State of Illinois
Illinois Environmental Protection Agency

Illinois
Air Quality Report

2014

ILLINOIS ANNUAL AIR QUALITY REPORT 2014

Illinois Environmental Protection Agency
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Acknowledgements

This document is produced by the Illinois Environmental Protection Agency; Lisa Bonnett, Director.

Illinois EPA Bureau of Air personnel contributed their time and expertise to the development of this publication.

A MESSAGE FROM THE DIRECTOR

This Air Quality Report includes data for calendar year 2014. The data was generated by Illinois EPA's monitoring network that consists of 154 monitors at 65 sites. As part of the overall monitoring program, Illinois EPA issues a daily air quality forecast for fourteen sectors in Illinois. Each sector receives a daily air quality forecast that is assigned a category with a corresponding color: Good (green), Moderate (yellow), Unhealthy for Sensitive Groups (orange), Unhealthy (red), Very Unhealthy (purple), and Hazardous (maroon).

The daily air quality forecasts are developed by Agency meteorologists, who examine current air quality levels and meteorological conditions across the state. Meteorological conditions can have a significant impact on air quality. Changes in temperature, atmospheric pressure, precipitation, wind speed and wind direction are all factors used in developing the air quality forecasts. When necessary, Illinois EPA will consult with other regional states to aid in developing the forecasts. Illinois EPA encourages citizens to stay informed of the changes in air quality. The Agency offers several tools for obtaining the daily air quality. Illinois EnviroFlash (http://illinois.enviroflash.info) provides users with a free daily email which includes the air quality forecast for the region and helpful tips. Illinois EPA also provides the daily air quality forecast on the Agency's website and through Twitter (@ILEPA).

Illinois EPA notes that overall, air quality improved over what was experienced in 2013. For the second consecutive year, ozone levels never reached the "Unhealthy" (red) category. Ten-year air quality trends continue to show progress and improvements in Illinois' air quality.

The Agency's air pollution control programs aid in achieving our mission to safeguard environmental quality, consistent with the social and economic needs of the State, so as to protect health, welfare, property and the quality of life. While Illinois continues to see improved air quality, National Ambient Air Quality Standards are periodically reviewed and often made more stringent to offer further health protections. Air quality improvements in Illinois have met a majority of current and previous federal standards; however, some areas of the State must achieve further improvements. Illinois EPA renews its commitment to bring all areas of the state into compliance with current and newly-finalized air quality standards.

The Illinois EPA presents this report in an effort to provide accurate and current air quality data. Individuals can find more information about air quality through the Agency's website at http://www.epa.illinois.gov/citizens/air-quality/index. For questions and/or comments regarding this report or other air pollution control programs, please contact the Illinois EPA.

Lisa Bonnett, Director

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Executive Summary

This report presents a summary of air quality data collected throughout the State of Illinois during calendar year 2014. Data is presented for the six criteria pollutants (those for which air quality standards have been developed - particulate matter (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead) along with some heavy metals, nitrates, sulfates, volatile organic compounds, and toxic compounds. Monitoring was conducted at 65 different site locations collecting data from more than 150 instruments.

In terms of the Air Quality Index (AQI) air quality during 2014 was either good or moderate 98 percent of the time throughout Illinois. There were zero days when air quality in any part of Illinois was considered unhealthy (category red). This compares with zero unhealthy days in 2013 as well. There were seven days (five for 8-hour ozone and two for $PM_{2.5}$) when air quality in some part of Illinois was considered Unhealthy for Sensitive Groups (category orange). This compares with 13 Unhealthy for Sensitive Groups days reported in 2013. Air quality trends for the criteria pollutants are continuing to show downward or stable trends well below the level of the standards. Percentage changes over the ten year period 2005 – 2014 are as follows: 24-hour Particulate Matter (PM_{10}) 7 percent increase, annual Particulate Matter ($PM_{2.5}$) 25 percent decrease, 1-hour Sulfur Dioxide 61 percent decrease, annual Nitrogen Dioxide 27 percent decrease, 8-hour Carbon Monoxide 68 percent decrease, and 8-hour Ozone 7 percent decrease.

Stationary point source emission data has again been included. The data in the report reflects information contained in the Emission Inventory System (EIS) as of December 31, 2014. Emission estimates are for the calendar year 2014 and are for the pollutants: particulate matter, volatile organic material, sulfur dioxide, nitrogen oxides, and carbon monoxide. Emission trends of these pollutants have been given for the years 1998 to the present. Emissions reported with the Annual Emissions Report have been provided starting with 1998 and are currently available through 2013. There has been a trend toward decreasing emissions over this time period.

Ozone (O_3)

Photochemical oxidants result from a complex series of atmospheric reactions initiated by sunlight. When reactive (non-methane) hydrocarbons and nitrogen oxides accumulate in the atmosphere and are exposed to the ultraviolet component of sunlight, the formation of new compounds, including ozone and peroxyacetylnitrate, takes place.

Absorption of ultraviolet light energy by nitrogen dioxide results in its dissociation into nitric oxide and an oxygen atom. The oxygen atoms, for the most part, react with atmospheric molecular oxygen (O_2) to form ozone (O_3). In general, nitric oxide will react with ozone to re-form nitrogen dioxide, completing the cycle. A build-up of ozone above the equilibrium concentration, which is defined by the reaction cycle, results when nitrogen oxide reacts with non-methane hydrocarbons. Oxygen atoms from the hydrocarbon radical oxidize nitric oxide to nitrogen dioxide without ozone being used up. Thus ozone concentrations are not depleted and can build up quickly.

Ozone can also be formed naturally in the atmosphere by electrical discharge and in the stratosphere by solar radiation. The former process is not capable of producing significant urban concentrations of this pollutant; however, there is some belief that incursion of ozone from the stratosphere can contribute significantly to elevated ground level concentrations of ozone under certain meteorological conditions.

Injury to vegetation is one of the earliest manifestations of photochemical air pollution, and sensitive plants are useful biological indicators of this type of pollution. The visible symptoms of photochemical oxidant produced injury to plants may be classified as:

- Acute injury, identified by cell collapse with subsequent development of necrotic patterns.
- Chronic injury, identified by necrotic patterns or with other pigmented patterns.
- Physiological effects, identified by growth alterations, reduced yields, and changes in the quality of plant products. The acute symptoms are generally characteristic of a specific photochemical oxidant, though chronic injury patterns are not. Ozone injury to leaves is identified as a stripling or flecking. Adverse effects on sensitive vegetation have been observed from exposure to photochemical oxidant concentrations of about 100 micrograms per cubic meter (0.05 parts per million) for 4 hours.

Adverse effects on materials (rubber products and fabrics) from exposure to photochemical oxidants have not been precisely quantified, but have been observed at the levels presently occurring in many urban atmospheres.

Ozone accelerates the aging of many materials, resulting in rubber cracking, dye fading, and paint erosion. These effects are linearly related to the total dose of ozone and can occur at very low levels, given long duration exposures.

Ozone is a pulmonary irritant that affects the respiratory mucous membranes, other lung tissues, and respiratory functions. Clinical and epidemiological studies have demonstrated that ozone impairs the normal mechanical function of the lung, causing alterations in respiration- the most characteristic of which are shallow, rapid breathing and a decrease in pulmonary compliance. Exposure to ozone results in clinical symptoms such as chest tightness, coughing, and wheezing. Alterations in airway resistance can occur, especially to those with respiratory diseases (asthma, bronchitis, emphysema). These effects may occur in sensitive individuals, as well as in healthy exercising persons, at short-term ozone concentrations between 0.15 and 0.25 ppm.

Ozone exposure increases the sensitivity of the lung to bronchoconstrictive agents such as histamine, acetylcholine, and allergens, as well as increasing the individual's susceptibility to bacterial infection. Simultaneous exposure to ozone and sulfur

dioxide can produce larger changes in pulmonary function than exposure to either pollutant alone.

Peroxyacetylnitrate (PAN) is an eye irritant, and its effects often occur in conjunction with the effects of ozone.

Two characteristics of ozone and photochemical oxidant exposures should be cited:

- Ozone itself is a primary cause of most of the health effects reported in toxicological and experimental human studies and the evidence for attributing many health effects to this substance alone is very compelling.
- Atmospheric photochemical substances are known to produce health effects, some of which are not attributable to pure ozone but may be caused by other photochemical substances in combination with ozone.

Particulate Matter (PM)

Not all air pollutants are in the gaseous form. Small solid particles and liquid droplets, collectively called particulates or aerosols, are also present in the air in great numbers and may constitute a pollution problem. Particulates entering the atmosphere differ in size and chemical composition. The effects of particulates on health and welfare are directly related to their size and chemical composition.

Particulate matter in the atmosphere consists of solids, liquids, and liquids-solids in combination. Suspended particulates generally refer to particles less than 100 micrometers in diameter (human hair is typically 100 micrometers thick). Particles larger than 100 micrometers will settle out of the air under the influence of gravity in a short period of time.

Typical sources emitting particles into the atmosphere are combustion of fossil fuels (ash and soot), industrial processes (metals, fibers, etc.), fugitive dust (wind and mechanical erosion of local soil) and photochemically produced particles (complex chain reactions between sunlight and gaseous pollutants). Combustion and photochemical products tend to be smaller in size (less than 1 micrometer); fugitive dust and industrial products are typically larger in size (greater than 1 micrometer).

Particles which cause the most health and visibility difficulties are those less than 1.0 micrometer in size. These particles are also the most difficult to reduce in numbers by the various industrial removal techniques. Rainfall accounts for the major removal of these smaller particles from the air.

One of the major problems associated with high concentrations of particulates is that the interaction between the particles, sunlight, and atmospheric moisture can potentially result in the climatic effects and diminished visibility (haze). Particles play a key role in the formation of clouds, and emissions of large numbers of particles can, in some instances, result in local increases in cloud formation and, possibly, precipitation. Particles in the size range of 0.1 to 1.0 micrometers are the most efficient in scattering visible light (wave length 0.4 to 0.7 micrometers) thereby reducing visibility. Particles combined with high humidity can result in the formation of haze which can cause hazardous conditions for the operation of motor vehicles and aircraft.

Particulate pollutants enter the human body by way of the respiratory system and their most immediate effects are upon this system. The size of the particle determines its depth of penetration into the respiratory system. Particles over 5 micrometers are generally deposited in the nose and throat. Those that do penetrate deeper in the respiratory system to the air ducts (bronchi) are often removed by ciliary action. Particles ranging in size from 0.5 - 5.0 micrometers in diameter can be deposited in the bronchi, with few reaching the air sacs (alveoli). Most particles deposited in the bronchi are removed by the cilia within hours. Particles less than 0.5 micrometer in diameter reach and may settle in the alveoli. The removal of particles from the alveoli is much less rapid and complete than from the

larger passages. Some of the particles retained in the alveoli are absorbed into the blood.

Besides particulate size, the oxidation state, chemical composition, concentration, and length of time in the respiratory system contribute to the health effects of particulates. Particulates have been associated with increased respiratory diseases (asthma, bronchitis, and emphysema), cardiopulmonary disease (heart attack), and cancer.

Plant surfaces and growth rates may be adversely affected by particulate matter. Particulate air pollution also causes a wide range of damage to materials including corrosion of metals and electrical equipment and the soiling of textiles and buildings.

Sulfur Dioxide (SO_2)

Sulfur dioxide, (SO_2) is an atmospheric pollutant which results from combustion processes (mainly burning of fossil fuels containing sulfur compounds), refining of petroleum, manufacture of sulfuric acid, and smelting of ores containing sulfur. Reduction of sulfur dioxide pollution levels can generally be achieved through the use of low-sulfur content fuels or the use of chemical sulfur removal systems.

Once in the atmosphere, some sulfur dioxide can be oxidized (either photochemically or in the presence of a catalyst) to SO_3 (sulfur trioxide). In the presence of water vapor, SO_3 is readily converted to sulfuric acid (H_2SO_4) mist. Other basic oxides combine with SO_3 to form sulfate aerosols. Sulfuric acid droplets and other sulfates are thought to account for about 5 to 20 percent of the total suspended particulate matter in urban air. These compounds can be transported large distances and come back to earth as a major constituent of acid precipitation. Many of the resultant health problems attributed to SO_2 may be a result of the oxidation of SO_2 to other compounds.

The effects of SO_2 on health are irritation and inflammation of tissue that it directly contacts. Inhalation of SO_2 causes bronchial constriction resulting in an increased resistance to air flow, reduction of air volume, and an increase of respiratory rate and heart rate.

SO_2 can exacerbate pre-existing respiratory diseases (asthma, bronchitis, emphysema). The enhancement (synergism) by particulate matter of the toxic response to SO_2 has been observed under conditions which would promote the conversion of SO_2 to H_2SO_4. The degree of enhancement is related to the concentration of particulate matter. A twofold to threefold increase of the irritant response to SO_2 is observed in the presence of particulate matter capable of oxidizing SO_2 to H_2SO_4.

H_2SO_4 inhalation causes an increase in the respiratory system's mucous secretions, which reduces the system's ability to remove particulates via mucociliary clearance. This can result in an increased incidence of respiratory infection.

Carbon Monoxide (CO)

The major source of carbon monoxide (CO) is motor vehicles. The USEPA has kept under its jurisdiction the regulation of emission control equipment on new motor vehicles while the State's responsibility for reducing excessive ambient carbon monoxide levels is exercised by developing transportation plans for congested urban areas.

The toxic effects of high concentrations of CO on the body are well known. Carbon monoxide is absorbed by the lungs and reacts with hemoglobin (the oxygen-carrying molecule in the blood) to form carboxyhemoglobin (COHb). This reaction reduces the oxygen-carrying capacity of blood because the affinity of hemoglobin for CO is over 200 times that for oxygen. The higher the percentage of hemoglobin bound up in the form of carboxyhemoglobin, the more serious is the health effect.

The level of COHb in the blood is directly related to the CO concentration of the inhaled air. For a given ambient air CO concentration, the COHb level in the blood will reach an equilibrium concentration after a sufficient

time period. This equilibrium COHb level will be maintained in the blood as long as the ambient air CO level remains unchanged. However, the COHb level will slowly change in the same direction as the CO concentration of the ambient air as a new equilibrium of CO in the blood is established.
The lowest CO concentrations shown to produce adverse health effects result in aggravation of cardiovascular disease. Studies demonstrate that these concentrations have resulted in decreased exercise time before the onset of pain in the chest and extremities of individuals with heart or circulatory disease. Slightly higher CO levels have been associated with decreases in vigilance, the ability to discriminate time intervals, and exercise performance.

Evidence also exists indicating a possible relationship between CO and heart attacks, the development of cardiovascular disease, and irregular fetal development.

Studies on the existing ambient levels of CO do not indicate any adverse effects on vegetation, materials, or other aspects of human welfare.

Nitrogen Dioxide (NO_2)

Nitrogen gas (N_2) is an abundant and inert gas which makes up almost 80 percent of the Earth's atmosphere. In this form, it is harmless to humans and essential to plant metabolism. Due to its abundance in the air, it is a frequent reactant in many combustion processes. When combustion temperatures are extremely high, as in the burning of coal, oil, natural gas, and gasoline, atmospheric nitrogen gas may combine with molecular oxygen (O_2) to form various oxides of nitrogen (NO_x). Of these, nitric oxide (NO) and nitrogen dioxide (NO_2) are the most important contributors to air pollution; NO_x generally is used to represent these. Nitric oxide is a colorless and odorless gas. It is the primary form of NO_x resulting from the combustion process. NO_x contributes to haze and visibility reduction. NO_x is also known to cause deterioration and fading of certain fabrics and damage to vegetation. Depending on concentration and extent of exposure, plants may suffer leaf lesions and reduced crop yield.

Sensitivity of plants to NO_x depends on a variety of factors including species, time of day, light, stage of maturity, and the presence or absence of other air pollutants such as sulfur dioxide and ozone.

There is a lack of strong evidence associating health effects with most NO_x compounds. NO_2, a secondary derivative of atmospheric nitric oxide, however, has been clearly established as exerting detrimental effects on human health and welfare.

NO_2 can cause an impairment of dark adaptation at concentrations as low as 0.07 ppm. NO_2 can cause an increase in airway resistance, an increase in respiratory rate, an increase in sensitivity to bronchoconstrictors, a decrease in lung compliance, and an enhanced susceptibility to respiratory infections. NO_2 is a deep lung irritant capable of producing pulmonary edema if inhaled in sufficient concentrations. When NO_2 is inhaled in concentrations with other pollutants, the effects are additive.

NO_x may also react with water to form corrosive nitric acids, a major component of acid precipitation. Additionally, NO_x and various other pollutants (e.g., hydrocarbons) may react in the presence of sunlight to product photochemical oxidants.

Lead (Pb)

Historically, atmospheric lead came primarily from combustion of leaded gasoline. However, the use of unleaded gas since 1975 has reduced mobile source lead emissions by over 90%. Currently stationary sources, such as lead smelters, battery manufacturers, and iron and steel producers can contribute significant amounts of lead to their immediate vicinity.

Lead is a stable compound which persists and accumulates both in the environment and in the human body. Lead enters the human body through ingestion and inhalation with consequent absorption into the blood stream

and distribution to all body tissues. No safe level of lead in the blood has been identified. Clinical, epidemiological and toxicological studies have demonstrated exposure to lead has a broad range of health effects.

Since 1990, over 6,000 new health studies have been conducted. These studies have shown that children are the most susceptible to the damaging effects of lead because they are more likely to ingest lead due to hand-to-mouth activity and early body development. Lead exposure has been found to interfere with the developing nervous system including the brain. This can potentially lead to intelligence quotient loss, poor academic achievement, permanent learning disabilities, and behavioral problems. These effects can persist into early adulthood.

Kidney and neurological cell damage has also been associated with lead exposure. Animal studies have demonstrated that lead can contribute to reduced fertility and birth defects.

Other potential effects from lead exposure are weakened immune systems, restlessness, headaches, increased blood pressure, and cardiovascular disease.

Illinois Ambient Air Quality Standards and Episode Levels

Consistent with the intent of the Environmental Protection Act of the State of Illinois, Illinois has adopted ambient air quality and episode standards that specify maximum permissible short-term and long-term concentrations of various contaminants in the atmosphere. Ambient air quality and episode standards are limits on atmospheric concentrations of air contaminants established for the purpose of protecting the public health and welfare.

The Illinois and National Ambient Air Quality Standards (NAAQS) consist of a primary and secondary standard for each pollutant (contaminant) as presented in **Table 1**. The Illinois Air Pollution Episode Levels are presented in **Table 2**. The primary standard and episode criterion represents the level of air quality which is necessary to protect the public health. Air entering the respiratory tract must not menace health. Therefore, the air quality standards must, as a minimum, provide air which will not adversely affect, through acute or chronic symptoms, the public health.

The secondary standard defines the level of air quality which is necessary to protect the public welfare. This includes, among other things, effects on crops, vegetation, wildlife, visibility, and climate, as well as effects on materials, economic values, and on personal comfort and well-being. The standards are legally enforceable limitations, and any person causing or contributing to a violation of the standards is subject to enforcement proceedings under the Environmental Protection Act. The standards have also been designed for use as a basis for the development of implementation plans by State and local agencies for the abatement and control of pollutant emissions from existing sources, and for the determination of air contaminant emission limitations to ensure that population, industry, and economic growth trends do not add to the region's air pollution problems.

Table 1: Summary of National and Illinois Ambient Air Quality Standards					
Pollutant		**Primary/ Secondary**	**Averaging Time**	**Level**	**Form**
Carbon Monoxide		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead		primary and secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
Nitrogen Dioxide		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary and secondary	Annual	53 ppb	Annual Mean
Ozone		primary and secondary	8-hour	0.075 ppm	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	primary	Annual	12.0 µg/m^3	Annual mean, averaged over 3 years
		secondary	Annual	15.0 µg/m^3	Annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

- $PM_{2.5}$ standards are referenced to local conditions of temperature and pressure rather than standard conditions (760 mmHg and 25 degrees Celsius).

Table 2: Illinois Air Pollution Episode Levels				
Pollutant	**Advisory**	**Yellow Alert**	**Red Alert**	**Emergency**
Particulate Matter (µg/m^3)	2-hour 420	24-hour 350	24-hour 420	24-hour 500
Sulfur Dioxide (ppm)	2-hour 0.30	4-hour 0.30	4-hour 0.35	4-hour 0.40
Carbon Monoxide (ppm)	2-hour 30	8-hour 15	8-hour 30	8-hour 40
Nitrogen Dioxide (ppm)	2-hour 0.40	1-hour 0.60 or 24-hour 0.15	1-hour 1.20 or 24-hour 0.30	1-hour 1.60 or 24-hour 0.40
Ozone (ppm)	1-hour 0.12	1-hour 0.20	1-hour 0.30	1-hour 0.50

OZONE

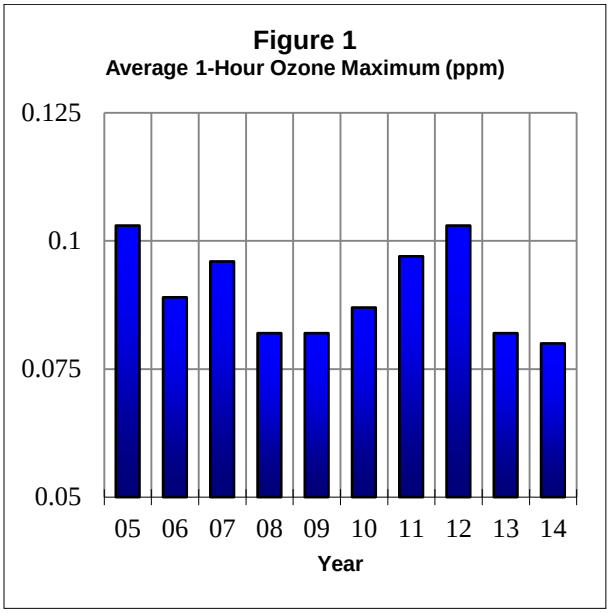
Monitoring was conducted at 37 locations during at least part of the April-October "ozone season" and at least 75 percent data capture was obtained at all 37 sites.

East St. Louis recorded the highest 1-hour concentration of 0.095 ppm followed by Highland and Maryville with a concentration of 0.092 ppm. This compares with the highest concentration of 0.103 ppm in 2013 at Wood River. The highest value in the Chicago area was 0.092 ppm recorded at Cary compared with a high in 2013 of 0.094 ppm at Northbrook.

Data is also presented to compare with the current 8-hour standard of 0.075 ppm. The appropriate statistic for comparison with the 8-hour standard is the fourth highest value, which is averaged over a three-year period. There were zero sites in Illinois that had a fourth-high value above 0.075 ppm in 2014 compared with zero sites in 2013 as well. The highest fourth-high value was 0.072 ppm at Alton. The highest level in the Chicago area was 0.073 ppm at Zion. For the three-year period 2012 – 2014, five sites had a fourth-high average above 0.075 ppm (Table B4).

Figure 1 shows for each year the statewide average of each site's highest hourly ozone value for the ten-year period 2005-2014. The graph shows some year-to-year fluctuation with high years in 2005 and 2012 and low years in 2008, 2009, 2013, and 2014. The statewide average for 2014 was 0.080 ppm compared with 0.082 ppm in 2013 and 0.103 ppm in 2012.

Statewide, the total number of 1-hour excursion days in 2014 was zero compared with zero in 2013 and two in 2012.



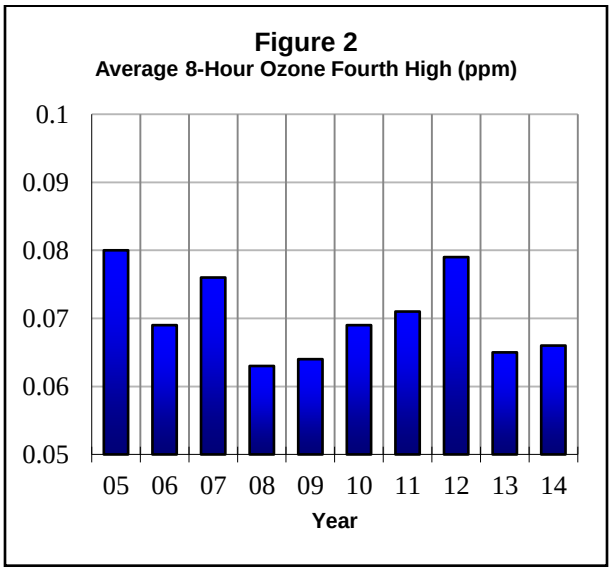


Figure 2 shows for each year the statewide annual average of the fourth highest 8-hour ozone value for the same period 2005-2014. The statewide average for 2014 was 0.066 ppm compared with 0.065 ppm in 2013 and 0.079 in 2012.

