	16.9	24.7
	1994	2											
Lake Michigan–Gary	1995	2	1305 1-hr	167 1-hr	13.6	21.5	66.0	5	216.0	M7 D19 H 1	26.5	28.9	55.4
	1994	2											
Lake Michigan–Milwaukee	1995	2	2139 1-hr	270 1-hr	3.2	5.8	18.4	0	173.0	M7 D10 H 0	9.8	9.9	30.4
	1994	2	2190 1-hr	276 1-hr	4.3	8.6	23.1	6	201.0	M8 D 6 H 0	12.4	13.4	35.0
Lake Michigan–Holland	1995	3	1419 1-hr	186 1-hr	1.2	3.3	7.5	6	50.0	M7 D10 H 6	3.1	6.7	10.7
	1994	3											
Lake Michigan–Harrington B	1995	3	2077 1-hr	276 1-hr	1.2	1.8	3.1	0	40.0	M6 D 1 H 6	1.8	4.1	6.2
	1994	3	1933 1-hr	241 1-hr	1.8	3.0	7.3	0	57.0	M8 D31 H20	3.5	4.9	10.1
Lake Michigan–Camp Logan	1995	4	2015 1-hr	258 1-hr	1.2	2.1	5.2	6	40.0	M8 D23 H 3	2.9	3.7	6.6
	1994	4	1936 1-hr	243 1-hr	2.2	5.4	9.3	6	61.0	M8 D23 H 6	5.6	10.2	12.6
Lake Michigan–Manitowoc	1995	4	2037 1-hr	270 1-hr	5.0	5.0	5.1	0	10.0	M7 D19 H 7	0.1	0.3	0.5
	1994	4											
New York–New Brunswick	1995	1	2181 1-hr	276 1-hr	5.2	15.2	25.0	6	109.0	M6 D 5 H 7	11.8	22.3	28.6
	1994	1											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
NITRIC OXIDE (ppb) - (continued)													
New York–Bronx Bot. Garden	1995	2	2170 1-hr	276 1-hr	11.0	19.3	45.7	7	255.0	M8 D31 H 0	19.3	26.1	42.3
	1994	2											
Philadelphia–Lums Pond	1995	1	2111 1-hr	273 1-hr	7.2	17.0	28.9	7	111.0	M6 D 5 H 5	11.5	21.8	26.2
	1994	1	2018 1-hr	259 1-hr	9.4	18.9	28.2	6	156.0	M8 D 9 H 6	12.0	24.9	31.1
Philadelphia–East Lycoming	1995	2	2157 1-hr	276 1-hr	4.3	17.0	26.1	6	130.0	M6 D 1 H 6	11.3	21.7	24.2
	1994	2	1903 1-hr	239 1-hr	9.0	23.5	34.7	6	120.0	M8 D24 H 6	14.5	22.3	27.3
Philadelphia–Rider University	1995	3	2175 1-hr	276 1-hr	5.5	14.3	27.6	6	163.0	M6 D 1 H 5	12.5	22.0	29.5
	1994	3											
Philadelphia–New Brunswick	1995	4	2181 1-hr	276 1-hr	5.2	15.2	25.0	6	109.0	M6 D 5 H 7	11.8	22.3	28.6
	1994	4											
Sacramento–Elk Grove–Bruce	1995	1	2042 1-hr	276 1-hr	1.6	6.0	8.8	6	49.0	M7 D31 H 6	4.2	8.8	10.3
	1994	1											
Sacramento–Del Paso	1995	2	2072 1-hr	274 1-hr	6.4	8.3	31.4	6	185.0	M9D30H9	15.9	16.8	35.9
	1994	2	2047 1-hr	262 1-hr	2.0	5.8	14.3	6	104.0	M8 D13 H18	8.1	11.8	20.6
Sacramento–Folsom	1995	3	2004 1-hr	254 1-hr	2.6	9.8	16.8	5	81.0	M9 D 7 H 6	7.0	13.5	17.4
	1994	3	2057 1-hr	259 1-hr	2.1	9.7	16.1	6	68.0	M8 D16 H 6	6.5	13.5	17.1
San Diego–El Cajon	1995	2	2069 1-hr	270 1-hr	5.8	16.1	23.3	6	97.0	M8 D30 H 7	8.5	15.4	18.2
	1994	2	2105 1-hr	274 1-hr	6.3	15.5	22.5	7	102.0	M9 D27 H 6	9.7	17.6	21.7
San Diego–Overland	1995	2	2169 1-hr	270 1-hr	9.4	28.5	47.5	8	332.0	M8 D29 H 6	19.7	45.2	52.6
	1994	2	2016 1-hr	265 1-hr	9.5	21.8	44.2	6	208.0	M8 D15 H 6	17.7	37.8	44.5
San Diego–Alpine	1995	3	2182 1-hr	273 1-hr	2.6	6.6	12.6	7	57.0	M8 D21 H 6	3.7	7.4	9.8
	1994	3	2068 1-hr	261 1-hr	3.0	8.2	15.4	7	56.0	M7 D18 H 7	4.5	8.0	10.6
San Joaquin–Clovis–Villa	1995	2	2001 1-hr	264 1-hr	2.0	10.6	16.9	6	101.0	M9 D21 H 6	6.7	14.7	18.8
	1994	2	2097 1-hr	275 1-hr	2.8	12.0	18.7	6	94.0	M9 D16 H 6	7.2	13.1	18.2
San Joaquin–Golden St. Av.	1995	2	2075 1-hr	272 1-hr	9.2	30.5	51.9	6	169.0	M9 D18 H 6	16.5	28.6	34.4
	1994	2	1973 1-hr	258 1-hr	11.0	33.2	55.7	6	183.0	M8 D30 H 6	18.3	28.0	32.6
San Joaquin–Parlier	1995	3	2093 1-hr	276 1-hr	1.8	8.4	12.2	6	61.0	M9 D11 H 5	4.6	9.1	11.5
	1994	3	2094 1-hr	274 1-hr	2.4	9.8	15.5	6	50.0	M8 D15 H 6	5.2	8.7	10.5
San Joaquin–Arvin	1995	3	2112 1-hr	276 1-hr	1.0	4.0	7.5	6	42.0	M8 D 3 H 6	2.7	6.3	8.9
	1994	3	1971 1-hr	261 1-hr	2.5	9.1	14.5	6	58.0	M7 D 6 H 5	4.4	9.0	11.2
South Coast/SEDAB–Pico Riv	1995	2	2088 1-hr	273 1-hr	32.1	95.0	135.8	5	450.0	M8 D28 H 6	51.9	93.7	98.0
	1994	2	2110 1-hr	276 1-hr	29.1	80.3	115.0	6	372.0	M9 D28 H 6	48.2	84.6	92.6
South Coast/SEDAB–Azusa	1995	3	2113 1-hr	276 1-hr	21.8	69.2	88.4	6	233.0	M8 D25 H 6	30.4	46.4	53.0
	1994	3	2116 1-hr	276 1-hr	18.1	53.8	69.8	6	263.0	M9 D26 H 6	28.9	52.6	59.1
South Coast/SEDAB–Upland	1995	4	2100 1-hr	276 1-hr	18.0	53.3	75.7	5	165.0	M9 D22 H 6	23.9	38.6	39.4
	1994	4	2095 1-hr	271 1-hr	11.9	47.1	65.8	6	152.0	M9 D20 H 6	22.0	34.9	38.2
Springfield–Chicopee	1995	2	2183 1-hr	275 1-hr	3.3	7.3	12.6	6	73.0	M6 D15 H22	5.1	8.3	13.9
	1994	2	2000 1-hr	253 1-hr	2.6	5.4	9.1	6	53.0	M6 D 9 H 6	3.5	7.0	9.7
Springfield–Ware	1995	3	2170 1-hr	273 1-hr	2.4	2.7	3.3	0	7.0	M6 D30 H 7	0.7	0.9	1.1
	1994	3	2185 1-hr	276 1-hr	1.0	1.1	2.3	0	68.0	M8 D23 H10	1.5	0.6	6.6
Ventura Co.–El Rio	1995	2	1816 1-hr	237 1-hr	4.4	14.7	22.3	6	102.0	M8 D29 H 6	8.5	17.7	19.8
	1994	2	1944 1-hr	255 1-hr	4.0	13.3	19.4	6	97.0	M9 D26 H 7	7.7	15.9	17.6
Ventura Co.–Simi Valley	1995	3	1913 1-hr	253 1-hr	12.5	52.7	74.0	6	197.0	M8 D25 H 5	24.6	44.3	47.5
	1994	3	2084 1-hr	276 1-hr	9.9	43.6	63.8	6	222.0	M9 D26 H 6	22.5	44.2	52.8
Washington–Corbin	1995	1	2160 1-hr	276 1-hr	1.5	2.1	2.8	0	10.0	M8 D11 H 5	1.5	2.0	2.4
	1994	1	2164 1-hr	276 1-hr	0.8	2.1	2.9	6	20.0	M8 D30 H 6	1.6	3.0	3.5
Washington–McMillan Reserv	1995	2	2139 1-hr	271 1-hr	7.5	16.7	32.7	7	171.0	M7 D20 H 6	13.0	20.0	31.7
	1994	2	1618 1-hr	204 1-hr	7.8	16.3	36.7	7	174.0	M8 D24 H 7	17.5	29.6	43.5
Washington–Fort Meade	1995	3	2092 1-hr	264 1-hr	3.0	9.1	16.0	6	70.0	M7 D31 H 6	6.8	13.2	16.7
	1994	3											
Washington–Lums Pond	1995	4	2111 1-hr	273 1-hr	7.2	17.0	28.9	7	111.0	M6 D 5 H 5	11.5	21.8	26.2
	1994	4	2018 1-hr	259 1-hr	9.4	18.9	28.2	6	156.0	M8 D 9 H 6	12.0	24.9	31.1
NITROGEN DIOXIDE (ppb)													
Composite average	1995	All	Sites = 34		18.5	21.5	35.3						
	1994	All			17.8	20.7	33.6						
Composite average	1995	1	Sites = 3		11.2	13.2	23.5						
	1994	1			9.0	9.9	20.1						
Composite average	1995	2	Sites = 18		19.6	23.0	38.0						
	1994	2			19.2	22.2	35.8						
Composite average	1995	3	Sites = 11		16.5	19.4	31.2						
	1994	3			16.1	19.2	31.3						
Composite average	1995	4	Sites = 5		18.6	20.4	33.2						
	1994	4			16.2	18.4	30.8						
Atlanta–South DeKalb	1995	2	2176 1-hr	276 1-hr	10.8	10.3	27.9	0	84.0	M8 D15 H19	9.9	7.0	14.3
	1994	2	1708 1-hr	216 1-hr	9.5	8.4	23.0	19	47.0	M8 D27 H 9	7.2	5.8	9.8
Atlanta–Tucker	1995	2	1974 1-hr	251 1-hr	13.4	17.6	28.3	21	51.0	M8 D18 H21	9.4	9.2	11.4
	1994	2											
Atlanta–Conyers	1995	3	2142 1-hr	273 1-hr	4.6	4.4	8.2	0	28.0	M6 D19 H10	2.5	2.1	4.6
	1994	3	1545 1-hr	197 1-hr	4.6	4.3	11.4	9	31.0	M8 D 5 H21	3.3	2.7	6.5
Baltimore–Fort Meade	1995	1	2092 1-hr	264 1-hr	10.5	14.2	23.9	0	50.0	M8 D30 H 3	8.0	9.1	9.6
	1994	1											
Baltimore–Essex	1995	2											
	1994	2	2060 1-hr	271 1-hr	20.7	25.1	41.3	23	81.0	M6 D16 H 0	12.3	11.0	12.3

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
NITROGEN DIOXIDE (ppb) - (continued)													
Baltimore–Morgan State	1995	2	2143 1-hr	260 1-hr	15.7	18.7	32.7	0	90.0	M8 D16 H14	9.7	9.2	11.0
	1994	2											
Baltimore–Aldino	1995	3	2189 1-hr	276 1-hr	9.8	11.9	19.8	20	42.0	M6 D 2 H19	5.6	5.4	7.8
	1994	3											
Baltimore–Lums Pond	1995	4	2117 1-hr	273 1-hr	13.7	16.4	26.3	21	53.0	M7 D21 H22	7.0	6.2	9.1
	1994	4	1419 1-hr	226 1-hr	10.8	11.6	24.2	22	64.0	M6 D16 H12	7.8	6.7	12.1
Baton Rouge–Pride	1995	1/3											
	1994	1/3	2060 1-hr	270 1-hr	4.0	4.2	8.3	20	22.0	M7 D15 H18	2.5	2.1	3.8
Baton Rouge–New Pride	1995	1/3	2080 1-hr	276 1-hr	3.7	4.0	7.0	7	15.0	M6 D25 H22	1.8	1.7	2.8
	1994	1/3											
Baton Rouge–Bayou Plaquemine	1995	1/3	2090 1-hr	276 1-hr	5.5	6.2	13.1	7	40.0	M8 D30 H 8	3.8	3.4	6.3
	1994	1/3	2065 1-hr	276 1-hr	4.9	5.7	11.8	19	43.0	M8 D25 H 9	3.3	3.3	5.9
Baton Rouge–Capitol	1995	2	2089 1-hr	276 1-hr	16.7	21.0	35.6	21	64.0	M6 D26 H21	11.2	10.3	11.9
	1994	2	2089 1-hr	274 1-hr	16.7	19.3	32.2	20	67.0	M7 D24 H20	9.1	8.0	9.3
Boston–Lynn	1995	2	2107 1-hr	260 1-hr	15.3	17.8	30.4	21	74.0	M8 D 9 H22	8.6	8.7	11.4
	1994	2	2143 1-hr	266 1-hr	16.6	18.5	32.7	0	62.0	M8 D 2 H20	9.1	8.3	10.2
Boston–Newbury	1995	3	2163 1-hr	267 1-hr	4.4	5.5	12.1	0	25.0	M7 D11 H 7	4.1	4.2	5.4
	1994	3											
Connecticut–E. Hartford	1995	2	2186 1-hr	274 1-hr	13.6	16.8	27.7	0	59.0	M7 D21 H22	9.6	9.6	11.2
	1994	2	2033 1-hr	253 1-hr	15.9	19.4	30.0	0	47.0	M8 D16 H20	9.6	9.2	9.2
Connecticut–Stafford	1995	3	1999 1-hr	253 1-hr	5.9	7.5	15.0	5	45.0	M7 D30 H12	4.9	5.6	8.2
	1994	3											
Connecticut–Cape Eliz., ME	1995	4	950 1-hr	123 1-hr	3.8	4.7	8.9	0	22.2	M8 D21 H17	2.9	2.8	4.2
	1994	4	2077 1-hr	274 1-hr	1.6	1.9	3.8	22	10.2	M8 D 7 H 0	1.3	1.4	2.0
Dallas–Hinton	1995	2	1868 1-hr	246 1-hr	19.7	27.8	39.6	21	90.0	M8 D27 H21	14.0	14.7	16.7
	1994	2											
El Paso–N. Campbell	1995	2	1437 1-hr	194 1-hr	29.9	34.7	52.7	20	187.0	M6 D24 H19	15.5	13.4	22.8
	1994	2	2044 1-hr	270 1-hr	28.5	35.7	49.7	7	119.0	M6 D30 H 8	11.9	11.6	14.2
El Paso–UTEP	1995	3	1945 1-hr	257 1-hr	19.7	26.3	42.9	0	92.0	M6 D28 H17	12.4	11.9	14.9
	1994	3	1769 1-hr	233 1-hr	18.2	26.4	39.8	7	105.0	M6 D30 H 8	11.2	12.2	13.8
Houston–Aldine	1995	1	2040 1-hr	269 1-hr	14.2	17.1	31.2	22	66.0	M6 D21 H22	10.5	9.5	13.9
	1994	1	2065 1-hr	270 1-hr	11.1	12.4	24.4	0	51.0	M7 D28 H22	8.8	6.7	11.0
Houston–Clinton Dr.	1995	2	1868 1-hr	261 1-hr	19.3	24.3	36.3	0	86.0	M8 D29 H20	11.7	13.2	15.8
	1994	2	1762 1-hr	248 1-hr	19.0	21.4	32.4	6	75.0	M6 D21 H13	9.8	7.8	12.8
Lake Michigan–Braidwood	1995	1	2134 1-hr	271 1-hr	6.2	7.7	14.3	0	48.0	M6 D 3 H 3	5.5	4.9	8.4
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	2149 1-hr	271 1-hr	34.2	37.3	54.4	8	101.0	M6 D20 H15	15.9	16.0	16.0
Lake Michigan–Chicago–Jardine	1995	2	1959 1-hr	250 1-hr	19.9	24.3	41.4	0	83.0	M6 D17 H22	14.7	16.3	17.3
	1994	2											
Lake Michigan–Gary	1995	2	1331 1-hr	168 1-hr	17.3	20.7	37.4	0	65.0	M7 D10 H20	12.1	9.1	10.7
	1994	2											
Lake Michigan–Milwaukee	1995	2	2139 1-hr	270 1-hr	15.3	17.8	33.4	0	77.0	M6 D 2 H19	10.3	9.7	14.7
	1994	2	2190 1-hr	276 1-hr	15.5	18.5	32.3	23	62.0	M6 D11 H 0	10.7	10.6	12.5
Lake Michigan–Holland	1995	3	1419 1-hr	186 1-hr	4.7	7.3	12.5	0	29.0	M7 D26 H10	4.9	5.8	7.4
	1994	3											
Lake Michigan–Harrington B	1995	3	2077 1-hr	276 1-hr	7.5	8.6	20.2	3	78.0	M6 D 1 H21	7.7	8.4	12.7
	1994	3	1923 1-hr	241 1-hr	12.2	12.9	32.9	0	96.0	M6 D10 H20	12.3	11.2	18.7
Lake Michigan–Camp Logan	1995	4	2015 1-hr	258 1-hr	7.5	8.9	17.7	23	49.0	M7 D22 H 4	6.5	6.8	9.5
	1994	4	1936 1-hr	242 1-hr	9.5	11.8	22.9	23	65.0	M8 D23 H10	8.4	8.3	12.7
Lake Michigan–Manitowoc	1995	4	2037 1-hr	270 1-hr	2.9	3.2	7.5	0	18.0	M7 D22 H 9	2.3	2.4	4.2
	1994	4											
New York–New Brunswick	1995	1	2181 1-hr	276 1-hr	15.0	19.8	31.7	7	69.0	M8 D17 H20	10.0	10.1	12.1
	1994	1											
New York–Bronx Bot. Garden	1995	2	2170 1-hr	276 1-hr	30.7	30.8	54.5	0	101.0	M6 D 7 H23	14.8	13.1	16.1
	1994	2											
Philadelphia–Lums Pond	1995	1	2117 1-hr	273 1-hr	13.7	16.4	26.3	21	53.0	M7 D21 H22	7.0	6.2	9.1
	1994	1	1419 1-hr	226 1-hr	10.8	11.6	24.2	22	64.0	M6 D16 H12	7.8	6.7	12.1
Philadelphia–East Lycoming	1995	2	2157 1-hr	276 1-hr	24.8	29.2	44.6	0	70.0	M6 D 5 H 8	11.8	12.9	12.9
	1994	2	2124 1-hr	269 1-hr	24.6	29.2	44.0	0	70.0	M6 D 9 H21	12.4	12.1	13.3
Philadelphia–Rider University	1995	3	2175 1-hr	276 1-hr	12.3	15.5	25.8	0	53.0	M8 D20 H20	7.7	7.1	8.3
	1994	3											
Philadelphia–New Brunswick	1995	4	2181 1-hr	276 1-hr	15.0	19.8	31.7	7	69.0	M8 D17 H20	10.0	10.1	12.1
	1994	4											
Providence–W. Greenwich	1995	1	2077 1-hr	270 1-hr	4.4	3.6	8.5	8	23.0	M6 D16 H20	2.7	2.2	4.4
	1994	1											
Providence–E. Providence	1995	2	2097 1-hr	275 1-hr	10.6	14.8	23.3	6	50.0	M7 D27 H22	7.2	8.6	8.7
	1994	2	2053 1-hr	245 1-hr	11.2	14.8	23.0	7	49.0	M8 D 1 H 7	7.0	8.3	9.4
Sacramento–Elk Grove–Bruce	1995	1	2042 1-hr	276 1-hr	6.2	7.4	16.6	0	46.0	M9 D11 H18	6.6	5.8	9.5
	1994	1											
Sacramento–Del Paso	1995	2	2072 1-hr	275 1-hr	15.9	17.8	32.0	20	99.0	M9D19H7	11.8	13.1	17.9
	1994	2	2048 1-hr	263 1-hr	10.0	11.4	20.5	19	60.0	M9 D15 H19	7.6	6.6	11.7

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS All Hrs.	# OBS 5-8 am STD	Means All Hrs.	Means 5-8am STD	Means Daily Max.	P-hr of <	Absolute Max Value	Absolute Max Occured	Standard Deviation of All Hrs.	Standard Deviation of 5-8 am STD	Standard Deviation of Daily Max.
NITROGEN DIOXIDE (ppb) - (continued)													
Sacramento–Folsom	1995	3	2005 1-hr	254 1-hr	13.1	16.1	27.9	5	117.0	M9 D19 H12	10.5	9.0	16.8
	1994	3	2056 1-hr	258 1-hr	11.0	16.2	25.0	5	65.0	M8 D 5 H21	9.3	10.0	14.7
San Diego–El Cajon	1995	2	2069 1-hr	270 1-hr	24.2	22.9	38.8	10	79.0	M9 D13 H 9	10.2	9.7	12.4
	1994	2	2105 1-hr	274 1-hr	22.4	21.8	36.1	9	72.0	M9 D28 H 7	9.8	9.7	12.8
San Diego–Overland	1995	2	2167 1-hr	270 1-hr	20.2	23.3	35.3	9	83.0	M9 D30 H19	9.6	9.9	12.4
	1994	2	2020 1-hr	265 1-hr	19.4	20.9	32.9	9	71.0	M9 D26 H15	9.4	9.8	10.7
San Diego–Alpine	1995	3	2182 1-hr	273 1-hr	15.0	14.7	32.6	20	73.0	M8 D10 H18	8.8	7.8	10.8
	1994	3	2068 1-hr	261 1-hr	15.1	15.8	30.8	19	57.0	M8 D 5 H19	8.1	7.7	8.8
San Joaquin–Clovis–Villa	1995	2	2001 1-hr	264 1-hr	15.0	22.8	34.0	19	85.0	M9 D 7 H19	11.1	11.5	16.3
	1994	2	2097 1-hr	275 1-hr	17.6	26.2	36.5	19	101.0	M9 D16 H19	11.4	9.7	17.0
San Joaquin–Golden St. Av.	1995	2	2075 1-hr	272 1-hr	29.6	39.4	60.2	21	90.0	M9 D 7 H 8	17.2	14.6	14.4
	1994	2	1973 1-hr	258 1-hr	29.3	38.2	55.8	20	77.0	M9 D16 H20	15.6	11.1	10.2
San Joaquin–Parlier	1995	3	2093 1-hr	276 1-hr	15.3	19.3	29.0	21	57.0	M9 D21 H19	7.8	6.3	7.7
	1994	3	2094 1-hr	274 1-hr	17.9	20.5	33.1	20	55.0	M8 D17 H19	8.2	5.2	7.7
San Joaquin–Arvin	1995	3	2112 1-hr	276 1-hr	7.8	15.1	20.4	6	50.0	M8 D30 H 6	5.4	9.1	10.4
	1994	3	1970 1-hr	261 1-hr	10.9	18.6	23.8	6	52.0	M9 D20 H 6	5.5	7.9	8.2
South Coast/SEDAB–Pico Riv	1995	2	2088 1-hr	273 1-hr	47.4	45.0	78.2	9	202.0	M8 D31 H10	19.0	16.0	32.4
	1994	2	2110 1-hr	276 1-hr	41.6	39.9	69.4	9	172.0	M9 D28 H12	17.9	14.7	29.4
South Coast/SEDAB–Azusa	1995	3	2113 1-hr	276 1-hr	57.7	56.3	85.2	9	155.0	M9 D15 H10	18.5	16.5	21.8
	1994	3	2116 1-hr	276 1-hr	49.7	47.2	76.5	8	178.0	M9 D26 H11	19.2	18.3	27.4
South Coast/SEDAB–Upland	1995	4	2100 1-hr	276 1-hr	54.4	55.6	86.5	9	143.0	M8 D 8 H 8	18.9	16.0	21.1
	1994	4	2095 1-hr	271 1-hr	48.2	54.9	79.0	9	139.0	M8 D25 H 9	18.8	16.8	22.9
Springfield–Chicopee	1995	2	2183 1-hr	275 1-hr	13.6	15.8	28.3	22	56.0	M7 D21 H 6	8.6	9.4	11.1
	1994	2	2000 1-hr	253 1-hr	12.7	14.4	25.4	0	56.0	M8 D31 H16	7.6	7.6	8.3
Springfield–Ware	1995	3	2170 1-hr	273 1-hr	6.5	7.2	12.0	0	26.0	M8 D10 H 5	4.0	5.2	5.5
	1994	3	2184 1-hr	276 1-hr	6.3	6.7	11.4	0	34.0	M8 D 3 H14	3.8	3.8	5.0
Ventura Co.–El Rio	1995	2	1816 1-hr	237 1-hr	14.3	18.7	26.2	8	127.0	M8 D28 H 6	7.2	10.3	13.3
	1994	2	1944 1-hr	255 1-hr	13.0	16.9	24.2	8	89.0	M9 D16 H 0	7.0	8.0	11.4
Ventura Co.–Simi Valley	1995	3	1913 1-hr	253 1-hr	28.7	39.4	52.3	7	97.0	M9 D15 H 7	14.2	13.4	13.1
	1994	3	2084 1-hr	276 1-hr	25.9	36.8	48.4	7	85.0	M9 D15 H20	13.3	12.5	12.6
Washington–Corbin	1995	1	2160 1-hr	276 1-hr	2.6	4.4	7.7	7	32.0	M6 D12 H15	3.1	3.6	5.0
	1994	1	2164 1-hr	276 1-hr	3.1	5.0	8.2	7	22.0	M6 D 8 H 7	3.4	3.9	4.5
Washington–McMillan Reserv	1995	2	2139 1-hr	271 1-hr	16.2	21.1	39.2	0	73.0	M7 D30 H22	12.3	11.8	14.0
	1994	2	1597 1-hr	201 1-hr	22.6	24.5	44.7	22	93.0	M8 D 1 H 9	12.9	11.5	14.4
Washington–Fort Meade	1995	3	2092 1-hr	264 1-hr	10.5	14.2	23.9	0	50.0	M8 D30 H 3	8.0	9.1	9.6
	1994	3											
Washington–Lums Pond	1995	4	2117 1-hr	273 1-hr	13.7	16.4	26.3	21	53.0	M7 D21 H22	7.0	6.2	9.1
	1994	4	1419 1-hr	226 1-hr	10.8	11.6	24.2	22	64.0	M6 D16 H12	7.8	6.7	12.1
OXIDES OF NITROGEN (ppb)													
Composite average	1995	All	Sites = 31		25.6	41.7	61.3						
	1994	All			24.7	40.0	58.4						
Composite average	1995	1	Sites = 3		15.0	26.6	41.5						
	1994	1			15.2	26.8	40.9						
Composite average	1995	2	Sites = 16		27.6	44.7	67.4						
	1994	2			27.3	42.8	63.7						
Composite average	1995	3	Sites = 10		23.0	38.4	54.9						
	1994	3			22.1	36.9	52.8						
Composite average	1995	4	Sites = 5		24.1	37.2	52.7						
	1994	4			21.1	35.6	49.9						
Atlanta–South DeKalb	1995	2	2176 1-hr	276 1-hr	24.1	49.8	76.9	7	314.0	M6 D15 H 7	33.3	52.9	65.1
	1994	2											
Atlanta–Tucker	1995	2	1992 1-hr	253 1-hr	15.5	27.4	40.0	6	121.0	M6 D23 H 6	13.6	21.4	21.9
	1994	2											
Atlanta–Conyers	1995	3	2142 1-hr	273 1-hr	5.3	9.9	14.8	6	52.0	M6 D19 H 9	4.8	8.8	11.2
	1994	3											
Baltimore–Fort Meade	1995	1	2092 1-hr	264 1-hr	13.5	23.6	37.4	6	108.0	M7 D31 H 6	12.3	19.8	21.4
	1994	1											
Baltimore–Essex	1995	2											
	1994	2	2061 1-hr	271 1-hr	30.9	47.4	86.9	6	249.0	M8 D23 H22	29.9	35.0	50.1
Baltimore–Morgan State	1995	2	2143 1-hr	260 1-hr	17.8	25.4	43.0	22	101.0	M6 D 1 H 2	12.8	15.5	18.2
	1994	2											
Baltimore–Aldino	1995	3	2189 1-hr	276 1-hr	11.0	15.0	23.3	5	62.0	M8 D 1 H 8	6.6	7.6	9.8
	1994	3											
Baltimore–Lums Pond	1995	4	2117 1-hr	273 1-hr	17.5	30.0	46.9	6	126.0	M6 D 5 H 5	15.3	24.1	26.6
	1994	4	1988 1-hr	257 1-hr	15.9	28.1	43.6	6	166.0	M8 D 9 H 6	16.6	28.7	32.7
Baton Rouge–Pride	1995	1/3											
	1994	1/3	2057 1-hr	270 1-hr	5.2	6.7	10.3	6	32.0	M6 D 4 H 7	2.9	3.4	4.5
Baton Rouge–New Pride	1995	1/3	2093 1-hr	276 1-hr	3.5	5.1	8.3	5	24.0	M7 D24 H11	2.5	3.0	4.1
	1994	1/3											
Baton Rouge–Bayou Plaquemine	1995	1/3	2115 1-hr	276 1-hr	7.4	12.2	21.0	6	75.0	M8 D30 H 8	6.3	7.7	11.2
	1994	1/3	2086 1-hr	276 1-hr	10.3	15.9	23.7	5	55.0	M8 D25 H 8	6.6	7.8	9.1
Baton Rouge–Capitol	1995	2	2103 1-hr	276 1-hr	25.0	40.2	64.4	6	202.0	M6 D26 H23	21.3	25.7	32.4
	1994	2	2108 1-hr	274 1-hr	26.2	43.2	64.9	6	165.0	M8 D10 H 0	19.0	25.0	28.7

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
OXIDES OF NITROGEN (ppb) - (continued)													
Boston–Lynn	1995	2	2153 1-hr	266 1-hr	17.7	23.6	37.6	6	87.0	M8 D 8 H 6	10.8	14.0	16.4
	1994	2	2143 1-hr	266 1-hr	18.4	23.1	38.8	6	121.0	M8 D31 H11	11.1	12.1	15.6
Boston–Newbury	1995	3	2163 1-hr	267 1-hr	5.6	8.1	14.7	0	39.0	M8 D 9 H 7	4.9	6.5	7.5
	1994	3											
Connecticut–E. Hartford	1995	2	2186 1-hr	274 1-hr	16.9	28.4	42.1	6	116.0	M8 D31 H 6	14.8	21.4	22.3
	1994	2	2033 1-hr	253 1-hr	28.1	40.7	57.1	6	227.0	M8 D11 H 4	32.1	35.8	40.3
Connecticut–Stafford	1995	3	1999 1-hr	253 1-hr	6.3	9.5	17.8	5	60.0	M8 D31 H 6	5.9	8.9	11.4
	1994	3											
Connecticut–Cape Eliz., ME	1995	4	949 1-hr	123 1-hr	4.3	6.1	10.5	7	22.8	M8 D21 H17	3.5	4.0	5.1
	1994	4	2077 1-hr	274 1-hr	2.0	2.9	5.4	7	17.3	M6 D11 H 5	1.9	2.4	3.1
Dallas–Hinton	1995	2	1868 1-hr	246 1-hr	29.0	56.3	74.3	6	278.0	M6 D13 H 6	27.8	45.1	53.3
	1994	2											
El Paso–N. Campbell	1995	2	1705 1-hr	232 1-hr	48.6	68.0	101.3	6	304.0	M7 D 5 H21	33.1	34.2	53.9
	1994	2	2043 1-hr	270 1-hr	47.1	72.8	103.0	6	241.0	M6 D25 H21	27.1	33.9	40.3
El Paso–UTEP	1995	3	1945 1-hr	257 1-hr	29.3	44.3	80.8	6	223.0	M7 D26 H 6	26.7	30.5	44.6
	1994	3	1744 1-hr	233 1-hr	23.4	41.1	61.5	7	235.0	M6 D30 H 7	19.9	30.5	34.2
Houston–Aldine	1995	1	2056 1-hr	272 1-hr	20.2	37.6	56.4	6	207.0	M6 D15 H 6	19.5	28.7	34.4
	1994	1	2065 1-hr	270 1-hr	19.3	36.4	55.4	6	149.0	M8 D26 H 7	18.6	25.6	30.8
Houston–Clinton Dr.	1995	2	1863 1-hr	258 1-hr	30.1	58.6	76.6	6	268.0	M8 D28 H 6	25.7	41.0	46.2
	1994	2	1762 1-hr	248 1-hr	29.9	50.2	69.5	6	157.0	M6 D22 H 6	19.3	26.8	28.1
Lake Michigan–Braidwood	1995	1	2134 1-hr	271 1-hr	7.0	9.7	16.6	5	56.0	M6 D 3 H 3	6.3	6.6	9.8
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	2149 1-hr	271 1-hr	74.1	102.9	150.3	7	340.0	M8 D17 H 7	43.0	58.2	58.9
Lake Michigan–Chicago–Jardine	1995	2	1959 1-hr	250 1-hr	25.1	36.8	64.9	7	174.0	M6 D14 H 6	22.5	30.4	37.1
	1994	2											
Lake Michigan–Gary	1995	2	1305 1-hr	167 1-hr	30.9	43.1	99.8	5	261.0	M7 D19 H 0	35.5	35.0	59.5
	1994	2											
Lake Michigan–Milwaukee	1995	2	2139 1-hr	270 1-hr	18.0	23.6	49.4	7	220.0	M7 D10 H 0	17.4	17.7	38.6
	1994	2	2190 1-hr	276 1-hr	19.0	26.8	51.6	6	225.0	M8 D 6 H 0	19.7	22.1	39.0
Lake Michigan–Holland	1995	3	1419 1-hr	186 1-hr	5.5	10.2	18.6	6	65.0	M7 D10 H 6	6.8	10.7	15.4
	1994	3											
Lake Michigan–Harrington B	1995	3	2077 1-hr	276 1-hr	5.4	7.3	19.6	0	105.0	M6 D 1 H 6	8.8	12.5	16.4
	1994	3	1920 1-hr	241 1-hr	12.5	15.0	37.3	0	111.0	M6 D10 H20	14.3	15.0	23.4
Lake Michigan–Camp Logan	1995	4	2015 1-hr	258 1-hr	8.7	11.1	20.9	23	81.0	M8 D23 H 3	8.2	9.5	13.2
	1994	4	1936 1-hr	243 1-hr	11.8	17.0	30.5	22	100.0	M6 D18 H 2	12.4	16.8	21.9
Lake Michigan–Manitowoc	1995	4	2037 1-hr	270 1-hr	5.4	5.7	8.5	0	26.0	M7 D19 H 7	1.9	2.7	5.1
	1994	4											
New York–New Brunswick	1995	1	2181 1-hr	276 1-hr	19.5	34.9	52.7	7	153.0	M6 D24 H 3	18.8	28.8	33.4
	1994	1											
New York–Bronx Bot. Garden	1995	2	2088 1-hr	264 1-hr	39.0	46.5	87.1	0	312.0	M8 D31 H 0	27.0	30.1	46.9
	1994	2											
Philadelphia–Lums Pond	1995	1	2117 1-hr	273 1-hr	17.5	30.0	46.9	6	126.0	M6 D 5 H 5	15.3	24.1	26.6
	1994	1	1988 1-hr	257 1-hr	15.9	28.1	43.6	6	166.0	M8 D 9 H 6	16.6	28.7	32.7
Philadelphia–Rider University	1995	3	2175 1-hr	276 1-hr	17.5	29.7	49.2	6	191.0	M6 D 1 H 5	17.3	25.8	30.9
	1994	3											
Philadelphia–New Brunswick	1995	4	2181 1-hr	276 1-hr	19.5	34.9	52.7	7	153.0	M6 D24 H 3	18.8	28.8	33.4
	1994	4											
Providence–W. Greenwich	1995	1	2077 1-hr	270 1-hr	4.5	4.0	10.3	8	30.0	M6 D16 H20	3.6	2.8	6.6
	1994	1											
Providence–E. Providence	1995	2	2097 1-hr	275 1-hr	13.0	22.2	32.8	6	104.0	M7 D20 H 6	10.9	17.5	19.5
	1994	2	2064 1-hr	245 1-hr	12.7	20.0	31.3	7	99.0	M8 D28 H 1	10.3	14.7	19.0
Sacramento–Elk Grove–Bruce	1995	1	2042 1-hr	276 1-hr	7.4	13.4	21.9	6	66.0	M7 D31 H 6	8.9	12.9	14.9
	1994	1											
Sacramento–Del Paso	1995	2	2072 1-hr	275 1-hr	21.7	25.5	57.5	6	214.0	M9D30H9	24.2	23.9	46.4
	1994	2	2047 1-hr	262 1-hr	10.5	17.6	31.8	6	138.0	M9 D15 H20	14.1	17.2	27.0
Sacramento–Folsom	1995	3	2004 1-hr	254 1-hr	14.9	25.8	40.4	5	118.0	M9 D 7 H 6	14.4	20.9	25.9
	1994	3	2056 1-hr	258 1-hr	12.8	26.8	38.6	6	110.0	M8 D16 H 6	13.6	21.3	25.2
San Diego–El Cajon	1995	2	2069 1-hr	270 1-hr	29.8	39.0	55.7	7	169.0	M8 D30 H 7	15.7	23.9	25.6
	1994	2	2105 1-hr	274 1-hr	27.3	35.9	52.1	7	165.0	M9 D28 H 7	16.9	25.8	30.3
San Diego–Overland	1995	2	2168 1-hr	270 1-hr	28.7	50.9	76.8	9	384.0	M8 D29 H 6	25.7	52.7	57.4
	1994	2	2020 1-hr	265 1-hr	27.8	41.6	72.0	6	245.0	M8 D15 H 6	23.9	44.7	49.8
San Diego–Alpine	1995	3	2182 1-hr	273 1-hr	17.8	21.6	41.3	7	94.0	M8 D21 H 6	10.8	13.7	14.8
	1994	3	2068 1-hr	261 1-hr	17.8	23.6	43.0	7	82.0	M7 D18 H 7	11.0	14.6	14.8
San Joaquin–Clovis–Villa	1995	2	2001 1-hr	264 1-hr	17.1	33.7	47.4	6	149.0	M9 D21 H 5	15.5	24.0	29.2
	1994	2	2097 1-hr	275 1-hr	20.4	38.3	51.0	6	149.0	M9 D27 H20	16.3	20.4	28.5
San Joaquin–Golden St. Av.	1995	2	2075 1-hr	272 1-hr	38.7	70.0	103.9	6	228.0	M9 D 8 H 7	29.7	39.5	42.3
	1994	2	1973 1-hr	258 1-hr	40.2	71.3	104.8	6	233.0	M8 D30 H 6	30.4	35.7	37.3
San Joaquin–Parlier	1995	3	2093 1-hr	276 1-hr	17.1	27.0	35.6	6	82.0	M9 D15 H 6	10.0	13.4	14.0
	1994	3	2094 1-hr	274 1-hr	20.2	29.9	41.6	5	80.0	M9 D24 H19	10.8	11.7	12.2
San Joaquin–Arvin	1995	3	2112 1-hr	276 1-hr	8.9	19.1	27.3	6	86.0	M8 D 3 H 6	7.4	14.4	17.8
	1994	3	1970 1-hr	261 1-hr	13.3	27.6	37.1	6	103.0	M9 D20 H 6	8.9	15.1	17.1

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
OXIDES OF NITROGEN (ppb) - (continued)													
South Coast/SEDAB–Pico Riv	1995	2	2088 1-hr	273 1-hr	79.5	140.0	185.0	5	522.0	M8 D28 H 6	59.4	103.8	104.4
	1994	2	2110 1-hr	276 1-hr	70.7	120.2	160.4	6	425.0	M9 D28 H 7	55.7	92.8	95.0
South Coast/SEDAB–Azusa	1995	3	2113 1-hr	276 1-hr	79.5	125.5	151.5	7	328.0	M9 D13 H 7	40.3	58.8	61.6
	1994	3	2116 1-hr	276 1-hr	67.8	100.9	127.9	7	344.0	M9 D26 H 7	40.0	66.4	68.1
South Coast/SEDAB–Upland	1995	4	2100 1-hr	276 1-hr	72.4	108.9	138.3	6	242.0	M9 D14 H 7	35.1	46.3	43.3
	1994	4	2095 1-hr	271 1-hr	60.1	102.0	126.3	6	237.0	M8 D 2 H 7	34.3	44.3	46.9
Springfield–Chicopee	1995	2	2183 1-hr	275 1-hr	15.8	21.9	36.7	7	108.0	M6 D15 H22	11.5	15.9	20.4
	1994	2	2000 1-hr	253 1-hr	14.5	19.0	31.7	0	79.0	M6 D 9 H 6	9.5	12.8	14.5
Springfield–Ware	1995	3	2170 1-hr	273 1-hr	8.1	9.2	13.8	0	31.0	M8 D10 H 6	4.2	5.7	5.9
	1994	3	2185 1-hr	276 1-hr	7.1	7.8	13.1	0	83.0	M8 D23 H10	4.2	4.2	8.6
Ventura Co.–El Rio	1995	2	1816 1-hr	237 1-hr	18.8	33.4	44.6	6	197.0	M8 D28 H 6	13.7	25.3	27.8
	1994	2	1944 1-hr	255 1-hr	17.0	30.1	39.6	6	128.0	M9 D15 H 5	12.5	21.4	22.8
Ventura Co.–Simi Valley	1995	3	1913 1-hr	253 1-hr	41.2	92.1	117.6	6	249.0	M9 D15 H 6	34.1	52.6	52.4
	1994	3	2082 1-hr	276 1-hr	35.8	80.4	104.4	6	275.0	M9 D15 H 6	31.6	52.4	58.9
Washington–Corbin	1995	1	2160 1-hr	276 1-hr	5.1	7.7	11.2	7	33.0	M6 D12 H15	3.8	4.7	5.9
	1994	1											
Washington–McMillan Reserv	1995	2	2139 1-hr	271 1-hr	22.8	37.0	66.8	6	227.0	M7 D20 H 6	21.9	28.7	38.6
	1994	2	704 1-hr	90 1-hr	26.6	33.7	59.9	23	206.0	M7 D12 H10	20.5	26.8	34.6
Washington–Fort Meade	1995	3	2092 1-hr	264 1-hr	13.5	23.6	37.4	6	108.0	M7 D31 H 6	12.3	19.8	21.4
	1994	3											
Washington–Lums Pond	1995	4	2117 1-hr	273 1-hr	17.5	30.0	46.9	6	126.0	M6 D 5 H 5	15.3	24.1	26.6
	1994	4	1988 1-hr	257 1-hr	15.9	28.1	43.6	6	166.0	M8 D 9 H 6	16.6	28.7	32.7
TOTAL NMOC (ppbC)													
Composite average	1995	All	Sites = 19		201.3	254.0	388.4						
	1994	All			191.0	247.1	369.0						
Composite average	1995	2	Sites = 13		230.1	282.6	443.6						
	1994	2			218.0	273.4	421.3						
Composite average	1995	3	Sites = 3		120.7	175.3	237.6						
	1994	3			107.7	165.2	243.8						
Composite average	1995	4	Sites = 4		130.3	174.3	270.3						
	1994	4			130.7	177.9	230.5						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	140.2	152.2	238.8	6	606.3	M8 D10 H12	79.0	81.2	115.9
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	124.5	159.3	256.7	7	593.0	M7 D30 H22	68.8	85.1	104.8
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	130.6	140.1	207.4	3	558.7	M8 D13 H 0	75.3	75.1	113.4
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	49.2	71.0	180.7	6	1073.0	M6 D22 H 2	77.8	73.8	206.1
	1994	4	1493 1-hr	186 1-hr	51.2	65.2	118.3	21	406.0	M7 D 8 H 1	39.0	50.9	88.7
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	145.9	143.8	264.5	0	726.0	M6 D28 H 0	79.8	53.3	125.4
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	197.0	199.0	298.9	0	1239.0	M6 D 5 H 9	91.6	52.4	200.9
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	413.0	486.7	769.8	3	1876.0	M6 D27 H 3	275.3	310.8	382.3
	1994	2	688 3-hr	85 3-hr	233.4	303.3	466.2	6	5330.0	M6 D20 H15	283.4	167.4	552.8
Boston–Lynn	1995	2	2108 1-hr	264 1-hr	84.7	95.3	172.9	6	389.0	M6 D 2 H13	48.9	54.3	81.4
	1994	2	1801 1-hr	240 1-hr	99.4	108.9	224.5	23	729.0	M8 D20 H 6	63.1	75.0	106.3
Boston–Newbury	1995	3	914 1-hr	111 1-hr	85.2	86.5	241.3	13	1870.0	M8 D10 H15	104.8	67.9	218.6
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	785 1-hr	87 1-hr	157.3	193.7	404.9	0	3020.0	M7 D 8 H13	185.5	107.9	525.8
Connecticut–Stafford	1995	3	1743 1-hr	213 1-hr	47.3	50.5	75.7	20	164.7	M7 D21 H20	24.9	25.6	26.8
	1994	3	726 1-hr	86 1-hr	125.6	114.9	244.9	19	1180.0	M8 D 4 H11	211.8	185.4	334.1
Connecticut–Cape Eliz., ME	1995	4	1945 1-hr	257 1-hr	32.5	48.6	88.0	6	320.0	M8 D25 H 6	26.5	40.8	60.3
	1994	4	1693 1-hr	197 1-hr	42.2	51.6	84.0	7	238.6	M7 D15 H 2	21.8	25.7	43.2
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	97.6	113.7	119.8	6	467.0	M6 D 2 H 6	76.6	93.6	92.2
	1994	1											
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	253.7	259.4	330.2	6	619.0	M7 D29 H 0	125.1	121.6	136.7
	1994	2											
Lake Michigan–Gary	1995	2	1190 1-hr	153 1-hr	107.1	141.4	310.6	23	924.0	M8 D24 H13	104.0	110.1	216.3
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	73.9	90.5	99.8	23	600.0	M6 D13 H23	72.7	72.7	82.1
	1994	2	134 3-hr	34 3-hr	133.9	181.6	193.8	23	1200.0	M8 D 5 H23	151.6	145.9	170.8
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	22.9	34.2	37.4	5	83.0	M6 D 2 H 5	21.0	20.1	19.7
	1994	3	95 3-hr	33 3-hr	51.6	65.9	74.4	5	150.0	M8 D 3 H10	34.1	30.6	34.5
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	93.4	115.3	133.2	6	661.0	M6 D16 H 6	76.5	110.9	112.8
	1994	4											
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	26.9	27.9	38.3	5	230.0	M7 D29 H14	36.1	16.8	41.5
	1994	4											
New York–Bronx Bot. Garden	1995	2	1868 1-hr	243 1-hr	145.8	132.1	367.3	23	5892.0	M7 D31 H13	209.0	139.9	685.2
	1994	2											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS All Hrs.	# OBS 5-8 am STD	Means All Hrs.	Means 5-8am STD	Means Daily Max.	P-hr of <	Absolute Max Value	Absolute Max Occured	Standard Deviation of All Hrs.	Standard Deviation of 5-8 am STD	Standard Deviation of Daily Max.
TOTAL NMOC (ppbC) - (continued)													
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	49.2	71.0	180.7	6	1073.0	M6 D22 H 2	77.8	73.8	206.1
	1994	1	1493 1-hr	186 1-hr	51.2	65.2	118.3	21	406.0	M7 D 8 H 1	39.0	50.9	88.7
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	120.9	160.9	221.6	5	551.6	M8 D14 H 5	76.9	111.0	102.6
	1994	2	630 3-hr	76 3-hr	191.5	243.4	374.2	5	1274.0	M8 D25 H 2	167.2	184.3	253.8
Philadelphia–Rider University	1995	3	2095 1-hr	258 1-hr	71.8	100.9	149.3	6	550.5	M6 D 1 H 7	47.7	72.0	75.7
	1994	3											
Providence–E. Providence	1995	2	667 3-hr	92 3-hr	117.9	172.9	224.4	5	788.2	M7 D20 H 5	87.2	133.7	123.9
	1994	2	313 3-hr	28 3-hr	136.8	189.4	218.8	0	878.4	M8 D31 H 6	90.3	169.6	146.5
Sacramento–Del Paso	1995	2	2047 1-hr	268 1-hr	323.8	354.1	606.3	0	2000.0	M9 D 5 H22	306.2	299.3	482.7
	1994	2	1398 1-hr 51 3-hr	177 1-hr 14 3-hr	364.1	362.0	628.1	0	1700.0	M9 D 5 H22	257.4	209.5	397.9
San Diego–El Cajon	1995	2	2107 1-hr 109 3-hr	275 1-hr 27 3-hr	137.5	206.6	315.2	5	1600.0	M9 D26 H 8	108.3	145.2	213.6
	1994	2	2100 1-hr 120 3-hr	275 1-hr 29 3-hr	196.5	271.6	365.3	5	1130.0	M9 D26 H16	143.1	200.8	229.8
San Diego–Overland	1995	2	112 3-hr	28 3-hr	132.2	183.5	194.6	5	437.0	M9 D12 H 5	72.6	95.6	90.0
	1994	2	45 3-hr	11 3-hr	179.4	225.3	245.5	5	521.0	M9 D29 H 5	91.5	124.2	116.3
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	97.2	98.2	131.8	12	257.0	M7 D17 H12	41.2	31.9	37.7
	1994	3											
San Joaquin–Clovis-Villa	1995	2	1319 1-hr	171 1-hr	182.5	289.5	457.7	0	1500.0	M9D20 H 6	203.9	304.9	371.1
	1994	2											
San Joaquin–Golden St. Av.	1995	2	2055 1-hr	269 1-hr	271.5	490.3	824.5	6	3100.0	M8 D27 H 0	292.4	313.6	486.3
	1994	2	1876 1-hr 104 3-hr	243 1-hr 273 3-hr	345.0	555.3	940.3	5	1900.0	M8 D 2 H 7	305.7	281.2	404.6
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	859.5	808.7	1320.7	12	6563.0	M8 D 4 H 9	528.6	348.7	882.9
	1994	2	861 3-hr	101 3-hr	582.6	575.4	907.3	12	3592.0	M8 D15 H 0	289.3	379.2	362.6
South Coast/SEDAB–Azusa	1995	3	171 3-hr	22 3-hr	576.4	503.8	977.0	6	7878.0	M8 D31 H 3	864.5	248.3	1541.5
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	390.3	506.6	631.8	6	919.6	M8 D 7 H 3	182.0	178.6	165.1
	1994	4	222 3-hr	28 3-hr	378.3	529.5	601.3	21	1066.0	M7 D22 H 3	182.6	193.5	190.6
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	90.9	98.0	152.4	23	789.9	M7 D 2 H11	74.8	43.2	154.1
	1994	1											
Springfield–Chicopee	1995	2	1467 1-hr	193 1-hr	75.0	87.7	157.2	7	384.0	M8 D31 H11	50.2	59.1	72.5
	1994	2	1570 1-hr	194 1-hr	108.9	128.8	320.9	0	2010.0	M8 D26 H 3	115.9	76.1	424.6
Springfield–Ware	1995	3	1549 1-hr	195 1-hr	39.1	32.9	100.3	14	1870.0	M8 D 1 H 8	59.0	23.5	220.6
	1994	3											
Ventura Co.–El Rio	1995	2	1481 1-hr 108 3-hr	195 1-hr 27 3-hr	264.5	402.1	616.8	6	2200.0	M9 D 6 H23	200.0	286.2	387.0
	1994	2	2081 1-hr	273 1-hr	120.4	213.6	274.2	6	670.0	M9 D15 H 5	90.2	123.6	136.6
Ventura Co.–Simi Valley	1995	3	1072 1-hr 104 3-hr	142 1-hr 25 3-hr	292.1	441.3	599.8	6	1390.0	M7 D27 H 6	212.1	303.3	281.8
	1994	3	1746 1-hr	231 1-hr	145.7	314.7	412.2	6	1270.0	M9 D25 H21	150.0	201.4	219.7
Washington–Corbin	1995	1	237 3-hr	31 3-hr	49.9	42.9	78.4	17	173.0	M8 D 1 H20	26.1	20.0	29.2
	1994	1	229 3-hr	29 3-hr	31.8	34.2	64.2	17	167.0	M8 D27 H11	22.2	22.7	30.3
Washington–McMillan Reserv	1995	2	707 1-hr	90 1-hr	116.6	134.4	243.1	20	535.6	M8 D27 H23	54.8	54.0	106.4
	1994	2	734 1-hr	91 1-hr	142.5	195.3	317.1	22	853.0	M8 D 7 H 0	104.2	154.0	196.6
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	140.2	152.2	238.8	6	606.3	M8 D10 H12	79.0	81.2	115.9
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	49.2	71.0	180.7	6	1073.0	M6 D22 H 2	77.8	73.8	206.1
	1994	4	1493 1-hr	186 1-hr	51.2	65.2	118.3	21	406.0	M7 D 8 H 1	39.0	50.9	88.7
ETHYLENE (ppbC) - (continued)													
Composite average	1995	All	Sites = 17		4.1	5.7	8.4						
	1994	All			4.5	6.2	9.3						
Composite average	1995	2	Sites = 11		5.2	7.3	10.7						
	1994	2			5.8	8.0	11.8						
Composite average	1995	3	Sites = 2		1.1	1.4	2.1						
	1994	3			1.6	2.0	3.3						
Composite average	1995	4	Sites = 5		2.2	3.1	4.9						
	1994	4			2.2	3.0	4.9						
Baltimore–Fort Meade	1995	1	96 3-hr	12 3-hr	2.5	3.4	5.9	6	15.8	M7 D14 H21	2.1	2.0	3.6
	1994	1											
Baltimore–Morgan State	1995	2	1545 1-hr	178 1-hr	4.0	6.1	9.7	22	30.7	M6 D17 H 5	2.9	3.7	4.9
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	1.7	2.1	2.7	6	5.5	M6 D23 H18	0.9	0.9	1.0
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	1.1	2.0	3.7	6	8.5	M7 D21 H11	1.2	1.6	1.9
	1994	4	1384 1-hr	171 1-hr	1.2	2.0	3.4	6	9.8	M7 D29 H 8	1.2	1.7	1.9
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	1.2	1.8	3.9	0	15.6	M8 D21 H 0	2.4	2.6	4.2
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	1.9	2.8	4.2	0	13.3	M8 D13 H 6	1.9	2.6	3.2
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	8.5	12.2	22.3	6	60.9	M8 D 8 H 6	9.6	10.9	13.9
	1994	2	688 3-hr	85 3-hr	6.1	9.7	18.2	6	62.2	M7 D29 H 0	7.8	9.6	11.7
Boston–Lynn	1995	2	2106 1-hr	264 1-hr	2.2	3.1	6.0	7	39.0	M8 D31 H 5	2.0	3.3	4.5
	1994	2	1802 1-hr	242 1-hr	2.7	3.3	7.0	22	34.5	M7 D 2 H 4	2.2	2.0	4.3
Boston–Newbury	1995	3	795 1-hr	107 1-hr	1.3	1.4	2.9	5	6.7	M8 D17 H22	0.9	0.9	1.1
	1994	3											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
		Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
ETHYLENE (ppbC) - (continued)													
Connecticut–E. Hartford	1995	2											
	1994	2	564 1-hr	59 1-hr	2.0	2.9	5.3	1	18.7	M7 D 8 H12	1.7	2.1	3.2
Connecticut–Stafford	1995	3	1542 1-hr	205 1-hr	1.0	1.4	2.5	6	6.0	M8 D31 H 7	0.8	1.0	1.1
	1994	3	1063 1-hr	130 1-hr	1.3	1.8	4.1	0	21.4	M8 D 4 H11	1.4	1.4	3.9
Connecticut–Cape Eliz., ME	1995	4	1943 1-hr	255 1-hr	0.8	1.2	2.1	6	9.4	M7 D27 H 2	0.7	0.8	1.3
	1994	4	1751 1-hr	204 1-hr	1.1	1.4	2.4	23	6.0	M6 D19 H 8	0.7	0.8	1.2
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	16.0	16.0	16.2	5	31.0	M7 D25 H 5	6.9	6.9	6.8
El Paso–Chamizal	1995	2	1062 1-hr	143 1-hr	9.5	13.2	30.4	21	148.4	M7 D26 H21	12.8	11.6	23.9
	1994	2											
Houston–Clinton Dr.	1995	2	1730 1-hr	235 1-hr	8.6	13.4	29.4	6	176.3	M6 D16 H19	11.4	13.2	28.0
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	1.7	2.7	3.2	6	27.4	M8 D22 H 6	3.0	4.7	4.8
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	13.4	16.0	20.2	6	44.0	M6 D13 H15	7.5	9.1	9.4
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	5.6	7.1	8.8	6	21.2	M6 D14 H 6	4.3	4.9	5.0
	1994	2											
Lake Michigan–Gary	1995	2	1167 1-hr	153 1-hr	4.8	7.3	18.8	23	88.6	M7 D29 H 6	7.4	12.1	19.1
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	3.3	4.3	4.4	23	23.0	M6 D13 H23	2.9	3.2	3.2
	1994	2	134 3-hr	34 3-hr	5.0	6.5	6.9	23	54.0	M8 D 5 H23	5.7	4.5	6.1
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	1.1	1.5	1.6	5	4.8	M6 D16 H11	0.7	0.7	0.8
	1994	3	95 3-hr	33 3-hr	1.8	2.1	2.5	5	7.6	M7 D 1 H15	1.2	1.0	1.4
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	1.8	2.4	2.7	6	7.9	M8 D 4 H15	1.5	1.5	1.8
	1994	4	141 3-hr	35 3-hr	3.0	3.9	6.3	6	29.0	M7 D10 H 0	3.8	2.7	5.7
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	1.1	1.3	1.4	5	3.4	M7 D29 H14	0.6	0.5	0.6
	1994	4											
New York–Bronx Bot. Garden	1995	2	2031 1-hr	267 1-hr	8.4	9.3	19.8	23	80.5	M8 D31 H 1	6.2	7.4	11.5
	1994	2	131 3-hr	23 3-hr	12.4	14.1	21.4	6	57.5	M8 D 3 H21	9.4	8.4	13.2
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	1.1	2.0	3.7	6	8.5	M7 D21 H11	1.2	1.6	1.9
	1994	1	1384 1-hr	171 1-hr	1.2	2.0	3.4	6	9.8	M7 D29 H 8	1.2	1.7	1.9
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	4.9	6.9	8.8	5	19.3	M6 D 5 H 5	2.8	3.8	3.5
	1994	2	630 3-hr	76 3-hr	6.4	9.0	11.6	5	31.5	M8 D28 H 2	4.1	5.1	5.8
Philadelphia–Rider University	1995	3	2096 1-hr	258 1-hr	2.2	3.4	5.4	6	19.5	M6 D24 H 6	1.9	2.7	2.7
	1994	3											
Providence–E. Providence	1995	2	684 3-hr	95 3-hr	2.8	4.7	5.9	5	22.0	M6 D 8 H 5	2.2	3.8	3.5
	1994	2	320 3-hr	30 3-hr	3.2	5.1	6.1	6	17.8	M8 D28 H 0	2.5	3.6	3.9
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	3.2	3.8	4.5	5	16.0	M9 D26 H 5	2.7	3.3	3.4
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	6.6	9.9	10.0	5	21.3	M9 D12 H 5	3.6	4.5	4.3
	1994	2	120 3-hr	29 3-hr	6.9	10.4	11.1	5	37.5	M9 D26 H16	5.2	6.3	7.4
San Diego–Overland	1995	2	112 3-hr	28 3-hr	4.7	8.0	8.1	5	22.7	M8 D28 H 5	3.5	5.5	5.3
	1994	2	45 3-hr	11 3-hr	5.1	7.1	7.4	5	17.6	M9 D29 H 5	3.1	4.6	4.2
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	3.4	4.3	5.1	5	11.3	M8 D28 H 2	1.9	1.8	2.0
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	3.8	7.8	7.0	23	16.0	M9 D20 H 5	4.0	4.2	4.6
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	6.1	11.4	10.9	5	27.0	M9 D16 H23	5.9	6.7	6.5
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	9.6	13.7	15.7	6	31.4	M8 D28 H 6	5.3	6.8	6.7
	1994	2	868 3-hr	103 3-hr	9.4	13.2	18.0	21	47.9	M9 D27 H 6	6.9	10.6	9.0
South Coast/SEDAB–Azusa	1995	3	171 3-hr	22 3-hr	8.2	11.4	15.2	6	51.3	M9 D 9 H 3	8.0	9.2	12.1
	1994	3											
South Coast/SEDAB–Upland	1995	4	179 3-hr	24 3-hr	6.1	7.8	12.5	21	30.7	M8 D10 H21	5.6	6.5	8.0
	1994	4	221 3-hr	28 3-hr	4.7	5.6	8.9	6	30.3	M8 D24 H21	4.8	5.1	7.7
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	2.0	2.8	3.7	23	8.2	M7 D 2 H14	1.3	1.6	1.7
	1994	1											
Springfield–Chicopee	1995	2	1079 1-hr	164 1-hr	2.0	2.6	4.6	7	12.7	M6 D15 H22	1.6	1.9	2.3
	1994	2	1547 1-hr	192 1-hr	2.2	2.8	9.8	0	198.0	M8 D27 H18	5.8	2.2	25.1
Springfield–Ware	1995	3	467 1-hr	74 1-hr	1.1	1.4	2.6	23	20.7	M8 D 1 H 8	1.3	0.7	3.8
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	4.6	8.0	7.7	6	17.0	M9 D26 H 6	2.9	3.3	2.9
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	9.4	20.4	19.5	6	34.0	M9 D14 H 6	8.0	8.3	8.5
Washington–McMillan Reserv	1995	2	1372 1-hr	174 1-hr	4.1	5.4	11.8	6	42.0	M6 D 4 H23	3.9	3.3	8.1
	1994	2	734 1-hr	91 1-hr	4.8	7.3	12.9	22	39.2	M8 D 7 H 0	4.6	6.2	9.4
Washington–Fort Meade	1995	3	96 3-hr	12 3-hr	2.5	3.4	5.9	6	15.8	M7 D14 H21	2.1	2.0	3.6
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	1.1	2.0	3.7	6	8.5	M7 D21 H11	1.2	1.6	1.9
	1994	4	1384 1-hr	171 1-hr	1.2	2.0	3.4	6	9.8	M7 D29 H 8	1.2	1.7	1.9

