State of Illinois
Illinois Environmental Protection Agency

Illinois
Air Quality Report

2016

ILLINOIS ANNUAL AIR QUALITY REPORT 2016

Illinois Environmental Protection Agency
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Illinois Annual Air Quality Report 2016

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Executive Summary

This report presents a summary of air quality data collected throughout the State of Illinois during calendar year 2016. 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, volatile organic compounds and toxic compounds. Monitoring was conducted at 64 different site locations collecting data from more than 140 instruments.

In terms of the Air Quality Index (AQI), air quality during 2016 was either good or moderate 92% of the time throughout Illinois. There were two days when air quality was considered unhealthy (category red). This compares with one unhealthy day in 2015. The unhealthy days were due to elevated ozone concentrations in June and July. There were 27 days (all due to ozone) when air quality in some part of Illinois was considered Unhealthy for Sensitive Groups (category orange). This compares with five Unhealthy for Sensitive Groups days reported in 2015.

Air quality trends for the criteria pollutants are continuing to show downward or stable trends well below the level of the standards. Examples of percentage changes over the ten-year period 2007-2016 are as follows: annual particulate matter ($PM_{2.5}$) 21% decrease, 1-hour sulfur dioxide 69% decrease, annual nitrogen dioxide 31% decrease, 8-hour carbon monoxide 58% decrease, and 8-hour ozone 1% decrease.

Stationary point source emission data has again been included. The data in the report reflects information contained in Illinois EPA's Integrated Comprehensive Environmental Management System (ICEMAN) as of December 31, 2016. Emission estimates are for the calendar year 2015 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 2015. 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), cardio-pulmonary 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 eye irritation 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 jeopardize 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	0.070 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

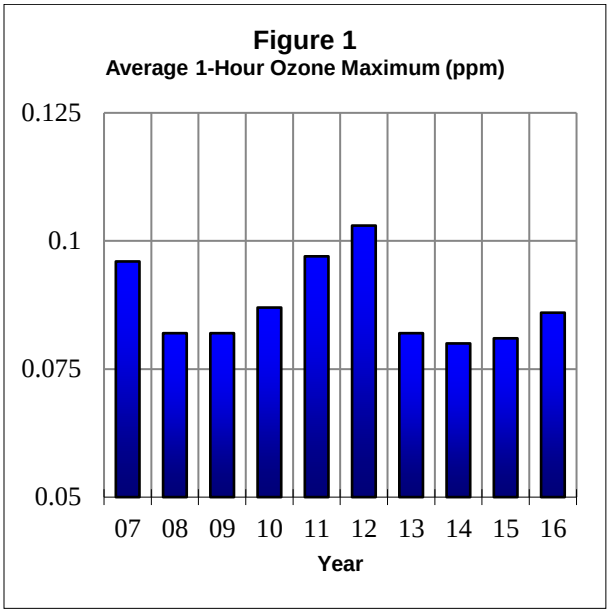
Monitoring was conducted at 37 locations during at least part of the April-October "ozone season" and at least 75 percent data capture was obtained at all 37 sites (the ozone season changes to March-October starting in 2017).

Des Plaines recorded the highest 1-hour concentration of 0.101 ppm. This compares with the highest concentration of 0.098 ppm in 2015 at Alsip. The highest value in the Metro-East area was 0.098 ppm recorded at Jerseyville compared with a high in 2015 of 0.096 ppm at Wood River.

Data is also presented to compare with the current 8-hour standard as of 2016 of 0.070 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 17 sites in Illinois that had a fourth-high value above 0.070 ppm in 2016 compared with zero sites in 2015. The highest fourth-high value was 0.079 ppm at Northbrook. The highest level in the Metro-East area was 0.075 ppm at Wood River. For the three-year period 2014-2016, six sites had a fourth-high average above 0.070 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 2007-2016. The graph shows some year-to-year fluctuation with high years occurring during summers more favorable for ozone formation (2012) and low years in summers less conducive for ozone formation (2008). The statewide average for 2016 was 0.086 ppm compared with 0.081 ppm in 2015 and 0.080 ppm in 2014.

Statewide, the total number of 1-hour excursion days in 2016 was zero compared with zero in 2015 and zero in 2014.



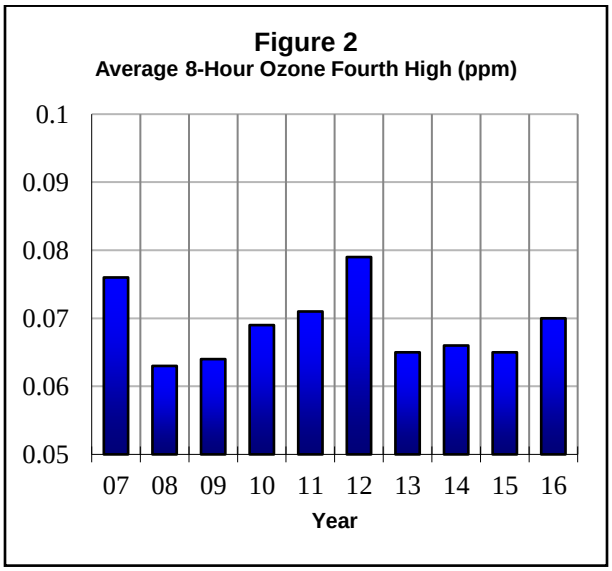


Figure 2 shows for each year the statewide annual average of the fourth highest 8-hour ozone value for the same period 2007-2016. The statewide average for 2016 was 0.070 ppm compared with 0.065 ppm in 2015 and 0.066 in 2014.

PARTICULATE MATTER

Monitoring was conducted at 33 sites for $PM_{2.5}$. In 2016, no sites recorded an average above 12.0 ug/m^3, the level of the annual standard. The statewide average of the annual averages was 8.2 ug/m^3 in 2016 compared to 9.5 ug/m^3 in 2015.

Figure 3 shows the trend of the statewide annual averages for $PM_{2.5}$ for the period 2007-2016. There were zero exceedances of the 24-hour standard of 35 ug/m^3 in 2016 compared with 18 exceedances in 2015 and zero exceedances in 2014. The statewide peak of 31.1 ug/m^3 was recorded at Granite City. The statewide average of the 98th percentile of 24-hour averages continued to decline as shown in Figure 3. In 2016, the statewide average was 17.5 ug/m^3. This compares with 22.3 ug/m^3 in 2015 and 23.7 ug/m^3 in 2014.

In 2016 there were four sites monitoring PM_{10}. The statewide annual average was 22 ug/m^3 compared with 27 ug/m^3 in 2015 and 32 ug/m^3 in 2014. The highest annual average was 28 ug/m^3 in Granite City. The lowest annual was 16 ug/m^3 at Washington High School in Chicago.

For $PM_{10,}$ the statewide average of the maximum 24-hour averages in 2016 was 81 ug/m^3 compared with 122 ug/m^3 in 2015 and 90 ug/m^3 in 2014. Higher than average concentrations occurred in 2015 due to the peak concentrations occurring between July 4th and July 5th from firework display emissions. **Figure 4** depicts this information for the period 2007-2016.

There were no exceedances of the 24-hour primary standard of 150 ug/m^3. The highest 24-hour average was recorded in Lyons Township with a value of 119 ug/m^3 compared with a high 24-hour value of 146 ug/m^3 in Lyons Township in 2015.

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

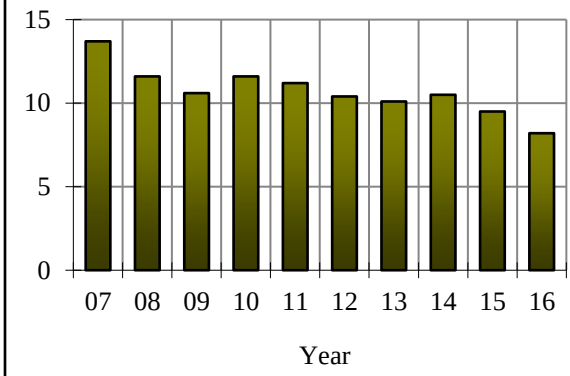
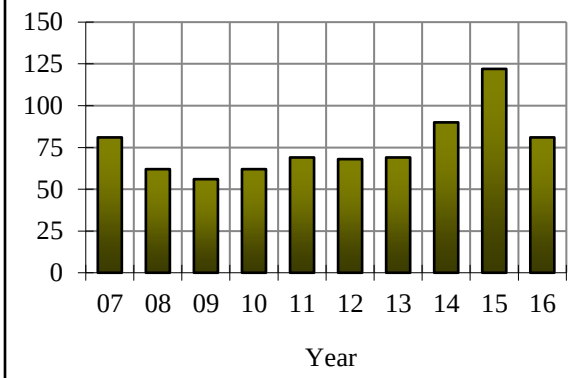


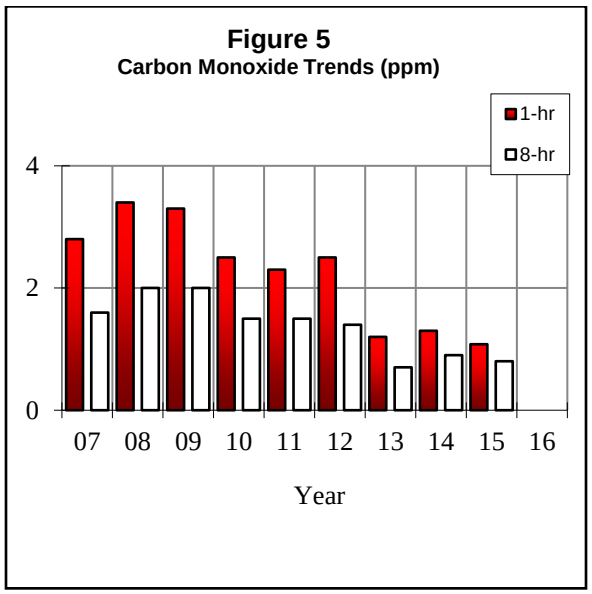
Figure 4
Particulate Matter (PM_{10}) 24-Hour Trends (ug/m^3)



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 2016. The highest 1-hour average was 1.3 ppm recorded in East St. Louis. The highest 8-hour average was 1.1 ppm recorded in East St. Louis.