PARTICULATE MATTER

Monitoring was conducted at 33 sites for $PM_{2.5}$. Due to weighing lab conditions at the state's contract lab found to not meet critical criteria by a USEPA technical systems audit, $PM_{2.5}$ data was invalidated for NAAQS purposes for the period of 2011 to July 2014. Using one half year of data in 2014, four sites recorded an average above 12.0 ug/m^3, the level of the annual standard. The statewide average of the annual averages was 10.6 ug/m^3 in 2014.

Figure 3 shows the trend of the statewide annual averages for $PM_{2.5}$ for the period 2005-2014. There were no exceedances of the 24-hour standard of 35 ug/m^3 in 2014 compared with one exceedance in 2013 and 17 exceedances in 2012. The Statewide peak of 31.3 ug/m^3 was recorded at Alsip. The statewide average of the 98th percentile of 24-hour averages was 23.7 ug/m^3 in 2014 compared with 23.4 ug/m^3 in 2013 and 23.2 ug/m^3 in 2012.

In 2014 there were four sites monitoring $PM_{10,}$ The statewide annual average was 32 ug/m^3 compared with 29 ug/m^3 in 2013 and 26 ug/m^3 in 2012.

For $PM_{10,}$ the statewide average of the maximum 24-hour averages in 2014 was 90 ug/m^3 compared with 69 ug/m^3 in 2013 and 68 ug/m^3 in 2012. **Figure 4** depicts this information for the period 2005-2014.

The highest annual average was 45 ug/m^3 in Lyons Township. The lowest annual was 16 ug/m^3 in Northbrook. There were no exceedances of the 24-hour primary standard of 150 ug/m^3. The highest 24-hour average was recorded in Granite City with a value of 141 ug/m^3 compared with a high 24-hour value of 110 ug/m^3 at Chicago Washington High School in 2013 and 123 ug/m^3 in Granite City.

Figure 3
Particulate Matter ($PM_{2.5}$) Annual Trends (ug/m^3)

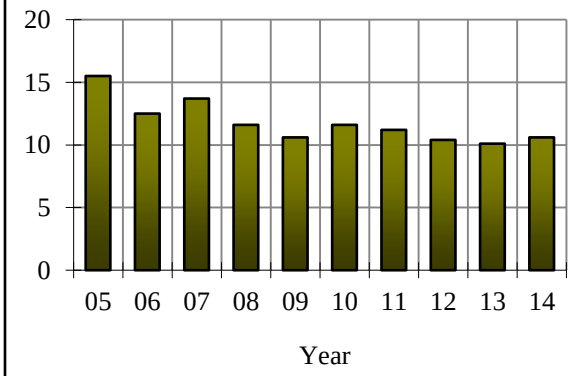
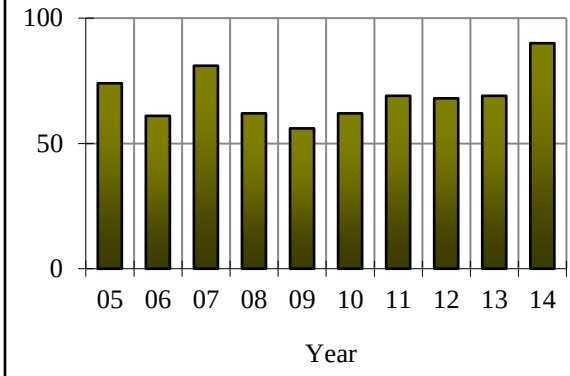


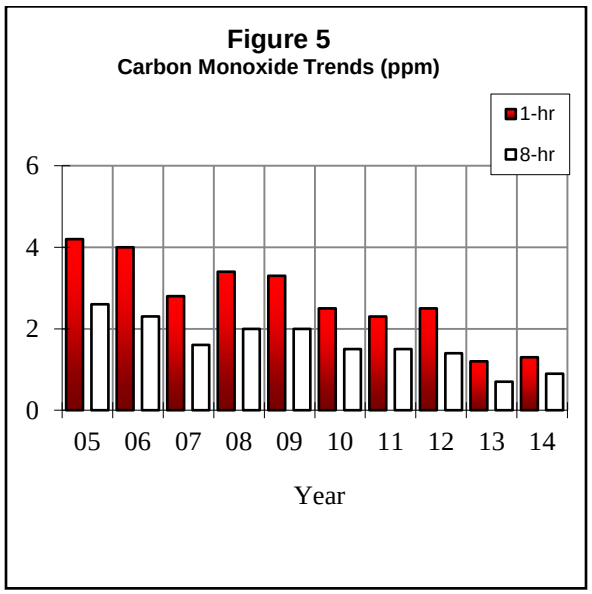
Figure 4
Particulate Matter (PM_{10}) 24-Hour Trends (ug/m^3)



CARBON MONOXIDE

There were no exceedances of either the 1-hour primary standard of 35 ppm or the 8-hour primary standard of 9 ppm in 2014. The highest 1-hour average was 1.9 ppm recorded in East St. Louis. The highest 8-hour average was 1.4 ppm recorded in East St. Louis.

Figure 5 shows the trend for the period 2005-2014 for the statewide average of the 1-hour and 8-hour high CO values. The overall trend for both averages is downward. The statewide average of the 1-hour high was 1.3 ppm in 2014 compared with 1.2 ppm in 2013. The statewide average for the 8-hour high was 0.9 ppm in 2014 compared with 0.7 ppm in 2013.



SULFUR DIOXIDE

There were 29 exceedances of the new 1-hour primary standard of 75 ppb in 2014 compared with 31 exceedances in 2013. There were no exceedances of the 3-hour secondary standard of 500 ppb in 2014. The annual and 24-hour primary standards were revoked by USEPA in 2010. The highest 1-hour average was 268 ppb recorded in Pekin compared with 262 ppb in Pekin in 2013. The statewide average of the 1-hour high in 2014 was 51 ppb. This compares with 47 ppb in 2013 and 69 ppb in 2012. The highest 3-hour average of 221 ppb was recorded in Pekin in 2014 compared with 203 ppb in Pekin in 2013. There was one site over the primary 1-hour standard of 75 ppb for the 2012-2014 period compared to two sites for the 2011-2013 period (Table B17).

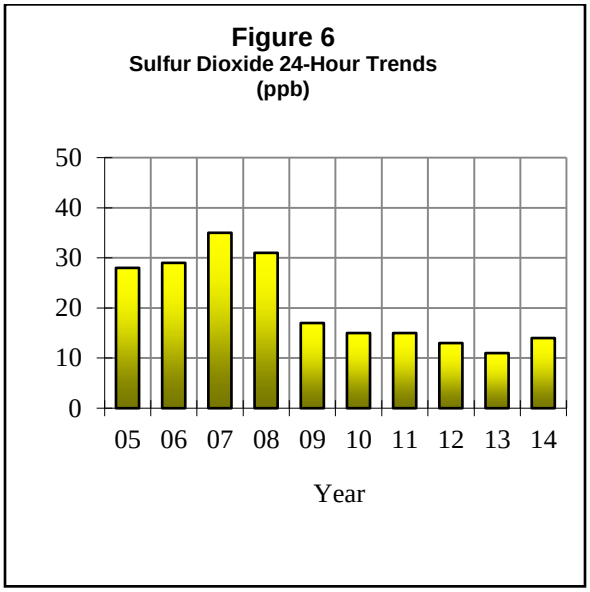
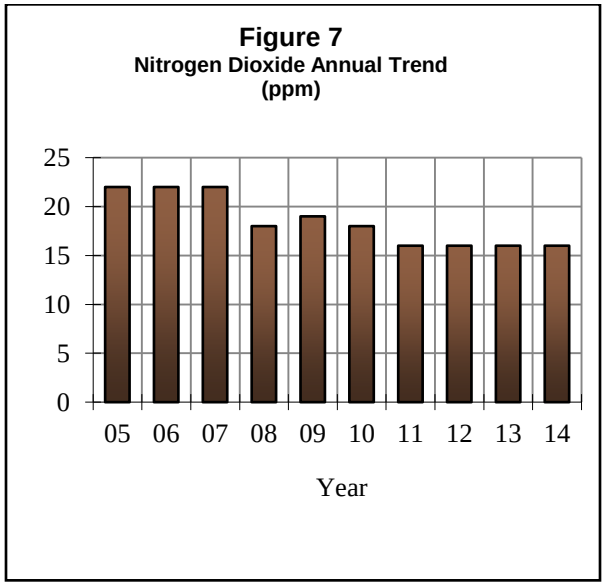


Figure 6 shows the statewide trend for the maximum 24-hour averages for the period 2005-2014. The statewide average for 2014 was 14 ppb compared with the 2013 average of 11 ppb. However, the 24-hour average trend has been overall downward. The statewide 1-hour average maximum for 2014 was 51 ppb compared with 47 ppb in 2013 and 69 ppb in 2012.

NITROGEN DIOXIDE

There were no violations of the annual primary standard of 53 ppb recorded in Illinois during 2014. The highest annual average of 21 ppb was recorded at Chicago CTA. The statewide average for 2014 was 16 ppb compared with 16 ppb in 2013 and 2012. There was one violation of the 1-hour primary standard. This compares to one violation in 2013 as well. There were no sites over the 1-hour primary standard of 100 ppb for the 2012-2014 period compared to zero sites for the 2011-2013 period (Table B20).

Figure 7 depicts the trend of statewide averages from 2005-2014. The trend has been generally stable for the period ranging from 16 ppb to 22 ppb. There have been no violations of the annual standard since 1980.



LEAD

Perhaps the greatest success story in controlling criteria pollutants is lead. As a direct result of the federal motor vehicle control program, which has required the use of unleaded gas in automobiles since 1975, lead levels have decreased by more than 90 percent statewide. Based on health studies, the lead standard was revised in 2008 from a quarterly mean of 1.5 ug/m^3 to a rolling three-month maximum mean of 0.15 ug/m^3.

There was one violation of the rolling three-month maximum mean standard for the 2012 to 2014 period. This violation was recorded at Granite City - 15th & Madison with a value of 0.36 ug/m^3. This compares with a statewide high of 0.36 ug/m^3 for 2011 to 2013 at the same monitor.

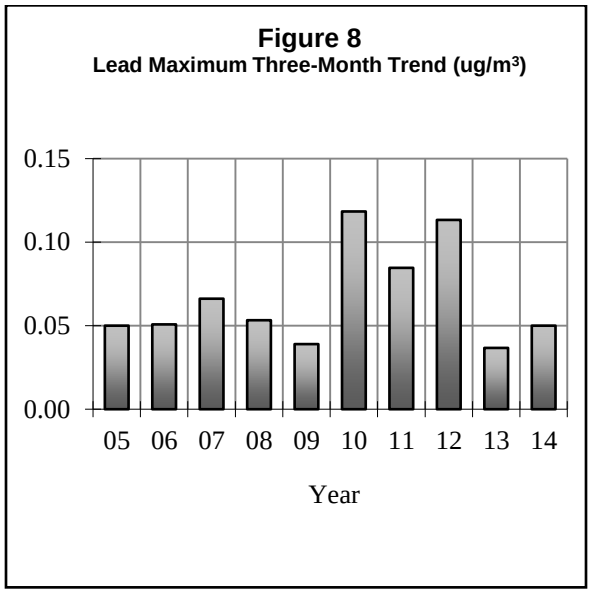


Figure 8 shows the trend of the statewide maximum monthly averages from 2005-2014. The chart shows concentrations fluctuating between 0.04 ug/m^3 and 0.12 ug/m^3. The increase in 2010 was directly related to the installation of required source-oriented monitors and the discontinuation of one non-source monitor. Due to various controls having been implemented at several source-oriented locations, averages have dropped back down to historical lower concentrations. The statewide average for all sites was 0.05 ug/m^3 in 2014 compared to 0.04 ug/m^3 in 2013 and 0.11 ug/m^3 in 2012.

FILTER ANALYSIS RESULTS

The total suspended particulate samples were analyzed, in addition to lead, for specific metals. Several of the metals analyzed (arsenic, beryllium, cadmium, chromium, manganese, and nickel) have known toxic properties. Other metals such as iron can be used as tracers to help identify sources of high particulate values. There are currently no state or federal ambient air quality standards for these parameters.

The areas with the highest metals concentrations in Illinois are generally the heavily-industrialized areas of the Metro-East (Granite City and East St. Louis) and south Chicago, especially for iron and manganese. The highest 24-hour average for arsenic was 0.020 ug/m^3 measured in Granite City. The highest annual average of 0.001 ug/m^3 was also recorded in Granite City. There were no measurable beryllium 24-hour averages recorded statewide. The monitor at ArcelorMittal Steel recorded the highest cadmium concentrations with a 24-hour average of 0.004 ug/m^3. The highest 24-hour chromium average was 0.052 ug/m^3 recorded at Chicago Washington High School. Chicago Washington High School also had the highest annual average at 0.016 ug/m^3. The highest iron and manganese values were recorded at ArcelorMittal Steel. The highest 24-hour average for nickel was recorded at Decatur Mueller with a value of 0.005 ug/m^3. The highest annual average was at Chicago Washington High School with an average of 0.003 ug/m^3.

TOXIC COMPOUNDS

Sampling for toxic compounds other than metals (see Filter Analysis Section, **Table B24**) was conducted at Northbrook and Schiller Park. Most compounds were below the method detection limits. The most prevalent compounds were toluene, formaldehyde, benzene, acetaldehyde, and acrolein. **Table B25** has a listing of various toxic compound maximums and annual averages.

$PM_{2.5}$ SPECIATION

$PM_{2.5}$ samples are also analyzed for numerous constituents at five sites. The major constituents (inorganic elements, ammonium, nitrate, sulfate, elemental carbon, and organic carbon) are listed in **Table B26**. In general, approximately 53% is ammonium nitrate and ammonium sulfate, 41% is elemental and organic carbon and 5% is inorganic elements.

The Air Quality Index (AQI) is the national standard method for reporting air pollution levels to the general public. An index such as the AQI is necessary because there are several air pollutants, each with different typical ambient concentrations and each with different levels of harm, and to report actual concentrations for all of them would be confusing. The AQI uses a single number and a short descriptor to define the air quality in an easy-to-remember and easy-to-understand way, taking all the pollutants into account.

The AQI is based on the short-term federal National Ambient Air Quality Standards (NAAQS), for six of the criteria pollutants, namely:

- Ozone (O_3)
- Sulfur dioxide (SO_2)
- Carbon monoxide (CO)
- Particulate matter (PM_{10})
- Particulate matter ($PM_{2.5}$)
- Nitrogen dioxide (NO_2)

In each case, the short-term primary NAAQS corresponds to 100 on the AQI scale – the top end of the Moderate category. The next concentration above the NAAQS would begin the Unhealthy for Sensitive Groups category at 101 on the AQI scale. **Table 3** lists all of the AQI ranges and their descriptor categories. Each category corresponds to a different level of health concern. **Table 4** lists each AQI category and its corresponding meaning.

Unhealthy for Sensitive Groups occurs on occasion for 8-hour ozone, $PM_{2.5}$, and downwind of certain SO_2 sources. Unhealthy air quality is uncommon in Illinois, and Very Unhealthful air quality is rare. There has never been an occurrence of Hazardous air quality in Illinois.

The AQI is computed as follows: data from pollution monitors in an area are collected, and the AQI sub index for each pollutant is computed using formulas derived from the index and concentration relations. Nomograms and tables are also available for this purpose. The data used are:

- O_3 estimate of the highest 8-hour average for that calendar day
- SO_2 the highest 1-hour or most recent 24-hour average
- CO the highest 8-hour average so far that calendar day
- PM_{10} the most recent 24-hour average
- $PM_{2.5}$ estimate of the 24-hour average for that calendar day
- NO_2 the highest 1-hour average

Continuous monitors are utilized for all the pollutants, including PM_{10} and $PM_{2.5}$.

Once all the sub-indices for the various pollutants have been computed, the highest is chosen by inspection. That is the AQI for the area and the pollutant giving rise to it is the "critical pollutant." Thus if, for Anytown, Illinois, we obtained the following sub-indices:

O_3 = 45
SO_2 = 23
CO = 19
PM_{10} = 41
$PM_{2.5}$ = 61

Anytown's AQI for that day would be 61, which is in the Moderate category, and the critical pollutant would be particulates ($PM_{2.5}$). If data for one of the pollutants used in computing AQI is missing, the AQI is computed using the data available, ignoring the missing data. It occasionally happens that two pollutants have the same sub index; in such cases there are two critical pollutants.

The Illinois EPA issues the AQI for 14 areas, or sectors, in Illinois (**Table 5**). These correspond to metropolitan areas with populations greater than 100,000.

Table 3: Air Quality Index Categories		
AQI Values	**AQI Descriptor**	**Colors**
***When the AQI is in this range*:**	***..air quality conditions are:***	***...as symbolized by this color:***
0-50	**Good**	**Green**
51-100	**Moderate**	**Yellow**
101-150	**Unhealthy for Sensitive Groups**	**Orange**
151 to 200	**Unhealthy**	**Red**
201 to 300	**Very Unhealthy**	**Purple**
301 to 500	**Hazardous**	**Maroon**

Table 4: Air Quality Index Health Concerns		
Air Quality Index Levels of Health Concern	**Numerical Value**	**Meaning**
Good	**0 to 50**	**Air quality is considered satisfactory, and air pollution poses little or no risk.**
Moderate	**51 to 100**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive Groups	**101 to 150**	**Members of sensitive groups may experience health effects. The general public is not likely to be affected.**
Unhealthy	**151 to 200**	**Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.**
Very Unhealthy	**201 to 300**	**Health warnings of emergency conditions. The entire population is more likely to be affected.**
Hazardous	**301 to 500**	**Health alert: everyone may experience more serious health effects.**

Table 5: Air Quality Index Sectors in Illinois	
Sector	**Coverage Area**
Lake County	Lake County only
Chicago	All areas within the city limits of Chicago
North and West Suburbs	Parts of Cook, Du Page, and McHenry Counties north of I-290 (Eisenhower Expressway) and outside of the Chicago city limits
South and West Suburbs	Parts of Cook and Du Page Counties south of I-290 and outside of Chicago city limits
Will County/Joliet	Will County only
Aurora-Elgin	The eastern part of Kane County
Rockford	Approximately 10-mile diameter circle centered on downtown Rockford
Quad Cities	The Illinois portion of the Quad Cities area
Peoria	Approximately 10-mile diameter circle centered on downtown Peoria in parts of Peoria, Woodford, and Tazewell Counties
Champaign	Champaign-Urbana Metropolitan Area
Normal	Bloomington-Normal Metropolitan Area
Springfield	Springfield Metropolitan Area
Metro-East St. Louis	The Illinois portion of the St. Louis Metropolitan Area. Approximately 15 miles wide east of the Mississippi River in Madison and St. Clair Counties

Illinois AQIs are computed from data up to and including the 3 p.m. local time readings (4 p.m. during the summer portion of the Ozone Season) every weekday. A bulletin giving the AQI numbers, descriptors, critical pollutants, and a forecast of the category for the next day's AQI for each of the sectors is issued to both the National Weather Service and the Illinois EPA website (link below), about 3:30 p.m. each work day (4:30 p.m. during the summer). Almost all TV stations and many radio stations and newspapers are able to receive this information to inform the public about the AQI either immediately or on the evening news. Additional AQI and forecast information can be obtained on Illinois EPA's web site located at http://www.epa.state.il.us/air/aqi/index.html and EPA's AirNow website at http://www.airnow.gov. The AirNow website shows current AQI information for the larger sectors in Illinois as well as other areas around the country. In the Chicago area, AQIs are also available on phone recordings maintained by the Cook County Department of Environmental Control and the Chicago Department of the Environment. Residents in the Chicago area can access the Partners For Clean Air website (http://www.cleantheair.org/) which includes a 3-day forecast along with a link for updates on Twitter. AQI information can further be obtained via e-mail and/or cell phones through the EnviroFlash program located at http://illinois.enviroflash.info/signup.cfm.

If the AQI sub index for any pollutant in any sector should reach or exceed the Unhealthy (or any higher) category late in the afternoon or on weekends when the AQI is not published, the Illinois EPA sends out special bulletins to the National Weather Service. The AirNow website and residents subscribed to EnviroFlash program can also receive alerts when high pollution levels are occurring or expected to occur.

2014 Illinois AQI Sector Summary

In order to present a more representative AQI, 24-hour calendar day $PM_{2.5}$ and PM_{10} values from the total network were used to determine the percentages in **Figure 9** even though some of these values were not available for issuing the daily AQI. Air quality was still in the "Good" and "Moderate" categories most often in 2014. All sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups." Lake County, Aurora-Elgin, Rockford, Quad Cities, Peoria, Champaign, Normal, Decatur, and Springfield sectors had 70 percent or more of the days in the "Good" category. Within AQI sectors there were 13 occurrences of "Unhealthy for Sensitive Groups" air quality in 2014. The sector breakdown for "Unhealthy for Sensitive Groups" was one in Lake County, two in Chicago, three in North & West Suburbs, three in South & West, one in Will County, one in Decatur, and four in Metro-East. There were no occurrences of "Unhealthy" air quality in 2014 within AQI sectors. **Figure 9** presents the AQI statistics for each sector. The pie chart shows the percent of days each sector was in a particular category.

In 2014, there were no ozone advisories issued in the State. An advisory is declared when ozone levels have reached the level of the former 1-hour standard (0.125 ppm) on a particular day. In the Chicago MSA there were two Air Pollution Action Days issued in 2014. This compares with two in 2013.