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
PROPYLENE (ppbC)													
Composite average	1995	All	Sites = 17		2.2	3.1	5.2						
	1994	All			2.4	3.4	5.3						
Composite average	1995	2	Sites = 11		2.7	3.7	5.9						
	1994	2			3.0	4.3	6.8						
Composite average	1995	3	Sites = 2		0.5	0.7	1.0						
	1994	3			0.8	0.9	1.5						
Composite average	1995	4	Sites = 5		1.8	2.9	6.8						
	1994	4			1.2	2.0	3.1						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	1.1	1.4	2.4	6	3.9	M7 D 8 H 3	0.8	0.8	0.9
	1994	1											
Baltimore–Morgan State	1995	2	1550 1-hr	178 1-hr	2.6	3.4	5.1	22	12.3	M7 D30 H22	1.3	1.5	2.0
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	0.9	1.1	1.5	3	6.0	M6 D23 H21	0.7	0.6	1.0
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	2.0	3.3	11.9	6	118.7	M6 D22 H 3	7.2	6.6	20.3
	1994	4	1384 1-hr	171 1-hr	0.5	1.1	3.1	0	25.1	M7 D29 H 6	1.4	2.8	4.7
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.4	0.7	1.1	0	3.5	M7 D16 H 0	0.7	1.1	1.1
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	1.3	1.6	2.0	0	3.7	M8 D25 H21	0.7	0.8	0.8
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	5.4	6.8	14.7	0	59.2	M6 D 5 H 3	6.3	6.0	10.9
	1994	2	688 3-hr	85 3-hr	5.0	7.9	18.5	6	176.3	M6 D20 H18	12.3	13.6	27.7
Boston–Lynn	1995	2	2098 1-hr	264 1-hr	1.0	1.4	2.6	7	25.8	M8 D31 H 5	0.9	1.9	2.7
	1994	2	1791 1-hr	241 1-hr	1.1	1.3	2.7	0	6.7	M7 D 2 H 4	0.8	0.8	1.2
Boston–Newbury	1995	3	904 1-hr	110 1-hr	0.9	0.9	1.6	0	7.4	M8 D10 H15	0.5	0.4	0.8
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	550 1-hr	59 1-hr	0.9	1.3	2.4	21	18.6	M7 D 8 H12	1.0	0.8	2.9
Connecticut–Stafford	1995	3	1424 1-hr	199 1-hr	0.7	0.8	1.4	20	3.3	M6 D10 H 1	0.3	0.4	0.5
	1994	3	830 1-hr	120 1-hr	0.6	0.6	1.7	4	20.5	M8 D 4 H11	1.0	0.4	3.0
Connecticut–Cape Eliz., ME	1995	4	1938 1-hr	252 1-hr	0.5	0.6	1.0	6	2.8	M6 D14 H 6	0.3	0.3	0.4
	1994	4	1751 1-hr	204 1-hr	0.6	0.7	1.0	23	2.3	M8 D 7 H 0	0.2	0.3	0.3
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	6.8	6.8	6.8	5	12.7	M7 D25 H 5	2.7	2.7	2.7
El Paso–Chamizal	1995	2	1062 1-hr	143 1-hr	4.6	6.1	14.2	5	65.9	M7 D26 H21	5.6	4.9	10.6
	1994	2											
Houston–Clinton Dr.	1995	2	1582 1-hr	215 1-hr	7.8	10.4	32.1	5	221.8	M6 D 6 H17	13.2	11.4	34.5
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.6	1.1	1.2	6	17.1	M8 D22 H 6	1.7	2.8	2.8
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	5.1	5.7	7.9	6	21.9	M7 D 1 H12	3.2	3.3	4.0
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	2.5	3.3	4.2	6	18.2	M6 D 2 H 6	2.4	3.5	3.4
	1994	2											
Lake Michigan–Gary	1995	2	1190 1-hr	153 1-hr	2.2	2.7	6.7	23	18.6	M7 D 8 H10	2.1	2.7	4.4
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	1.4	1.6	1.8	23	9.5	M6 D13 H23	1.1	1.2	1.3
	1994	2	133 3-hr	34 3-hr	2.4	3.2	3.3	23	23.0	M8 D 5 H23	2.5	2.1	2.7
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	0.4	0.5	0.6	5	1.4	M8 D22 H 5	0.3	0.3	0.3
	1994	3	95 3-hr	33 3-hr	1.0	1.2	1.3	5	3.4	M7 D 1 H15	0.6	0.6	0.7
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	0.6	0.9	1.0	6	4.3	M7 D 5 H 6	0.7	0.8	0.7
	1994	4	141 3-hr	35 3-hr	0.7	1.3	1.6	0	4.6	M7 D19 H 6	1.0	1.2	1.3
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	0.4	0.6	0.6	5	1.2	M7 D29 H14	0.3	0.2	0.2
	1994	4											
New York–Bronx Bot. Garden	1995	2	2031 1-hr	267 1-hr	3.6	4.5	8.8	23	34.3	M8 D31 H 1	2.9	3.9	5.3
	1994	2	131 3-hr	23 3-hr	3.8	5.1	6.9	21	14.5	M7 D25 H 6	2.9	3.9	3.4
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	2.0	3.3	11.9	6	118.7	M6 D22 H 3	7.2	6.6	20.3
	1994	1	1384 1-hr	171 1-hr	0.5	1.1	3.1	0	25.1	M7 D29 H 6	1.4	2.8	4.7
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	3.6	5.3	10.1	23	50.1	M8 D 4 H 2	5.2	6.7	9.8
	1994	2	630 3-hr	76 3-hr	4.3	6.3	10.2	5	44.5	M8 D31 H 2	4.6	5.6	7.4
Philadelphia–Rider University	1995	3	2096 1-hr	258 1-hr	1.1	1.9	3.5	7	15.7	M8 D 4 H 8	1.3	1.9	2.6
	1994	3											
Providence–E. Providence	1995	2	683 3-hr	94 3-hr	1.1	2.0	2.3	5	15.4	M7 D20 H 5	1.0	1.9	1.9
	1994	2	358 3-hr	34 3-hr	1.4	1.9	2.4	21	7.5	M8 D28 H 0	0.9	1.3	1.5
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	1.6	2.2	2.3	5	8.0	M9 D26 H 5	1.4	1.6	1.6
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	2.8	4.3	4.4	5	8.9	M9 D12 H 5	1.6	1.9	1.8
	1994	2	120 3-hr	29 3-hr	3.6	5.8	6.1	5	17.7	M9 D26 H16	2.8	3.3	3.8
San Diego–Overland	1995	2	112 3-hr	28 3-hr	2.2	3.5	3.7	5	10.0	M9 D12 H 5	1.5	2.4	2.4
	1994	2	45 3-hr	11 3-hr	2.9	4.3	4.4	5	9.7	M9 D29 H 5	2.0	2.5	2.4
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	1.4	1.9	2.2	5	5.5	M8 D28 H 2	0.9	0.8	1.0
	1994	3											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
PROPYLENE (ppbC) - (continued)													
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	1.7	3.8	3.3	23	7.0	M8 D30 H 5	1.9	1.9	2.2
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	2.3	4.4	4.1	5	10.0	M8 D30 H 5	2.3	2.3	2.3
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	4.9	6.9	8.2	6	15.4	M8 D29 H 3	2.8	3.4	3.4
	1994	2	859 3-hr	102 3-hr	5.8	7.4	11.6	21	24.6	M9 D27 H 6	3.7	5.0	3.8
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	4.8	6.7	8.4	3	12.7	M9 D15 H 6	2.7	3.1	2.6
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	4.0	6.2	8.1	6	13.1	M9 D21 H 6	2.6	2.6	2.3
	1994	4	211 3-hr	26 3-hr	3.7	5.7	6.5	6	11.8	M8 D24 H21	2.1	2.0	2.1
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	1.5	1.5	2.8	23	15.5	M6 D17 H14	1.4	0.5	3.3
	1994	1											
Springfield–Chicopee	1995	2	1129 1-hr	163 1-hr	1.0	1.2	2.0	7	3.9	M8 D 4 H21	0.6	0.7	0.8
	1994	2	993 1-hr	141 1-hr	0.7	0.8	2.6	0	29.7	M8 D30 H 3	1.4	0.7	5.4
Springfield–Ware	1995	3	391 1-hr	54 1-hr	0.9	0.6	2.5	7	122.0	M8 D 6 H17	6.3	0.2	10.1
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	2.6	3.1	6.9	6	26.0	M9 D 2 H 3	5.4	4.9	8.4
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	3.1	6.6	6.6	6	17.0	M8 D 6 H 6	2.9	3.2	3.0
Washington–McMillan Reserv	1995	2	702 1-hr	90 1-hr	2.2	2.8	6.1	6	20.8	M6 D 4 H23	2.1	1.6	4.5
	1994	2	734 1-hr	91 1-hr	2.4	3.5	6.3	22	19.8	M8 D 7 H 0	2.2	2.8	4.3
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	1.1	1.4	2.4	6	3.9	M7 D 8 H 3	0.8	0.8	0.9
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	2.0	3.3	11.9	6	118.7	M6 D22 H 3	7.2	6.6	20.3
	1994	4	1384 1-hr	171 1-hr	0.5	1.1	3.1	0	25.1	M7 D29 H 6	1.4	2.8	4.7
N-HEXANE (ppbC)													
Composite average	1995	All	Sites = 17		2.3	3.2	4.9						
	1994	All			2.4	3.3	5.0						
Composite average	1995	2	Sites = 11		2.8	3.8	6.0						
	1994	2			2.8	3.7	5.8						
Composite average	1995	3	Sites = 2		0.6	0.7	1.0						
	1994	3			0.7	0.7	1.7						
Composite average	1995	4	Sites = 5		1.8	2.6	3.6						
	1994	4			1.9	3.0	3.9						
Composite average	1995	4	Sites = 5		1.8	2.6	3.6						
	1994	4			1.9	3.0	3.9						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	1.0	1.2	2.3	6	7.9	M8 D10 H12	0.9	0.8	1.5
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	1.9	1.8	4.5	9	16.4	M7 D18 H 1	1.8	1.2	2.5
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	0.8	0.9	1.2	3	2.3	M6 D23 H18	0.4	0.2	0.4
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.8	1.4	2.4	6	9.3	M6 D22 H 5	1.0	1.1	1.6
	1994	4	1493 1-hr	186 1-hr	0.5	0.8	1.8	21	6.6	M6 D23 H 0	0.7	0.9	1.5
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.9	1.4	2.1	0	9.8	M6 D 7 H 3	1.1	1.4	1.9
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	0.9	1.3	1.7	6	5.6	M6 D26 H 0	0.8	1.0	1.2
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	6.3	8.4	17.8	0	95.6	M6 D13 H 0	7.9	7.4	14.1
	1994	2	688 3-hr	85 3-hr	4.7	6.5	11.6	21	33.4	M6 D26 H 3	4.8	5.1	7.1
Boston–Lynn	1995	2	2015 1-hr	260 1-hr	1.2	1.5	3.4	21	10.2	M6 D24 H 4	1.1	1.1	2.1
	1994	2	1795 1-hr	241 1-hr	1.4	1.6	4.1	0	11.5	M8 D20 H 6	1.3	1.4	2.2
Boston–Newbury	1995	3	564 1-hr	86 1-hr	1.3	1.6	3.0	5	11.3	M7 D17 H22	1.0	1.0	1.9
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	493 1-hr	58 1-hr	1.1	1.4	2.8	4	21.0	M7 D 8 H12	1.2	1.1	3.5
Connecticut–Stafford	1995	3	1071 1-hr	152 1-hr	0.8	0.9	1.3	0	2.9	M7 D21 H20	0.4	0.4	0.5
	1994	3	747 1-hr	99 1-hr	0.6	0.6	2.2	0	41.0	M6 D 1 H18	1.8	0.4	5.6
Connecticut–Cape Eliz., ME	1995	4	1941 1-hr	255 1-hr	0.5	0.8	1.9	6	7.5	M8 D 8 H 6	0.7	1.1	1.6
	1994	4	1752 1-hr	204 1-hr	0.4	0.7	1.6	7	9.6	M8 D28 H 5	0.7	1.1	1.9
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	7.0	7.0	7.0	5	15.2	M8 D29 H 5	3.5	3.5	3.5
El Paso–Chamizal	1995	2	1062 1-hr	143 1-hr	7.5	9.7	23.1	21	125.5	M7 D26 H21	10.6	11.7	19.6
	1994	2											
Houston–Clinton Dr.	1995	2	1727 1-hr	235 1-hr	14.6	21.5	61.3	19	339.4	M6 D 6 H 5	22.9	40.7	55.4
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.4	0.8	0.8	6	2.5	M6 D23 H 6	0.5	0.6	0.6
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	5.1	6.7	8.3	6	23.3	M6 D17 H 6	3.6	5.3	4.9
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	2.7	2.7	4.4	0	23.0	M8 D22 H15	2.6	2.3	4.0
	1994	2											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
N-HEXANE (ppbC) - (continued)													
Lake Michigan–Gary	1995	2	644 1-hr	85 1-hr	0.4	0.4	1.4	23	16.1	M8 D30 H15	0.7	0.4	2.6
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	1.6	1.8	2.1	23	13.0	M6 D13 H23	1.5	1.3	1.7
	1994	2	134 3-hr	34 3-hr	2.4	3.3	3.7	23	21.0	M8 D 5 H23	2.8	2.5	3.1
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	0.4	0.5	0.7	5	2.0	M6 D16 H11	0.4	0.4	0.5
	1994	3	95 3-hr	33 3-hr	0.8	0.9	1.3	5	5.8	M8 D 3 H10	0.9	0.7	1.2
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	0.7	1.1	1.2	6	3.2	M6 D23 H 6	0.8	0.8	0.8
	1994	4	141 3-hr	35 3-hr	1.2	2.1	2.7	0	13.8	M8 D18 H 6	2.0	3.0	3.0
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	0.3	0.4	0.5	5	2.2	M7 D29 H14	0.4	0.3	0.4
	1994	4											
New York–Bronx Bot. Garden	1995	2	1865 1-hr	243 1-hr	3.1	3.3	6.3	23	30.1	M7 D21 H18	2.4	2.2	3.5
	1994	2	131 3-hr	23 3-hr	3.0	3.1	5.5	21	15.5	M8 D12 H 9	2.4	2.1	3.7
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	0.8	1.4	2.4	6	9.3	M6 D22 H 5	1.0	1.1	1.6
	1994	1	1493 1-hr	186 1-hr	0.5	0.8	1.8	21	6.6	M6 D23 H 0	0.7	0.9	1.5
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	2.6	3.1	4.8	5	29.0	M6 D26 H14	2.0	1.9	3.2
	1994	2	630 3-hr	76 3-hr	2.8	3.7	5.3	5	16.8	M8 D28 H 2	2.1	2.5	3.2
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	1.0	1.4	2.4	23	7.5	M6 D 1 H 7	0.8	1.1	1.2
	1994	3											
Providence–E. Providence	1995	2	684 3-hr	95 3-hr	1.6	2.6	3.7	5	14.6	M7 D20 H 5	1.6	2.4	2.5
	1994	2	366 3-hr	34 3-hr	1.4	2.3	2.8	0	10.5	M8 D31 H 6	1.3	2.0	2.2
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	1.5	2.1	2.2	5	10.0	M9 D26 H 5	1.4	2.0	1.9
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	2.7	4.0	4.2	5	9.4	M8 D31 H 5	1.7	2.1	2.0
	1994	2	120 3-hr	29 3-hr	3.6	5.4	5.8	5	18.0	M9 D26 H16	2.8	3.3	3.9
San Diego–Overland	1995	2	112 3-hr	28 3-hr	1.4	2.1	2.3	5	5.3	M9 D12 H 5	0.9	1.2	1.1
	1994	2	45 3-hr	11 3-hr	2.0	2.5	2.8	12	5.7	M9 D26 H12	1.2	1.5	1.5
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	1.0	1.0	1.4	5	2.5	M9 D15 H16	0.5	0.4	0.5
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	2.6	3.4	5.3	23	64.0	M9 D 8 H16	6.2	1.7	10.1
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	6.8	10.6	11.2	5	84.0	M8 D 5 H23	9.5	5.0	8.9
South Coast/SEDAB–Pico Riv	1995	2	307 3-hr	44 3-hr	7.3	11.8	14.8	0	74.1	M8 D29 H 6	7.9	15.0	14.0
	1994	2	868 3-hr	103 3-hr	6.3	7.9	12.0	21	119.9	M9 D24 H15	6.6	7.2	13.2
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	6.8	8.8	10.2	6	17.0	M9 D15 H 6	3.1	4.0	3.2
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	6.4	8.2	10.2	6	14.3	M9 D21 H 6	2.8	2.6	2.4
	1994	4	220 3-hr	28 3-hr	7.2	10.8	11.8	6	27.8	M9 D14 H 6	3.8	5.0	4.9
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	0.8	1.4	1.8	23	7.0	M8 D29 H 5	1.0	1.8	1.6
	1994	1											
Springfield–Chicopee	1995	2	1161 1-hr	167 1-hr	1.7	2.1	4.5	23	20.4	M8 D31 H11	1.7	1.9	3.5
	1994	2	1462 1-hr	192 1-hr	1.8	2.5	5.3	0	37.2	M8 D26 H 3	2.1	2.4	6.2
Springfield–Ware	1995	3	415 1-hr	73 1-hr	0.8	0.8	2.6	23	35.3	M8 D 1 H 8	2.0	0.4	6.8
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	3.3	7.1	7.6	6	59.0	M9 D 2 H 6	6.3	11.2	11.3
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	3.6	6.2	6.2	6	10.0	M8 D 6 H 3	2.3	2.0	2.1
Washington–McMillan Reserv	1995	2	1995 1-hr	248 1-hr	0.8	1.0	2.4	0	11.7	M7 D20 H 6	1.3	1.6	2.6
	1994	2	734 1-hr	91 1-hr	1.5	2.0	4.4	7	32.0	M7 D30 H14	1.7	1.6	5.5
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	1.0	1.2	2.3	6	7.9	M8 D10 H12	0.9	0.8	1.5
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.8	1.4	2.4	6	9.3	M6 D22 H 5	1.0	1.1	1.6
	1994	4	1493 1-hr	186 1-hr	0.5	0.8	1.8	21	6.6	M6 D23 H 0	0.7	0.9	1.5
ISOPRENE (ppbC)													
Composite average	1995	All	Sites = 17		2.8	1.9	6.6						
	1994	All			2.5	1.9	6.5						
Composite average	1995	2	Sites = 11		2.5	1.8	5.8						
	1994	2			2.4	1.8	6.0						
Composite average	1995	3	Sites = 2		3.0	0.9	8.3						
	1994	3			2.9	1.7	8.7						
Composite average	1995	4	Sites = 5		3.4	2.5	7.4						
	1994	4			2.5	2.0	6.5						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	5.4	5.7	10.9	15	20.4	M8 D 1 H15	4.5	3.3	4.9
	1994	1											
Baltimore–Morgan State	1995	2	1550 1-hr	178 1-hr	1.6	1.3	4.8	18	15.4	M6 D 5 H14	1.8	1.8	2.8
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	4.1	4.0	9.4	15	19.3	M6 D29 H18	3.9	3.3	3.6
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	1.8	1.3	5.9	18	21.9	M8 D15 H18	2.3	1.5	4.2
	1994	4	1384 1-hr	171 1-hr	1.9	1.4	6.2	18	20.1	M7 D10 H18	2.3	1.8	4.0
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	9.0	9.6	20.5	15	40.0	M6 D25 H15	9.3	6.3	10.1

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
ISOPRENE (ppbC) - (continued)													
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	11.2	11.5	27.7	18	55.0	M7 D 8 H18	10.3	3.2	13.4
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	4.3	4.2	8.8	18	23.9	M6 D 4 H18	3.2	2.5	3.8
	1994	2	688 3-hr	85 3-hr	3.2	3.2	8.6	18	57.9	M6 D 6 H 9	4.2	3.3	6.6
Boston–Lynn	1995	2	2057 1-hr	263 1-hr	4.4	3.3	11.9	11	32.4	M7 D29 H17	5.0	3.0	7.1
	1994	2	1784 1-hr	242 1-hr	4.4	3.1	13.7	12	39.1	M8 D 2 H12	5.5	2.9	8.6
Boston–Newbury	1995	3	848 1-hr	109 1-hr	2.7	2.6	9.1	18	113.0	M8 D21 H 5	5.8	10.8	18.2
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	529 1-hr	58 1-hr	1.6	1.1	4.8	17	24.0	M7 D 8 H12	1.9	1.2	4.3
Connecticut–Stafford	1995	3	1665 1-hr	197 1-hr	5.6	1.6	16.1	18	67.3	M7 D14 H18	6.9	1.7	11.4
	1994	3	1033 1-hr	129 1-hr	5.4	3.2	16.9	18	50.6	M8 D 2 H17	6.7	3.6	11.7
Connecticut–Cape Eliz., ME	1995	4	1940 1-hr	254 1-hr	1.7	2.6	5.7	7	22.4	M6 D19 H12	2.9	3.1	5.0
	1994	4	1752 1-hr	204 1-hr	1.5	2.1	5.8	7	21.6	M7 D20 H 7	2.4	3.0	4.8
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	0.8	0.8	0.8	5	10.3	M8 D 1 H 5	1.5	1.5	1.5
El Paso–Chamizal	1995	2	986 1-hr	137 1-hr	0.5	0.7	1.8	20	10.3	M6 D22 H12	0.7	0.5	1.7
	1994	2											
Houston–Clinton Dr.	1995	2	1532 1-hr	206 1-hr	2.1	1.8	6.0	13	34.4	M7 D13 H21	2.2	1.4	4.7
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	5.0	2.3	7.2	15	26.6	M7 D13 H15	5.5	2.2	6.4
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	0.6	0.8	1.4	0	5.6	M8 D12 H 6	1.0	1.1	1.2
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	1.0	0.3	2.6	12	24.7	M7 D11 H12	2.8	0.4	4.5
	1994	2											
Lake Michigan–Gary	1995	2	1165 1-hr	153 1-hr	1.9	2.5	5.8	23	18.7	M8 D24 H13	2.1	2.0	4.5
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	0.5	0.5	0.7	23	3.0	M6 D19 H14	0.6	0.4	0.8
	1994	2	133 3-hr	34 3-hr	0.6	0.7	0.8	23	3.6	M8 D 5 H23	0.5	0.4	0.5
Lake Michigan–Harrington B	1995	3	95 3-hr	32 3-hr	0.3	0.2	0.5	5	1.7	M7 D13 H14	0.4	0.3	0.4
	1994	3	95 3-hr	33 3-hr	0.3	0.2	0.5	5	1.3	M6 D18 H10	0.3	0.3	0.4
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	8.9	3.7	14.2	12	50.3	M6 D19 H15	9.1	3.2	11.1
	1994	4	141 3-hr	35 3-hr	5.3	3.2	10.2	12	27.9	M6 D17 H12	6.1	3.9	6.3
Lake Michigan–Manitowoc	1995	4	75 3-hr	27 3-hr	2.5	1.3	3.8	11	14.0	M6 D19 H14	2.5	1.3	3.1
	1994	4											
New York–Bronx Bot. Garden	1995	2	2032 1-hr	267 1-hr	3.4	1.1	9.8	15	38.7	M8 D 2 H13	4.2	1.3	6.9
	1994	2	131 3-hr	23 3-hr	3.7	2.3	7.5	15	15.5	M7 D 8 H 9	3.4	1.5	3.8
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	1.8	1.3	5.9	18	21.9	M8 D15 H18	2.3	1.5	4.2
	1994	1	1384 1-hr	171 1-hr	1.9	1.4	6.2	18	20.1	M7 D10 H18	2.3	1.8	4.0
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	1.3	1.0	2.7	8	5.9	M8 D10 H20	1.1	1.0	1.2
	1994	2	630 3-hr	76 3-hr	1.3	0.9	2.9	11	8.0	M8 D24 H23	1.3	0.8	1.4
Philadelphia–Rider University	1995	3	2096 1-hr	258 1-hr	3.9	2.1	12.1	18	39.3	M7 D14 H18	4.5	2.3	7.5
	1994	3											
Providence–E. Providence	1995	2	681 3-hr	92 3-hr	2.6	2.3	5.6	14	23.0	M7 D15 H11	3.0	2.0	4.0
	1994	2	366 3-hr	34 3-hr	2.3	2.5	4.2	15	12.0	M7 D16 H21	2.2	1.9	2.8
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	1.2	1.0	2.0	16	9.0	M8 D 9 H 5	1.2	1.8	1.7
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	2.0	1.0	3.6	12	6.8	M7 D17 H12	1.7	1.2	1.3
	1994	2	120 3-hr	29 3-hr	2.5	1.6	3.9	12	6.4	M8 D15 H16	1.4	0.7	1.0
San Diego–Overland	1995	2	112 3-hr	28 3-hr	0.8	0.4	1.6	12	3.7	M8 D28 H12	0.8	0.5	0.7
	1994	2	45 3-hr	11 3-hr	1.1	0.6	2.1	12	2.7	M9 D 8 H16	0.9	0.6	0.4
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	2.9	3.0	4.8	12	8.8	M7 D29 H12	2.2	1.5	1.9
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	2.5	1.0	4.5	23	12.0	M8 D 6 H12	2.6	0.8	3.3
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	0.8	0.9	1.2	23	2.0	M7 D 7 H16	0.6	0.6	0.7
South Coast/SEDAB–Pico Riv	1995	2	412 3-hr	58 3-hr	1.4	1.5	2.3	0	10.9	M8 D14 H 6	1.0	1.6	1.4
	1994	2	825 3-hr	97 3-hr	1.8	1.5	6.3	21	8.9	M9 D26 H21	1.8	1.0	1.4
South Coast/SEDAB–Azusa	1995	3	166 3-hr	21 3-hr	1.0	1.0	1.6	15	3.4	M8 D31 H15	0.5	0.5	0.7
	1994	3											
South Coast/SEDAB–Upland	1995	4	180 3-hr	24 3-hr	2.6	3.7	5.2	12	13.3	M8 D31 H 6	2.1	2.7	2.0
	1994	4	202 3-hr	27 3-hr	2.0	2.1	3.9	12	6.6	M8 D12 H 6	1.4	1.3	1.2
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	4.5	1.8	9.2	23	33.8	M7 D14 H17	6.0	1.2	8.6
	1994	1											
Springfield–Chicopee	1995	2	1316 1-hr	183 1-hr	4.3	2.3	11.0	17	44.6	M7 D14 H15	5.2	2.1	8.8
	1994	2	1449 1-hr	185 1-hr	3.3	2.3	10.1	13	47.1	M6 D14 H13	4.0	2.3	7.8
Springfield–Ware	1995	3	1349 1-hr	191 1-hr	15.9	5.1	43.8	14	99.4	M7 D27 H14	18.5	6.2	22.9
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
ISOPRENE (ppbC) - (continued)													
Ventura Co.–Simi Valley	1995	3											
	1994	3											
Washington–Corbin	1995	1											
	1994	1	229 3-hr	29 3-hr	12.1	5.9	31.2	17	68.2	M6 D22 H17	11.9	4.2	13.8
Washington–McMillan Reserv	1995	2	1372 1-hr	174 1-hr	2.4	1.8	6.1	17	15.0	M8 D 4 H 6	2.2	2.1	3.0
	1994	2	734 1-hr	91 1-hr	2.5	1.6	6.3	19	20.3	M8 D28 H19	2.2	1.2	3.8
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	5.4	5.7	10.9	15	20.4	M8 D 1 H15	4.5	3.3	4.9
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	1.8	1.3	5.9	18	21.9	M8 D15 H18	2.3	1.5	4.2
	1994	4	1384 1-hr	171 1-hr	1.9	1.4	6.2	18	20.1	M7 D10 H18	2.3	1.8	4.0
2,2,4-TRIMETHYLPENTANE (ppbC)													
Composite average	1995	All	Sites = 17		2.4	3.0	4.8						
	1994	All			2.8	3.8	5.4						
Composite average	1995	2	Sites = 11		2.8	3.5	5.7						
	1994	2			3.3	4.4	6.4						
Composite average	1995	3	Sites = 2		3.0	0.9	8.3						
	1994	3			2.9	1.7	8.7						
Composite average	1995	4	Sites = 5		3.4	2.5	7.4						
	1994	4			2.5	2.0	6.5						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	1.3	1.5	3.0	21	11.0	M8 D10 H12	1.3	1.0	2.3
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	2.5	3.2	5.9	21	16.7	M7 D30 H22	1.8	2.1	2.8
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	4.8	4.7	12.1	3	100.7	M8 D13 H 0	8.9	7.3	17.9
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.5	0.7	2.2	6	16.9	M6 D22 H10	0.9	0.9	2.4
	1994	4	1493 1-hr	186 1-hr	0.6	0.9	1.8	6	6.2	M8 D 4 H 2	0.7	0.8	1.0
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.4	0.4	1.1	0	2.4	M7 D16 H 0	0.6	0.7	0.8
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	0.7	0.8	1.6	0	7.6	M8 D25 H21	0.8	0.6	1.3
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	4.4	5.5	10.6	0	34.1	M6 D27 H 3	4.5	4.1	7.3
	1994	2	688 3-hr	85 3-hr	2.7	4.2	6.5	6	21.8	M8 D10 H 0	3.0	3.4	4.4
Boston–Lynn	1995	2	2050 1-hr	262 1-hr	1.7	1.9	4.1	20	13.2	M8 D 9 H22	1.3	1.3	2.1
	1994	2	1863 1-hr	252 1-hr	1.6	1.7	4.0	22	31.9	M6 D29 H 1	1.3	1.1	3.5
Boston–Newbury	1995	3	645 1-hr	80 1-hr	1.3	1.3	3.0	21	9.4	M8 D17 H22	1.0	1.0	1.8
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	521 1-hr	59 1-hr	1.4	1.8	3.2	0	21.2	M7 D 8 H12	1.3	1.2	3.3
Connecticut–Stafford	1995	3	1455 1-hr	182 1-hr	0.9	1.1	1.9	20	22.7	M6 D10 H 1	0.7	0.6	2.6
	1994	3	654 1-hr	89 1-hr	1.0	1.1	2.9	0	21.3	M8 D 4 H11	1.4	0.6	4.3
Connecticut–Cape Eliz., ME	1995	4	1937 1-hr	251 1-hr	0.6	0.8	1.8	6	6.7	M7 D15 H 1	0.7	0.8	1.1
	1994	4	1752 1-hr	204 1-hr	0.9	1.0	1.6	7	3.6	M8 D26 H 9	0.4	0.5	0.7
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	6.0	6.0	6.0	5	12.9	M8 D25 H 5	2.8	2.8	2.8
El Paso–Chamizal	1995	2	1051 1-hr	141 1-hr	6.9	8.4	21.1	5	120.3	M7 D26 H21	9.6	7.4	18.3
	1994	2											
Houston–Clinton Dr.	1995	2	1728 1-hr	235 1-hr	3.4	4.9	11.4	6	74.6	M7 D13 H21	4.0	3.6	10.5
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.2	0.4	0.4	6	2.3	M6 D23 H 6	0.4	0.6	0.6
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	6.4	7.4	9.6	6	22.2	M6 D17 H 6	3.6	4.5	4.5
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	4.1	3.8	7.1	0	42.0	M7 D29 H 0	5.4	4.7	8.3
	1994	2											
Lake Michigan–Gary	1995	2	1100 1-hr	150 1-hr	2.8	3.1	9.1	23	24.0	M8 D22 H 0	3.1	2.8	5.7
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	2.1	2.6	2.8	23	20.0	M6 D13 H23	2.3	2.3	2.6
	1994	2	63 3-hr	15 3-hr	3.7	4.9	4.8	23	29.0	M8 D 5 H23	5.2	4.4	5.6
Lake Michigan–Harrington B	1995	3	91 3-hr	32 3-hr	0.5	0.6	0.8	5	2.2	M6 D16 H11	0.5	0.5	0.6
	1994	3	52 3-hr	17 3-hr	0.4	0.6	0.5	5	2.1	M6 D10 H 5	0.5	0.7	0.7
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	1.0	1.2	1.6	6	7.0	M6 D23 H 6	1.3	1.4	1.4
	1994	4	141 3-hr	35 3-hr	1.5	2.1	3.1	0	9.1	M6 D16 H 0	2.0	2.1	2.7
Lake Michigan–Manitowoc	1995	4	79 3-hr	29 3-hr	0.5	0.6	0.7	5	3.4	M7 D29 H14	0.6	0.4	0.7
	1994	4											
New York–Bronx Bot. Garden	1995	2	1868 1-hr	243 1-hr	4.3	4.5	9.8	23	37.4	M8 D31 H 1	3.0	3.1	5.6
	1994	2	131 3-hr	23 3-hr	4.4	4.7	7.6	21	13.8	M8 D27 H 0	2.4	2.7	2.7
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	0.5	0.7	2.2	6	16.9	M6 D22 H10	0.9	0.9	2.4
	1994	1	1493 1-hr	186 1-hr	0.6	0.9	1.8	6	6.2	M8 D 4 H 2	0.7	0.8	1.0
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	2.1	2.8	4.0	20	8.9	M7 D 9 H23	1.5	1.8	1.7
	1994	2	630 3-hr	76 3-hr	3.0	4.3	6.2	5	23.4	M8 D28 H 2	2.6	3.1	4.1
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	0.9	1.3	2.2	0	8.9	M6 D24 H 7	0.8	1.3	1.3
	1994	3											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
Providence–E. Providence	1995	2	678 3-hr	89 3-hr	1.6	2.6	3.5	5	21.1	M7 D20 H 5	1.7	3.0	2.9
	1994	2	366 3-hr	34 3-hr	1.4	2.1	2.7	21	8.1	M7 D16 H21	1.2	1.7	2.0
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	1.0	1.3	1.5	5	9.0	M9 D26 H 5	1.3	1.9	1.8
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	3.0	4.4	4.7	5	17.4	M7 D 8 H 2	2.2	2.2	2.9
	1994	2	120 3-hr	29 3-hr	4.5	7.0	7.4	5	21.7	M9 D26 H16	3.6	4.5	5.0
San Diego–Overland	1995	2	112 3-hr	28 3-hr	1.3	2.0	2.2	5	5.8	M9 D12 H 5	0.9	1.3	1.2
	1994	2	45 3-hr	11 3-hr	2.5	3.3	3.5	5	6.9	M9 D29 H 5	1.6	1.9	1.8
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	1.1	1.2	1.6	5	2.5	M9 D15 H16	0.6	0.5	0.5
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	1.3	2.4	2.2	5	6.0	M9 D 4 H23	1.4	1.5	1.6
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	0.9	1.3	1.3	5	4.0	M8 D 6 H 5	0.8	1.1	1.0
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	6.0	7.3	9.7	6	31.0	M7 D29 H 0	3.3	3.6	4.3
	1994	2	866 3-hr	103 3-hr	6.5	8.3	12.0	21	100.4	M8 D15 H 0	6.2	8.1	9.6
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	6.3	8.0	9.5	6	15.2	M8 D31 H 6	2.7	3.4	2.7
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	6.4	8.5	10.8	6	16.1	M8 D 7 H 3	3.2	3.3	3.2
	1994	4	220 3-hr	28 3-hr	7.9	11.1	12.7	21	22.9	M7 D22 H 3	3.9	4.1	4.1
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	0.9	1.2	1.6	23	3.1	M8 D 1 H 5	0.8	1.0	0.9
	1994	1											
Springfield–Chicopee	1995	2	1352 1-hr	177 1-hr	1.5	1.8	3.2	22	8.4	M7 D21 H 6	1.0	1.2	1.5
	1994	2	1423 1-hr	184 1-hr	2.0	2.4	5.5	0	47.6	M8 D26 H 3	2.2	1.5	7.4
Springfield–Ware	1995	3	521 1-hr	83 1-hr	0.9	1.0	2.4	23	35.2	M8 D 1 H 8	1.8	0.5	6.1
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	2.0	3.4	3.4	6	6.0	M9 D26 H 6	1.3	1.3	1.1
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	4.4	8.4	8.3	6	15.0	M9 D 8 H 6	3.3	3.2	3.4
Washington–McMillan Reserv	1995	2	1995 1-hr	248 1-hr	2.6	3.3	8.5	21	59.0	M7 D30 H23	3.5	3.8	8.9
	1994	2	734 1-hr	91 1-hr	3.7	5.3	9.7	22	29.2	M8 D 7 H 0	3.5	4.7	6.5
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	1.3	1.5	3.0	21	11.0	M8 D10 H12	1.3	1.0	2.3
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.5	0.7	2.2	6	16.9	M6 D22 H10	0.9	0.9	2.4
	1994	4	1493 1-hr	186 1-hr	0.6	0.9	1.8	6	6.2	M8 D 4 H 2	0.7	0.8	1.0
FORMALDEHYDE (ppbC)													
Composite average	1995	All	Sites = 6		7.6	7.5	10.8						
	1994	All			5.9	5.1	9.4						
Composite average	1995	2	Sites = 5		5.0	4.6	8.2						
	1994	2			4.7	3.9	8.3						
Baltimore–Essex	1995	2											
	1994	2	680 3-hr	85 3-hr	6.5	6.4	10.0	12	38.1	M6 D 7 H12	3.9	3.7	5.0
Baton Rouge–Capitol	1995	2	645 3-hr	82 3-hr	4.2	4.4	6.5	9	13.7	M8 D21 H12	2.4	2.5	2.7
	1994	2											
Boston–Lynn	1995	2	577 3-hr	66 3-hr	3.4	2.6	5.5	11	16.2	M7 D31 H14	2.5	2.1	3.1
	1994	2	580 3-hr	69 3-hr	4.8	3.9	8.2	11	19.7	M7 D30 H14	3.1	2.1	3.5
Connecticut–E. Hartford	1995	2	392 3-hr	34 3-hr	5.1	3.5	7.9	14	16.1	M8 D 1 H14	3.0	2.8	3.5
	1994	2	459 3-hr	53 3-hr	4.9	3.6	11.5	12	77.7	M6 D13 H12	5.8	2.2	14.5
Lake Michigan–Braidwood	1995	1	111 3-hr	37 3-hr	3.6	3.7	4.6	6	19.3	M8 D19 H 6	2.0	3.0	2.8
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	136 3-hr	33 3-hr	9.6	9.7	11.6	15	30.1	M6 D16 H15	5.3	4.9	6.0
Lake Michigan–Chicago–Jardine	1995	2	145 3-hr	36 3-hr	9.2	9.1	13.3	0	86.0	M8 D28 H15	7.0	1.8	12.6
	1994	2											
Lake Michigan–Milwaukee	1995	2	131 3-hr	34 3-hr	8.1	5.6	12.7	23	33.1	M8 D 7 H14	6.4	1.6	9.1
	1994	2											
Lake Michigan–Harrington B	1995	3	102 3-hr	35 3-hr	5.9	6.9	8.7	5	21.3	M8 D13 H 5	5.2	6.4	6.1
	1994	3											
Lake Michigan–Camp Logan	1995	4	109 3-hr	37 3-hr	20.3	21.5	23.7	6	43.2	M8 D22 H 6	10.6	11.3	11.1
	1994	4	140 3-hr	35 3-hr	12.1	11.2	14.7	15	28.6	M6 D19 H15	6.4	6.1	5.5
Lake Michigan–Manitowoc	1995	4	69 3-hr	24 3-hr	4.0	3.4	5.6	11	31.6	M7 D17 H14	4.9	5.0	7.1
	1994	4											
New York–Bronx Bot. Garden	1995	2	306 3-hr	38 3-hr	4.9	4.2	7.1	12	13.8	M8 D 2 H 9	2.6	2.0	2.9
	1994	2											
Philadelphia–East Lycoming	1995	2	727 3-hr	92 3-hr	5.6	4.6	8.0	14	16.1	M6 D20 H17	2.5	2.0	2.4
	1994	2	710 3-hr	88 3-hr	6.1	5.3	8.8	8	16.8	M7 D 8 H 8	2.7	2.5	2.8
Providence–E. Providence	1995	2	653 3-hr	83 3-hr	4.0	3.3	5.9	11	16.1	M7 D14 H17	2.3	1.7	2.7
	1994	2	460 3-hr	59 3-hr	3.8	3.8	5.8	15	13.6	M6 D18 H 9	2.2	1.9	2.5
San Diego–El Cajon	1995	2	111 3-hr	28 3-hr	5.0	4.8	7.0	12	15.8	M9 D18 H 2	2.3	2.3	2.7
	1994	2											
San Diego–Overland	1995	2	120 3-hr	30 3-hr	2.3	2.4	3.5	12	7.9	M8 D31 H12	1.2	1.1	1.3
	1994	2											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
FORMALDEHYDE (ppbC) - (continued)													
South Coast/SEDAB–Pico Riv	1995	2											
	1994	2	494 3-hr	60 3-hr	4.6	5.2	7.7	9	64.5	M9 D27 H12	3.4	2.0	7.6
Springfield–Chicopee	1995	2	211 3-hr	18 3-hr	7.1	9.3	13.9	17	110.8	M7 D 6 H23	16.1	24.2	24.0
	1994	2	505 3-hr	61 3-hr	4.0	2.7	7.2	11	27.1	M8 D26 H14	2.8	1.2	4.6
Ventura Co.–El Rio	1995	2	131 3-hr	34 3-hr	2.0	2.0	2.8	6	6.0	M9 D 6 H13	1.1	1.0	1.2
	1994	2											
ACETALDEHYDE (ppbC)													
Composite average	1995	All	Sites = 6		3.2	3.2	5.2						
	1994	All			3.6	3.3	6.0						
Composite average	1995	2	Sites = 5		2.9	3.0	5.1						
	1994	2			3.5	3.2	6.2						
Baltimore–Essex	1995	2	734 3-hr	92 3-hr	3.4	3.0	5.2	21	20.4	M8 D31 H 9	1.7	1.4	2.2
	1994	2	680 3-hr	85 3-hr	4.7	6.1	8.1	6	29.3	M6 D 3 H21	2.7	2.8	3.5
Baton Rouge–Capitol	1995	2	645 3-hr	82 3-hr	1.4	1.7	2.4	6	6.0	M8 D28 H 6	0.9	1.2	1.2
	1994	2											
Boston–Lynn	1995	2	576 3-hr	66 3-hr	2.0	2.1	3.4	20	17.7	M7 D 7 H 5	1.5	2.5	2.5
	1994	2	580 3-hr	69 3-hr	2.6	2.4	4.3	8	12.4	M6 D13 H11	1.6	1.3	2.2
Connecticut–E. Hartford	1995	2	396 3-hr	34 3-hr	3.2	3.0	5.4	14	16.7	M8 D22 H 2	1.8	1.7	3.0
	1994	2	485 3-hr	53 3-hr	3.8	2.7	9.3	12	180.6	M6 D17 H 9	9.2	1.4	25.6
Lake Michigan–Braidwood	1995	1	111 3-hr	37 3-hr	1.7	1.9	2.2	6	4.6	M6 D23 H 6	0.9	1.1	0.8
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	136 3-hr	33 3-hr	6.5	6.5	8.1	12	20.2	M6 D16 H12	3.3	3.2	3.7
Lake Michigan–Chicago–Jardine	1995	2	145 3-hr	36 3-hr	3.5	3.8	4.9	6	10.0	M7 D13 H15	1.8	1.7	1.8
	1994	2											
Lake Michigan–Milwaukee	1995	2	90 3-hr	24 3-hr	10.0	9.0	13.3	23	37.6	M7 D14 H14	5.2	3.4	7.3
	1994	2											
Lake Michigan–Harrington B	1995	3	69 3-hr	24 3-hr	9.6	12.3	13.0	5	56.6	M6 D 5 H 5	7.7	11.2	9.7
	1994	3											
Lake Michigan–Camp Logan	1995	4	109 3-hr	37 3-hr	4.6	3.9	5.4	12	12.6	M8 D12 H15	2.2	1.6	2.5
	1994	4	140 3-hr	35 3-hr	4.1	3.9	5.2	12	11.2	M6 D18 H12	1.9	1.8	2.1
Lake Michigan–Manitowoc	1995	4	37 3-hr	13 3-hr	8.1	8.1	10.7	5	40.4	M7 D17 H14	7.2	6.8	10.6
	1994	4											
New York–Bronx Bot. Garden	1995	2	306 3-hr	38 3-hr	3.4	3.3	5.3	9	18.5	M7 D13 H 9	2.5	2.6	3.4
	1994	2											
Philadelphia–East Lycoming	1995	2	727 3-hr	92 3-hr	3.6	3.5	5.8	8	18.1	M8 D28 H 5	1.8	2.3	2.4
	1994	2	710 3-hr	88 3-hr	5.0	4.8	7.6	8	15.9	M8 D11 H14	2.6	2.7	3.0
Providence–E. Providence	1995	2	656 3-hr	84 3-hr	2.7	2.5	4.1	8	11.0	M7 D27 H20	1.5	1.6	2.0
	1994	2	462 3-hr	60 3-hr	3.1	3.5	4.8	21	20.6	M7 D 5 H 0	1.9	2.3	2.5
San Diego–El Cajon	1995	2	111 3-hr	28 3-hr	3.2	3.6	4.5	12	10.8	M8 D28 H 5	1.8	2.2	2.2
	1994	2											
San Diego–Overland	1995	2	120 3-hr	30 3-hr	1.8	1.9	2.7	12	6.8	M8 D31 H12	1.1	1.1	1.3
	1994	2											
South Coast/SEDAB–Pico Riv	1995	2											
	1994	2	494 3-hr	60 3-hr	7.0	6.3	14.0	12	22.6	M8 D 5 H 9	4.6	2.8	3.7
Springfield–Chicopee	1995	2	212 3-hr	18 3-hr	3.2	4.0	6.9	14	60.3	M7 D 6 H20	6.0	8.4	11.6
	1994	2	504 3-hr	60 3-hr	3.0	2.8	5.0	8	18.3	M7 D18 H11	2.0	1.5	2.9
Ventura Co.–El Rio	1995	2	131 3-hr	34 3-hr	1.8	2.1	2.5	6	6.0	M7 D13 H 9	1.2	1.3	1.5
	1994	2											
M/P XYLENE (ppbC)													
Composite average	1995	All	Sites = 14		4.6	5.8	10.3						
	1994	All			5.0	6.9	9.5						
Composite average	1995	2	Sites = 10		6.1	7.7	13.6						
	1994	2			6.5	9.0	12.2						
Composite average	1995	3	Sites = 2		0.7	1.1	1.6						
	1994	3			1.2	1.7	3.1						
Composite average	1995	4	Sites = 3		0.7	1.3	2.2						
	1994	4			0.9	1.5	2.9						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	1.8	2.6	4.2	6	7.2	M7 D 8 H 3	1.5	1.6	1.9
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	2.9	4.2	8.0	21	33.3	M7 D31 H18	2.4	3.0	5.1
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	1.2	1.4	2.3	6	4.0	M8 D22 H18	0.8	0.7	0.9
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.6	1.3	2.2	6	7.4	M8 D22 H22	0.9	1.2	1.5
	1994	4	1493 1-hr	186 1-hr	0.9	1.6	3.1	5	11.9	M6 D 9 H 3	1.3	1.8	2.5
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.8	0.8	1.7	0	3.3	M7 D16 H 0	0.8	0.8	0.9
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	0.9	1.0	1.9	0	3.7	M6 D23 H 3	0.7	0.5	0.9
	1994	1/3											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
M/P XYLENE (ppbC) - (continued)													
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	5.2	6.8	13.2	6	61.9	M6 D26 H21	6.1	5.2	10.9
	1994	2	688 3-hr	85 3-hr	4.1	6.5	9.9	6	44.0	M8 D 9 H21	4.5	4.4	7.4
Boston–Lynn	1995	2	2104 1-hr	263 1-hr	2.9	3.3	6.2	20	15.1	M8 D 9 H22	1.8	2.0	2.8
	1994	2	1899 1-hr	253 1-hr	3.5	3.9	8.5	6	23.7	M7 D 1 H14	2.5	2.4	4.1
Boston–Newbury	1995	3	841 1-hr	110 1-hr	1.4	1.4	4.0	22	44.8	M8 D10 H17	2.2	1.1	4.6
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	658 1-hr	70 1-hr	3.7	4.7	11.0	4	47.7	M7 D18 H10	4.6	3.6	10.6
Connecticut–Stafford	1995	3	1441 1-hr	200 1-hr	1.0	1.3	2.2	6	7.0	M6 D23 H11	0.8	1.0	1.2
	1994	3	1064 1-hr	131 1-hr	1.4	1.8	4.4	0	30.2	M6 D 1 H18	1.6	1.1	4.7
Connecticut–Cape Eliz., ME	1995	4	1940 1-hr	254 1-hr	0.7	1.3	2.2	6	8.7	M8 D25 H 6	0.8	1.0	1.3
	1994	4	1751 1-hr	204 1-hr	0.7	1.3	2.4	7	8.2	M6 D15 H 0	0.9	1.1	1.6
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	14.8	14.8	14.9	5	30.0	M7 D25 H 5	6.6	6.6	6.7
El Paso–Chamizal	1995	2	1055 1-hr	141 1-hr	10.6	13.3	38.6	5	199.4	M7 D26 H21	17.8	13.3	32.9
	1994	2											
Houston–Clinton Dr.	1995	2	1728 1-hr	235 1-hr	10.0	14.1	30.4	5	134.6	M8 D17 H23	9.5	9.5	21.6
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.7	1.3	1.4	6	5.2	M8 D22 H 6	0.9	1.1	1.1
	1994	1											
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	6.5	7.2	9.0	0	19.1	M6 D14 H 6	3.6	3.7	3.8
	1994	2											
Lake Michigan–Gary	1995	2	1136 1-hr	152 1-hr	3.9	5.1	11.7	23	36.7	M8 D22 H 0	4.3	4.4	7.7
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	2.9	3.9	4.1	23	24.0	M6 D13 H23	3.0	3.2	3.4
	1994	2	134 3-hr	34 3-hr	5.4	8.0	8.4	23	45.0	M8 D 5 H23	6.6	7.5	7.8
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	0.5	1.0	1.0	5	4.1	M6 D23 H 5	0.7	0.9	0.9
	1994	3	95 3-hr	33 3-hr	1.1	1.7	1.8	5	4.7	M8 D18 H 5	1.1	1.2	1.3
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	1.3	2.1	2.4	6	6.0	M6 D23 H 6	1.5	1.6	1.6
	1994	4											
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	0.6	0.9	1.0	5	4.4	M7 D29 H14	0.8	0.6	0.9
	1994	4											
New York–Bronx Bot. Garden	1995	2	1868 1-hr	243 1-hr	8.5	7.1	36.2	23	1272.0	M7 D31 H13	31.7	4.7	140.9
	1994	2	131 3-hr	23 3-hr	8.2	9.0	14.6	21	27.3	M8 D27 H 0	4.8	4.9	5.2
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	0.6	1.3	2.2	6	7.4	M8 D22 H22	0.9	1.2	1.5
	1994	1	1493 1-hr	186 1-hr	0.9	1.6	3.1	5	11.9	M6 D 9 H 3	1.3	1.8	2.5
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	4.1	5.6	7.6	20	17.9	M6 D 5 H 5	2.6	3.4	3.2
	1994	2	630 3-hr	76 3-hr	6.7	9.4	13.0	5	39.2	M8 D30 H23	4.9	5.6	7.2
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	1.9	3.2	5.1	23	21.2	M6 D 1 H 7	1.8	2.7	2.8
	1994	3											
Providence–E. Providence	1995	2	684 3-hr	95 3-hr	3.4	5.5	7.4	5	24.0	M7 D21 H23	3.3	4.6	4.8
	1994	2	366 3-hr	34 3-hr	3.2	4.8	6.3	0	19.8	M8 D28 H 0	2.6	3.1	4.0
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	4.7	6.6	6.9	5	29.0	M9 D26 H 5	4.3	6.0	5.7
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	7.5	11.8	12.3	5	25.1	M9 D12 H 5	5.0	5.6	5.5
	1994	2	120 3-hr	29 3-hr	10.3	16.6	17.6	5	52.0	M9 D26 H16	8.5	10.1	11.5
San Diego–Overland	1995	2	112 3-hr	28 3-hr	4.3	6.6	7.1	5	20.4	M9 D12 H 5	3.0	4.1	4.2
	1994	2	45 3-hr	11 3-hr	5.9	7.7	8.4	5	18.4	M9 D29 H 5	3.8	4.7	4.8
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	2.4	3.1	3.8	5	6.6	M9 D15 H16	1.3	1.1	1.2
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	6.4	11.3	10.5	23	27.0	M8 D12 H 5	6.1	6.8	7.0
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	14.9	25.2	25.2	5	77.0	M9 D16 H23	14.9	14.6	15.2
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	17.1	19.3	27.2	6	265.5	M8 D 1 H15	14.0	8.8	31.5
	1994	2	844 3-hr	99 3-hr	12.6	16.8	22.7	6	73.7	M8 D15 H 3	8.8	12.1	12.1
South Coast/SEDAB–Upland	1995	4											
	1994	4	202 3-hr	27 3-hr	5.3	7.6	8.9	21	15.4	M7 D22 H 3	2.8	2.6	2.6
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	2.4	2.9	3.9	23	21.2	M6 D 4 H23	2.3	1.8	2.3
	1994	1											
Springfield–Chicopee	1995	2	1344 1-hr	184 1-hr	1.7	2.3	4.8	7	12.1	M8 D26 H20	1.8	2.1	2.7
	1994	2	15 1-hr	7 1-hr	3.5	5.1	3.5	7	7.3	M7 D13 H 7	2.1	2.1	2.1
Springfield–Ware	1995	3	1016 1-hr	151 1-hr	0.8	0.9	2.0	23	26.1	M8 D 1 H 8	1.2	0.8	3.4
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	4.1	7.6	7.4	6	15.0	M9 D26 H 6	3.0	2.9	2.6
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	10.0	21.7	20.7	6	41.0	M9 D14 H 6	9.2	9.4	9.9
Washington–McMillan Reserv	1995	2	1326 1-hr	164 1-hr	5.3	7.0	15.0	21	49.7	M6 D 4 H23	5.3	6.2	10.0
	1994	2	734 1-hr	91 1-hr	5.1	7.5	12.7	22	36.0	M8 D 7 H 0	4.5	6.2	8.2
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	1.8	2.6	4.2	6	7.2	M7 D 8 H 3	1.5	1.6	1.9
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.6	1.3	2.2	6	7.4	M8 D22 H22	0.9	1.2	1.5
	1994	4	1493 1-hr	186 1-hr	0.9	1.6	3.1	5	11.9	M6 D 9 H 3	1.3	1.8	2.5