Figure 5 shows the trend for the period 2007-2016 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 1.0 ppm in 2016 compared with 1.1 ppm in 2015. The statewide average for the 8-hour high was 0.7 ppm in 2016 compared with 0.8 ppm in 2015.



SULFUR DIOXIDE

There were 11 exceedances of the 1-hour primary standard of 75 ppb in 2016 compared with 15 exceedances in 2015. There were no exceedances of the 3-hour secondary standard of 500 ppb in 2016. The highest 1-hour average was 165 ppb recorded in Pekin compared with 149 ppb in Pekin in 2015. The statewide average of the 1-hour high in 2016 was 43 ppb. This compares with 36 ppb in 2015 and 51 ppb in 2014. The highest 3-hour average of 146 ppb was recorded in Pekin in 2016 compared with 124 ppb in Pekin in 2015. There was one site over the primary 1-hour standard of 75 ppb for the 2014-2016 period (Table B17).

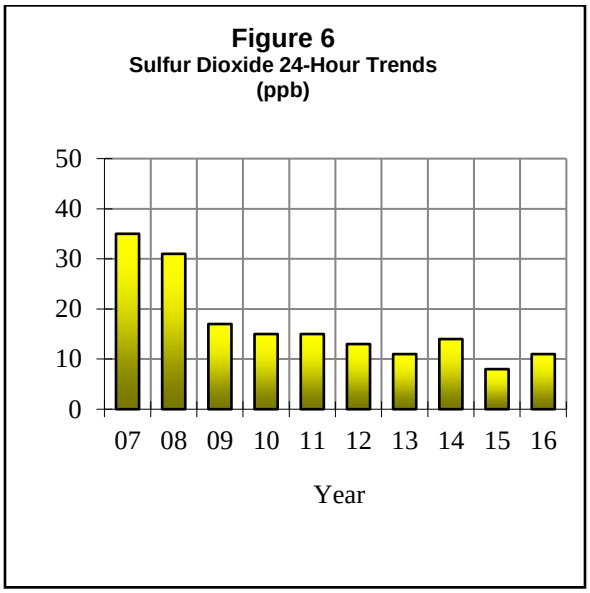
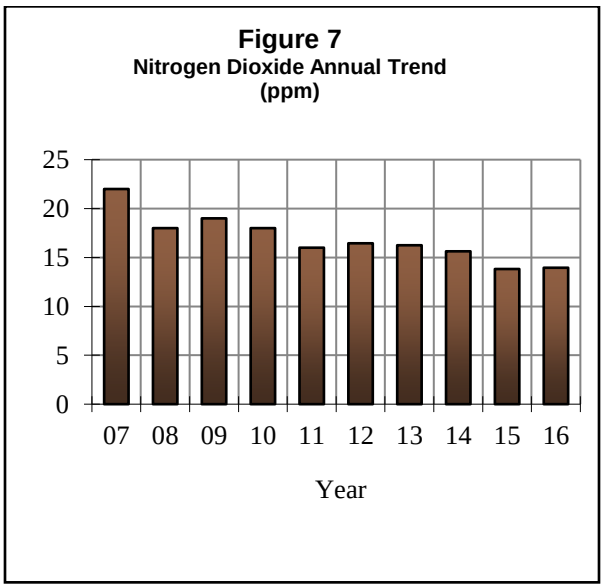


Figure 6 shows the statewide trend for the maximum 24-hour averages for the period 2007-2016. The statewide average for 2016 was 11 ppb compared with the 2015 average of 8 ppb.

NITROGEN DIOXIDE

There were no violations of the annual primary standard of 53 ppb recorded in Illinois during 2016. The highest annual average of 17 ppb was recorded at Schiller Park. The statewide average for 2016 was 14 ppb compared with 14 ppb in 2015 and 16 ppb in 2014. There were no violations of the 1-hour primary standard, and there were also no violations in 2015. There were no sites over the 1-hour primary standard of 100 ppb for the 2014-2016 period compared to zero sites for the 2013-2015 period (Table B20).

Figure 7 depicts the trend of statewide averages from 2007-2016. 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 were no violations of the rolling three-month maximum mean standard for the 2014 to 2016 period (Table B23).

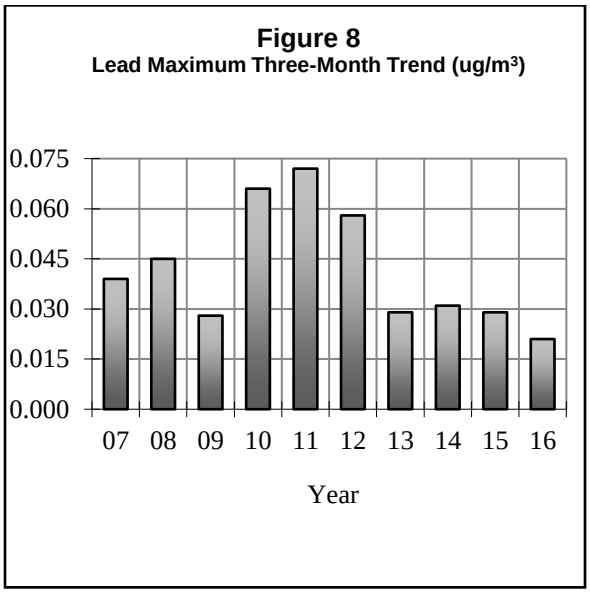


Figure 8 shows the trend of the statewide maximum monthly averages from 2007-2016. The increase in 2010 was directly related to the installation of required source-oriented monitors and the discontinuation of one non-source monitor. Due to various controls having been implemented at several source-oriented locations, averages have dropped back down to historical lower concentrations. In fact, all monitoring locations in the State have three-year maximum averages under the national standard for lead (Table B23). The statewide average for all sites was 0.021 ug/m^3 in 2016 compared to 0.029 ug/m^3 in 2015 and 0.031 ug/m^3 in 2014.

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), south Chicago, and near source-oriented monitors. The highest 24-hour average for arsenic was 0.010 ug/m^3 measured in Granite City. There were no measurable beryllium 24-hour averages recorded statewide. The monitor at Washington High School in Chicago recorded the highest cadmium concentrations with a 24-hour average of 0.025 ug/m^3. The highest 24-hour chromium average was 0.066 ug/m^3 recorded in Geneva. The highest iron and manganese values were recorded at ArcelorMittal Steel in Chicago. The highest 24-hour average for nickel was recorded at the Perez Elementary monitor in Chicago with a value of 0.014 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.

The Air Quality Index (AQI) is the national standard method for reporting air pollution levels to the 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 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, the following sub-indices were obtained:

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 an AQI forecast 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
Decatur	Decatur 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 the National Weather Service 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 Illinois EPA issued AQI forecasts and AQI information can be obtained on EPA's AirNow website at http://www.airnow.gov. The AirNow website shows estimated real-time AQI levels for all sectors in Illinois as well as other areas around the country. 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. The AirNow website and residents subscribed to EnviroFlash program can also receive alerts when high pollution levels are occurring or expected to occur.

2016 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.

USEPA lowered the eight-hour ozone NAAQS and corresponding concentrations for AQI category breakpoints in late 2015. As a result, additional Moderate category and above days were registered across the various sectors in Illinois.