Figure 9: 2014 Air Quality Index Summaries by Sector

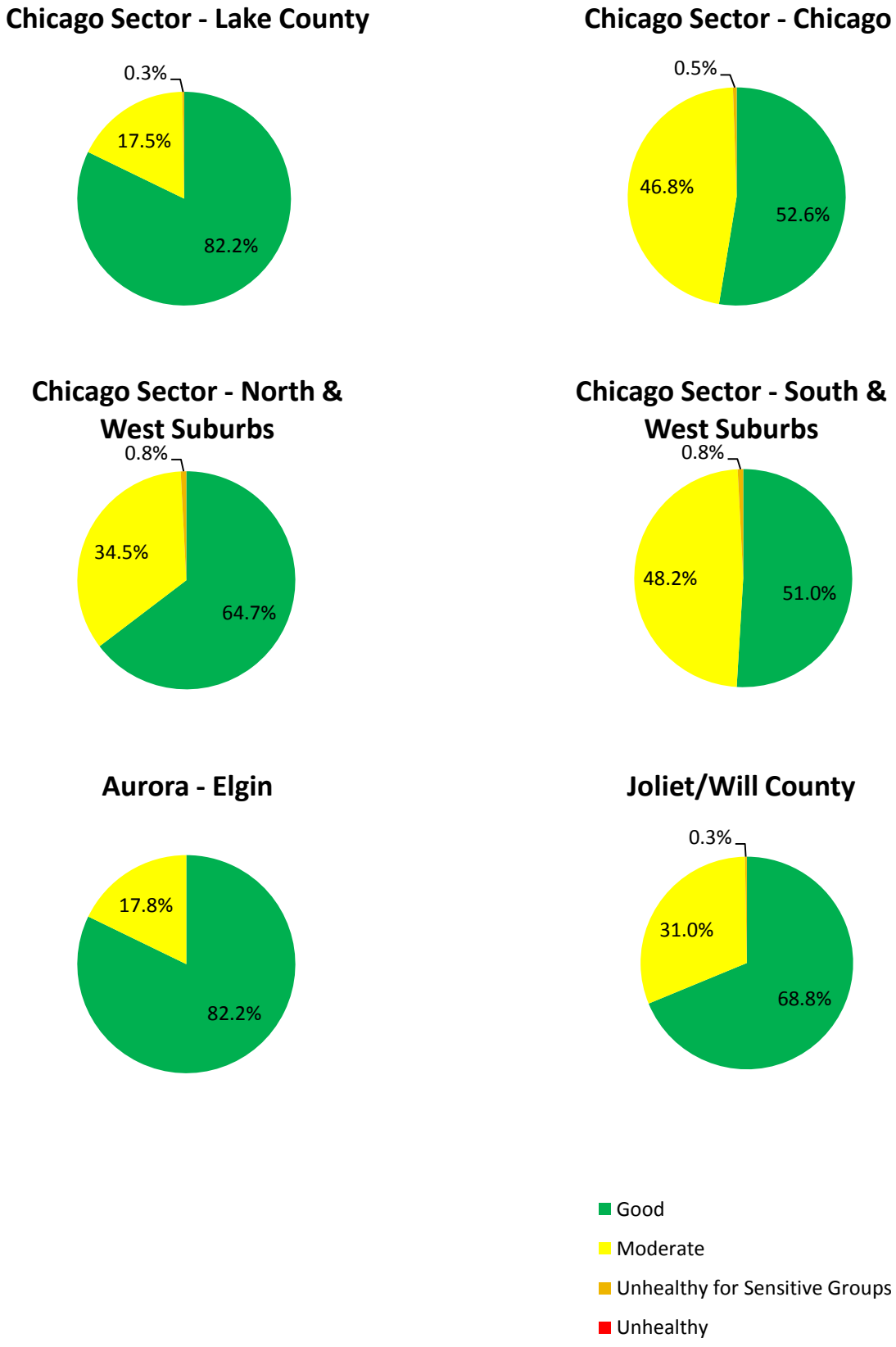


Figure 9: 2014 Air Quality Index Summaries by Sector

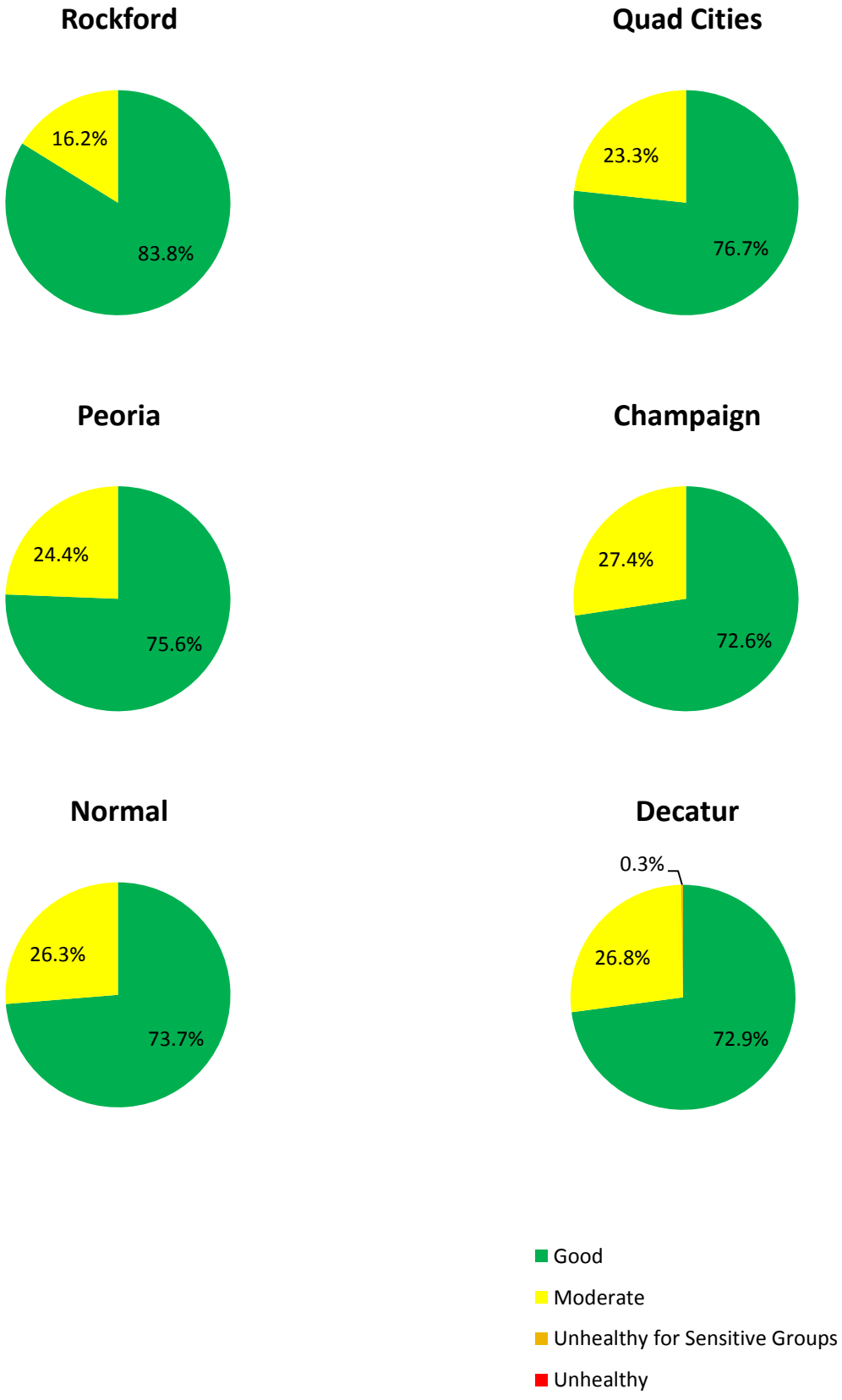
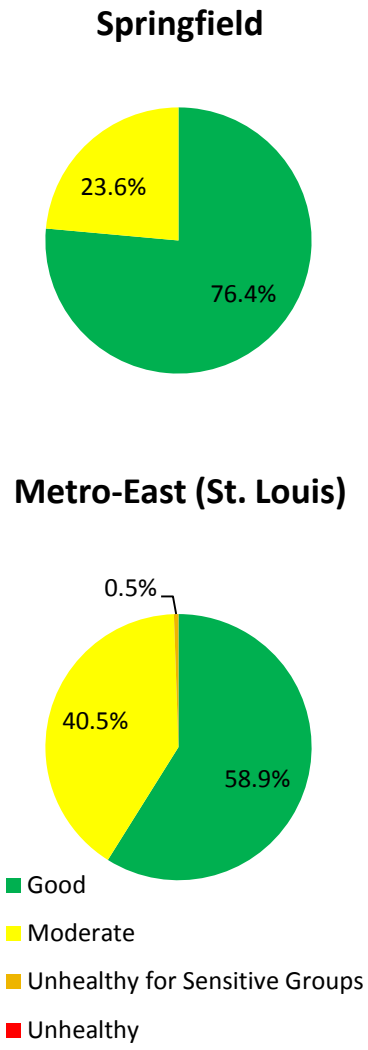


Figure 9: 2014 Air Quality Index Summaries by Sector



Since the late 1970s, the Illinois EPA's Division of Air Pollution Control has maintained a database of stationary point source emissions for the entire State. 40 CFR 51.211 requires Illinois to include in its State Implementation Plan "... procedures for requiring owners or operators of stationary sources to maintain records of... a) Information on the nature and amount of emissions from the stationary source and b) other information as may be necessary..." The emission database maintained by the Division of Air Pollution Control was originally called the Total Air System (TAS). Updates to the database were made through batch transactions every two weeks. In June 1989, the TAS was replaced with an online system known as the Emission Inventory System (EIS). Very few new data items to be stored were added when the Division switched to the EIS. The change was mainly to get to an online system and to enhance the structure of the database to make it more flexible.

In March 1999, the Division introduced a new emission inventory system known as Illinois Stationary Source Inventory System (ISSIS). This new inventory system, which was developed in Oracle, built upon the structure of the annual emission reporting system (CAERS - Computerized Annual Emission Reporting System) previously developed. Up until then, inventory data resided both in EIS and CAERS. Data from EIS was loaded annually into CAERS. ISSIS did away with this requirement. Now inventory data resides in one database.

ISSIS currently includes emission data on approximately 6,500 active sources (including 3,014 Registration of Smaller Sources, ROSS) throughout the State. The ISSIS data includes source addresses; source emission totals; permit data such as expiration date and status; emission unit data such as name, hours of operation, operating rate, fuel parameters, and emissions; control equipment data such as control device name, type, and removal efficiencies; and stack parameters. Reported emissions and Agency-calculated emissions are stored separately.

Also in March 1999, the group responsible for the entry of emission inventory data was switched from the Permit Section to the Inventory Unit of the Compliance and Systems Management Section. The Inventory Unit, now in the Air Quality Planning Section, uses permit applications, the issued permit and data reported on annual emission reports to compile the inventory.

The following tables and graphs are an analysis of the emissions data contained in ISSIS at the end of 2014. It is important to note emissions contained in the ISSIS are not necessarily the actual emissions that entered the atmosphere. This is due to the fact that when an air pollution permit is applied for, the applicant provides maximum and average emission rates. The maximum emission rate reflects what the applicant believes the emission rate would be at maximum production. The average emission rate reflects emissions at the applicant's most probable production rate. The Inventory Unit has been updating its estimated emissions to more accurately reflect the reported emissions.

To calculate the distribution of emissions for the individual categories, the source classification code (SCC) field was used from the ISSIS. The SCC is an eight-digit code that breaks emission units into logical categories. SCCs are provided by the USEPA.

To produce the following tables, the first three digits of the SCC were used. Only categories that contributed significantly to the overall total are listed in the following sections. The complete category breakdown can be found in **Appendix C**.

Volatile Organic Material

Figure 10
Volatile Organic Material
Emission Trend (1000s of Tons/Year)

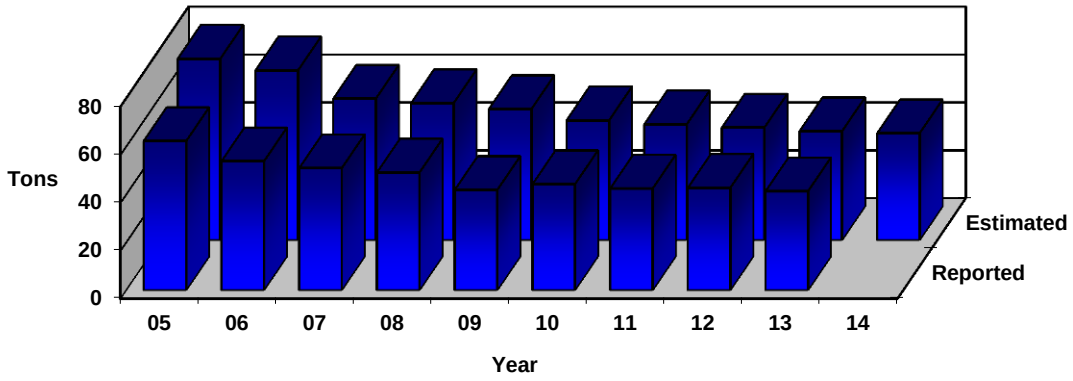


Table 6: Volatile Organic Material Emissions - 2014

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Food/Agriculture	8,707.9	19.52%	19.52%
Surface Coating Operations	7,468.4	16.74%	36.26%
Chemical Manufacturing	6,066.6	13.60%	49.86%
Fuel Combustion	3,406.2	7.64%	57.50%
Printing/Publishing	3,358.3	7.53%	65.02%
Petroleum Product Storage	2,615.3	5.86%	70.89%
Petroleum Industry	2,137.9	4.79%	75.68%
Rubber and Plastic Products	1,917.9	4.30%	79.98%
Bulk Terminal/Plants	1,289.7	2.89%	82.87%
Mineral Products	1,283.5	2.88%	85.75%
Organic Chemical Storage	739.8	1.66%	87.41%
Secondary Metal Production	676.2	1.52%	88.92%
Fabricated Metal Products	641.5	1.44%	90.36%
Solid Waste Disposal	580.2	1.30%	91.66%
Petroleum Marketing/Transport	502.3	1.13%	92.79%
Dry Cleaning (petroleum based)	426.7	0.96%	93.74%
Organic Solvent Use	422.1	0.95%	94.69%
Primary Metal Production	409.2	0.92%	95.61%
All Other Categories	1960.4	4.39%	100.00%

PM_{10}

Figure 11
PM_{10} Emission Trend
(1000s of Tons/Year)

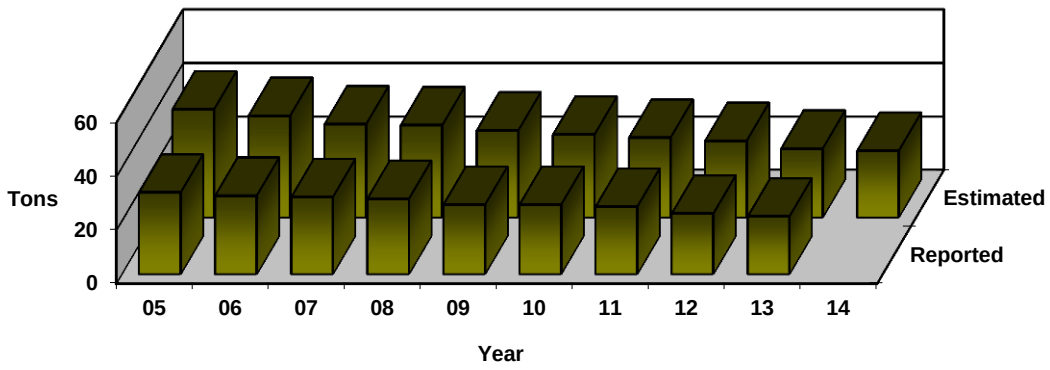


Table 7: Distribution of PM_{10} Emissions – 2014

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	7,942.9	31.85%	31.85%
Food/Agriculture	5,851.2	23.46%	55.31%
Mineral Products	4,822.1	19.33%	74.64%
Petroleum Industry	1,227.6	4.92%	79.56%
Secondary Metal Production	1,196.9	4.80%	84.36%
Primary Metal Production	986.0	3.95%	88.31%
Chemical Manufacturing	943.9	3.78%	92.10%
Solid Waste Disposal	501.6	2.01%	94.11%
Process Cooling	274.8	1.10%	95.21%
Fabricated Metal Products	269.4	1.08%	96.29%
All Other Categories	925.4	3.71%	100.00%

Carbon Monoxide

Figure 12
Carbon Monoxide Emission Trend (1000s of Tons/Year)

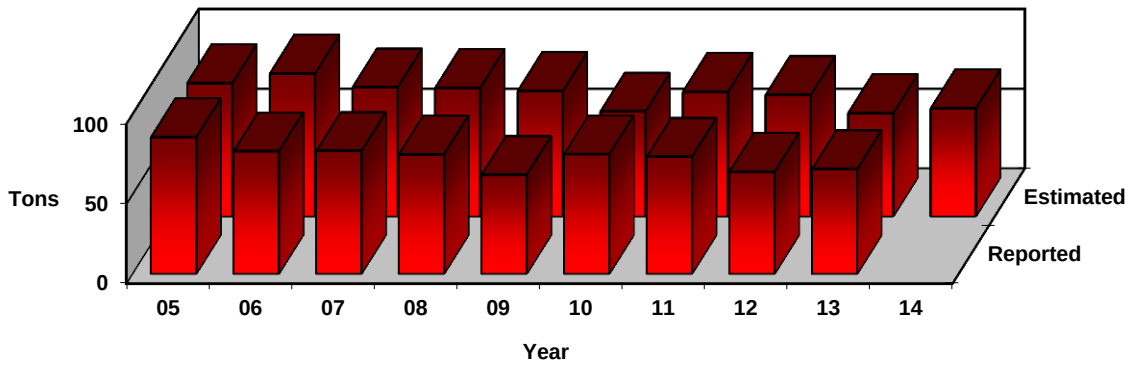


Table 8: Distribution of Carbon Monoxide Emissions - 2014

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	35,170.6	51.78%	51.78%
Primary Metal Production	16,070.1	23.66%	75.44%
Petroleum Industry	3,812.4	5.61%	81.06%
Mineral Products	2,934.2	4.32%	85.38%
Solid Waste Disposal	2,494.2	3.67%	89.05%
Secondary Metal Production	2,423.6	3.57%	92.62%
Chemical Manufacturing	1,828.1	2.69%	95.31%
Food/Agriculture	1,456.8	2.14%	97.45%
In-Process Fuel Use	486.7	0.72%	98.17%
Oil and Gas Production	279.6	0.41%	98.58%
Fabricated Metal Products	223.7	0.33%	98.91%
All Other Categories	740.6	1.09%	100.00%

Sulfur Dioxide

Figure 13
Sulfur Dioxide Emission
Trend (1000s of Tons/Year)

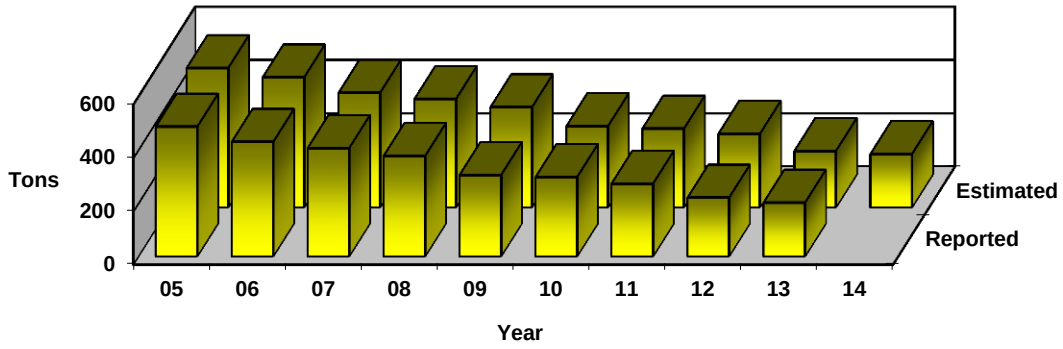


Table 9: Distribution of Sulfur Dioxide Emissions - 2014

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	177,814.8	88.75%	88.75%
Mineral Products	13,305.3	6.64%	95.39%
Primary Metal Production	2,630.5	1.31%	96.71%
Petroleum Industry	2,532.7	1.26%	97.97%
Chemical Manufacturing	1,412.2	0.70%	98.68%
Food/Agriculture	1,102.1	0.55%	99.23%
Solid Waste Disposal	978.5	0.49%	99.71%
All Other Categories	573.4	0.29%	100.00%

Nitrogen Oxides

Figure 14
Nitrogen Oxide Emission
Trend (1000s of Tons/Year)

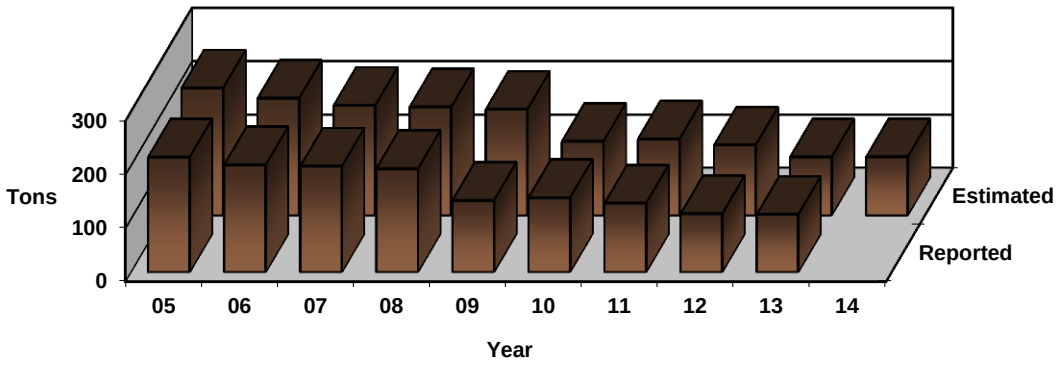


Table 10: Distribution of Nitrogen Oxide Emissions - 2014			
Category	**Estimated Emissions (tons)**	**Category Contribution**	**Cumulative Percent**
Fuel Combustion	88,910.5	81.24%	81.24%
Mineral Products	7,232.8	6.61%	87.85%
Petroleum Industry	4,870.4	4.45%	92.30%
Primary Metal Production	1,521.8	1.39%	93.69%
Food/Agriculture	1,497.7	1.37%	95.06%
Chemical Manufacturing	1,432.7	1.31%	96.36%
Solid Waste Disposal	804.3	0.73%	97.10%
In-Process Fuel Use	799.3	0.73%	97.83%
Oil and Gas Production	783.3	0.72%	98.55%
Secondary Metal Production	710.4	0.65%	99.19%
All Other Categories	881.1	0.81%	100.00%

Description of the Air Sampling Network

The Illinois air monitoring network is composed of instrumentation owned and operated by both the Illinois EPA and by cooperating local agencies. This network has been designed to measure ambient air quality levels throughout the State of Illinois following federal guidelines.

The network contains both continuous and non-continuous instruments. The continuous instruments operate throughout the year, while non-continuous instruments operate intermittently based on the schedule shown in **Table A1**. This is the official non-continuous sampling schedule used by the Illinois EPA during 2014.

The Illinois network is deployed along the lines described in the Illinois State Implementation Plan. An updated air monitoring plan is submitted to USEPA each year for review.

In accordance with USEPA air quality monitoring requirements as set forth in Title 40 of the Code of Federal Regulations, Part 58 (40 CFR 58), five types of monitoring stations are used to collect ambient air data. These include State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), Photochemical Assessment Monitoring Stations (PAMS), Special Purpose Monitoring Stations (SPMS), and National Core Monitoring Stations (NCore). The types of stations are distinguished from one another on the basis of the general monitoring objectives they are designed to meet.

The SLAMS, NAMS, PAMS, SPMS, and NCORE designations for the sites operated within the State of Illinois are provided in the Annual Network Plan. (epa.illinois.gov/topics/air-quality/outdoor-air/air-monitoring/network/index). All of the industrial sites are considered to be SPMS. **Table A2** is a summary of the distribution of pollutants through the years along with the total number of instruments and the total number of sites. The site directory is listed in **Table A3** and the monitoring directory is listed in **Table A4**

1. **State/Local Air Monitoring Station (SLAMS) Network -** The SLAMS network is designed to meet a minimum of four basis monitoring objectives:

a. To determine the highest concentrations expected to occur in the area covered by the network.

b. To determine representative concentrations in areas of high population density.

c. To determine the air quality impact of significant sources or source categories.

d. To determine general background concentration levels.

Table A1
2014 Non-continuous Sampling Schedule

JANUARY						
S	M	T	W	R	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY						
S	M	T	W	R	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH						
S	M	T	W	R	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL						
S	M	T	W	R	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY						
S	M	T	W	R	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE						
S	M	T	W	R	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY						
S	M	T	W	R	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST						
S	M	T	W	R	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER						
S	M	T	W	R	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER						
S	M	T	W	R	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER						
S	M	T	W	R	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER						
S	M	T	W	R	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

13 Every 6 Day Sampling Schedule 22 Every 3 Day Sampling Schedule

2. **National Air Monitoring Station (NAMS) Network -** The NAMS network is a subset of stations selected from the SLAMS network with emphasis given to urban and multisource areas. The primary objectives of the NAMS network are:

   a. To measure expected maximum concentrations.

   b. To measure concentrations in areas where poor air quality is combined with high population exposure.

   c. To provide data useable for the determination of national trends.

   d. To provide data necessary to allow the development of nationwide control strategies.

3. **Photochemical Assessment Monitoring Station (PAMS) Network -** The PAMS network is required in serious, severe, and extreme ozone nonattainment areas to obtain detailed data for ozone, precursors (NOx and VOC), and meteorology. NO_X and VOC sampling is required for the period June - August each year. Ozone sampling occurs during the ozone season, April - October. Network design is based on four monitoring types. In Illinois, PAMS are required in the Chicago metropolitan area only.

   a. Type 1 sites are located upwind of the nonattainment area and are located to measure background levels of ozone and precursors coming into the area

   b. Type 2 sites are located slightly downwind of the major source areas of ozone precursors.

   c. Type 3 sites are located at the area of maximum ozone concentrations.

   d. Type 4 sites are located at the domain edge of the nonattainment area and measure ozone and precursors leaving the area.

4. **Special Purpose Monitoring Station (SPMS) Network -** Any monitoring site that is not a designated SLAMS or NAMS is considered a special purpose monitoring station. Some of the SPMS network objectives are as follows:

   a. To provide data as a supplement to stations used in developing local control strategies, including enforcement actions.

   b. To verify the maintenance of ambient standards in areas not covered by the SLAMS/NAMS network.

   c. To provide data on non-criteria pollutants.

5. **National Core Station (NCore) Network -** NCore is a multi-pollutant network that integrates several advanced measurement systems. In Illinois, Northbrook and Bondville are considered NCore sites. A few of the NCore network objectives are as follows:

   a. Support for development of emission strategies and accountability of emission strategy progress through tracking long-term trends of pollutants and their precursors.

   b. Support of long-term health assessments that contribute to review of national standards.

c. Support to scientific studies ranging across technological, health, and atmospheric process disciplines.

d. Support to ecosystem assessments recognizing that national air quality networks benefit ecosystems assessments.