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS All Hrs.	# OBS 5-8 am STD	Means All Hrs.	Means 5-8am STD	Means Daily Max.	P-hr of <	Absolute Max Value	Absolute Max Occured	Standard Deviation of All Hrs.	Standard Deviation of 5-8 am STD	Standard Deviation of Daily Max.
BENZENE (ppbC)													
Composite average	1995	All	Sites = 19		2.9	3.8	5.3						
	1994	All			4.2	5.6	7.4						
Composite average	1995	2	Sites = 12		3.2	4.2	6.0						
	1994	2			4.7	6.2	8.4						
Composite average	1995	4	Sites = 5		3.0	4.0	5.6						
	1994	4			4.1	5.6	6.9						
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	2.5	3.3	6.1	21	15.0	M7 D30 H22	1.9	2.2	3.2
	1994	2											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	1.3	1.8	4.0	5	95.8	M6 D23 H 4	2.4	1.3	10.5
	1994	4	1493 1-hr	186 1-hr	1.1	1.5	2.7	6	14.9	M7 D23 H13	1.0	1.1	2.0
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	2.0	2.4	3.3	0	8.6	M6 D 1 H 0	1.3	1.4	1.8
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	2.2	2.8	3.4	6	6.1	M6 D23 H 6	1.0	1.2	1.2
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	6.0	8.3	13.2	6	110.5	M6 D23 H 0	7.4	6.3	13.2
	1994	2	688 3-hr	85 3-hr	4.4	6.2	9.1	6	33.3	M7 D 5 H21	3.6	4.0	5.5
Boston–Lynn	1995	2	2075 1-hr	263 1-hr	1.3	1.7	3.3	7	41.5	M8 D31 H 5	1.3	3.0	4.3
	1994	2	1901 1-hr	253 1-hr	2.5	2.8	5.9	22	24.8	M7 D 2 H 4	1.7	1.6	3.3
Boston–Newbury	1995	3	893 1-hr	111 1-hr	1.4	1.4	2.4	3	14.4	M8 D10 H15	0.7	0.5	1.5
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	657 1-hr	70 1-hr	2.0	2.7	4.8	1	20.5	M7 D 8 H12	1.7	1.7	3.5
Connecticut–Stafford	1995	3	1752 1-hr	214 1-hr	1.0	1.1	1.9	0	4.0	M8 D 3 H16	0.5	0.6	0.7
	1994	3	1070 1-hr	131 1-hr	1.7	1.8	4.2	0	32.0	M6 D 1 H18	1.5	0.9	4.7
Connecticut–Cape Eliz., ME	1995	4	1934 1-hr	248 1-hr	0.8	0.9	1.6	6	5.9	M8 D22 H18	0.5	0.6	1.0
	1994	4	1752 1-hr	204 1-hr	0.9	1.2	2.0	23	5.4	M6 D15 H 0	0.7	0.8	1.1
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	12.5	12.5	12.6	5	25.3	M7 D25 H 5	5.4	5.4	5.4
El Paso–Chamizal	1995	2	1062 1-hr	143 1-hr	7.8	10.0	24.4	5	135.7	M7 D26 H21	11.3	9.6	21.0
	1994	2											
Houston–Clinton Dr.	1995	2	1728 1-hr	235 1-hr	7.5	8.8	30.2	19	295.0	M8 D14 H19	11.7	7.1	38.4
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	1.0	1.4	1.4	6	4.5	M6 D 2 H 6	0.7	0.9	0.9
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	9.6	10.9	13.9	6	31.8	M6 D13 H15	5.1	6.2	6.4
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	7.0	7.5	9.2	0	19.6	M7 D29 H 0	5.0	4.5	5.5
	1994	2											
Lake Michigan–Gary	1995	2	1188 1-hr	152 1-hr	4.2	4.7	19.5	23	160.0	M8 D16 H17	7.9	7.6	28.1
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	2.0	2.5	2.6	23	15.0	M6 D13 H23	1.7	1.7	1.8
	1994	2	134 3-hr	34 3-hr	4.3	5.3	5.8	23	38.0	M8 D 5 H23	4.4	3.4	4.7
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	0.8	0.9	1.1	5	2.2	M6 D16 H11	0.4	0.5	0.4
	1994	3	95 3-hr	33 3-hr	1.8	1.9	2.3	5	6.0	M7 D 1 H15	1.0	0.9	1.2
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	1.4	1.7	1.9	6	4.6	M8 D 4 H15	0.9	0.9	1.0
	1994	4	141 3-hr	35 3-hr	1.9	2.6	3.5	0	10.3	M7 D31 H15	1.9	2.1	2.4
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	0.8	0.8	0.9	5	2.0	M7 D29 H14	0.4	0.4	0.4
	1994	4											
New York–Bronx Bot. Garden	1995	2	1684 1-hr	219 1-hr	3.9	4.0	8.2	23	30.4	M8 D31 H 1	2.4	2.8	4.6
	1994	2	131 3-hr	23 3-hr	5.6	6.2	9.3	21	15.8	M7 D20 H 6	2.9	3.4	3.4
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	1.3	1.8	4.0	5	95.8	M6 D23 H 4	2.4	1.3	10.5
	1994	1	1493 1-hr	186 1-hr	1.1	1.5	2.7	6	14.9	M7 D23 H13	1.0	1.1	2.0
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	2.7	3.7	4.9	5	13.5	M8 D14 H 5	1.7	2.3	2.2
	1994	2	630 3-hr	76 3-hr	5.0	7.2	9.8	5	39.2	M8 D25 H 2	4.1	5.1	7.0
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	1.3	1.8	2.7	23	8.2	M6 D 1 H 7	0.8	1.1	1.2
	1994	3											
Providence–E. Providence	1995	2	680 3-hr	91 3-hr	2.0	3.4	4.2	5	25.0	M6 D14 H 5	1.8	3.5	3.6
	1994	2	366 3-hr	34 3-hr	2.4	3.7	4.4	6	17.5	M8 D31 H 6	1.8	3.0	3.2
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	3.4	4.3	4.7	5	20.0	M9 D26 H 5	2.8	4.0	3.9
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	4.4	6.5	6.6	5	13.8	M8 D31 H 5	2.4	3.0	2.9
	1994	2	120 3-hr	29 3-hr	8.1	11.9	12.7	5	38.7	M9 D26 H16	5.8	6.8	7.9
San Diego–Overland	1995	2	112 3-hr	28 3-hr	2.5	4.2	4.3	5	11.6	M9 D12 H 5	1.9	3.0	2.9
	1994	2	45 3-hr	11 3-hr	4.7	6.3	6.8	5	14.1	M9 D29 H 5	3.1	4.0	3.8
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	2.2	2.5	3.1	5	5.1	M7 D29 H 5	1.1	1.0	1.0
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	4.4	7.7	7.0	23	17.0	M9 D 4 H23	3.7	3.8	4.2
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	7.1	11.9	11.7	5	33.0	M9 D16 H23	6.5	6.6	6.7
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	6.4	8.4	9.5	6	16.7	M8 D28 H 6	2.9	3.8	3.5
	1994	2	869 3-hr	103 3-hr	10.3	13.7	17.5	21	132.9	M8 D15 H 0	8.5	12.0	13.6
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	9.9	12.2	14.4	6	22.4	M9 D15 H 6	4.0	5.3	4.0
	1994	3											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	10.2	13.6	16.3	6	24.0	M9 D21 H 6	4.4	4.3	3.9
	1994	4	220 3-hr	28 3-hr	15.3	21.4	23.6	21	39.3	M7 D22 H 3	7.2	7.7	7.9
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	1.6	1.7	2.2	23	3.5	M7 D13 H23	0.7	0.8	0.7
	1994	1											
Springfield–Chicopee	1995	2	1220 1-hr	168 1-hr	1.3	1.4	2.6	22	5.1	M6 D15 H22	0.8	0.9	1.0
	1994	2	1544 1-hr	191 1-hr	2.0	2.4	4.9	0	31.0	M8 D26 H 3	1.7	1.3	5.3
Springfield–Ware	1995	3	1283 1-hr	160 1-hr	1.0	0.9	5.1	23	243.0	M7 D23 H12	6.9	0.5	27.9
	1994	3											
Ventura Co.–El Rio	1995	2	108 3-hr	273 3-hr	0.0	0.0	0.0				0.0	0.0	0.0
	1994	2	94 3-hr	25 3-hr	3.2	5.2	5.2	6	10.0	M9 D26 H 6	2.0	2.1	1.9
Ventura Co.–Simi Valley	1995	3	104 3-hr	25 3-hr	0.0	0.0	0.0				0.0	0.0	0.0
	1994	3	103 3-hr	25 3-hr	7.0	13.4	13.2	6	25.0	M8 D 9 H 6	5.3	5.9	5.8
Washington–McMillan Reserv	1995	2	1995 1-hr	248 1-hr	3.5	4.3	8.7	21	33.4	M6 D 4 H23	3.1	3.5	6.0
	1994	2	734 1-hr	91 1-hr	4.9	6.3	9.8	22	25.1	M8 D 7 H 0	2.8	3.8	5.1
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	1.3	1.8	4.0	5	95.8	M6 D23 H 4	2.4	1.3	10.5
	1994	4	1493 1-hr	186 1-hr	1.1	1.5	2.7	6	14.9	M7 D23 H13	1.0	1.1	2.0
TOLUENE (ppbC)													
Composite average	1995	All	Sites = 17		9.8	12.7	20.6						
	1994	All			11.8	16.0	22.1						
Composite average	1995	2	Sites = 11		11.5	14.4	25.0						
	1994	2			13.2	17.5	25.1						
Composite average	1995	3	Sites = 2		1.9	2.6	3.7						
	1994	3			3.3	4.1	6.9						
Composite average	1995	4	Sites = 5		7.9	11.1	14.7						
	1994	4			10.0	14.7	18.0						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	3.9	5.3	8.8	6	15.6	M7 D 8 H 3	3.0	3.4	3.9
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	6.1	8.7	15.5	7	34.8	M7 D30 H22	4.7	5.9	7.5
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	5.3	5.7	11.6	3	82.1	M8 D13 H 0	7.1	5.7	14.1
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	2.2	3.6	6.0	5	17.0	M6 D22 H10	2.2	2.7	3.5
	1994	4	1492 1-hr	186 1-hr	2.2	3.4	5.5	6	13.9	M6 D 8 H10	1.9	2.6	3.1
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	2.3	2.5	4.0	0	8.0	M7 D16 H 0	1.7	1.8	1.8
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	1.5	1.8	3.2	0	7.0	M8 D25 H21	1.3	1.1	1.9
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	8.9	11.9	21.5	0	89.6	M6 D26 H21	9.4	8.6	15.9
	1994	2	688 3-hr	85 3-hr	7.3	11.0	16.1	6	68.7	M8 D 9 H21	7.0	7.4	11.5
Boston–Lynn	1995	2	2096 1-hr	263 1-hr	5.3	6.8	12.6	6	46.0	M6 D14 H 8	3.9	4.9	7.3
	1994	2	1903 1-hr	254 1-hr	6.8	7.7	17.1	6	93.7	M8 D11 H14	5.8	5.1	13.2
Boston–Newbury	1995	3	880 1-hr	110 1-hr	3.2	4.0	7.6	7	19.2	M8 D10 H15	2.3	2.7	3.2
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	659 1-hr	70 1-hr	6.6	9.2	15.6	6	41.0	M7 D16 H22	5.4	6.1	8.2
Connecticut–Stafford	1995	3	1756 1-hr	216 1-hr	2.2	2.9	5.0	23	18.3	M6 D10 H 1	1.7	2.2	2.9
	1994	3	1068 1-hr	131 1-hr	3.3	4.0	8.9	0	70.2	M6 D 1 H18	3.3	2.5	8.6
Connecticut–Cape Eliz., ME	1995	4	1932 1-hr	247 1-hr	1.7	2.9	6.0	5	81.0	M8 D25 H 6	2.7	6.0	10.2
	1994	4	1752 1-hr	204 1-hr	2.1	3.0	5.9	7	60.7	M6 D24 H 2	2.5	2.3	7.2
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	26.4	26.4	26.5	5	53.5	M7 D25 H 5	11.5	11.5	11.6
El Paso–Chamizal	1995	2	1062 1-hr	143 1-hr	17.3	22.1	57.0	5	365.0	M7 D26 H21	28.0	21.2	56.3
	1994	2											
Houston–Clinton Dr.	1995	2	1728 1-hr	235 1-hr	15.9	23.1	48.9	5	172.5	M8 D23 H14	15.8	17.9	33.7
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	1.4	2.2	2.2	6	8.4	M7 D14 H 6	1.3	1.7	1.6
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	23.5	28.5	36.4	6	106.1	M6 D17 H 6	15.1	21.0	20.5
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	11.0	12.1	15.9	6	36.0	M6 D14 H 6	6.5	7.0	7.2
	1994	2											
Lake Michigan–Gary	1995	2	1180 1-hr	151 1-hr	6.2	7.9	17.1	23	51.0	M8 D22 H 0	6.1	6.3	10.3
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	5.5	6.9	7.3	23	43.0	M6 D13 H23	5.1	5.1	5.7
	1994	2	134 3-hr	34 3-hr	11.6	16.5	17.6	23	100.0	M8 D 5 H23	14.5	17.4	17.9
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	1.5	2.3	2.4	5	6.9	M8 D22 H 5	1.2	1.4	1.4
	1994	3	95 3-hr	33 3-hr	3.3	4.2	5.0	5	15.0	M8 D 3 H10	2.6	2.4	3.1
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	3.4	5.1	6.1	6	18.1	M8 D10 H 6	3.8	4.7	5.0
	1994	4	141 3-hr	35 3-hr	8.5	12.3	16.9	0	91.8	M6 D22 H 0	11.0	12.0	17.9
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	1.6	1.7	2.2	5	12.0	M7 D29 H14	1.7	0.9	2.2
	1994	4											
New York–Bronx Bot. Garden	1995	2	1684 1-hr	219 1-hr	21.5	18.6	61.3	23	723.2	M6 D15 H10	31.5	14.0	113.4
	1994	2	131 3-hr	23 3-hr	20.8	22.6	34.7	21	59.4	M7 D22 H 6	10.2	12.9	9.8

Table A-13. PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
TOLUENE (ppbC) - (continued)													
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	2.2	3.6	6.0	5	17.0	M6 D22 H10	2.2	2.7	3.5
	1994	1	1492 1-hr	186 1-hr	2.2	3.4	5.5	6	13.9	M6 D 8 H10	1.9	2.6	3.1
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	8.6	11.5	15.4	5	42.7	M7 D12 H 5	5.3	7.5	6.8
	1994	2	630 3-hr	76 3-hr	12.5	17.4	23.6	5	68.8	M8 D28 H 2	8.8	11.2	13.4
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	3.9	6.1	10.6	23	63.9	M6 D 1 H 7	3.8	6.1	8.0
	1994	3											
Providence–E. Providence	1995	2	678 3-hr	90 3-hr	7.2	12.2	16.4	5	51.7	M8 D18 H 2	7.4	10.6	11.7
	1994	2	366 3-hr	34 3-hr	7.2	10.4	13.8	21	50.2	M8 D30 H18	6.2	7.4	10.1
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	7.8	10.4	10.9	5	49.0	M9 D26 H 5	7.1	10.1	9.6
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	12.7	19.0	19.6	5	40.6	M9 D12 H 5	7.8	9.1	9.1
	1994	2	120 3-hr	29 3-hr	17.7	26.6	28.7	5	90.6	M9 D26 H16	13.8	15.9	18.8
San Diego–Overland	1995	2	112 3-hr	28 3-hr	6.9	11.0	12.1	5	31.7	M9 D12 H 5	4.9	7.0	6.7
	1994	2	45 3-hr	11 3-hr	9.9	13.4	14.5	5	29.6	M9 D29 H 5	6.4	7.3	7.8
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	4.7	5.1	6.9	5	12.5	M9 D15 H16	2.4	1.9	2.3
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	15.7	20.1	26.7	23	170.0	M7 D22 H12	20.7	9.6	31.1
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	21.4	34.9	35.4	5	100.0	M8 D 5 H23	21.3	19.8	20.8
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	31.9	37.9	58.6	6	418.0	M8 D 1 H15	32.4	23.1	63.2
	1994	2	868 3-hr	103 3-hr	30.1	38.0	57.8	6	510.5	M8 D15 H 0	35.9	41.3	68.1
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	32.5	41.1	50.2	6	93.6	M9 D15 H 9	15.5	19.9	16.4
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	29.8	40.3	49.2	6	69.8	M9 D21 H 6	13.8	13.8	11.3
	1994	4	221 3-hr	28 3-hr	34.9	51.6	56.2	21	97.0	M7 D22 H 3	18.1	19.2	18.0
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	5.8	6.8	9.4	23	37.1	M6 D28 H23	5.5	6.1	6.2
	1994	1											
Springfield–Chicopee	1995	2	1432 1-hr	184 1-hr	5.2	6.4	15.5	23	83.5	M8 D31 H11	6.5	6.3	14.4
	1994	2	1574 1-hr	197 1-hr	11.1	14.1	26.5	0	73.3	M8 D31 H 2	9.0	9.2	14.3
Springfield–Ware	1995	3	1494 1-hr	189 1-hr	1.9	2.5	4.8	23	46.0	M8 D 1 H 8	2.1	2.4	5.7
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	6.6	12.0	11.7	6	23.0	M9 D26 H 6	4.6	4.6	4.1
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	16.5	33.3	32.1	6	59.0	M9 D14 H 6	13.6	13.7	14.2
Washington–McMillan Reserv	1995	2	1326 1-hr	164 1-hr	12.4	15.8	34.5	20	126.3	M7 D30 H23	12.1	14.1	26.1
	1994	2	734 1-hr	91 1-hr	10.6	15.1	26.2	22	74.3	M8 D 7 H 0	9.0	12.4	16.8
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	3.9	5.3	8.8	6	15.6	M7 D 8 H 3	3.0	3.4	3.9
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	2.2	3.6	6.0	5	17.0	M6 D22 H10	2.2	2.7	3.5
	1994	4	1492 1-hr	186 1-hr	2.2	3.4	5.5	6	13.9	M6 D 8 H10	1.9	2.6	3.1
ETHYLBENZENE (ppbC)													
Composite average	1995	All	Sites = 17		1.5	1.9	3.3						
	1994	All			1.8	2.4	3.5						
Composite average	1995	2	Sites = 11		1.8	2.2	4.1						
	1994	2			2.1	2.7	4.0						
Composite average	1995	3	Sites = 2		0.3	0.4	0.6						
	1994	3			0.5	0.6	1.3						
Composite average	1995	4	Sites = 5		1.2	1.7	2.2						
	1994	4			1.5	2.2	2.8						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	0.7	0.9	1.4	6	2.4	M7 D 8 H 3	0.5	0.5	0.6
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	0.9	1.3	2.5	22	7.7	M7 D31 H18	0.8	0.9	1.4
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	0.5	0.5	0.8	6	1.3	M8 D 7 H12	0.2	0.2	0.2
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.2	0.4	0.8	0	2.0	M8 D22 H22	0.3	0.4	0.5
	1994	4	1493 1-hr	186 1-hr	0.3	0.6	1.1	0	4.5	M8 D 1 H 9	0.5	0.7	0.9
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.4	0.3	0.6	0	1.4	M8 D18 H 0	0.4	0.4	0.5
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	0.2	0.2	0.6	0	1.6	M6 D23 H 3	0.3	0.3	0.4
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	1.7	2.1	4.0	6	18.6	M6 D26 H21	1.8	1.6	3.1
	1994	2	688 3-hr	85 3-hr	1.2	2.0	3.1	6	12.7	M8 D 9 H21	1.4	1.6	2.2
Boston–Lynn	1995	2	2081 1-hr	262 1-hr	1.0	1.1	2.0	20	4.4	M8 D 9 H22	0.6	0.6	0.9
	1994	2	1900 1-hr	253 1-hr	1.2	1.4	3.0	22	18.8	M8 D31 H 5	0.9	1.4	2.2
Boston–Newbury	1995	3	725 1-hr	97 1-hr	0.7	0.7	1.5	3	11.3	M8 D10 H15	0.6	0.3	1.3
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	540 1-hr	59 1-hr	1.1	1.4	2.6	4	10.8	M7 D 8 H12	1.0	1.0	1.9
Connecticut–Stafford	1995	3	1206 1-hr	176 1-hr	0.5	0.6	1.0	0	3.2	M6 D 1 H23	0.3	0.3	0.5
	1994	3	1047 1-hr	131 1-hr	0.6	0.7	2.0	5	19.1	M8 D 4 H11	0.9	0.4	3.3

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
ETHLYBENZENE (ppbC) - (continued)													
Connecticut–Cape Eliz., ME	1995	4	1939 1-hr	253 1-hr	0.2	0.3	0.6	6	2.9	M8 D25 H 6	0.2	0.3	0.4
	1994	4	1751 1-hr	204 1-hr	0.3	0.4	0.8	7	2.5	M6 D15 H 0	0.3	0.3	0.5
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	5.4	5.4	5.4	5	10.9	M7 D18 H 5	2.2	2.2	2.2
El Paso–Chamizal	1995	2	1056 1-hr	142 1-hr	4.7	6.3	16.8	5	80.3	M6 D 4 H 7	8.5	9.7	17.9
	1994	2											
Houston–Clinton Dr.	1995	2	1728 1-hr	235 1-hr	3.2	4.9	9.7	6	38.2	M6 D 6 H16	3.0	3.7	6.8
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.2	0.4	0.4	6	1.2	M6 D 2 H 6	0.3	0.4	0.4
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	4.2	4.8	6.3	6	14.7	M8 D18 H12	2.9	3.4	3.4
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	1.9	2.0	2.6	0	5.5	M6 D14 H 6	1.0	1.0	1.1
	1994	2											
Lake Michigan–Gary	1995	2	1067 1-hr	151 1-hr	1.2	1.3	3.6	23	11.2	M8 D15 H11	1.3	1.2	2.7
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	0.8	1.1	1.1	23	6.6	M6 D13 H23	0.8	0.9	1.0
	1994	2	134 3-hr	34 3-hr	1.6	2.2	2.4	23	12.0	M8 D 5 H23	1.8	2.1	2.2
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	0.1	0.2	0.2	5	1.4	M6 D23 H 5	0.2	0.4	0.3
	1994	3	93 3-hr	32 3-hr	0.3	0.5	0.6	5	1.8	M8 D 3 H10	0.4	0.4	0.5
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	0.4	0.6	0.7	6	1.9	M7 D14 H12	0.5	0.5	0.5
	1994	4	141 3-hr	35 3-hr	0.7	1.0	1.5	0	4.1	M6 D 4 H 0	1.0	1.1	1.3
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	0.1	0.2	0.3	5	1.3	M7 D29 H14	0.3	0.3	0.3
	1994	4											
New York–Bronx Bot. Garden	1995	2	1868 1-hr	243 1-hr	3.0	2.3	12.4	23	456.0	M7 D31 H13	11.3	1.4	50.5
	1994	2	131 3-hr	23 3-hr	2.6	2.8	4.4	21	7.5	M8 D27 H 0	1.4	1.5	1.5
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	0.2	0.4	0.8	0	2.0	M8 D22 H22	0.3	0.4	0.5
	1994	1	1493 1-hr	186 1-hr	0.3	0.6	1.1	0	4.5	M8 D 1 H 9	0.5	0.7	0.9
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	0.9	1.4	2.1	8	5.5	M6 D 5 H 5	0.9	1.1	1.0
	1994	2	630 3-hr	76 3-hr	1.8	2.7	3.8	5	10.8	M8 D30 H23	1.5	1.8	2.2
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	0.6	0.9	1.4	7	5.4	M6 D 1 H 7	0.5	0.7	0.7
	1994	3											
Providence–E. Providence	1995	2	684 3-hr	95 3-hr	1.0	1.7	2.2	5	7.7	M7 D21 H23	1.0	1.4	1.5
	1994	2	366 3-hr	34 3-hr	1.1	1.6	2.0	0	5.8	M8 D28 H 0	0.8	1.0	1.2
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	1.3	1.7	1.8	5	8.0	M9 D26 H 5	1.2	1.8	1.6
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	2.2	3.3	3.4	5	7.3	M9 D12 H 5	1.3	1.6	1.6
	1994	2	120 3-hr	29 3-hr	3.0	4.5	4.8	5	14.7	M9 D26 H16	2.3	2.7	3.1
San Diego–Overland	1995	2	112 3-hr	28 3-hr	1.2	1.9	2.1	5	5.6	M9 D12 H 5	0.9	1.2	1.2
	1994	2	45 3-hr	11 3-hr	1.6	2.1	2.3	5	4.9	M9 D26 H12	1.1	1.3	1.3
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	0.8	0.9	1.2	5	2.2	M9 D15 H16	0.4	0.4	0.4
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	1.8	3.3	3.1	23	8.0	M8 D12 H 5	1.8	1.9	2.0
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	3.9	6.6	6.5	5	18.0	M9 D16 H23	3.8	3.5	3.7
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	5.5	5.6	8.8	12	101.6	M8 D 1 H15	5.2	2.6	12.0
	1994	2	868 3-hr	103 3-hr	5.5	6.0	9.9	21	77.2	M8 D15 H 0	4.9	6.5	7.4
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	5.2	6.5	8.1	6	14.8	M9 D15 H 6	2.5	3.3	2.6
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	4.9	6.8	8.3	6	12.5	M9 D21 H 6	2.4	2.3	2.0
	1994	4	221 3-hr	28 3-hr	5.7	8.2	9.3	21	16.0	M7 D22 H 3	3.0	3.1	3.0
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	0.9	1.0	1.4	23	2.3	M7 D 2 H11	0.5	0.5	0.6
	1994	1											
Springfield–Chicopee	1995	2	1181 1-hr	163 1-hr	0.8	1.0	1.7	23	3.5	M8 D26 H20	0.5	0.6	0.8
	1994	2	1548 1-hr	197 1-hr	1.7	2.0	4.8	0	32.4	M8 D30 H 3	1.7	1.1	5.7
Springfield–Ware	1995	3	733 1-hr	107 1-hr	0.5	0.5	1.5	23	29.7	M8 D 1 H 8	1.3	0.3	4.6
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	1.4	2.2	2.2	6	5.0	M9 D26 H 6	1.0	1.1	0.9
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	3.0	5.9	5.7	6	12.0	M9 D14 H 6	2.4	2.6	2.6
Washington–McMillan Reserv	1995	2	1326 1-hr	164 1-hr	1.8	2.3	4.9	21	14.6	M6 D 4 H23	1.7	2.0	3.1
	1994	2	734 1-hr	91 1-hr	1.6	2.2	3.8	22	10.7	M8 D 7 H 0	1.3	1.8	2.4
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	0.7	0.9	1.4	6	2.4	M7 D 8 H 3	0.5	0.5	0.6
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.2	0.4	0.8	0	2.0	M8 D22 H22	0.3	0.4	0.5
	1994	4	1493 1-hr	186 1-hr	0.3	0.6	1.1	0	4.5	M8 D 1 H 9	0.5	0.7	0.9

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
O-XYLENE (ppbC)													
Composite average	1995	All	Sites = 17		2.2	2.7	4.0						
	1994	All			2.6	3.3	4.8						
Composite average	1995	2	Sites = 11		2.7	3.1	4.9						
	1994	2			3.1	3.8	5.6						
Composite average	1995	3	Sites = 2		0.3	0.4	0.6						
	1994	3			0.6	0.7	1.5						
Composite average	1995	4	Sites = 5		1.5	2.2	2.9						
	1994	4			1.9	2.8	3.6						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	2.0	2.3	3.3	21	11.5	M8 D31 H12	2.1	2.8	2.8
	1994	1											
Baltimore–Morgan State	1995	2	1548 1-hr	178 1-hr	1.2	1.7	3.2	22	18.6	M7 D31 H18	1.0	1.1	2.4
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	2.2	2.4	4.2	18	16.2	M8 D25 H18	3.2	3.5	4.8
	1994	3											
Baltimore–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.2	0.5	0.9	0	2.7	M8 D22 H22	0.4	0.5	0.6
	1994	4	1493 1-hr	186 1-hr	0.4	0.6	1.2	5	4.9	M7 D 8 H 1	0.5	0.6	0.9
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.4	0.4	0.9	0	3.6	M8 D18 H21	0.5	0.5	0.8
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	0.8	0.9	1.3	0	3.5	M6 D20 H15	0.4	0.4	0.6
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	2.6	3.2	5.8	0	28.7	M6 D27 H 3	2.6	2.7	4.6
	1994	2	688 3-hr	85 3-hr	1.6	2.6	4.3	6	16.4	M8 D 9 H21	2.0	1.9	3.0
Boston–Lynn	1995	2	2102 1-hr	263 1-hr	1.2	1.3	2.4	20	5.6	M7 D31 H 6	0.7	0.8	1.1
	1994	2	1901 1-hr	252 1-hr	1.4	1.5	3.1	0	8.3	M7 D 1 H14	0.9	0.9	1.4
Boston–Newbury	1995	3	729 1-hr	99 1-hr	0.9	0.7	2.1	0	48.8	M8 D10 H15	2.4	0.4	5.3
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	552 1-hr	59 1-hr	1.2	1.7	2.9	21	10.7	M7 D 8 H12	1.1	1.2	1.9
Connecticut–Stafford	1995	3	1122 1-hr	169 1-hr	0.6	0.6	1.0	7	2.3	M6 D 6 H18	0.3	0.3	0.4
	1994	3	1025 1-hr	131 1-hr	0.7	0.8	2.3	0	18.5	M8 D 4 H11	0.9	0.6	3.4
Connecticut–Cape Eliz., ME	1995	4	1940 1-hr	254 1-hr	0.2	0.4	0.8	6	3.0	M8 D25 H 6	0.3	0.3	0.4
	1994	4	1752 1-hr	204 1-hr	0.3	0.5	1.0	8	2.8	M6 D15 H 0	0.3	0.4	0.5
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	5.2	5.2	5.2	5	10.7	M7 D25 H 5	2.4	2.4	2.5
El Paso–Chamizal	1995	2	1048 1-hr	141 1-hr	4.6	5.9	15.0	5	71.3	M7 D26 H21	6.9	5.6	12.4
	1994	2											
Houston–Clinton Dr.	1995	2	1728 1-hr	235 1-hr	3.2	4.6	10.0	6	48.3	M8 D17 H23	3.3	3.4	7.6
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.4	0.7	0.7	6	2.2	M8 D22 H 6	0.6	0.6	0.7
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	5.4	6.1	8.1	6	18.5	M8 D18 H12	3.7	4.2	4.2
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	2.9	3.1	4.0	0	8.3	M7 D29 H 0	1.6	1.6	1.7
	1994	2											
Lake Michigan–Gary	1995	2	1050 1-hr	149 1-hr	1.5	1.8	4.6	23	13.5	M8 D22 H 0	1.6	1.5	3.0
	1994	2											
Lake Michigan–Milwaukee	1995	2	128 3-hr	35 3-hr	1.0	1.4	1.4	23	9.0	M6 D13 H23	1.1	1.2	1.3
	1994	2	134 3-hr	34 3-hr	2.0	2.9	3.1	23	17.0	M8 D 5 H23	2.3	2.6	2.8
Lake Michigan–Harrington B	1995	3	96 3-hr	33 3-hr	0.1	0.2	0.2	5	1.0	M6 D23 H 5	0.2	0.3	0.3
	1994	3	95 3-hr	33 3-hr	0.5	0.7	0.7	5	1.7	M8 D 3 H10	0.4	0.4	0.5
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	0.6	0.9	1.1	6	3.0	M7 D14 H12	0.7	0.7	0.7
	1994	4	141 3-hr	35 3-hr	1.1	1.5	2.1	0	6.5	M6 D17 H15	1.4	1.5	1.8
Lake Michigan–Manitowoc	1995	4	80 3-hr	29 3-hr	0.1	0.2	0.3	5	1.5	M7 D29 H14	0.3	0.2	0.3
	1994	4											
New York–Bronx Bot. Garden	1995	2	1868 1-hr	243 1-hr	2.9	2.5	10.0	0	288.5	M7 D31 H13	7.3	1.6	31.8
	1994	2	131 3-hr	23 3-hr	3.2	3.5	5.4	21	9.8	M8 D27 H 0	1.7	1.9	1.8
Philadelphia–Lums Pond	1995	1	1895 1-hr	239 1-hr	0.2	0.5	0.9	0	2.7	M8 D22 H22	0.4	0.5	0.6
	1994	1	1493 1-hr	186 1-hr	0.4	0.6	1.2	5	4.9	M7 D 8 H 1	0.5	0.6	0.9
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	3.0	3.1	3.1	2	6.5	M6 D 5 H 5	0.2	0.6	0.6
	1994	2	630 3-hr	76 3-hr	2.6	3.5	4.9	5	13.3	M8 D30 H23	1.8	2.1	2.5
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	0.7	1.0	1.7	23	6.6	M6 D 1 H 7	0.6	0.9	0.9
	1994	3											
Providence–E. Providence	1995	2	684 3-hr	95 3-hr	1.2	2.2	2.8	5	12.6	M8 D31 H 5	1.3	2.1	2.0
	1994	2	366 3-hr	34 3-hr	1.4	2.0	2.5	0	7.7	M8 D28 H 0	1.0	1.2	1.5
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	1.8	2.6	2.6	5	11.0	M9 D26 H 5	1.7	2.2	2.2
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	3.4	4.9	5.0	5	9.9	M9 D12 H 5	1.8	2.1	2.1
	1994	2	120 3-hr	29 3-hr	4.7	6.7	7.1	5	20.2	M9 D26 H16	3.1	3.7	4.2
San Diego–Overland	1995	2	112 3-hr	28 3-hr	3.5	3.6	4.7	12	10.0	M7 D 8 H12	1.5	1.4	1.8
	1994	2	45 3-hr	11 3-hr	5.6	5.1	7.1	12	9.3	M9 D 5 H12	1.6	1.6	1.4
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	1.7	1.7	2.3	16	5.1	M7 D 8 H12	0.7	0.4	0.7
	1994	3											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

		Site	# OBS		Means			P-hr	Absolute Max		Standard Deviation of		
Parameter–Area–Site	Year	Type	All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.	of <	Value	Occured	All Hrs.	5-8 am STD	Daily Max.
O-XYLENE (ppbC) - (continued)													
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	2.5	4.3	4.0	23	10.0	M8 D12 H 5	2.2	2.5	2.6
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	5.4	9.1	9.2	5	28.0	M9 D16 H23	5.4	5.2	5.4
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	8.2	8.7	11.7	6	62.3	M8 D 1 H15	4.0	3.5	7.2
	1994	2	868 3-hr	103 3-hr	8.1	8.8	14.2	21	95.5	M8 D15 H 3	6.9	8.3	13.6
South Coast/SEDAB–Azusa	1995	3	172 3-hr	22 3-hr	6.4	8.1	10.2	6	17.0	M9 D15 H 6	3.2	3.9	3.1
	1994	3											
South Coast/SEDAB–Upland	1995	4	181 3-hr	24 3-hr	6.1	8.7	10.9	6	15.6	M9 D21 H 6	3.4	3.2	2.7
	1994	4	221 3-hr	28 3-hr	7.2	10.8	12.6	21	22.0	M7 D22 H 3	4.2	4.1	4.1
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	1.3	1.3	2.0	23	6.6	M7 D29 H11	0.9	0.7	1.3
	1994	1											
Springfield–Chicopee	1995	2	1183 1-hr	168 1-hr	0.9	1.1	1.9	23	4.5	M6 D15 H22	0.6	0.7	0.9
	1994	2	1560 1-hr	195 1-hr	1.8	2.3	5.2	0	27.1	M8 D30 H 3	1.7	1.3	5.0
Springfield–Ware	1995	3	659 1-hr	104 1-hr	0.5	0.6	1.5	23	29.1	M8 D 1 H 8	1.3	0.3	4.6
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	1.6	2.8	2.8	6	5.0	M9 D26 H 6	1.1	0.9	0.8
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	3.9	8.2	8.0	6	17.0	M9 D14 H 6	3.4	3.6	3.7
Washington–McMillan Reserv	1995	2	1995 1-hr	248 1-hr	1.6	2.1	4.5	21	17.8	M6 D 4 H23	1.8	2.1	3.4
	1994	2	734 1-hr	91 1-hr	2.0	2.8	4.8	22	13.3	M8 D 7 H 0	1.6	2.3	3.1
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	2.0	2.3	3.3	21	11.5	M8 D31 H12	2.1	2.8	2.8
	1994	3											
Washington–Lums Pond	1995	4	1895 1-hr	239 1-hr	0.2	0.5	0.9	0	2.7	M8 D22 H22	0.4	0.5	0.6
	1994	4	1493 1-hr	186 1-hr	0.4	0.6	1.2	5	4.9	M7 D 8 H 1	0.5	0.6	0.9
STYRENE (ppbC)													
Composite average	1995	All	Sites = 14		1.0	1.0	2.5						
	1994	All			1.0	1.2	2.4						
Composite average	1995	2	Sites = 10		0.9	0.9	2.2						
	1994	2			0.7	0.8	2.0						
Composite average	1995	4	Sites = 3		1.6	1.5	3.8						
	1994	4			1.5	1.6	2.3						
Composite average	1995	3	Sites = 3		0.2	0.2	0.4						
	1994	3			1.2	1.8	2.9						
Composite average	1995	4	Sites = 5		0.9	0.9	2.4						
	1994	4			1.0	1.1	1.7						
Baltimore–Fort Meade	1995	1	97 3-hr	12 3-hr	0.4	0.5	0.9	0	2.8	M8 D10 H12	0.3	0.3	0.5
	1994	1											
Baltimore–Morgan State	1995	2	1549 1-hr	178 1-hr	0.3	0.4	0.8	0	4.5	M8 D31 H 6	0.3	0.4	0.6
	1994	2											
Baltimore–Aldino	1995	3	240 3-hr	30 3-hr	0.4	0.4	0.7	0	2.6	M8 D19 H 6	0.3	0.5	0.5
	1994	3											
Baltimore–Lums Pond	1995	4											
	1994	4	1493 1-hr	186 1-hr	0.2	0.2	0.7	0	3.7	M7 D 8 H 1	0.4	0.4	0.7
Baton Rouge–Pride	1995	1/3											
	1994	1/3	221 3-hr	28 3-hr	0.2	0.1	0.4	0	1.6	M7 D 4 H21	0.3	0.2	0.4
Baton Rouge–New Pride	1995	1/3	200 3-hr	25 3-hr	0.1	0.1	0.4	0	0.9	M6 D29 H21	0.2	0.2	0.2
	1994	1/3											
Baton Rouge–Capitol	1995	2	645 3-hr	81 3-hr	0.5	0.8	1.7	0	7.3	M8 D 9 H 6	0.8	1.0	1.4
	1994	2	688 3-hr	85 3-hr	0.3	0.4	0.8	0	3.0	M8 D 9 H21	0.5	0.6	0.8
Boston–Lynn	1995	2	1813 1-hr	239 1-hr	0.7	0.7	1.8	20	5.1	M7 D31 H 6	0.5	0.6	1.0
	1994	2	675 1-hr	118 1-hr	0.8	0.6	1.6	2	3.4	M8 D12 H14	0.5	0.5	0.8
Boston–Newbury	1995	3	902 1-hr	110 1-hr	0.9	0.7	1.9	0	22.2	M8 D10 H15	1.0	0.3	2.3
	1994	3											
Connecticut–E. Hartford	1995	2											
	1994	2	550 1-hr	59 1-hr	0.7	0.6	2.3	1	46.3	M7 D 8 H12	2.0	0.3	7.4
Connecticut–Stafford	1995	3	1687 1-hr	210 1-hr	0.6	0.5	1.2	0	11.8	M8 D 1 H19	0.6	0.2	1.8
	1994	3	1069 1-hr	131 1-hr	2.9	4.0	6.9	5	214.0	M8 D26 H 8	10.0	18.6	24.6
Connecticut–Cape Eliz., ME	1995	4	1937 1-hr	251 1-hr	0.1	0.1	0.4	0	7.0	M8 D 7 H 6	0.3	0.5	0.8
	1994	4	1751 1-hr	204 1-hr	1.9	1.7	2.6	0	4.5	M7 D21 H20	0.7	0.6	0.9
El Paso–N. Campbell	1995	2											
	1994	2	47 3-hr	47 3-hr	1.3	1.3	1.3	5	2.2	M8 D 5 H 5	0.4	0.4	0.4
El Paso–Chamizal	1995	2	1004 1-hr	134 1-hr	1.2	1.4	3.9	20	24.0	M6 D 5 H12	3.4	3.4	5.8
	1994	2											
Houston–Clinton Dr.	1995	2	1699 1-hr	234 1-hr	1.2	1.9	6.8	6	80.1	M7 D25 H 2	2.9	2.9	10.1
	1994	2											
Lake Michigan–Braidwood	1995	1	107 3-hr	36 3-hr	0.8	0.8	1.5	6	8.5	M8 D19 H15	1.3	0.9	1.7
	1994	1											
Lake Michigan–Chicago	1995	2											
	1994	2	132 3-hr	33 3-hr	1.8	2.5	3.1	6	17.2	M7 D22 H 6	1.9	3.0	2.8
Lake Michigan–Chicago–Jardine	1995	2	139 3-hr	36 3-hr	1.9	2.2	3.1	0	7.1	M7 D20 H15	1.8	1.9	1.8
	1994	2											

Table A-13. *PAMS Summer Summary Statistics for Selected Parameters, 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means			P-hr of <	Absolute Max		Standard Deviation of		
			All Hrs.	5-8 am STD	All Hrs.	5-8am STD	Daily Max.		Value	Occured	All Hrs.	5-8 am STD	Daily Max.
STYRENE (ppbC) - (continued)													
Lake Michigan–Gary	1995	2	1037 1-hr	149 1-hr	1.0	1.2	3.0	1	13.9	M8 D24 H13	1.0	0.7	2.6
	1994	2											
Lake Michigan–Milwaukee	1995	2											
	1994	2	102 3-hr	24 3-hr	0.3	0.5	0.5	23	2.8	M8 D 5 H23	0.5	0.6	0.6
Lake Michigan–Harrington B	1995	3											
	1994	3	66 3-hr	23 3-hr	0.1	0.1	0.2	5	0.6	M8 D25 H 5	0.2	0.2	0.2
Lake Michigan–Camp Logan	1995	4	107 3-hr	36 3-hr	0.7	0.7	1.4	6	6.2	M7 D20 H12	1.3	1.4	1.8
	1994	4	141 3-hr	35 3-hr	0.9	0.8	1.5	0	6.0	M8 D30 H 6	1.0	1.2	1.3
Lake Michigan–Manitowoc	1995	4	78 3-hr	29 3-hr	0.0	0.0	0.0	5	0.0	M6 D 7 H14	0.0	0.0	0.0
	1994	4											
New York–Bronx Bot. Garden	1995	2	1868 1-hr	243 1-hr	1.4	1.0	3.4	17	15.3	M7 D25 H16	1.3	0.8	3.0
	1994	2	131 3-hr	23 3-hr	0.7	0.8	1.4	6	4.9	M8 D27 H 0	0.5	0.4	1.0
Philadelphia–Lums Pond	1995	1											
	1994	1	1493 1-hr	186 1-hr	0.2	0.2	0.7	0	3.7	M7 D 8 H 1	0.4	0.4	0.7
Philadelphia–East Lycoming	1995	2	577 3-hr	69 3-hr	0.4	0.5	1.5	2	9.5	M7 D15 H 2	0.9	0.9	1.9
	1994	2	630 3-hr	76 3-hr	0.4	0.9	1.7	2	17.5	M6 D 9 H20	1.3	1.9	2.7
Philadelphia–Rider University	1995	3	2099 1-hr	258 1-hr	0.3	0.4	0.7	0	3.6	M6 D22 H22	0.2	0.2	0.4
	1994	3											
Providence–E. Providence	1995	2	683 3-hr	94 3-hr	0.1	0.3	0.5	2	2.8	M8 D19 H 5	0.3	0.5	0.6
	1994	2	366 3-hr	34 3-hr	0.3	0.3	0.5	0	1.5	M6 D15 H 9	0.2	0.2	0.2
Sacramento–Del Paso	1995	2											
	1994	2	83 3-hr	23 3-hr	0.5	0.5	0.5	5	0.5	M7 D 1 H 5	0.0	0.0	0.0
San Diego–El Cajon	1995	2	109 3-hr	27 3-hr	0.7	1.0	1.3	5	6.9	M9 D12 H16	0.9	0.4	1.4
	1994	2	120 3-hr	29 3-hr	0.8	1.3	1.5	5	3.9	M9 D26 H16	0.7	0.8	0.9
San Diego–Overland	1995	2	112 3-hr	28 3-hr	0.3	0.6	0.7	5	1.5	M8 D28 H 5	0.3	0.4	0.4
	1994	2	45 3-hr	11 3-hr	0.6	0.8	0.9	5	1.8	M9 D29 H 5	0.4	0.5	0.5
San Diego–Alpine	1995	3	115 3-hr	29 3-hr	0.2	0.2	0.4	5	1.6	M7 D29 H 5	0.2	0.3	0.3
	1994	3											
San Joaquin–Clovis–Villa	1995	2											
	1994	2	111 3-hr	28 3-hr	0.6	0.5	0.7	5	6.0	M9 D 8 H16	0.5	0.1	0.9
San Joaquin–Golden St. Av.	1995	2											
	1994	2	105 3-hr	27 3-hr	1.1	1.3	1.7	23	13.0	M8 D17 H23	1.7	1.6	2.2
South Coast/SEDAB–Pico Riv	1995	2	438 3-hr	61 3-hr	3.7	2.7	7.8	12	23.6	M9 D22 H12	3.9	2.9	5.2
	1994	2	802 3-hr	101 3-hr	2.3	2.1	6.3	21	15.2	M9 D 8 H18	1.8	1.8	1.7
South Coast/SEDAB–Azusa	1995	3	167 3-hr	22 3-hr	5.7	7.0	12.0	0	35.8	M8 D10 H 9	6.8	7.5	9.3
	1994	3											
South Coast/SEDAB–Upland	1995	4	176 3-hr	24 3-hr	3.9	3.8	9.7	0	53.4	M8 D16 H 0	7.4	4.7	14.2
	1994	4	162 3-hr	24 3-hr	1.7	2.4	2.8	6	6.8	M8 D 9 H 3	1.1	1.3	1.5
Springfield–Agawam	1995	1	116 3-hr	15 3-hr	1.5	1.1	2.7	23	6.8	M7 D28 H23	1.1	0.4	1.4
	1994	1											
Springfield–Chicopee	1995	2	887 1-hr	113 1-hr	0.7	0.8	2.5	0	10.3	M6 D15 H23	1.0	1.2	2.4
	1994	2	951 1-hr	122 1-hr	0.7	0.8	4.5	0	21.0	M8 D31 H 2	1.7	1.4	6.1
Springfield–Ware	1995	3	530 1-hr	69 1-hr	0.6	0.5	1.8	1	30.7	M8 D 1 H 8	1.5	0.4	5.0
	1994	3											
Ventura Co.–El Rio	1995	2											
	1994	2	94 3-hr	25 3-hr	0.2	0.5	0.6	3	1.0	M7 D 1 H 6	0.4	0.5	0.5
Ventura Co.–Simi Valley	1995	3											
	1994	3	103 3-hr	25 3-hr	0.7	1.3	1.6	6	5.0	M8 D18 H 3	0.9	0.7	1.0
Washington–McMillan Reserv	1995	2	1995 1-hr	248 1-hr	0.2	0.3	1.3	0	16.2	M6 D28 H11	0.7	0.5	2.2
	1994	2	734 1-hr	91 1-hr	0.2	0.4	1.0	22	2.7	M8 D18 H22	0.4	0.6	0.7
Washington–Fort Meade	1995	3	97 3-hr	12 3-hr	0.4	0.5	0.9	0	2.8	M8 D10 H12	0.3	0.3	0.5
	1994	3											
Washington–Lums Pond	1995	4											
	1994	4	1493 1-hr	186 1-hr	0.2	0.2	0.7	0	3.7	M7 D 8 H 1	0.4	0.4	0.7

Notes

1. Only data reported to AIRS are included in this report. EPA is aware that several reporting organizations were unable (due to software problems) to report undetected speciated VOC detail as zero; since those "missing" data are not included in the tabulations, some levels may be overstated.
2. Data are only shown for sites that reported for at least two months of the summer ozone season. The summer ozone season is June–August for all States but CA; in CA the season is July–September.
3. The "All Hrs" means are computed from all available summer observations in AIRS. Some States operate under an alternative sampling plan where they are not required to monitor all hours of the day. Data for these areas/years may not be comparable to other areas/years. Approved alternative plans affecting 1994 and/or 1995 data include: Lake Michigan: site types 1, 3, and 4 only monitor three 3-hr intervals (DST start times 6, 12, and 15); type 2 sites only monitor four 3-hr intervals (DST start times 0, 6, 12, and 15). Ventura county, Sacramento, and San Joaquin (all site types) only monitor four 3-hr intervals (DST start times 0, 6, 13, 17) except for forecasted high ozone days where 3-hr interval DST start time 6 is monitored in lieu of 3-hr interval DST start time 0.
4. Only sites that met the minimum data criteria noted above for both 1994 and 1995 are included in the composite averages. Sites with multiple type designations are included in all applicable composite average tabulations by type but are only included once in the overall (All) tabulations.
5. Data in the "P-hr" column indicate the predominant start hour that the daily maximum occurred.