Air quality was still in the "Good" and "Moderate" categories most often in 2016. All sectors had a higher frequency of "Good" than "Moderate" and "Unhealthy for Sensitive Groups." Lake County, Aurora-Elgin, Will County, 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 77 occurrences of "Unhealthy for Sensitive Groups" air quality and four occurrences of "Unhealthy" air quality in 2016. The sector breakdown for "Unhealthy for Sensitive Groups" was eight in Lake County, 13 in Chicago, 13 in North & West Suburbs, 12 in South & West, eight in Aurora-Elgin, four in Will County, three in Rockford, one in Quad Cities, two in Peoria, one in Normal, one in Decatur, one in Springfield and 10 in Metro-East. The sector breakdown for "Unhealthy" was one in Chicago, one in North & West Suburbs, one in South & West Suburbs and one in Will County. All four occurrences of "Unhealthy" air quality within AQI sectors were due to elevated ozone concentrations. Two of the occurrences are attributed to one Lemont area site that is used to represent ozone in both South & West Suburbs and Will County reaching the "Unhealthy" category on June 24th. The other two occurred during an elevated ozone day on July 27th. **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 2016, there were no ozone advisories issued in Illinois. 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 seven Air Pollution Action Days issued in 2016. This compares with zero in 2015.

Figure 9: 2015 Air Quality Index Summaries by Sector

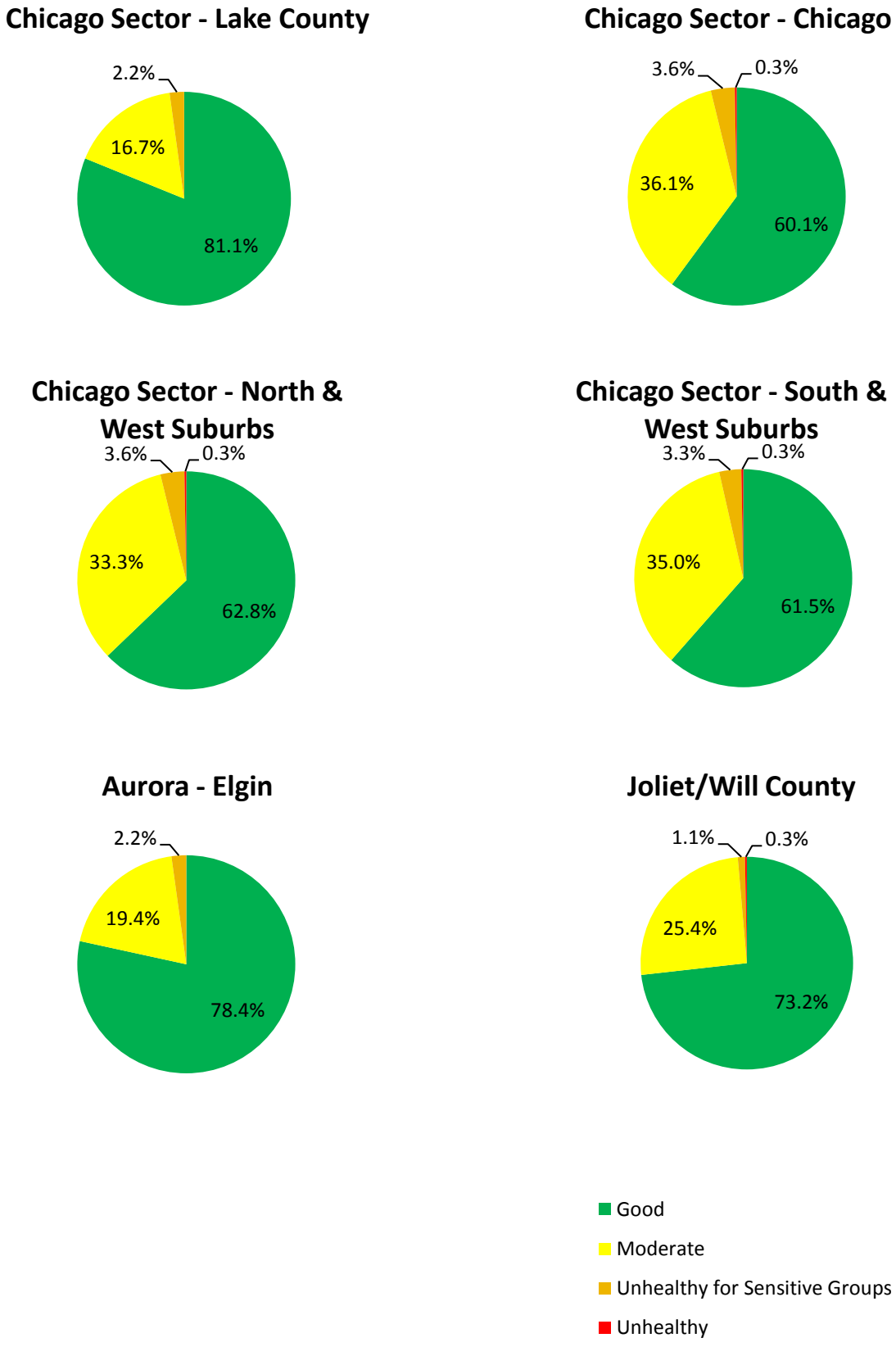


Figure 9: 2015 Air Quality Index Summaries by Sector

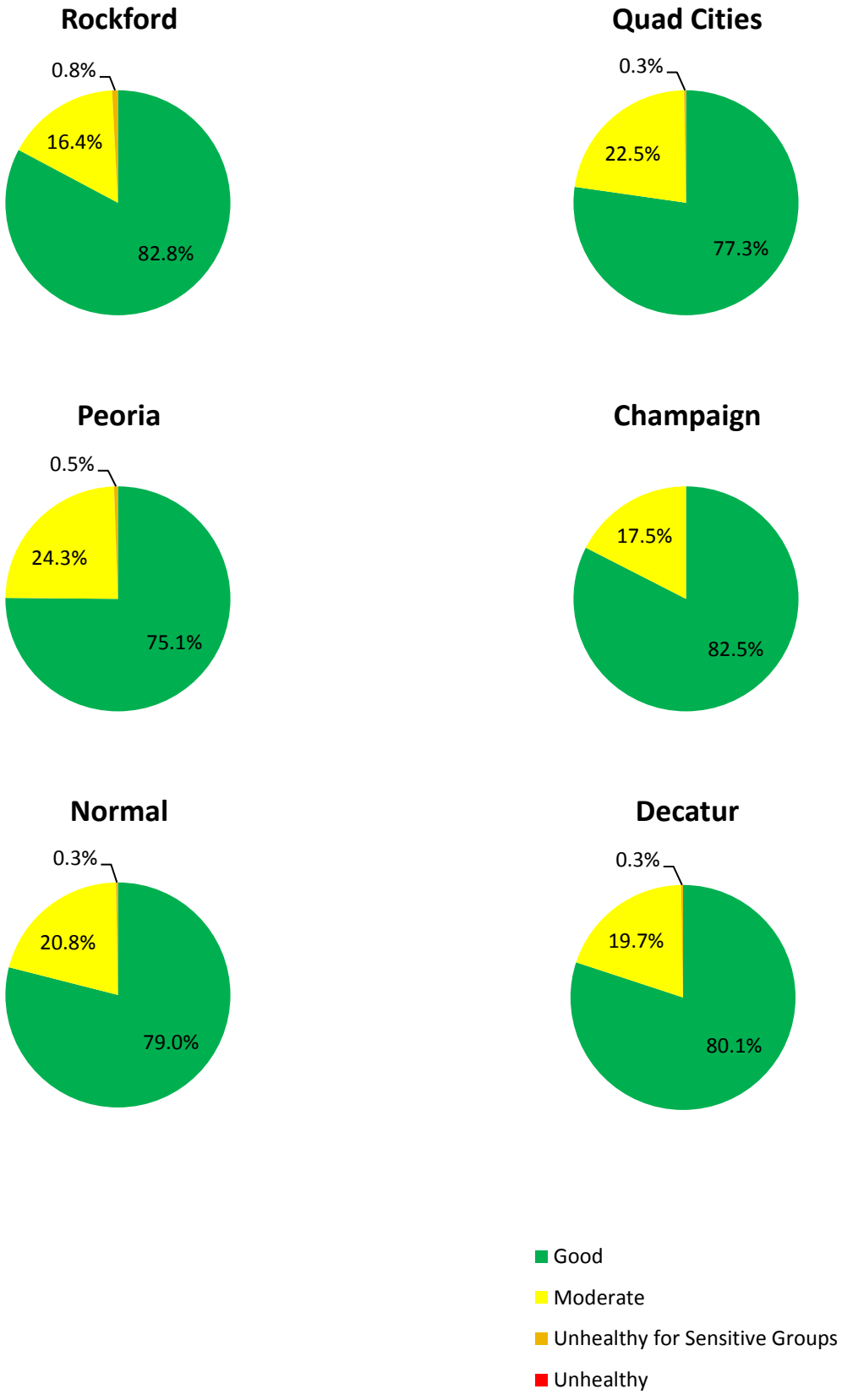
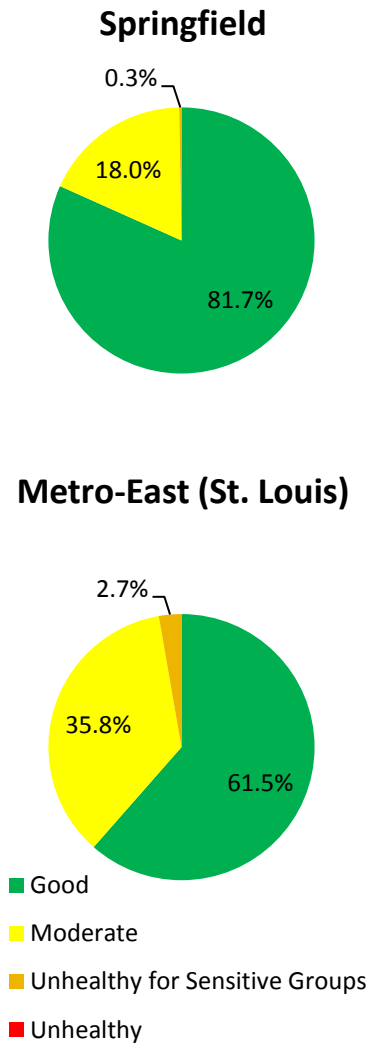


Figure 9: 2015 Air Quality Index Summaries by Sector



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 has changed over time.