Table A2
Distribution of Air Monitoring Equipment

Parameter	2014	2013	2012	2011	2010
Particulate Matter ($PM_{2.5}$)	33	33	34	34	38
$PM_{2.5}$ Air Quality Index	11	11	12	12	13
$PM_{2.5}$ Speciation	5	5	5	5	5
Particulate Matter (PM_{10})	4	4	5	5	17
Total Suspended Particulates	7	13	13	13	18
Lead	7	13	13	13	18
Continuous Mercury	0	0	0	1	1
Sulfur Dioxide	16	16	15	15	19
Nitrogen Dioxide	6	6	7	7	7
Ozone	37	38	38	34	36
Carbon Dioxide	1	1	1	1	1
Carbon Monoxide	3	3	9	9	9
Volatile Organic Compounds	2	2	2	2	2
Semi Volatile Organic Compounds	1	1	1	1	1
Semi Non Methane Organic Compounds	1	1	1	1	1
Carbonyls	2	2	2	2	2
Wind Systems	14	16	17	17	18
Solar Radiation	1	2	2	2	9
Meteorology	3	3	3	3	3
Total Instruments	154	170	180	177	218
Total Sites	65	72	78	75	84

There were seven sites discontinued in the monitoring network with one site moved to a location already operating. Most of the discontinued monitors were lead monitors that measured low concentrations. Lead monitors discontinued were Maywood, Schiller Park, Bartonville, Mapleton, Sterling, and Rockford. Site access was lost at the ozone site in Chicago University. The Blue Island $PM_{2.5}$ monitor was discontinued and moved to Alsip.

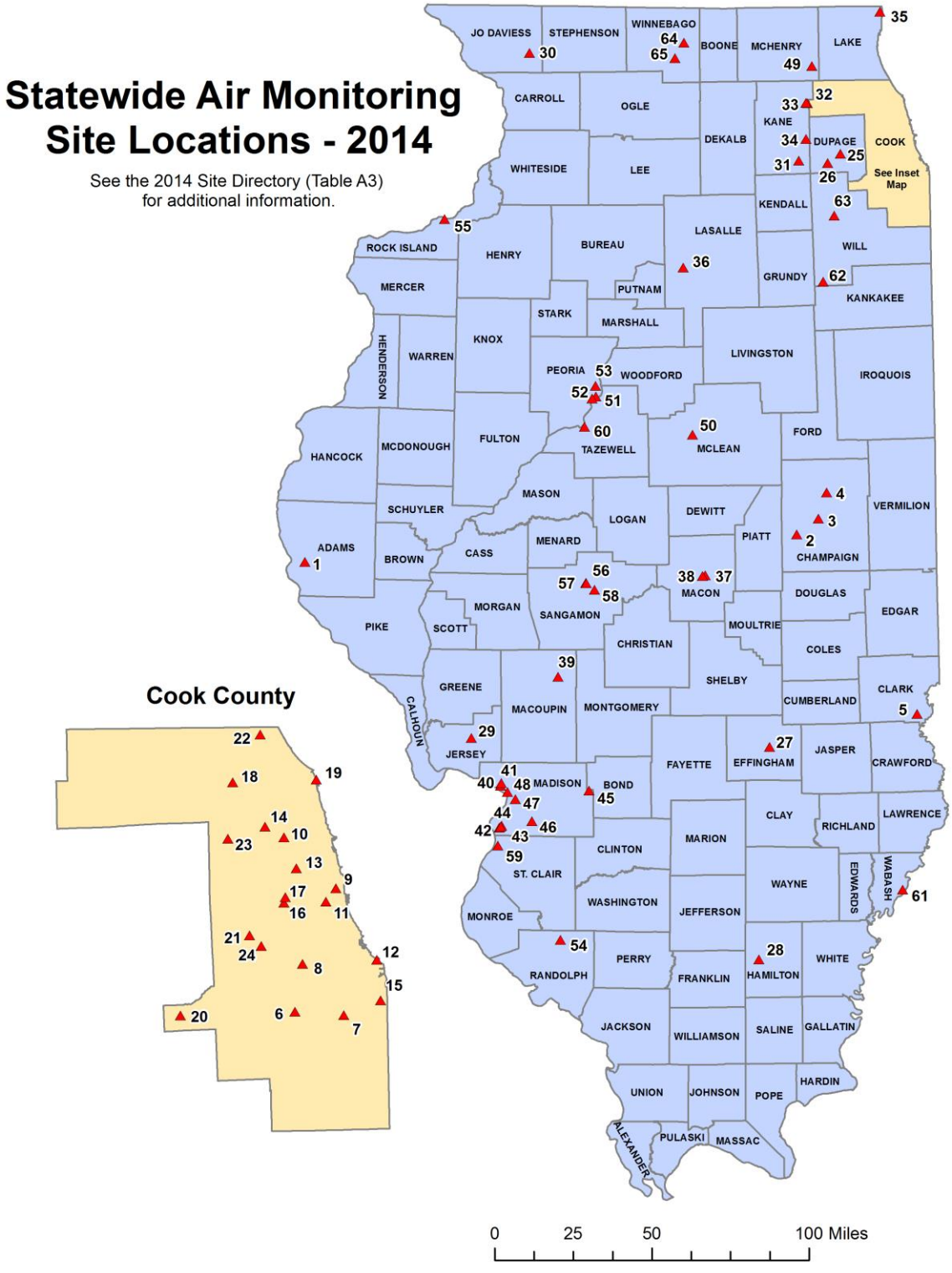

Statewide Air Monitoring Site Locations - 2014
See the 2014 Site Directory (Table A3) for additional information.
Cook County
See Inset Map
JO DAVIESS
STEPHENSON
WINNEBAGO
BOONE
MCHENRY
LAKE
CARROLL
OGLE
KANE
DUPAGE
COOK
WHITESIDE
LEE
DEKALB
KENDALL
WILL
ROCK ISLAND
HENRY
BUREAU
LASALLE
GRUNDY
KANKAKEE
MERCER
PUTNAM
STARK
MARSHALL
HENDERSON
WARREN
KNOX
LIVINGSTON
PEORIA
WOODFORD
IROQUOIS
FULTON
TAZEWELL
MCLEAN
FORD
HANCOCK
MCDONOUGH
MASON
SCHUYLER
LOGAN
DEWITT
PIATT
VERMILION
ADAMS
BROWN
CASS
MENARD
CHAMPAIGN
MACON
DOUGLAS
MORGAN
SANGAMON
EDGAR
PIKE
SCOTT
CHRISTIAN
MOULTRIE
COLES
GREENE
MACOUPIN
MONTGOMERY
SHELBY
CUMBERLAND
CLARK
CALHOUN
JERSEY
FAYETTE
EFFINGHAM
JASPER
CRAWFORD
MADISON
BOND
CLAY
RICHLAND
LAWRENCE
CLINTON
MARION
ST. CLAIR
WAYNE
EDWARDS
WABASH
WASHINGTON
JEFFERSON
MONROE
PERRY
WHITE
RANDOLPH
FRANKLIN
HAMILTON
JACKSON
WILLIAMSON
SALINE
GALLATIN
UNION
JOHNSON
POPE
HARDIN
ALEXANDER
PULASKI
MASSAC
0
25
50
100 Miles

Table A3
2014 Site Directory

Site Map ID	AQS ID	County	City	Address	Latitude Longitude	Owner / Operator
1	17-001-0007	Adams	Quincy	John Wood Comm. College 1301 South 48th St.	+39.91540937 -91.33586832	IL EPA
2	17-019-1001	Champaign	Bondville	State Water Survey Township Rd. 500 E.	+40.052780 -88.372510	IL EPA/US EPA
3	17-019-0006	Champaign	Champaign	Ameren Substation 904 N. Walnut	+40.1237962 -88.229531	IL EPA
4	17-019-0007	Champaign	Thomasboro	North Thomas St.	+40.244913 -88.188519	IL EPA
5	17-023-0001	Clark	West Union	416 S. State Highway 1 & West Union	+39.210883 -87.668416	Indiana DEP
6	17-031-0001	Cook	Alsip	Village Garage 4500 W. 123rd St.	+41.6709919 -87.7324569	CCDEC
7	17-031-0113	Cook	Chicago	ArcelorMittal Steel W. 127th St. and S. State St.	+41.663611 -87.622483	IL EPA
8	17-031-0076	Cook	Chicago	Com Ed Maintenance Bldg. 7801 Lawndale	+41.75139998 -87.71348815	CCDEC
9	17-031-0063	Cook	Chicago	CTA Building 321 S. Franklin	+41.877628 -87.635027	IL EPA
10	17-031-0052	Cook	Chicago	Mayfair Pump Station 4850 Wilson Ave.	+41.96548483 -87.74992806	CCDEC
11	17-031-0110	Cook	Chicago	Perez Elementary School 1241 19th St.	+41.855771 -87.657932	CCDEC
12	17-031-0032	Cook	Chicago	South Water Filtration Plant 3300 E. Cheltenham Pl.	+41.75583241 -87.54534967	CCDEC
13	17-031-0057	Cook	Chicago	Springfield Pump Station 1745 N. Springfield Ave.	+41.912526 -87.722667	CCDEC
14	17-031-1003	Cook	Chicago	Taft High School 6545 W. Hurlbut St	+41.98433233 -87.7920017	CCDEC
15	17-031-0022	Cook	Chicago	Washington High School 3535 E. 114th St.	+41.68716544 -87.53931548	CCDEC
16	17-031-4002	Cook	Cicero	Cook County Trailer 1820 S. 51st Ave	+41.85524313 -87.7524697	CCDEC
17	17-031-6005	Cook	Cicero	Liberty School 13th St. & 50th Ave.	+41.86442642 -87.74890238	CCDEC
18	17-031-4007	Cook	Des Plaines	Regional Office Building 9511 W. Harrison St	+42.06028469 -87.86322543	IL EPA
19	17-031-7002	Cook	Evanston	Water Pumping Station 531 E. Lincoln	+42.062053 -87.675254	IL EPA
20	17-031-1601	Cook	Lemont	Cook County Trailer 729 Houston	+41.66812034 -87.99056969	CCDEC
21	17-031-1016	Cook	Lyons Township	Village Hall 50th St & Glencoe	+41.801180 -87.832349	IL EPA
22	17-031-4201	Cook	Northbrook	Northbrook Water Plant 750 Dundee Rd.	+42.13999619 -87.79922692	IL EPA
23	17-031-3103	Cook	Schiller Park	IEPA Trailer 4743 Mannheim Rd.	+41.96519348 -87.87626473	IL EPA
24	17-031-3301	Cook	Summit	Graves Elementary School 60th St. & 74th Ave.	+41.78276601 -87.80537679	CCDEC

Table A3
2014 Site Directory

Site Map ID	AQS ID	County	City	Address	Latitude Longitude	Owner / Operator
25	17-043-6001	DuPage	Lisle	Morton Arboretum Route 53	+41.81304939 -88.0728269	IL EPA
26	17-043-4002	DuPage	Naperville	City Hall 400 S. Eagle St.	+41.77107094 -88.15253365	IL EPA
27	17-049-1001	Effingham	Effingham	Central Junior High School Route 45 South	+39.06715932 -88.54893401	IL EPA
28	17-065-0002	Hamilton	Knight Prairie	Ten Mile Creek DNR Office State Route 14	+38.08215516 -88.6249434	IL EPA
29	17-083-1001	Jerseyville	Jerseyville	Illini Junior High School Liberty St. & County Rd.	+39.11053947 -90.32407986	IL EPA
30	17-085-9991	Jo Daviess	Stockton	10952 E. Parker Rd.	+42.2869 -89.9997	US EPA
31	17-089-0007	Kane	Aurora	Health Department 1240 N. Highland	+41.78471651 -88.32937361	IL EPA
32	17-089-0005	Kane	Elgin	Larsen Junior High School 665 Dundee Rd.	+42.04914776 -88.27302929	IL EPA
33	17-089-0003	Kane	Elgin	McKinley School 258 Lovell St.	+42.050403 -88.28001471	IL EPA
34	17-089-0113	Kane	Geneva	Johnson Controls 300 S. Glengarry Dr.	+41.884417 -88.282692	IL EPA
35	17-097-1007	Lake	Zion	Camp Logan Illinois Beach State Park	+42.4675733 -87.81004705	IL EPA
36	17-099-0007	La Salle	Oglesby	308 Portland Ave.	+41.29301454 -89.04942498	IL EPA
37	17-115-0013	Macon	Decatur	IEPA Trailer 2200 N. 22nd	+39.866933 -88.925452	IL EPA
38	17-115-0110	Macon	Decatur	Mueller 1226 E. Garfield	+39.862576 -88.940748	IL EPA
39	17-117-0002	Macoupin	Nilwood	IEPA Trailer Heaton & Dubois	+39.39607533 -89.80973892	IL EPA
40	17-119-0008	Madison	Alton	Clara Barton School 409 Main St.	+38.89018605 -90.14803114	IL EPA
41	17-119-2009	Madison	Alton	SIU Dental Clinic 1700 Annex St.	+38.90308534 -90.14316803	IL EPA
42	17-119-0010	Madison	Granite City	Air Products 15th & Madison	+38.69443831 -90.15395426	IL EPA
43	17-119-1007	Madison	Granite City	Fire Station #1 23rd & Madison	+38.70453426 -90.13967484	IL EPA
44	17-119-0024	Madison	Granite City	Gateway Medical Center 2100 Madison Ave.	+38.7006315 -90.14476267	IL EPA
45	17-119-9991	Madison	Highland	5403 State Rd. 160	+38.8690 -89.6228	US EPA
46	17-119-1009	Madison	Maryville	Southwest Cable TV 200 W. Division	+38.72657262 -89.95996251	IL EPA
47	17-119-1010	Madison	South Roxana	South Roxana Elementary School Trailer Missouri Ave.	+38.827665 -90.058116	IL EPA
48	17-119-3007	Madison	Wood River	Water Treatment Plant 54 N. Walcott	+38.86066947 -90.10585111	IL EPA
49	17-111-0001	McHenry	Cary	Cary Grove High School 1st St. & Three Oaks Rd.	+42.22144166 -88.24220734	IL EPA

Table A3
2014 Site Directory

Site Map ID	AQS ID	County	City	Address	Latitude Longitude	Owner / Operator
50	17-113-2003	McLean	Normal	ISU Physical Plant Main & Gregory	+40.51873537 -88.99689571	IL EPA
51	17-143-0037	Peoria	Peoria	City Office Building 613 N.E. Jefferson	+40.697326 -89.584084	IL EPA
52	17-143-0024	Peoria	Peoria	Fire Station #8 MacArthur & Hurlburt	+40.68742038 -89.60694277	IL EPA
53	17-143-1001	Peoria	Peoria Heights	Peoria Heights High School 508 E. Glen Ave.	+40.74550393 -89.58586902	IL EPA
54	17-157-0001	Randolph	Houston	IEPA Trailer Hickory Grove & Fallview	+38.17627761 -89.78845862	IL EPA
55	17-161-3002	Rock Island	Rock Island	Rock Island Arsenal 32 Rodman Ave.	+41.51472697 -90.51735026	IL EPA
56	17-167-0012	Sangamon	Springfield	Agricultural Building State Fair Grounds	+39.83192087 -89.64416359	IL EPA
57	17-167-0014	Sangamon	Springfield	Illinois Building State Fair Grounds	+39.831522 -89.640926	IL EPA
58	17-167-0006	Sangamon	Springfield	Sewage Treatment Plant 3300 Mechanicsburg Rd.	+39.80061377 -89.59122532	IL EPA
59	17-163-0010	St. Clair	East St. Louis	RAPS Trailer 13th & Tudor	+38.61203448 -90.16047663	IL EPA
60	17-179-0004	Tazewell	Pekin	Fire Station #3 272 Derby	+40.55643203 -89.65402083	IL EPA
61	17-185-0001	Wabash	Mount Carmel	Division St.	+38.397276 -87.773631	Indiana DEP
62	17-197-1011	Will	Braidwood	Com Ed Training Center 36400 S. Essex Rd.	+41.22153707 -88.19096718	IL EPA
63	17-197-1002	Will	Joliet	Pershing Elementary School Midland & Campbell Sts.	+41.52688509 -88.11647381	IL EPA
64	17-201-2001	Winnebago	Loves Park	Maple Elementary School 1405 Maple Ave.	+42.33498222 -89.0377748	IL EPA
65	17-201-0013	Winnebago	Rockford	Health Department 201 Division St.	+42.26308105 -89.09276716	IL EPA

Table A4
2014 Monitoring Directory

AQS ID	City	CO	CO_2	NO_2	Ozone	PM_{10}	$PM_{2.5}$ FRM	$PM_{2.5}$ AQI	$PM_{2.5}$ Speciation	SO_2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-001-0007	Quincy															
17-019-0006	Champaign N. Walnut															
17-019-0007	Thomasboro															
17-019-1001	Bondville	T								T						
17-023-0001	West Union															
17-031-0001	Alsip															
17-031-0022	Chicago Washington High School					C										
17-031-0032	Chicago South Water Filtration															
17-031-0052	Chicago Mayfair Pump Station															
17-031-0057	Chicago Springfield Pump Station															
17-031-0063	Chicago CTA Building															
17-031-0064	Chicago University of Chicago															
17-031-0076	Chicago Com Ed Maintenance															
17-031-0110	Chicago Perez Elementary															
17-031-0113	Chicago ArcelorMittal Steel															
17-031-1003	Chicago Taft High School															
17-031-1016	Lyons Township					C										
17-031-1601	Lemont															
17-031-2001	Blue Island															
17-031-3103	Schiller Park															
17-031-3301	Summit															
17-031-4002	Cicero Cook County Trailer															
17-031-4007	Des Plaines															

Active Monitor	Site/Monitor Installed	Site/Monitor Removed	C = Continuous PM_{10}, T = Trace level monitor

Table A4
2014 Monitoring Directory

AQS ID	City	CO	CO_2	NO_2	Ozone	PM_{10}	$PM_{2.5}$ FRM	$PM_{2.5}$ AQI	$PM_{2.5}$ Speciation	SO_2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-031-4201	Northbrook	T								T						
17-031-6003	Maywood 4th District Court															
17-031-6005	Cicero Liberty School															
17-031-7002	Evanston															
17-043-4002	Naperville															
17-043-6001	Lisle															
17-049-1001	Effingham															
17-065-0002	Knight Prairie															
17-083-1001	Jerseyville															
17-085-9991	Stockton															
17-089-0003	Elgin McKinley School															
17-089-0005	Elgin Larsen Jr. High School															
17-089-0007	Aurora															
17-089-0113	Geneva Johnson Controls															
17-097-1007	Zion															
17-099-0007	Oglesby															
17-111-0001	Cary															
17-113-2003	Normal															
17-115-0013	Decatur IEPA Trailer															
17-115-0110	Decatur Mueller															
17-117-0002	Nilwood															
17-119-0008	Alton Clara Barton Elementary															
17-119-2009	Alton SIU Dental Clinic															

Active Monitor	Site/Monitor Installed	Site/Monitor Removed	T = Trace level monitor

Table A4
2014 Monitoring Directory

AQS ID	City	CO	CO_2	NO_2	Ozone	PM_{10}	$PM_{2.5}$ FRM	$PM_{2.5}$ AQI	$PM_{2.5}$ Speciation	SO_2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-119-0010	Granite City Air Products												■			
17-119-0024	Granite City Gateway Medical Center						■		■							
17-119-1007	Granite City Fire Station #1					■	■	■						■		
17-119-1009	Maryville				■											
17-119-1010	South Roxana									■						
17-119-3007	Wood River				■		■			■						
17-119-9991	Highland				■											
17-143-0024	Peoria Fire Station #8				■					■						
17-143-0037	Peoria City Office Building						■	■						■		
17-143-0110	Bartonville												■			
17-143-0210	Mapleton												■			
17-143-1001	Peoria Heights				■											
17-157-0001	Houston				■		■			■						
17-161-3002	Rock Island				■		■							■		
17-163-0010	East St. Louis	■		■	■		■	■		■				■		■
17-167-0006	Springfield Sewage Treatment Plant									■						
17-167-0012	Springfield Agricultural Building						■									
17-167-0014	Springfield Illinois Building				■											
17-179-0004	Pekin									■						
17-185-0001	Mount Carmel									■						
17-195-0110	Sterling												■			
17-197-1002	Joliet Pershing Elementary						■									
17-197-1011	Braidwood				■		■	■								

Active Monitor	Site/Monitor Installed	Site/Monitor Removed

Table A4
2014 Monitoring Directory

AQS ID	City	CO	CO_2	NO_2	Ozone	PM_{10}	$PM_{2.5}$ FRM	$PM_{2.5}$ AQI	$PM_{2.5}$ Speciation	SO_2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-201-0013	Rockford Health Department															
17-201-0110	Rockford J. Rubin & Company															
17-201-2001	Loves Park															
Active Monitor	Site/Monitor Installed	Site/Monitor Removed														

Air Quality Data Interpretation

In order to provide a uniform procedure for determining whether a sufficient amount of air quality data has been collected by a sensor in a given time period (year, quarter, month, day, etc.) to accurately represent air quality during that time period, a minimum statistical selection criteria was developed.

In order to calculate an annual average for non-continuous parameters, a minimum of 75% of the data that was scheduled to be collected must be available, i.e., 45 samples per year for an every-six-day schedule (total possible of 60 samples). Additionally, in order to have proper quarterly balance, each site on an every sixth day schedule should have at least 10 samples per calendar quarter. This provides for a 20% balance in each quarter if the minimum required annual sampling is achieved.

PM_{10} and $PM_{2.5}$ samplers operate on one of three sampling frequencies:

- Every-day sampling (68 samples required each quarter for 75% data capture)
- Every-third-day sampling (23 samples required each quarter for 75% data capture)
- Every-six-day sampling (12 samples required each quarter for 75% data capture).

To calculate an annual PM_{10} or $PM_{2.5}$ mean, arithmetic means are calculated for each quarter in which valid data is recorded in at least 75% of the possible sampling periods. The annual mean is then the arithmetic average of the four quarterly means.

To determine an annual average for continuous data 75% of the total possible yearly observations are necessary, i.e., a minimum of 6570 hours (75% of the hours available) are needed. In order to provide a balance between the respective quarters, each quarter should have at least 1300 hours which is 20% of the 75% minimum annual requirement. To calculate quarterly averages at sites which do not meet the annual criteria, 75% of the total possible observations in a quarter are needed, i.e., a minimum of 1647 hours of 2200 hours available. Monthly averages also require 75% of the total possible observations in a month, i.e., 540 hours as a minimum. Additionally, for short-term running averages (24-hour, 8-hour, and 3-hour) 75% of the data during the particular time period is needed, i.e., 18 hours for a 24-hour average, six hours for an 8-hour average and three hours for a 3-hour average.

For ozone, a valid day for 1-hour samples must have 75% of the hours between 9 a.m. and 9 p.m. otherwise it is considered missing. A missing day can be considered valid if the peak ozone concentration on the preceding and succeeding days is less than 0.090 ppm. The expected exceedances are actual exceedances adjusted for the percent of missing days. For 8-hour samples, forward running averages are computed for each hour, which includes the next seven hours as well. A valid 8-hour average has at least six valid 1-hour averages within the 8-hour period. A valid 8-hour day contains at least 75% (18) of the possible 8-hour running averages. Complete sampling over a three-year period requires an average of 90% valid days with each year having at least 75% valid days.

Data listed as not meeting the minimum statistical selection criteria in this report were so noted after evaluation using the criteria above. Although short term averages (3, 8, 24 hours) have been computed for certain sites not meeting the annual criteria, these averages may not be representative of an entire year's air quality. In certain circumstances where even the 75% criteria is met, the number and/or magnitude of short-term averages may not be directly comparable from one year to the next because of seasonal distributional differences.