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995*

Parameter–Area–Site	Year	Site Type	# OBS		Means		Absolute Max		Standard Deviation of	
			Anual	Summer	Annual	Summer	Value	Occured	Annual Mean	Summer Mean
TOTAL NMOC										
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		188.1				41.3
Baton Rouge – Capitol	1995	2	56	15	403.4	473.5	853.1	M 8 D31	134.2	175.9
	1994	2	50	15	218.9	222.1	1061.0	M 2 D25	145.9	87.9
Boston – Lynn	1995	2	66	15	162.3	133.7	849.0	M 2 D26	145.8	84.4
	1994	2	51	15	247.3	371.0	743.6	M 8 D30	160.5	208.2
Boston – Newbury	1995	3		10		106.5				56.1
	1994	3								
Lake Michigan – Chicago–Jardine	1995	2		17		169.5				97.7
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	132.7	131.1	1004.0	M 3 D16	144.6	57.9
	1994	2	49	14	215.8	290.6	1300.0	M 8 D12	267.7	393.9
Lake Michigan – Harrington B	1995	3		9		30.7				7.1
	1994	3		11		67.5				25.9
Lake Michigan – Camp Logan	1995	4		15		170.5				69.1
	1994	4								
Providence – E. Providence	1995	2								
	1994	2		11		320.9				233.2
South Coast/SEDAB – Pico Riv	1995	2	61	16	802.8	926.4	1604.0	M 9 D30	380.4	236.9
	1994	2		13		567.0				185.2
South Coast/SEDAB – Azusa	1995	3		9		579.6				274.3
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	356.7	460.1	854.6	M11 D17	156.2	104.5
	1994	4		13		353.7				94.6
Springfield – Agawam	1995	1		2		44.9				11.0
	1994	1								
Springfield – Chicopee	1995	2	50	6	416.0	327.4	989.0	M11 D23	297.2	343.6
	1994	2	54	15	478.2	317.4	1919.0	M 2 D19	415.5	140.8
Washington – Corbin	1995	1	66	29	52.7	52.0	151.0	M 5 D 6	26.5	19.6
	1994	1	52	15	41.4	33.3	108.0	M 1 D 8	21.0	18.2
ETHYLENE										
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		1.5				1.2
Baton Rouge – Capitol	1995	2	56	15	10.2	9.6	46.2	M 1 D 9	8.1	5.0
	1994	2	50	15	5.6	6.9	38.8	M 2 D25	5.9	4.6
Boston – Lynn	1995	2	66	15	3.5	2.8	8.8	M 2 D 8	1.9	1.7
	1994	2	53	15	5.4	4.5	21.7	M12 D22	4.1	4.3
Boston – Newbury	1995	3		10		1.4				0.7
	1994	3								
Connecticut – E. Hartford	1995	2		13		1.8				0.8
	1994	2		11		0.1				0.0
Connecticut – Stafford	1995	3		5		1.0				0.6
	1994	3		11		0.8				0.7
Lake Michigan – Chicago	1995	2								
	1994	2		17		13.5				3.5
Lake Michigan – Chicago–Jard	1995	2		18		5.9				4.9
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	5.4	2.9	34.7	M 3 D16	6.1	1.5
	1994	2	49	14	7.7	6.6	40.0	M 8 D 6	9.6	10.0
Lake Michigan – Harrington B	1995	3		9		1.3				0.4
	1994	3		11		2.5				1.2
Lake Michigan – Camp Logan	1995	4		17		2.1				1.3
	1994	4		17		3.1				2.1
Providence – E. Providence	1995	2	55	15	4.3	3.3	14.5	M 1 D 9	3.0	1.9
	1994	2		11		3.1				1.6
South Coast/SEDAB – Pico Riv	1995	2	61	16	4.3	5.8	28.3	M 9 D18	5.2	7.2
	1994	2		13		5.4				4.4
South Coast/SEDAB – Azusa	1995	3		8		10.6				6.1
	1994	3								
South Coast/SEDAB – Upland	1995	4	57	13	3.4	8.7	19.0	M 8 D 7	4.3	6.4
	1994	4		13		5.7				4.3
Springfield – Agawam	1995	1		2		2.0				1.1
	1994	1								
Springfield – Chicopee	1995	2	50	6	4.5	4.1	15.9	M 2 D 8	3.1	1.6
	1994	2	53	15	6.6	4.5	21.0	M12 D21	5.3	3.7
Washington – Corbin	1995	1	67	29	1.5	1.0	9.9	M 2 D14	1.7	0.4
	1994	1	52	15	2.1	1.0	6.0	M11 D16	1.4	1.2
PROPYLENE										
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		0.6				0.8
Baton Rouge – Capitol	1995	2	62	15	7.6	5.8	190.4	M 3 D28	23.9	2.5
	1994	2	72	17	4.4	4.2	14.7	M 2 D 7	3.2	2.9
Beaumont – Pt. Arthur	1995	2		15	17.6	11.2	119.1	M 4 D 3	24.6	13.6
	1994	2								

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means		Absolute Max		Standard Deviation of	
			Anual	Summer	Annual	Summer	Value	Occured	Annual Mean	Summer Mean
Boston – Lynn	1995	2	66	15	1.8	1.6	4.9	M 2 D 8	1.0	0.9
	1994	2	53	15	3.3	3.7	10.3	M 8 D18	1.9	2.8
Boston – Newbury	1995	3		10		1.1				0.3
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.3				0.4
	1994	2		11		0.3				0.5
Connecticut – Stafford	1995	3		5		0.2				0.3
	1994	3		11		0.1				0.0
Houston – Clinton Dr.	1995	2		16	9.7	9.2	36.4	M10 D18	7.9	5.4
	1994	2								
Lake Michigan – Chicago	1995	2								
	1994	2		17		4.6				1.6
Lake Michigan – Chicago–Jard	1995	2		18		2.5				2.1
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	1.7	1.2	12.8	M 3 D16	2.1	0.6
	1994	2	49	14	2.9	3.1	18.0	M 8 D 6	3.7	4.4
Lake Michigan – Harrington B	1995	3		9		0.6				0.3
	1994	3		11		1.8				0.5
Lake Michigan – Camp Logan	1995	4		17		1.2				0.8
	1994	4		17		1.3				1.1
Providence – E. Providence	1995	2	55	15	1.6	1.2	5.1	M10 D18	1.0	0.7
	1994	2		8		1.5				0.3
South Coast/SEDAB – Pico Riv	1995	2	61	16	4.4	5.0	9.6	M 2 D 2	2.1	1.3
	1994	2		13		3.9				1.6
South Coast/SEDAB – Azusa	1995	3		9		6.9				5.1
	1994	3								
South Coast/SEDAB – Upland	1995	4	57	13	3.5	5.0	10.8	M12 D11	1.9	1.6
	1994	4		13		3.6				1.3
Springfield – Agawam	1995	1		2		1.2				0.5
	1994	1								
Springfield – Chicopee	1995	2	50	6	2.4	3.0	6.4	M 1 D 9	1.3	1.1
	1994	2	54	15	3.5	4.1	9.4	M 8 D18	2.3	2.2
Washington – Corbin	1995	1	73	30	0.9	0.8	6.2	M10 D24	1.2	0.6
	1994	1	52	15	0.3	0.2	3.5	M 1 D 2	0.8	0.7
N-HEXANE										
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		1.3				0.8
Baton Rouge – Capitol	1995	2	62	15	4.9	6.9	16.9	M12 D 5	4.2	3.4
	1994	2	73	17	4.3	4.4	15.1	M10 D17	2.8	2.7
Beaumont – Pt. Arthur	1995	2		15	5.9	5.8	24.4	M 4 D 3	4.4	2.6
	1994	2								
Boston – Lynn	1995	2	66	15	2.3	1.2	35.1	M12 D11	5.8	0.8
	1994	2	53	15	0.5	1.3	2.8	M 7 D25	0.7	0.8
Boston – Newbury	1995	3		10		0.6				0.5
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.3				0.5
	1994	2		4		1.8				1.7
Connecticut – Stafford	1995	3		5		0.2				0.3
	1994	3								
Houston – Clinton Dr.	1995	2		16	9.6	11.1	47.7	M 9 D12	7.3	5.8
	1994	2								
Lake Michigan – Chicago	1995	2								
	1994	2		17		5.2				2.2
Lake Michigan – Chicago–Jard	1995	2		18		2.8				2.9
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	2.0	1.9	16.2	M 3 D16	2.5	1.0
	1994	2	49	14	3.5	3.6	26.0	M11 D16	4.7	4.5
Lake Michigan – Harrington B	1995	3		9		0.4				0.2
	1994	3		11		1.0				0.4
Lake Michigan – Camp Logan	1995	4		17		4.3				9.6
	1994	4		17		2.0				1.9
Providence – E. Providence	1995	2	55	15	1.8	2.0	6.2	M10 D18	1.4	1.6
	1994	2		8		1.5				0.5
South Coast/SEDAB – Pico Riv	1995	2	61	16	8.5	9.6	31.0	M11 D23	6.1	2.8
	1994	2		13		6.3				2.5
South Coast/SEDAB – Azusa	1995	3		9		7.5				1.8
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	5.5	7.0	16.5	M11 D17	3.1	1.7
	1994	4		13		6.5				2.0
Springfield – Agawam	1995	1		2		0.2				0.2
	1994	1								
Springfield – Chicopee	1995	2	50	6	2.1	1.5	13.2	M10 D18	2.6	0.9
	1994	2	54	15	0.9	1.7	5.0	M 5 D14	1.2	0.9

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means		Absolute Max		Standard Deviation of	
			Anual	Summer	Annual	Summer	Value	Occured	Annual Mean	Summer Mean
Washington – Corbin	1995	1	74	29	0.6	0.9	3.8	M 1 D21	0.8	0.8
	1994	1	52	15	1.1	0.0	11.1	M10 D17	2.2	0.0
ISOPRENE										
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		13.5				9.6
Baton Rouge – Capitol	1995	2	56	15	2.2	4.1	7.8	M 8 D25	1.9	1.5
	1994	2	50	15	1.6	3.2	5.6	M 7 D25	1.6	1.7
Beaumont – Pt. Arthur	1995	2		15	1.5	1.7	11.6	M 4 D21	2.0	1.8
	1994	2								
Boston – Lynn	1995	2	66	15	1.3	4.1	8.3	M 8 D 1	1.8	1.6
	1994	2	53	15	1.9	3.6	9.2	M 7 D25	2.1	2.9
Boston – Newbury	1995	3		10		2.1				1.9
	1994	3								
Connecticut – E. Hartford	1995	2		13		1.2				1.2
	1994	2		8		1.2				1.8
Connecticut – Stafford	1995	3		5		5.5				3.6
	1994	3		7		5.6				4.3
Houston – Clinton Dr.	1995	2		16	2.3	4.0	13.9	M 6 D26	2.3	3.6
	1994	2								
Lake Michigan – Chicago	1995	2								
	1994	2		17		1.0				0.8
Lake Michigan – Chicago–Jard	1995	2		18		0.7				2.1
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	0.6	0.6	1.6	M 3 D16	0.2	0.2
	1994	2	49	14	0.3	0.5	2.5	M 8 D 6	0.5	0.7
Lake Michigan – Harrington B	1995	3		9		0.2				0.3
	1994	3		11		0.3				0.3
Lake Michigan – Camp Logan	1995	4		17		4.4				3.5
	1994	4		17		3.2				7.9
Providence – E. Providence	1995	2	55	15	1.0	3.0	6.5	M 7 D14	1.5	1.8
	1994	2		10		3.0				2.1
South Coast/SEDAB – Pico Riv	1995	2	60	15	1.1	1.7	3.1	M 9 D 6	0.7	0.6
	1994	2		11		1.2				0.4
South Coast/SEDAB – Azusa	1995	3		9		1.3				0.4
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	1.6	4.3	17.3	M 8 D31	2.4	4.0
	1994	4		13		1.9				0.6
Springfield – Agawam	1995	1		2		0.7				0.3
	1994	1								
Springfield – Chicopee	1995	2	50	6	1.2	1.4	10.1	M 3 D22	1.9	1.1
	1994	2	54	15	2.5	3.8	9.7	M 7 D 7	2.3	3.1
Washington – Corbin	1995	1	63	25	6.6	10.6	76.2	M 5 D 6	12.3	11.2
	1994	1	52	15	5.1	13.5	21.3	M 7 D25	6.2	5.4
2,2,4-TRIMETHYLPENTANE										
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		0.6				0.5
Baton Rouge – Capitol	1995	2	56	15	6.4	8.0	15.3	M 3 D16	3.6	2.4
	1994	2	50	15	2.6	2.0	19.4	M 2 D25	2.8	1.0
Beaumont – Pt. Arthur	1995	2		15		1.5				0.8
	1994	2								
Boston – Lynn	1995	2	66	15	3.9	2.0	21.7	M 1 D15	3.4	1.6
	1994	2	53	15	10.4	20.3	44.9	M 6 D19	12.7	16.6
Boston – Newbury	1995	3		10		1.5				2.8
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.3				0.5
	1994	2		8		1.6				2.3
Connecticut – Stafford	1995	3		5		0.1				0.3
	1994	3								
Houston – Clinton Dr.	1995	2		16		1.7				1.1
	1994	2								
Lake Michigan – Chicago	1995	2								
	1994	2		17		5.8				2.0
Lake Michigan – Chicago–Jard	1995	2		18		3.3				4.8
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	2.7	2.5	24.9	M 3 D16	4.0	2.3
	1994	2	41	6	3.8	7.5	32.0	M 8 D 6	6.0	12.1
Lake Michigan – Harrington B	1995	3		9		0.4				0.2
	1994	3		2		0.3				0.4
Lake Michigan – Camp Logan	1995	4		17		1.8				2.9
	1994	4		17		1.8				1.9
Providence – E. Providence	1995	2	55	15	1.7	1.9	6.0	M10 D18	1.3	1.5
	1994	2		11		1.5				0.6
South Coast/SEDAB – Pico Riv	1995	2	61	16	7.6	8.0	21.6	M11 D23	4.8	2.2
	1994	2		13		6.6				2.7

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site	# OBS		Means		Absolute Max		Standard Deviation of	
		Type	Anual	Summer	Annual	Summer	Value	Occured	Annual Mean	Summer Mean
South Coast/SEDAB – Azusa	1995	3		9		6.8				1.6
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	5.7	7.4	15.6	M11 D17	2.8	2.1
	1994	4		13		7.1				2.2
Springfield – Agawam	1995	1		2		0.0				0.0
	1994	1								
Springfield – Chicopee	1995	2	50	6	5.9	1.4	45.5	M 4 D 3	7.7	1.1
	1994	2	54	15	7.6	4.8	27.2	M10 D29	10.1	8.3
Washington – Corbin	1995	1	72	29	0.4	0.4	3.4	M 1 D15	0.6	0.4
	1994	1	52	15	0.5	0.0	3.4	M11 D16	0.9	0.0
FORMALDEHYDE										
Baltimore – Essex	1995	2	52	12	2.2	1.9	20.7	M 5 D27	2.7	0.9
	1994	2		14		5.5				1.3
Baton Rouge – Capitol	1995	2		78		4.8				2.2
	1994	2								
Lake Michigan – Milwaukee	1995	2		15	2.3	2.9	4.8	M 5 D 3	1.0	1.1
	1994	2								
New York – Bronx Botanical G	1995	2		15		4.9				2.5
	1994	2								
Philadelphia – East Lycoming	1995	2		4	4.0		7.9	M 8 D30	1.7	
	1994	2	56	13	4.2	6.3	14.6	M 2 D19	2.7	2.7
Providence – E. Providence	1995	2		14	2.2	3.6	9.7	M 7 D14	1.5	2.4
	1994	2								
San Diego – El Cajon	1995	2								
	1994	2	28	9	2.3	2.4	5.3	M11 D28	1.1	1.3
South Coast/SEDAB – Pico Riv	1995	2								
	1994	2		9		1.7				1.1
South Coast/SEDAB – Azusa	1995	3								
	1994	3		3		2.0				0.9
Ventura Co. – Simi Valley	1995	3								
	1994	3	31	8	1.9	1.8	3.6	M12 D 4	0.7	0.7
ACETALDEHYDE										
Baltimore – Essex	1995	2	52	12	1.5	1.3	18.8	M 5 D27	2.5	0.6
	1994	2		14		2.2				0.8
Baton Rouge – Capitol	1995	2		78		1.4				1.0
	1994	2								
Lake Michigan – Milwaukee	1995	2		11	2.8	3.3	6.8	M 9 D12	1.4	1.5
	1994	2								
New York – Bronx Botanical G	1995	2		15		3.0				1.7
	1994	2								
Philadelphia – East Lycoming	1995	2		4	2.8		8.1	M 2 D19	1.4	
	1994	2	56	13	5.1	7.1	19.0	M 2 D19	3.4	3.1
Providence – E. Providence	1995	2		14	1.8	2.4	5.4	M 7 D14	1.0	1.4
	1994	2								
San Diego – El Cajon	1995	2								
	1994	2	28	9	3.3	3.4	7.2	M 1 D20	1.6	1.3
South Coast/SEDAB – Pico Riv	1995	2								
	1994	2		9		2.1				1.7
South Coast/SEDAB – Azusa	1995	3								
	1994	3		3		0.2				0.0
Ventura Co. – Simi Valley	1995	3								
	1994	3	31	8	3.0	3.8	6.0	M10 D23	1.7	1.2
M/P XYLENE										
Baltimore – Essex	1995	2	53	14	8.9	5.0	60.3	M 5 D21	10.3	4.9
	1994	2	58	14	7.8	7.3	33.2	M12 D28	6.0	2.8
Baltimore – Morgan State	1995	2		10		3.9				1.3
	1994	2								
Baton Rouge – Pride	1995	1/3								
	1994	1/3		13		0.7				0.5
Baton Rouge – Capitol	1995	2	62	15	4.6	6.2	19.0	M 1 D 9	3.3	3.2
	1994	2	46	12	4.7	4.1	12.6	M 4 D 8	2.7	1.7
Beaumont – Pt. Arthur	1995	2	58	15	3.5	2.4	60.4	M 4 D21	7.8	0.7
	1994	2	57	15	4.5	4.4	36.3	M10 D23	4.8	3.4
Boston – Lynn	1995	2	66	15	2.6	2.7	7.0	M 6 D14	1.4	1.6
	1994	2	53	15	4.8	5.5	17.1	M 4 D 2	3.6	2.0
Boston – Newbury	1995	3		10		1.6				0.9
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.1				0.5
	1994	2								
Connecticut – Stafford	1995	3		5		1.5				3.3
	1994	3								
Houston – Clinton Dr.	1995	2	60	16	9.3	9.9	34.4	M 2 D20	6.7	2.5
	1994	2	58	15	13.6	18.1	53.1	M 7 D13	10.0	12.7
Lake Michigan – Chicago–Jard	1995	2		18		4.9				3.7
	1994	2								

Table A-14. PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)

Parameter–Area–Site	Year	Site	# OBS		Means		Absolute Max		Standard Deviation of	
		Type	Anual	Summer	Annual	Summer	Value	Occured	Annual Mean	Summer Mean
Lake Michigan – Milwaukee	1995	2	59	15	4.0	4.0	30.8	M 3 D16	4.8	2.0
	1994	2	49	14	7.0	8.7	47.0	M 8 D 6	9.0	11.8
Lake Michigan – Harrington B	1995	3		9		0.6				0.2
	1994	3		11		1.6				0.9
Lake Michigan – Camp Logan	1995	4		17		6.8				13.5
	1994	4								
Providence – E. Providence	1995	2	55	15	3.7	4.1	14.3	M10 D12	3.0	3.3
	1994	2		11		3.7				1.5
South Coast/SEDAB – Pico Riv	1995	2								
	1994	2		10		5.9				1.7
South Coast/SEDAB – Upland	1995	4								
	1994	4		13		4.6				1.3
Springfield – Agawam	1995	1		2		1.8				1.3
	1994	1								
Springfield – Chicopee	1995	2	50	6	5.0	4.2	14.4	M10 D18	3.4	1.9
	1994	2	54	15	8.9	4.6	190.3	M 2 D13	25.5	2.1
Washington – Corbin	1995	1	66	28	0.4	0.3	4.8	M 1 D27	0.7	0.3
	1994	1	52	15	1.5	1.8	6.2	M 6 D19	1.9	2.3
BENZENE										
Baltimore – Essex	1995	2	53	14	4.3	2.7	13.2	M11 D17	2.7	0.7
	1994	2	58	14	5.8	4.6	24.7	M12 D28	4.2	2.0
Baltimore – Morgan State	1995	2		10		2.4				0.6
	1994	2								
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		1.8				0.8
Baton Rouge – Capitol	1995	2	62	15	4.9	6.4	12.8	M 1 D 9	2.3	2.1
	1994	2	73	17	5.0	4.0	17.3	M10 D23	3.1	2.0
Beaumont – Pt. Arthur	1995	2		15	9.9	9.6	86.4	M 4 D 3	16.5	13.0
	1994	2								
Boston – Lynn	1995	2	66	15	2.0	1.9	5.6	M 2 D 8	1.2	1.1
	1994	2	53	15	5.7	5.8	13.6	M 2 D19	2.6	2.8
Boston – Newbury	1995	3		10		1.0				0.6
	1994	3								
Connecticut – E. Hartford	1995	2		13		34.8				33.2
	1994	2		11		5.5				1.9
Connecticut – Stafford	1995	3		5		9.9				19.3
	1994	3		11		5.3				6.9
Houston – Clinton Dr.	1995	2	46	7	8.9	7.2	21.8	M11 D11	4.7	2.6
	1994	2	58	15	12.9	9.5	68.5	M 9 D17	14.8	5.8
Lake Michigan – Chicago	1995	2								
	1994	2		17		9.5				2.2
Lake Michigan – Chicago–Jard	1995	2		18		3.0				1.6
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	2.7	2.1	17.3	M 3 D16	2.7	1.1
	1994	2	49	14	5.0	5.9	35.0	M 8 D 6	6.0	8.6
Lake Michigan – Harrington B	1995	3		9		0.8				0.1
	1994	3		11		2.1				0.8
Lake Michigan – Camp Logan	1995	4		17		6.5				14.4
	1994	4		17		2.2				1.6
Providence – E. Providence	1995	2	55	15	3.0	3.5	20.4	M 8 D 1	2.8	4.8
	1994	2		11		2.6				1.1
San Diego – El Cajon	1995	2								
	1994	2	27	8	7.7	6.2	19.8	M 1 D20	5.0	4.0
South Coast/SEDAB – Pico Riv	1995	2	61	16	11.1	11.0	31.7	M12 D 5	6.6	2.5
	1994	2		13		11.7				4.1
South Coast/SEDAB – Azusa	1995	3		9		10.7				2.2
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	9.1	11.7	24.3	M11 D17	4.4	2.7
	1994	4		13		13.7				4.2
Springfield – Agawam	1995	1		2		2.0				1.2
	1994	1								
Springfield – Chicopee	1995	2	50	6	2.7	1.7	8.1	M 2 D 8	1.7	1.0
	1994	2	54	15	5.8	5.0	17.3	M 2 D19	3.1	2.5
Ventura Co. – Simi Valley	1995	3								
	1994	3	28	7	5.0	4.9	12.0	M 1 D20	3.1	1.8
Washington – Corbin	1995	1	69	28	1.1	0.9	4.3	M 1 D21	1.0	0.4
	1994	1	52	15	1.3	0.0	3.6	M 1 D 8	1.2	0.0
TOLUENE										
Baltimore – Essex	1995	2	53	14	10.2	7.6	26.8	M10 D12	5.9	3.0
	1994	2	58	14	14.1	12.4	43.2	M12 D 4	10.0	4.5
Baltimore – Morgan State	1995	2		10		6.9				2.5
	1994	2								
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		2.0				1.2

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)*

		Site	# OBS		Means		Absolute Max		Standard Deviation of	
Parameter–Area–Site	**Year**	**Type**	**Anual**	**Summer**	**Annual**	**Summer**	**Value**	**Occured**	**Annual Mean**	**Summer Mean**
Baton Rouge – Capitol	1995	2	62	15	7.5	10.0	22.4	M 1 D 9	4.9	5.1
	1994	2	73	17	8.0	5.9	46.4	M 2 D25	6.3	2.5
Beaumont – Pt. Arthur	1995	2	58	15	7.5	4.5	112.7	M10 D12	14.7	1.2
	1994	2	57	15	8.8	5.9	43.7	M10 D23	7.5	3.1
Boston – Lynn	1995	2	66	15	4.6	4.6	13.0	M 6 D14	2.7	3.1
	1994	2	53	15	7.3	7.4	28.9	M12 D22	5.3	2.8
Boston – Newbury	1995	3		10		2.6				1.5
	1994	3								
Connecticut – E. Hartford	1995	2		13		3.7				1.6
	1994	2		11		10.2				5.4
Connecticut – Stafford	1995	3		5		1.7				0.9
	1994	3		11		6.5				2.6
Houston – Clinton Dr.	1995	2	60	16	14.4	16.4	35.6	M 7 D26	6.8	6.7
	1994	2	58	15	17.5	19.7	40.7	M10 D 5	9.2	9.7
Lake Michigan – Chicago	1995	2								
	1994	2		17		22.2				5.1
Lake Michigan – Chicago–Jard	1995	2		18		8.6				5.6
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	7.4	7.1	51.5	M 3 D16	8.4	3.9
	1994	2	49	14	14.9	18.5	110.0	M 8 D 6	19	27.5
Lake Michigan – Harrington B	1995	3		9		1.8				0.5
	1994	3		11		3.7				1.9
Lake Michigan – Camp Logan	1995	4		17		22.1				45.2
	1994	4		17		11.4				9.3
Providence – E. Providence	1995	2	55	15	7.8	8.7	27.1	M10 D12	6.3	7.5
	1994	2		11		8.9				3.4
San Diego – El Cajon	1995	2								
	1994	2	28	8	28.0	19.9	203.0	M 6 D25	36.1	11
South Coast/SEDAB – Pico Riv	1995	2	61	16	50.9	48.4	220.3	M 2 D 2	39.8	27.5
	1994	2		13		35.7				13.8
South Coast/SEDAB – Azusa	1995	3		9		36.0				7.8
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	26.1	33.4	74.1	M11 D17	13.5	8.2
	1994	4		13		31.8				9.7
Springfield – Agawam	1995	1		2		2.9				0
	1994	1								
Springfield – Chicopee	1995	2	50	6	9.9	9.1	101.1	M 5 D15	14.6	6.6
	1994	2	54	15	10.1	8.4	48.7	M 2 D13	8.2	3.1
Ventura Co. – Simi Valley	1995	3								
	1994	3	29	7	17.1	25.3	84.0	M 7 D22	15.6	26.4
Washington – Corbin	1995	1	65	28	1.5	1.0	5.5	M 1 D21	1.4	0.6
	1994	1	52	15	3.1	1.8	8.2	M12 D28	1.9	2
ETHYLBENZENE										
Baltimore – Essex	1995	2	53	14	2.2	1.5	8.1	M10 D12	1.8	1.2
	1994	2	58	14	2.5	2.4	11.8	M12 D28	2	1.1
Baltimore – Morgan State	1995	2		10		1.7				0.6
	1994	2								
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		0.5				0.5
Baton Rouge – Capitol	1995	2	62	15	1.4	2.0	4.7	M 6 D 2	1	1.2
	1994	2	73	17	1.7	1.3	8.9	M 2 D25	1.2	0.7
Beaumont – Pt. Arthur	1995	2	58	15	1.6	0.8	20.0	M 4 D21	2.8	0.6
	1994	2	57	15	3.2	3.0	14.2	M10 D23	1.5	0
Boston – Lynn	1995	2	66	15	1.0	0.9	7.4	M12 D29	0.9	0.4
	1994	2	53	15	1.1	1.6	4.6	M12 D22	1	0.8
Boston – Newbury	1995	3		10		0.6				0.3
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.0				0.2
	1994	2		11		5.8				1.6
Connecticut – Stafford	1995	3		5		0.4				0.9
	1994	3		11		4.0				3.2
Houston – Clinton Dr.	1995	2	60	16	3.1	3.5	8.1	M 2 D20	2	1.5
	1994	2	58	15	4.1	4.9	10.7	M10 D 5	2.2	2.5
Lake Michigan – Chicago	1995	2								
	1994	2		17		4.0				1.4
Lake Michigan – Chicago–Jard	1995	2		18		1.4				1.1
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	1.0	1.0	9.1	M 3 D16	1.3	0.6
	1994	2	49	14	2.0	2.4	14.0	M 8 D 6	2.6	3.5
Lake Michigan – Harrington B	1995	3		9		0.0				0
	1994	3		11		0.4				0.4
Lake Michigan – Camp Logan	1995	4		17		1.7				3
	1994	4		17		0.9				1
Providence – E. Providence	1995	2	55	15	1.1	1.3	4.3	M10 D12	0.9	1
	1994	2		11		1.2				0.5

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)*

Parameter–Area–Site	Year	Site Type	# OBS		Means		Absolute Max		Standard Deviation of	
			Anual	Summer	Annual	Summer	Value	Occured	Annual Mean	Summer Mean
San Diego – El Cajon	1995	2								
	1994	2	28	8	3.1	2.4	7.2	M 1 D 8	1.5	0.0
South Coast/SEDAB – Pico Riv	1995	2	61	16	6.9	9.5	31.3	M 7 D14	5.6	7.9
	1994	2		13		5.8				2.3
South Coast/SEDAB – Azusa	1995	3		9		6.5				2.5
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	4.2	5.5	11.7	M11 D17	2.3	1.4
	1994	4		13		5.1				1.5
Springfield – Agawam	1995	1		2		0.5				0.4
	1994	1								
Springfield – Chicopee	1995	2	50	6	2	1.5	11.9	M12 D 5	1.9	0.8
	1994	2	54	15	2.1	1.3	25.5	M 2 D13	3.5	0.7
Ventura Co. – Simi Valley	1995	3								
	1994	3	29	7	2.6	2.4	4.8	M 1 D20	0.6	0.0
Washington – Corbin	1995	1	71	29	0.1	0.1	3.2	M 5 D12	0.4	0.2
	1994	1	52	15	0.4	0.7	3.9	M 6 D19	0.8	1.2
O-XYLENE										
Baltimore – Essex	1995	2		14	3.8	4.4	31	M 8 D25	5.7	8.7
	1994	2								
Baltimore – Morgan State	1995	2		10		2				0.7
	1994	2								
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		0.8				0.7
Baton Rouge – Capitol	1995	2	62	15	2.2	2.9	6.2	M 1 D 9	1.2	1.2
	1994	2	73	17	2.2	1.7	10.6	M 2 D25	1.5	1.0
Beaumont – Pt. Arthur	1995	2	58	15	2	0.9	38.8	M 4 D21	5.1	0.6
	1994	2	57	15	3	3	7.3	M10 D23	0.6	0.0
Boston – Lynn	1995	2	66	15	1.4	1.5	9.6	M11 D17	1.2	0.9
	1994	2	53	15	1.2	1.9	5.9	M12 D22	1.3	1.1
Boston – Newbury	1995	3		10		1.5				1.4
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.2				0.3
	1994	2		11		3.2				3.9
Connecticut – Stafford	1995	3		5		0.6				0.9
	1994	3		11		2.8				3.4
Houston – Clinton Dr.	1995	2	60	16	3.7	3.7	13	M 5 D 9	2.9	1.5
	1994	2	58	15	4.5	4.8	13.5	M10 D 5	2.6	2.4
Lake Michigan – Chicago	1995	2								
	1994	2		17		5.2				2.0
Lake Michigan – Chicago–Jard	1995	2		18		1.9				1.4
	1994	2								
Lake Michigan – Milwaukee	1995	2	59	15	1.4	1.3	11.1	M 3 D16	1.8	0.8
	1994	2	49	14	2.7	3.2	16	M 8 D 6	3.0	4.0
Lake Michigan – Harrington B	1995	3		9		0				0.1
	1994	3		11		0.7				0.3
Lake Michigan – Camp Logan	1995	4		17		3				4.9
	1994	4		17		1.8				1.3
Providence – E. Providence	1995	2	55	15	1.5	1.6	5.6	M 8 D31	1.1	1.4
	1994	2		11		1.4				0.7
San Diego – El Cajon	1995	2								
	1994	2	28	8	4.8	3.9	11.2	M 1 D20	2.8	1.8
South Coast/SEDAB – Pico Riv	1995	2	61	16	9	11.4	33.5	M 7 D14	6.1	6.9
	1994	2		13		8.8				4.6
South Coast/SEDAB – Azusa	1995	3		9		6.8				1.6
	1994	3								
South Coast/SEDAB – Upland	1995	4	58	13	5.4	6.8	14.6	M11 D17	2.8	1.7
	1994	4		13		6.5				1.9
Springfield – Agawam	1995	1		2		0.8				0.6
	1994	1								
Springfield – Chicopee	1995	2	50	6	2.5	2.1	5.2	M 4 D 9	1.6	1.0
	1994	2	54	15	2.1	1.4	10.7	M 3 D 3	2.3	0.6
Ventura Co. – Simi Valley	1995	3								
	1994	3	29	7	3.2	4	7.2	M 1 D20	1.8	1.7
Washington – Corbin	1995	1	68	30	1.5	0.3	78.8	M10 D30	9.5	0.6
	1994	1	52	15	0.4	0.4	5	M 6 D19	0.9	1.3
STYRENE										
Baltimore – Essex	1995	2	53	14	0.5	0.3	2.8	M10 D12	0.5	0.2
	1994	2	58	14	0.8	0.8	10.7	M 5 D 2	1.5	0.4
Baltimore – Morgan State	1995	2		10		4.6				2.4
	1994	2								
Baton Rouge – Pride	1995	1/3								
	1994	1/3		17		0.7				1.0
Baton Rouge – Capitol	1995	2	58	15	0.8	0.6	11	M 1 D 9	1.4	0.3
	1994	2	72	17	1.2	0.9	5.6	M12 D28	1.0	0.9

Table A-14. *PAMS Summary Statistics for Selected Parameters (24-hour samples), 1994 – 1995 (continued)*

		Site	# OBS		Means		Absolute Max		Standard Deviation of	
Parameter–Area–Site	**Year**	**Type**	**Anual**	**Summer**	**Annual**	**Summer**	**Value**	**Occured**	**Annual Mean**	**Summer Mean**
Beaumont – Pt. Arthur	1995	2	58	15	1.1	0.3	5.1	M 4 D15	1.4	0.4
	1994	2	57	15	3.2	3.0	10.6	M10 D23	1.2	0.0
Boston – Lynn	1995	2	66	15	1.0	1.5	3.6	M 6 D 2	0.8	0.8
	1994	2	53	15	3.0	5.9	28.5	M 8 D18	5.4	8.5
Boston – Newbury	1995	3		10		1.1				1.0
	1994	3								
Connecticut – E. Hartford	1995	2		13		0.2				0.3
	1994	2		11		11.9				2.2
Connecticut – Stafford	1995	3		5		0.0				0.0
	1994	3		11		11.4				3.5
Houston – Clinton Dr.	1995	2	60	16	1.4	0.9	12.8	M 2 D20	2.1	1.3
	1994	2	58	15	3.6	3.9	13.8	M11 D 4	2.0	2.1
Lake Michigan – Chicago	1995	2								
	1994	2		17		1.3				1.2
Lake Michigan – Chicago–Jard	1995	2		18		0.7				0.9
	1994	2								
Lake Michigan – Milwaukee	1995	2	52	12	0.6	0.5	4.8	M 3 D16	0.6	0.0
	1994	2	42	8	0.4	0.5	4.0	M10 D11	0.9	0.6
Lake Michigan – Harrington B	1995	3		9		0.0				0.0
	1994	3		8		0.2				0.2
Lake Michigan – Camp Logan	1995	4		17		2.3				2.2
	1994	4		17		1.8				1.8
Providence – E. Providence	1995	2	55	15	0.4	0.3	1.6	M 1 D21	0.3	0.1
	1994	2		11		0.3				0.2
San Diego – El Cajon	1995	2								
	1994	2	28	8	1.2	1.0	3.2	M 1 D20	0.8	0.6
South Coast/SEDAB – Pico Riv	1995	2	58	15	5.5	4.3	39.0	M10 D24	6.5	4.6
	1994	2		7		2.8				1.1
South Coast/SEDAB – Azusa	1995	3		9		7.3				5.4
	1994	3								
South Coast/SEDAB – Upland	1995	4	57	12	2.4	5.8	14.2	M 9 D30	2.9	4.8
	1994	4		6		2.8				1.4
Springfield – Agawam	1995	1		2		1.2				0.1
	1994	1								
Springfield – Chicopee	1995	2	50	6	2.9	3.7	10.4	M 5 D15	3.1	2.3
	1994	2	54	15	4.7	5.4	65.2	M 2 D19	9.8	7.5
Ventura Co. – Simi Valley	1995	3								
	1994	3	29	7	1.0	1.1	4.0	M 6 D25	0.9	0.8
Washington – Corbin	1995	1	73	30	1.2	0.5	63.2	M10 D18	7.4	0.5
	1994	1	52	15	0.3	0.9	7.0	M 6 D19	1.1	1.9

Notes:

1. Only data reported to AIRS are included in this report. EPA is aware that several reporting organizations were unable (due to software problems) to report undetected speciated VOC detail as zero; since these 'missing' data are not included in the tabulations, some levels may be overstated.
2. Annual statistics and absolute maxima information are only shown for sites that reported in at least 10 months of the year. Summer statistics are only shown for sites that reported in at least 2 months of the summer ozone season. The summer ozone season is June–August for all States but CA; in CA the season is July–September.

Table A-15. *Condensed Nonattainment Areas List(a)*

	State	Area Name(b)	Pollutant(c)						Population(d)					
			O_3	CO	SO_2	PM-10	Pb	NO_2	O_3	CO	SO_2	PM-10	Pb	All
1	AK	Anchorage	.	1	.	1	.	.		222	.	170	.	222
2	AK	Fairbanks	.	1	.	.	.	.	.	30	.	.	.	30
3	AK	Juneau	.	.	.	1	.	.	.	.	.	12	.	12
4	AL	Birmingham	1	.	.	.	.	.	751	.	.	.	.	751
5	AZ	Ajo	.	.	1	1	.	.	.	.	6	6	.	6
6	AZ	Bullhead City	.	.	.	1	.	.	.	.	.	5	.	5
7	AZ	Douglas	.	.	1	1	.	.	.	.	13	13	.	13
8	AZ	Miami-Hayden	.	.	2	1	.	.	.	.	3	3	.	3
9	AZ	Morenci	.	.	1	.	.	.	.	.	8	.	.	8
10	AZ	Nogales	.	.	.	1	.	.	.	.	.	19	.	19
11	AZ	Paul Spur	.	.	.	1	.	.	.	.	.	1	.	1
12	AZ	Payson	.	.	.	1	.	.	.	.	.	8	.	8
13	AZ	Phoenix	1	1	.	1	.	.	2,092	2,006	.	2,122	.	2,122
14	AZ	Rillito	.	.	.	1	.	.	.	.	.	0	.	0
15	AZ	San Manuel	.	.	1	.	.	.	.	.	5	.	.	5
16	AZ	Yuma	.	.	.	1	.	.	.	.	.	55	.	55
17	CA	Chico	.	1	.	.	.	.	.	72	.	.	.	72
18	CA	Coachella Valley	.	.	.	1	.	.	.	.	.	183	.	183
19	CA	Imperial Valley	.	.	.	1	.	.	.	.	.	92	.	92
20	CA	Lake Tahoe South Shore	.	1	.	.	.	.	.	30	.	.	.	30
21	CA	Los Angeles-South Coast Air Basin	1	1	.	2	.	1(e)	13,000	13,000	.	13,167	.	13,167
22	CA	Mammoth Lakes (in Mono Co.)	.	.	.	1	.	.	.	.	.	5	.	5
23	CA	Mono Basin (in Mono Co.)	.	.	.	1	.	.	.	.	.	0	.	0
24	CA	Monterey Bay	1	.	.	.	.	.	622	.	.	.	.	622
25	CA	Owens Valley	.	.	.	1	.	.	.	.	.	18	.	18
26	CA	Sacramento Metro	1	1	.	1	.	.	1,639	1,097	.	1,041	.	1,639
27	CA	San Diego	1	1	.	.	.	.	2,498	2,348	.	.	.	2,498
28	CA	San Francisco-Oakland-San Jose	.	1(f)	.	.	.	.	.	3,630	.	.	.	3,630
29	CA	San Joaquin Valley	1	3	.	1	.	.	2,742	946	.	2,742	.	2,742
30	CA	Santa Barbara-Santa Maria-Lompoc	1	.	.	.	.	.	370	.	.	.	.	370
31	CA	Searles Valley	.	.	.	1	.	.	.	.	.	31	.	31
32	CA	Southeast Desert Modified AQMA	1	.	.	.	.	.	384	.	.	.	.	384
33	CA	Ventura Co.	1	.	.	.	.	.	669	.	.	.	.	669
34	CO	Aspen	.	.	.	1	.	.	.	.	.	5	.	5
35	CO	Canon City	.	.	.	1	.	.	.	.	.	13	.	13
36	CO	Colorado Springs	.	1	.	.	.	.	.	353	.	.	.	353
37	CO	Denver-Boulder	.	1	.	1	.	.	.	1,800	.	1,836	.	1,836
38	CO	Fort Collins	.	1	.	.	.	.	.	106	.	.	.	106
39	CO	Lamar	.	.	.	1	.	.	.	.	.	8	.	8
40	CO	Longmont	.	1	.	.	.	.	.	52	.	.	.	52
41	CO	Pagosa Springs	.	.	.	1	.	.	.	.	.	1	.	1
42	CO	Steamboat Springs	.	.	.	1	.	.	.	.	.	7	.	7
43	CO	Telluride	.	.	.	1	.	.	.	.	.	1	.	1
44	CT	Greater Connecticut	1	.	.	1	.	.	2,470		.	130	.	2,470
45	DC-MD-VA	Washington	1	.	.	.	.	.	3,923	.	.	.	.	3,923
46	DE	Sussex Co	1	.	.	.	.	.	113	.	.	.	.	113
47	GA	Atlanta	1	.	.	.	.	.	2,653	.	.	.	.	2,653
48	GA	Muscogee Co.	.	.	.	.	1	.	.	.	.	.	179	179
49	GU	Piti Power Plant	.	.	1	.	.	.	.	.	-	.	.	-
50	GU	Tanguisson Power Plant	.	.	1	.	.	.	.	.	-	.	.	-
51	IA	Muscatine Co.	.	.	1	.	.	.	.	.	23	.	.	23
52	ID	Boise	.	.	.	1	.	.	.	.	.	126	.	126
53	ID	Bonner Co.(Sandpoint)	.	.	.	1	.	.	.	.	.	27	.	27
54	ID	Pinehurst	.	.	.	1	.	.	.	.	.	2	.	2
55	ID	Pocatello	.	.	.	1	.	.	.	.	.	46	.	46

Table A-15. *Condensed Nonattainment Areas List(a) (continued)*

			Pollutant(c)						Population(d)					
	State	Area Name(b)	O_3	CO	SO_2	PM-10	Pb	NO_2	O_3	CO	SO_2	PM-10	Pb	All
56	ID	Shoshone	.	.	.	1	.	.	.	.	.	12	.	12
57	IL	Oglesby	.	.	.	1	.	.	.	.	.	4	.	4
58	IL-IN	Chicago-Gary-Lake County	1	.	1	3	.	.	7,887	.	476	625	.	7,887
59	IN	Evansville	1	.	.	.	.	.	165	.	.	.	.	165
60	IN	Marion Co.	.	.	1	.	1(g)	.	.	.	206	.	16	206
61	IN	Laporte Co.	.	.	1	.	.	.	.	.	107	.	.	107
62	IN	Vermillion Co.	.	.	.	1	.	.	.	.	.	17	.	17
63	IN	Vigo Co.	.	.	1	.	.	.	.	.	106	.	.	106
64	IN	Wayne Co.	.	.	1	.	.	.	.	.	72	.	.	72
65	KY	Boyd Co.		.	1(h)	.	.	.	.	.	51	.	.	51
66	KY	Muhlenberg Co.	.	.	1	.	.	.	.	.	31	.	.	31
67	KY-IN	Louisville	1	.	.	.	.	.	834	.	.	.	.	834
68	LA	Baton Rouge	1	.	.	.	.	.	582	.	.	.	.	582
69	LA	Lake Charles	1	.	.	.	.	.	168	.	.	.	.	168
70	MA	Springfield (W. Mass)	1	.	.	.	.	.	812	.	.	.	.	812
71	MA-NH	Boston-Lawrence-Worcester	1	.	.	.	.	.	5,501	.	.	.	.	5,501
72	MD	Baltimore	1	.	.	.	.	.	2,348	.	.	.	.	2,348
73	MD	Kent and Queen Anne Cos.	1	.	.	.	.	.	52	.	.	.	.	52
74	ME	Hancock and Waldo Cos.	1	.	.	.	.	.	80	.	.	.	.	80
75	ME	Knox and Lincoln Cos.	1	.	.	.	.	.	67	.	.	.	.	67
76	ME	Lewiston-Auburn	1	.	.	.	.	.	221	.	.	.	.	221
77	ME	Millinocket	.	.	1	.	.	.	.	.	8	.	.	8
78	ME	Portland	1	.	.	.	.	.	441	.	.	.	.	441
79	MI	Detroit	.	.	.	1	.	.	.	.	.	1,028	.	1,028
80	MI	Muskegon	1	.	.	.	.	.	159	.	.	.	.	159
81	MN	Minneapolis-St. Paul	.	1	.	1	.	.	.	2,310	.	272	.	2,310
82	MN	Olmsted Co.	.	.	1	.	.	.	.	.	71	.	.	71
83	MO	Dent	.	.	.	.	1	.	.	.	.	.	3	3
84	MO	Liberty-Arcadia	.	.	.	.	1	.	.	.	.	.	2	2
85	MO-IL	St. Louis	1	.	.	1(l)	1(j)	.	2,390	.	.	33	171	2,390
86	MT	Butte	.	.	.	1	.	.	.	.	.	34	.	34
87	MT	Columbia Falls	.	.	.	1	.	.	.	.	.	3	.	3
88	MT	Kalispell	.	.	.	1	.	.	.	.	.	12	.	12
89	MT	Lame Deer	.	.	.	1	.	.	.	.	.	1	.	1
90	MT	Lewis & Clark	.	.	1	.	1(k)	.	.	.	2	.	2	2
91	MT	Libby	.	.	.	1	.	.	.	.	.	3	.	3
92	MT	Missoula	.	1	.	1	.	.	.	43	.	43	.	43
93	MT	Polson	.	.	.	1	.	.	.	.	.	3	.	3
94	MT	Ronan	.	.	.	1	.	.	.	.	.	2	.	2
95	MT	Thompson Falls	.	.	.	1	.	.	.	.	.	1	.	1
96	MT	Whitefish	.	.	.	1	.	.	.	.	.	4	.	4
97	MT	Yellowstone	.	.	1	.	.	.	.	.	5	.	.	5
98	NE	Douglas	.	.	.	.	1	.	.	.	.	.	1	1
99	NH	Manchester	1	.	.	.	.	.	222	.	.	.	.	222
100	NH	Portsmouth-Dover-Rochester	1	.	.	.	.	.	183	.	.	.	.	183
101	NJ	Atlantic City	1	.	.	.	.	.	319	.	.	.	.	319
102	NM	Anthony	.	.	.	1	.	.	.	.	.	2	.	2
103	NM	Grant Co.	.	.	1	.	.	.	.	.	28	.	.	28
104	NM	Sunland Park	1(l)	.	.	.	.	.	8	.	.	.	.	8
105	NV	Central Steptoe Valley	.	.	1	.	.	.	.	.	2	.	.	2
106	NV	Las Vegas	.	1	.	1	.	.	.	258	.	741	.	741
107	NV	Reno	1	1	.	1	.	.	255	134	.	255	.	255
108	NY	Albany-Schenectady-Troy	1	.	.	.	.	.	874	.	.	.	.	874
109	NY	Buffalo-Niagara Falls	1	.	.	.	.	.	1,189	.	.	.	.	1,189
110	NY	Essex Co. (White Mtn.)	1	.	.	.	.	.	1	.	.	.	.	1

Table A-15. *Condensed Nonattainment Areas List(a) (continued)*

	State	Area Name(b)	Pollutant(c)						Population(d)					
			O_3	CO	SO_2	PM-10	Pb	NO_2	O_3	CO	SO_2	PM-10	Pb	All
111	NY	Jefferson Co.	1	.	.	.	.	.	111	.	.	.	.	111
112	NY	Poughkeepsie	1	.	.	.	.	.	259	.	.	.	.	259
113	NY-NJ-CT	New York-N. New Jersey-Long Island	1	1	.	1	.	.	17,947	13,158	.	1,488	.	17,947
114	OH	Cleveland-Akron-Lorain	.	.	2	1	.	.	.	.	1,683	1,412	.	1,683
115	OH	Coshocton Co.	.	.	1	.	.	.	.	.	35	.	.	35
116	OH	Gallia Co.	.	.	1	.	.	.	.	.	31	.	.	31
117	OH	Jefferson Co.	.	.	1	1	.	.	.	.	80	4	.	80
118	OH	Lake Co.	.	.	1	.	.	.	.	.	215	.	.	215
119	OH	Lucas Co.		.	1	.	.	.	.	.	462	.	.	462
120	OH-KY	Cincinnati-Hamilton	1	.	.	.	.	.	1,705	.	.	.	.	1,705
121	OH-PA	Youngstown-Warren-Sharon	1(m)	.	.	.	.	.	121	.	.	.	.	121
122	OR	Grants Pass	.	1	.	1	.	.	.	17	.	17	.	17
123	OR	Klamath Falls	.	1	.	1	.	.	.	18	.	18	.	18
124	OR	Lakeview	.	.	.	1	.	.	.	.	.	3	.	3
125	OR	LaGrande	.	.	.	1	.	.	.	.	.	12	.	12
126	OR	Medford	.	1	.	1	.	.	.	62	.	63	.	63
127	OR	Oakridge	.	.	.	1	.	.	.	.	.	3	.	3
128	OR	Springfield-Eugene	.	.	.	1	.	.	.	.	.	157	.	157
129	OR-WA	Portland-Vancouver AQMA	1	2	.	.	.	.	1,107	1,172	.	.	.	1,172
130	PA	Altoona	1	.	.	.	.	.	131	.	.	.	.	131
131	PA	Conewango Twp. (in Warren Co, PA)	.	.	1	.	.	.	.	.	5	.	.	5
132	PA	Erie	1	.	.	.	.	.	276	.	.	.	.	276
133	PA	Harrisburg-Lebanon-Carlisle	1	.	.	.	.	.	588	.	.	.	.	588
134	PA	Johnstown	1	.	.	.	.	.	241	.	.	.	.	241
135	PA	Lancaster	1	.	.	.	.	.	423	.	.	.	.	423
136	PA	Pittsburgh-Beaver Valley	1	.	2	1	.	.	2,468	.	446	75	.	2,468
137	PA	Reading	1	.	.	.	.	.	337	.	.	.	.	337
138	PA	Scranton-Wilkes-Barre	1	.	.	.	.	.	734	.	.	.	.	734
139	PA	Warren-Pleas.-Glade (in Warren Co)	.	.	1	.	.	.	.	.	17	.	.	17
140	PA	York	1	.	.	.	.	.	418	.	.	.	.	418
141	PA-DE-NJ-MD	Philadelphia-Wilmington-Trenton	1	.	.	.	.	.	6,010	.		.	.	6,010
142	PA-NJ	Allentown-Bethlehem-Easton	1	.	1	.	.	.	687	.	92	.	.	687
143	PR	Guaynabo Co.	.	.	.	1	.	.	.	.	.	85	.	85
144	RI	Providence (all of RI)	1	.	.	.	.	.	1,003	.	.	.	.	1,003
145	TN	Benton Co.	.	.	1	.	.	.	.	.	15	.	.	15
146	TN	Humphreys Co.	.	.	1	.	.	.	.	.	16	.	.	16
147	TN	Shelby Co.	.	.	.	.	1(n)	.	.	.	.	.	826	826
148	TN	Nashville	1	.	.	.	1(o)	.	881	.	.	.	81	881
149	TN	Polk Co.	.	.	1	.	.	.	.	.	14	.	.	14
150	TX	Beaumont-Port Arthur	1	.	.	.	.	.	361	.	.	.	.	361
151	TX	Dallas-Fort Worth	1	.	.	.	1(p)	.	3,561	.	.	.	264	3,561
152	TX	El Paso	1	1	.	1	.	.	592	54	.	515	.	592
153	TX	Houston-Galveston-Brazoria	1	.	.	.	.	.	3,731	.	.	.	.	3,731
154	UT	Ogden	.	1	.	.	.	.	.	63	.	.	.	63
155	UT	Salt Lake City	1	.	1	1	.	.	914	.	726	726	.	914
156	UT	Tooele Co.	.	.	1	.	.	.	.	.	27	.	.	27
157	UT	Utah Co.	.	1	.	1	.	.	.	85	.	264	.	264
158	VA	Norfolk-Virg. Beach-Newport News	1	.	.	.	.	.	1,366	.	.	.	.	1,366
159	VA	Richmond	1	.	.	.	.	.	738	.	.	.	.	738
160	VA	Smyth Co. (White Top Mtn.)	1	.	.	.	.	.	-	.	.	.	.	-
161	WA	Olympia-Tumwater-Lacey	.	.	.	1	.	.	.	.	.	63	.	63
162	WA	Seattle-Tacoma	1	1	.	3	.	.	2,559	1,744	.	731	.	2,559
163	WA	Spokane	.	1	.	1	.	.	.	279	.	177	.	279
164	WA	Wallula	.	.	.	1	.	.	.	.	.	47	.	47
165	WA	Yakima	.	.	.	1	.	.	.	.	.	54	.	54

Table A-15. Condensed Nonattainment Areas List(a) (continued)

	State	Area Name(b)	Pollutant(c)						Population(d)					
			O_3	CO	SO_2	PM-10	Pb	NO_2	O_3	CO	SO_2	PM-10	Pb	All
166	WI	Door Co.	1	.	.	.	.	.	26	.	.	.	.	26
167	WI	Manitowoc Co.	1	.	.	.	.	.	80	.	.	.	.	80
168	WI	Marathon Co.	.	.	1	.	.	.	.	.	115	.	.	115
169	WI	Milwaukee-Racine	1	.	.	.	.	.	1,735	.	.	.	.	1,735
170	WI	Oneida Co.	.	.	1	.	.	.	.	.	32	.	.	32
171	WV	Follansbee	.	.	.	1	.	.	.	.	.	3	.	3
172	WV	New Manchester Gr. (in Hancock Co)	.	.	1	.	.	.	.	.	10	.	.	10
173	WV	Wier.-Butler-Clay (in Hancock Co)	.	.	1	1	.	.	.	.	25	22	.	25
174	WY	Sheridan	.	.	.	1	.	.	.	.	.	14	.	14
		Total	68	31	43	81	10	1	109,794	45,089	5,269	30,943	1,545	126,957

Notes

(a) This is a condensed listing of Classified Nonattainment areas. Unclassified and transitional nonattainment areas are not included. In certain cases, footnotes are used to clarify the areas involved. For example, the lead nonattainment area listed within the Dallas-Fort Worth ozone nonattainment area is in Frisco, Texas, which is not in Dallas county, but is within the designated boundaries of the ozone nonattainment area. Readers interested in more detailed information should use the official Federal Register citation (40 CFR 81).