The current emissions inventory is known as the Integrated Comprehensive Environmental Management System (ICEMAN), and includes emission data on approximately 6,400 active sources (including 3,345 in the Registration of Smaller Sources, or ROSS, program) throughout the State. The ICEMAN 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.

The group responsible for the entry of emission inventory data is the Inventory Unit of the Air Quality Planning Section, and uses permit applications, the issued permit, and data reported on annual emissions reports to compile the inventory.

The following tables and graphs are an analysis of the emissions data contained in ICEMAN at the end of 2016. It is important to note emissions contained in the ICEMAN 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 ICEMAN. 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)

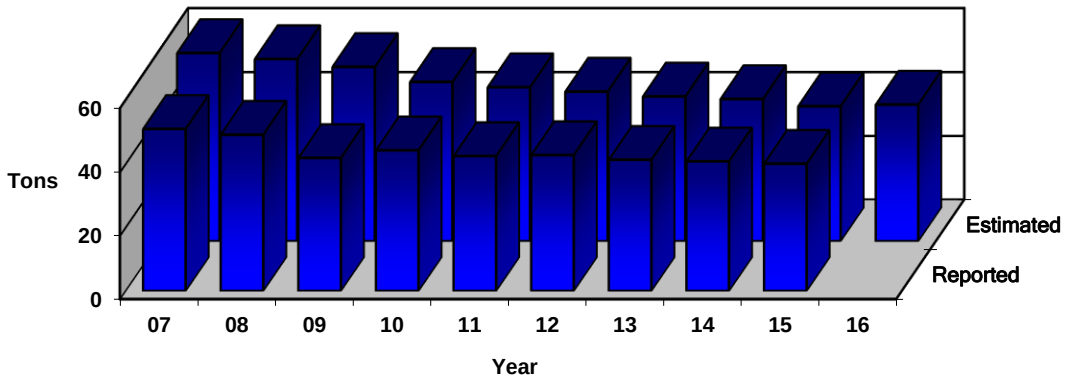


Table 6: Volatile Organic Material Emissions - 2016

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Food/Agriculture	9,461.8	22.06%	22.06%
Surface Coating Operations	6,879.4	16.04%	38.11%
Chemical Manufacturing	6,261.4	14.60%	52.71%
Printing/Publishing	3,081.6	7.19%	59.89%
Fuel Combustion	2,763.5	6.44%	66.34%
Petroleum Product Storage	2,524.1	5.89%	72.22%
Petroleum Industry	1,987.0	4.63%	76.85%
Rubber and Plastic Products	1,839.3	4.29%	81.14%
Mineral Products	1,163.9	2.71%	83.86%
Bulk Terminal/Plants	1,162.7	2.71%	86.57%
Organic Chemical Storage	705.5	1.65%	88.21%
Secondary Metal Production	697.4	1.63%	89.84%
Fabricated Metal Products	689.8	1.61%	91.45%
Solid Waste Disposal	563.6	1.31%	92.76%
Petroleum Marketing/Transport	434.5	1.01%	93.78%
Organic Solvent Evaporation	416.3	0.97%	94.75%
Organic Solvent Use	394.2	0.92%	95.67%
Dry Cleaning (petroleum based)	374.8	0.87%	95.54%
Oil and Gas Production	327.4	0.76%	97.30%
Primary Metal Production	287.8	0.67%	97.97%
All Other Categories	868.5	2.03%	100.00%

PM_{10}

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

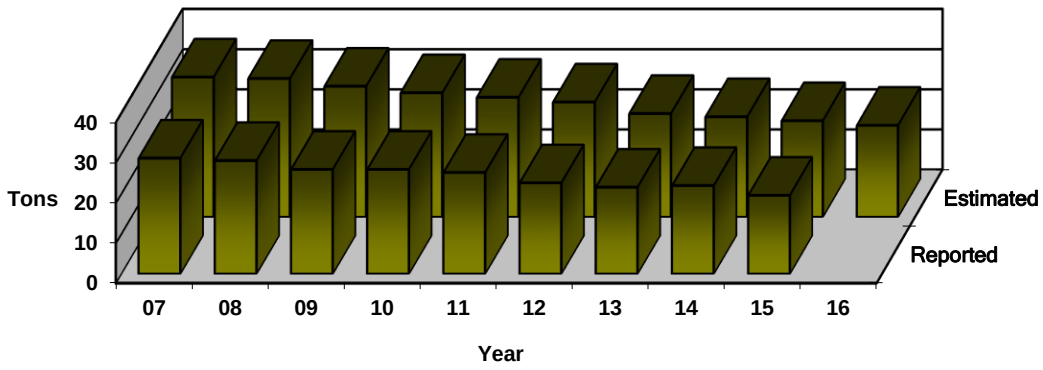


Table 7: Distribution of PM_{10} Emissions – 2016

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	6,360.9	27.87%	27.87%
Food/Agriculture	5,846.3	25.62%	53.49%
Mineral Products	4,733.0	20.74%	74.23%
Petroleum Industry	1,189.0	5.21%	79.44%
Chemical Manufacturing	1,031.2	4.52%	83.96%
Secondary Metal Production	955.0	4.18%	88.15%
Primary Metal Production	872.1	3.82%	91.97%
Solid Waste Disposal	469.3	2.06%	94.03%
Process Cooling	271.6	1.19%	95.22%
Surface Coating Operations	257.4	1.13%	96.34%
Fabricated Metal Products	248.4	1.09%	97.43%
All Other Categories	586.0	2.57%	100.00%

Carbon Monoxide

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

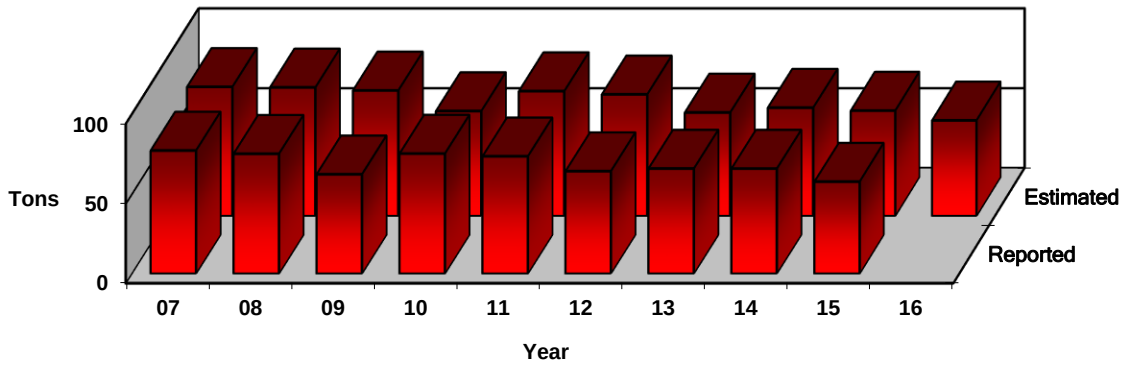


Table 8: Distribution of Carbon Monoxide Emissions - 2016

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	30,349.0	50.63%	50.63%
Primary Metal Production	13,226.3	22.06%	72.69%
Mineral Products	3,580.7	5.97%	78.67%
Petroleum Industry	3,245.9	5.41%	84.08%
Secondary Metal Production	2,492.9	4.16%	88.24%
Solid Waste Disposal	2,492.8	4.16%	92.40%
Chemical Manufacturing	1,591.6	2.66%	95.05%
Food/Agriculture	1,576.8	2.63%	97.68%
In-Process Fuel Use	403.2	0.67%	98.36%
Oil and Gas Production	241.6	0.40%	98.76%
Surface Coating Operations	232.0	0.39%	99.15%
Fabricated Metal Products	214.2	0.36%	99.50%
All Other Categories	297.8	0.50%	100.00%