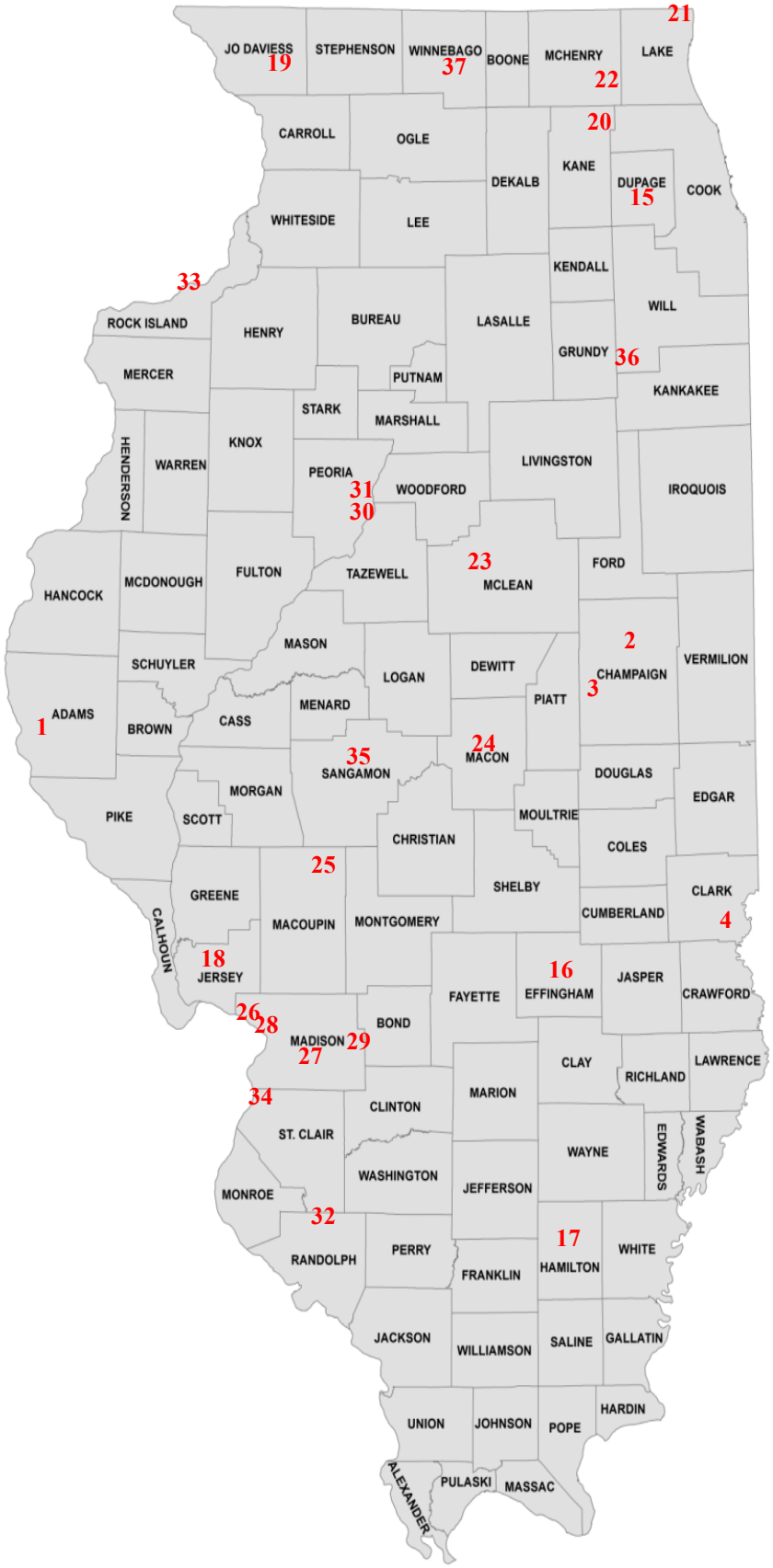
For summary purposes, the data is expressed in the number of figures to which the raw data is validated. Extra figures may be carried in the averaging technique, but the result is rounded to the appropriate number of figures. For example, the values 9, 9, and 10 are averaged to give 9; whereas the values 9.0, 9.0, and 10.0 are averaged to 9.3. The raw data itself should not be expressed to more significant figures than the sensitivity of the monitoring methodology allows.

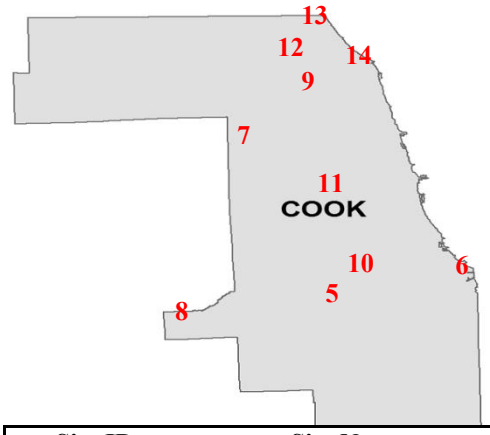
In comparing data to the various air quality standards, the data are implicitly rounded to the number of significant figures specified by that standard. For example, to exceed the 0.12 ppm hourly ozone standard, an hourly value must be 0.125 ppm or higher; to exceed the 9 ppm CO 8-hour standard, an 8-hour average must be 9.5 ppm or higher. Peak averages, though, will be expressed to the number of significant figures appropriate to that monitoring methodology.

The NAAQS for CO has a short-term standard for ambient air concentrations not to be exceeded more than once per year. SO_2 has a 1-hour standard which is the three-year average of each year's 99^{th} percentile values. NO_2 has a 1-hour standard which is the three-year average of each year's 98^{th} percentile values. PM_{10} has a 24-hour standard which cannot average more than one exceedance over a three-year period (in three years). $PM_{2.5}$ has a 24-hour standard which is a three-year average of each year's 98^{th} percentile values. In the case of ozone, the 8-hour standard is concentration-based and as such is the average of the fourth highest value each year over a three-year period. The standards are promulgated in this manner in order to protect the public from excessive levels of pollution both in terms of acute and chronic health effects.

The following data tables detail and summarize air quality in Illinois in 2014. The tables of short-term exceedances list those sites which exceeded any of the short-term primary standards (24 hours or less). The detailed data tables list averages and peak concentrations for all monitoring sites in Illinois.

2014 Ozone Monitoring Sites





	Site ID	Site Name
1.	170010007	Quincy
2.	170190007	Thomasboro
3.	170191001	Bondville
4.	170230001	West Union
5.	170310001	Alsip
6.	170310032	Chicago – South Water Filtration
7.	170313103	Schiller Park
8.	170311601	Lemont
9.	170311003	Chicago – Taft High School
10.	170310076	Chicago – Com Ed Maint. Bldg.
11.	170314002	Cicero
12.	170314007	Des Plaines
13.	170314201	Northbrook
14.	170317002	Evanston
15.	170436001	Lisle
16.	170491001	Effingham
17.	170650002	Knight Prairie
18.	170831001	Jerseyville
19.	170859991	Stockton
20.	170890005	Elgin
21.	170971007	Zion
22.	171110001	Cary
23.	171132003	Normal
24.	171150013	Decatur
25.	171170002	Nilwood
26.	171190008	Alton
27.	171191009	Maryville
28.	171193007	Wood River
29	171199991	Highland
30.	171430024	Peoria
31.	171431001	Peoria Heights
32.	171570001	Houston
33.	171613002	Rock Island
34.	171630010	East St. Louis
35.	171670014	Springfield
36.	171971011	Braidwood
37.	172012001	Loves Park

Table B1
2014 1-Hour Ozone Exceedances

EXCEEDANCES OF THE FORMER 1-HOUR PRIMARY STANDARD OF 0.12 PPM		
Date	**City**	**Concentration**
None	None	None
Total Over 0.12 ppm	0	
Total Days Over 0.12 ppm	0	

Table B2
2014 8-Hour Ozone Exceedances

EXCEEDANCES OF THE 8-HOUR PRIMARY STANDARD OF 0.075 PPM						
Date	City	Concentration		Date	City	Concentration
5/5	Highland	0.078				
5/25	Des Plaines	0.077				
	Evanston	0.077				
	Northbrook	0.076				
6/7	Chicago – SWFP	0.083				
	Cary	0.081				
	Des Plaines	0.081				
	Northbrook	0.081				
	Alsip	0.080				
	Evanston	0.079				
	Zion	0.079				
	Chicago – Com Ed	0.077				
	Chicago – Taft	0.076				
8/2	Lemont	0.076				
8/4	Alton	0.080				
	Wood River	0.077				
9/30	Houston	0.077				

Total Over 0.075 ppm	17
Total Days Over 0.075 ppm	6

Table B3
2014 Ozone Highs

AQS ID	City	Number Of Days 8-Hour Greater Than 0.075 ppm			Fourth Highest Samples 1-Hour (ppm)				Fourth Highest Samples 8-Hour (ppm)			
		2014	2013	2012								
17-001-0007	Quincy	0	0	2	0.071	0.070	0.066	0.066	0.067	0.062	0.062	0.061
17-019-0007	Thomasboro	0	0	2	0.069	0.069	0.068	0.067	0.065	0.065	0.063	0.062
17-019-1001	Bondville	0	0	4	0.076	0.075	0.072	0.071	0.071	0.069	0.068	0.068
17-023-0001	West Union	0	0	1	0.072	0.072	0.071	0.070	0.067	0.066	0.065	0.063
17-031-0001	Alsip	1	0	8	0.083	0.082	0.077	0.074	0.080	0.073	0.072	0.066
17-031-0032	Chicago South Water Filtration	1	0	13	0.088	0.080	0.080	0.077	0.083	0.074	0.074	0.067
17-031-0064	Chicago University of Chicago	-	0	7	-	-	-	-	-	-	-	-
17-031-0076	Chicago Com Ed Maintenance	1	0	7	0.080	0.077	0.073	0.073	0.077	0.069	0.068	0.067
17-031-1003	Chicago Taft High School	1	0	4	0.080	0.080	0.078	0.072	0.076	0.075	0.066	0.065
17-031-1601	Lemont	1	1	8	0.086	0.077	0.075	0.075	0.076	0.073	0.070	0.070
17-031-3103	Schiller Park	0	0	-	0.079	0.079	0.074	0.071	0.071	0.069	0.065	0.063
17-031-4002	Cicero Cook County Trailer	0	0	8	0.078	0.077	0.076	0.074	0.073	0.073	0.063	0.063
17-031-4007	Des Plaines	2	0	3	0.087	0.084	0.081	0.079	0.081	0.077	0.069	0.069
17-031-4201	Northbrook	2	2	16	0.086	0.085	0.083	0.077	0.081	0.076	0.069	0.065
17-031-7002	Evanston	2	1	15	0.083	0.082	0.082	0.082	0.079	0.077	0.075	0.072
17-043-6001	Lisle	0	0	2	0.081	0.077	0.075	0.074	0.071	0.071	0.068	0.064
17-049-1001	Effingham	0	0	2	0.072	0.069	0.068	0.068	0.067	0.064	0.063	0.063
17-065-0002	Knight Prairie	0	0	10	0.078	0.076	0.073	0.070	0.068	0.067	0.066	0.063
17-083-1001	Jerseyville	0	2	14	0.089	0.081	0.076	0.075	0.071	0.070	0.066	0.065
17-085-9991	Stockton	0	0	2	0.083	0.073	0.072	0.070	0.073	0.069	0.069	0.067
17-089-0005	Elgin Larsen Jr. High School	0	0	3	0.081	0.076	0.075	0.074	0.071	0.070	0.067	0.066
17-097-1007	Zion	1	2	19	0.085	0.085	0.083	0.083	0.079	0.074	0.074	0.073
17-111-0001	Cary	1	1	4	0.092	0.076	0.076	0.074	0.081	0.073	0.071	0.067
17-113-2003	Normal	0	0	6	0.073	0.072	0.071	0.071	0.070	0.068	0.067	0.066
17-115-0013	Decatur IEPA Trailer	0	0	4	0.073	0.072	0.072	0.071	0.067	0.067	0.067	0.067

Table B3
2014 Ozone Highs

AQS ID	City	Number Of Days 8-Hour Greater Than 0.075 ppm			Fourth Highest Samples 1-Hour (ppm)				Fourth Highest Samples 8-Hour (ppm)			
		2014	2013	2012								
17-117-0002	Nilwood	0	0	1	0.072	0.071	0.071	0.069	0.068	0.065	0.064	0.063
17-119-0008	Alton Clara Barton School	1	1	10	0.088	0.087	0.085	0.083	0.080	0.074	0.074	0.072
17-119-1009	Maryville	0	2	14	0.092	0.088	0.083	0.078	0.075	0.075	0.071	0.070
17-119-3007	Wood River	1	3	17	0.088	0.085	0.083	0.083	0.077	0.073	0.072	0.070
17-119-9991	Highland	1	1	17	0.092	0.086	0.079	0.078	0.078	0.070	0.069	0.068
17-143-0024	Peoria Fire Station #8	0	0	0	0.071	0.070	0.069	0.069	0.068	0.066	0.065	0.064
17-143-1001	Peoria Heights	0	0	7	0.074	0.070	0.068	0.068	0.070	0.064	0.064	0.064
17-157-0001	Houston	1	0	13	0.084	0.079	0.079	0.078	0.077	0.074	0.074	0.071
17-161-3002	Rock Island	0	0	0	0.068	0.068	0.068	0.067	0.062	0.062	0.062	0.062
17-163-0010	East St. Louis	0	0	15	0.095	0.090	0.082	0.079	0.074	0.069	0.067	0.067
17-167-0014	Springfield	0	0	6	0.074	0.068	0.067	0.067	0.062	0.062	0.061	0.059
17-197-1011	Braidwood	0	0	1	0.075	0.073	0.071	0.070	0.069	0.068	0.065	0.064
17-201-2001	Loves Park	0	0	0	0.076	0.076	0.074	0.074	0.072	0.072	0.070	0.070
Statewide Average					0.080	0.077	0.075	0.074	0.073	0.070	0.068	0.066
Total Over 0.075 ppm		17	16	254								
Total Days Over 0.075 ppm		6	9	45								

Table B4
2014 Ozone Design Values

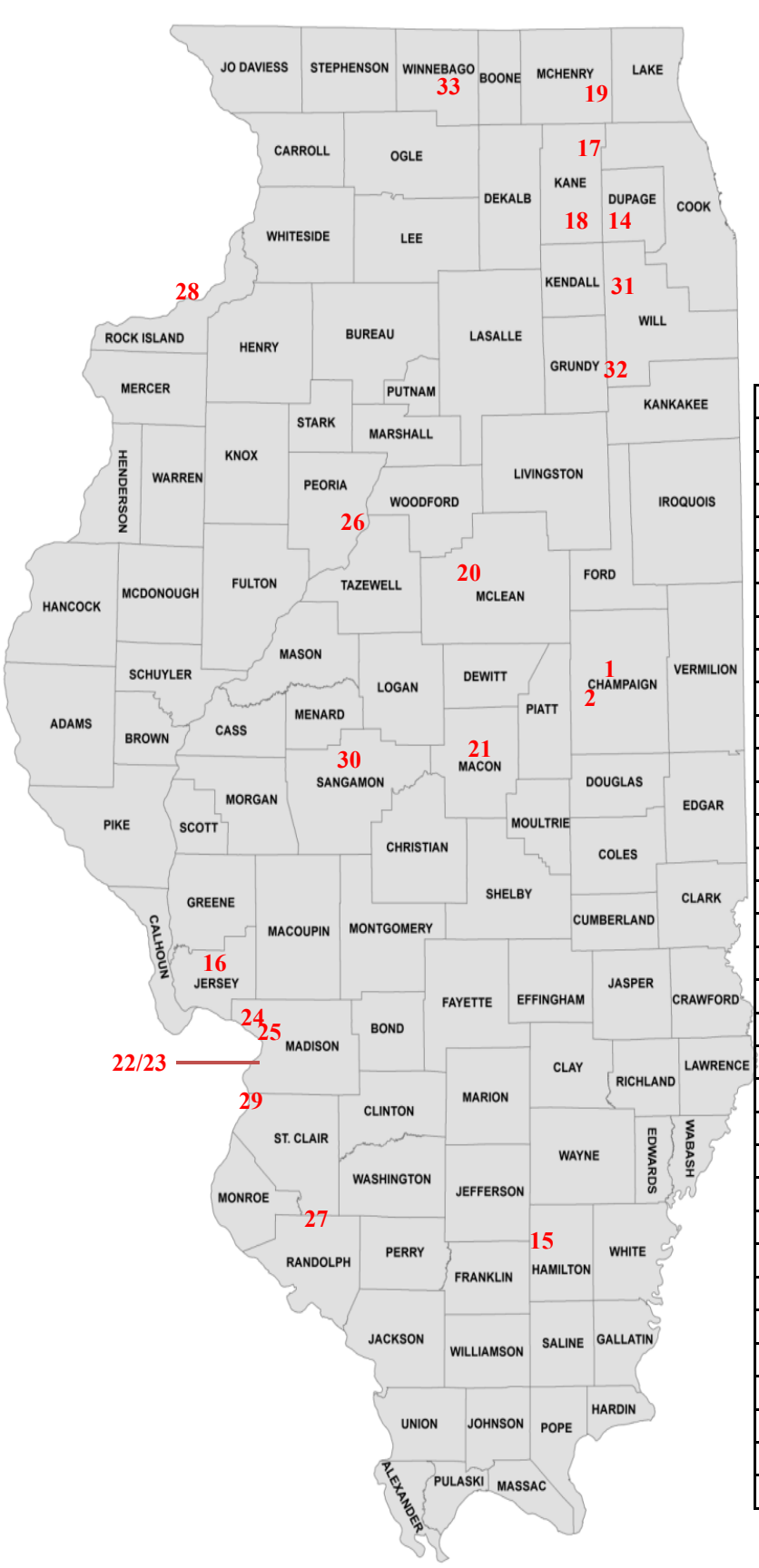
AQS ID	City	Fourth High 8-Hour Concentrations (ppm)					Design Values* (ppm)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-001-0007	Quincy	0.061	0.063	0.075	0.066	0.067	0.066	0.068	0.069
17-019-0007	Thomasboro	0.062	0.063	0.075	0.076	-	0.066	0.071	-
17-019-1001	Bondville	0.068	0.066	0.077	0.074	-	0.070	0.072	-
17-023-0001	West Union	0.063	0.061	0.072	0.068	0.066	0.065	0.067	0.068
17-031-0001	Alsip	0.066	0.064	0.079	0.071	0.073	0.069	0.071	0.074
17-031-0032	Chicago South Water Filtration	0.067	0.071	0.091	0.079	0.074	**0.076**	**0.080**	**0.081**
17-031-0064	Chicago University of Chicago	-	0.058	0.081	0.074	0.071	-	0.071	0.075
17-031-0072	Chicago Jardine Water Plant	-	-	0.090	0.074	0.071	**-**	**-**	**0.078**
17-031-0076	Chicago Com Ed Maintenance	0.067	0.062	0.081	0.073	0.068	0.070	0.072	0.074
17-031-1003	Chicago Taft High School	0.065	0.066	0.079	0.067	0.070	0.070	0.070	0.072
17-031-1601	Lemont	0.070	0.064	0.081	0.069	0.073	0.071	0.071	0.074
17-031-3103	Schiller Park	0.063	0.062	-	-	-	0.062	-	-
17-031-4002	Cicero Cook County Trailer	0.063	0.063	0.083	0.072	0.068	0.069	0.072	0.074
17-031-4007	Des Plaines	0.069	0.067	0.073	0.065	0.064	0.069	0.068	0.067
17-031-4201	Northbrook	0.065	0.069	0.087	0.076	0.072	0.073	**0.077**	**0.078**
17-031-7002	Evanston	0.072	0.069	0.093	0.078	0.067	**0.078**	**0.080**	**0.079**
17-043-6001	Lisle	0.064	0.063	0.074	0.068	0.064	0.067	0.068	0.068
17-049-1001	Effingham	0.063	0.064	0.073	0.066	0.072	0.066	0.067	0.070
17-065-0002	Knight Prairie	0.063	0.064	0.085	0.074	0.075	0.070	0.074	**0.078**
17-083-1001	Jerseyville	0.065	0.068	0.089	0.076	0.072	0.074	**0.077**	**0.079**
17-085-9991	Stockton	0.067	0.065	0.075	0.064	-	0.069	0.068	-
17-089-0005	Elgin Larsen Jr. High School	0.066	0.064	0.075	0.070	0.069	0.068	0.069	0.071
17-097-1007	Zion	0.073	0.072	0.093	0.076	0.078	**0.079**	**0.080**	**0.082**
17-111-0001	Cary	0.067	0.065	0.077	0.071	0.065	0.069	0.071	0.071
17-113-2003	Normal	0.066	0.069	0.079	0.068	0.066	0.071	0.072	0.071

Table B4
2014 Ozone Design Values

AQS ID	City	Fourth High 8-Hour Concentrations (ppm)					Design Values* (ppm)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-115-0013	Decatur Illinois EPA Trailer	0.067	0.064	0.076	0.075	0.069	0.069	0.071	0.073
17-117-0002	Nilwood	0.063	0.065	0.074	0.075	0.071	0.067	0.071	0.073
17-119-0008	Alton Clara Barton Elementary	0.072	0.072	0.084	0.076	0.080	**0.076**	**0.077**	**0.080**
17-119-1009	Maryville	0.070	0.075	0.084	0.081	0.074	**0.076**	**0.080**	**0.079**
17-119-3007	Wood River	0.070	0.069	0.087	0.081	0.070	0.075	**0.079**	**0.079**
17-119-9991	Highland	0.068	0.071	0.083	0.076	-	0.074	**0.076**	-
17-143-0024	Peoria Fire Station #8	0.064	0.058	0.065	0.066	0.059	0.062	0.063	0.063
17-143-1001	Peoria Heights	0.064	0.066	0.078	0.069	0.069	0.069	0.071	0.072
17-157-0001	Houston	0.071	0.065	0.081	0.066	0.065	0.072	0.070	0.070
17-161-3002	Rock Island	0.062	0.060	0.066	0.055	0.057	0.062	0.060	0.059
17-163-0010	East St. Louis	0.067	0.066	0.083	0.076	0.072	0.072	0.075	**0.077**
17-167-0013	Springfield Blandco	-	-	-	-	0.069	-	-	-
17-167-0014	Springfield State Fairgrounds	0.059	0.062	0.076	0.079	-	0.065	0.072	-
17-197-1011	Braidwood	0.064	0.061	0.071	0.061	0.065	0.065	0.064	0.065
17-201-2001	Loves Park	0.070	0.063	0.074	0.068	0.063	0.069	0.068	0.068
Statewide Average		0.066	0.065	0.079	0.072	0.069	0.070	0.072	0.073

*The design value is the three-year average of the fourth high concentration. Design value greater than 0.075 ppm is a violation of the National Ambient Air Quality Standard.