(b) Names of nonattainment areas are listed alphabetically within each state. The largest city determines which state is listed first in the case of multiple-city nonattainment areas. When a larger nonattainment area, such as ozone, contains 1 or more smaller nonattainment areas, such as PM-10 or lead, the common name for the larger nonattainment area is used. Note that several smaller nonattainment areas may be inside one larger nonattainment area, as is the case in Figure A-1. For the purpose of this table, these are considered one nonattainment area and are listed on one line. Occasionally, two nonattainment areas may only partially overlap, as in Figure A-2. These are counted as two distinct nonattainment areas and are listed on separate lines.

(c) The number of nonattainment areas for each of the criteria pollutants is listed.

(d) Population figures were obtained from 1990 census data. For nonattainment areas defined as only partial counties, population figures for just the nonattainment area were used when these were available. Otherwise, whole county population figures were used. When a larger nonattainment area encompasses a smaller one, double-counting the population in the All column is avoided by only counting the population of the larger nonattainment area.

(e) NO_2 population same as O_3 and CO.

(f) Carbon monoxide nonattainment area includes San Francisco county, and parts of Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma counties.

(g) Lead nonattainment area is a portion of Franklin township, Marion county, Indiana.

(h) Sulfur dioxide nonattainment area is a portion of Boyd county.

(i) PM-10 nonattainment area is Granite City, Illinois, in Madison county.

(j) Lead nonattainment area is Herculaneum, Missouri in Jefferson county.

(k) Lead nonattainment area is a portion of Lewis and Clark county, Montana.

(l) Ozone nonattainment area is a portion of Dona Ana county, New Mexico.

(m) Youngstown has been redesignated for ozone but not the rest of the MSA and the population has been adjusted accordingly.

(n) Lead nonattainment area is a portion of Shelby county, Tennessee.

(o) Lead nonattainment area is a portion of Williamson county, Tennessee.

(p) Lead nonattainment area is Frisco, Texas, in Collin county.

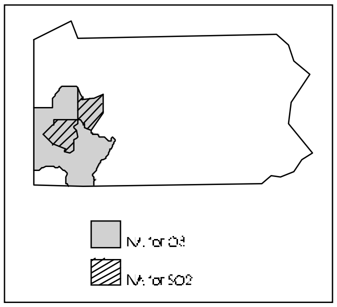

***Figure A-1.** (Multiple NA areas within a larger NA area) Two SO_2 areas inside the Pittsburgh–Beaver Valley ozone NA. Counted as one NA area.*

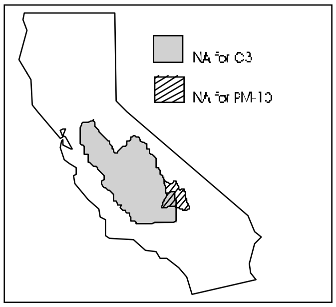

***Figure A-2.** (Overlapping NA areas) Searles Valley PM-10 NA partially overlaps the San Joaquin Valley ozone NA. Counted as two NA areas.*

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO_2 AM (ppm)	SO_2 24-hr (ppm)
ABILENE, TX	119,655	ND	ND	ND	ND	ND	ND	ND	ND
AGUADILLA, PR	128,172	ND	ND	ND	ND	ND	ND	ND	ND
AKRON, OH	657,575	4	0.03	ND	0.12	26	71	0.009	0.046
ALBANY, GA	112,561	ND	ND	ND	ND	ND	ND	0.001	0.006
ALBANY-SCHENECTADY-TROY, NY	861,424	4	0.04	0.014	0.11	22	52	0.005	0.023
ALBUQUERQUE, NM	589,131	8	ND	0.018	0.10	36	112	ND	ND
ALEXANDRIA, LA	131,556	ND	ND	ND	ND	21	45	ND	ND
ALLENTOWN-BETHLEHEM-EASTON, PA	595,081	5	0.07	0.023	0.12	23	70	0.010	0.028
ALTOONA, PA	130,542	2	ND	0.013	0.11	IN	70	0.008	0.037
AMARILLO, TX	187,547	ND	ND	ND	ND	IN	35	ND	ND
ANCHORAGE, AK	226,338	8	ND	ND	ND	39	**192**	ND	ND
ANN ARBOR, MI	490,058	ND	ND	ND	0.11	ND	ND	ND	ND
ANNISTON, AL	116,034	ND	ND	ND	ND	23	62	ND	ND
APPLETON-OSHKOSH-NEENAH, WI	315,121	ND	ND	ND	0.11	ND	ND	ND	ND
ARECIBO, PR	155,005	ND	ND	ND	ND	ND	ND	ND	ND
ASHEVILLE, NC	191,774	ND	ND	ND	0.09	25	71	ND	ND
ATHENS, GA	126,262	ND	ND	ND	ND	ND	ND	ND	ND
ATLANTA, GA	2,959,950	5	0.07	0.019	**0.15**	33	58	0.004	0.021
ATLANTIC-CAPE MAY, NJ	319,416	5	0.03	ND	0.12	32	66	0.003	0.011
AUGUSTA-AIKEN, GA-SC	415,184	ND	0.01	ND	0.12	IN	40	ND	ND
AURORA-ELGIN, IL	356,884	ND	ND	ND	ND	ND	ND	ND	ND
AUSTIN-SAN MARCOS, TX	846,227	4	ND	0.021	0.11	23	41	ND	ND
BAKERSFIELD, CA	543,477	5	0.00	0.029	**0.17**	**58**	**160**	0.003	0.011
BALTIMORE, MD	2,382,172	6	0.03	0.026	**0.15**	32	73	0.008	0.023
BANGOR, ME	91,629	ND	ND	ND	0.10	20	51	ND	ND
BARNSTABLE-YARMOUTH, MA	134,954	ND	ND	ND	ND	ND	ND	ND	ND
BATON ROUGE, LA	528,264	4	0.13	0.018	**0.13**	26	56	0.006	0.034
BEAUMONT-PORT ARTHUR, TX	361,226	2	0.02	0.010	**0.15**	20	56	0.006	0.031
BELLINGHAM, WA	127,780	ND	ND	ND	0.08	16	43	0.006	0.018
BENTON HARBOR, MI	161,378	ND	ND	ND	0.12	ND	ND	ND	ND
BERGEN-PASSAIC, NJ	1,278,440	5	0.03	0.029	0.12	35	78	0.006	0.030
BILLINGS, MT	113,419	7	ND	ND	ND	20	35	0.015	0.079
BILOXI-GULFPORT-PASCAGOULA, MS	312,368	ND	ND	ND	0.11	19	35	0.003	0.024
BINGHAMTON, NY	264,497	ND	ND	ND	ND	19	43	ND	ND
BIRMINGHAM, AL	840,140	7	0.09	0.011	**0.13**	34	95	0.006	0.016
BISMARCK, ND	83,831	ND	ND	ND	ND	IN	36	IN	0.027
BLOOMINGTON, IN	108,978	ND	ND	ND	ND	ND	ND	ND	ND
BLOOMINGTON-NORMAL, IL	129,180	ND	ND	ND	ND	ND	ND	ND	ND
BOISE CITY, ID	295,851	6	ND	ND	ND	40	95	ND	ND
BOSTON, MA-NH	3,227,707	4	0.01	0.031	0.12	26	58	0.007	0.040
BOULDER-LONGMONT, CO	225,339	5	ND	ND	0.10	20	61	ND	ND
BRAZORIA, TX	191,707	ND	ND	ND	**0.15**	ND	ND	ND	ND
BREMERTON, WA	189,731	5	ND	ND	ND	21	65	ND	ND
BRIDGEPORT, CT	443,722	5	0.02	0.024	**0.14**	29	64	0.007	0.034
BROCKTON, MA	236,409	ND	ND	ND	**0.13**	ND	ND	ND	ND
BROWNSVILLE-HARLINGEN-SAN BENITO, TX	260,120	3	ND	ND	0.08	24	49	0.001	0.003
BRYAN-COLLEGE STATION, TX	121,862	ND	ND	ND	ND	ND	ND	ND	ND
BUFFALO-NIAGARA FALLS, NY	1,189,288	3	0.04	0.021	0.11	20	48	0.009	0.051
BURLINGTON, VT	151,506	3	ND	0.017	ND	21	45	0.002	0.006
CAGUAS, PR	279,501	ND	ND	ND	ND	ND	ND	ND	ND
CANTON-MASSILLON, OH	394,106	3	ND	ND	0.12	31	66	0.006	0.032
CASPER, WY	61,226	ND	ND	ND	ND	19	42	ND	ND

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995 (continued)*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO$_2$ AM (ppm)	O$_3$ 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO$_2$ AM (ppm)	SO$_2$ 24-hr (ppm)
CEDAR RAPIDS, IA	168,767	3	ND	ND	0.08	26	62	0.005	0.044
CHAMPAIGN-URBANA, IL	173,025	ND	ND	ND	0.10	22	50	0.003	0.011
CHARLESTON-NORTH CHARLESTON, SC	506,875	6	0.01	0.011	0.09	22	55	0.003	0.019
CHARLESTON, WV	250,454	2	0.02	0.020	0.11	26	57	0.008	0.025
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	1,162,093	5	0.01	0.016	0.12	31	58	0.004	0.016
CHARLOTTESVILLE, VA	131,107	ND	ND	ND	ND	23	53	ND	ND
CHATTANOOGA, TN-GA	424,347	ND	ND	ND	0.11	32	59	ND	ND
CHEYENNE, WY	73,142	ND	ND	ND	ND	IN	36	ND	ND
CHICAGO, IL	7,410,858	5	0.99(a)	0.032	**0.14**	39	112	0.009	0.039
CHICO-PARADISE, CA	182,120	5	0.00	0.014	0.09	26	60	ND	ND
CINCINNATI, OH-KY-IN	1,526,092	4	0.06	0.024	**0.13**	34	82	0.007	0.027
CLARKSVILLE-HOPKINSVILLE, TN-KY	169,439	2	ND	0.010	0.10	IN	64	0.006	0.025
CLEVELAND-LORAIN-ELYRIA, OH	2,202,069	8	**1.63**(b)	0.027	0.12	**52**	**173**	0.011	0.050
COLORADO SPRINGS, CO	397,014	6	0.01	ND	0.08	27	72	ND	ND
COLUMBIA, MO	112,379	ND	ND	ND	ND	ND	ND	ND	ND
COLUMBIA, SC	453,331	4	0.01	0.013	0.11	43	137	0.002	0.015
COLUMBUS, GA-AL	260,860	ND	0.78(c)	ND	0.11	28	54	ND	ND
COLUMBUS, OH	1,345,450	5	0.14	ND	0.12	31	83	0.004	0.019
CORPUS CHRISTI, TX	349,894	ND	ND	ND	**0.13**	26	56	0.002	0.022
CUMBERLAND, MD-WV	101,643	ND	ND	ND	ND	27	56	0.004	0.015
DALLAS, TX	2,676,248	6	**0.69**(d)	0.023	**0.15**	35	81	0.004	0.031
DANBURY, CT	193,597	ND	ND	ND	**0.13**	IN	52	0.004	0.019
DANVILLE, VA	108,711	ND	ND	ND	ND	ND	ND	ND	ND
DAVENPORT-MOLINE-ROCK ISLAND, IA-IL	350,861	ND	0.01	ND	0.10	24	**157**	0.006	0.022
DAYTON-SPRINGFIELD, OH	951,270	4	0.05	ND	0.12	28	64	0.004	0.017
DAYTONA BEACH, FL	399,413	ND	ND	ND	0.09	21	38	ND	ND
DECATUR, AL	131,556	ND	ND	ND	0.10	25	52	ND	ND
DECATUR, IL	117,206	ND	0.03	ND	0.10	30	58	0.005	0.024
DENVER, CO	1,622,980	**10**	0.09	0.035	0.10	33	97	0.005	0.019
DES MOINES, IA	392,928	6	ND	ND	0.09	IN	97	ND	ND
DETROIT, MI	4,266,654	7	0.11	0.022	**0.14**	42	159	0.011	0.048
DOTHAN, AL	130,964	ND	ND	ND	ND	28	56	ND	ND
DOVER, DE	110,993	ND	ND	ND	**0.14**	ND	ND	ND	ND
DUBUQUE, IA	86,403	ND	ND	ND	ND	ND	ND	0.006	0.027
DULUTH-SUPERIOR, MN-WI	239,971	ND	ND	ND	ND	21	50	ND	ND
DUTCHESS COUNTY, NY	259,462	ND	ND	ND	0.12	ND	ND	ND	ND
EAU CLAIRE, WI	137,543	ND	ND	ND	ND	ND	ND	ND	ND
EL PASO, TX	591,610	8	0.19	0.034	**0.13**	47	138	0.010	0.054
ELKHART-GOSHEN, IN	156,198	ND	ND	ND	0.10	ND	ND	ND	ND
ELMIRA, NY	95,195	ND	ND	ND	0.09	18	43	0.004	0.014
ENID, OK	56,735	ND	ND	ND	ND	ND	ND	ND	ND
ERIE, PA	275,572	3	ND	0.015	0.11	IN	94	0.009	0.050
EUGENE-SPRINGFIELD, OR	282,912	5	0.02	ND	0.09	22	135	ND	ND
EVANSVILLE-HENDERSON, IN-KY	278,990	4	ND	0.017	0.12	34	79	0.015	0.061
FARGO-MOORHEAD, ND-MN	153,296	ND	ND	IN	0.04	IN	46	IN	0.007
FAYETTEVILLE, NC	274,566	5	ND	ND	0.10	23	38	ND	ND
FAYETTEVILLE-SPRINGDALE-ROGERS, AR	259,462	ND	ND	ND	ND	24	46	ND	ND
FITCHBURG-LEOMINSTER, MA	138,165	ND	ND	ND	ND	ND	ND	ND	ND
FLAGSTAFF, AZ-UT	101,760	ND	ND	ND	0.08	IN	32	ND	ND
FLINT, MI	430,459	ND	0.01	ND	0.10	IN	46	0.003	0.016
FLORENCE, AL	131,327	ND	ND	ND	0.08	22	49	0.003	0.018
FLORENCE, SC	114,344	ND	ND	ND	ND	ND	ND	ND	ND

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995 (continued)*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO_2 AM (ppm)	SO_2 24-hr (ppm)
FORT COLLINS-LOVELAND, CO	186,136	5	ND	ND	0.08	22	47	ND	ND
FORT LAUDERDALE, FL	1,255,488	7	0.02	0.011	0.10	20	48	0.002	0.008
FORT MYERS-CAPE CORAL, FL	335,113	ND	ND	ND	0.09	16	30	ND	ND
FORT PIERCE-PORT ST. LUCIE, FL	251,071	ND	ND	ND	0.07	ND	ND	ND	ND
FORT SMITH, AR-OK	175,911	ND	ND	ND	ND	26	56	ND	ND
FORT WALTON BEACH, FL	143,776	ND	ND	ND	ND	ND	ND	ND	ND
FORT WAYNE, IN	456,281	5	0.04	ND	0.11	28	101	ND	ND
FORT WORTH-ARLINGTON, TX	1,361,034	3	0.04	0.017	**0.14**	27	60	0.001	0.004
FRESNO, CA	755,580	8	0.00	0.023	**0.15**	49	120	0.004	0.010
GADSDEN, AL	99,840	ND	0.06	ND	ND	30	63	ND	ND
GAINESVILLE, FL	181,596	ND	ND	ND	ND	20	38	ND	ND
GALVESTON-TEXAS CITY, TX	217,399	ND	0.03	ND	**0.20**	28	78	0.006	0.089
GARY, IN	604,526	4	0.19	0.023	0.12	36	**157**	0.008	0.039
GLENS FALLS, NY	118,539	ND	ND	ND	ND	18	39	0.003	0.011
GOLDSBORO, NC	104,666	ND	ND	ND	ND	20	34	ND	ND
GRAND FORKS, ND-MN	103,181	ND	ND	ND	ND	18	40	ND	ND
GRAND JUNCTION, CO	93,145	5	ND	ND	ND	22	48	ND	ND
GRAND RAPIDS-MUSKEGON-HOLLAND, MI	937,891	5	0.01	IN	**0.15**	22	54	0.002	0.011
GREAT FALLS, MT	77,691	6	ND	ND	ND	IN	52	0.003	0.016
GREELEY, CO	131,821	5	ND	ND	0.09	IN	59	ND	ND
GREEN BAY, WI	194,594	ND	ND	ND	0.11	ND	ND	0.004	0.018
GREENSBORO–WINSTON-SALEM–HIGH POINT	1,050,304	6	ND	0.016	0.12	28	66	0.006	0.025
GREENVILLE, NC	107,924	ND	ND	ND	0.10	19	35	ND	ND
GREENVILLE-SPARTANBURG-ANDERSON, SC	830,563	5	0.03	0.017	0.12	38	94	0.001	0.007
HAGERSTOWN, MD	121,393	ND	ND	ND	ND	IN	53	ND	ND
HAMILTON-MIDDLETOWN, OH	291,479	ND	0.10	ND	**0.13**	39	99	0.006	0.020
HARRISBURG-LEBANON-CARLISLE, PA	587,986	3	0.04	0.020	0.11	22	67	0.005	0.020
HARTFORD, CT	1,157,585	7	0.03	0.017	**0.15**	20	45	0.005	0.023
HATTIESBURG, MS	98,738	ND	ND	ND	ND	ND	ND	ND	ND
HICKORY-MORGANTON-LENOIR, NC	292,409	ND	ND	ND	0.10	23	51	IN	0.005
HONOLULU, HI	836,231	3	0.01	0.004	0.06	21	45	0.001	0.009
HOUMA, LA	182,842	ND	ND	ND	**0.14**	ND	ND	ND	ND
HOUSTON, TX	3,322,025	5	0.02	0.026	**0.20**	42	92	0.006	0.053
HUNTINGTON-ASHLAND, WV-KY-OH	312,529	4	0.04	0.016	0.12	38	79	0.012	0.058
HUNTSVILLE, AL	293,047	4	ND	ND	0.10	23	61	ND	ND
INDIANAPOLIS, IN	1,380,491	4	0.94(e)	0.020	**0.13**	38	79	0.008	0.042
IOWA CITY, IA	96,119	ND	ND	ND	ND	ND	ND	ND	ND
JACKSON, MI	149,756	ND	ND	ND	ND	ND	ND	ND	ND
JACKSON, MS	395,396	4	0.09	ND	0.09	23	68	0.002	0.007
JACKSON, TN	77,982	ND	ND	0.011	0.06	IN	51	IN	0.024
JACKSONVILLE, FL	906,727	5	0.03	0.016	0.12	29	61	0.006	0.056
JACKSONVILLE, NC	149,838	ND	ND	ND	ND	20	38	ND	ND
JAMESTOWN, NY	141,895	ND	ND	ND	0.10	17	48	0.005	0.044
JANESVILLE-BELOIT, WI	139,510	ND	ND	ND	0.10	ND	ND	ND	ND
JERSEY CITY, NJ	553,099	8	0.05	0.026	**0.13**	23	87	0.008	0.029
JOHNSON CITY-KINGSPORT-BRISTOL, TN-VA	436,047	3	0.18	0.018	0.11	30	59	0.010	0.041
JOHNSTOWN, PA	241,247	4	0.06	0.015	0.10	27	61	0.012	0.042
JOPLIN, MO	134,910	ND	ND	ND	ND	ND	ND	ND	ND
KALAMAZOO-BATTLE CREEK, MI	429,453	2	0.01	0.014	0.11	26	55	0.004	0.016
KANKAKEE, IL	96,255	ND	ND	ND	ND	ND	ND	ND	ND
KANSAS CITY, MO-KS	1,582,875	5	0.03	0.020	**0.13**	37	104	0.005	0.023
KENOSHA, WI	128,181	ND	ND	ND	**0.13**	ND	ND	ND	ND

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995 (continued)*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO$_2$ AM (ppm)	O$_3$ 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO$_2$ AM (ppm)	SO$_2$ 24-hr (ppm)
KILLEEN-TEMPLE, TX	255,301	ND	ND	ND	ND	18	42	ND	ND
KNOXVILLE, TN	585,960	4	ND	ND	0.12	37	64	0.010	0.053
KOKOMO, IN	96946	ND	ND	ND	ND	ND	ND	ND	ND
LA CROSSE, WI-MN	116,401	ND	ND	ND	ND	ND	ND	ND	ND
LAFAYETTE, LA	344,853	ND	ND	ND	0.11	21	47	ND	ND
LAFAYETTE, IN	161,572	1	ND	0.015	0.10	IN	63	0.006	0.026
LAKE CHARLES, LA	168,134	ND	ND	0.006	0.11	23	54	0.005	0.018
LAKELAND-WINTER HAVEN, FL	405,382	ND	ND	ND	0.09	21	40	0.004	0.015
LANCASTER, PA	422,822	2	0.04	0.016	0.12	33	73	0.006	0.018
LANSING-EAST LANSING, MI	432,674	ND	ND	ND	0.10	ND	ND	ND	ND
LAREDO, TX	133,239	ND	ND	ND	ND	IN	55	ND	ND
LAS CRUCES, NM	135,510	4	0.10	IN	**0.14**	**57**	**272**	0.007	0.036
LAS VEGAS, NV-AZ	852,737	9	ND	0.027	0.09	46	**177**	ND	ND
LAWRENCE, KS	81,798	ND	ND	ND	ND	ND	ND	ND	ND
LAWRENCE, MA-NH	353,232	ND	0.00	ND	0.08	13	28	0.007	0.033
LAWTON, OK	111,486	3	ND	0.008	0.09	25	52	ND	ND
LEWISTON-AUBURN, ME	93,679	ND	ND	ND	ND	IN	46	0.004	0.024
LEXINGTON, KY	405,936	3	0.06	0.017	0.11	29	68	0.006	0.016
LIMA, OH	154,340	ND	ND	ND	0.11	27	47	0.003	0.015
LINCOLN, NE	213,641	6	ND	ND	0.07	25	54	ND	ND
LITTLE ROCK-NORTH LITTLE ROCK, AR	513,117	4	ND	0.011	0.11	34	67	0.002	0.008
LONGVIEW-MARSHALL, TX	193,801	ND	ND	ND	**0.15**	ND	ND	ND	ND
LOS ANGELES-LONG BEACH, CA	8,863,164	**12**	0.06	0.046	**0.21**	50	**156**	0.004	0.012
LOUISVILLE, KY-IN	948,829	6	0.06	0.022	**0.13**	33	70	0.014	0.040
LOWELL, MA-NH	280,578	8	ND	ND	ND	ND	ND	ND	ND
LUBBOCK, TX	222,636	ND	ND	ND	ND	22	149	ND	ND
LYNCHBURG, VA	193,928	ND	ND	ND	ND	24	54	ND	ND
MACON, GA	290,909	ND	ND	ND	ND	ND	ND	ND	ND
MADISON, WI	367,085	5	ND	ND	0.10	23	55	0.003	0.018
MANSFIELD, OH	174,007	ND	ND	ND	ND	25	61	ND	ND
MAYAGUEZ, PR	237,143	ND	ND	ND	ND	ND	ND	ND	ND
MCALLEN-EDINBURG-MISSION, TX	383,545	ND	ND	ND	ND	ND	ND	ND	ND
MEDFORD-ASHLAND, OR	146,389	6	0.02	ND	0.09	31	76	ND	ND
MELBOURNE-TITUSVILLE-PALM BAY, FL	398,978	ND	ND	ND	0.08	16	30	ND	ND
MEMPHIS, TN-AR-MS	1,007,306	7	1.53(f)	0.027	**0.14**	30	72	0.005	0.019
MERCED, CA	178,403	ND	ND	0.012	**0.13**	39	89	ND	ND
MIAMI, FL	1,937,094	5	0.01	0.015	0.11	IN	54	0.002	0.004
MIDDLESEX-SOMERSET-HUNTERDON, NJ	1,019,835	5	0.07	0.019	**0.15**	22	51	0.004	0.018
MILWAUKEE-WAUKESHA, WI	1,432,149	4	0.05	0.024	**0.13**	28	72	0.004	0.025
MINNEAPOLIS-ST. PAUL, MN-WI	2,538,834	7	ND	0.019	0.11	IN	88	0.005	0.037
MOBILE, AL	476,923	ND	ND	ND	0.11	34	67	0.009	0.053
MODESTO, CA	370,522	5	0.00	0.022	**0.13**	42	111	ND	ND
MONMOUTH-OCEAN, NJ	986,327	4	ND	ND	**0.15**	ND	ND	ND	ND
MONROE, LA	142,191	ND	ND	ND	0.10	36	111	0.002	0.007
MONTGOMERY, AL	292,517	1	ND	0.011	0.10	26	58	IN	0.018
MUNCIE, IN	119,659	ND	1.20(g)	ND	ND	ND	ND	ND	ND
MYRTLE BEACH, SC	144,053	ND	ND	ND	ND	ND	ND	ND	ND
NAPLES, FL	152,099	ND	ND	ND	ND	16	34	ND	ND
NASHUA, NH	168,233	8	ND	0.013	0.11	IN	36	0.006	0.031
NASHVILLE, TN	985,026	7	**3.10**(h)	0.014	0.12	35	70	0.005	0.030
NASSAU-SUFFOLK, NY	2,609,212	5	ND	0.025	**0.15**	20	63	0.006	0.029
NEW BEDFORD, MA	175,641	ND	ND	ND	**0.14**	14	28	ND	ND

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995 (continued)*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO_2 AM (ppm)	SO_2 24-hr (ppm)
NEW HAVEN-MERIDEN, CT	530,180	4	0.06	0.025	**0.17**	26	76	0.008	0.038
NEW LONDON-NORWICH, CT-RI	290,734	ND	ND	ND	**0.14**	17	47	0.005	0.018
NEW ORLEANS, LA	1,285,270	4	0.41	0.021	**0.13**	29	66	0.007	0.022
NEW YORK, NY	8,546,846	8	0.13	0.042	**0.13**	**51**	93	0.015	0.053
NEWARK, NJ	1,915,928	8	0.23	0.039	**0.13**	35	77	0.007	0.028
NEWBURGH, NY-PA	335,613	ND	0.11	ND	0.12	ND	ND	ND	ND
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS, VA	1,443,244	5	0.03	0.018	0.11	22	43	0.007	0.028
OAKLAND, CA	2,082,914	4	0.05	0.021	**0.15**	23	72	0.003	0.008
OCALA, FL	194,833	ND	ND	ND	ND	ND	ND	ND	ND
ODESSA-MIDLAND, TX	255,545	ND	ND	ND	ND	IN	38	ND	ND
OKLAHOMA CITY, OK	958,839	7	0.02	0.014	0.12	28	77	0.002	0.006
OLYMPIA, WA	161,238	6	ND	ND	ND	IN	65	ND	ND
OMAHA, NE-IA	639,580	8	**6.57**(i)	ND	0.09	34	115	0.003	0.042
ORANGE COUNTY, CA	2,410,556	7	0.04	0.039	**0.13**	44	144	0.003	0.005
ORLANDO, FL	1,224,852	4	0.00	0.010	0.10	25	41	0.001	0.006
OWENSBORO, KY	87,189	4	ND	0.013	0.11	29	79	0.007	0.028
PANAMA CIT, FL	126,994	ND	ND	ND	ND	24	58	ND	ND
PARKERSBURG-MARIETTA, WV-OH	149,169	ND	0.02	ND	0.12	IN	56	0.010	0.041
PENSACOLA, FL	344,406	ND	ND	ND	0.12	23	54	0.003	0.027
PEORIA-PEKI, IL	339,172	6	0.03	ND	0.10	23	52	0.008	0.110
PHILADELPHIA, PA-NJ	4,922,175	6	**10.2**(j)	0.032	**0.14**	**75**	**295**	0.010	0.040
PHOENIX-MESA, AZ	2,238,480	**10**	0.06	0.033	**0.13**	44	**160**	0.004	0.020
PINE BLUFF, AR	85,487	ND	ND	ND	ND	26	62	ND	ND
PITTSBURGH, PA	2,384,811	6	0.10	0.032	**0.14**	42	**193**	0.017	0.085
PITTSFIELD, MA	88,695	ND	ND	ND	0.09	ND	ND	ND	ND
PONCE, PR	3,442,660	ND	ND	ND	ND	24	57	ND	ND
PORTLAND, ME	221,095	ND	ND	0.005	0.12	34	86	0.006	0.022
PORTLAND-VANCOUVER, OR-WA	1,515,452	7	0.28	IN	0.11	29	58	IN	0.011
PORTSMOUTH-ROCHESTER, NH-ME	223,271	ND	ND	0.012	**0.13**	IN	37	0.004	0.018
PROVIDENCE-FALL RIVER-WARWICK, RI-MA	1,134,350	7	ND	0.022	**0.14**	31	76	0.007	0.028
PROVO-OREM, UT	263,590	7	ND	0.023	0.10	32	103	ND	ND
PUEBLO, CO	123,051	ND	ND	ND	ND	IN	86	ND	ND
PUNTA GORDA, FL	110,975	ND	ND	ND	ND	ND	ND	ND	ND
RACINE, WI	175,034	4	ND	ND	0.11	ND	ND	ND	ND
RALEIGH-DURHAM-CHAPEL HILL, NC	855,545	7	ND	0.011	0.11	24	51	0.003	0.008
RAPID CITY, SD	81,343	ND	ND	ND	ND	39	115	ND	ND
READING, PA	336,523	4	**0.73**(k)	0.021	0.12	26	54	0.009	0.033
REDDING, CA	147,036	ND	ND	ND	0.10	20	47	ND	ND
RENO, NV	254,667	6	ND	ND	0.08	47	94	ND	ND
RICHLAND-KENNEWICK-PASCO, WA	150,033	ND	ND	ND	ND	IN	64	ND	ND
RICHMOND-PETERSBURG, VA	865,640	3	ND	0.022	0.12	26	55	0.005	0.023
RIVERSIDE-SAN BERNARDINO, CA	2,588,793	6	0.04	0.046	**0.23**	**69**	**236**	0.003	0.008
ROANOKE, VA	224,477	5	ND	0.013	0.09	40	88	0.003	0.010
ROCHESTER, MN	106,470	ND	ND	ND	ND	IN	49	ND	ND
ROCHESTER, NY	1,062,470	3	0.04	ND	0.11	24	53	0.011	0.049
ROCKFORD, IL	329,676	5	0.03	ND	0.10	19	45	ND	ND
ROCKY MOUNT, NC	133,235	ND	ND	ND	ND	23	48	ND	ND
SACRAMENTO, CA	1,340,010	7	0.03	0.022	**0.15**	28	80	0.001	0.005
SAGINAW-BAY CITY-MIDLAND, MI	399,320	ND	ND	ND	ND	IN	26	ND	ND
ST. CLOUD, MN	190,921	4	ND	ND	ND	ND	ND	ND	ND
ST. JOSEPH, MO	83,083	ND	ND	ND	ND	33	101	0.004	0.043
ST. LOUIS, MO-IL	1,836,302	5	**6.54**(l)	0.026	**0.14**	46	106	0.012	0.083

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995 (continued)*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO_2 AM (ppm)	SO_2 24-hr (ppm)
SALEM, OR	278,024	6	ND	ND	ND	ND	ND	ND	ND
SALINA, CA	355,660	2	ND	0.011	0.08	21	47	ND	ND
SALT LAKE CITY-OGDEN, UT	1,072,227	7	0.06	0.024	0.12	45	129	0.005	0.034
SAN ANGELO, TX	98,458	ND	ND	ND	ND	ND	ND	ND	ND
SAN ANTONIO, TX	1,324,749	4	0.03	ND	0.12	22	42	ND	ND
SAN DIEGO, CA	2,498,016	6	0.03	0.026	**0.14**	47	118	0.004	0.015
SAN FRANCISCO, CA	1,603,678	5	0.01	0.021	0.12	IN	48	0.002	0.005
SAN JOSE, CA	9,771,577	6	0.02	0.027	**0.14**	24	62	ND	ND
SAN JUAN-BAYAMON, PR	1,836,302	6	ND	ND	ND	32	69	0.008	0.052
SAN LUIS OBISPO-ATASCADERO-PASO ROBLE	217,162	2	ND	0.013	0.10	23	97	0.006	0.029
SANTA BARBARA-SANTA MARIA-LOMPOC, CA	369,608	5	0.00	0.021	**0.13**	31	64	0.002	0.005
SANTA CRUZ-WATSONVILLE, CA	229,734	1	ND	0.005	0.09	36	85	0.001	0.008
SANTA FE, NM	117,043	2	ND	ND	ND	13	34	ND	ND
SANTA ROSA, CA	388,222	2	ND	0.015	0.09	IN	46	ND	ND
SARASOTA-BRADENTON, FL	489,483	6	ND	ND	0.10	26	60	0.002	0.012
SAVANNAH, GA	258,060	ND	ND	ND	0.09	ND	ND	0.006	0.023
SCRANTON–WILKES-BARRE–HAZLETON, PA	638,466	3	ND	0.018	0.11	26	76	0.005	0.045
SEATTLE-BELLEVUE-EVERETT, WA	2,033,156	7	0.51	0.019	0.10	29	117	0.006	0.020
SHARON, PA	121,003	ND	0.05	ND	0.11	IN	72	0.008	0.032
SHEBOYGAN, WI	103,877	ND	ND	ND	0.12	ND	ND	ND	ND
SHERMAN-DENISON, TX	95,021	ND	ND	ND	ND	ND	ND	ND	ND
SHREVEPORT-BOSSIER CITY, LA	376,330	ND	ND	ND	0.10	24	52	0.001	0.004
SIOUX CITY, IA-NE	115,018	ND	ND	ND	ND	IN	62	ND	ND
SIOUX FALLS, SD	139,236	ND	ND	ND	ND	24	54	ND	ND
SOUTH BEND, IN	247,052	3	ND	0.011	0.11	23	54	ND	ND
SPOKANE, WA	361,364	**11**	ND	ND	0.08	28	103	ND	ND
SPRINGFIELD, IL	189,550	3	ND	ND	0.10	21	43	0.006	0.062
SPRINGFIELD, MO	264,346	4	ND	0.012	0.11	30	140	0.004	0.082
SPRINGFIELD, MA	587,884	8	0.01	0.022	**0.13**	27	52	0.006	0.031
STAMFORD-NORWALK, CT	329,935	5	ND	ND	**0.14**	18	76	0.011	0.032
STATE COLLEGE, PA	123,786	ND	ND	ND	ND	ND	ND	ND	ND
STEUBENVILLE-WEIRTON, OH-WV	142,523	7	0.05	0.020	0.12	40	**161**	0.013	0.131
STOCKTON-LODI, CA	480,628	5	0.00	0.022	**0.13**	IN	127	ND	ND
SUMTER, SC	102,637	ND	ND	ND	ND	ND	ND	ND	ND
SYRACUSE, NY	742,177	3	ND	ND	0.10	24	59	0.004	0.016
TACOMA, WA	586,203	6	ND	ND	0.09	27	94	0.006	0.020
TALLAHASSEE, FL	233,598	ND	ND	ND	0.10	ND	ND	ND	ND
TAMPA-ST. PETERSBURG-CLEARWATER, FL	2,067,959	5	**2.25**(m)	0.012	0.11	31	77	0.008	0.061
TERRE HAUTE, IN	147,585	3	ND	ND	0.10	31	68	0.010	0.035
TEXARKANA, TX-TEXARKANA, AR	120,132	ND	ND	ND	ND	26	55	ND	ND
TOLEDO, OH	614,128	3	0.43	ND	0.11	25	68	0.004	0.025
TOPEKA, KS	160,976	ND	0.01	ND	ND	IN	65	ND	ND
TRENTON, NJ	325,824	ND	ND	0.016	**0.13**	24	45	ND	ND
TUSCON, AZ	666,880	6	0.02	0.020	0.11	41	106	0.001	0.004
TULSA, OK	708,954	4	0.09	0.016	0.12	23	70	0.008	0.045
TUSCALOOSA, AL	150,522	ND	ND	ND	ND	27	63	ND	ND
TYLER, TX	151,309	ND	ND	ND	0.11	20	51	ND	ND
UTICA-ROME, NY	316,633	ND	ND	ND	0.10	19	42	0.001	0.008
VALLEJO-FAIRFIELD-NAPA, CA	451,186	5	ND	0.015	0.11	19	51	0.003	0.007
VENTURA, CA	669,016	4	0.00	0.024	**0.16**	31	73	0.001	0.003
VICTORIA, TX	74,361	ND	ND	ND	0.10	ND	ND	ND	ND
VINELAND-MILLVILLE-BRIDGETON, NJ	138,053	ND	ND	ND	**0.13**	ND	ND	0.004	0.016

Table A-16. *Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1995 (continued)*

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMAX (ugm)	NO_2 AM (ppm)	O_3 2nd MAX (ppm)	PM-10 WTD AM (ugm)	PM-10 2nd MAX (ugm)	SO_2 AM (ppm)	SO_2 24-hr (ppm)
VISALIA-TULARE-PORTERVILLE, CA	311,921	4	ND	0.023	**0.13**	**54**	120	ND	ND
WACO, TX	189,123	ND	ND	ND	ND	ND	ND	ND	ND
WASHINGTON, DC-MD-VA-WV	4,223,485	6	0.03	0.026	**0.13**	23	74	0.009	0.023
WATERBURY, CT	221,629	ND	0.04	ND	ND	24	58	0.005	0.019
WATERLOO-CEDAR FALLS, IA	123,798	ND	ND	ND	ND	36	71	ND	ND
WAUSAU, WI	115,400	ND	ND	ND	0.09	29	82	0.003	0.022
WEST PALM BEACH-BOCA RATON, FL	863,518	4	0.00	0.012	0.09	17	37	0.002	0.019
WHEELING, WV-OH	159,301	5	ND	ND	0.10	30	78	0.014	0.075
WICHITA, KS	485,270	6	0.02	ND	0.10	34	102	0.004	0.006
WICHITA FALLS, TX	130,351	ND	ND	ND	ND	20	57	ND	ND
WILLIAMSPORT, PA	118,710	ND	ND	ND	0.09	28	59	0.006	0.027
WILMINGTON-NEWARK, DE-MD	513,293	5	ND	0.017	**0.15**	29	76	0.013	0.098
WILMINGTON, NC	171,269	ND	ND	ND	ND	IN	38	0.009	0.063
WORCESTER, MA-CT	478,384	4	ND	0.021	0.12	IN	39	0.006	0.023
YAKIMA, WA	188,823	7	ND	ND	ND	21	72	ND	ND
YOLO, CA	141,092	3	ND	ND	0.11	30	120	ND	ND
YORK, PA	339,574	3	0.04	0.021	0.10	30	66	0.006	0.019
YOUNGSTOWN-WARREN, OH	600,859	ND	ND	0.020	0.11	36	130	0.012	0.040
YUBA CITY, CA	122,643	4	ND	0.014	0.11	23	110	ND	ND
YUMA, AZ	106,895	ND	ND	ND	0.09	ND	ND	ND	ND

CO = Highest second maximum non-overlapping 8-hour concentration *(Applicable NAAQS is 9 ppm)*
Pb = Highest quarterly maximum concentration *(Applicable NAAQS is 1.5 ug/m^3)*
NO_2 = Highest arithmetic mean concentration *(Applicable NAAQS is 0.053 ppm)*
O_3 = Highest second daily maximum 1-hour concentration *(Applicable NAAQS is 0.12 ppm)*
PM-10 = Highest weighted annual mean concentration *(Applicable NAAQS is 50 ug/m^3)*
Data from exceptional events not included.
= Highest second maximum 24-hour concentration *(Applicable NAAQS is 150 ug/m^3)*
SO_2 = Highest annual mean concentration *(Applicable NAAQS is 0.03 ppm)*
= Highest second maximum 24-hour concentration *(Applicable NAAQS is 0.14 ppm)*
ND = Indicates data not available
IN = Indicates insufficient data to calculate summary statistic
WTD = Weighted
AM = Annual mean
UGM = Units are micrograms per cubic meter
PPM = Units are parts per million

(a) – Localized impact from an industrial source in Chicago, IL. Highest population-oriented site in Chicago, IL is 0.08 ug/m^3.
(b) – Localized impact from an industrial source in Cleveland, OH. This facility has been shut down. Highest population-oriented site in Cleveland, OH is 0.06 ug/m^3.
(c) – Localized impact from an industrial source in Columbus, GA. Highest population-oriented site in Columbus, GA is 0.68 ug/m^3.
(d) – Localized impact from an industrial source in Collin Co., TX. Highest population-oriented site in Dallas, TX is 0.19 ug/m^3.
(e) – Localized impact from an industrial source in Indianapolis, IN. Highest population-oriented site in Indianapolis, IN is 0.09 ug/m^3.
(f) – Localized impact from an industrial source in Memphis, TN. Highest population-oriented site in Memphis, TN is 0.05 ug/m^3.
(g) – Localized impact from an industrial source in Muncie, IN.
(h) – Localized impact from an industrial source in Williamston, CO., TN. Highest population-oriented site in Nashville, TN is 0.08 ug/m^3.
(i) – Localized impact from an industrial source in Omaha, NE. Highest population-oriented site in Omaha, NE is 0.21 ug/m^3.
(j) – Localized impact from an industrial source in Philadelphia, PA. Highest population-oriented site in Philadelphia, PA is 0.74 ug/m^3.
(k) – Localized impact from an industrial source in Laureldale, PA.
(l) – Localized impact from an industrial source in Herculaneum, MO. Highest population-oriented site in St. Louis, MO is 0.02 ug/m^3.
(m) – Localized impact from an industrial source in Tampa, FL.

Note: The reader is cautioned that this summary is not adequate in itself to numerically rank MSAs according to their air quality. The monitoring data represent the quality of air in the vicinity of the monitoring site but may not necessarily represent urban-wide air quality.

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
AKRON, OH													
CO	SECOND MAX 8-HOUR	NS	2	4.1	4.9	4.8	6.1	5.4	3.2	4.5	2.6	3.7	2.7
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.10	0.13	0.07	0.10	0.04	0.06	0.05	0.06	0.06	0.03
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.13	0.16	0.13	0.11	0.12	0.11	0.11	0.10	0.12
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	72	72	61	59	57	62	62	63
	WEIGHTED ANNUAL MEAN	NS	1	—	—	34	34	26	28	27	25	28	26
SO2	ARITHMETIC MEAN	DOWN	2	0.016	0.015	0.015	0.015	0.014	0.013	0.012	0.013	0.011	0.010
	SECOND MAX 24-HOUR	NS	2	0.052	0.051	0.049	0.054	0.056	0.052	0.053	0.047	0.040	0.042
ALBANY-SCHENECTADY-TROY, NY													
CO	SECOND MAX 8-HOUR	DOWN	1	6.6	7.5	6.2	5.7	6.2	5.4	4.7	3.8	5.2	4.3
LEAD	MAX QUARTERLY MEAN	NS	1	0.11	0.08	0.05	0.04	0.13	0.04	0.03	0.03	0.04	0.04
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.10	0.12	0.10	0.11	0.10	0.10	0.10	0.10	0.10
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	46	46	46	51	54	51	57	49
	WEIGHTED ANNUAL MEAN	NS	2	—	—	22	22	22	22	21	20	22	19
SO2	ARITHMETIC MEAN	DOWN	1	0.009	0.007	0.006	0.005	0.006	0.006	0.006	0.006	0.006	0.005
	SECOND MAX 24-HOUR	NS	1	0.029	0.027	0.039	0.022	0.028	0.030	0.022	0.026	0.027	0.016
ALBUQUERQUE, NM													
CO	SECOND MAX 8-HOUR	DOWN	5	7.7	8.6	6.6	6.6	6.2	5.6	5.1	5.4	5.0	5.3
NO2	ARITHMETIC MEAN	NS	1	0.018	0.018	0.018	0.019	0.018	0.004	0.021	0.024	0.023	0.018
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	6	0.09	0.09	0.10	0.09	0.09	0.09	0.09	0.08	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	9	—	—	75	75	58	52	46	52	53	58
	WEIGHTED ANNUAL MEAN	NS	9	—	—	35	35	26	23	24	25	24	25
ALEXANDRIA, LA													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	43	43	43	44	48	43	49	45
	WEIGHTED ANNUAL MEAN	NS	1	—	—	23	23	23	22	25	21	23	21
ALLENTOWN-BETHLEHEM-EASTON, PA													
CO	SECOND MAX 8-HOUR	NS	2	5.0	4.7	6.8	4.8	5.3	5.3	3.8	3.6	6.6	4.7
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.33	0.43	0.84	0.44	0.24	0.27	0.18	0.12	0.11	0.06
NO2	ARITHMETIC MEAN	NS	1	0.021	0.019	0.020	0.020	0.017	0.018	0.018	0.020	0.021	0.018
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.12	0.12	0.15	0.10	0.11	0.12	0.10	0.11	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	63	63	74	62	38	60	64	57
	WEIGHTED ANNUAL MEAN	NS	3	—	—	28	28	27	27	20	23	25	24
SO2	ARITHMETIC MEAN	DOWN	1	0.013	0.012	0.012	0.010	0.010	0.008	0.008	0.009	0.010	0.010
	SECOND MAX 24-HOUR	DOWN	1	0.047	0.035	0.048	0.047	0.044	0.033	0.030	0.027	0.042	0.027
ALTOONA, PA													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.13	0.14	0.10	0.10	0.11	0.10	0.10	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	60	60	53	65	38	62	74	57
	WEIGHTED ANNUAL MEAN	NS	1	—	—	25	25	21	26	21	23	26	25
SO_2	ARITHMETIC MEAN	DOWN	1	0.011	0.010	0.011	0.011	0.011	0.011	0.009	0.009	0.010	0.008
	SECOND MAX 24-HOUR	NS	1	0.065	0.051	0.051	0.059	0.062	0.044	0.046	0.052	0.058	0.037
ANCHORAGE, AK													
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	79	79	107	104	130	102	95	115
	WEIGHTED ANNUAL MEAN	NS	3	—	—	26	26	31	30	31	28	27	26
ANN ARBOR, MI													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.12	0.12	0.13	0.10	0.09	0.10	0.10	0.10	0.10	0.11
ANNISTON, AL													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	64	64	64	78	45	69	44	62
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	28	28	28	29	25	25	24	23
APPLETON-OSHKOSH-NEENAH, WI													
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.09	0.10	0.11	0.09	0.08	0.09	0.09	0.08	0.08	0.08
ASHEVILLE, NC													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	53	53	49	53	41	53	33	38
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	29	29	25	24	23	22	19	18
ATLANTA, GA													
CO	SECOND MAX 8-HOUR	DOWN	1	5.9	5.9	5.3	6.2	5.4	6.5	5.1	4.9	5.3	4.5
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.10	0.07	0.05	0.04	0.03	0.04	0.03	0.02	0.03	0.05
NO2	ARITHMETIC MEAN	DOWN	2	0.025	0.024	0.024	0.023	0.021	0.020	0.020	0.020	0.018	0.017
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.15	0.16	0.16	0.12	0.14	0.12	0.12	0.15	0.12	0.14
PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	73	73	96	78	61	72	61	55
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	37	37	46	36	31	31	30	31
SO2	ARITHMETIC MEAN	DOWN	2	0.007	0.006	0.007	0.007	0.007	0.006	0.006	0.006	0.004	0.004
	SECOND MAX 24-HOUR	NS	2	0.028	0.035	0.041	0.043	0.025	0.032	0.027	0.036	0.023	0.019
ATLANTIC-CAPE MAY, NJ													
LEAD	MAX QUARTERLY MEAN	NS	1	0.25	0.06	0.04	0.07	0.02	0.03	0.02	0.03	0.04	0.03
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.14	0.15	0.12	0.16	0.14	0.12	0.12	0.10	0.12
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	69	69	59	71	51	58	56	66
	WEIGHTED ANNUAL MEAN	NS	1	—	—	37	37	34	34	31	30	33	32
SO2	ARITHMETIC MEAN	DOWN	1	0.004	0.004	0.006	0.005	0.004	0.004	0.003	0.003	0.003	0.003
	SECOND MAX 24-HOUR	NS	1	0.021	0.016	0.025	0.029	0.012	0.011	0.016	0.014	0.019	0.011
AUGUSTA-AIKEN, GA-SC													
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.04	0.03	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.01

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.09	0.10	0.12	0.09	0.10	0.09	0.08	0.10	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	49	49	53	50	42	51	45	40
	WEIGHTED ANNUAL MEAN	NS	1	—	—	21	21	22	23	22	22	21	19
AUSTIN-SAN MARCOS, TX													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.10	0.11	0.11	0.11	0.10	0.09	0.09	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	44	44	43	40	48	51	45	41
	WEIGHTED ANNUAL MEAN	NS	2	—	—	25	25	21	24	23	19	20	22
BAKERSFIELD, CA													
CO	SECOND MAX 8-HOUR	DOWN	1	7.9	6.5	7.4	8.9	8.4	7.8	5.5	5.1	5.1	5.1
NO2	ARITHMETIC MEAN	DOWN	2	0.027	0.025	0.027	0.027	0.026	0.024	0.022	0.022	0.022	0.021
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.15	0.14	0.15	0.13	0.13	0.13	0.12	0.13	0.13	0.14
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	158	158	165	169	104	96	131	111
	WEIGHTED ANNUAL MEAN	NS	1	—	—	65	65	69	70	55	44	40	46
SO2	ARITHMETIC MEAN	DOWN	2	0.004	0.005	0.006	0.006	0.005	0.003	0.003	0.002	0.003	0.003
	SECOND MAX 24-HOUR	DOWN	2	0.014	0.014	0.018	0.018	0.013	0.010	0.009	0.009	0.007	0.008
BALTIMORE, MD													
CO	SECOND MAX 8-HOUR	DOWN	4	9.7	7.3	7.7	6.7	6.9	6.1	5.4	5.2	5.5	4.3
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.15	0.09	0.08	0.07	0.05	0.04	0.04	0.03	0.03	0.03
NO2	ARITHMETIC MEAN	DOWN	2	0.031	0.031	0.030	0.030	0.029	0.029	0.026	0.027	0.028	0.025
OZONE	SECOND DAILY MAX 1-HOUR	NS	6	0.13	0.15	0.17	0.12	0.12	0.13	0.12	0.13	0.13	0.14
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	73	73	69	74	59	63	70	65
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	36	36	30	35	30	29	30	28
SO2	ARITHMETIC MEAN	DOWN	2	0.011	0.011	0.012	0.012	0.008	0.009	0.009	0.008	0.008	0.006
	SECOND MAX 24-HOUR	DOWN	2	0.039	0.036	0.038	0.042	0.030	0.030	0.026	0.026	0.030	0.022
BANGOR, ME													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	54	54	37	48	70	52	59	51
	WEIGHTED ANNUAL MEAN	NS	1	—	—	26	26	21	25	22	22	22	20
BATON ROUGE, LA													
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.20	0.21	0.10	0.09	0.06	0.03	0.03	0.02	0.02	0.04
NO2	ARITHMETIC MEAN	NS	1	0.018	0.019	0.017	0.015	0.014	0.015	0.016	0.012	0.016	0.016
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.13	0.14	0.15	0.14	0.15	0.13	0.11	0.11	0.12	0.12
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	57	57	56	62	57	47	54	49
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	28	28	28	28	27	22	26	24
SO2	ARITHMETIC MEAN	NS	1	0.011	0.007	0.007	0.007	0.005	0.008	0.008	0.006	0.008	0.006
	SECOND MAX 24-HOUR	NS	1	0.040	0.030	0.029	0.056	0.022	0.036	0.033	0.021	0.025	0.034
BEAUMONT-PORT ARTHUR, TX													
CO	SECOND MAX 8-HOUR	DOWN	1	3.4	4.0	3.0	2.0	2.3	2.3	2.4	3.3	2.0	1.7
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.05	0.04	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.14	0.13	0.15	0.14	0.12	0.13	0.13	0.12	0.11	0.14
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	48	48	48	58	53	56	45	56
	WEIGHTED ANNUAL MEAN	NS	1	—	—	23	23	23	26	26	22	20	20
SO2	ARITHMETIC MEAN	DOWN	2	0.008	0.009	0.008	0.008	0.009	0.008	0.006	0.006	0.005	0.005
	SECOND MAX 24-HOUR	NS	2	0.043	0.053	0.046	0.088	0.041	0.059	0.044	0.047	0.039	0.025
BELLINGHAM, WA													
SO2	ARITHMETIC MEAN	NS	1	0.007	0.008	0.005	0.006	0.007	0.006	0.007	0.005	0.007	0.006
	SECOND MAX 24-HOUR	NS	1	0.024	0.025	0.026	0.018	0.028	0.021	0.022	0.017	0.019	0.018
BERGEN-PASSAIC, NJ													
CO	SECOND MAX 8-HOUR	DOWN	2	10.0	7.5	6.8	7.5	6.8	6.6	4.5	5.2	6.2	4.9
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.22	0.13	0.09	0.05	0.04	0.03	0.02	0.03	0.08	0.03
NO2	ARITHMETIC MEAN	DOWN	1	0.030	0.036	0.036	0.035	0.031	0.031	0.030	0.029	0.031	0.029
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.17	0.19	0.12	0.13	0.14	0.10	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	70	70	83	79	60	71	91	72
	WEIGHTED ANNUAL MEAN	NS	3	—	—	35	35	37	39	33	31	35	31
SO2	ARITHMETIC MEAN	DOWN	2	0.012	0.010	0.012	0.011	0.010	0.010	0.009	0.008	0.007	0.005
	SECOND MAX 24-HOUR	DOWN	2	0.045	0.037	0.052	0.044	0.041	0.035	0.040	0.025	0.037	0.026
BILLINGS, MT													
SO2	ARITHMETIC MEAN	DOWN	3	0.023	0.022	0.021	0.019	0.016	0.016	0.021	0.022	0.016	0.014
	SECOND MAX 24-HOUR	DOWN	3	0.109	0.107	0.108	0.086	0.070	0.070	0.081	0.104	0.072	0.067
BILOXI-GULFPORT-PASCAGOULA, MS													
SO2	ARITHMETIC MEAN	DOWN	1	0.006	0.006	0.006	0.006	0.007	0.006	0.006	0.004	0.003	0.003
	SECOND MAX 24-HOUR	NS	1	0.022	0.022	0.022	0.029	0.037	0.034	0.020	0.029	0.021	0.024
BIRMINGHAM, AL													
CO	SECOND MAX 8-HOUR	DOWN	5	7.0	7.2	7.2	7.1	6.8	6.6	6.3	6.3	6.3	6.0
LEAD	MAX QUARTERLY MEAN	DOWN	3	1.17	1.11	1.75	0.88	0.66	0.95	0.45	0.15	0.09	0.08
OZONE	SECOND DAILY MAX 1-HOUR	NS	5	0.12	0.12	0.12	0.11	0.12	0.10	0.11	0.11	0.10	0.12
PM-10	SECOND MAX 24-HOUR	NS	6	—	—	62	62	69	75	54	62	49	54
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	31	31	35	32	29	27	25	26
BISMARCK, ND													
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	51	51	84	51	45	45	40	36
	WEIGHTED ANNUAL MEAN	NS	1	—	—	21	21	24	21	21	19	18	20
BOISE CITY, ID													
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	107	107	67	129	79	80	90	74