Sulfur Dioxide

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

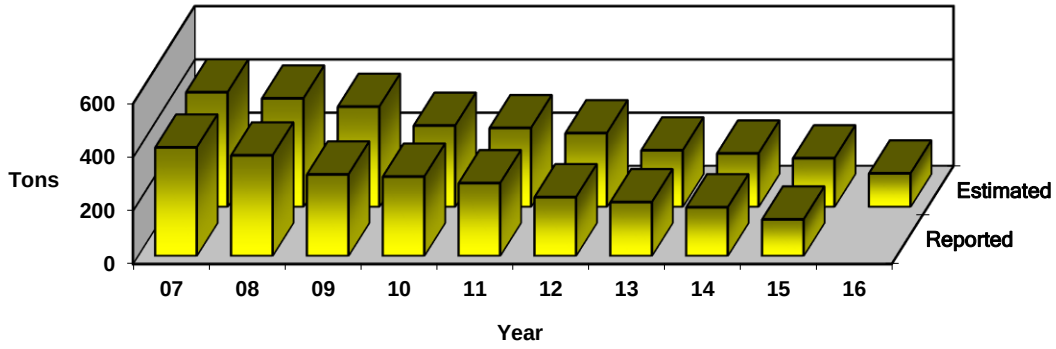


Table 9: Distribution of Sulfur Dioxide Emissions - 2016

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	111,771.9	89.12%	89.12%
Mineral Products	4,816.4	3.84%	92.96%
Petroleum Industry	2,498.1	1.99%	94.95%
Primary Metal Production	2,046.8	1.63%	96.58%
Chemical Manufacturing	1,330.6	1.06%	97.64%
Solid Waste Disposal	1,296.3	1.03%	98.68%
Food/Agriculture	1,192.5	0.95%	99.63%
All Other Categories	468.5	0.37%	100.00%

Nitrogen Oxides

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

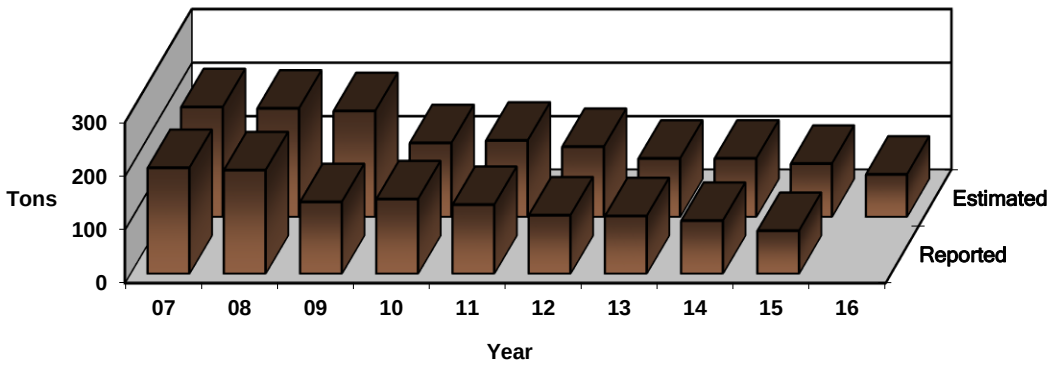


Table 10: Distribution of Nitrogen Oxide Emissions - 2016

Category	Estimated Emissions (tons)	Category Contribution	Cumulative Percent
Fuel Combustion	62,341.2	78.48%	78.48%
Mineral Products	5,410.1	6.81%	85.29%
Petroleum Industry	4,191.9	5.28%	90.56%
Chemical Manufacturing	1,552.0	1.95%	92.52%
Food/Agriculture	1,504.3	1.89%	94.41%
Primary Metal Production	1,329.7	1.67%	96.09%
Solid Waste Disposal	853.9	1.07%	97.16%
Secondary Metal Production	667.0	0.84%	98.00%
Oil and Gas Production	620.6	0.78%	98.78%
Surface Coating Operations	420.7	0.53%	99.31%
In-Process Fuel Use	190.3	0.24%	99.55%
All Other Categories	357.2	0.45%	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 2016.

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, which can be found at epa.state.il.us/air/monitoring/index.html. 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
2016 Noncontinuous 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	29					

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	2016	2015	2014	2013	2012
Particulate Matter Federal Reference Method ($PM_{2.5}$ FRM)	27	33	33	33	34
$PM_{2.5}$ Federal Equivalent Method ($PM_{2.5}$ FEM)	8	1	0	0	0
$PM_{2.5}$ Air Quality Index (non-FEM)	9	11	11	11	12
$PM_{2.5}$ Speciation	5	5	5	5	5
Particulate Matter (PM_{10})	4	4	4	4	5
Total Suspended Particulates	7	7	7	13	13
Lead	7	7	7	13	13
Sulfur Dioxide (SO_2)	13	15	16	16	15
Nitrogen Dioxide (NO_2)	6	6	6	6	7
Total Reactive Nitrogen (NO_y)	2	2	2	2	2
Ozone (O_3)	37	37	37	38	38
Carbon Dioxide (CO_2)	0	0	1	1	1
Carbon Monoxide (CO)	3	3	3	3	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	8	8	14	16	17
Solar Radiation	1	1	1	2	2
Meteorology	3	3	3	3	3
Total Instruments	146	149	156	172	182
Total Sites	64	65	65	72	78

The 2016 monitoring network had two criteria pollutant monitor discontinuations. The SO_2 monitors were shut down at the Houston and Springfield Sewage sites. During the course of the year, site access was lost at the South Roxana SO_2 monitoring location and the Arcelor Mittal Steel lead monitoring location in Chicago. Both of these sites received discontinuation approval from USEPA. Over the final three months of 2016, seven continuous $PM_{2.5}$ FEM monitors were installed. Some of these monitors replaced both filter-based FRM monitors and continuous non-FRM AQI monitors. Two near-road monitoring locations, on the Kennedy and Kingery Expressways, were progressing through the installation process during the course of the year. These locations are expected to be operational during 2017. Also in 2017, three source-oriented SO_2 monitors in Decatur will be in operation.