2014 $PM_{2.5}$ FRM Monitoring Sites



	Site ID	Site Name
1.	170190006	Champaign
2.	170191001	Bondville
3.	170310022	Chicago – Washington High School
4.	170310052	Chicago – Mayfair Pump Station
5.	170310057	Chicago – Springfield Pump Station
6.	170310076	Chicago – Com Ed Maint. Bldg.
7.	170311016	Lyons Township
8.	170310001	Alsip
9.	170313103	Schiller Park
10.	170313301	Summit
11.	170314007	Des Plaines
12.	170314201	Northbrook
13.	170316005	Cicero
14.	170434002	Naperville
15.	170650002	Knight Prairie
16.	170831001	Jerseyville
17.	170890003	Elgin
18.	170890007	Aurora
19.	171110001	Cary
20.	171132003	Normal
21.	171150013	Decatur
22.	171190024	Granite City – Gateway Medical
23.	171191007	Granite City – 23rd and Madison
24.	171192009	Alton
25.	171193007	Wood River
26.	171430037	Peoria
27.	171570001	Houston
28.	171613002	Rock Island
29.	171630010	East St. Louis
30.	171670012	Springfield
31.	171971002	Joliet
32.	171971011	Braidwood
33.	172010013	Rockford

Table B5
2014 $PM_{2.5}$ 24-Hour Exceedances

EXCEEDANCES OF THE 24-HOUR PRIMARY STANDARD OF 35 ug/m3		
Date	**Location**	**Concentration (ug/m3)**
None	None	None
Total Over 35 ug/m3	0	
Total Days Over 35 ug/m3	0	

Table B6
2014 $PM_{2.5}$ Highs

AQS ID	City	Total Samples	Samples Greater Than 35 ug/m3			Highest Samples							
			2014	2013	2011	1st	2nd	3rd	4th	5th	6th	7th	8th
17-019-0006	Champaign	53	0	0	0	25.6	23.6	22.3	21.9	21.3	20.9	20.6	17.5
17-019-1001	Bondville	55	0	0	0	25.5	20.4	19.1	17.2	16.9	16.6	16.4	15.5
17-031-0001	Alsip	27	0	0	-	31.3	24.8	17.8	16.0	14.1	13.0	12.5	11.1
17-031-0022	Chicago Washington High School	54	0	0	1	27.4	24.5	24.3	23.4	22.9	20.0	18.7	18.5
17-031-0052	Chicago Mayfair Pump Station	50	0	0	3	29.3	28.0	24.3	23.0	22.4	21.1	20.4	20.3
17-031-0057	Chicago Springfield Pump Station	29	0	0	2	25.9	24.8	21.6	18.6	16.6	16.1	14.7	14.1
17-031-0076	Chicago Com Ed Maintenance	29	0	0	0	22.8	19.9	17.4	15.8	15.7	14.1	13.5	11.5
17-031-1016	Lyons Township	54	0	1	6	28.5	25.4	23.1	22.8	22.8	21.7	21.5	20.6
17-031-3103	Schiller Park	55	0	0	2	25.0	23.6	21.0	21.0	20.9	19.8	19.6	18.8
17-031-3301	Summit	53	0	0	0	26.3	24.0	19.4	18.9	18.2	18.2	17.3	16.9
17-031-4007	Des Plaines	53	0	0	0	21.4	21.1	18.5	17.7	17.2	16.9	16.5	15.0
17-031-4201	Northbrook	55	0	0	0	27.2	26.8	22.0	20.6	19.4	19.1	18.5	17.1
17-031-6005	Cicero Liberty School	28	0	0	0	22.2	21.7	18.9	17.8	17.1	15.9	12.8	12.6
17-043-4002	Naperville	51	0	0	0	22.7	22.0	19.0	18.8	18.5	17.8	17.6	17.5
17-065-0002	Knight Prairie	49	0	0	0	27.5	26.4	21.7	21.2	20.0	18.0	15.7	15.2
17-083-1001	Jerseyville	53	0	0	0	25.5	22.0	20.3	17.9	17.0	16.2	15.7	15.3
17-089-0003	Elgin McKinley School	40	0	0	1	27.1	19.8	18.0	15.8	15.5	15.3	14.9	14.8
17-089-0007	Aurora	25	0	0	1	21.3	20.6	17.1	16.9	16.6	16.1	15.5	13.1
17-111-0001	Cary	27	0	0	0	22.1	20.6	19.1	18.7	18.3	16.9	16.3	14.3
17-113-2003	Normal	49	0	0	0	17.4	17.0	16.0	15.5	15.1	15.0	14.4	14.0
17-115-0013	Decatur Illinois EPA Trailer	29	0	0	0	23.7	21.7	19.5	17.9	15.7	15.3	15.0	14.7
17-119-0024	Granite City Gateway Medical Center	48	0	0	0	27.0	24.8	22.2	22.0	21.2	20.6	19.9	19.6
17-119-1007	Granite City Fire Station #1	28	0	0	0	24.1	22.0	21.7	21.5	21.3	20.7	18.5	17.1
17-119-2009	Alton SIU Dental Clinic	50	0	0	0	20.9	19.4	19.0	18.0	17.8	17.8	16.8	16.4
17-119-3007	Wood River	51	0	0	0	30.0	24.8	24.7	22.5	20.5	20.5	20.0	19.7

Table B6
2014 $PM_{2.5}$ Highs

AQS ID	City	Total Samples	Samples Greater Than 35 ug/m3			Highest Samples							
			2014	2013	2011	1st	2nd	3rd	4th	5th	6th	7th	8th
17-143-0037	Peoria City Office Building	25	0	0	0	25.7	18.6	18.0	15.9	15.5	14.7	13.4	12.2
17-157-0001	Houston	54	0	0	0	30.1	21.1	19.0	18.8	17.0	16.5	16.4	16.0
17-161-3002	Rock Island	42	0	0	0	21.5	16.8	16.7	16.4	16.4	15.9	15.4	15.1
17-163-0010	East St. Louis	27	0	0	0	22.5	21.0	19.8	16.9	16.1	16.0	15.0	14.8
17-167-0012	Springfield Agricultural Building	52	0	0	0	24.8	19.0	18.5	17.7	17.4	17.3	17.1	17.1
17-197-1002	Joliet Pershing Elementary	51	0	0	0	23.9	23.3	21.6	18.7	17.5	16.5	16.2	16.0
17-197-1011	Braidwood	25	0	0	0	26.4	19.9	18.0	16.8	16.6	14.9	10.5	10.1
17-201-0013	Rockford Health Department	25	0	0	1	20.9	18.8	18.3	15.3	14.4	14.3	14.2	13.3
Statewide Average						25.0	22.1	19.9	18.7	18.0	17.3	16.4	15.6
Total Sites Over 35 ug/m3			0	1	8								
Total Days Over 35 ug/m3			0	1	6								

*PM2.5 data is for informational purposes only. Weighing lab conditions were found to not meet critical criteria by USEPA. This caused data invalidation for NAAQS purposes for the period of 2011 to July 2014.

Table B7
2014 $PM_{2.5}$ 24-Hour Design Values

AQS ID	City	98th Percentile Concentrations (ug/m3)					Design Values* (ug/m3)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-019-0006	Champaign	23.6	22.3	20.1	24.7	29.2	-	-	-
17-019-1001	Bondville	20.4	23.8	19.4	25.3	20.6	-	-	-
17-031-0001	Alsip	31.3	20.7	-	-	-	-	-	-
17-031-0022	Chicago Washington High School	24.5	23.1	21.2	28.5	30.3	-	-	-
17-031-0052	Chicago Mayfair Pump Station	29.3	24.9	28.6	28.7	33.8	-	-	-
17-031-0057	Chicago Springfield Pump Station	25.9	24.8	27.9	30.5	28.6	-	-	-
17-031-0076	Chicago Com Ed Maintenance	22.8	20.8	30.1	27.1	31.0	-	-	-
17-031-1016	Lyons Township	26.2	24.6	32.1	28.6	35.3	-	-	-
17-031-2001	Blue Island	-	25.5	23.4	25.5	25.8	-	-	-
17-031-3103	Schiller Park	23.6	24.3	30.5	27.3	25.9	-	-	-
17-031-3301	Summit	24.0	22.2	27.3	24.5	35.0	-	-	-
17-031-4007	Des Plaines	21.1	21.3	27.1	24.5	28.5	-	-	-
17-031-4201	Northbrook	26.8	25.3	24.0	23.0	30.1	-	-	-
17-031-6005	Cicero Liberty School	22.2	21.1	24.5	29.5	27.1	-	-	-
17-043-4002	Naperville	22.0	27.3	23.7	24.6	28.4	-	-	-
17-065-0002	Knight Prairie	27.5	24.5	15.7	20.6	25.3	-	-	-
17-083-1001	Jerseyville	22.0	22.4	19.9	20.4	21.4	-	-	-
17-089-0003	Elgin McKinley School	27.1	22.1	19.6	24.0	32.3	-	-	-
17-089-0007	Aurora	21.3	22.7	18.1	25.8	32.4	-	-	-
17-111-0001	Cary	22.1	26.6	25.3	23.4	29.4	-	-	-
17-113-2003	Normal	17.4	18.6	21.3	25.8	25.0	-	-	-
17-115-0013	Decatur Illinois EPA Trailer	23.7	19.9	18.1	25.5	22.1	-	-	-
17-119-0024	Granite City Gateway Medical Center	27.0	25.8	23.7	30.6	28.6	-	-	-
17-119-1007	Granite City Fire Station #1	24.1	26.4	25.8	27.3	29.2	-	-	-
17-119-2009	Alton SIU Dental Clinic	20.9	22.9	23.6	23.9	25.0	-	-	-

Table B7
2014 $PM_{2.5}$ 24-Hour Design Values

AQS ID	City	98th Percentile Concentrations (ug/m3)					Design Values* (ug/m3)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-119-3007	Wood River	24.8	23.4	23.3	28.6	22.1	-	-	-
17-143-0037	Peoria City Office Building	25.7	21.5	20.7	27.7	26.0	-	-	-
17-157-0001	Houston	21.1	23.3	15.2	20.9	17.2	-	-	-
17-161-3002	Rock Island	21.5	28.3	19.4	23.1	24.5	-	-	-
17-163-0010	East St. Louis	22.5	24.3	28.0	25.3	22.0	-	-	-
17-167-0012	Springfield Agricultural Building	19.0	20.3	20.0	27.8	24.2	-	-	-
17-197-1002	Joliet Pershing Elementary	23.3	26.2	24.7	20.8	28.3	-	-	-
17-197-1011	Braidwood	26.4	23.0	24.3	25.8	24.1	-	-	-
17-201-0013	Rockford Health Department	20.9	19.8	23.0	22.4	23.9	-	-	-
Statewide Average		23.7	23.4	23.2	25.5	26.9	-	-	-

*The design value is the three-year average of the 98th percentile concentration. Design value greater than or equal to 35.5 ug/m^3 is a violation of the National Ambient Air Quality Standard.

Shaded cells indicate completeness criteria were not met.

Table B8
2014 $PM_{2.5}$ Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentrations (ug/m3)					Design Values* (ug/m3)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-019-0006	Champaign	11.0	9.9	9.7	10.6	-	-	-	-
17-019-1001	Bondville	10.0	9.7	8.9	10.2	10.5	-	-	-
17-031-0001	Alsip	9.9	10.2	-	-	-	-	-	-
17-031-0022	Chicago Washington High School	12.1	11.3	11.5	12.6	14.0	-	-	-
17-031-0052	Chicago Mayfair Pump Station	11.9	10.8	11.6	11.8	12.6	-	-	-
17-031-0057	Chicago Springfield Pump Station	10.7	10.9	11.9	11.5	12.0	-	-	-
17-031-0076	Chicago Com Ed Maintenance	9.7	9.9	11.3	11.3	12.3	-	-	-
17-031-1016	Lyons Township	12.2	11.8	12.6	12.6	12.6	-	-	-
17-031-2001	Blue Island	-	11.0	10.9	11.6	11.6	-	-	-
17-031-3103	Schiller Park	11.7	11.2	13.1	13.3	12.6	-	-	-
17-031-3301	Summit	10.6	11.4	11.3	11.0	12.2	-	-	-
17-031-4007	Des Plaines	9.7	9.9	10.9	10.6	10.6	-	-	-
17-031-4201	Northbrook	10.5	9.5	10.2	10.2	9.3	-	-	-
17-031-6005	Cicero Liberty School	10.1	10.3	10.4	11.4	11.9	-	-	-
17-043-4002	Naperville	9.8	10.4	10.1	10.5	11.7	-	-	-
17-065-0002	Knight Prairie	10.5	8.9	8.5	10.1	11.3	-	-	-
17-083-1001	Jerseyville	10.1	9.0	8.4	10.5	11.2	-	-	-
17-089-0003	Elgin McKinley School	10.7	9.2	10.0	9.8	11.3	-	-	-
17-089-0007	Aurora	10.6	9.6	9.9	10.8	11.4	-	-	-
17-111-0001	Cary	10.4	10.1	10.1	10.1	10.2	-	-	-
17-113-2003	Normal	9.0	9.2	9.3	10.7	10.6	-	-	-
17-115-0013	Decatur IEPA Trailer	10.4	9.8	10.0	11.6	12.2	-	-	-
17-119-0024	Granite City Gateway Medical Center	13.3	13.1	13.0	14.4	14.6	-	-	-
17-119-1007	Granite City Fire Station #1	12.9	11.2	12.8	13.3	14.3	-	-	-
17-119-2009	Alton SIU Dental Clinic	10.4	9.9	10.4	11.5	13.3	-	-	-

Table B8
2014 $PM_{2.5}$ Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentrations (ug/m3)					Design Values* (ug/m3)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-119-3007	Wood River	12.5	10.9	10.6	12.4	12.0	-	-	-
17-143-0037	Peoria City Office Building	9.8	8.4	9.8	11.7	11.5	-	-	-
17-157-0001	Houston	9.9	8.7	8.3	9.5	10.2	-	-	-
17-161-3002	Rock Island	9.7	9.6	9.7	10.9	9.9	-	-	-
17-163-0010	East St. Louis	10.9	10.3	10.9	12.8	13.0	-	-	-
17-167-0012	Springfield Agricultural Building	10.7	10.3	9.5	10.7	11.5	-	-	-
17-197-1002	Joliet Pershing Elementary	10.2	10.1	11.1	10.2	11.8	-	-	-
17-197-1011	Braidwood	9.1	9.3	9.3	10.4	10.0	-	-	-
17-201-0013	Rockford Health Department	10.0	9.2	9.3	10.2	10.0	-	-	-
Statewide Average		10.6	10.1	10.4	11.2	11.6	-	-	-

*The design value is the three-year average of the annual arithmetic mean concentrations. Design value greater than 12.0 ug/m^3 is a violation of the National Ambient Air Quality Standard.

Shaded cells indicate completeness criteria were not met.

2014 PM_{10} Monitoring Sites

	Site ID	Site Name
1.	170310022	Chicago – Washington High School
2.	170311016	Lyons Township
3.	170314201	Northbrook
4.	171190010	Granite City – 23rd and Madison

Table B9
2014 PM_{10} 24-Hour Exceedances

EXCEEDANCES OF THE 24-HOUR PRIMARY STANDARD OF 150 ug/m3		
Date	**City**	**Concentration (ug/m3)**
None	None	None
Total Over 150 ug/m3	0	
Total Days Over 150 ug/m3	0	

Table B10
2014 PM_{10} 24-Hour Highs and Design Values

AQS ID	City	Total Samples	Highest 24-Hour Samples								Samples Greater Than 150 ug/m3			Three-year Average*
			1st	2nd	3rd	4th	5th	6th	7th	8th	2014	2013	2012	
17-031-0022	Chicago Washington High School	336	83	81	72	69	67	67	64	63	0	0	0	0.0
17-031-1016	Lyons Township	258	99	93	92	90	88	85	84	82	0	0	0	0.0
17-031-4201	Northbrook	53	38	33	31	29	28	25	25	23	0	0	0	0.0
17-119-1007	Granite City Fire Station #1	55	141	123	119	90	68	61	54	51	0	0	0	0.0
Statewide Average			90	83	79	70	63	60	57	55				
Total Over 150 ug/m3											0	0	0	
Total Days Over 150 ug/m3											0	0	0	

*The 24-hour PM_{10} standard is an exceedance-based standard set at 150 ug/m^3. The level is not to be exceeded more than once per year on average over three years. Three year averages more than one are a violation of the National Ambient Air Quality Standard.

Table B11
2014 PM_{10} Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentration (ug/m3)					Design Values* (ug/m3)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-031-0022	Chicago Washington High School	29	30	31	21	22	30	27	25
17-031-1016	Lyons Township	45	39	25	26	27	36	30	26
17-031-4201	Northbrook	16	15	17	13	17	16	15	16
17-119-0010	Granite City Air Products	-	27	32	31	32	30	30	32
17-119-1007	Granite City Fire Station #1	39	32	-	24	-	36	27	24
Statewide Average		32	29	26	23	25	30	26	22

*The annual PM_{10} standard was revoked in 2007. Previously the standard was a three-year average of the annual means. Concentrations above 50 ug/m^3 were a violation of the former National Ambient Air Quality Standard. Currently only the 24-hour PM_{10} standard is in place (see Table B10).

2014 Carbon Monoxide Monitoring Sites

	Site ID	Site Name
1.	170191001	Bondville
2.	170314201	Northbrook
3.	171630010	East St. Louis

Table B12
2014 Carbon Monoxide Exceedances

EXCEEDANCES OF EITHER THE 1-HOUR (35 PPM) OR 8-HOUR (9 PPM) PRIMARY STANDARDS			
Date	**City**	**Concentration**	**Averaging Period**
None	None	None	None

Total 1-hour Over 35 ppm	0	Total 8-hour Over 9 ppm	0
Total Days 1-hour Over 35 ppm	0	Total Days 8-hour Over 9 ppm	0

Table B13
2014 Carbon Monoxide Highs

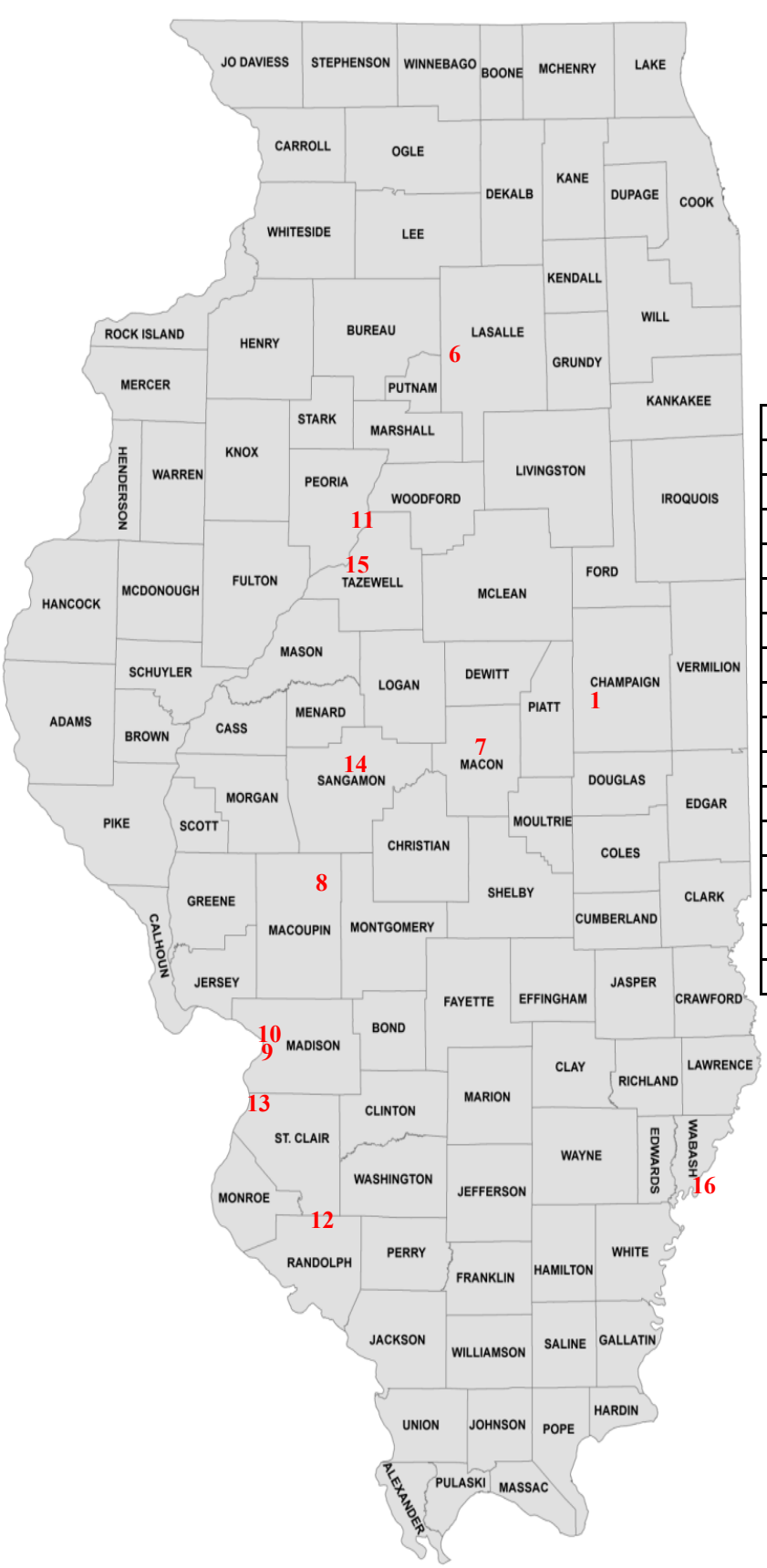
AQS ID	City	Total Hourly Samples	Fourth Highest Daily Samples 1-Hour (ppm)				Fourth Highest Samples 8-Hour (ppm)			
17-019-1001	Bondville	6777	0.54	0.49	0.46	0.43	0.4	0.3	0.3	0.3
17-031-4201	Northbrook	7426	1.57	1.39	1.28	1.17	0.9	0.9	0.9	0.9
17-163-0010	East St. Louis	8497	1.9	1.8	1.6	1.6	1.4	1.4	1.4	1.4
Statewide Average			1.3	1.2	1.1	1.07	0.9	0.9	0.9	0.9

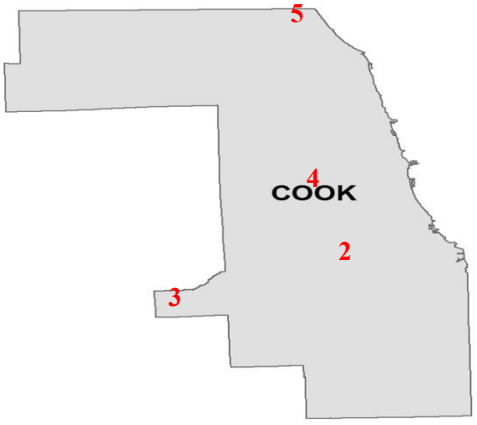
Table B14
2014 Carbon Monoxide 1-Hour and 8-Hour Design Values

AQS ID	City	1-Hour Samples Greater than 35 (ppm)					8-Hour Samples Greater than 9 (ppm)				
		2014	2013	2012	2011	2010	2014	2013	2012	2011	2010
17-031-4201	Northbrook	0	0	0	0	0	0	0	0	0	0
17-163-0010	East St. Louis	0	0	0	0	0	0	0	0	0	0

*The 1-hour and 8-hour carbon monoxide standard is an exceedance-based standard. The 1-hour standard is set at 35 ppm and is not to be exceeded more than once per year. The 8-hour standard is set at 9 ppm and is not to be exceeded more than once per year. More than one exceedance in a year is a violation of the National Ambient Air Quality Standard.

2014 Sulfur Dioxide Monitoring Sites





	Site ID	Site Name
1.	170191001	Bondville
2.	170310076	Chicago – Com Ed Maintenance
3.	170311601	Lemont
4.	170314002	Cicero
5.	170314201	Northbrook
6.	170990007	Oglesby
7.	171150013	Decatur
8.	171170002	Nilwood
9.	171191010	South Roxana
10.	171193007	Wood River
11.	171430024	Peoria
12.	171570001	Houston
13.	171630010	East St. Louis
14.	171670006	Springfield
15.	171790004	Pekin
16.	171850001	Mount Carmel

Table B15
2014 Sulfur Dioxide Exceedances

EXCEEDANCES OF THE 1-HOUR PRIMARY STANDARD OF 75 ppb		
Date	**City**	**Concentration (ppb)**
1/6	Pekin	105
1/11	Pekin	82
1/16	Pekin	85
1/25	Pekin	79
2/20	Pekin	190
2/21	Pekin	268
2/26	Pekin	103
3/10	Pekin	90
3/14	Pekin	97
3/27	Pekin	135
3/28	Pekin	193
4/1	Pekin	179
4/4	Pekin	238
4/9	Pekin	77
4/11	Pekin	83
4/25	Pekin	119
5/1	Pekin	142
5/9	Pekin	178
6/2	Pekin	107
6/12	Pekin	78
7/1	Pekin	81
7/8	Pekin	91
9/1	Pekin	105
9/20	Pekin	95
10/4	Pekin	110
10/6	Pekin	91
10/28	Pekin	94
11/3	Decatur	81
11/24	Pekin	88
Total Over 75 ppb	29	
Total Days Over 75 ppb	29	

Table B16
2014 Sulfur Dioxide Highs

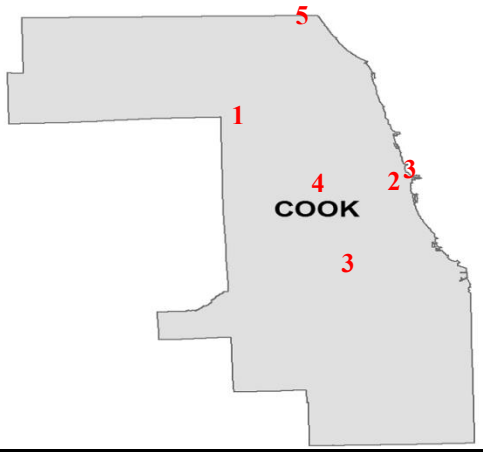
AQS ID	City	Total Valid Sample Days	Samples Greater Than 75 ppb			Highest Daily 1-Hour Samples (ppb)				Highest 3-Hour Block Averages (ppb)	
			2014	2013	2012	1st	2nd	3rd	4th	1st	2nd
17-019-1001	Bondville	327	0	0	-	18	17	16	15	15	15
17-031-0076	Chicago Com Ed Maintenance	298	0	0	0	19	18	15	14	12	12
17-031-1601	Lemont	351	0	3	9	23	21	19	16	17	14
17-031-4002	Cicero Cook County Trailer	351	0	0	0	31	24	19	18	21	15
17-031-4201	Northbrook	220	0	0	0	27	14	12	10	21	12
17-099-0007	Oglesby	356	0	0	0	14	13	13	10	12	12
17-115-0013	Decatur Illinois EPA Trailer	365	1	0	0	81	40	39	38	68	33
17-117-0002	Nilwood	358	0	0	0	21	13	10	10	14	12
17-119-1010	South Roxana	365	0	0	0	40	18	18	18	14	13
17-119-3007	Wood River	355	0	0	0	34	33	32	30	28	22
17-143-0024	Peoria Fire Station #8	364	0	0	0	44	42	38	38	38	32
17-157-0001	Houston	337	0	0	0	22	13	12	12	11	9
17-163-0010	East St. Louis	365	0	0	0	30	29	26	25	22	20
17-167-0006	Springfield Sewage Treatment Plant	363	0	0	0	49	45	26	21	22	16
17-179-0004	Pekin	361	28	26	25	268	238	193	190	221	182
17-185-0001	Mount Carmel	348	2	2	4	109	86	60	53	55	54
Statewide Average						51	41	34	32	37	30
Total Over 75 ppb			31	31	38						
Total Days Over 75 ppb			29	30	38						

Table B17
2014 Sulfur Dioxide 1-Hour Design Values

AQS ID	City	99th Percentile Concentrations (ppb)					Design Values* (ppb)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-019-1001	Bondville	15	14	14	-	-	14	14	-
17-031-0076	Chicago Com Ed Maintenance	15	10	17	27	20	14	18	21
17-031-1601	Lemont	16	73	108	90	90	66	**90**	**96**
17-031-4002	Cicero Cook County Trailer	18	12	16	29	31	15	19	25
17-031-4201	Northbrook	12	10	17	19	15	13	15	17
17-099-0007	Oglesby	10	9	6	8	14	8	8	9
17-115-0013	Decatur Illinois EPA Trailer	38	33	38	33	49	36	35	40
17-117-0002	Nilwood	10	7	8	8	15	8	8	10
17-119-1010	South Roxana	18	23	17	22	57	19	21	32
17-119-3007	Wood River	30	29	30	28	54	30	29	37
17-143-0024	Peoria Fire Station #8	38	32	44	45	43	38	40	44
17-157-0001	Houston	12	11	24	22	31	16	19	26
17-163-0010	East St. Louis	25	19	24	22	31	23	22	26
17-167-0006	Springfield Sewage Treatment Plant	21	12	15	27	24	16	18	22
17-179-0004	Pekin	190	195	245	172	228	**210**	**204**	**215**
17-185-0001	Mount Carmel	53	55	89	47	66	66	64	67
Statewide Average		33	34	45	40	51	39	39	46

*The design value is the three-year average of the 99th percentile concentration. Design value greater than 75 ppb is a violation of the National Ambient Air Quality Standard.