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area			Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
		WEIGHTED ANNUAL MEAN	NS	3	—	—	42	42	29	35	34	37	35	30
BOSTON, MA-NH														
	CO	SECOND MAX 8-HOUR	DOWN	3	5.8	6.2	5.3	5.2	5.9	4.0	4.5	3.6	4.5	3.5
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.15	0.11	0.16	0.07	0.04	0.03	0.03	0.02	0.01	0.01
	NO2	ARITHMETIC MEAN	DOWN	6	0.029	0.029	0.029	0.028	0.027	0.027	0.026	0.027	0.027	0.024
	OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.11	0.12	0.16	0.12	0.10	0.13	0.11	0.12	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	DOWN	8	—	—	52	52	53	51	52	51	48	42
		WEIGHTED ANNUAL MEAN	DOWN	8	—	—	27	27	25	24	22	22	22	21
	SO2	ARITHMETIC MEAN	DOWN	11	0.011	0.011	0.011	0.010	0.009	0.009	0.009	0.008	0.008	0.006
		SECOND MAX 24-HOUR	DOWN	11	0.042	0.043	0.049	0.043	0.038	0.030	0.037	0.032	0.032	0.024
BOULDER-LONGMONT, CO														
	CO	SECOND MAX 8-HOUR	DOWN	1	7.6	8.7	6.0	6.5	4.8	4.2	5.1	4.1	2.7	3.7
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.13	0.12	0.12	0.11	0.10	0.10	0.09	0.10	0.09	0.10
	PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	85	85	70	71	61	73	47	45
		WEIGHTED ANNUAL MEAN	DOWN	2	—	—	29	29	23	23	23	24	19	16
BRAZORIA, TX														
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.16	0.15	0.14	0.15	0.15	0.13	0.13	0.13	0.11	0.15
BRIDGEPORT, CT														
	CO	SECOND MAX 8-HOUR	DOWN	1	7.7	5.3	6.5	5.2	5.0	5.5	4.7	3.7	5.8	4.9
	NO2	ARITHMETIC MEAN	DOWN	1	0.027	0.027	0.027	0.026	0.026	0.025	0.024	0.024	0.026	0.024
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.19	0.20	0.22	0.16	0.15	0.15	0.12	0.16	0.15	0.13
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	48	48	52	55	45	45	54	51
		WEIGHTED ANNUAL MEAN	NS	2	—	—	25	25	23	25	20	19	22	20
	SO2	ARITHMETIC MEAN	DOWN	2	0.012	0.012	0.012	0.012	0.011	0.010	0.010	0.009	0.009	0.006
		SECOND MAX 24-HOUR	DOWN	2	0.053	0.050	0.060	0.046	0.048	0.042	0.037	0.032	0.050	0.031
BROCKTON, MA														
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.12	0.13	0.13	0.12	0.15	0.11	0.11	0.12	0.13
BROWNSVILLE-HARLINGEN-SAN BENITO, TX														
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	49	49	49	68	59	67	51	48
		WEIGHTED ANNUAL MEAN	NS	2	—	—	24	24	24	26	27	25	24	23
BUFFALO-NIAGARA FALLS, NY														
	CO	SECOND MAX 8-HOUR	DOWN	3	6.2	4.7	4.1	4.4	3.4	3.1	4.6	3.4	3.2	2.6
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.12	0.08	0.07	0.04	0.04	0.03	0.03	0.04	0.05	0.04
	NO2	ARITHMETIC MEAN	DOWN	2	0.023	0.022	0.021	0.022	0.020	0.018	0.018	0.017	0.019	0.019
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.13	0.14	0.10	0.11	0.11	0.11	0.09	0.09	0.10
	PM-10	SECOND MAX 24-HOUR	NS	12	—	—	57	57	49	61	52	63	40	44
		WEIGHTED ANNUAL MEAN	DOWN	12	—	—	25	25	20	25	22	19	19	19
	SO2	ARITHMETIC MEAN	DOWN	4	0.013	0.012	0.013	0.012	0.011	0.012	0.011	0.010	0.009	0.008
		SECOND MAX 24-HOUR	DOWN	4	0.056	0.056	0.062	0.051	0.054	0.062	0.058	0.042	0.039	0.039
BURLINGTON, VT														
	CO	SECOND MAX 8-HOUR	NS	1	5.9	4.7	3.7	3.7	4.6	3.8	3.9	3.9	3.9	2.5
	NO2	ARITHMETIC MEAN	DOWN	1	0.018	0.019	0.019	0.019	0.018	0.017	0.016	0.017	0.017	0.017
	PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	50	50	62	53	50	45	47	45
		WEIGHTED ANNUAL MEAN	DOWN	2	—	—	25	25	24	23	23	21	21	20
	SO2	ARITHMETIC MEAN	NS	1	0.005	0.006	0.007	0.007	0.008	0.008	0.003	0.003	0.003	0.002
		SECOND MAX 24-HOUR	DOWN	1	0.020	0.018	0.027	0.031	0.021	0.022	0.013	0.011	0.013	0.006
CANTON-MASSILLON, OH														
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.11	0.12	0.14	0.11	0.10	0.11	0.09	0.10	0.10	0.10
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	77	77	65	61	59	63	60	60
		WEIGHTED ANNUAL MEAN	NS	2	—	—	35	35	30	31	28	26	28	29
	SO2	ARITHMETIC MEAN	DOWN	1	0.011	0.010	0.011	0.012	0.011	0.010	0.010	0.010	0.009	0.006
		SECOND MAX 24-HOUR	NS	1	0.048	0.045	0.039	0.041	0.037	0.037	0.040	0.046	0.052	0.032
CEDAR RAPIDS, IA														
	CO	SECOND MAX 8-HOUR	NS	1	5.6	3.3	4.2	2.9	4.8	4.5	4.2	4.1	3.4	2.5
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.08	0.09	0.08	0.08	0.07	0.08	0.08	0.07	0.07	0.07
	PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	73	73	71	62	60	47	46	56
		WEIGHTED ANNUAL MEAN	DOWN	3	—	—	33	33	28	29	27	22	23	23
	SO2	ARITHMETIC MEAN	DOWN	4	0.007	0.007	0.007	0.007	0.007	0.006	0.005	0.005	0.005	0.004
		SECOND MAX 24-HOUR	DOWN	4	0.055	0.057	0.051	0.054	0.050	0.043	0.037	0.042	0.032	0.031
CHAMPAIGN-URBANA, IL														
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.09	0.10	0.10	0.09	0.09	0.08	0.09	0.07	0.09	0.10
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	70	70	66	61	71	50	50	50
		WEIGHTED ANNUAL MEAN	NS	1	—	—	32	32	28	30	31	22	25	22
	SO2	ARITHMETIC MEAN	NS	1	0.005	0.005	0.005	0.005	0.004	0.005	0.004	0.004	0.004	0.003
		SECOND MAX 24-HOUR	NS	1	0.020	0.021	0.024	0.025	0.030	0.038	0.018	0.016	0.024	0.011
CHARLESTON-NORTH CHARLESTON, SC														
	CO	SECOND MAX 8-HOUR	NS	1	5.8	5.4	7.5	5.9	4.7	4.9	5.2	5.8	4.0	6.4
	LEAD	MAX QUARTERLY MEAN	DOWN	1	0.05	0.05	0.03	0.02	0.03	0.04	0.01	0.01	0.01	0.01
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.11	0.10	0.11	0.09	0.09	0.09	0.09	0.10	0.09	0.09
	PM-10	SECOND MAX 24-HOUR	NS	4	—	—	55	55	59	46	46	40	48	40
		WEIGHTED ANNUAL MEAN	DOWN	4	—	—	29	29	27	25	23	22	21	20
	SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.005	0.005	0.005	0.003	0.005	0.005	0.004	0.004	0.003

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area			Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
		SECOND MAX 24-HOUR	DOWN	1	0.051	0.042	0.063	0.045	0.027	0.030	0.035	0.025	0.038	0.019
CHARLESTON, WV														
	CO	SECOND MAX 8-HOUR	NS	1	3.3	4.7	2.8	2.9	2.8	3.1	3.3	2.2	3.5	2.4
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.06	0.04	0.02	0.02	0.04	0.02	0.02	0.02	0.02	0.02
	NO2	ARITHMETIC MEAN	DOWN	1	0.023	0.025	0.024	0.021	0.020	0.020	0.017	0.018	0.019	0.020
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.11	0.16	0.10	0.12	0.12	0.07	0.08	0.10	0.11
	PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	88	88	72	59	50	59	57	53
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	35	35	36	29	28	29	28	26
	SO2	ARITHMETIC MEAN	DOWN	2	0.012	0.011	0.013	0.014	0.012	0.009	0.009	0.009	0.010	0.007
		SECOND MAX 24-HOUR	DOWN	2	0.058	0.045	0.049	0.062	0.056	0.036	0.032	0.034	0.037	0.023
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC														
	CO	SECOND MAX 8-HOUR	DOWN	3	7.8	7.0	7.0	7.5	6.9	6.5	6.2	5.8	6.0	4.9
	LEAD	MAX QUARTERLY MEAN	DOWN	1	0.15	0.07	0.07	0.03	0.04	0.01	0.08	0.02	0.03	0.01
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.13	0.13	0.16	0.12	0.12	0.12	0.10	0.13	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	55	55	57	57	54	52	47	48
		WEIGHTED ANNUAL MEAN	DOWN	2	—	—	34	34	33	30	30	29	29	26
CHARLOTTESVILLE, VA														
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	64	64	53	57	37	54	40	53
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	30	30	27	28	22	24	22	23
CHATTANOOGA, TN-GA														
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.12	0.11	0.12	0.10	0.12	0.10	0.09	0.10	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	67	67	72	75	72	61	63	58
		WEIGHTED ANNUAL MEAN	DOWN	2	—	—	36	36	38	38	34	32	33	32
CHICAGO, IL														
	CO	SECOND MAX 8-HOUR	NS	5	4.7	4.7	5.3	5.0	5.6	4.4	4.8	4.7	7.1	3.8
	LEAD	MAX QUARTERLY MEAN	DOWN	8	0.20	0.10	0.15	0.10	0.08	0.06	0.07	0.06	0.06	0.05
	NO2	ARITHMETIC MEAN	NS	4	0.029	0.028	0.029	0.030	0.025	0.024	0.027	0.027	0.031	0.030
	OZONE	SECOND DAILY MAX 1-HOUR	NS	15	0.11	0.14	0.14	0.10	0.09	0.11	0.10	0.09	0.10	0.12
	PM-10	SECOND MAX 24-HOUR	NS	13	—	—	84	84	99	78	79	78	92	75
		WEIGHTED ANNUAL MEAN	NS	13	—	—	39	39	37	35	34	33	37	34
	SO2	ARITHMETIC MEAN	DOWN	9	0.009	0.008	0.008	0.007	0.006	0.007	0.006	0.006	0.006	0.005
		SECOND MAX 24-HOUR	DOWN	9	0.041	0.036	0.031	0.028	0.024	0.029	0.026	0.028	0.030	0.023
CHICO-PARADISE, CA														
	CO	SECOND MAX 8-HOUR	DOWN	2	7.0	5.6	7.2	6.4	6.2	7.4	5.9	4.7	4.6	4.1
	NO2	ARITHMETIC MEAN	NS	1	0.016	0.017	0.016	0.016	0.015	0.016	0.016	0.016	0.015	0.014
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.10	0.10	0.10	0.12	0.09	0.09	0.09	0.10	0.09
CINCINNATI, OH-KY-IN														
	CO	SECOND MAX 8-HOUR	NS	3	5.4	5.0	3.8	4.9	4.2	4.2	4.5	4.7	4.3	3.4
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.10	0.09	0.13	0.09	0.11	0.06	0.05	0.05	0.04	0.05
	NO2	ARITHMETIC MEAN	DOWN	3	0.026	0.027	0.025	0.026	0.024	0.024	0.022	0.023	0.024	0.023
	OZONE	SECOND DAILY MAX 1-HOUR	NS	7	0.12	0.13	0.14	0.11	0.11	0.12	0.09	0.10	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	NS	7	—	—	94	94	91	66	60	70	68	69
		WEIGHTED ANNUAL MEAN	NS	7	—	—	41	41	36	32	30	31	30	31
	SO2	ARITHMETIC MEAN	DOWN	5	0.013	0.012	0.012	0.012	0.012	0.011	0.010	0.010	0.008	0.007
		SECOND MAX 24-HOUR	DOWN	5	0.058	0.056	0.048	0.053	0.059	0.041	0.044	0.036	0.040	0.034
CLARKSVILLE-HOPKINSVILLE, TN-KY														
	SO2	ARITHMETIC MEAN	NS	1	0.007	0.005	0.010	0.007	0.007	0.006	0.009	0.010	0.007	0.006
		SECOND MAX 24-HOUR	DOWN	1	0.056	0.040	0.066	0.042	0.038	0.029	0.035	0.058	0.037	0.019
CLEVELAND-LORAIN-ELYRIA, OH														
	CO	SECOND MAX 8-HOUR	NS	2	5.7	6.0	5.7	5.9	4.7	4.7	5.1	4.3	5.3	5.7
	LEAD	MAX QUARTERLY MEAN	DOWN	3	0.22	0.29	0.23	0.20	0.30	0.19	0.22	0.22	0.16	0.10
	NO2	ARITHMETIC MEAN	NS	1	0.021	0.022	0.023	0.025	0.022	0.022	0.021	0.022	0.021	0.021
	OZONE	SECOND DAILY MAX 1-HOUR	NS	6	0.10	0.12	0.14	0.10	0.11	0.11	0.10	0.11	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	NS	7	—	—	93	93	87	82	79	77	93	97
		WEIGHTED ANNUAL MEAN	NS	7	—	—	41	41	36	38	33	32	39	36
	SO2	ARITHMETIC MEAN	DOWN	9	0.011	0.011	0.011	0.012	0.010	0.010	0.009	0.008	0.008	0.006
		SECOND MAX 24-HOUR	DOWN	9	0.050	0.045	0.044	0.043	0.041	0.039	0.038	0.040	0.040	0.023
COLORADO SPRINGS, CO														
	CO	SECOND MAX 8-HOUR	DOWN	2	8.9	8.3	11.5	7.7	6.8	6.5	6.0	5.4	4.6	5.1
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.08	0.08	0.08	0.08	0.07	0.08	0.07	0.06	0.07	0.07
	PM-10	SECOND MAX 24-HOUR	DOWN	4	—	—	74	74	68	75	65	71	63	53
		WEIGHTED ANNUAL MEAN	NS	4	—	—	30	30	25	27	24	27	25	23
COLUMBIA, SC														
	CO	SECOND MAX 8-HOUR	DOWN	1	7.4	7.0	7.4	6.5	5.8	6.0	6.3	5.6	4.7	4.0
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.12	0.09	0.06	0.03	0.03	0.05	0.04	0.02	0.02	0.01
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.12	0.13	0.10	0.11	0.10	0.10	0.11	0.10	0.11
	PM-10	SECOND MAX 24-HOUR	DOWN	5	—	—	56	56	59	49	54	48	40	41
		WEIGHTED ANNUAL MEAN	DOWN	5	—	—	30	30	29	25	26	25	24	20
	SO2	ARITHMETIC MEAN	DOWN	1	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.003	0.002	0.001
		SECOND MAX 24-HOUR	DOWN	1	0.017	0.017	0.017	0.012	0.009	0.013	0.013	0.012	0.010	0.005

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
COLUMBUS, GA-AL													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.11	0.10	0.09	0.10	0.09	0.09	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	43	43	63	75	51	50	49	54
	WEIGHTED ANNUAL MEAN	NS	1	—	—	26	26	29	27	26	25	27	28
COLUMBUS, OH													
CO	SECOND MAX 8-HOUR	DOWN	3	4.8	5.4	6.0	5.7	4.1	4.8	4.9	3.9	4.5	3.8
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.13	0.09	0.08	0.08	0.06	0.06	0.06	0.04	0.04	0.04
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.11	0.14	0.11	0.11	0.12	0.09	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	82	82	86	67	66	67	65	71
	WEIGHTED ANNUAL MEAN	DOWN	4	—	—	35	35	33	31	28	28	27	29
SO2	ARITHMETIC MEAN	DOWN	1	0.010	0.009	0.008	0.008	0.008	0.007	0.006	0.007	0.006	0.004
	SECOND MAX 24-HOUR	NS	1	0.039	0.032	0.035	0.038	0.038	0.033	0.030	0.034	0.041	0.019
CORPUS CHRISTI, TX													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.09	0.13	0.10	0.10	0.10	0.11	0.09	0.12	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	74	74	63	70	59	74	53	54
	WEIGHTED ANNUAL MEAN	NS	2	—	—	30	30	27	31	29	29	28	28
SO2	ARITHMETIC MEAN	NS	2	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.002
	SECOND MAX 24-HOUR	NS	2	0.017	0.017	0.024	0.019	0.013	0.027	0.018	0.024	0.011	0.016
CUMBERLAND, MD-WV													
SO2	ARITHMETIC MEAN	DOWN	1	0.013	0.012	0.013	0.011	0.010	0.009	0.006	0.008	0.010	0.004
	SECOND MAX 24-HOUR	DOWN	1	0.044	0.044	0.055	0.049	0.031	0.028	0.024	0.027	0.037	0.015
DALLAS, TX													
CO	SECOND MAX 8-HOUR	NS	1	7.2	4.7	8.0	4.5	4.7	3.8	5.6	5.4	5.3	5.9
LEAD	MAX QUARTERLY MEAN	DOWN	11	0.25	0.25	0.23	0.24	0.21	0.16	0.16	0.16	0.10	0.11
NO2	ARITHMETIC MEAN	NS	2	0.012	0.013	0.012	0.012	0.012	0.013	0.013	0.011	0.012	0.014
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.13	0.14	0.12	0.12	0.12	0.10	0.11	0.12	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	58	58	60	57	54	62	51	66
	WEIGHTED ANNUAL MEAN	NS	5	—	—	29	29	28	26	26	27	26	30
DANBURY, CT													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.15	0.20	0.13	0.15	0.14	0.12	0.14	0.13	0.13
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	48	48	44	53	57	46	48	52
	WEIGHTED ANNUAL MEAN	NS	1	—	—	25	25	22	26	22	19	26	22
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.008	0.009	0.008	0.007	0.008	0.007	0.006	0.006	0.004
	SECOND MAX 24-HOUR	NS	1	0.032	0.035	0.051	0.035	0.033	0.032	0.027	0.024	0.037	0.019
DAVENPORT-MOLINE-ROCK ISLAND, IA-IL													
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.06	0.03	0.01	0.02	0.03	0.01	0.02	0.02	0.02	0.01
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.09	0.10	0.11	0.10	0.08	0.09	0.10	0.08	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	77	77	72	58	61	71	83	82
	WEIGHTED ANNUAL MEAN	NS	2	—	—	34	34	32	31	30	29	35	36
SO2	ARITHMETIC MEAN	NS	2	0.005	0.003	0.004	0.005	0.004	0.005	0.005	0.004	0.005	0.004
	SECOND MAX 24-HOUR	NS	2	0.031	0.011	0.019	0.023	0.019	0.020	0.021	0.020	0.026	0.015
DAYTON-SPRINGFIELD, OH													
CO	SECOND MAX 8-HOUR	DOWN	2	5.5	5.0	4.0	4.8	3.2	3.5	3.6	3.6	3.4	3.0
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.15	0.09	0.08	0.06	0.05	0.04	0.04	0.06	0.04	0.05
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.12	0.12	0.13	0.12	0.11	0.11	0.10	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	70	70	64	53	52	58	56	56
	WEIGHTED ANNUAL MEAN	DOWN	4	—	—	30	30	25	28	25	24	24	25
SO2	ARITHMETIC MEAN	DOWN	2	0.008	0.006	0.006	0.006	0.006	0.005	0.005	0.006	0.006	0.004
	SECOND MAX 24-HOUR	NS	2	0.030	0.030	0.025	0.031	0.023	0.022	0.020	0.031	0.032	0.016
DECATUR, AL													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	57	57	57	68	48	60	45	52
	WEIGHTED ANNUAL MEAN	NS	1	—	—	25	25	25	28	25	25	22	25
DECATUR, IL													
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.10	0.09	0.10	0.07	0.03	0.03	0.03	0.03	0.05	0.03
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.10	0.11	0.09	0.09	0.10	0.09	0.08	0.10	0.10
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	110	110	101	85	75	64	66	58
	WEIGHTED ANNUAL MEAN	NS	1	—	—	40	40	34	36	38	28	29	30
SO2	ARITHMETIC MEAN	DOWN	1	0.013	0.013	0.015	0.012	0.008	0.007	0.005	0.006	0.007	0.005
	SECOND MAX 24-HOUR	DOWN	1	0.129	0.081	0.162	0.108	0.060	0.039	0.023	0.024	0.030	0.024
DENVER, CO													
CO	SECOND MAX 8-HOUR	DOWN	6	14.4	12.1	9.9	7.8	7.2	7.0	8.3	6.6	6.1	5.6
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.19	0.12	0.07	0.05	0.06	0.05	0.06	0.06	0.04	0.05
NO2	ARITHMETIC MEAN	DOWN	2	0.037	0.034	0.033	0.033	0.032	0.032	0.032	0.027	0.032	0.029
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	5	0.12	0.11	0.11	0.10	0.10	0.09	0.09	0.09	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	10	—	—	80	80	67	75	71	92	66	54
	WEIGHTED ANNUAL MEAN	NS	10	—	—	30	30	28	28	29	32	27	24
SO2	ARITHMETIC MEAN	NS	2	0.006	0.007	0.007	0.006	0.006	0.006	0.007	0.006	0.006	0.004
	SECOND MAX 24-HOUR	NS	2	0.022	0.020	0.022	0.023	0.020	0.026	0.038	0.025	0.025	0.016
DES MOINES, IA													
CO	SECOND MAX 8-HOUR	NS	3	5.9	4.7	3.9	4.4	4.6	4.6	3.9	4.5	3.9	4.0
OZONE	SECOND DAILY MAX 1-HOUR	UP	2	0.07	0.05	0.06	0.06	0.07	0.06	0.08	0.08	0.06	0.08
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	87	87	89	66	81	77	78	78

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
	WEIGHTED ANNUAL MEAN	NS	3	—	—	33	33	32	29	28	29	28	31
DETROIT, MI													
CO	SECOND MAX 8-HOUR	NS	5	7.8	6.9	5.4	6.2	4.6	5.4	4.3	4.6	6.9	4.8
LEAD	MAX QUARTERLY MEAN	DOWN	4	0.11	0.07	0.06	0.06	0.04	0.04	0.03	0.03	0.03	0.04
NO2	ARITHMETIC MEAN	NS	1	0.023	0.023	0.023	0.025	0.024	0.022	0.021	0.022	0.025	0.022
OZONE	SECOND DAILY MAX 1-HOUR	NS	7	0.10	0.11	0.14	0.12	0.10	0.12	0.10	0.11	0.12	0.11
PM-10	SECOND MAX 24-HOUR	NS	6	—	—	81	81	78	73	69	82	90	88
	WEIGHTED ANNUAL MEAN	NS	6	—	—	39	39	36	33	28	33	38	35
SO2	ARITHMETIC MEAN	DOWN	8	0.010	0.010	0.010	0.010	0.010	0.008	0.007	0.007	0.007	0.006
	SECOND MAX 24-HOUR	DOWN	8	0.042	0.041	0.040	0.037	0.039	0.032	0.031	0.030	0.032	0.029
DOTHAN, AL													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	47	47	70	62	63	59	63	56
	WEIGHTED ANNUAL MEAN	NS	1	—	—	26	26	31	28	25	26	28	28
DOVER, DE													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.15	0.17	0.12	0.10	0.10	0.08	0.11	0.10	0.10
SO2	ARITHMETIC MEAN	NS	1	0.011	0.009	0.011	0.012	0.007	0.009	0.009	0.009	0.009	0.009
	SECOND MAX 24-HOUR	DOWN	1	0.036	0.026	0.029	0.045	0.021	0.024	0.024	0.023	0.023	0.023
DUBUQUE, IA													
SO2	ARITHMETIC MEAN	NS	1	0.003	0.005	0.005	0.005	0.005	0.004	0.004	0.003	0.005	0.006
	SECOND MAX 24-HOUR	NS	1	0.023	0.028	0.052	0.030	0.037	0.028	0.029	0.014	0.037	0.027
DULUTH-SUPERIOR, MN-WI													
CO	SECOND MAX 8-HOUR	DOWN	1	9.6	8.5	5.1	9.9	4.4	5.2	4.0	4.1	4.3	4.3
PM-10	SECOND MAX 24-HOUR	DOWN	6	—	—	52	52	55	51	48	37	39	43
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	26	26	22	23	20	19	18	18
EL PASO, TX													
CO	SECOND MAX 8-HOUR	DOWN	5	9.6	10.0	9.1	9.8	10.9	9.1	8.1	8.0	6.6	6.8
LEAD	MAX QUARTERLY MEAN	DOWN	4	0.43	0.32	0.26	0.30	0.27	0.27	0.19	0.18	0.12	0.13
NO2	ARITHMETIC MEAN	NS	1	0.023	0.023	0.021	0.022	0.017	0.019	0.021	0.021	0.023	0.023
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.14	0.16	0.14	0.13	0.12	0.12	0.12	0.11	0.13	0.11
PM-10	SECOND MAX 24-HOUR	NS	6	—	—	109	109	104	71	85	58	82	88
	WEIGHTED ANNUAL MEAN	NS	6	—	—	42	42	36	30	30	27	28	31
SO2	ARITHMETIC MEAN	DOWN	3	0.015	0.015	0.014	0.013	0.010	0.010	0.012	0.009	0.007	0.008
	SECOND MAX 24-HOUR	DOWN	3	0.071	0.066	0.059	0.054	0.055	0.047	0.053	0.049	0.028	0.038
ELMIRA, NY													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.10	0.12	0.09	0.10	0.10	0.09	0.09	0.08	0.09
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	44	44	44	61	41	56	41	43
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	24	24	24	25	21	20	19	18
SO2	ARITHMETIC MEAN	DOWN	1	0.005	0.005	0.007	0.005	0.005	0.005	0.005	0.005	0.004	0.004
	SECOND MAX 24-HOUR	DOWN	1	0.027	0.029	0.027	0.026	0.021	0.022	0.021	0.019	0.023	0.014
ERIE, PA													
CO	SECOND MAX 8-HOUR	DOWN	1	5.6	5.3	4.9	4.4	5.1	3.8	3.6	4.4	3.7	3.2
NO2	ARITHMETIC MEAN	DOWN	1	0.016	0.016	0.016	0.015	0.015	0.013	0.014	0.014	0.015	0.015
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.15	0.15	0.15	0.12	0.10	0.11	0.10	0.11	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	73	73	71	68	56	59	54	94
	WEIGHTED ANNUAL MEAN	NS	1	—	—	27	27	27	29	22	26	29	29
SO2	ARITHMETIC MEAN	DOWN	1	0.014	0.014	0.014	0.014	0.014	0.010	0.011	0.011	0.010	0.009
	SECOND MAX 24-HOUR	NS	1	0.050	0.050	0.050	0.074	0.057	0.044	0.056	0.072	0.076	0.050
EUGENE-SPRINGFIELD, OR													
CO	SECOND MAX 8-HOUR	DOWN	1	8.4	6.9	7.1	6.0	4.8	5.4	6.0	4.7	5.3	4.7
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.10	0.08	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.11	0.12	0.08	0.09	0.09	0.10	0.08	0.09	0.08
PM-10	SECOND MAX 24-HOUR	DOWN	4	—	—	104	104	87	117	92	91	85	75
	WEIGHTED ANNUAL MEAN	NS	4	—	—	31	31	28	33	29	29	25	23
EVANSVILLE-HENDERSON, IN-KY													
CO	SECOND MAX 8-HOUR	NS	1	2.6	2.5	3.1	2.3	2.5	2.0	2.3	2.6	2.7	2.7
NO2	ARITHMETIC MEAN	DOWN	1	0.020	0.021	0.022	0.020	0.018	0.021	0.018	0.017	0.018	0.017
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.12	0.11	0.12	0.10	0.10	0.10	0.09	0.10	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	79	79	77	62	53	70	73	69
	WEIGHTED ANNUAL MEAN	NS	4	—	—	35	35	32	33	30	30	33	33
SO2	ARITHMETIC MEAN	NS	9	0.011	0.011	0.013	0.014	0.013	0.013	0.012	0.012	0.012	0.011
	SECOND MAX 24-HOUR	NS	9	0.061	0.062	0.071	0.065	0.062	0.065	0.067	0.054	0.051	0.046
FARGO-MOORHEAD, ND-MN													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	46	46	63	45	54	39	39	40
	WEIGHTED ANNUAL MEAN	NS	1	—	—	21	21	21	19	21	18	18	20
FAYETTEVILLE-SPRINGDALE-ROGERS, AR													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	58	58	59	46	53	58	49	46
	WEIGHTED ANNUAL MEAN	NS	1	—	—	26	26	23	24	22	24	25	24
FAYETTEVILLE, NC													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	52	52	56	52	44	55	44	38
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	29	29	31	27	26	27	25	23
FLINT, MI													
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.11	0.12	0.13	0.10	0.10	0.10	0.09	0.10	0.09	0.09

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area			Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
FLORENCE, AL														
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	56	56	56	57	40	52	39	49
		WEIGHTED ANNUAL MEAN	NS	1	—	—	24	24	24	24	21	23	20	22
	SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.007	0.007	0.005	0.005	0.004	0.004	0.004	0.003	0.003
		SECOND MAX 24-HOUR	DOWN	1	0.039	0.071	0.047	0.037	0.027	0.025	0.019	0.022	0.022	0.018
FORT COLLINS-LOVELAND, CO														
	CO	SECOND MAX 8-HOUR	DOWN	1	12.4	12.8	11.3	8.3	7.0	9.8	6.9	6.6	6.0	5.2
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.13	0.08	0.10	0.09	0.10	0.09	0.09	0.09	0.09	0.08
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	59	59	45	58	39	54	45	47
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	29	29	23	25	23	22	22	22
FORT LAUDERDALE, FL														
	CO	SECOND MAX 8-HOUR	NS	3	4.8	4.2	3.2	4.4	3.1	3.3	3.7	3.3	3.0	3.2
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.09	0.04	0.04	0.04	0.03	0.02	0.06	0.03	0.03	0.02
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.13	0.12	0.12	0.11	0.10	0.09	0.09	0.10	0.09	0.09
	PM-10	SECOND MAX 24-HOUR	UP	1	—	—	36	36	29	42	42	66	50	50
		WEIGHTED ANNUAL MEAN	NS	1	—	—	21	21	17	18	18	19	24	24
FORT SMITH, AR-OK														
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	46	46	55	47	51	60	44	56
		WEIGHTED ANNUAL MEAN	NS	1	—	—	28	28	26	25	24	25	24	26
FORT WAYNE, IN														
	CO	SECOND MAX 8-HOUR	NS	1	0.9	0.6	0.7	0.6	0.6	0.9	0.6	0.9	0.9	0.9
	NO2	ARITHMETIC MEAN	UP	1	0.008	0.009	0.010	0.011	0.009	0.011	0.011	0.011	0.011	0.011
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.11	0.12	0.11	0.09	0.10	0.10	0.09	0.10	0.10
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	64	64	64	55	45	61	47	53
		WEIGHTED ANNUAL MEAN	NS	1	—	—	29	29	27	27	23	23	24	24
	SO2	ARITHMETIC MEAN	UP	1	0.003	0.004	0.005	0.004	0.004	0.005	0.003	0.005	0.005	0.005
		SECOND MAX 24-HOUR	UP	1	0.010	0.016	0.017	0.019	0.018	0.019	0.012	0.021	0.021	0.021
FORT WORTH-ARLINGTON, TX														
	CO	SECOND MAX 8-HOUR	DOWN	2	5.3	5.1	5.1	4.8	4.2	3.7	4.0	3.4	3.2	3.2
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.15	0.11	0.05	0.03	0.03	0.02	0.03	0.03	0.03	0.03
	NO2	ARITHMETIC MEAN	NS	1	0.016	0.015	0.014	0.013	0.012	0.014	0.015	0.013	0.017	0.017
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.14	0.13	0.14	0.13	0.14	0.15	0.12	0.11	0.13	0.14
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	50	50	49	45	51	58	40	52
		WEIGHTED ANNUAL MEAN	NS	3	—	—	24	24	24	23	21	21	20	24
	SO2	ARITHMETIC MEAN	NS	1	0.003	0.002	0.002	0.001	0.002	0.002	0.003	0.001	0.002	0.001
		SECOND MAX 24-HOUR	DOWN	1	0.024	0.010	0.010	0.007	0.008	0.006	0.013	0.005	0.006	0.004
FRESNO, CA														
	CO	SECOND MAX 8-HOUR	NS	2	4.0	4.0	5.0	4.8	4.9	5.4	3.9	3.4	4.3	3.5
	NO2	ARITHMETIC MEAN	NS	2	0.018	0.017	0.021	0.022	0.021	0.021	0.020	0.020	0.020	0.019
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.16	0.16	0.16	0.14	0.14	0.15	0.14	0.14	0.12	0.13
	PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	190	190	190	132	94	122	114	110
		WEIGHTED ANNUAL MEAN	DOWN	3	—	—	62	62	62	58	48	48	43	45
GADSDEN, AL														
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	52	52	61	80	59	76	54	62
		WEIGHTED ANNUAL MEAN	NS	2	—	—	28	28	33	32	31	33	30	30
GALVESTON-TEXAS CITY, TX														
	LEAD	MAX QUARTERLY MEAN	DOWN	1	0.08	0.06	0.04	0.03	0.02	0.02	0.02	0.03	0.02	0.03
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.13	0.13	0.14	0.14	0.15	0.15	0.10	0.18	0.13	0.20
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	59	59	49	43	52	62	47	62
		WEIGHTED ANNUAL MEAN	NS	3	—	—	28	28	24	22	24	24	23	25
	SO2	ARITHMETIC MEAN	NS	1	0.006	0.006	0.007	0.008	0.007	0.007	0.005	0.005	0.006	0.006
		SECOND MAX 24-HOUR	NS	1	0.053	0.053	0.049	0.045	0.063	0.050	0.039	0.056	0.052	0.089
GARY, IN														
	CO	SECOND MAX 8-HOUR	NS	1	4.9	4.5	4.2	4.0	3.8	4.6	4.2	5.0	4.6	3.7
	LEAD	MAX QUARTERLY MEAN	DOWN	3	1.04	1.19	0.60	0.28	0.24	0.13	0.14	0.10	0.21	0.14
	OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.12	0.13	0.15	0.10	0.10	0.11	0.11	0.09	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	DOWN	8	—	—	74	74	82	68	59	56	57	53
		WEIGHTED ANNUAL MEAN	DOWN	8	—	—	33	33	33	29	26	24	26	25
	SO2	ARITHMETIC MEAN	DOWN	4	0.010	0.010	0.009	0.009	0.008	0.007	0.007	0.007	0.006	0.006
		SECOND MAX 24-HOUR	DOWN	4	0.055	0.037	0.052	0.042	0.045	0.031	0.031	0.031	0.034	0.027
GLENS FALLS, NY														
	SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.006	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.003
		SECOND MAX 24-HOUR	DOWN	1	0.031	0.029	0.040	0.023	0.040	0.020	0.017	0.018	0.027	0.011
GRAND FORKS, ND-MN														
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	53	53	104	57	57	38	36	40
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	24	24	25	20	18	17	16	18
GRAND RAPIDS-MUSKEGON-HOLLAND, MI														
	CO	SECOND MAX 8-HOUR	NS	1	5.2	4.9	4.1	4.5	3.5	4.0	3.2	3.2	4.0	4.6
	LEAD	MAX QUARTERLY MEAN	DOWN	3	0.11	0.09	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.01
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.13	0.14	0.12	0.12	0.12	0.10	0.09	0.10	0.12
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	60	60	69	62	122	65	68	52
		WEIGHTED ANNUAL MEAN	NS	2	—	—	29	29	30	26	35	22	27	21

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
SO2	ARITHMETIC MEAN	DOWN	1	0.004	0.004	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.002
	SECOND MAX 24-HOUR	DOWN	1	0.018	0.017	0.016	0.016	0.012	0.013	0.015	0.012	0.013	0.011
GREAT FALLS, MT													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	65	65	61	72	53	61	48	52
	WEIGHTED ANNUAL MEAN	NS	1	—	—	20	20	24	21	21	21	21	18
GREELEY, CO													
CO	SECOND MAX 8-HOUR	DOWN	1	11.6	10.5	9.2	7.3	7.1	7.8	7.5	5.8	5.2	5.3
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.09	0.10	0.10	0.11	0.10	0.08	0.09	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	73	73	66	80	60	99	57	59
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	30	30	25	26	25	23	23	20
GREEN BAY, WI													
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.003	0.004
	SECOND MAX 24-HOUR	DOWN	1	0.066	0.045	0.039	0.024	0.020	0.042	0.021	0.018	0.015	0.018
GREENSBORO–WINSTON-SALEM–HIGH POINT, NC													
NO2	ARITHMETIC MEAN	NS	1	0.018	0.018	0.018	0.016	0.017	0.016	0.015	0.017	0.017	0.016
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.12	0.12	0.14	0.10	0.11	0.10	0.10	0.11	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	66	66	60	61	51	57	43	57
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	33	33	32	31	27	28	25	26
SO2	ARITHMETIC MEAN	NS	1	0.007	0.007	0.007	0.007	0.008	0.007	0.006	0.006	0.007	0.006
	SECOND MAX 24-HOUR	NS	1	0.021	0.028	0.032	0.024	0.024	0.027	0.019	0.022	0.021	0.025
GREENVILLE-SPARTANBURG-ANDERSON, SC													
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.12	0.08	0.07	0.05	0.04	0.03	0.02	0.02	0.02	0.02
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.12	0.12	0.13	0.10	0.09	0.10	0.10	0.11	0.10	0.11
HAMILTON-MIDDLETOWN, OH													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.12	0.11	0.13	0.11	0.12	0.11	0.10	0.12	0.11	0.13
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	76	76	76	53	50	73	55	77
	WEIGHTED ANNUAL MEAN	NS	1	—	—	27	27	27	33	27	29	27	29
SO2	ARITHMETIC MEAN	DOWN	2	0.011	0.010	0.010	0.010	0.010	0.009	0.007	0.008	0.008	0.005
	SECOND MAX 24-HOUR	DOWN	2	0.040	0.040	0.040	0.039	0.038	0.040	0.032	0.034	0.037	0.019
HARRISBURG-LEBANON-CARLISLE, PA													
CO	SECOND MAX 8-HOUR	DOWN	1	6.1	6.9	5.6	5.5	7.1	4.7	4.7	4.0	4.0	4.0
NO2	ARITHMETIC MEAN	NS	2	0.015	0.014	0.014	0.014	0.013	0.014	0.013	0.011	0.015	0.014
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.10	0.12	0.14	0.10	0.11	0.11	0.09	0.11	0.12	0.11
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	61	61	52	52	36	62	68	60
	WEIGHTED ANNUAL MEAN	NS	2	—	—	25	25	23	25	21	24	27	25
SO2	ARITHMETIC MEAN	NS	2	0.006	0.006	0.006	0.006	0.005	0.006	0.005	0.006	0.007	0.005
	SECOND MAX 24-HOUR	NS	2	0.029	0.025	0.024	0.029	0.021	0.021	0.022	0.021	0.035	0.017
HARTFORD, CT													
CO	SECOND MAX 8-HOUR	DOWN	2	7.3	7.5	8.3	6.7	6.7	6.1	6.1	5.6	6.4	5.8
NO2	ARITHMETIC MEAN	DOWN	1	0.022	0.020	0.020	0.020	0.019	0.020	0.017	0.018	0.020	0.017
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.12	0.14	0.17	0.15	0.15	0.16	0.12	0.15	0.13	0.14
PM-10	SECOND MAX 24-HOUR	NS	8	—	—	48	48	47	53	53	42	50	41
	WEIGHTED ANNUAL MEAN	DOWN	8	—	—	23	23	20	23	20	18	20	17
SO2	ARITHMETIC MEAN	DOWN	1	0.006	0.006	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.004
	SECOND MAX 24-HOUR	DOWN	1	0.026	0.033	0.040	0.037	0.028	0.023	0.024	0.017	0.024	0.017
HONOLULU, HI													
CO	SECOND MAX 8-HOUR	DOWN	2	4.4	3.7	3.3	3.4	2.9	2.6	2.8	3.1	3.1	2.5
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.16	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.00	0.00
OZONE	SECOND DAILY MAX 1-HOUR	UP	1	0.04	0.04	0.03	0.05	0.05	0.05	0.06	0.06	0.06	0.06
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	26	26	34	35	25	23	28	25
	WEIGHTED ANNUAL MEAN	NS	1	—	—	16	16	16	17	17	16	19	15
HOUSTON, TX													
CO	SECOND MAX 8-HOUR	DOWN	4	7.3	6.7	6.5	5.8	6.8	6.0	6.8	5.6	4.9	4.0
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.11	0.06	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.01
NO2	ARITHMETIC MEAN	DOWN	4	0.024	0.024	0.023	0.022	0.023	0.022	0.022	0.019	0.021	0.021
OZONE	SECOND DAILY MAX 1-HOUR	NS	10	0.16	0.17	0.18	0.18	0.19	0.17	0.16	0.16	0.15	0.17
PM-10	SECOND MAX 24-HOUR	NS	7	—	—	63	63	65	64	70	68	61	64
	WEIGHTED ANNUAL MEAN	DOWN	7	—	—	33	33	33	32	31	30	31	30
SO2	ARITHMETIC MEAN	DOWN	8	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004
	SECOND MAX 24-HOUR	NS	7	0.028	0.022	0.026	0.026	0.025	0.025	0.022	0.020	0.018	0.026
HUNTINGTON-ASHLAND, WV-KY-OH													
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.11	0.09	0.13	0.06	0.04	0.04	0.04	0.04	0.03	0.04
NO2	ARITHMETIC MEAN	NS	1	0.016	0.016	0.016	0.012	0.016	0.014	0.020	0.016	0.016	0.016
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.12	0.14	0.12	0.11	0.12	0.09	0.11	0.13	0.12
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	91	91	79	59	64	63	71	58
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	36	36	35	33	29	29	32	29
SO2	ARITHMETIC MEAN	DOWN	5	0.016	0.019	0.018	0.015	0.013	0.013	0.011	0.012	0.010	0.010
	SECOND MAX 24-HOUR	DOWN	5	0.079	0.095	0.101	0.085	0.081	0.050	0.048	0.059	0.048	0.038
HUNTSVILLE, AL													
CO	SECOND MAX 8-HOUR	DOWN	1	5.0	5.0	5.0	5.2	4.2	4.1	4.2	4.0	3.5	3.6
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.11	0.13	0.09	0.09	0.11	0.11	0.11	0.11	0.10

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	58	58	65	65	50	56	46	49
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	31	31	30	28	30	23	21	22
INDIANAPOLIS, IN													
LEAD	MAX QUARTERLY MEAN	DOWN	4	1.05	0.56	0.68	0.53	0.68	0.30	0.26	0.11	0.20	0.06
OZONE	SECOND DAILY MAX 1-HOUR	NS	5	0.11	0.11	0.13	0.11	0.10	0.10	0.09	0.10	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	14	—	—	73	73	76	63	56	63	63	60
	WEIGHTED ANNUAL MEAN	NS	14	—	—	35	35	33	31	28	28	28	28
SO2	ARITHMETIC MEAN	DOWN	8	0.011	0.011	0.011	0.011	0.009	0.008	0.008	0.009	0.007	0.006
	SECOND MAX 24-HOUR	DOWN	8	0.052	0.046	0.048	0.041	0.036	0.029	0.029	0.038	0.039	0.025
JACKSON, MS													
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.18	0.12	0.07	0.08	0.07	0.05	0.02	0.02	0.00	0.09
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.09	0.09	0.09	0.08	0.10	0.09	0.08	0.09	0.09	0.09
JACKSON, TN													
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	56	56	60	46	53	56	44	51
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	31	31	28	27	27	23	23	25
JACKSONVILLE, FL													
CO	SECOND MAX 8-HOUR	DOWN	4	4.5	5.7	5.6	5.9	4.3	3.8	3.9	4.2	3.7	3.6
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.19	0.12	0.06	0.04	0.04	0.03	0.02	0.05	0.02	0.03
NO2	ARITHMETIC MEAN	NS	1	0.018	0.018	0.019	0.015	0.015	0.014	0.014	0.015	0.014	0.016
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.11	0.11	0.11	0.11	0.09	0.10	0.11	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	59	59	59	54	47	60	49	53
	WEIGHTED ANNUAL MEAN	NS	3	—	—	36	36	34	32	26	27	26	27
SO2	ARITHMETIC MEAN	DOWN	5	0.005	0.004	0.005	0.004	0.004	0.003	0.003	0.003	0.003	0.003
	SECOND MAX 24-HOUR	DOWN	5	0.036	0.038	0.041	0.035	0.037	0.023	0.023	0.025	0.030	0.019
JAMESTOWN, NY													
SO2	ARITHMETIC MEAN	DOWN	1	0.014	0.013	0.014	0.014	0.012	0.013	0.011	0.011	0.010	0.010
	SECOND MAX 24-HOUR	NS	1	0.060	0.066	0.054	0.072	0.065	0.048	0.050	0.049	0.072	0.072
JANESVILLE-BELOIT, WI													
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.10	0.10	0.11	0.12	0.09	0.10	0.10	0.08	0.08	0.08
JERSEY CITY, NJ													
CO	SECOND MAX 8-HOUR	DOWN	1	9.7	8.0	7.8	7.3	7.2	7.5	6.0	5.6	5.9	6.2
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.15	0.10	0.11	0.07	0.05	0.06	0.04	0.04	0.03	0.04
NO2	ARITHMETIC MEAN	DOWN	1	0.032	0.031	0.033	0.031	0.030	0.028	0.028	0.027	0.026	0.026
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.13	0.16	0.20	0.12	0.18	0.14	0.11	0.13	0.12	0.13
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	73	73	74	68	58	67	90	64
	WEIGHTED ANNUAL MEAN	NS	4	—	—	32	32	31	32	26	27	31	25
SO2	ARITHMETIC MEAN	DOWN	2	0.013	0.012	0.015	0.014	0.013	0.012	0.010	0.009	0.009	0.007
	SECOND MAX 24-HOUR	DOWN	2	0.046	0.041	0.059	0.047	0.043	0.035	0.041	0.030	0.036	0.025
JOHNSON CITY-KINGSPORT-BRISTOL, TN-VA													
CO	SECOND MAX 8-HOUR	DOWN	1	3.9	4.8	4.3	3.7	3.4	3.3	3.0	6.5	3.4	3.0
NO2	ARITHMETIC MEAN	DOWN	1	0.019	0.020	0.019	0.019	0.019	0.019	0.018	0.017	0.017	0.018
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.09	0.12	0.11	0.12	0.12	0.10	0.13	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	68	68	59	67	57	73	53	58
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	31	31	32	32	29	29	28	27
SO2	ARITHMETIC MEAN	DOWN	3	0.010	0.009	0.011	0.010	0.009	0.009	0.008	0.008	0.009	0.008
	SECOND MAX 24-HOUR	NS	3	0.043	0.046	0.049	0.053	0.044	0.044	0.039	0.042	0.045	0.039
JOHNSTOWN, PA													
CO	SECOND MAX 8-HOUR	DOWN	1	6.9	5.6	4.3	4.1	3.7	4.8	4.4	4.2	4.1	3.5
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.41	0.52	0.30	0.31	0.16	0.19	0.14	0.06	0.05	0.06
NO2	ARITHMETIC MEAN	DOWN	1	0.020	0.020	0.019	0.019	0.018	0.019	0.018	0.017	0.018	0.015
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.12	0.14	0.10	0.10	0.11	0.09	0.10	0.09	0.10
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	70	70	58	70	56	63	69	61
	WEIGHTED ANNUAL MEAN	NS	1	—	—	33	33	28	33	28	27	29	27
SO2	ARITHMETIC MEAN	DOWN	1	0.019	0.016	0.017	0.016	0.014	0.015	0.013	0.015	0.014	0.012
	SECOND MAX 24-HOUR	NS	1	0.070	0.065	0.055	0.089	0.047	0.043	0.052	0.049	0.080	0.042
KALAMAZOO-BATTLE CREEK, MI													
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	73	73	69	72	57	59	57	55
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	34	34	28	29	27	24	26	26
KANSAS CITY, MO-KS													
CO	SECOND MAX 8-HOUR	DOWN	5	5.4	5.4	4.4	4.6	4.4	3.8	3.5	4.1	4.3	3.4
LEAD	MAX QUARTERLY MEAN	DOWN	5	0.17	0.16	0.17	0.06	0.03	0.03	0.02	0.02	0.02	0.02
NO2	ARITHMETIC MEAN	DOWN	3	0.011	0.013	0.010	0.011	0.011	0.010	0.010	0.009	0.010	0.010
OZONE	SECOND DAILY MAX 1-HOUR	NS	5	0.12	0.12	0.13	0.10	0.10	0.10	0.10	0.10	0.10	0.13
PM-10	SECOND MAX 24-HOUR	DOWN	8	—	—	71	71	67	60	60	61	59	60
	WEIGHTED ANNUAL MEAN	DOWN	8	—	—	33	33	30	30	29	29	29	24
SO2	ARITHMETIC MEAN	DOWN	5	0.006	0.006	0.005	0.004	0.003	0.003	0.003	0.003	0.003	0.003
	SECOND MAX 24-HOUR	NS	5	0.025	0.026	0.022	0.016	0.022	0.017	0.016	0.020	0.025	0.018
KENOSHA, WI													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.16	0.19	0.19	0.13	0.11	0.14	0.11	0.11	0.12	0.12
KNOXVILLE, TN													
CO	SECOND MAX 8-HOUR	DOWN	1	6.1	6.1	6.1	6.7	5.1	4.5	4.5	4.6	4.3	4.1

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.11	0.14	0.09	0.12	0.11	0.10	0.12	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	8	—	—	61	61	64	63	54	61	56	57
	WEIGHTED ANNUAL MEAN	NS	8	—	—	32	32	32	34	30	30	32	31
SO2	ARITHMETIC MEAN	NS	2	0.007	0.006	0.007	0.007	0.006	0.007	0.007	0.007	0.007	0.007
	SECOND MAX 24-HOUR	UP	2	0.030	0.029	0.034	0.031	0.033	0.038	0.035	0.042	0.042	0.037
LAKE CHARLES, LA													
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.12	0.13	0.13	0.12	0.11	0.12	0.11	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	44	44	44	52	75	51	46	54
	WEIGHTED ANNUAL MEAN	NS	1	—	—	21	21	21	23	25	22	23	23
LAKELAND-WINTER HAVEN, FL													
SO2	ARITHMETIC MEAN	UP	1	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	SECOND MAX 24-HOUR	NS	1	0.013	0.019	0.018	0.016	0.023	0.016	0.018	0.019	0.016	0.015
LANCASTER, PA													
CO	SECOND MAX 8-HOUR	NS	1	3.6	3.3	3.4	4.1	3.4	2.6	2.6	3.0	3.8	2.4
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.14	0.09	0.07	0.05	0.06	0.04	0.04	0.04	0.04	0.04
NO2	ARITHMETIC MEAN	NS	1	0.019	0.019	0.020	0.018	0.017	0.018	0.015	0.015	0.019	0.016
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.12	0.13	0.10	0.10	0.12	0.11	0.12	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	59	59	59	51	45	68	117	73
	WEIGHTED ANNUAL MEAN	NS	1	—	—	31	31	31	30	27	31	38	33
SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.007	0.006	0.006
	SECOND MAX 24-HOUR	NS	1	0.032	0.027	0.028	0.037	0.028	0.023	0.023	0.026	0.030	0.018
LANSING-EAST LANSING, MI													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.10	0.12	0.10	0.10	0.11	0.09	0.10	0.09	0.10
LAREDO, TX													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	61	61	61	72	58	58	73	55
	WEIGHTED ANNUAL MEAN	NS	1	—	—	32	32	32	35	32	30	32	31
LAS CRUCES, NM													
CO	SECOND MAX 8-HOUR	NS	2	4.7	5.8	5.0	4.5	4.6	5.0	3.8	6.0	4.1	3.7
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.21	0.24	0.20	0.17	0.16	0.16	0.12	0.13	0.06	0.10
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	123	123	93	86	88	77	91	85
	WEIGHTED ANNUAL MEAN	NS	3	—	—	45	45	35	31	31	30	33	35
SO2	ARITHMETIC MEAN	DOWN	1	0.005	0.005	0.003	0.003	0.003	0.003	0.003	0.002	0.001	0.002
	SECOND MAX 24-HOUR	DOWN	1	0.036	0.021	0.031	0.017	0.018	0.020	0.016	0.012	0.005	0.006
LAS VEGAS, NV-AZ													
CO	SECOND MAX 8-HOUR	NS	1	11.7	11.7	14.4	12.2	14.1	12.1	9.7	9.9	10.6	9.2
NO2	ARITHMETIC MEAN	NS	1	0.022	0.028	0.031	0.034	0.037	0.030	0.028	0.029	0.027	0.027
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.11	0.11	0.11	0.10	0.10	0.09	0.09	0.10	0.09	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	5	—	—	110	110	122	105	62	79	74	70
	WEIGHTED ANNUAL MEAN	NS	5	—	—	45	45	46	43	33	32	34	34
LAWRENCE, MA-NH													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.12	0.14	0.11	0.10	0.13	0.10	0.11	0.11	0.10
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	39	39	39	35	48	46	35	28
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	21	21	21	18	19	18	16	13
SO2	ARITHMETIC MEAN	DOWN	2	0.010	0.010	0.008	0.009	0.008	0.007	0.008	0.008	0.006	0.006
	SECOND MAX 24-HOUR	DOWN	2	0.039	0.042	0.031	0.035	0.029	0.025	0.027	0.026	0.027	0.024
LAWTON, OK													
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	74	74	73	54	52	55	51	52
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	32	32	30	27	26	27	28	25
LEWISTON-AUBURN, ME													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	55	55	55	66	58	68	46	46
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	25	25	25	29	24	24	20	20
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.009	0.007	0.008	0.007	0.006	0.005	0.007	0.006	0.004
	SECOND MAX 24-HOUR	DOWN	1	0.039	0.034	0.044	0.035	0.027	0.023	0.020	0.026	0.025	0.020
LEXINGTON, KY													
CO	SECOND MAX 8-HOUR	DOWN	1	6.0	5.8	5.4	5.6	3.7	4.9	3.8	6.5	4.2	3.0
NO2	ARITHMETIC MEAN	NS	1	0.018	0.017	0.018	0.019	0.017	0.016	0.016	0.017	0.016	0.017
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.14	0.11	0.12	0.11	0.10	0.09	0.08	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	76	76	61	52	52	61	66	65
	WEIGHTED ANNUAL MEAN	NS	2	—	—	30	30	28	28	24	25	27	26
SO2	ARITHMETIC MEAN	NS	1	0.006	0.007	0.007	0.006	0.006	0.008	0.007	0.007	0.008	0.006
	SECOND MAX 24-HOUR	NS	1	0.019	0.031	0.027	0.034	0.020	0.026	0.030	0.026	0.037	0.016
LIMA, OH													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.08	0.10	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.11
SO2	ARITHMETIC MEAN	NS	1	0.005	0.006	0.006	0.006	0.005	0.006	0.004	0.005	0.004	0.003
	SECOND MAX 24-HOUR	NS	1	0.022	0.029	0.024	0.033	0.026	0.021	0.020	0.023	0.037	0.015
LINCOLN, NE													
CO	SECOND MAX 8-HOUR	NS	1	6.9	8.3	9.0	8.3	8.7	9.4	6.4	5.1	5.3	6.2
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.07	0.06	0.08	0.06	0.07	0.07	0.07	0.06	0.08	0.07
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	61	61	58	66	50	51	49	54
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	33	33	29	30	25	26	28	25