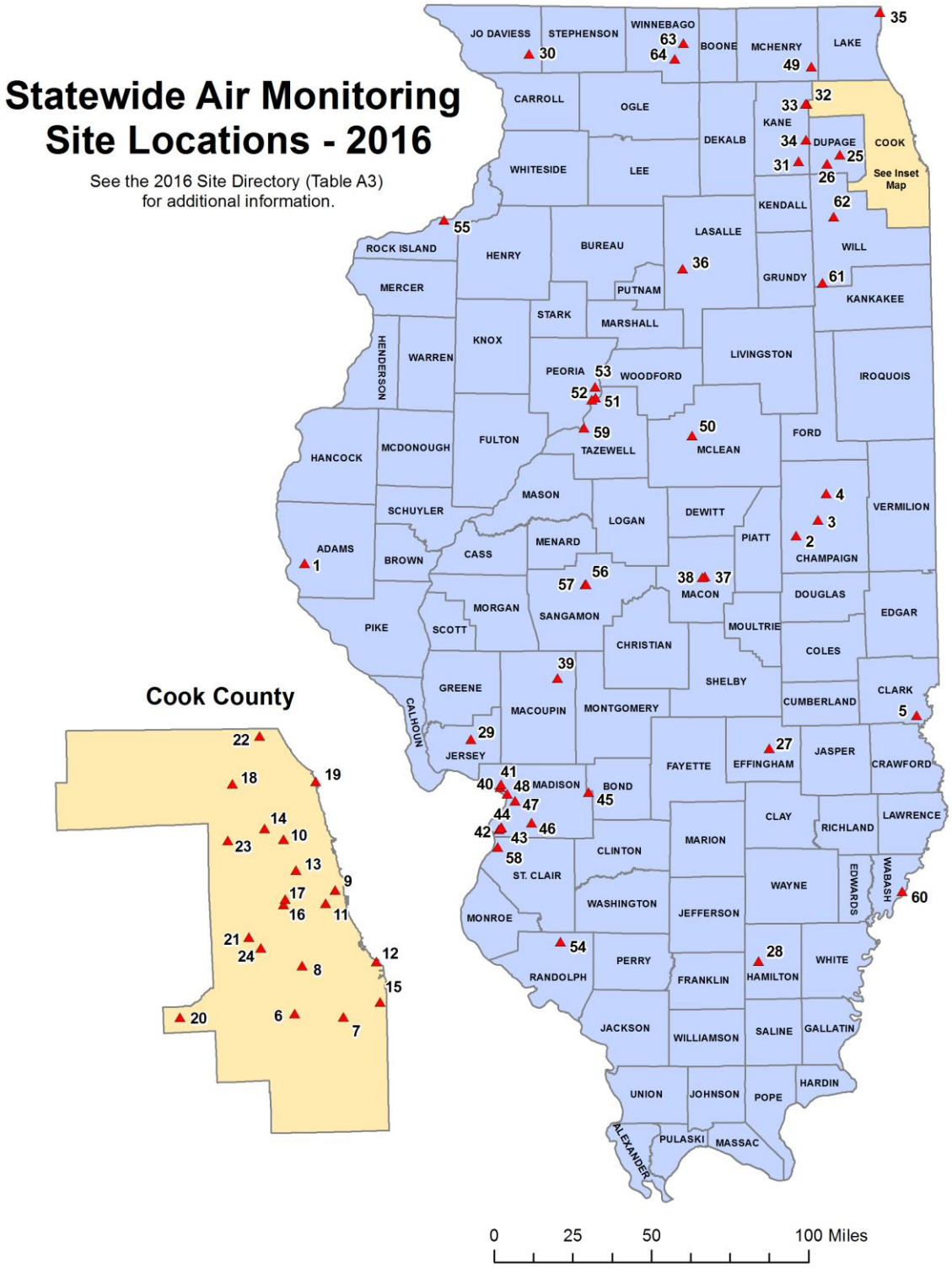

Statewide Air Monitoring Site Locations - 2016
See the 2016 Site Directory (Table A3) for additional information.
Cook County
See Inset Map
JO DAVIESS
STEPHENSON
WINNEBAGO
BOONE
MCHENRY
LAKE
CARROLL
OGLE
KANE
DUPAGE
COOK
WHITESIDE
LEE
DEKALB
KENDALL
WILL
ROCK ISLAND
HENRY
BUREAU
LASALLE
GRUNDY
KANKAKEE
MERCER
PUTNAM
STARK
MARSHALL
HENDERSON
WARREN
KNOX
LIVINGSTON
IROQUOIS
PEORIA
WOODFORD
HANCOCK
MCDONOUGH
FULTON
TAZEWELL
MCLEAN
FORD
MASON
SCHUYLER
LOGAN
DEWITT
PIATT
VERMILION
ADAMS
BROWN
CASS
MENARD
CHAMPAIGN
MACON
DOUGLAS
MORGAN
SANGAMON
EDGAR
PIKE
SCOTT
CHRISTIAN
MOULTRIE
COLES
GREENE
SHELBY
CLARK
CALHOUN
MACOUPIN
MONTGOMERY
CUMBERLAND
JERSEY
FAYETTE
EFFINGHAM
JASPER
CRAWFORD
MADISON
BOND
CLAY
RICHLAND
LAWRENCE
CLINTON
MARION
ST. CLAIR
WAYNE
EDWARDS
WABASH
WASHINGTON
JEFFERSON
MONROE
PERRY
FRANKLIN
HAMILTON
WHITE
RANDOLPH
JACKSON
WILLIAMSON
SALINE
GALLATIN
UNION
JOHNSON
POPE
HARDIN
ALEXANDER
PULASKI
MASSAC
0
25
50
100 Miles

Table A3
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
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 Grade School 10421 N. US Hwy. 45	+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
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	17-163-0010	St. Clair	East St. Louis	RAPS Trailer 13th & Tudor	+38.61203448 -90.16047663	IL EPA
59	17-179-0004	Tazewell	Pekin	Fire Station #3 272 Derby	+40.55643203 -89.65402083	IL EPA
60	17-185-0001	Wabash	Mount Carmel	Division St.	+38.397276 -87.773631	Indiana DEP
61	17-197-1011	Will	Braidwood	Com Ed Training Center 36400 S. Essex Rd.	+41.22153707 -88.19096718	IL EPA
62	17-197-1002	Will	Joliet	Pershing Elementary School Midland & Campbell Sts.	+41.52688509 -88.11647381	IL EPA
63	17-201-2001	Winnebago	Loves Park	Maple Elementary School 1405 Maple Ave.	+42.33498222 -89.0377748	IL EPA
64	17-201-0013	Winnebago	Rockford	Health Department 401 Division St.	+42.26308105 -89.09276716	IL EPA

Table A4
Monitoring Directory

AQS ID	City	CO	NOy	NO2	Ozone	PM10	PM2.5 FRM	PM2.5 FEM	PM2.5 AQI	PM2.5 Speciation	SO2	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																
17-031-0076	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																
17-031-3103	Schiller Park																
17-031-3301	Summit																
17-031-4002	Cicero Cook County Trailer																

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

Table A4
Monitoring Directory

AQS ID	City	CO	NOy	NO2	Ozone	PM10	PM2.5 FRM	PM2.5 FEM	PM2.5 AQI	PM2.5 Speciation	SO2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-031-4007	Des Plaines																
17-031-4201	Northbrook	T									T						
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																

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

Table A4
Monitoring Directory

AQS ID	City	CO	NOy	NO2	Ozone	PM10	PM2.5 FRM	PM2.5 FEM	PM2.5 AQI	PM2.5 Speciation	SO2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-117-0002	Nilwood				■						■						
17-119-0008	Alton Clara Barton Elementary				■												
17-119-2009	Alton SIU Dental Clinic						■										
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						■		■						■		
17-143-1001	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										■						

Active Monitor	Site/Monitor Installed	Site/Monitor Removed

Table A4
Monitoring Directory

AQS ID	City	CO	NOy	NO2	Ozone	PM10	PM2.5 FRM	PM2.5 FEM	PM2.5 AQI	PM2.5 Speciation	SO2	VOC	Toxics	TSP Pb, Metals	Wind System	Solar	Meteorological
17-185-0001	Mount Carmel																
17-197-1002	Joliet Pershing Elementary																
17-197-1011	Braidwood																
17-201-0013	Rockford Health Department																
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 8-hour average has at least six valid 1-hour averages within the 8-hour period. The daily maximum 8-hour ozone concentration is based on 17 consecutive moving 8-hour periods in each day, beginning with the 8-hour period from 7:00 a.m. to 3:00 p.m. and ending with the 8-hour period from 11:00 p.m. to 7:00 a.m. The daily maximum value is considered valid if 8-hour averages are available for at least 13 of the 17 consecutive moving 8-hour periods, or if the daily maximum value is greater than the level of the NAAQS. 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

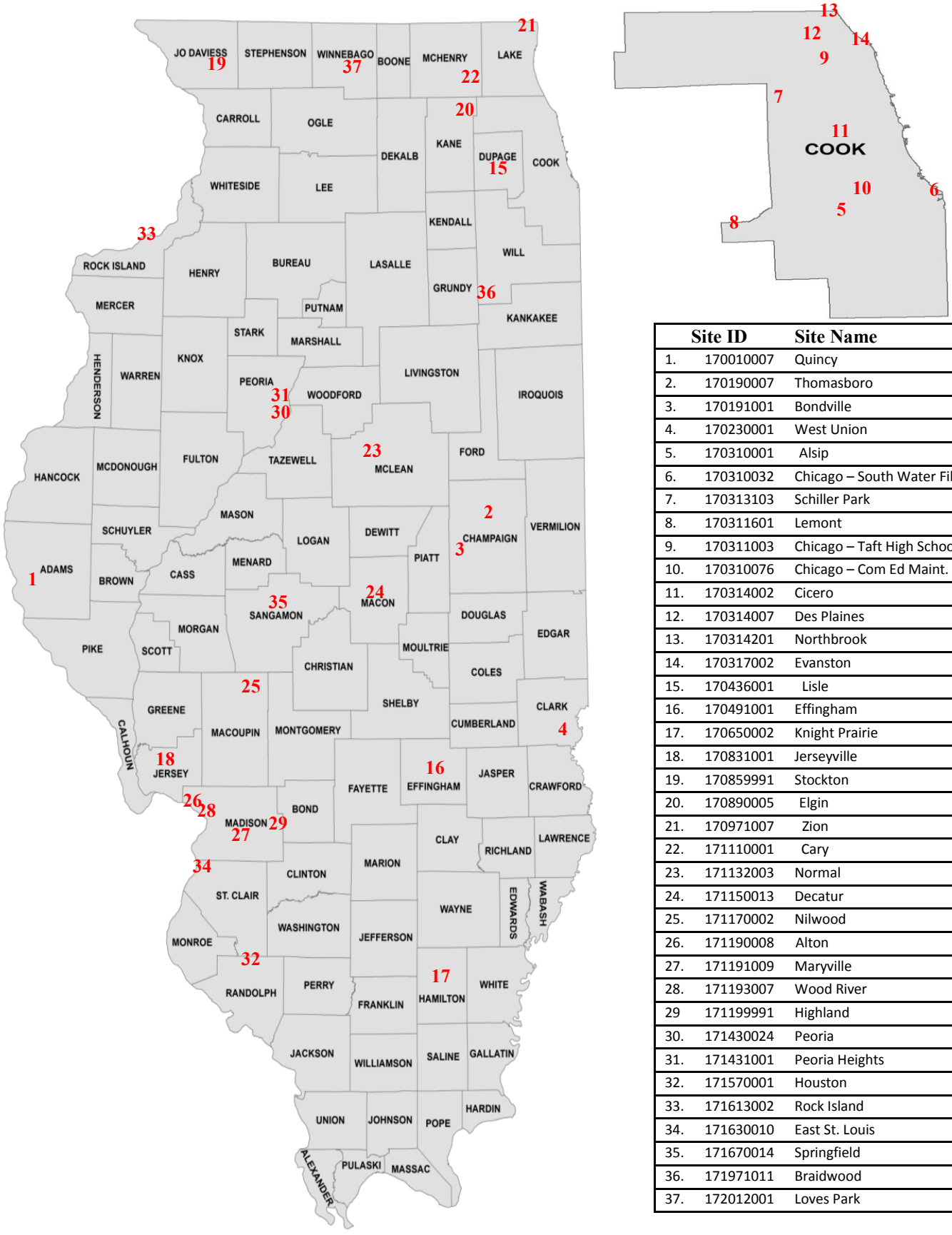
averaged to give 9; whereas the values 9.0, 9.0, and 10.0 are averaged to 9.3. The raw data itself should not be expressed to more significant figures than the sensitivity of the monitoring methodology allows.