2014 Nitrogen Dioxide Monitoring Sites



	Site ID	Site Name
1.	170313103	Schiller Park
2.	170310063	Chicago Transit Authority
3.	170310076	Chicago – Com Ed Maintenance
4.	170314002	Cicero
5.	170314201	Northbrook
6.	171630010	East St. Louis

Table B18
2014 Nitrogen Dioxide 1-Hour Exceedances

EXCEEDANCES OF THE 1-HOUR PRIMARY STANDARD OF 100 PPB		
Date	**City**	**Concentration (ppb)**
1/8	Schiller Park	105
Total Over 100 ppb	1	
Total Days Over 100 ppb	1	

Table B19
2014 Nitrogen Dioxide Highs

AQS ID	City	Total Valid Sample Days	Samples Greater Than 100 ppb			Highest Samples							
			2014	2013	2012	1st	2nd	3rd	4th	5th	6th	7th	8th
17-031-0063	Chicago CTA Building	322	0	0	0	67	63	63	62	62	61	61	61
17-031-0076	Chicago Com Ed Maintenance	338	0	1	0	92	85	85	81	80	74	73	73
17-031-3103	Schiller Park	348	1	0	0	105	87	82	82	77	70	69	68
17-031-4002	Cicero Cook County Trailer	348	0	0	0	91	81	79	79	75	75	74	74
17-031-4201	Northbrook	357	0	0	0	66	59	57	57	56	55	55	54
17-163-0010	East St. Louis	364	0	0	0	52	50	49	49	49	47	47	47
Statewide Average						79	71	69	68	67	64	63	63
Total Over 100 ppb			1	1	0								
Total Days Over 100 ppb			1	1	0								

Table B20
2014 Nitrogen Dioxide 1-Hour Design Values

AQS ID	City	98th Percentile Concentrations (ppb)					Design Values* (ppb)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-031-0063	Chicago CTA Building	61	63	65	65	71	63	64	67
17-031-0072	Chicago Jardine Water Plant	-	-	-	59	52	-	-	56
17-031-0076	Chicago Com Ed Maintenance	67	62	70	57	56	66	63	61
17-031-3103	Schiller Park	59	63	63	64	60	62	63	62
17-031-4002	Cicero Cook County Trailer	64	64	58	62	64	62	61	61
17-031-4201	Northbrook	50	48	44	45	53	47	46	47
17-163-0010	East St. Louis	43	43	49	37	43	45	43	43
Statewide Average		57	57	58	56	57	58	57	57

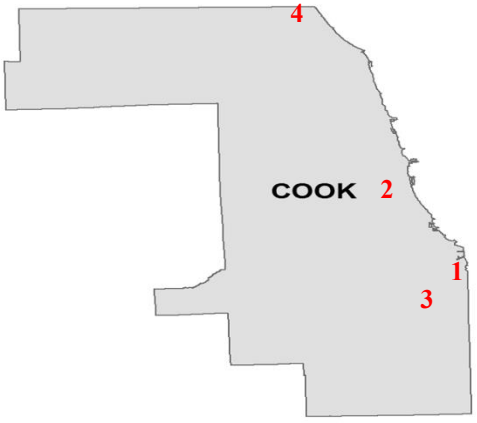
*The design value is the three-year average of the 98th percentile concentration. Design value greater than 100 ppb is a violation of the National Ambient Air Quality Standard.

Table B21
2014 Nitrogen Dioxide Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentrations* (ppb)				
		2014	2013	2012	2011	2010
17-031-0063	Chicago CTA Building	21	21	22	21	25
17-031-0076	Chicago Com Ed Maintenance	16	16	16	16	17
17-031-3103	Schiller Park	19	19	22	23	23
17-031-4002	Cicero Cook County Trailer	17	18	14	18	20
17-031-4201	Northbrook	10	12	12	11	12
17-163-0010	East St. Louis	11	11	12	9	12
Statewide Average		16	16	16	16	18

*The design value is the highest annual average concentration during the most recent two years. Design value greater than 53 ppb is a violation of the National Ambient Air Quality Standard.

2014 Lead Monitoring Sites



	Site ID	Site Name
1.	170310022	Chicago – Washington High School
2.	170310110	Chicago – Perez Elementary
3.	170310113	Chicago – ArcelorMittal Steel
4.	170314201	Northbrook
5.	170890113	Geneva
6.	171150110	Decatur – Mueller
7.	171190010	Granite City – 15th and Madison

Table B22
2014 Lead Highs

AQS ID	City	Total Sample Days	Highest Monthly Means					Maximum Three-Month Mean
			1st	2nd	3rd	4th	5th	
17-031-0022	Chicago Washington High School	53	0.074	0.048	0.034	0.026	0.024	0.04
17-031-0110	Chicago Perez Elementary	57	0.062	0.029	0.028	0.027	0.020	0.03
17-031-0113	Chicago ArcelorMittal Steel	54	0.052	0.014	0.013	0.012	0.010	0.03
17-031-4201	Northbrook	57	0.005	0.004	0.003	0.002	0.002	0.00
17-089-0113	Geneva Johnson Controls	56	0.040	0.029	0.024	0.022	0.020	0.03
17-115-0110	Decatur Mueller	60	0.068	0.050	0.043	0.040	0.025	0.05
17-119-0010	Granite City Air Products	52	0.071	0.018	0.017	0.015	0.015	0.04
Statewide Average			0.053	0.027	0.023	0.021	0.017	0.03

Table B23
2014 Lead Design Values

AQS ID	City	Maximum Three-Month Rolling Mean (ug/m3)					Design Values* (ug/m3)		
		2014	2013	2012	2011	2010	2012-2014	2011-2013	2010-2012
17-031-0022	Chicago Washington High School	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.05
17-031-0110	Chicago Perez Elementary	0.03	0.04	0.05	0.29	0.24	0.05	**0.29**	**0.29**
17-031-0113	Chicago ArcelorMittal Steel	0.03	0.01	-	-	-	0.03	0.01	-
17-031-3103	Schiller Park	-	0.01	0.04	0.01	0.01	0.04	0.04	0.04
17-031-4201	Northbrook	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
17-031-6003	Maywood 4th District Court	-	0.02	0.04	0.03	0.04	0.04	0.04	0.04
17-089-0113	Geneva Johnson Controls	0.03	0.03	-	-	-	0.03	0.03	-
17-115-0110	Decatur Mueller	0.05	0.05	0.08	0.20	0.12	0.08	**0.20**	**0.20**
17-119-0010	Granite City Air Products	0.04	0.06	0.36	0.21	0.42	**0.36**	**0.36**	**0.42**
17-143-0110	Bartonville	-	0.01	0.01	0.01	0.02	0.01	0.01	0.02
17-143-0210	Mapleton	-	0.01	0.01	0.02	0.02	0.01	0.02	0.02
17-195-0110	Sterling	-	0.02	0.03	0.03	0.02	0.03	0.03	0.03
17-201-0110	Rockford J. Rubin & Company	-	0.05	0.03	0.04	0.06	0.05	0.05	0.06
Statewide Average		0.03	0.03	0.06	0.06	0.07	0.06	0.09	0.11

*The design value is the maximum three-month rolling mean over the latest three-year period. Design value greater than 0.15 ug/m3 is a violation of the National Ambient Air Quality Standard.

Table B24
2014 Filter Analysis Data

AQS ID	City	Arsenic				Beryllium				Cadmium			
		Total Samples	Highs 1st	Highs 2nd	Annual Mean	Total Samples	Highs 1st	Highs 2nd	Annual Mean	Total Samples	Highs 1st	Highs 2nd	Annual Mean
17-031-0022	Chicago Washington High School	-	-	-	-	-	-	-	-	53	0.003	0.002	0.001
17-031-0110	Chicago Perez Elementary	-	-	-	-	-	-	-	-	57	0.001	0.001	0.011
17-031-0113	Chicago ArcelorMittal Steel	54	0.000	0.000	0.000	54	0.000	0.000	0.000	54	0.004	0.000	0.000
17-031-4201	Northbrook	57	0.000	0.000	0.000	57	0.000	0.000	0.000	57	0.000	0.000	0.000
17-089-0113	Geneva Johnson Controls	56	0.000	0.000	0.000	56	0.000	0.000	0.000	56	0.000	0.000	0.000
17-115-0110	Decatur Mueller	60	0.010	0.000	0.000	60	0.000	0.000	0.000	60	0.000	0.000	0.000
17-119-0010	Granite City Air Products	52	0.020	0.010	0.001	52	0.000	0.000	0.000	52	0.000	0.000	0.000

Table B24
2014 Filter Analysis Data

AQS ID	City	Total Samples	Highs		Annual Mean	Total Samples	Highs		Annual Mean	Total Samples	Highs		Annual Mean
			1st	2nd			1st	2nd			1st	2nd	
		Chromium				Iron				Manganese			
17-031-0022	Chicago Washington High School	53	0.052	0.051	0.016	53	2.720	2.680	0.867	53	0.285	0.270	0.103
17-031-0110	Chicago Perez Elementary	57	0.049	0.038	0.011	57	1.670	1.440	0.523	57	0.098	0.087	0.030
17-031-0113	Chicago ArcelorMittal Steel	54	0.025	0.020	0.007	54	6.744	6.047	1.825	54	0.426	0.363	0.126
17-031-4201	Northbrook	57	0.003	0.003	0.000	57	1.348	1.012	0.369	57	0.041	0.031	0.011
17-089-0113	Geneva Johnson Controls	56	0.002	0.002	0.000	56	0.749	0.644	0.305	56	0.026	0.026	0.010
17-115-0110	Decatur Mueller	60	0.021	0.007	0.002	60	1.643	1.578	0.736	60	0.131	0.093	0.290
17-119-0010	Granite City Air Products	52	0.010	0.009	0.003	52	2.540	2.147	0.915	52	0.239	0.196	0.070

Table B24
2014 Filter Analysis Data

AQS ID	City	Total Samples	Highs		Annual Mean	Total Samples	Highs		Annual Mean	Total Samples	Highs		Annual Mean
			1st	2nd			1st	2nd			1st	2nd	
		Nickel											
17-031-0022	Chicago Washington High School	53	0.048	0.017	0.003								
17-031-0110	Chicago Perez Elementary	57	0.009	0.008	0.002								
17-031-0113	Chicago ArcelorMittal Steel	54	0.007	0.004	0.001								
17-031-4201	Northbrook	57	0.000	0.000	0.000								
17-089-0113	Geneva Johnson Controls	56	0.008	0.000	0.000								
17-115-0110	Decatur Mueller	60	0.055	0.011	0.002								
17-119-0010	Granite City Air Products	52	0.005	0.004	0.000								

Table B25
2014 Toxic Compounds

AQS ID	City	Compounds	Highest 24-hour Samples (ppbc)				Annual Average
			1st	2nd	3rd	4th	
17-031-4201	Northbrook	1,3 Butadiene	0.56	0.23	0.14	0.14	.08
		Dichloromethane	19.60	12.90	9.67	5.80	1.06
		Chloroform	3.61	2.17	1.07	.62	0.22
		Carbon Tetrachloride	0.12	0.12	0.12	0.11	0.10
		Tetrachloroethylene	0.68	0.17	0.14	0.12	0.06
		Trichlorethylene	0.07	0.06	0.04	0.04	0.01
		1,2 Dichloropropane	0.00	0.00	0.00	0.00	0.00
		Vinyl Chloride	0.00	0.00	0.00	0.00	0.00
		Benzene	2.61	1.73	1.70	1.66	0.93
		Toluene	38.22	7.70	4.22	3.91	2.63
		Formaldehyde	3.90	2.30	2.30	2.30	1.05
		Acetaldehyde	10.2	7.0	6.5	6.5	2.61
		Acrolein	2.64	2.28	2.23	2.00	0.88
17-031-3103	Schiller Park	1,3 Butadiene	0.46	0.46	0.42	0.42	0.23
		Dichloromethane	4.02	4.01	3.70	3.44	1.86
		Chloroform	0.06	0.05	0.05	0.05	0.03
		Carbon Tetrachloride	0.12	0.12	0.11	0.11	0.10
		Tetrachloroethylene	1.24	1.06	1.05	1.04	0.43
		Trichlorethylene	1.15	0.87	0.80	0.59	0.16
		1,2 Dichloropropane	0.00	0.00	0.00	0.00	0.00
		Vinyl Chloride	0.02	0.02	0.02	0.02	0.00
		Benzene	3.37	3.10	3.03	2.93	1.48
		Toluene	7.49	6.67	6.64	6.48	2.89
		Formaldehyde	5.8	5.6	4.9	4.2	2.53
		Acetaldehyde	9.8	8.5	8.0	7.0	2.80
		Acrolein	2.91	2.51	2.34	2.21	1.23

[1] – Toxic metals data (As, Be, Cd, Cr, Mn, Ni) summarized in Table B24 - Filter Analysis Data

Table B26
2014 $PM_{2.5}$ Speciation

Annual Averages (ug/m^3)															
Parameter	**Springfield Pump**			**Com Ed**			**Northbrook**			**Naperville**			**Granite City**		
	2014	2013	2012	2014	2013	2012	2014	2013	2012	2014	2013	2012	2014	2013	2012
Antimony	0.022	0.020	0.020	0.020	0.019	0.022	0.019	0.021	0.022	0.020	0.020	0.021	0.020	-	0.023
Arsenic	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.003	-	0.002
Aluminum	0.021	0.024	0.028	0.023	0.026	0.026	0.026	0.023	0.028	0.019	0.018	0.020	0.065	-	0.034
Barium	0.014	0.006	0.006	0.011	0.008	0.007	0.006	0.007	0.007	0.008	0.007	0.006	0.005	-	0.009
Bromine	0.004	0.004	0.005	0.004	0.004	0.005	0.004	0.003	0.004	0.004	0.004	0.006	0.005	-	0.004
Cadmium	0.001	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001	-	0.001
Calcium	0.053	0.074	0.096	0.040	0.037	0.058	0.026	0.031	0.041	0.056	0.033	0.045	0.154	-	0.119
Chromium	0.001	0.005	0.002	0.001	0.003	0.002	0.002	0.003	0.004	0.001	0.006	0.002	0.003	-	0.003
Cobalt	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	-	0.002
Copper	0.005	0.002	0.003	0.004	0.002	0.002	0.003	0.004	0.004	0.002	0.002	0.002	0.009	-	0.008
Chlorine	0.088	0.021	0.032	0.057	0.013	0.018	0.015	0.011	0.013	0.025	0.010	0.008	0.063	-	0.025
Cerium	0.005	0.006	0.006	0.006	0.009	0.006	0.005	0.008	0.006	0.007	0.007	0.005	0.004	-	0.010
Cesium	0.010	0.009	0.008	0.009	0.010	0.008	0.010	0.009	0.008	0.010	0.010	0.006	0.009	-	0.008
Iron	0.089	0.081	0.100	0.074	0.071	0.080	0.071	0.061	0.079	0.060	0.054	0.051	0.915	-	0.727
Lead	0.002	0.003	0.003	0.003	0.002	0.003	0.001	0.001	0.002	0.001	0.002	0.001	0.015	-	0.010
Indium	0.011	0.010	0.011	0.010	0.010	0.010	0.009	0.010	0.010	0.010	0.009	0.011	0.011	-	0.012
Manganese	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.001	0.002	0.001	0.001	0.001	0.027	-	0.021
Nickel	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.001	-	0.001
Magnesium	0.027	0.015	0.019	0.018	0.011	0.010	0.010	0.009	0.008	0.014	0.009	0.008	0.036	-	0.023
Phosphorus	0.006	0.006	0.006	0.006	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	-	0.005
Selenium	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-	0.001
Tin	0.013	0.013	0.013	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.012	0.013	0.013	-	0.014
Titanium	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	-	0.003
Vanadium	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	-	0.002
Silicon	0.066	0.073	0.098	0.059	0.053	0.074	0.049	0.049	0.067	0.066	0.051	0.059	0.179	-	0.101
Silver	0.008	0.008	0.009	0.008	0.008	0.009	0.007	0.008	0.008	0.007	0.007	0.010	0.008	-	0.012
Zinc	0.015	0.015	0.020	0.015	0.018	0.013	0.008	0.007	0.009	0.007	0.008	0.008	0.099	-	0.050
Strontium	0.004	0.001	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	-	0.001
Sulfur	0.564	0.636	0.710	0.647	0.683	0.639	0.583	0.526	0.627	0.482	0.634	0.614	0.751	-	0.659
Rubidium	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-	0.001
Potassium	0.220	0.063	0.067	0.125	0.054	0.057	0.046	0.042	0.050	0.075	0.048	0.049	0.085	-	0.070
Sodium	0.061	0.056	0.058	0.046	0.047	0.035	0.037	0.046	0.034	0.040	0.033	0.035	0.098	-	0.056
Zirconium	0.003	0.003	0.004	0.004	0.003	0.004	0.003	0.004	0.004	0.003	0.003	0.005	0.003	-	0.007
Average	0.024	0.017	0.020	0.018	0.014	0.015	0.012	0.012	0.014	0.015	0.012	0.012	0.058	-	0.043

Table B26
2014 $PM_{2.5}$ Speciation

	Annual Averages (ug/m^3)														
Parameter	**Springfield Pump**			**Com Ed**			**Northbrook**			**Naperville**			**Granite City**		
	2014	2013	2012	2014	2013	2012	2014	2013	2012	2014	2013	2012	2014	2013	2012
Ammonium	0.94	0.86	1.12	1.16	0.89	0.947	1.08	0.95	0.90	0.85	0.80	0.88	0.84	-	0.57
Nitrate	2.16	1.93	2.28	2.51	1.78	1.85	2.41	2.39	1.93	2.08	1.73	1.79	1.19	-	0.99
Organic Carbon	2.37	2.57	2.67	2.27	2.28	2.26	2.08	2.19	2.22	2.13	2.47	2.22	2.53	2.40	1.86
Elemental Carbon	0.44	0.451	0.48	0.41	0.40	0.42	0.32	0.28	3.04	0.30	0.32	0.31	0.53	0.53	0.45
Sulfate	1.64	1.76	2.00	1.82	1.75	1.82	1.70	1.48	1.82	1.70	1.60	1.72	2.22	-	1.76

Table C1

Carbon Monoxide Point Source Emission Distribution (Tons/Year)

Category	2010	2011	2012	2013	2014
External Fuel Combustion					
Electric Generation	18,540.9	19,340.9	18,188.3	16,586.9	19,111.4
Industrial	7,261.6	7,244.6	6,158.6	5,571.9	5,939.0
Commercial/Institutional	1,830.2	1,870.1	1,795.0	1,541.4	1,683.6
Space Heating	23.8	21.5	17.7	19.5	21.2
Internal Fuel Combustion					
Electric Generation	3,196.8	3,404.7	3,266.7	3,133.1	2,811.4
Industrial	5,178.2	5,185.1	5,426.0	4,968.5	5,244.1
Commercial/Institutional	355.6	300.0	260.5	240.4	261.6
Engine Testing	316.4	218.5	209.4	124.2	98.3
Industrial Processes					
Chemical Manufacturing	1,446.1	1,771.4	2,266.9	2,055.8	1,828.1
Food/Agriculture	3,237.1	3,142.9	2,857.8	1,426.2	1,456.8
Primary Metal Production	9,947.8	21,614.7	21,723.5	15,695.1	16,070.1
Secondary Metal Production	2,646.3	2,671.3	2,563.0	2,501.7	2,423.6
Mineral Products	3,640.1	2,760.4	3,195.9	2,875.3	2,934.2
Petroleum Industry	4,018.8	4,127.6	4,095.1	3,905.2	3,812.4
Paper and Wood Products	38.0	1.5	1.5	1.5	1.5
Rubber and Plastic Products	33.5	32.8	33.2	34.2	31.7
Fabricated Metal Products	235.9	232.1	224.4	226.7	223.7
Oil and Gas Production	211.5	231.2	219.2	249.6	279.6
Electrical Equipment	2.2	2.2	2.2	2.2	1.6
Transportation Equipment	5.1	3.5			
Health Services	343.1	311.4	261.2	200.8	181.7
In-Process Fuel Use	154.4	327.7	506.2	470.7	486.7
Miscellaneous Manufacturing	143.8	123.5	143.0	153.0	128.8
Organic Solvent Emissions					
Organic Solvent Use				0.3	0.0
Surface Coating Operations	164.8	194.3	167.5	161.3	232.7
Petroleum Product Storage				0.0	0.0
Bulk Terminals/Plants	17.5	17.5	70.6	74.8	71.4
Printing/Publishing	5.6	6.0	6.2	6.0	3.8
Petroleum Marketing/Transport	6.7	10.5	33.4	33.3	54.1
Organic Chemical Storage (large)					
Organic Chemical Transportation					
Organic Solvent Evaporation	30.3	40.6	35.8	24.0	16.0
Solid Waste Disposal					
Government	1,993.0	2,117.5	1,813.1	1,914.8	1,650.3
Commercial/Institutional	68.7	47.3	59.7	46.2	43.5
Industrial	689.0	893.6	639.2	667.4	797.6
Site Remediation	14.2	16.2	14.0	2.7	2.8
MACT Processes					
Food and Agriculture Processes					
Vinyl Based Resins	0.1	0.1	0.1	0.1	0.0
Totals	**65,797.2**	**78,283.1**	**76,255.0**	**64,915.0**	**67,920.6**

Table C2

Nitrogen Oxides Point Source Emission Distribution (Tons/Year)