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
LITTLE ROCK-NORTH LITTLE ROCK, AR													
NO2	ARITHMETIC MEAN	NS	1	0.010	0.009	0.010	0.009	0.009	0.009	0.012	0.009	0.011	0.011
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.11	0.11	0.11	0.09	0.10	0.10	0.09	0.10	0.09	0.11
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	59	59	60	53	63	55	57	59
	WEIGHTED ANNUAL MEAN	NS	4	—	—	29	29	29	25	28	27	27	29
SO2	ARITHMETIC MEAN	UP	1	0.001	0.002	0.002	0.002	0.003	0.003	0.005	0.006	0.003	0.002
	SECOND MAX 24-HOUR	NS	1	0.015	0.006	0.016	0.010	0.014	0.012	0.012	0.017	0.009	0.008
LONGVIEW-MARSHALL, TX													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.12	0.12	0.10	0.13	0.11	0.10	0.11	0.10	0.15
LOS ANGELES-LONG BEACH, CA													
CO	SECOND MAX 8-HOUR	DOWN	12	10.2	9.8	10.7	10.2	9.3	9.1	8.4	7.1	8.4	7.9
LEAD	MAX QUARTERLY MEAN	DOWN	6	0.34	0.24	0.15	0.09	0.08	0.09	0.06	0.06	0.06	0.05
NO2	ARITHMETIC MEAN	DOWN	13	0.049	0.045	0.048	0.046	0.042	0.043	0.040	0.038	0.040	0.039
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	14	0.23	0.22	0.23	0.22	0.19	0.20	0.20	0.18	0.17	0.15
PM-10	SECOND MAX 24-HOUR	DOWN	7	—	—	126	126	115	121	94	82	80	107
	WEIGHTED ANNUAL MEAN	DOWN	7	—	—	57	57	49	51	41	40	39	39
SO2	ARITHMETIC MEAN	DOWN	5	0.006	0.005	0.005	0.004	0.003	0.004	0.004	0.003	0.003	0.003
	SECOND MAX 24-HOUR	DOWN	5	0.019	0.016	0.019	0.015	0.012	0.012	0.014	0.010	0.008	0.009
LOUISVILLE, KY-IN													
CO	SECOND MAX 8-HOUR	DOWN	3	6.5	6.8	5.9	6.0	5.9	5.9	4.2	4.6	5.1	3.8
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.18	0.10	0.09	0.05	0.03	0.04	0.04	0.05	0.02	0.06
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.14	0.11	0.16	0.11	0.11	0.12	0.09	0.13	0.12	0.12
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	71	71	67	61	53	66	64	63
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	35	35	34	33	31	30	31	29
SO2	ARITHMETIC MEAN	NS	4	0.009	0.009	0.010	0.010	0.010	0.010	0.009	0.010	0.010	0.008
	SECOND MAX 24-HOUR	DOWN	4	0.044	0.045	0.044	0.055	0.040	0.037	0.034	0.035	0.040	0.028
LOWELL, MA-NH													
CO	SECOND MAX 8-HOUR	NS	1	6.7	6.6	6.4	5.3	7.3	5.8	5.9	5.1	6.5	7.8
LUBBOCK, TX													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	94	94	61	79	58	56	81	121
	WEIGHTED ANNUAL MEAN	NS	1	—	—	34	34	24	26	22	20	23	22
LYNCHBURG, VA													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	54	54	51	53	45	63	40	54
	WEIGHTED ANNUAL MEAN	NS	1	—	—	30	30	24	28	24	26	23	24
MADISON, WI													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	90	90	54	55	39	43	50	55
	WEIGHTED ANNUAL MEAN	NS	1	—	—	34	34	24	25	22	21	22	23
MANSFIELD, OH													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	56	56	56	62	68	66	58	61
	WEIGHTED ANNUAL MEAN	NS	1	—	—	27	27	27	27	26	28	29	25
MEDFORD-ASHLAND, OR													
CO	SECOND MAX 8-HOUR	DOWN	1	9.3	8.8	11.3	11.0	8.2	8.1	6.4	6.9	6.2	5.3
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.09	0.07	0.05	0.04	0.02	0.03	0.02	0.02	0.02	0.02
PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	199	199	123	148	99	91	80	60
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	54	54	42	40	36	35	33	26
MEMPHIS, TN-AR-MS													
CO	SECOND MAX 8-HOUR	DOWN	4	9.1	8.7	5.7	7.9	7.4	6.1	7.3	7.6	7.1	5.8
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.20	0.16	0.08	0.16	0.09	0.04	0.10	0.12	0.09	0.03
NO2	ARITHMETIC MEAN	NS	1	0.024	0.034	0.032	0.026	0.023	0.024	0.026	0.026	0.027	0.027
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.13	0.12	0.13	0.11	0.12	0.11	0.11	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	65	65	65	51	57	62	60	59
	WEIGHTED ANNUAL MEAN	NS	2	—	—	31	31	31	27	28	29	27	27
SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.007	0.005	0.006	0.005	0.005	0.006	0.005	0.005	0.003
	SECOND MAX 24-HOUR	DOWN	1	0.030	0.038	0.032	0.033	0.027	0.025	0.034	0.026	0.025	0.019
MERCED, CA													
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	137	137	153	122	82	119	109	89
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	52	52	53	52	46	43	39	39
MIAMI, FL													
CO	SECOND MAX 8-HOUR	NS	2	6.7	5.9	4.8	7.3	6.0	7.2	6.2	5.3	4.4	4.9
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.19	0.12	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.01
NO2	ARITHMETIC MEAN	DOWN	2	0.014	0.015	0.012	0.013	0.011	0.011	0.011	0.012	0.010	0.011
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.12	0.13	0.12	0.11	0.10	0.10	0.10	0.11	0.10	0.10
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	48	48	48	54	53	87	67	47
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	27	27	28	26	27	27	26	24
MIDDLESEX-SOMERSET-HUNTERDON, NJ													
CO	SECOND MAX 8-HOUR	DOWN	1	6.3	5.4	5.3	5.4	5.4	4.2	3.9	3.7	4.3	5.3
LEAD	MAX QUARTERLY MEAN	NS	1	0.37	0.17	0.38	0.38	0.30	1.15	1.22	0.33	0.12	0.07
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.14	0.16	0.19	0.13	0.14	0.13	0.12	0.11	0.12	0.13
PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	61	61	58	58	48	56	54	45
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	30	30	27	27	23	23	25	21
SO2	ARITHMETIC MEAN	DOWN	1	0.011	0.011	0.012	0.010	0.007	0.007	0.006	0.005	0.005	0.004

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
	SECOND MAX 24-HOUR	DOWN	1	0.041	0.035	0.043	0.037	0.032	0.025	0.026	0.018	0.028	0.018
MILWAUKEE-WAUKESHA, WI													
CO	SECOND MAX 8-HOUR	NS	5	5.0	4.5	4.2	3.9	4.5	3.8	3.3	4.3	4.6	3.0
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.24	0.13	0.12	0.07	0.08	0.06	0.05	0.04	0.03	0.04
NO2	ARITHMETIC MEAN	DOWN	2	0.023	0.023	0.023	0.024	0.022	0.021	0.021	0.020	0.021	0.021
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	6	0.13	0.17	0.15	0.13	0.11	0.14	0.10	0.10	0.12	0.12
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	84	84	78	64	53	61	63	63
	WEIGHTED ANNUAL MEAN	NS	4	—	—	35	35	33	29	26	26	28	27
SO2	ARITHMETIC MEAN	DOWN	2	0.007	0.005	0.006	0.006	0.006	0.006	0.005	0.003	0.004	0.003
	SECOND MAX 24-HOUR	NS	2	0.029	0.025	0.035	0.030	0.038	0.034	0.026	0.024	0.027	0.023
MINNEAPOLIS-ST. PAUL, MN-WI													
CO	SECOND MAX 8-HOUR	DOWN	3	10.0	9.5	7.8	10.0	6.0	6.9	5.6	5.3	5.7	5.7
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.79	0.55	0.55	0.38	0.77	0.31	0.25	0.12	0.07	0.07
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.09	0.10	0.11	0.09	0.09	0.08	0.09	0.08	0.09	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	8	—	—	85	85	74	67	62	54	61	58
	WEIGHTED ANNUAL MEAN	DOWN	8	—	—	31	31	29	27	24	23	24	25
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.005	0.003	0.003	0.004	0.003	0.003	0.002	0.002	0.002
	SECOND MAX 24-HOUR	DOWN	1	0.024	0.021	0.015	0.012	0.011	0.011	0.012	0.008	0.008	0.008
MOBILE, AL													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.10	0.10	0.09	0.10	0.07	0.10	0.09	0.09	0.11
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	62	62	57	59	69	68	60	53
	WEIGHTED ANNUAL MEAN	NS	4	—	—	31	31	31	32	34	32	31	29
SO2	ARITHMETIC MEAN	UP	1	0.007	0.009	0.008	0.008	0.008	0.009	0.010	0.010	0.011	0.009
	SECOND MAX 24-HOUR	NS	1	0.037	0.052	0.054	0.063	0.038	0.050	0.055	0.066	0.052	0.053
MODESTO, CA													
CO	SECOND MAX 8-HOUR	DOWN	1	11.1	8.6	9.7	11.8	10.5	9.4	5.9	6.6	6.3	5.4
NO2	ARITHMETIC MEAN	DOWN	1	0.024	0.024	0.027	0.027	0.026	0.024	0.022	0.024	0.023	0.022
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.13	0.14	0.12	0.11	0.12	0.11	0.11	0.11	0.12	0.13
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	129	129	141	145	85	123	103	100
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	53	53	48	54	44	53	39	38
MONMOUTH-OCEAN, NJ													
CO	SECOND MAX 8-HOUR	DOWN	2	6.6	6.1	6.6	6.1	5.7	5.5	4.7	5.3	4.9	3.8
MONROE, LA													
PM-10	SECOND MAX 24-HOUR	UP	1	—	—	72	72	72	58	79	81	99	111
	WEIGHTED ANNUAL MEAN	NS	1	—	—	30	30	30	25	28	27	34	36
MONTGOMERY, AL													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	40	40	58	60	48	48	45	55
	WEIGHTED ANNUAL MEAN	NS	1	—	—	23	23	27	26	24	23	25	26
NASHUA, NH													
CO	SECOND MAX 8-HOUR	NS	1	10.3	9.1	6.6	7.5	8.8	7.3	7.2	5.8	8.0	7.6
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.03	0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.01
NO2	ARITHMETIC MEAN	DOWN	1	0.020	0.020	0.024	0.022	0.019	0.016	0.015	0.016	0.015	0.013
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.09	0.14	0.09	0.10	0.10	0.10	0.11	0.10	0.10
PM-10	SECOND MAX 24-HOUR	DOWN	5	—	—	44	44	41	50	49	39	38	31
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	22	22	18	19	17	17	15	14
SO2	ARITHMETIC MEAN	DOWN	2	0.009	0.008	0.008	0.008	0.007	0.006	0.006	0.006	0.007	0.005
	SECOND MAX 24-HOUR	DOWN	2	0.032	0.036	0.044	0.038	0.036	0.026	0.028	0.024	0.031	0.023
NASHVILLE, TN													
CO	SECOND MAX 8-HOUR	DOWN	3	8.5	6.9	6.5	7.4	5.9	5.0	5.5	6.4	5.4	4.8
LEAD	MAX QUARTERLY MEAN	NS	4	1.48	1.16	1.29	0.66	1.45	1.21	1.05	0.91	0.98	1.93
NO2	ARITHMETIC MEAN	NS	1	0.012	0.012	0.012	0.012	0.012	0.010	0.014	0.012	0.020	0.014
OZONE	SECOND DAILY MAX 1-HOUR	NS	6	0.12	0.12	0.13	0.10	0.11	0.10	0.10	0.10	0.10	0.10
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	76	76	75	71	60	79	65	66
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	37	37	36	35	31	31	30	31
SO2	ARITHMETIC MEAN	DOWN	4	0.009	0.008	0.010	0.008	0.010	0.009	0.007	0.008	0.006	0.004
	SECOND MAX 24-HOUR	NS	4	0.059	0.041	0.062	0.077	0.065	0.067	0.035	0.057	0.052	0.032
NASSAU-SUFFOLK, NY													
CO	SECOND MAX 8-HOUR	DOWN	1	8.9	9.9	9.1	6.5	7.2	6.6	5.6	5.6	5.4	5.0
NO2	ARITHMETIC MEAN	DOWN	1	0.032	0.032	0.033	0.029	0.028	0.029	0.026	0.026	0.028	0.025
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.16	0.17	0.16	0.15	0.14	0.18	0.13	0.13	0.13	0.15
SO2	ARITHMETIC MEAN	DOWN	2	0.009	0.009	0.008	0.010	0.009	0.009	0.008	0.008	0.007	0.005
	SECOND MAX 24-HOUR	DOWN	2	0.043	0.038	0.056	0.045	0.045	0.038	0.039	0.032	0.037	0.029
NEW BEDFORD, MA													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.14	0.12	0.16	0.12	0.13	0.13	0.11	0.09	0.10	0.14
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	39	39	39	51	42	44	49	28
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	23	23	23	20	17	17	19	14
NEW HAVEN-MERIDEN, CT													
CO	SECOND MAX 8-HOUR	DOWN	1	7.1	7.5	7.0	6.0	6.8	6.3	5.2	4.9	4.9	4.9
NO2	ARITHMETIC MEAN	NS	1	0.029	0.028	0.029	0.028	0.027	0.028	0.025	0.027	0.030	0.025
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.16	0.15	0.17	0.15	0.13	0.16	0.12	0.14	0.14	0.14
PM-10	SECOND MAX 24-HOUR	NS	8	—	—	62	62	71	76	70	69	68	55
	WEIGHTED ANNUAL MEAN	NS	8	—	—	30	30	28	32	25	26	27	23

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area			Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
	SO2	ARITHMETIC MEAN	DOWN	2	0.012	0.012	0.015	0.012	0.010	0.010	0.009	0.008	0.008	0.006
		SECOND MAX 24-HOUR	DOWN	2	0.051	0.054	0.071	0.071	0.045	0.055	0.042	0.038	0.049	0.031
NEW LONDON-NORWICH, CT-RI														
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.14	0.16	0.15	0.14	0.16	0.14	0.12	0.13	0.12	0.14
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	42	42	48	52	52	40	49	43
		WEIGHTED ANNUAL MEAN	NS	3	—	—	22	22	20	23	19	18	22	17
	SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.007	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.005
		SECOND MAX 24-HOUR	DOWN	1	0.029	0.029	0.047	0.027	0.029	0.027	0.025	0.019	0.029	0.018
NEW ORLEANS, LA														
	CO	SECOND MAX 8-HOUR	DOWN	2	5.9	6.7	6.1	6.1	4.9	4.2	5.4	5.1	4.6	3.6
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.12	0.10	0.10	0.09	0.04	0.02	0.03	0.02	0.02	0.02
	NO2	ARITHMETIC MEAN	DOWN	2	0.020	0.021	0.019	0.017	0.016	0.015	0.017	0.016	0.015	0.016
	OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	58	58	54	52	52	54	50	50
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	31	31	27	26	27	25	25	24
	SO2	ARITHMETIC MEAN	UP	1	0.005	0.003	0.004	0.003	0.003	0.005	0.005	0.006	0.008	0.007
		SECOND MAX 24-HOUR	NS	1	0.028	0.012	0.015	0.014	0.013	0.028	0.019	0.025	0.027	0.022
NEW YORK, NY														
	CO	SECOND MAX 8-HOUR	DOWN	3	11.5	8.2	9.0	8.5	7.5	7.2	6.5	5.6	6.0	6.9
	LEAD	MAX QUARTERLY MEAN	DOWN	3	0.16	0.11	0.14	0.08	0.09	0.08	0.06	0.09	0.08	0.07
	NO2	ARITHMETIC MEAN	DOWN	1	0.049	0.049	0.049	0.049	0.046	0.047	0.036	0.043	0.046	0.042
	OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.14	0.15	0.18	0.12	0.14	0.15	0.12	0.12	0.12	0.13
	PM-10	SECOND MAX 24-HOUR	NS	12	—	—	69	69	66	61	55	55	69	63
		WEIGHTED ANNUAL MEAN	DOWN	12	—	—	34	34	31	30	27	26	28	26
	SO2	ARITHMETIC MEAN	DOWN	6	0.014	0.015	0.016	0.015	0.014	0.013	0.012	0.011	0.012	0.009
		SECOND MAX 24-HOUR	DOWN	6	0.051	0.052	0.061	0.062	0.055	0.045	0.048	0.037	0.051	0.035
NEWARK, NJ														
	CO	SECOND MAX 8-HOUR	NS	3	9.3	7.4	7.3	7.6	7.1	8.3	5.6	4.9	7.7	6.0
	LEAD	MAX QUARTERLY MEAN	DOWN	1	0.46	0.55	0.83	0.41	0.39	1.04	0.44	0.23	0.30	0.23
	NO2	ARITHMETIC MEAN	NS	5	0.027	0.031	0.031	0.028	0.028	0.027	0.029	0.027	0.029	0.027
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.15	0.17	0.18	0.12	0.12	0.12	0.11	0.11	0.12	0.12
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	74	74	68	62	55	67	95	69
		WEIGHTED ANNUAL MEAN	NS	3	—	—	35	35	31	30	29	30	35	28
	SO2	ARITHMETIC MEAN	DOWN	4	0.011	0.011	0.012	0.012	0.010	0.010	0.009	0.007	0.008	0.006
		SECOND MAX 24-HOUR	DOWN	4	0.042	0.040	0.050	0.047	0.040	0.035	0.040	0.025	0.033	0.025
NEWBURGH, NY-PA														
	LEAD	MAX QUARTERLY MEAN	DOWN	1	0.79	2.46	1.18	1.36	0.54	0.28	0.22	0.28	0.06	0.05
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS,VA-NC														
	CO	SECOND MAX 8-HOUR	DOWN	2	6.5	6.5	5.7	5.2	4.6	5.0	4.1	5.2	5.3	4.3
	LEAD	MAX QUARTERLY MEAN	DOWN	1	0.10	0.10	0.10	0.12	0.18	0.03	0.03	0.03	0.02	0.03
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.12	0.12	0.13	0.10	0.11	0.10	0.13	0.13	0.10	0.10
	PM-10	SECOND MAX 24-HOUR	DOWN	4	—	—	60	60	58	56	46	54	41	40
		WEIGHTED ANNUAL MEAN	DOWN	4	—	—	27	27	26	26	23	23	20	21
	SO2	ARITHMETIC MEAN	NS	1	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.007	0.006	0.006
		SECOND MAX 24-HOUR	DOWN	1	0.029	0.025	0.025	0.027	0.023	0.022	0.023	0.024	0.021	0.016
OAKLAND, CA														
	CO	SECOND MAX 8-HOUR	DOWN	6	5.4	4.3	4.8	4.9	4.8	4.8	4.0	3.4	3.6	2.7
	LEAD	MAX QUARTERLY MEAN	DOWN	5	0.13	0.11	0.14	0.12	0.08	0.09	0.02	0.02	0.01	0.02
	NO2	ARITHMETIC MEAN	DOWN	3	0.023	0.023	0.024	0.023	0.022	0.023	0.020	0.020	0.020	0.019
	OZONE	SECOND DAILY MAX 1-HOUR	NS	7	0.10	0.12	0.11	0.10	0.09	0.09	0.09	0.10	0.10	0.13
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	82	82	81	89	58	66	72	47
		WEIGHTED ANNUAL MEAN	DOWN	3	—	—	31	31	30	33	27	25	25	22
	SO2	ARITHMETIC MEAN	NS	6	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
		SECOND MAX 24-HOUR	NS	6	0.009	0.009	0.009	0.014	0.011	0.010	0.009	0.009	0.008	0.008
OKLAHOMA CITY, OK														
	CO	SECOND MAX 8-HOUR	NS	3	6.8	7.5	5.2	6.4	5.4	4.7	4.8	6.1	5.2	5.0
	LEAD	MAX QUARTERLY MEAN	DOWN	3	0.10	0.06	0.07	0.05	0.02	0.02	0.01	0.01	0.01	0.01
	NO2	ARITHMETIC MEAN	DOWN	2	0.015	0.015	0.021	0.013	0.013	0.011	0.012	0.012	0.013	0.012
	OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.09	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.11
	PM-10	SECOND MAX 24-HOUR	NS	5	—	—	53	53	47	45	55	45	42	51
		WEIGHTED ANNUAL MEAN	DOWN	5	—	—	24	24	23	23	22	21	21	21
	SO2	ARITHMETIC MEAN	NS	1	0.005	0.005	0.010	0.006	0.004	0.001	0.002	0.003	0.004	0.002
		SECOND MAX 24-HOUR	DOWN	1	0.012	0.012	0.041	0.016	0.019	0.005	0.009	0.008	0.007	0.006
OLYMPIA, WA														
	PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	118	118	86	99	78	78	63	65
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	28	28	24	25	24	24	17	17
OMAHA, NE-IA														
	CO	SECOND MAX 8-HOUR	NS	2	5.2	5.4	5.5	4.8	5.2	5.8	5.9	5.3	4.0	5.5
	LEAD	MAX QUARTERLY MEAN	NS	5	0.76	0.55	0.79	0.67	0.54	0.44	0.69	0.55	0.73	0.49
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	3	0.08	0.08	0.09	0.08	0.07	0.08	0.08	0.06	0.07	0.08
	PM-10	SECOND MAX 24-HOUR	DOWN	7	—	—	95	95	92	78	89	70	81	77
		WEIGHTED ANNUAL MEAN	DOWN	7	—	—	42	42	37	36	36	31	33	30

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
ORANGE COUNTY, CA													
CO	SECOND MAX 8-HOUR	DOWN	3	7.4	7.8	8.4	8.7	7.7	6.9	7.2	5.5	7.2	5.9
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.21	0.15	0.09	0.08	0.06	0.06	0.03	0.05	0.04	0.04
NO2	ARITHMETIC MEAN	NS	2	0.043	0.040	0.044	0.045	0.046	0.044	0.039	0.037	0.040	0.038
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	4	0.18	0.20	0.21	0.21	0.18	0.18	0.18	0.16	0.17	0.13
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	96	96	95	97	79	78	83	124
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	45	45	45	41	37	36	36	41
SO2	ARITHMETIC MEAN	DOWN	2	0.004	0.004	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.002
	SECOND MAX 24-HOUR	DOWN	2	0.014	0.012	0.013	0.011	0.008	0.010	0.008	0.007	0.006	0.006
ORLANDO, FL													
CO	SECOND MAX 8-HOUR	DOWN	2	4.8	4.7	4.5	4.3	4.5	3.6	3.9	3.8	3.6	3.3
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.05	0.05	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.11	0.10	0.10	0.11	0.09	0.10	0.10	0.10	0.09
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	44	44	46	42	49	39	37	37
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	27	27	27	27	24	24	23	22
SO2	ARITHMETIC MEAN	NS	1	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001
	SECOND MAX 24-HOUR	NS	1	0.010	0.008	0.010	0.006	0.011	0.007	0.007	0.011	0.012	0.006
OWENSBORO, KY													
CO	SECOND MAX 8-HOUR	NS	1	3.5	4.1	6.4	5.9	5.4	3.8	4.5	5.5	3.9	4.2
NO2	ARITHMETIC MEAN	NS	1	0.014	0.015	0.015	0.014	0.011	0.011	0.012	0.012	0.012	0.013
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.11	0.14	0.10	0.11	0.09	0.09	0.11	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	80	80	69	55	52	56	90	70
	WEIGHTED ANNUAL MEAN	NS	1	—	—	33	33	29	29	27	25	30	29
SO2	ARITHMETIC MEAN	NS	1	0.007	0.008	0.010	0.010	0.009	0.009	0.009	0.009	0.009	0.007
	SECOND MAX 24-HOUR	NS	1	0.027	0.033	0.040	0.053	0.038	0.044	0.053	0.050	0.035	0.028
PARKERSBURG-MARIETTA, WV-OH													
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.10	0.08	0.04	0.04	0.02	0.02	0.02	0.02	0.01	0.02
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.15	0.15	0.12	0.11	0.12	0.10	0.10	0.11	0.12
SO2	ARITHMETIC MEAN	NS	1	0.015	0.017	0.015	0.016	0.014	0.014	0.014	0.014	0.017	0.010
	SECOND MAX 24-HOUR	NS	1	0.072	0.070	0.076	0.076	0.064	0.060	0.059	0.065	0.084	0.041
PENSACOLA, FL													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.11	0.10	0.09	0.11	0.10	0.10	0.10	0.11	0.12
SO2	ARITHMETIC MEAN	NS	1	0.005	0.006	0.006	0.006	0.008	0.006	0.007	0.005	0.004	0.003
	SECOND MAX 24-HOUR	DOWN	1	0.042	0.086	0.072	0.057	0.078	0.056	0.057	0.032	0.039	0.019
PEORIA-PEKIN, IL													
CO	SECOND MAX 8-HOUR	DOWN	1	7.4	7.4	7.9	7.7	7.4	6.3	7.2	7.3	5.7	5.6
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.08	0.08	0.04	0.04	0.04	0.02	0.02	0.03	0.02	0.03
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.08	0.11	0.11	0.10	0.08	0.10	0.09	0.08	0.09	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	70	70	72	48	54	39	45	42
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	28	28	27	24	25	20	21	20
SO2	ARITHMETIC MEAN	DOWN	2	0.009	0.008	0.009	0.007	0.007	0.008	0.007	0.007	0.007	0.007
	SECOND MAX 24-HOUR	NS	2	0.066	0.058	0.062	0.046	0.054	0.065	0.043	0.039	0.050	0.084
PHILADELPHIA, PA-NJ													
CO	SECOND MAX 8-HOUR	DOWN	9	6.3	6.3	5.4	7.1	4.9	4.6	4.7	4.7	5.2	4.1
LEAD	MAX QUARTERLY MEAN	NS	10	0.88	0.77	0.50	0.38	0.54	0.35	0.56	0.86	0.54	0.69
NO2	ARITHMETIC MEAN	DOWN	5	0.032	0.033	0.031	0.030	0.028	0.028	0.028	0.026	0.028	0.027
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	8	0.14	0.16	0.18	0.13	0.13	0.14	0.11	0.13	0.12	0.13
PM-10	SECOND MAX 24-HOUR	NS	10	—	—	73	73	68	73	55	69	71	65
	WEIGHTED ANNUAL MEAN	NS	10	—	—	34	34	31	33	27	29	32	31
SO2	ARITHMETIC MEAN	DOWN	11	0.011	0.011	0.012	0.011	0.011	0.010	0.008	0.008	0.009	0.006
	SECOND MAX 24-HOUR	DOWN	11	0.044	0.046	0.053	0.046	0.040	0.035	0.035	0.030	0.038	0.026
PHOENIX-MESA, AZ													
CO	SECOND MAX 8-HOUR	DOWN	9	9.3	8.0	7.6	7.4	6.2	5.9	6.0	5.7	5.9	5.8
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.40	0.24	0.16	0.09	0.09	0.11	0.06	0.05	0.05	0.06
OZONE	SECOND DAILY MAX 1-HOUR	UP	9	0.11	0.11	0.11	0.10	0.11	0.10	0.11	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	6	—	—	113	113	85	84	97	79	83	88
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	51	51	43	44	43	43	42	43
PINE BLUFF, AR													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	60	60	47	42	51	55	56	62
	WEIGHTED ANNUAL MEAN	NS	1	—	—	27	27	21	19	22	23	25	26
PITTSBURGH, PA													
CO	SECOND MAX 8-HOUR	DOWN	5	5.8	5.6	5.1	5.3	5.6	4.3	4.8	3.8	4.3	3.8
LEAD	MAX QUARTERLY MEAN	DOWN	4	0.18	0.12	0.13	0.12	0.09	0.09	0.07	0.07	0.08	0.08
NO2	ARITHMETIC MEAN	DOWN	5	0.023	0.025	0.023	0.023	0.023	0.023	0.022	0.022	0.023	0.021
OZONE	SECOND DAILY MAX 1-HOUR	NS	6	0.12	0.12	0.13	0.11	0.10	0.11	0.09	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	14	—	—	89	89	80	80	75	77	83	73
	WEIGHTED ANNUAL MEAN	DOWN	14	—	—	34	34	32	33	29	29	32	29
SO2	ARITHMETIC MEAN	DOWN	11	0.017	0.017	0.018	0.018	0.017	0.016	0.015	0.015	0.015	0.011
	SECOND MAX 24-HOUR	DOWN	11	0.090	0.080	0.081	0.078	0.076	0.057	0.071	0.063	0.073	0.048
PONCE, PR													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	96	96	77	58	64	66	64	57
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	46	46	38	30	29	30	27	24

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area			Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PORTLAND-VANCOUVER, OR-WA														
	CO	SECOND MAX 8-HOUR	DOWN	2	10.3	10.7	8.9	8.2	8.5	9.1	7.0	6.3	7.0	5.7
	LEAD	MAX QUARTERLY MEAN	DOWN	2	0.22	0.17	0.12	0.07	0.06	0.06	0.05	0.06	0.04	0.03
	OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.12	0.10	0.11	0.08	0.12	0.09	0.10	0.09	0.09	0.09
	PM-10	SECOND MAX 24-HOUR	DOWN	6	—	—	72	72	61	85	59	66	50	41
		WEIGHTED ANNUAL MEAN	DOWN	6	—	—	25	25	25	26	23	25	23	20
	SO2	ARITHMETIC MEAN	NS	1	0.006	0.006	0.006	0.007	0.005	0.006	0.006	0.006	0.005	0.005
		SECOND MAX 24-HOUR	NS	1	0.019	0.018	0.018	0.023	0.019	0.024	0.017	0.026	0.013	0.013
PORTLAND, ME														
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.14	0.17	0.13	0.13	0.14	0.12	0.11	0.12	0.12
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	56	56	42	54	57	48	51	49
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	26	26	23	25	23	21	21	21
	SO2	ARITHMETIC MEAN	DOWN	1	0.011	0.011	0.010	0.010	0.009	0.009	0.008	0.009	0.008	0.006
		SECOND MAX 24-HOUR	DOWN	1	0.039	0.042	0.044	0.039	0.034	0.032	0.029	0.032	0.043	0.022
PORTSMOUTH-ROCHESTER, NH-ME														
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.14	0.14	0.17	0.12	0.11	0.14	0.11	0.11	0.11	0.12
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	44	44	44	49	57	39	37	37
		WEIGHTED ANNUAL MEAN	DOWN	2	—	—	21	21	20	19	19	18	14	15
	SO2	ARITHMETIC MEAN	NS	1	0.006	0.006	0.006	0.008	0.007	0.007	0.006	0.006	0.006	0.004
		SECOND MAX 24-HOUR	DOWN	1	0.026	0.030	0.034	0.029	0.025	0.021	0.027	0.019	0.022	0.018
PROVIDENCE-FALL RIVER-WARWICK, RI-MA														
	CO	SECOND MAX 8-HOUR	DOWN	2	8.3	7.8	7.6	6.9	7.0	7.1	5.9	5.3	5.9	6.1
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.14	0.15	0.15	0.12	0.13	0.14	0.11	0.11	0.12	0.13
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	60	60	58	68	52	56	60	63
		WEIGHTED ANNUAL MEAN	DOWN	3	—	—	31	31	29	30	24	26	29	24
	SO2	ARITHMETIC MEAN	DOWN	6	0.011	0.011	0.012	0.010	0.009	0.009	0.009	0.008	0.007	0.006
		SECOND MAX 24-HOUR	DOWN	6	0.046	0.050	0.052	0.043	0.039	0.040	0.043	0.034	0.034	0.023
PROVO-OREM, UT														
	CO	SECOND MAX 8-HOUR	DOWN	2	12.2	10.6	9.5	12.3	13.1	9.5	8.8	7.6	7.4	6.3
	NO2	ARITHMETIC MEAN	NS	1	0.024	0.024	0.028	0.028	0.025	0.022	0.019	0.026	0.024	0.023
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.10	0.10	0.11	0.11	0.09	0.08	0.09	0.08	0.08	0.08
	PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	222	222	115	220	202	194	106	94
		WEIGHTED ANNUAL MEAN	NS	3	—	—	49	49	32	42	37	38	34	29
PUEBLO, CO														
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	75	75	52	57	54	51	54	86
		WEIGHTED ANNUAL MEAN	NS	1	—	—	33	33	26	30	26	26	30	26
RACINE, WI														
	CO	SECOND MAX 8-HOUR	NS	1	3.4	6.7	7.4	6.4	5.5	5.7	4.9	4.1	4.3	4.3
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.15	0.18	0.18	0.14	0.11	0.14	0.10	0.10	0.11	0.11
RALEIGH-DURHAM-CHAPEL HILL, NC														
	OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.13	0.16	0.10	0.10	0.11	0.08	0.10	0.10	0.10
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	60	60	50	51	46	47	37	48
		WEIGHTED ANNUAL MEAN	DOWN	2	—	—	29	29	29	26	24	25	22	23
RAPID CITY, SD														
	PM-10	SECOND MAX 24-HOUR	NS	2	—	—	68	68	76	138	80	88	79	75
		WEIGHTED ANNUAL MEAN	NS	2	—	—	26	26	27	28	25	23	29	24
READING, PA														
	CO	SECOND MAX 8-HOUR	DOWN	1	5.9	5.3	5.2	5.0	6.4	4.6	4.6	3.8	5.4	3.9
	LEAD	MAX QUARTERLY MEAN	DOWN	9	0.55	0.59	0.49	0.59	0.50	0.53	0.42	0.39	0.33	0.26
	NO2	ARITHMETIC MEAN	DOWN	1	0.024	0.025	0.024	0.023	0.022	0.022	0.020	0.021	0.023	0.021
	OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.12	0.15	0.11	0.11	0.12	0.10	0.11	0.10	0.11
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	52	52	61	67	47	55	80	54
		WEIGHTED ANNUAL MEAN	NS	1	—	—	31	31	26	28	23	25	29	26
	SO2	ARITHMETIC MEAN	DOWN	2	0.012	0.012	0.013	0.012	0.010	0.010	0.009	0.009	0.011	0.009
		SECOND MAX 24-HOUR	DOWN	2	0.050	0.042	0.053	0.048	0.038	0.034	0.033	0.032	0.040	0.033
REDDING, CA														
	PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	66	66	59	74	58	50	54	47
		WEIGHTED ANNUAL MEAN	DOWN	1	—	—	26	26	25	29	25	20	24	20
RENO, NV														
	CO	SECOND MAX 8-HOUR	DOWN	2	11.6	8.6	8.6	9.1	8.3	9.2	7.4	5.8	6.9	5.3
	OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.12	0.10	0.10	0.10	0.11	0.09	0.08	0.09	0.09	0.08
	PM-10	SECOND MAX 24-HOUR	DOWN	6	—	—	123	123	135	106	86	92	86	65
		WEIGHTED ANNUAL MEAN	NS	6	—	—	42	42	44	36	36	40	36	32
RICHLAND-KENNEWICK-PASCO, WA														
	PM-10	SECOND MAX 24-HOUR	NS	1	—	—	175	175	382	281	85	136	103	103
		WEIGHTED ANNUAL MEAN	NS	1	—	—	29	29	40	31	24	28	27	27
RICHMOND-PETERSBURG, VA														
	CO	SECOND MAX 8-HOUR	DOWN	2	4.5	6.0	4.1	4.0	4.4	3.7	2.5	3.9	3.4	2.6
	NO2	ARITHMETIC MEAN	NS	1	0.022	0.026	0.026	0.025	0.023	0.024	0.023	0.024	0.024	0.022
	OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.12	0.13	0.14	0.11	0.11	0.11	0.12	0.12	0.11	0.11
	PM-10	SECOND MAX 24-HOUR	NS	3	—	—	54	54	59	59	44	55	37	53
		WEIGHTED ANNUAL MEAN	DOWN	3	—	—	28	28	25	26	22	23	21	23

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.007	0.009	0.008	0.006	0.006	0.005	0.007	0.006	0.005
	SECOND MAX 24-HOUR	DOWN	1	0.031	0.031	0.042	0.032	0.034	0.027	0.024	0.023	0.021	0.016
RIVERSIDE-SAN BERNARDINO, CA													
CO	SECOND MAX 8-HOUR	DOWN	7	4.5	4.5	4.7	5.1	4.4	5.1	3.6	3.5	3.5	3.3
LEAD	MAX QUARTERLY MEAN	DOWN	4	0.16	0.12	0.08	0.06	0.05	0.06	0.03	0.04	0.04	0.04
NO2	ARITHMETIC MEAN	NS	8	0.028	0.028	0.029	0.030	0.028	0.029	0.027	0.027	0.028	0.028
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	14	0.22	0.22	0.23	0.22	0.22	0.21	0.20	0.18	0.19	0.18
PM-10	SECOND MAX 24-HOUR	DOWN	9	—	—	211	211	158	128	98	100	93	112
	WEIGHTED ANNUAL MEAN	DOWN	9	—	—	67	67	61	56	48	47	45	46
SO2	ARITHMETIC MEAN	NS	4	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	SECOND MAX 24-HOUR	NS	4	0.007	0.007	0.012	0.012	0.007	0.008	0.009	0.007	0.004	0.005
ROANOKE, VA													
NO2	ARITHMETIC MEAN	NS	1	0.014	0.016	0.016	0.014	0.013	0.014	0.013	0.014	0.013	0.013
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.11	0.13	0.10	0.09	0.10	0.09	0.10	0.10	0.09
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	65	65	68	63	64	72	68	74
	WEIGHTED ANNUAL MEAN	NS	2	—	—	35	35	36	33	32	35	36	34
SO2	ARITHMETIC MEAN	NS	1	0.004	0.004	0.004	0.005	0.004	0.004	0.004	0.004	0.004	0.003
	SECOND MAX 24-HOUR	NS	1	0.015	0.015	0.018	0.022	0.018	0.019	0.016	0.018	0.011	0.010
ROCHESTER, MN													
CO	SECOND MAX 8-HOUR	DOWN	1	7.2	9.0	7.1	6.3	6.1	6.3	5.1	4.9	5.0	5.0
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	64	64	89	43	44	38	43	49
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	30	30	28	23	21	20	21	19
ROCHESTER, NY													
CO	SECOND MAX 8-HOUR	DOWN	2	5.0	3.8	4.0	3.6	3.5	3.3	3.5	3.2	4.5	3.2
LEAD	MAX QUARTERLY MEAN	NS	1	0.10	0.10	0.09	0.04	0.03	0.03	0.04	0.04	0.04	0.04
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.11	0.13	0.10	0.11	0.11	0.09	0.09	0.09	0.11
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	56	56	47	60	45	60	42	44
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	23	23	22	25	22	21	19	19
SO2	ARITHMETIC MEAN	DOWN	2	0.013	0.011	0.012	0.013	0.012	0.011	0.011	0.010	0.011	0.010
	SECOND MAX 24-HOUR	NS	2	0.041	0.045	0.037	0.054	0.040	0.043	0.039	0.041	0.042	0.038
ROCKFORD, IL													
CO	SECOND MAX 8-HOUR	DOWN	1	9.2	8.0	8.1	6.6	6.5	5.1	4.6	4.3	4.0	4.5
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.07	0.05	0.13	0.07	0.09	0.04	0.06	0.03	0.04	0.03
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.09	0.09	0.11	0.09	0.09	0.09	0.09	0.08	0.10	0.10
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	58	58	54	55	49	42	44	45
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	25	25	25	22	21	16	19	19
SACRAMENTO, CA													
CO	SECOND MAX 8-HOUR	DOWN	4	8.7	9.3	10.4	9.7	9.4	8.1	6.9	6.9	7.1	5.0
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.12	0.11	0.08	0.07	0.10	0.04	0.02	0.05	0.02	0.02
NO2	ARITHMETIC MEAN	NS	3	0.014	0.016	0.018	0.017	0.017	0.014	0.016	0.016	0.013	0.013
OZONE	SECOND DAILY MAX 1-HOUR	NS	5	0.14	0.14	0.15	0.12	0.13	0.14	0.13	0.12	0.11	0.13
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	107	107	109	85	69	69	77	69
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	41	41	35	33	29	28	27	26
SO2	ARITHMETIC MEAN	DOWN	1	0.001	0.005	0.010	0.006	0.006	0.003	0.002	0.001	0.001	0.001
	SECOND MAX 24-HOUR	DOWN	1	0.005	0.013	0.020	0.020	0.010	0.010	0.010	0.003	0.004	0.002
SAGINAW-BAY CITY-MIDLAND, MI													
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	124	124	71	86	115	51	45	45
	WEIGHTED ANNUAL MEAN	NS	1	—	—	30	30	26	30	29	22	22	22
SALINAS, CA													
CO	SECOND MAX 8-HOUR	DOWN	1	2.3	2.3	2.3	2.3	2.5	2.1	2.3	2.1	2.0	1.9
NO2	ARITHMETIC MEAN	DOWN	1	0.014	0.013	0.014	0.014	0.012	0.012	0.012	0.012	0.012	0.011
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.08	0.08	0.08	0.10	0.08	0.08	0.07	0.08	0.08	0.07
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	49	49	49	43	38	55	33	47
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	25	25	23	23	22	22	20	21
SALT LAKE CITY-OGDEN, UT													
CO	SECOND MAX 8-HOUR	DOWN	2	11.1	8.7	7.7	7.3	6.9	7.8	7.6	6.5	6.4	5.7
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.18	0.16	0.16	0.13	0.08	0.08	0.05	0.06	0.05	0.05
NO2	ARITHMETIC MEAN	NS	1	0.025	0.024	0.026	0.027	0.019	0.020	0.022	0.025	0.026	0.024
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.13	0.11	0.12	0.13	0.11	0.10	0.09	0.10	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	8	—	—	129	129	96	151	136	114	94	81
	WEIGHTED ANNUAL MEAN	DOWN	8	—	—	43	43	32	39	35	35	30	28
SO2	ARITHMETIC MEAN	DOWN	4	0.009	0.008	0.010	0.010	0.008	0.009	0.008	0.007	0.004	0.003
	SECOND MAX 24-HOUR	DOWN	4	0.081	0.039	0.050	0.079	0.036	0.048	0.051	0.041	0.012	0.012
SAN ANTONIO, TX													
CO	SECOND MAX 8-HOUR	DOWN	2	7.3	6.2	5.7	6.3	5.4	4.6	4.7	5.1	3.5	3.8
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.14	0.11	0.06	0.04	0.07	0.03	0.03	0.03	0.03	0.03
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.12	0.12	0.11	0.10	0.11	0.10	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	57	57	49	48	48	54	47	41
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	28	28	25	25	25	23	23	21
SAN DIEGO, CA													
CO	SECOND MAX 8-HOUR	DOWN	6	5.9	5.4	5.8	6.4	5.4	5.0	4.8	4.3	4.6	4.0
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.15	0.09	0.06	0.04	0.08	0.03	0.03	0.04	0.01	0.02

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
NO2	ARITHMETIC MEAN	DOWN	6	0.026	0.025	0.028	0.027	0.024	0.024	0.023	0.020	0.021	0.021
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	7	0.15	0.16	0.17	0.16	0.16	0.15	0.14	0.14	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	75	75	67	74	52	62	62	72
	WEIGHTED ANNUAL MEAN	NS	3	—	—	39	39	34	37	32	30	31	32
SO2	ARITHMETIC MEAN	NS	1	0.003	0.002	0.004	0.004	0.003	0.002	0.003	0.002	0.002	0.003
	SECOND MAX 24-HOUR	NS	1	0.010	0.009	0.013	0.016	0.015	0.020	0.022	0.010	0.015	0.015
SAN FRANCISCO, CA													
CO	SECOND MAX 8-HOUR	DOWN	4	7.3	6.1	6.4	5.9	5.7	6.2	4.8	4.6	4.3	3.7
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.16	0.12	0.11	0.11	0.09	0.05	0.02	0.02	0.02	0.02
NO2	ARITHMETIC MEAN	DOWN	2	0.024	0.023	0.025	0.025	0.022	0.024	0.022	0.022	0.021	0.020
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.08	0.09	0.09	0.08	0.06	0.06	0.06	0.08	0.07	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	84	84	93	84	75	72	65	42
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	33	33	28	32	29	27	25	21
SO2	ARITHMETIC MEAN	NS	1	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.001	0.002
	SECOND MAX 24-HOUR	NS	1	0.010	0.010	0.012	0.015	0.010	0.013	0.012	0.010	0.005	0.005
SAN JOSE, CA													
CO	SECOND MAX 8-HOUR	DOWN	3	8.4	5.8	7.9	8.9	8.2	8.0	5.7	5.2	5.9	4.7
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.22	0.19	0.12	0.12	0.08	0.04	0.03	0.02	0.02	0.02
NO2	ARITHMETIC MEAN	DOWN	1	0.033	0.031	0.032	0.032	0.030	0.031	0.028	0.024	0.024	0.024
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	4	0.12	0.13	0.12	0.11	0.11	0.11	0.11	0.11	0.10	0.12
PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	126	126	120	112	94	73	81	49
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	40	40	36	35	31	25	27	22
SAN JUAN-BAYAMON, PR													
CO	SECOND MAX 8-HOUR	DOWN	2	6.1	5.7	5.4	5.5	5.3	5.3	5.3	4.5	4.8	4.9
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.30	0.24	0.05	0.05	0.03	0.03	0.05	0.01	0.01	0.01
PM-10	SECOND MAX 24-HOUR	DOWN	6	—	—	82	82	80	70	71	75	70	59
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	34	34	35	30	28	32	30	26
SO2	ARITHMETIC MEAN	UP	2	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.004
	SECOND MAX 24-HOUR	NS	2	0.017	0.015	0.023	0.014	0.016	0.015	0.022	0.013	0.015	0.019
SAN LUIS OBISPO-ATASCADERO-PASO ROBLES,CA													
CO	SECOND MAX 8-HOUR	DOWN	1	4.8	3.6	4.0	4.7	3.9	3.3	3.0	3.1	3.1	2.4
NO2	ARITHMETIC MEAN	DOWN	2	0.012	0.012	0.012	0.013	0.012	0.012	0.011	0.010	0.011	0.010
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	4	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	58	58	54	47	41	52	38	49
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	27	27	25	25	23	23	21	21
SO2	ARITHMETIC MEAN	NS	3	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
	SECOND MAX 24-HOUR	DOWN	3	0.010	0.005	0.006	0.006	0.005	0.006	0.005	0.003	0.004	0.004
SANTA BARBARA-SANTA MARIA-LOMPOC, CA													
CO	SECOND MAX 8-HOUR	DOWN	3	1.9	1.8	1.8	2.0	1.8	1.5	1.6	1.5	1.6	1.2
NO2	ARITHMETIC MEAN	DOWN	17	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.005
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	18	0.11	0.11	0.11	0.15	0.10	0.10	0.11	0.10	0.10	0.10
PM-10	SECOND MAX 24-HOUR	DOWN	12	—	—	53	53	49	45	46	52	44	44
	WEIGHTED ANNUAL MEAN	NS	12	—	—	25	25	24	23	23	25	23	24
SO2	ARITHMETIC MEAN	NS	12	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	SECOND MAX 24-HOUR	DOWN	12	0.004	0.004	0.005	0.003	0.003	0.003	0.003	0.003	0.003	0.003
SANTA CRUZ-WATSONVILLE, CA													
CO	SECOND MAX 8-HOUR	NS	1	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.2	1.0
NO2	ARITHMETIC MEAN	NS	1	0.006	0.006	0.008	0.009	0.008	0.010	0.007	0.006	0.006	0.005
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.08	0.09	0.08	0.08	0.08	0.09	0.07	0.08	0.07	0.07
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	50	50	47	43	35	49	37	36
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	31	31	24	24	22	22	22	19
SANTA FE, NM													
CO	SECOND MAX 8-HOUR	DOWN	1	5.4	4.3	3.8	3.5	3.5	3.9	3.7	3.4	2.7	2.3
PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	40	40	43	32	36	32	28	28
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	16	16	17	14	16	15	14	13
SANTA ROSA, CA													
CO	SECOND MAX 8-HOUR	DOWN	1	5.0	4.1	4.9	5.0	4.3	3.8	3.5	3.8	3.2	2.4
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.10	0.05	0.05	0.07	0.03	0.02	0.01	0.01	0.01	0.01
NO2	ARITHMETIC MEAN	NS	1	0.016	0.016	0.016	0.015	0.015	0.015	0.016	0.016	0.015	0.015
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	2	0.08	0.10	0.10	0.09	0.08	0.09	0.08	0.08	0.08	0.08
PM-10	SECOND MAX 24-HOUR	DOWN	3	—	—	52	52	51	69	44	45	41	37
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	23	23	20	23	18	19	18	16
SARASOTA-BRADENTON, FL													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.08	0.08	0.10	0.10	0.10	0.10	0.09	0.09	0.10	0.09
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	48	48	48	52	66	77	48	40
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	28	28	28	25	27	27	23	21
SO2	ARITHMETIC MEAN	NS	1	0.002	0.002	0.002	0.003	0.002	0.003	0.003	0.003	0.003	0.002
	SECOND MAX 24-HOUR	NS	1	0.008	0.008	0.012	0.017	0.016	0.034	0.021	0.018	0.017	0.010
SAVANNAH, GA													
SO2	ARITHMETIC MEAN	NS	1	0.002	0.002	0.007	0.003	0.002	0.002	0.002	0.003	0.003	0.004
	SECOND MAX 24-HOUR	NS	1	0.010	0.010	0.046	0.013	0.008	0.009	0.008	0.011	0.015	0.013

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
SCRANTON—WILKES-BARRE—HAZLETON, PA													
CO	SECOND MAX 8-HOUR	DOWN	2	6.1	4.8	4.8	4.1	4.5	4.2	3.8	2.9	3.6	2.8
NO2	ARITHMETIC MEAN	DOWN	2	0.019	0.020	0.018	0.019	0.018	0.017	0.016	0.018	0.018	0.016
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.09	0.11	0.13	0.10	0.10	0.12	0.09	0.11	0.10	0.10
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	58	58	61	65	45	69	61	64
	WEIGHTED ANNUAL MEAN	NS	3	—	—	29	29	25	29	25	26	28	25
SO2	ARITHMETIC MEAN	DOWN	2	0.011	0.011	0.010	0.009	0.010	0.009	0.008	0.007	0.007	0.005
	SECOND MAX 24-HOUR	DOWN	2	0.057	0.048	0.051	0.047	0.049	0.038	0.033	0.026	0.035	0.036
SEATTLE-BELLEVUE-EVERETT, WA													
CO	SECOND MAX 8-HOUR	DOWN	5	9.9	9.3	9.1	8.5	7.3	7.4	7.5	5.6	5.4	5.4
LEAD	MAX QUARTERLY MEAN	NS	2	0.91	0.29	0.47	0.21	0.35	0.30	0.22	0.20	0.32	0.27
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.09	0.11	0.08	0.12	0.10	0.09	0.10	0.11	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	7	—	—	96	96	83	93	74	75	59	61
	WEIGHTED ANNUAL MEAN	DOWN	7	—	—	32	32	29	30	29	28	23	22
SO2	ARITHMETIC MEAN	NS	1	0.008	0.007	0.007	0.006	0.009	0.010	0.010	0.009	0.007	0.006
	SECOND MAX 24-HOUR	DOWN	1	0.031	0.023	0.028	0.022	0.026	0.028	0.024	0.022	0.016	0.020
SHARON, PA													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.12	0.14	0.11	0.10	0.11	0.10	0.11	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	88	88	68	73	58	56	68	72
	WEIGHTED ANNUAL MEAN	NS	1	—	—	35	35	30	36	27	28	30	28
SO2	ARITHMETIC MEAN	DOWN	1	0.010	0.009	0.011	0.011	0.010	0.008	0.008	0.008	0.008	0.008
	SECOND MAX 24-HOUR	DOWN	1	0.053	0.037	0.054	0.043	0.037	0.032	0.030	0.029	0.047	0.032
SHREVEPORT-BOSSIER CITY, LA													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.11	0.11	0.12	0.11	0.10	0.10	0.11	0.09	0.10
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	47	47	47	100	44	52	51	52
	WEIGHTED ANNUAL MEAN	NS	1	—	—	23	23	23	28	24	22	24	24
SO2	ARITHMETIC MEAN	NS	1	0.002	0.003	0.003	0.004	0.002	0.002	0.003	0.004	0.002	0.001
	SECOND MAX 24-HOUR	NS	1	0.007	0.010	0.009	0.023	0.006	0.009	0.013	0.011	0.008	0.004
SIOUX CITY, IA-NE													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	75	75	69	66	87	44	69	62
	WEIGHTED ANNUAL MEAN	NS	1	—	—	28	28	28	28	25	23	23	26
SIOUX FALLS, SD													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	54	54	46	44	43	48	43	50
	WEIGHTED ANNUAL MEAN	NS	1	—	—	22	22	20	19	19	15	22	20
SOUTH BEND, IN													
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.10	0.10	0.12	0.08	0.09	0.10	0.10	0.09	0.10	0.11
PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	71	71	89	63	64	59	61	51
	WEIGHTED ANNUAL MEAN	NS	2	—	—	30	30	31	30	23	24	27	22
SPOKANE, WA													
CO	SECOND MAX 8-HOUR	DOWN	1	15.9	19.0	13.8	12.3	11.5	11.0	9.9	9.8	8.1	8.4
PM-10	SECOND MAX 24-HOUR	DOWN	4	—	—	142	142	173	93	143	120	85	76
	WEIGHTED ANNUAL MEAN	DOWN	4	—	—	46	46	45	40	40	40	37	31
SPRINGFIELD, IL													
CO	SECOND MAX 8-HOUR	DOWN	1	5.3	4.6	4.8	4.4	4.4	4.3	4.5	3.9	3.1	3.2
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.11	0.10	0.11	0.11	0.10	0.10	0.09	0.11	0.10	0.10
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	66	66	66	49	54	42	53	43
	WEIGHTED ANNUAL MEAN	NS	1	—	—	25	25	25	25	27	19	22	21
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.008	0.007	0.007	0.007	0.008	0.006	0.006	0.006	0.006
	SECOND MAX 24-HOUR	NS	1	0.051	0.039	0.074	0.047	0.053	0.048	0.043	0.040	0.050	0.062
SPRINGFIELD, MA													
CO	SECOND MAX 8-HOUR	NS	1	9.7	8.9	7.0	7.0	7.0	6.1	7.3	6.7	7.8	8.4
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.23	0.14	0.09	0.06	0.05	0.03	0.04	0.02	0.01	0.01
NO2	ARITHMETIC MEAN	NS	1	0.009	0.008	0.009	0.008	0.009	0.009	0.008	0.007	0.008	0.007
OZONE	SECOND DAILY MAX 1-HOUR	NS	4	0.14	0.12	0.16	0.12	0.12	0.13	0.12	0.13	0.12	0.12
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	49	49	52	50	56	50	56	43
	WEIGHTED ANNUAL MEAN	NS	4	—	—	25	25	22	22	20	20	23	19
SO2	ARITHMETIC MEAN	DOWN	8	0.012	0.011	0.011	0.009	0.009	0.009	0.008	0.007	0.007	0.007
	SECOND MAX 24-HOUR	DOWN	8	0.042	0.044	0.054	0.033	0.035	0.031	0.029	0.023	0.033	0.025
SPRINGFIELD, MO													
CO	SECOND MAX 8-HOUR	DOWN	1	9.5	7.5	6.9	6.7	7.2	6.9	6.2	5.3	5.9	4.1
NO2	ARITHMETIC MEAN	NS	1	0.010	0.010	0.010	0.010	0.008	0.008	0.010	0.011	0.013	0.012
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.09	0.09	0.09	0.07	0.08	0.07	0.08	0.08	0.09	0.10
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	42	42	42	33	42	37	38	37
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	22	22	22	18	19	17	17	17
SO2	ARITHMETIC MEAN	NS	2	0.006	0.007	0.006	0.006	0.006	0.003	0.004	0.006	0.007	0.003
	SECOND MAX 24-HOUR	NS	2	0.058	0.079	0.057	0.052	0.057	0.033	0.033	0.040	0.067	0.021
ST. JOSEPH, MO													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	100	100	104	120	89	100	77	101
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	45	45	40	44	39	32	34	33
ST. LOUIS, MO-IL													
CO	SECOND MAX 8-HOUR	DOWN	7	5.5	6.2	4.6	4.8	4.0	4.1	3.3	3.3	3.5	3.3
LEAD	MAX QUARTERLY MEAN	DOWN	11	1.45	1.15	2.16	0.87	0.76	0.66	0.70	0.54	0.61	0.62