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. 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.

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
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
8-Hour Ozone Exceedances

EXCEEDANCES OF THE 8-HOUR PRIMARY STANDARD OF 0.070 PPM						
Date	**City**	**Concentration**		**Date**	**City**	**Concentration**
4/16	Chicago – South Water Filtration	0.073		6/11	Chicago – South Water Filtration	0.085
	Loves Park	0.071			Evanston	0.079
4/17	Chicago – South Water Filtration	0.076			Chicago – Taft High School	0.074
	Elgin	0.073			Northbrook	0.074
	Evanston	0.072			Cicero	0.073
	Loves Park	0.072			Alsip	0.071
	Alsip	0.071			Des Plaines	0.071
	Chicago – Taft High School	0.071			Lemont	0.071
	Northbrook	0.071		6/13	Jerseyville	0.079
4/18	Chicago – South Water Filtration	0.076			Lemont	0.079
	Zion	0.076			Wood River	0.079
	Alsip	0.075			Alton	0.077
	Elgin	0.073			Elgin	0.076
5/23	Jerseyville	0.075			Alsip	0.075
	Chicago – South Water Filtration	0.073			Des Plaines	0.074
	Evanston	0.073			Cary	0.073
	Highland	0.073			Lisle	0.073
	Northbrook	0.071			Chicago – Taft High School	0.071
	Zion	0.071		6/14	Cary	0.074
5/24	Zion	0.081			Elgin	0.074
	Northbrook	0.079		6/15	Northbrook	0.078
	Chicago – Taft High School	0.078			Zion	0.077
	Lemont	0.078			Chicago – South Water Filtration	0.075
	Chicago – South Water Filtration	0.077		6/16	E. St. Louis	0.078
	Cicero	0.076			Houston	0.076
	Evanston	0.076		6/18	Wood River	0.075
	Chicago – ComEd Maintenance	0.074			Lisle	0.074
	Alsip	0.073			Maryville	0.073
	Braidwood	0.072			Alton	0.072
	Des Plaines	0.072			Highland	0.072
	Lisle	0.072		6/19	Chicago – Taft High School	0.079
6/3	Alsip	0.073			Lisle	0.079
	Lemont	0.073			Northbrook	0.079
	Lisle	0.071			Cicero	0.077
6/9	Wood River	0.076			Zion	0.077
	Alton	0.073			Alsip	0.076
	Springfield	0.072			Chicago – ComEd Maintenance	0.076
	Mount Carmel	0.071			Chicago – South Water Filtration	0.076
6/10	Wood River	0.078			Des Plaines	0.076
	Maryville	0.077			Elgin	0.074
	Alton	0.074			Evanston	0.074
	E. St. Louis	0.073			Schiller Park	0.073
	Highland	0.073			Peoria	0.073
					Rock Island	0.073

Table B2
8-Hour Ozone Exceedances

EXCEEDANCES OF THE 8-HOUR PRIMARY STANDARD OF 0.070 PPM						
Date	**City**	**Concentration**		**Date**	**City**	**Concentration**
6/19	Normal	0.073		8/4	Jerseyville	0.085
	Peoria Heights	0.072			Northbrook	0.083
	Cary	0.071			Zion	0.082
	Loves Park	0.071			Des Plaines	0.078
	Stockton	0.073			Evanston	0.077
6/24	Lemont	0.086			Chicago – South Water Filtration	0.076
	Elgin	0.081			Wood River	0.075
	Lisle	0.081			Alton	0.074
	E. St. Louis	0.076			Chicago – Taft High School	0.072
	Alsip	0.074		8/9	E. St Louis	0.077
	Cary	0.072			Wood River	0.071
	Peoria	0.071		8/10	Alsip	0.085
6/25	Northbrook	0.074			Elgin	0.082
	Des Plaines	0.071			Des Plaines	0.080
	Zion	0.071			Cary	0.079
7/19	Alsip	0.073			Lisle	0.077
7/20	Zion	0.071			Cicero	0.076
7/22	Chicago – South Water Filtration	0.075			Chicago – ComEd Maintenance	0.075
7/26	Lisle	0.074			Chicago – Taft High School	0.075
7/27	Des Plaines	0.093			Chicago – South Water Filtration	0.071
	Chicago – Taft High School	0.086		9/21	Jerseyville	0.071
	Evanston	0.084		9/22	Jerseyville	0.074
	Northbrook	0.083			Alton	0.072
	Chicago – South Water Filtration	0.082		9/23	Alton	0.071
	Cicero	0.080				
	Chicago – ComEd Maintenance	0.077				
	Schiller Park	0.074				
8/3	Chicago – South Water Filtration	0.081				
	Cicero	0.079				
	Chicago – ComEd Maintenance	0.078				
	Alsip	0.074				
	Evanston	0.074				
	Cary	0.073				
	Elgin	0.072				
	Des Plaines	0.071				
	Lisle	0.071				
Total Over 0.070 ppm				147		
Total Days Over 0.070 ppm				29		

Table B3
Ozone Highs

AQS ID	City	Number Of Days 8-Hour Greater Than 0.070 ppm			Fourth Highest Samples 1-Hour (ppm)				Fourth Highest Samples 8-Hour (ppm)			
		2016	2015	2014								
17-001-0007	Quincy	0	0	0	0.068	0.067	0.066	0.066	0.064	0.063	0.062	0.061
17-019-0007	Thomasboro	0	0	0	0.074	0.073	0.072	0.072	0.070	0.067	0.067	0.066
17-019-1001	Bondville	0	0	1	0.071	0.071	0.071	0.071	0.068	0.068	0.068	0.066
17-023-0001	West Union	1	0	0	0.076	0.076	0.074	0.070	0.071	0.069	0.069	0.066
17-031-0001	Alsip	11	1	3	0.099	0.087	0.086	0.085	0.085	0.076	0.075	0.075
17-031-0032	Chicago South Water Filtration	13	2	3	0.099	0.093	0.093	0.093	0.085	0.082	0.081	0.077
17-031-0076	Chicago Com Ed Maintenance	5	1	1	0.091	0.084	0.084	0.083	0.078	0.077	0.076	0.075
17-031-1003	Chicago Taft High School	8	1	2	0.092	0.086	0.082	0.081	0.086	0.079	0.078	0.075
17-031-1601	Lemont	5	1	2	0.098	0.091	0.082	0.079	0.086	0.079	0.078	0.073
17-031-3103	Schiller Park	2	0	1	0.088	0.081	0.079	0.076	0.074	0.073	0.069	0.067
17-031-4002	Cicero Cook County Trailer	6	1	2	0.092	0.088	0.088	0.083	0.080	0.079	0.077	0.076
17-031-4007	Des Plaines	9	2	2	0.101	0.089	0.088	0.084	0.093	0.080	0.078	0.076
17-031-4201	Northbrook	9	2	2	0.096	0.092	0.086	0.083	0.083	0.083	0.079	0.079
17-031-7002	Evanston	8	3	4	0.094	0.090	0.084	0.083	0.084	0.079	0.077	0.076
17-043-6001	Lisle	9	0	2	0.093	0.087	0.086	0.086	0.081	0.079	0.077	0.074
17-049-1001	Effingham	0	0	0	0.077	0.074	0.072	0.070	0.068	0.066	0.066	0.066
17-065-0002	Knight Prairie	0	0	0	0.080	0.076	0.074	0.073	0.070	0.069	0.069	0.068
17-083-1001	Jerseyville	5	1	1	0.098	0.092	0.083	0.083	0.085	0.079	0.075	0.074
17-085-9991	Stockton	1	0	1	0.076	0.074	0.069	0.068	0.073	0.068	0.067	0.067
17-089-0005	Elgin Larsen Jr. High School	8	0	1	0.091	0.091	0.087	0.082	0.082	0.081	0.076	0.074
17-097-1007	Zion	8	3	5	0.096	0.088	0.087	0.086	0.082	0.081	0.077	0.077
17-111-0001	Cary	6	1	3	0.091	0.090	0.082	0.080	0.079	0.074	0.073	0.073
17-113-2003	Normal	1	0	0	0.077	0.073	0.072	0.070	0.073	0.069	0.069	0.065
17-115-0013	Decatur IEPA Trailer	0	0	0	0.078	0.074	0.074	0.073	0.069	0.068	0.068	0.066
17-117-0002	Nilwood	0	0	0	0.090	0.076	0.075	0.072	0.069	0.069	0.069	0.067