Category	2010	2011	2012	2013	2014
External Fuel Combustion					
Electric Generation	73,871.1	77,280.9	69,919.6	51,512.4	50,853.1
Industrial	11,915.1	13,211.3	11,095.2	11,126.9	11,510.4
Commercial/Institutional	2,527.3	2,550.5	2,337.5	2,113.3	2,161.3
Space Heating	117.4	106.2	88.5	87.5	97.6
Internal Fuel Combustion					
Electric Generation	2,820.0	2,759.3	2,894.1	3,110.4	2,762.1
Industrial	20,921.5	20,450.5	21,002.4	19,219.0	20,531.5
Commercial/Institutional	773.8	573.2	488.1	414.6	470.3
Engine Testing	573.2	578.8	691.8	679.4	524.2
Industrial Processes					
Chemical Manufacturing	1,484.9	1,468.7	1,395.4	1,387.7	1,432.7
Food/Agriculture	1,751.1	1,412.2	1,415.5	1,389.9	1,497.7
Primary Metal Production	1,199.6	2,499.3	1,780.2	1,580.6	1,521.8
Secondary Metal Production	865.9	982.3	721.5	713.3	710.4
Mineral Products	8,692.5	8,117.8	8,904.9	7,813.4	7,232.8
Petroleum Industry	7,751.7	7,468.6	5,373.0	5,060.1	4,870.4
Paper and Wood Products	6.9	1.3	1.3	1.3	1.3
Rubber and Plastic Products	42.4	40.9	40.7	42.0	36.4
Fabricated Metal Products	316.9	304.7	308.0	288.0	272.8
Oil and Gas Production	756.3	600.9	800.4	734.4	783.3
Miscellaneous Machinery	9.2	9.2	0.2	0.2	0.3
Electrical Equipment	3.0	3.0	3.0	2.9	2.1
Transportation Equipment	0.2	0.1			
Health Services	7.1	7.1	6.6	6.6	6.6
Textile Products	0.9	0.9	0.9	0.9	0.9
In-Process Fuel Use	450.1	1,077.8	731.7	672.6	799.3
Miscellaneous Manufacturing	53.8	47.3	30.6	29.4	29.9
Organic Solvent Emissions					
Organic Solvent Use				0.3	0.0
Surface Coating Operations	415.8	459.2	368.6	329.3	421.1
Petroleum Product Storage					
Bulk Terminals/Plants	16.4	16.5	27.8	39.1	33.6
Printing/Publishing	9.0	8.8	8.6	6.8	4.4
Petroleum Marketing/Transport	4.8	7.0	28.6	28.0	34.2
Organic Chemical Storage (large)					
Organic Chemical Transportation					
Organic Solvent Evaporation	40.1	42.6	42.8	28.7	13.9
Solid Waste Disposal					
Government	681.3	643.8	562.0	626.3	518.0
Commercial/Institutional	14.3	14.3	14.5	15.2	15.2
Industrial	226.9	263.2	219.1	242.7	266.6
Site Remediation	22.7	26.6	22.4	4.5	4.5
MACT Processes					
Food and Agriculture Processes					
Vinyl Based Resins	0.4	0.4	0.4	0.4	0.0
Totals	**138,343.8**	**143,035.4**	**131,326.0**	**109,307.8**	**109,444.3**

Table C3

PM_{10} Point Source Emission Distribution (Tons/Year)

Category	2010	2011	2012	2013	2014
External Fuel Combustion					
Electric Generation	8,065.1	8,134.8	8,093.0	6,228.1	5,776.4
Industrial	1,553.5	1,601.1	1,536.3	1,174.9	1,346.9
Commercial/Institutional	245.6	273.2	273.6	191.4	207.2
Space Heating	3.9	3.5	3.1	4.9	4.9
Internal Fuel Combustion					
Electric Generation	243.0	283.3	525.0	376.1	286.5
Industrial	275.7	260.9	286.9	260.1	275.2
Commercial/Institutional	43.9	36.9	31.5	31.5	29.6
Engine Testing	19.7	14.1	15.1	17.9	16.2
Industrial Processes					
Chemical Manufacturing	927.9	949.1	872.9	869.5	943.9
Food/Agriculture	7,141.3	6,737.9	6,355.6	5,950.5	5,851.2
Primary Metal Production	790.9	1,301.2	1,222.5	1,037.5	986.0
Secondary Metal Production	1,351.6	1,265.0	1,232.5	1,240.3	1,196.9
Mineral Products	6,486.5	5,651.0	5,052.2	5,071.9	4,822.1
Petroleum Industry	1,593.4	993.7	1,007.8	1,367.4	1,227.6
Paper and Wood Products	219.4	180.1	167.2	148.9	109.8
Rubber and Plastic Products	192.7	192.2	173.3	178.6	189.6
Fabricated Metal Products	320.8	266.5	227.5	260.0	269.4
Oil and Gas Production	7.5	11.6	13.4	14.7	15.8
Building Construction	2.0	1.6	1.6	1.6	1.6
Miscellaneous Machinery	13.5	13.5	13.2	13.1	15.7
Electrical Equipment	2.5	2.4	1.8	3.4	5.4
Transportation Equipment	7.8	18.7	19.5	7.1	14.1
Health Services	94.2	93.5	8.9	63.4	77.7
Leather and Leather Products	3.3	3.3	17.2	9.7	9.7
Textile Products	0.1	0.1	0.1	0.1	0.1
Process Cooling	384.4	402.7	422.4	313.0	274.8
In-Process Fuel Use	43.3	144.8	82.5	75.3	81.6
Miscellaneous Manufacturing	25.3	22.3	15.0	27.8	28.0
Organic Solvent Emissions					
Organic Solvent Use			1.5	1.8	1.7
Surface Coating Operations	199.7	199.4	197.2	206.0	245.3
Petroleum Product Storage					
Bulk Terminals/Plants	12.9	1.3	2.6	1.3	3.4
Printing/Publishing	2.9	11.1	11.7	29.7	30.1
Petroleum Marketing/Transport	0.4	0.8	2.3	2.0	2.8
Organic Chemical Storage (large)	4.8	4.8	4.4	4.5	6.4
Organic Chemical Transportation					
Organic Solvent Evaporation	1.7	6.6	7.0	5.9	5.4
Solid Waste Disposal					
Government	355.9	401.5	406.7	365.1	366.7
Commercial/Institutional	11.0	9.8	15.1	8.2	8.0
Industrial	84.7	102.6	112.2	92.4	110.3
Site Remediation	48.2	50.8	43.0	16.1	16.6
MACT Processes					
Food and Agriculture Processes	0.0	0.0	0.0	0.0	
Styrene or Methacrylate Based Resins	0.8	0.8	0.2	0.1	0.1
Alkyd Resin Production	4.8	3.0	0.6	0.6	1.3
Vinyl Based Resins	129.9	129.9	63.6	60.1	59.4
Miscellaneous Polymers	9.6	9.6	6.9	6.9	7.1
Inorganic Chemicals	0.3	0.3	0.3	0.1	0.1
Consumer Products Manufacturing	0.2	0.2	0.2	0.2	1.2
Paint Stripper Use				1.0	1.0
Miscellaneous Processes	1.0	1.0	1.0	3.2	6.0
Phthalate Plasticizers Production	3.2	3.2	3.2		
Totals	**30,930.9**	**29,795.9**	**28,623.9**	**25,744.0**	**24,941.8**

Table C4

Sulfur Dioxide Point Source Emission Distribution (Tons/Year)

Category	2010	2011	2012	2013	2014
External Fuel Combustion					
Electric Generation	242,045.6	230,522.6	216,854.5	157,862.8	146,872.6
Industrial	30,458.6	30,428.2	29,303.3	27,402.6	27,936.1
Commercial/Institutional	4,265.9	4,828.9	4,167.1	2,355.7	2,649.7
Space Heating	0.8	0.7	0.5	0.5	0.6
Internal Fuel Combustion					
Electric Generation	330.8	497.9	445.2	228.3	232.1
Industrial	108.9	84.8	86.1	67.7	90.6
Commercial/Institutional	64.8	48.6	48.4	21.5	22.4
Engine Testing	66.7	8.8	12.2	10.6	10.7
Industrial Processes					
Chemical Manufacturing	1,020.1	1,462.5	1,440.5	1,381.3	1,412.2
Food/Agriculture	1,341.0	1,464.4	1,365.4	1,718.8	1,102.1
Primary Metal Production	1,119.7	2,425.3	2,954.6	2,685.2	2,630.5
Secondary Metal Production	122.0	124.7	119.9	100.4	95.6
Mineral Products	13,347.2	14,814.3	14,409.7	13,079.8	13,305.3
Petroleum Industry	7,875.6	6,138.4	3,119.6	3,043.6	2,532.7
Paper and Wood Products	0.6	0.0	0.0	0.0	0.0
Rubber and Plastic Products	4.7	4.6	4.6	4.7	0.3
Fabricated Metal Products	16.2	16.1	33.4	32.2	15.3
Oil and Gas Production	378.3	378.4	332.8	373.0	3.7
Electrical Equipment	0.0	0.0	0.0	0.0	0.0
Transportation Equipment	0.1	0.1	0.0		
Health Services	7.7	7.7	7.5	7.5	7.5
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	669.3	416.7	209.9	192.4	223.6
Miscellaneous Manufacturing	63.0	71.5	60.1	57.7	57.4
Organic Solvent Emissions					
Organic Solvent Use				0.3	0.0
Surface Coating Operations	3.1	3.3	3.4	2.4	3.8
Petroleum Product Storage	7.7	7.7	7.7	7.7	7.7
Printing/Publishing	0.0	0.4	0.1	0.8	1.6
Petroleum Marketing/Transport		0.4	1.3	5.9	0.2
Organic Chemical Transportation			5.9		5.9
Organic Chemical Storage (large)	0.1	0.1	0.1	0.1	0.1
Organic Solvent Evaporation	3.2	3.2	3.2	3.1	32.5
Solid Waste Disposal					
Government	691.8	886.3	712.1	529.8	608.0
Commercial/Institutional	2.7	2.7	2.8	2.7	2.7
Industrial	487.3	802.7	495.9	493.0	366.5
Site Remediation	5.7	6.5	4.3	0.9	1.3
MACT Processes					
Food and Agriculture Processes	199.7	199.7	199.7	199.7	117.9
Totals	**304,708.9**	**295,658.3**	**276,412.0**	**211,872.9**	**200,349.5**

Table C5

Volatile Organic Material Point Source Emission Distribution (Tons/Year)

Category	2010	2011	2012	2013	2014
External Fuel Combustion					
Electric Generation	1,312.9	1,419.0	1,445.1	1,312.0	1,372.5
Industrial	354.3	351.5	332.1	350.7	350.0
Commercial/Institutional	101.3	103.6	113.5	89.8	96.5
Space Heating	6.2	5.6	3.4	4.3	4.9
Internal Fuel Combustion					
Electric Generation	656.5	793.2	682.4	418.2	360.7
Industrial	1,032.3	1,119.9	1,207.2	1,121.6	1,133.5
Commercial/Institutional	70.7	59.6	46.1	40.0	46.9
Engine Testing	116.7	51.6	47.9	48.0	41.2
Fugitive Emissions					
Industrial Processes					
Chemical Manufacturing	6,349.6	6,452.1	6,130.2	6,130.8	6,066.6
Food/Agriculture	10,549.7	10,443.2	10,209.9	9,481.7	8,707.9
Primary Metal Production	379.9	497.0	527.3	468.7	409.2
Secondary Metal Production	812.4	727.1	760.2	683.2	676.2
Mineral Products	1,504.6	1,605.9	1,494.1	1,342.7	1,283.5
Petroleum Industry	2,021.2	1,914.2	2,054.5	2,409.2	2,137.9
Paper and Wood Products	169.3	213.3	207.6	195.1	88.6
Rubber and Plastic Products	2,130.5	1,921.4	1,991.6	1,952.3	1,917.9
Fabricated Metal Products	748.3	653.0	582.8	659.5	641.5
Oil and Gas Production	314.1	305.8	305.3	352.2	371.3
Miscellaneous Machinery	65.9	57.4	56.5	56.5	56.6
Electrical Equipment	50.9	48.3	40.9	34.5	36.9
Transportation Equipment	135.8	107.6	137.8	33.9	33.9
Health Services	47.7	43.7	32.0	30.9	27.2
Leather and Leather Products	42.7	16.9	16.9	16.9	16.9
Textile Products	3.0	3.0	3.0	3.0	2.3
Process Cooling	272.5	275.8	68.0	71.4	77.7
In-Process Fuel Use	18.5	9.7	36.6	36.0	35.8
Miscellaneous Manufacturing	196.7	179.1	179.0	127.8	119.9
Organic Solvent Emissions					
Organic Solvent Use	607.5	527.8	495.0	464.9	422.1
Surface Coating Operations	6,644.3	6,367.3	6,892.8	7,060.5	7,468.4
Petroleum Product Storage	3,083.8	2,937.9	2,706.9	2,711.9	2,615.3
Bulk Terminals/Plants	1,338.1	1,188.6	1,087.2	1,215.8	1,289.7
Printing/Publishing	4,675.8	3,908.0	3,522.2	3,268.0	3,358.3
Petroleum Marketing/Transport	548.9	515.5	601.2	513.0	502.3
Organic Chemical Storage (large)	1,100.8	819.4	742.6	773.6	739.8
Organic Chemical Transportation	84.1	94.7	95.3	89.6	89.6
Dry Cleaning (petroleum based)	524.1	503.8	462.1	468.3	426.7
Organic Chemical Storage (small)					0.4
Organic Solvent Evaporation	525.4	505.6	435.3	420.0	447.5

Table C5

Volatile Organic Material Point Source Emission Distribution (Tons/Year)

Category	2010	2011	2012	2013	2014
Solid Waste Disposal					
Government	420.2	339.0	361.5	338.2	514.8
Commercial/Institutional	5.4	5.4	5.4	5.4	5.4
Industrial	80.0	396.3	100.2	64.9	65.0
Site Remediation	386.7	327.9	227.8	219.5	169.0
MACT Processes					
Food and Agriculture Processes	26.0	26.0	26.0	26.0	20.1
Agricultural Chemical Production	1.1	1.1	0.1	0.1	0.1
Styrene or Methacrylate Based Resins	16.2	16.6	6.5	4.6	4.6
Alkyd Resin Production	87.7	57.5	61.3	54.7	51.3
Vinyl Based Resins	94.1	113.3	89.7	88.1	96.0
Miscellaneous Polymers	1.0	1.0	1.0	1.0	1.0
Inorganic Chemicals Manufacturing	16.3	16.3	16.3	0.0	0.0
Consumer Product Mfg Facilities	228.8	260.1	292.7	158.6	158.1
Paint Stripper Use	3.0	3.1	3.1	3.1	3.1
Miscellaneous Processes	12.0	12.5	12.3	9.1	9.1
Phthalate Plasticizers Production					
Totals	**49,975.4**	**48,323.0**	**46,956.6**	**45,430.1**	**44,610.1**

Table C6

2014 Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	PM_{10}	Sulfur Dioxide	Volatile Organic Material
Adams	227.0	329.6	283.4	978.6	850.5
Alexander	21.9	23.0	57.5	0.3	244.1
Bond	16.8	11.9	18.9	1.5	26.4
Boone	115.2	130.2	75.7	12.1	593.6
Brown	0.0	0.0	2.8	0.0	0.0
Bureau	33.6	38.6	63.3	13.1	36.0
Calhoun	0.6	0.7	5.9	0.0	0.1
Carroll	25.2	24.9	32.6	1.1	15.0
Cass	37.5	37.5	27.1	49.0	28.5
Champaign	408.0	849.3	191.3	563.4	465.4
Christian	1,035.4	5,057.4	322.4	10,245.1	480.9
Clark	67.6	5.7	82.2	3.7	199.0
Clay	5.6	8.6	35.7	0.1	278.9
Clinton	941.3	3,001.7	86.9	307.7	190.3
Coles	106.9	95.8	82.2	11.0	806.7
Cook	11,815.7	5,434.5	2,546.3	3,274.6	7,054.1
Crawford	1,051.8	1,593.9	512.6	5,317.0	1,283.0
Cumberland	13.2	3.2	21.8	1.0	19.2
DeKalb	176.5	116.6	97.9	78.0	204.3
DeWitt	192.9	77.6	66.7	4.8	106.7
Douglas	1,039.1	4,440.9	173.7	10,215.5	466.4
DuPage	734.6	812.3	314.4	80.8	1,378.9
Edgar	28.3	217.1	66.4	0.1	205.6
Edwards	1.9	5.3	11.3	0.5	14.8
Effingham	25.6	28.2	59.7	0.9	291.6
Fayette	50.1	196.3	12.6	29.5	26.6
Ford	100.6	135.5	156.1	7.0	600.4
Franklin	10.5	8.6	32.3	1.1	44.6
Fulton	365.2	1,286.0	29.7	232.8	57.2
Gallatin	0.3	1.4	17.6	0.5	0.0
Greene	0.1		19.6	0.2	0.4
Grundy	742.2	1,234.5	244.3	96.1	625.3
Hamilton	1.2	3.9	34.5	0.1	0.9
Hancock	2.0	0.5	39.3	0.0	3.3
Hardin	4.4	5.3	33.3	0.0	2.1
Henderson	1.1	1.0	12.9	1.7	3.0
Henry	673.6	1,490.1	157.0	18.1	372.7
Iroquois	25.7	20.8	128.7	4.3	450.2
Jackson	230.8	220.7	43.0	241.2	73.5
Jasper	1,017.6	3,415.7	415.8	16,206.9	150.4
Jefferson	43.6	51.8	24.7	0.4	317.2
Jersey	0.7		6.5		10.3
Jo Daviess	619.5	551.0	170.7	10.8	75.5
Johnson	25.2	24.2	7.9	185.7	6.7
Kane	698.9	774.8	259.5	62.8	1,050.6
Kankakee	627.3	957.5	231.0	115.0	818.8
Kendall	480.4	1,048.8	202.0	41.4	350.6
Knox	23.2	22.0	85.1	1.8	42.3
Lake	1,962.9	2,830.2	817.9	7,986.4	547.1
La Salle	1,404.4	2,938.1	1,109.4	624.4	1,050.6
Lawrence	11.2	6.0	35.3	1.3	214.2
Lee	224.7	151.6	132.2	10.3	171.5

Table C6

2014 Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	PM_{10}	Sulfur Dioxide	Volatile Organic Material
Livingston	362.7	247.8	119.9	22.6	270.1
Logan	49.5	487.8	124.0	472.1	57.3
McDonough	118.1	125.8	59.1	42.7	161.5
McHenry	197.9	203.5	154.4	4.6	307.4
McLean	228.7	284.9	174.5	9.5	843.8
Macon	1,354.6	5,169.8	1,947.0	13,774.1	3,955.7
Macoupin	6.2	6.7	39.9	0.0	5.0
Madison	10,966.2	7,284.2	1,596.2	11,187.6	3,078.3
Marion	34.2	40.2	46.6	14.0	659.1
Marshall	22.1	72.4	142.8	249.7	402.5
Mason	475.7	1,337.4	175.3	1,126.1	65.3
Massac	1,447.3	7,596.5	850.5	17,130.1	295.5
Menard			15.4		12.5
Mercer	0.4	0.5	17.1	0.0	2.9
Monroe	6.6	12.7	16.6	0.5	16.3
Montgomery	773.7	1,909.8	110.1	113.6	131.3
Morgan	95.9	274.1	53.9	36.6	76.8
Moultrie	3.7	9.7	29.6	0.0	287.6
Ogle	399.5	394.1	336.6	185.4	807.7
Peoria	1,965.3	4,143.2	603.2	9,988.5	1,498.6
Perry	49.9	51.0	84.1	0.6	19.0
Piatt	338.8	3,802.2	63.9	0.4	108.8
Pike	313.8	253.0	88.5	3.1	32.3
Pope					
Pulaski	81.2	45.0	25.8	3.2	8.8
Putnam	356.7	1,358.2	144.3	5,251.3	132.4
Randolph	1,838.8	4,985.1	284.3	4,804.8	368.0
Richland	0.6	2.6	5.7	0.0	12.1
Rock Island	434.1	60..4	188.4	2,424.1	718.3
St. Clair	443.0	330.9	256.5	168.2	575.8
Saline	12.2	4.5	86.1	2.7	5.6
Sangamon	1,303.5	1,471.6	439.9	1,475.1	211.7
Schuyler	5.1	6.1	9.7	0.0	6.1
Scott	32.8	24.1	35.8	6.4	2.6
Shelby	14.8	57.9	53.1	1.2	55.6
Stark			1.2		4.5
Stephenson	82.6	122.9	109.3	37.3	181.2
Tazewell	1,102.1	7,434.6	1,699.1	28,776.5	896.7
Union	60.6	60.8	49.5	739.1	6.2
Vermilion	412.3	676.9	192.7	26.0	1,840.1
Wabash	2.9	2.8	43.9	2.4	8.0
Warren	50.7	49.6	59.7	160.3	9.3
Washington	2,052.5	2,422.9	292.6	4,722.5	70.1
Wayne	444.7	1,183.3	15.9	5.7	75.0
White	112.8	587.1	5.9	2.7	47.8
Whiteside	1,546.2	404.0	166.2	239.4	182.7
Will	9,332.7	9,529.0	3,548.7	31,708.2	2,806.8
Williamson	1,059.2	4,338.6	159.8	8,334.2	324.8
Winnebago	436.0	279.8	456.0	56.6	559.7
Woodford	5.0	10.8	44.1	0.1	60.5

Table C7

Annual Source Estimated Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	PM_{10}	Sulfur Dioxide	Volatile Organic Material
1981	240,421	826,427		1,577,992	270,814
1982	163,704	693,054		1,404,040	233,951
1983	144,622	759,453		1,363,292	207,405
1984	110,922	746,367		1,435,066	197,418
1985	107,876	715,556		1,406,300	191,070
1986	109,777	676,181		1,400,761	180,148
1987	98,213	644,511		1,379,407	176,406
1988	127,758	653,521		1,393,628	165,792
1989	132,214	610,214		1,254,474	193,499
1990	134,744	623,466		1,272,445	170,378
1991	148,667	619,161		1,239,690	154,008
1992	129,054	610,214	181,775	1,228,949	156,867
1993	130,097	556,460	113,482	1,170,549	152,288
1994	127,848	555,893	50,730	1,158,555	140,492
1995	127,661	505,966	48,839	1,273,786	141,381
1996	130,040	495,267	43,950	1,183,278	139,445
1997	117,046	510,729	41,078	1,197,404	136,541
1998	108,117	509,676	43,392	1,196,461	134,924
1999	120,906	421,993	40,598	1,085,828	99,121
2000	122,702	424,609	36,885	1,070,058	101,147
2001	96,970	358,263	34,233	653,797	95,221
2002	99,173	301,216	30,422	531,343	90,014
2003	88,367	289,921	41,589	512,321	89,579
2004	80,479	248,245	42,402	507,142	84,080
2005	83,671	238,026	40,359	522,677	75,690
2006	89,717	219,200	37,979	487,588	70,858
2007	80,969	205,602	34,847	429,976	59,021
2008	80,628	203,014	34,474	406,905	57,135
2009	78,720	198,178	32,551	375,807	54,668
2010	65,797	138,344	30,931	304,709	49,975
2011	78,283	143,035	29,796	295,658	48,323
2012	76,255	131,326	28,624	276,412	46,957
2013	64,915	109,308	25,744	211,873	45,430
2014	67,921	109,444	24,942	200,350	44,610

Table C8

Annual Source Reported Emissions Trends (Tons)

Year	Carbon Monoxide	Nitrogen Oxides	PM_{10}	Sulfur Dioxide	Volatile Organic Material
1992	112,403	381,938	49,377	1,045,113	143,853
1993	113,781	418,209	36,737	1,001,123	108,847
1994	116,192	404,486	34,086	967,213	108,897
1995	160,256	366,978	31,491	814,229	103,144
1996	84,258	407,683	30,850	914,295	87,271
1997	71,408	404,289	25,648	974,232	76,350
1998	79,147	377,191	31,828	964,262	77,952
1999	91,153	360,850	27,663	863,759	71,514
2000	90,315	329,141	30,482	620,592	71,063
2001	83,453	291,778	28,929	531,504	62,647
2002	83,795	261,202	26,900	498,754	70,703
2003	75,511	230,068	29,939	507,338	63,495
2004	77,847	229,127	31,896	521,808	64,594
2005	85,892	215,366	30,535	486,534	62,251
2006	77,099	200,832	29,367	429,573	53,791
2007	77,211	198,073	28,784	406,405	50,933
2008	75,183	193,637	28,194	376,627	49,112
2009	62,285	134,274	25,988	305,297	41,839
2010	75,277	139,508	25,993	297,254	44,245
2011	73,586	129,058	25,209	272,747	42,430
2012	64,253	109,298	22,631	220,143	42,735
2013	65,879	107,877	21,549	201,509	41,276

Illinois EPA's Website Information

To access the online version of the Annual Air Quality Report, the evening Air Quality Index numbers, various pollutant averages and exceedances, the monitoring network plan and emission trends:

- http://www.epa.illinois.gov/topics/air-quality/air-quality-reports/index

Air Quality Index Information

To view current Air Quality Index numbers and forecasts across the country:

- http://www.airnow.gov

To sign up for air quality information such as forecasts and pollution alerts:

- http://www.illinois.enviroflash.info/signup.cfm

EnviroFlash on Twitter:

- http://www.illinois.enviroflash.info/EnviroFlashTwitter.cfm

Monitoring Data Access Information

To access yearly Air Quality Index summaries, air quality statistics and monitoring concentrations:

- http://www.epa.gov/air/airpolldata.html

To access historical Design Values (statistic to compare to the National Ambient Air Quality Standards):

- http://www.epa.gov/airtrends/values.html

Nonattainment Areas and Designations (regions in violation of the various National Ambient Air Quality Standards):

- http://www3.epa.gov/airquality/greenbook/l

Other

- Ambient Monitoring Technology Information Center: http://www.epa.gov/ttnamti1
- Toxic Release Inventory Search: http://iaspub.epa.gov/triexplorer/tri_release.chemical