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
NO2	ARITHMETIC MEAN	DOWN	8	0.020	0.021	0.020	0.019	0.018	0.018	0.019	0.018	0.019	0.019
OZONE	SECOND DAILY MAX 1-HOUR	NS	16	0.12	0.13	0.13	0.11	0.11	0.11	0.10	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	15	—	—	84	84	78	62	67	62	67	64
	WEIGHTED ANNUAL MEAN	DOWN	15	—	—	37	37	33	32	32	28	31	30
SO2	ARITHMETIC MEAN	DOWN	15	0.013	0.013	0.012	0.012	0.011	0.010	0.009	0.009	0.009	0.008
	SECOND MAX 24-HOUR	DOWN	15	0.064	0.054	0.056	0.056	0.042	0.042	0.038	0.041	0.039	0.037
STAMFORD-NORWALK, CT													
CO	SECOND MAX 8-HOUR	DOWN	1	7.7	6.3	6.9	6.0	6.3	6.0	5.5	5.2	6.2	5.4
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.14	0.17	0.22	0.16	0.14	0.15	0.11	0.15	0.16	0.14
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	59	59	62	59	48	48	64	48
	WEIGHTED ANNUAL MEAN	NS	4	—	—	28	28	29	31	23	22	27	23
SO2	ARITHMETIC MEAN	NS	1	0.005	0.005	0.006	0.006	0.005	0.006	0.005	0.005	0.006	0.004
	SECOND MAX 24-HOUR	NS	1	0.028	0.021	0.031	0.029	0.024	0.025	0.022	0.020	0.028	0.023
STEUBENVILLE-WEIRTON, OH-WV													
CO	SECOND MAX 8-HOUR	DOWN	1	9.1	30.3	19.6	13.3	20.5	13.9	6.9	6.6	8.2	5.7
LEAD	MAX QUARTERLY MEAN	DOWN	1	0.19	0.17	0.05	0.09	0.08	0.07	0.14	0.07	0.07	0.05
NO2	ARITHMETIC MEAN	NS	1	0.020	0.020	0.021	0.023	0.020	0.021	0.019	0.017	0.020	0.020
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.15	0.11	0.12	0.10	0.09	0.11	0.09	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	6	—	—	121	121	95	102	84	93	109	90
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	42	42	37	40	36	34	35	34
SO2	ARITHMETIC MEAN	DOWN	5	0.026	0.024	0.026	0.026	0.025	0.024	0.019	0.019	0.018	0.012
	SECOND MAX 24-HOUR	DOWN	5	0.100	0.097	0.088	0.092	0.086	0.078	0.076	0.085	0.093	0.049
STOCKTON-LODI, CA													
CO	SECOND MAX 8-HOUR	NS	1	6.5	6.3	8.4	7.5	10.9	8.4	5.1	5.1	6.4	4.4
NO2	ARITHMETIC MEAN	NS	1	0.023	0.025	0.026	0.026	0.026	0.025	0.024	0.024	0.024	0.022
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.12	0.12	0.12	0.11	0.12	0.11	0.11	0.11	0.12	0.13
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	128	128	138	134	88	103	93	93
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	51	51	51	52	45	39	37	31
SYRACUSE, NY													
CO	SECOND MAX 8-HOUR	DOWN	1	11.3	9.4	7.8	9.7	6.8	8.4	7.5	5.6	6.5	3.3
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	66	66	62	74	62	67	59	51
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	32	32	27	29	27	24	24	22
TACOMA, WA													
CO	SECOND MAX 8-HOUR	DOWN	1	10.5	10.5	11.6	10.3	8.0	8.7	8.9	5.9	6.0	6.3
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.10	0.11	0.09	0.13	0.09	0.10	0.10	0.11	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	4	—	—	106	106	91	94	89	78	66	67
	WEIGHTED ANNUAL MEAN	DOWN	4	—	—	36	36	32	32	33	30	25	25
SO2	ARITHMETIC MEAN	NS	2	0.007	0.007	0.007	0.007	0.008	0.008	0.009	0.009	0.007	0.006
	SECOND MAX 24-HOUR	DOWN	2	0.028	0.028	0.028	0.027	0.026	0.022	0.030	0.024	0.021	0.019
TAMPA-ST. PETERSBURG-CLEARWATER, FL													
CO	SECOND MAX 8-HOUR	DOWN	6	3.6	3.7	4.4	3.7	3.8	2.9	2.9	2.6	2.2	2.8
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	5	0.12	0.12	0.11	0.10	0.11	0.10	0.09	0.09	0.09	0.09
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	50	50	46	48	55	55	59	52
	WEIGHTED ANNUAL MEAN	DOWN	3	—	—	29	29	28	29	26	27	26	25
SO2	ARITHMETIC MEAN	DOWN	6	0.006	0.006	0.006	0.007	0.006	0.004	0.004	0.004	0.004	0.004
	SECOND MAX 24-HOUR	DOWN	6	0.027	0.028	0.028	0.027	0.026	0.022	0.022	0.024	0.024	0.021
TERRE HAUTE, IN													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.11	0.08	0.11	0.11	0.10	0.08	0.09	0.11	0.10
PM-10	SECOND MAX 24-HOUR	DOWN	5	—	—	87	87	88	75	61	63	54	62
	WEIGHTED ANNUAL MEAN	DOWN	5	—	—	33	33	33	30	26	25	25	27
SO2	ARITHMETIC MEAN	NS	2	0.010	0.009	0.008	0.009	0.011	0.011	0.007	0.009	0.010	0.007
	SECOND MAX 24-HOUR	NS	2	0.050	0.038	0.035	0.043	0.038	0.037	0.033	0.038	0.039	0.029
TEXARKANA, TX-TEXARKANA, AR													
PM-10	SECOND MAX 24-HOUR	UP	1	—	—	40	40	48	45	50	44	52	55
	WEIGHTED ANNUAL MEAN	NS	1	—	—	26	26	24	22	23	22	23	26
TOLEDO, OH													
LEAD	MAX QUARTERLY MEAN	NS	1	1.29	0.65	0.54	0.48	0.79	0.48	0.57	0.63	0.70	0.43
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.11	0.11	0.13	0.10	0.10	0.11	0.09	0.11	0.11	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	64	64	59	60	53	63	58	50
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	36	36	26	29	28	25	26	25
SO2	ARITHMETIC MEAN	DOWN	2	0.008	0.009	0.009	0.007	0.006	0.006	0.006	0.007	0.007	0.004
	SECOND MAX 24-HOUR	NS	2	0.040	0.043	0.041	0.040	0.033	0.021	0.029	0.028	0.047	0.024
TOPEKA, KS													
LEAD	MAX QUARTERLY MEAN	DOWN	5	0.06	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	66	66	66	56	58	48	49	65
	WEIGHTED ANNUAL MEAN	NS	1	—	—	40	40	33	26	28	27	29	34
TRENTON, NJ													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.13	0.16	0.20	0.14	0.14	0.15	0.15	0.14	0.14	0.13
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	66	66	68	58	49	66	64	45
	WEIGHTED ANNUAL MEAN	NS	1	—	—	30	30	29	31	26	27	29	24
TULSA, OK													
CO	SECOND MAX 8-HOUR	DOWN	2	4.9	6.3	4.2	5.6	4.7	4.6	5.1	3.9	3.9	3.4

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
LEAD	MAX QUARTERLY MEAN	NS	1	0.13	0.13	0.13	0.20	0.11	0.21	0.10	0.20	0.10	0.09
NO2	ARITHMETIC MEAN	NS	2	0.015	0.012	0.013	0.014	0.011	0.013	0.013	0.013	0.013	0.010
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.12	0.11	0.12	0.11	0.12	0.11	0.10	0.11	0.11	0.12
PM-10	SECOND MAX 24-HOUR	NS	5	—	—	77	77	61	59	53	61	50	53
	WEIGHTED ANNUAL MEAN	NS	5	—	—	28	28	24	25	24	26	26	26
SO2	ARITHMETIC MEAN	NS	2	0.016	0.008	0.009	0.006	0.009	0.009	0.009	0.006	0.005	0.007
	SECOND MAX 24-HOUR	DOWN	2	0.055	0.058	0.045	0.035	0.045	0.052	0.048	0.035	0.031	0.032
TUSCALOOSA, AL													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	59	59	70	62	45	66	48	63
	WEIGHTED ANNUAL MEAN	NS	1	—	—	29	29	32	28	26	26	26	27
TUSCON, AZ													
CO	SECOND MAX 8-HOUR	DOWN	3	6.4	5.2	6.8	5.7	4.6	4.4	4.6	4.5	4.4	4.3
OZONE	SECOND DAILY MAX 1-HOUR	UP	5	0.09	0.08	0.09	0.09	0.09	0.08	0.09	0.09	0.09	0.09
PM-10	SECOND MAX 24-HOUR	DOWN	10	—	—	90	90	87	55	53	44	40	53
	WEIGHTED ANNUAL MEAN	DOWN	10	—	—	39	39	33	25	23	22	21	25
TYLER, TX													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	48	48	48	37	41	53	40	51
	WEIGHTED ANNUAL MEAN	NS	1	—	—	21	21	21	19	19	17	18	20
UTICA-ROME, NY													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.09	0.11	0.12	0.09	0.10	0.10	0.09	0.09	0.09	0.10
VALLEJO-FAIRFIELD-NAPA, CA													
CO	SECOND MAX 8-HOUR	DOWN	2	7.9	6.6	7.3	7.4	6.9	6.6	5.6	5.6	5.2	4.2
LEAD	MAX QUARTERLY MEAN	DOWN	2	0.22	0.11	0.09	0.09	0.06	0.04	0.02	0.02	0.02	0.02
NO2	ARITHMETIC MEAN	DOWN	2	0.018	0.018	0.018	0.018	0.018	0.018	0.016	0.014	0.014	0.014
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.08	0.10	0.10	0.10	0.09	0.10	0.09	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	94	94	94	98	69	46	57	51
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	27	27	27	41	24	23	21	19
SO2	ARITHMETIC MEAN	UP	2	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	SECOND MAX 24-HOUR	NS	2	0.007	0.009	0.006	0.009	0.009	0.008	0.010	0.008	0.008	0.008
VENTURA, CA													
CO	SECOND MAX 8-HOUR	DOWN	2	4.3	3.9	3.3	3.0	3.3	3.1	2.3	2.5	2.8	3.2
NO2	ARITHMETIC MEAN	DOWN	4	0.017	0.015	0.016	0.017	0.016	0.015	0.014	0.014	0.014	0.014
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	6	0.15	0.15	0.14	0.15	0.13	0.14	0.13	0.12	0.13	0.13
PM-10	SECOND MAX 24-HOUR	DOWN	6	—	—	74	74	83	69	63	55	51	60
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	38	38	34	35	30	27	29	27
SO2	ARITHMETIC MEAN	NS	1	0.003	0.001	0.003	0.001	0.001	0.001	0.001	0.002	0.002	0.002
	SECOND MAX 24-HOUR	NS	1	0.011	0.010	0.015	0.007	0.005	0.005	0.008	0.007	0.007	0.007
VINELAND-MILLVILLE-BRIDGETON, NJ													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.14	0.15	0.13	0.13	0.12	0.10	0.12	0.10	0.13
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.007	0.008	0.008	0.006	0.007	0.006	0.006	0.005	0.004
	SECOND MAX 24-HOUR	DOWN	1	0.039	0.038	0.034	0.049	0.024	0.023	0.021	0.019	0.032	0.016
VISALIA-TULARE-PORTERVILLE, CA													
CO	SECOND MAX 8-HOUR	DOWN	1	6.2	5.5	5.6	5.9	5.0	5.3	4.3	3.5	4.0	4.2
NO2	ARITHMETIC MEAN	NS	1	0.025	0.019	0.023	0.021	0.021	0.022	0.020	0.023	0.023	0.023
OZONE	SECOND DAILY MAX 1-HOUR	NS	3	0.13	0.13	0.12	0.13	0.12	0.12	0.12	0.13	0.13	0.13
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	171	171	207	135	114	107	93	120
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	67	67	79	66	56	53	48	53
WASHINGTON, DC-MD-VA-WV													
CO	SECOND MAX 8-HOUR	DOWN	9	6.8	7.6	6.8	6.5	5.5	5.5	4.5	5.2	4.6	4.4
LEAD	MAX QUARTERLY MEAN	DOWN	3	0.14	0.06	0.03	0.05	0.05	0.03	0.01	0.01	0.02	0.01
NO2	ARITHMETIC MEAN	NS	7	0.028	0.027	0.025	0.025	0.027	0.026	0.026	0.026	0.026	0.023
OZONE	SECOND DAILY MAX 1-HOUR	NS	13	0.11	0.13	0.15	0.11	0.11	0.12	0.11	0.12	0.12	0.12
PM-10	SECOND MAX 24-HOUR	DOWN	11	—	—	68	68	59	55	43	54	49	49
	WEIGHTED ANNUAL MEAN	DOWN	11	—	—	31	31	28	27	23	23	23	23
SO2	ARITHMETIC MEAN	DOWN	5	0.009	0.009	0.009	0.010	0.009	0.009	0.009	0.009	0.009	0.007
	SECOND MAX 24-HOUR	NS	5	0.032	0.030	0.030	0.036	0.030	0.029	0.032	0.027	0.032	0.020
WATERBURY, CT													
PM-10	SECOND MAX 24-HOUR	NS	3	—	—	64	64	75	63	52	52	55	56
	WEIGHTED ANNUAL MEAN	NS	3	—	—	31	31	31	29	23	23	25	23
SO2	ARITHMETIC MEAN	DOWN	1	0.008	0.009	0.010	0.010	0.010	0.009	0.007	0.006	0.006	0.005
	SECOND MAX 24-HOUR	DOWN	1	0.039	0.038	0.055	0.048	0.042	0.038	0.029	0.021	0.030	0.019
WEST PALM BEACH-BOCA RATON, FL													
CO	SECOND MAX 8-HOUR	DOWN	1	3.8	3.8	4.0	3.7	2.7	3.1	3.7	3.1	2.8	2.8
NO2	ARITHMETIC MEAN	NS	1	0.012	0.012	0.013	0.013	0.014	0.012	0.011	0.013	0.012	0.012
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.09	0.09	0.10	0.11	0.09	0.07	0.07	0.11	0.08	0.08
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	33	33	33	33	47	43	56	36
	WEIGHTED ANNUAL MEAN	NS	2	—	—	19	19	19	18	20	19	18	18
SO2	ARITHMETIC MEAN	NS	1	0.001	0.001	0.001	0.003	0.002	0.002	0.003	0.004	0.002	0.002
	SECOND MAX 24-HOUR	UP	1	0.004	0.004	0.004	0.008	0.008	0.011	0.010	0.028	0.016	0.019
WHEELING, WV-OH													
CO	SECOND MAX 8-HOUR	NS	1	7.3	6.0	4.0	5.2	7.1	5.6	5.6	4.1	4.6	5.0
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.12	0.12	0.11	0.11	0.11	0.10	0.11	0.10	0.10

Note: NS = Not Significant (no significant upward or downward trend).

Table A-17. *Metropolitan Statistical Area Air Quality Trends, 1986–1995 (continued)*

Metropolitan Statistical Area		Trend	#Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PM-10	SECOND MAX 24-HOUR	DOWN	2	—	—	81	81	77	67	66	73	63	65
	WEIGHTED ANNUAL MEAN	DOWN	2	—	—	34	34	30	31	30	29	28	28
SO2	ARITHMETIC MEAN	DOWN	3	0.020	0.019	0.021	0.021	0.020	0.020	0.018	0.018	0.015	0.010
	SECOND MAX 24-HOUR	NS	3	0.067	0.069	0.072	0.065	0.064	0.073	0.077	0.076	0.065	0.055
WICHITA FALLS, TX													
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	56	56	56	55	52	62	73	57
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	27	27	27	27	23	26	27	20
WICHITA, KS													
CO	SECOND MAX 8-HOUR	DOWN	3	8.0	7.5	7.0	7.9	5.9	5.9	5.6	5.0	4.9	5.2
LEAD	MAX QUARTERLY MEAN	DOWN	5	0.09	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.09	0.08	0.10	0.07	0.10	0.09	0.08	0.08	0.09	0.10
PM-10	SECOND MAX 24-HOUR	NS	4	—	—	61	61	63	68	65	83	64	69
	WEIGHTED ANNUAL MEAN	NS	4	—	—	30	30	28	31	32	31	26	27
WILLIAMSPORT, PA													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.09	0.09	0.12	0.08	0.09	0.10	0.09	0.09	0.08	0.09
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	62	62	60	67	42	58	61	59
	WEIGHTED ANNUAL MEAN	NS	1	—	—	29	29	26	31	24	24	28	28
SO2	ARITHMETIC MEAN	DOWN	1	0.007	0.006	0.009	0.007	0.006	0.007	0.007	0.006	0.006	0.006
	SECOND MAX 24-HOUR	NS	1	0.044	0.026	0.035	0.042	0.025	0.026	0.029	0.025	0.042	0.027
WILMINGTON-NEWARK, DE-MD													
CO	SECOND MAX 8-HOUR	NS	1	5.9	4.9	5.3	4.5	5.4	4.0	4.1	3.8	4.3	4.6
OZONE	SECOND DAILY MAX 1-HOUR	NS	2	0.13	0.15	0.19	0.13	0.13	0.13	0.12	0.13	0.12	0.13
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	84	84	91	65	52	67	82	73
	WEIGHTED ANNUAL MEAN	NS	1	—	—	42	42	37	33	28	29	38	37
SO2	ARITHMETIC MEAN	DOWN	3	0.015	0.014	0.015	0.015	0.013	0.012	0.012	0.012	0.012	0.010
	SECOND MAX 24-HOUR	DOWN	3	0.045	0.044	0.053	0.048	0.043	0.034	0.041	0.036	0.038	0.033
WORCESTER, MA-CT													
CO	SECOND MAX 8-HOUR	NS	1	8.6	7.1	5.6	7.9	6.0	7.2	8.0	6.1	5.9	4.2
NO2	ARITHMETIC MEAN	DOWN	1	0.034	0.034	0.029	0.026	0.022	0.023	0.024	0.028	0.025	0.021
PM-10	SECOND MAX 24-HOUR	DOWN	1	—	—	53	53	49	47	37	41	44	39
	WEIGHTED ANNUAL MEAN	NS	1	—	—	25	25	23	21	18	19	20	19
SO2	ARITHMETIC MEAN	DOWN	1	0.009	0.009	0.009	0.010	0.008	0.009	0.007	0.007	0.008	0.006
	SECOND MAX 24-HOUR	DOWN	1	0.039	0.039	0.042	0.040	0.034	0.029	0.033	0.026	0.024	0.023
YAKIMA, WA													
CO	SECOND MAX 8-HOUR	DOWN	1	11.3	10.9	8.9	8.7	7.4	9.0	8.8	7.9	8.0	7.1
PM-10	SECOND MAX 24-HOUR	NS	2	—	—	89	89	89	170	94	90	85	61
	WEIGHTED ANNUAL MEAN	NS	2	—	—	33	33	33	40	32	35	29	24
YORK, PA													
CO	SECOND MAX 8-HOUR	DOWN	1	5.2	4.8	4.2	4.6	4.4	3.7	3.6	3.3	3.9	2.7
NO2	ARITHMETIC MEAN	DOWN	1	0.024	0.025	0.023	0.022	0.022	0.021	0.020	0.022	0.024	0.021
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.10	0.12	0.14	0.10	0.12	0.11	0.10	0.11	0.12	0.10
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	57	57	63	69	47	77	80	66
	WEIGHTED ANNUAL MEAN	NS	1	—	—	31	31	30	32	27	31	32	30
SO2	ARITHMETIC MEAN	NS	1	0.009	0.008	0.007	0.007	0.007	0.007	0.007	0.008	0.009	0.006
	SECOND MAX 24-HOUR	NS	1	0.035	0.032	0.029	0.035	0.023	0.020	0.034	0.032	0.041	0.019
YOUNGSTOWN-WARREN, OH													
OZONE	SECOND DAILY MAX 1-HOUR	DOWN	1	0.11	0.11	0.12	0.11	0.10	0.12	0.10	0.10	0.10	0.11
PM-10	SECOND MAX 24-HOUR	NS	6	—	—	86	86	78	82	77	74	78	82
	WEIGHTED ANNUAL MEAN	DOWN	6	—	—	36	36	31	34	31	30	31	30
SO2	ARITHMETIC MEAN	NS	2	0.014	0.012	0.014	0.016	0.016	0.016	0.013	0.011	0.011	0.010
	SECOND MAX 24-HOUR	NS	2	0.062	0.057	0.077	0.043	0.053	0.048	0.056	0.063	0.051	0.038
YUBA CITY, CA													
OZONE	SECOND DAILY MAX 1-HOUR	NS	1	0.12	0.11	0.13	0.09	0.11	0.10	0.11	0.13	0.09	0.11
PM-10	SECOND MAX 24-HOUR	NS	1	—	—	88	88	88	95	75	69	81	110
	WEIGHTED ANNUAL MEAN	DOWN	1	—	—	39	39	39	39	34	33	34	33

Note: NS = Not Significant (no significant upward or downward trend).

Table A-18. *Number of Days with PSI Values Greater Than 100 at Trend Sites, 1986–1995, and All Sites in 1995*

Metropolitan Statistical Area	# of Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Total # of Sites	PSI > 100 1995
AKRON, OH	8	1	5	17	4	2	2	1	0	0	1	7	1
ALBANY-SCHENECTADY-TROY, NY	6	0	0	3	0	0	0	0	0	1	0	14	0
ALBUQUERQUE, NM	20	28	26	8	10	7	5	0	1	1	2	26	2
ALLENTOWN-BETHLEHEM-EASTON, PA	9	3	5	16	0	0	3	0	0	1	0	11	0
ATLANTA, GA	8	18	27	21	3	17	6	5	17	4	19	15	23
AUSTIN-SAN MARCOS, TX	4	0	0	2	1	0	1	0	0	1	0	5	0
BAKERSFIELD, CA	9	54	70	91	56	48	49	16	49	45	45	21	50
BALTIMORE, MD	15	23	28	43	9	12	20	5	14	17	14	29	17
BATON ROUGE, LA	6	6	10	10	9	18	6	2	3	2	7	14	12
BERGEN-PASSAIC, NJ	8	5	14	19	4	4	3	0	0	0	4	9	4
BIRMINGHAM, AL	17	7	11	16	3	5	0	2	5	0	12	17	15
BOSTON, MA-NH	24	2	5	15	4	1	3	1	3	1	1	29	2
BUFFALO-NIAGARA FALLS, NY	21	1	4	18	1	2	0	0	0	0	0	22	0
CHARLESTON-NORTH CHARLESTON, SC	9	2	0	0	0	0	1	1	0	0	0	9	0
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	8	12	10	21	3	5	2	0	4	0	1	29	3
CHICAGO, IL	42	8	17	23	4	3	8	7	1	8	4	60	5
CINCINNATI, OH-KY-IN	21	7	11	24	3	6	7	0	1	4	7	24	7
CLEVELAND-LORAIN-ELYRIA, OH	24	2	6	21	4	2	3	2	2	4	4	39	5
COLUMBUS, OH	9	1	1	4	0	1	3	1	0	0	1	12	2
DALLAS, TX	9	9	13	14	7	8	1	3	5	1	13	23	17
DAYTON-SPRINGFIELD, OH	11	2	3	17	3	1	1	0	3	2	2	12	2
DENVER, CO	21	49	37	19	11	9	7	7	3	2	2	35	3
DETROIT, MI	26	5	9	17	10	3	8	1	2	8	11	35	11
EL PASO, TX	17	43	32	16	33	27	13	17	10	10	4	19	6
FORT LAUDERDALE, FL	6	0	0	3	2	0	0	0	0	0	1	19	1
FORT WORTH-ARLINGTON, TX	8	10	4	11	8	5	9	2	1	8	6	8	6
FRESNO, CA	8	38	49	29	47	29	33	27	28	11	19	17	29
GARY, IN	17	8	8	13	1	3	3	2	0	1	4	26	9
GRAND RAPIDS-MUSKEGON-HOLLAND, MI	6	2	5	10	3	2	2	0	1	1	1	9	5
GREENSBORO–WINSTON-SALEM–HIGH POINT, NC	10	3	1	14	0	2	0	0	2	1	0	22	1
GREENVILLE-SPARTANBURG-ANDERSON, SC	2	0	0	8	0	0	0	1	1	0	0	8	2
HARRISBURG-LEBANON-CARLISLE, PA	8	0	5	13	0	2	0	0	1	2	0	8	0
HARTFORD, CT	14	7	20	27	11	7	14	9	9	10	9	17	9
HONOLULU, HI	4	0	0	0	0	0	0	0	0	0	0	13	0
HOUSTON, TX	29	55	67	61	41	59	42	30	26	29	54	34	57
INDIANAPOLIS, IN	27	0	3	9	2	1	1	1	0	2	2	35	2
JACKSONVILLE, FL	14	0	2	2	0	1	0	0	1	0	2	19	2
JERSEY CITY, NJ	8	8	12	18	2	7	8	1	5	1	2	10	4
KANSAS CITY, MO-KS	23	4	6	4	2	2	1	1	2	0	6	28	6
KNOXVILLE, TN	11	0	0	8	0	5	0	0	2	0	3	18	5
LAS VEGAS, NV-AZ	9	40	7	31	46	22	15	5	8	12	7	18	11
LITTLE ROCK-NORTH LITTLE ROCK, AR	7	1	1	0	0	1	0	0	0	0	1	8	1
LOS ANGELES-LONG BEACH, CA	38	226	201	239	226	180	184	185	146	136	103	41	106
LOUISVILLE, KY-IN	17	9	2	20	3	4	4	0	6	4	4	27	6
MEMPHIS, TN-AR-MS	10	13	10	8	4	6	1	1	4	0	7	15	8
MIAMI, FL	8	4	4	5	4	1	2	0	0	0	0	12	0
MIDDLESEX-SOMERSET-HUNTERDON, NJ	6	7	10	24	8	12	8	3	1	5	1	8	5
MILWAUKEE-WAUKESHA, WI	17	10	13	19	8	2	10	0	0	4	5	21	6
MINNEAPOLIS-ST. PAUL, MN-WI	15	14	14	3	7	3	2	1	0	5	3	28	3

Table A-18. *Number of Days with PSI Values Greater Than 100 at Trend Sites, 1986–1995, and All Sites in 1995 (continued)*

Metropolitan Statistical Area	# of Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Total # of Sites	PSI > 100 1995
MONMOUTH-OCEAN, NJ	2	0	0	0	0	0	0	0	0	0	0	4	7
NASHVILLE, TN	18	9	4	23	4	9	1	1	3	3	2	26	4
NASSAU-SUFFOLK, NY	4	9	15	10	6	7	13	2	4	3	5	8	6
NEW HAVEN-MERIDEN, CT	12	7	20	16	7	10	22	3	11	8	8	12	8
NEW ORLEANS, LA	8	3	5	2	1	0	0	1	2	2	0	14	4
NEW YORK, NY	25	58	44	46	18	18	22	4	6	8	8	37	10
NEWARK, NJ	13	20	24	33	5	8	11	5	2	6	6	16	6
NORFOLK-VA BEACH-NEWPORT NEWS,VA-NC	9	1	5	8	0	0	1	2	4	2	0	15	1
OAKLAND, CA	22	8	14	10	3	5	6	2	3	3	12	29	12
OKLAHOMA CITY, OK	13	4	6	0	2	2	0	0	0	2	4	14	4
OMAHA, NE-IA	9	1	0	1	1	0	0	0	1	1	1	13	1
ORANGE COUNTY, CA	11	66	58	65	66	48	42	43	25	14	6	12	6
ORLANDO, FL	8	1	0	0	0	2	0	0	0	0	0	16	0
PHILADELPHIA, PA-NJ	38	22	35	35	19	14	25	3	21	6	14	51	22
PHOENIX-MESA, AZ	24	88	42	27	30	9	4	10	7	9	13	29	18
PITTSBURGH, PA	36	5	10	20	9	11	4	2	5	2	7	51	13
PONCE, PR	1	.	.	0	0	0	0	0	0	0	0	1	0
PORTLAND-VANCOUVER, OR-WA	12	6	11	8	6	8	9	2	0	2	0	18	0
PROVIDENCE-FALL RIVER-WARWICK, RI-MA	13	7	10	9	2	7	11	2	1	2	5	20	5
RALEIGH-DURHAM-CHAPEL HILL, NC	3	0	2	12	0	0	0	0	0	0	0	22	0
RICHMOND-PETERSBURG, VA	10	1	8	20	1	3	4	3	9	1	4	11	4
RIVERSIDE-SAN BERNARDINO, CA	36	170	171	181	178	144	144	155	142	122	110	54	114
ROCHESTER, NY	9	1	1	5	0	1	0	0	0	0	0	9	0
SACRAMENTO, CA	17	69	52	73	60	43	44	21	10	11	16	36	18
ST. LOUIS, MO-IL	53	13	17	20	13	8	6	3	6	12	14	62	15
SALT LAKE CITY-OGDEN, UT	18	26	7	11	15	2	19	10	3	10	1	24	2
SAN ANTONIO, TX	7	2	2	2	0	1	0	0	0	1	3	7	3
SAN DIEGO, CA	17	70	61	84	90	60	39	37	17	16	14	27	15
SAN FRANCISCO, CA	11	4	1	2	1	1	0	0	0	0	1	11	1
SAN JOSE, CA	9	17	18	16	21	11	11	2	2	0	5	15	6
SAN JUAN-BAYAMON, PR	10	0	2	0	0	0	0	0	0	0	0	20	0
SCRANTON–WILKES-BARRE–HAZLETON, PA	11	0	1	12	1	0	2	0	0	0	0	11	0
SEATTLE-BELLEVUE-EVERETT, WA	14	13	14	20	8	5	2	1	0	0	0	21	2
SPRINGFIELD, MA	16	5	3	19	5	4	5	4	7	3	4	13	4
SYRACUSE, NY	4	9	3	1	2	1	2	0	0	0	0	9	0
TACOMA, WA	8	4	9	9	4	3	1	1	0	1	0	8	0
TAMPA-ST. PETERSBURG-CLEARWATER, FL	20	5	5	1	1	3	0	1	0	0	1	34	1
TOLEDO, OH	5	2	2	6	1	0	1	0	3	1	0	8	0
TUSCON, AZ	18	2	4	6	2	0	0	0	0	0	0	30	0
TULSA, OK	12	4	2	2	2	3	2	1	1	2	4	13	4
VENTURA, CA	14	84	54	83	59	36	49	25	16	24	30	16	31
WASHINGTON, DC-MD-VA-WV	37	12	26	37	8	5	17	2	13	7	8	53	10
WEST PALM BEACH-BOCA RATON, FL	5	0	0	0	0	0	0	0	0	0	0	10	0
WILMINGTON-NEWARK, DE-MD	7	9	16	31	7	5	6	2	3	1	6	13	9
YOUNGSTOWN-WARREN, OH	9	0	0	5	1	0	1	1	0	0	1	15	1

Table A-19. *(Ozone Only) Number of Days with PSI Values Greater Than 100 at Trend Sites, 1986–1995, and All Sites in 1995*

Metropolitan Statistical Area	# of Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Total # of Sites	PSI > 100 1995
AKRON, OH	2	1	5	17	4	2	2	1	0	0	1	2	1
ALBANY-SCHENECTADY-TROY, NY	2	0	0	3	0	0	0	0	0	1	0	3	0
ALBUQUERQUE, NM	6	0	1	0	0	0	0	0	0	1	0	9	0
ALLENTOWN-BETHLEHEM-EASTON, PA	3	3	5	15	0	0	3	0	0	0	0	3	0
ATLANTA, GA	3	18	27	21	3	17	6	5	17	4	19	6	23
AUSTIN-SAN MARCOS, TX	2	0	0	2	1	0	1	0	0	1	0	2	0
BAKERSFIELD, CA	4	51	69	84	51	41	42	15	49	43	44	9	48
BALTIMORE, MD	6	18	26	40	8	11	20	5	14	16	14	9	17
BATON ROUGE, LA	3	6	10	10	9	18	6	2	3	2	7	8	12
BERGEN-PASSAIC, NJ	1	2	13	18	2	3	3	0	0	0	4	1	4
BIRMINGHAM, AL	5	5	7	15	1	5	0	2	5	0	12	6	15
BOSTON, MA-NH	3	2	4	15	4	1	3	1	3	1	1	6	2
BUFFALO-NIAGARA FALLS, NY	2	0	4	18	1	1	0	0	0	0	0	2	0
CHARLESTON-NORTH CHARLESTON, SC	3	2	0	0	0	0	0	1	0	0	0	3	0
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	3	10	10	21	2	3	2	0	4	0	1	7	3
CHICAGO, IL	15	6	16	22	3	0	7	3	0	2	4	22	5
CINCINNATI, OH-KY-IN	7	7	11	24	3	6	7	0	1	4	7	8	7
CLEVELAND-LORAIN-ELYRIA, OH	6	2	6	21	1	2	3	1	1	2	1	8	2
COLUMBUS, OH	2	1	1	4	0	1	3	0	0	0	1	4	2
DALLAS, TX	3	9	13	14	7	8	1	3	5	1	13	6	17
DAYTON-SPRINGFIELD, OH	3	2	2	17	3	1	1	0	3	2	2	4	2
DENVER, CO	5	3	5	4	0	2	0	0	0	0	0	9	1
DETROIT, MI	7	3	6	16	10	3	8	0	2	6	9	8	9
EL PASO, TX	3	19	17	6	13	9	7	7	4	6	3	4	4
FORT LAUDERDALE, FL	2	0	0	3	2	0	0	0	0	0	1	3	1
FORT WORTH-ARLINGTON, TX	2	10	4	11	8	5	9	2	1	8	6	2	6
FRESNO, CA	3	37	49	28	45	22	32	27	27	11	19	7	28
GARY, IN	4	5	6	13	0	3	3	2	0	1	4	5	4
GRAND RAPIDS-MUSKEGON-HOLLAND, MI	2	2	5	10	3	2	2	0	1	1	1	5	5
GREENSBORO—WINSTON-SALEM—HIGH POINT, NC	4	3	1	14	0	2	0	0	2	1	0	5	1
GREENVILLE-SPARTANBURG-ANDERSON, SC	2	0	0	8	0	0	0	1	1	0	0	4	2
HARRISBURG-LEBANON-CARLISLE, PA	3	0	5	13	0	2	0	0	1	2	0	3	0
HARTFORD, CT	3	2	10	24	9	7	12	8	9	10	7	3	7
HONOLULU, HI	1	0	0	0	0	0	0	0	0	0	0	1	0
HOUSTON, TX	10	53	66	61	41	59	42	30	26	29	54	12	57
INDIANAPOLIS, IN	5	0	3	9	2	1	0	0	0	2	2	7	2
JACKSONVILLE, FL	2	0	2	2	0	0	0	0	1	0	2	3	2
JERSEY CITY, NJ	1	4	12	18	2	7	8	1	5	1	2	1	2
KANSAS CITY, MO-KS	5	3	5	4	1	2	1	1	1	0	6	6	6
KNOXVILLE, TN	2	0	0	8	0	5	0	0	2	0	3	8	5
LAS VEGAS, NV-AZ	3	0	0	3	1	1	0	0	0	0	0	4	0
LITTLE ROCK-NORTH LITTLE ROCK, AR	2	1	1	0	0	1	0	0	0	0	1	2	1
LOS ANGELES-LONG BEACH, CA	14	174	160	178	154	132	134	143	116	107	84	15	87
LOUISVILLE, KY-IN	4	9	2	20	1	4	4	0	6	4	4	7	6
MEMPHIS, TN-AR-MS	3	6	5	8	2	4	0	0	1	0	7	4	8
MIAMI, FL	3	4	4	5	3	1	2	0	0	0	0	4	0
MIDDLESEX-SOMERSET-HUNTERDON, NJ	2	7	10	24	8	12	8	3	1	5	1	3	5
MILWAUKEE-WAUKESHA, WI	6	10	13	19	8	2	10	0	0	4	5	9	6
MINNEAPOLIS-ST. PAUL, MN-WI	3	1	1	1	0	0	0	0	0	0	0	5	0

Table A-19. *(Ozone Only) Number of Days with PSI Values Greater Than 100 at Trend Sites, 1986–1995, and All Sites in 1995 (continued)*

Metropolitan Statistical Area	# of Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Total # of Sites	PSI > 100 1995
MONMOUTH-OCEAN, NJ	.	0	0	0	0	0	0	0	0	0	0	2	7
NASHVILLE, TN	6	3	3	23	2	8	1	1	2	3	2	9	4
NASSAU-SUFFOLK, NY	1	8	11	8	6	7	13	2	4	3	5	2	6
NEW HAVEN-MERIDEN, CT	2	7	17	16	7	8	20	3	7	6	8	2	8
NEW ORLEANS, LA	4	2	5	2	1	0	0	1	2	2	0	6	4
NEW YORK, NY	4	8	16	32	12	13	19	3	6	8	7	8	9
NEWARK, NJ	3	12	23	30	4	7	8	5	2	4	6	3	6
NORFOLK-VA BEACH-NEWPORT NEWS,VA-NC	2	1	3	7	0	0	1	2	4	2	0	3	1
OAKLAND, CA	7	8	14	10	3	5	5	2	3	3	12	9	12
OKLAHOMA CITY, OK	4	0	1	0	0	2	0	0	0	0	3	4	3
OMAHA, NE-IA	3	0	0	0	0	0	0	0	0	0	0	3	0
ORANGE COUNTY, CA	4	63	54	55	48	44	42	41	25	14	5	4	5
ORLANDO, FL	2	1	0	0	0	2	0	0	0	0	0	4	0
PHILADELPHIA, PA-NJ	8	20	34	35	17	14	25	3	21	5	14	10	14
PHOENIX-MESA, AZ	9	0	2	4	0	3	0	5	5	4	7	10	7
PITTSBURGH, PA	6	1	5	16	2	0	2	0	3	2	6	11	10
PONCE, PR	.	.	.	0	0	0	0	0	0	0	0	.	0
PORTLAND-VANCOUVER, OR-WA	3	4	2	2	0	4	1	2	0	0	0	4	0
PROVIDENCE-FALL RIVER-WARWICK, RI-MA	2	6	10	8	2	7	11	2	1	2	5	3	5
RALEIGH-DURHAM-CHAPEL HILL, NC	1	0	2	12	0	0	0	0	0	0	0	7	0
RICHMOND-PETERSBURG, VA	4	1	7	20	1	3	4	3	9	1	4	4	4
RIVERSIDE-SAN BERNARDINO, CA	14	165	168	179	169	137	141	153	141	121	104	20	107
ROCHESTER, NY	2	1	1	5	0	1	0	0	0	0	0	2	0
SACRAMENTO, CA	5	31	30	49	20	17	29	20	8	11	16	12	18
ST. LOUIS, MO-IL	16	11	14	20	7	8	6	3	6	11	14	18	15
SALT LAKE CITY-OGDEN, UT	4	9	2	8	7	2	1	0	0	1	1	6	2
SAN ANTONIO, TX	2	1	2	2	0	1	0	0	0	1	3	2	3
SAN DIEGO, CA	7	67	60	80	81	60	39	37	17	16	14	9	15
SAN FRANCISCO, CA	3	0	1	0	0	0	0	0	0	0	1	3	1
SAN JOSE, CA	4	9	18	11	6	2	3	2	2	0	5	7	6
SAN JUAN-BAYAMON, PR	.	0	0	0	0	0	0	0	0	0	0	.	0
SCRANTON–WILKES-BARRE–HAZLETON, PA	4	0	1	12	1	0	2	0	0	0	0	4	0
SEATTLE-BELLEVUE-EVERETT, WA	1	1	0	1	0	2	0	0	0	0	0	3	0
SPRINGFIELD, MA	4	3	2	19	5	4	5	3	7	3	3	4	3
SYRACUSE, NY	.	0	0	0	0	0	0	0	0	0	0	2	0
TACOMA, WA	1	0	0	0	0	2	0	0	0	1	0	1	0
TAMPA-ST. PETERSBURG-CLEARWATER, FL	5	5	5	0	1	3	0	1	0	0	1	7	1
TOLEDO, OH	2	2	2	6	1	0	1	0	3	1	0	4	0
TUSCON, AZ	5	0	0	0	0	0	0	0	0	0	0	7	0
TULSA, OK	3	4	1	2	2	3	2	0	1	2	4	3	4
VENTURA, CA	6	83	54	83	59	36	49	25	16	24	30	7	31
WASHINGTON, DC-MD-VA-WV	13	10	21	35	5	5	16	2	13	7	8	17	10
WEST PALM BEACH-BOCA RATON, FL	1	0	0	0	0	0	0	0	0	0	0	2	0
WILMINGTON-NEWARK, DE-MD	2	9	16	31	7	5	6	2	3	1	6	4	9
YOUNGSTOWN-WARREN, OH	1	0	0	5	1	0	1	0	0	0	1	3	1

Table A-20. *Total Number of Days with PSI Values Greater than 100 at Trend Sites–Summary, 1986–1995*

Metropolitan Statistical Area	# of Trend Sites	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Total # of Sites	PSI > 100 1995
							All Pollutants						
All Trend Sites	1,332	1,584	1,572	2,005	1,266	1,034	1,017	691	694	629	707	1,923	838
LOS ANGELES-LONG BEACH, CA	38	226	201	239	226	180	184	185	146	136	103	41	106
RIVERSIDE-SAN BERNARDINO, CA	36	170	171	181	178	144	144	155	142	122	110	54	114
All Except LA and Riverside	1,258	1,188	1,200	1,585	862	710	689	351	406	371	494	1,828	618
							Ozone Only						
All Trend Sites	370	1,057	1,229	1,719	893	823	845	587	623	537	647	532	746
LOS ANGELES-LONG BEACH, CA	14	174	160	178	154	132	134	143	116	107	84	15	87
RIVERSIDE-SAN BERNARDINO, CA	14	165	168	179	169	137	141	153	141	121	104	20	107
All Except LA and Riverside	342	718	901	1,362	570	554	570	291	366	309	459	497	522

Table A-21. Emission Reductions for Promulgated 2- and 4-Year MACT Standards

Source Category	Dates Promulation*	 Compliance	# of Facilties	Emissions Reduct., Mg/Yr	HAPs Controlled Pollutants
Chromium Electroplating	11/94	1/96	5,000	157	Chromium
Coke Ovens	10/93	11/93	75 Batt.	1,305 if MACT 1,500 if LAER	Coke Oven Emissions
Commercial Sterilizers	11/94	12/97	75	1,000	Ethylene Oxide
Degreasers	11/94	12/97	25,000	77,000	Methylene Chloride, TCE, Perchloroethylene, 111-TCA, Carbon Tetrachloride, Chloroform
Industrial Cooling Towers	7/94	3/96		25	Chromium
Magnetic Tape	11/94	12/96	14	2,080	MEK, MIBK, Toluene, Xylene, Ethylbenzene
Stage I Gasoline Marketing	11/94	12/97	260	2,300	Hexane, Toluene, Benzene, others
Perchloroethylene Dry Cleaning	9/93	12/93	30,000	35,600	Perchloroethylene
Hazardous Organic NESHAP (HON)	2/94	10/94	370	460,000	Many CAAA Section 112 HAPs
Aerospace Industry	7/95	9/98	3,000	164,100	Chromium, Toluene, MEK, TCE, III-TCA, MIBK, many others
Marine Tank Vessels	7/95	99	28	4,500	Benzene, Hexane, Toluene
Petroleum Refineries	7/95	8/98	190	48,000	Benzene, Toluene, Xylene, Ethylbenzene, Hexane
Polymers & Resins II	2/95	3/98	19	97	Epichlorohydrin
Secondary Lead Smelters	5/95	6/97	23	1,300	Lead & Arsenic Compounds, 1,3-Butadiene
Wood Furnature	11/95	11/97	750	29,800	Ethylene Glycol, Formaldehyde, Methanol, Toluene, Xylene, Others
Shipbuliding	11/95	12/97	35	318	MEK, MIBK, Toluene, Xylene, Ethyl Benzene, Others
Off-Site Waste	5/96	7/99	750	43,000	Methlyene Chloride, TCE, MEK, MIBK, Toluene, Others
Printing and Publishing	5/96	5/99	200	6,700	Ethylene Gylcol, Ethly Benzene, Methanol, Toluene, Xylene, Ethyl Gylcol Monobutyl Ether
Polymers and Resins IV	5/96	9/99		10,420	Methanol, 1-3 Butadiene, Styrene, Others
Polymers and Resins I	7/96	9/99		6,400	Toluene, Hexane, 1-3 Butadiene Styrene, Others

* Date regulation signed by the Administrator.

APPENDIX B

Methodology

Air Quality Data Base

The ambient air quality data presented in this report are obtained from EPA's Aerometric Information Retrieval System (AIRS). These are direct measurements of pollutant concentrations at monitoring stations operated by state and local governments throughout the nation. The monitoring stations are generally located in larger urban areas. EPA and other federal agencies operate some air quality monitoring sites on a temporary basis as a part of air pollution research studies. The national monitoring network conforms to uniform criteria for monitor siting, instrumentation, and quality assurance.[1,2]

In 1995, 4800 monitoring sites reported air quality data for one or more of the six NAAQS pollutants to AIRS. The geographic locations of these monitoring sites are displayed in Figures B-1 to B-6. The sites are identified as National Air Monitoring Stations (NAMS) or State and Local Air Monitoring Stations (SLAMS).

Air quality monitoring sites are selected as national trends sites if they have complete data for at least eight of the 10 years between 1986 and 1995. The annual data completeness criteria are appropriate to each pollutant and measurement methodology. Table B-1 displays the number of sites meeting the 10-year trend completeness criteria. For the PM-10 standard which was established in 1987, the trend analyses are based on sites with data in seven of the eight years between 1988 and 1995. Because of the annual turnover of monitoring sites, the use of a moving 10-year window maximizes the number of sites available for trends and yields a data base that is more consistent with the current monitoring network.

The air quality data are divided into two major groupings: daily (or 24-hour) measurements and continuous 1-hour measurements. The daily measurements are obtained from monitoring instruments that produce one measurement per 24-hour period and typically operate on a systematic sampling schedule of once every six days, or 61 samples per year. Such instruments are used to measure PM-10 and lead. More frequent sampling of PM-10 (every other day or every day) is also common. Only PM-10 weighted (for each quarter to account for seasonality) annual arithmetic means that meet the AIRS annual summary criteria are selected as valid means for trends purposes.[3] Only lead sites with at least six samples per quarter in three of the four calendar quarters qualify as trends sites. Monthly composite lead data are used if at least two monthly samples are available for at least three of the four calendar quarters.

Table B-1. *Number of Ambient Monitors Reporting Data to AIRS*

Pollutant	Number of Sites Reporting Data to AIRS in 1995	Number of Trend Sites 1986–95
CO	542	334
Pb	448	189
NO_2	406	212
O_3	972	573
PM-10	1,737	955
SO_2	695	473
Total	4,800	2,736

Monitoring instruments that operate continuously produce a measurement every hour for a possible total of 8760 hourly measurements in a year. For hourly data, only annual averages based on at least 4380 hourly observations are considered as trends statistics. The SO_2 standard-related daily statistics require 183 daily values to be included in the analysis. Ozone sites meet the annual trends data completeness requirement if they have at least 50 percent of the daily data available for the ozone season, which varies by state, but typically runs from May through September.[4]

Air Quality Trend Statistics

The air quality statistics presented in this report relate to the pollutant-specific NAAQS and comply with the recommendations of the Intra-Agency Task Force on Air Quality Indicators.[5] A composite average of each of the trend statistics is used in the graphical presentations throughout this report. All sites were weighted equally in calculating the composite average trend statistic. Missing annual summary statistics for the second through ninth years for a site are estimated by linear interpolation from the surrounding years. Missing end points are replaced with the nearest valid year of data. The resulting data sets are statistically balanced, allowing simple statistical procedures and graphics to be easily applied. This procedure also is conservative since endpoint rates of change are dampened by the interpolated estimates.

Emissions Estimates Methodology

Trends are presented for annual nationwide emissions of CO, lead, nitrogen oxides (NO_x), volatile organic compounds (VOCs), PM-10, and SO_2. These are estimates of the amount and kinds of pollution being emitted by automobiles, factories and other sources, based upon best available engineering calculations.

The estimates of emissions in this report differ from those reported in previous reports due to improvements in emissions estimation methodologies. Readers should note that the 1990 to 1995 emissions estimates are based on some preliminary data and are subject to revision in future reports. Also, this report incorporates data from continuous emissions monitors collected between 1994 and 1995 for NOx and SO2 emissions at major electric utilities. Additional emissions estimates and a more detailed description of the estimation methodology are available in a companion report, *National Air Pollutant Emission Trends, 1900–1995*.[6]

Figure B-1. *CO monitoring network, 1995.*

Figure B-2. *Pb monitoring network, 1995.*

Figure B-3. *NO_2 monitoring network, 1995.*

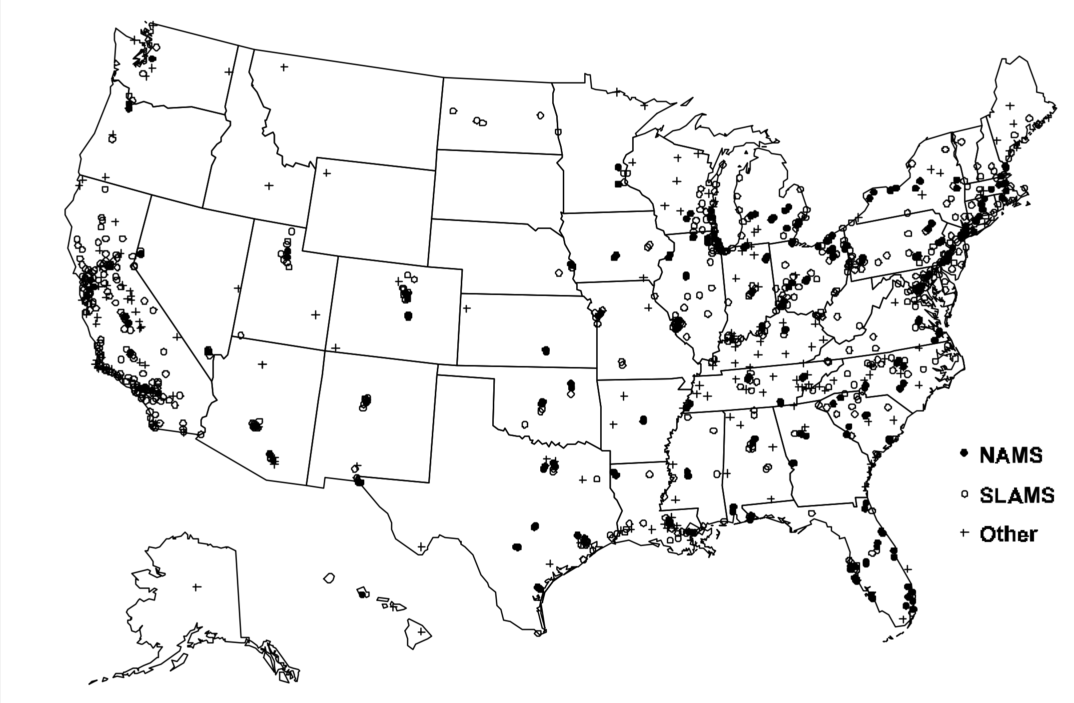

Figure B-4. *O_3 monitoring network, 1995.*

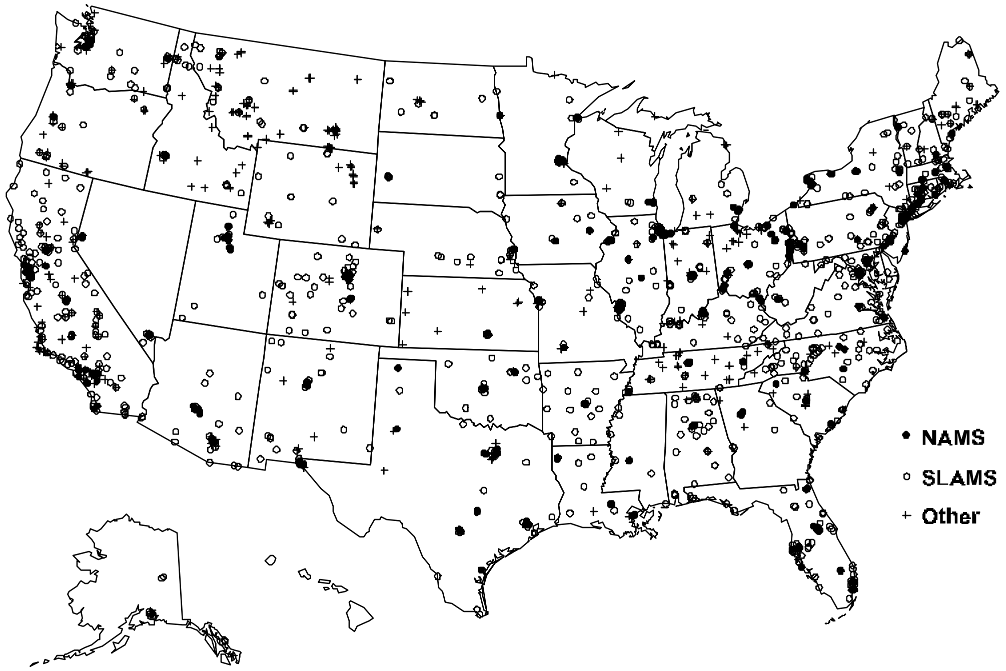

Figure B-5. *PM-10 monitoring network, 1995.*

Figure B-6. *SO_2 monitoring network, 1995.*

References

1. *Clean Air Act Amendments of 1990*, U.S. Code, volume 42, section 7403(c)(2), 1990.
2. *Ambient Air Quality Surveillance*, 44 CFR 27558, May 10, 1979.
3. *Aerometric Information Retrieval System (AIRS),* Volume 2, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, October, 1993.
4. *Ambient Air Quality Surveillance*, 51 FR 9597, March 19, 1986.
5. *U.S. Environmental Protection Agency Intra-Agency Task Force Report on Air Quality Indicators*, EPA-450 / 4-81-015, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, February 1981.
6. *National Air Pollutant Emission Trends*, 1900–1995, EPA-454 / R-96-007, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, October, 1995.