Table B3
Ozone Highs

AQS ID	City	Number Of Days 8-Hour Greater Than 0.070 ppm			Fourth Highest Samples 1-Hour (ppm)				Fourth Highest Samples 8-Hour (ppm)			
		2016	2015	2014								
17-119-0008	Alton Clara Barton School	7	3	5	0.094	0.090	0.088	0.083	0.077	0.074	0.074	0.073
17-119-1009	Maryville	2	2	3	0.091	0.082	0.079	0.076	0.077	0.073	0.069	0.067
17-119-3007	Wood River	6	1	3	0.092	0.091	0.091	0.088	0.079	0.078	0.076	0.075
17-119-9991	Highland	3	1	1	0.078	0.077	0.076	0.076	0.073	0.073	0.072	0.068
17-143-0024	Peoria Fire Station #8	2	0	0	0.078	0.077	0.076	0.074	0.073	0.071	0.069	0.068
17-143-1001	Peoria Heights	1	0	0	0.077	0.075	0.071	0.071	0.072	0.067	0.067	0.066
17-157-0001	Houston	1	0	4	0.086	0.074	0.072	0.071	0.076	0.067	0.066	0.066
17-161-3002	Rock Island	1	1	0	0.078	0.074	0.071	0.069	0.073	0.069	0.066	0.064
17-163-0010	East St. Louis	4	1	1	0.091	0.086	0.083	0.079	0.078	0.077	0.076	0.073
17-167-0014	Springfield	1	0	0	0.081	0.081	0.075	0.074	0.072	0.069	0.069	0.068
17-197-1011	Braidwood	1	0	0	0.076	0.074	0.072	0.069	0.072	0.069	0.069	0.064
17-201-2001	Loves Park	3	1	2	0.083	0.081	0.078	0.078	0.072	0.071	0.071	0.070
Statewide Average					0.086	0.082	0.079	0.077	0.077	0.073	0.072	0.070
Total Over 0.070 ppm		147	29	55								
Total Days Over 0.070 ppm		29	13	20								

Table B4
Ozone Design Values

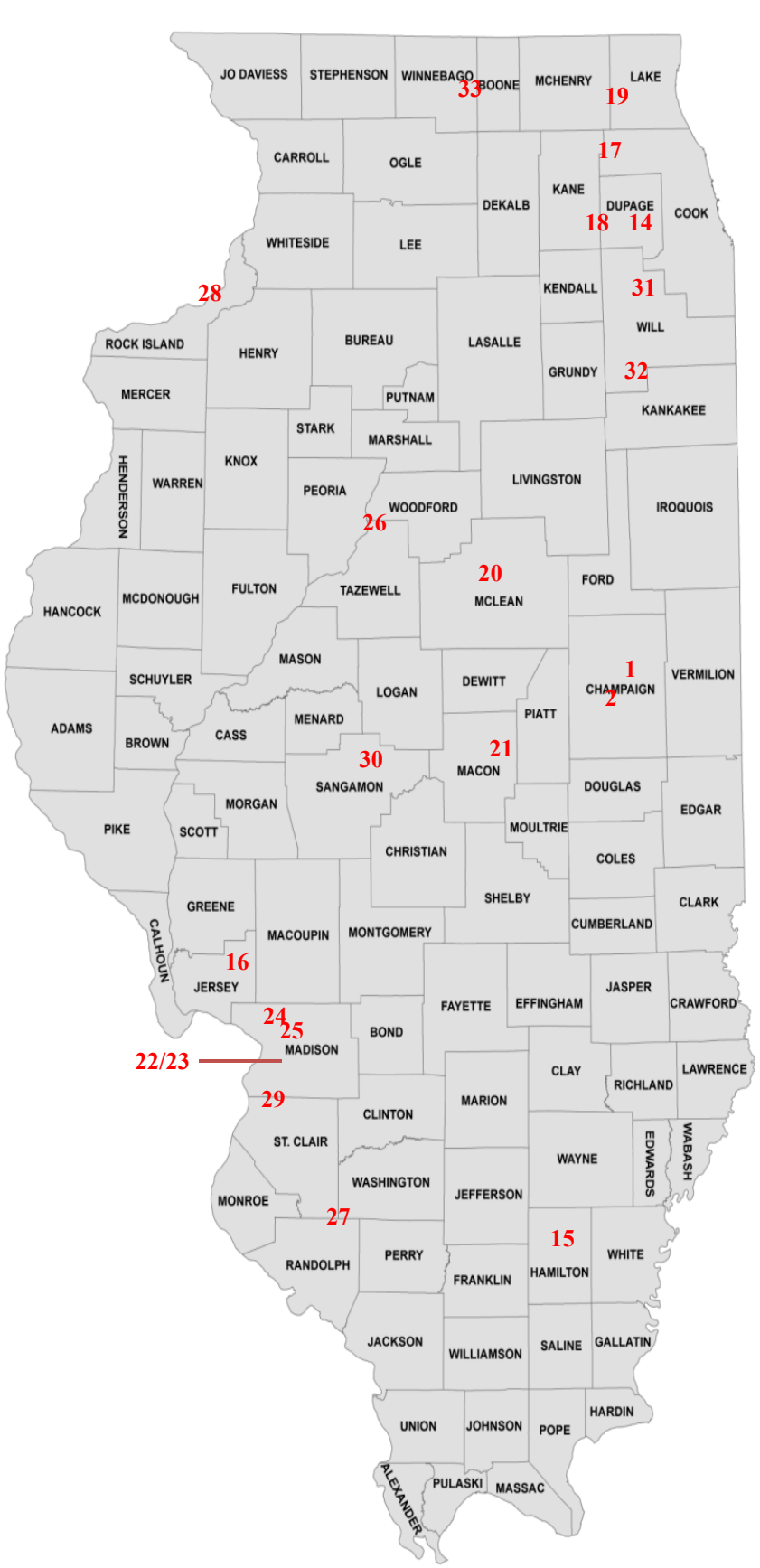
AQS ID	City	Fourth High 8-Hour Concentrations (ppm)					Design Values* (ppm)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-001-0007	Quincy	0.061	0.064	0.061	0.063	0.075	0.062	0.062	0.066
17-019-0007	Thomasboro	0.066	0.062	0.062	0.063	0.075	0.063	0.062	0.066
17-019-1001	Bondville	0.066	0.065	0.068	0.066	0.077	0.066	0.066	0.070
17-023-0001	West Union	0.066	0.064	0.063	0.061	0.072	0.064	0.062	0.065
17-031-0001	Alsip	0.075	0.066	0.066	0.064	0.079	0.069	0.065	0.069
17-031-0032	Chicago South Water Filtration	0.077	0.066	0.067	0.071	0.091	0.070	0.068	**0.076**
17-031-0064	Chicago University of Chicago	-	-	-	0.058	0.081	-	-	-
17-031-0072	Chicago Jardine Water Plant	-	-	-	-	0.090	-	-	-
17-031-0076	Chicago Com Ed Maintenance	0.075	0.065	0.067	0.062	0.081	0.069	0.064	0.070
17-031-1003	Chicago Taft High School	0.075	0.068	0.065	0.066	0.079	0.069	0.066	0.070
17-031-1601	Lemont	0.073	0.066	0.070	0.064	0.081	0.069	0.066	**0.071**
17-031-3103	Schiller Park	0.067	0.058	0.063	0.062	-	0.062	0.061	0.062
17-031-4002	Cicero Cook County Trailer	0.076	0.061	0.063	0.063	0.083	0.066	0.062	0.069
17-031-4007	Des Plaines	0.076	0.068	0.069	0.067	0.073	**0.071**	0.068	0.069
17-031-4201	Northbrook	0.079	0.068	0.068	0.069	0.087	**0.071**	0.067	**0.073**
17-031-7002	Evanston	0.076	0.070	0.072	0.069	0.093	**0.072**	0.070	**0.078**
17-043-6001	Lisle	0.074	0.067	0.064	0.063	0.074	0.068	0.064	0.067
17-049-1001	Effingham	0.066	0.064	0.063	0.064	0.073	0.064	0.063	0.066
17-065-0002	Knight Prairie	0.068	0.064	0.063	0.064	0.085	0.065	0.063	0.070
17-083-1001	Jerseyville	0.074	0.067	0.065	0.068	0.089	0.068	0.066	**0.074**
17-085-9991	Stockton	0.067	0.062	0.067	0.065	0.075	0.065	0.064	0.069
17-089-0005	Elgin Larsen Jr. High School	0.074	0.065	0.066	0.064	0.075	0.068	0.065	0.068
17-097-1007	Zion	0.077	0.070	0.073	0.072	0.093	**0.073**	**0.071**	**0.079**
17-111-0001	Cary	0.073	0.064	0.067	0.065	0.077	0.068	0.065	0.069
17-113-2003	Normal	0.065	0.063	0.066	0.069	0.079	0.064	0.066	**0.071**

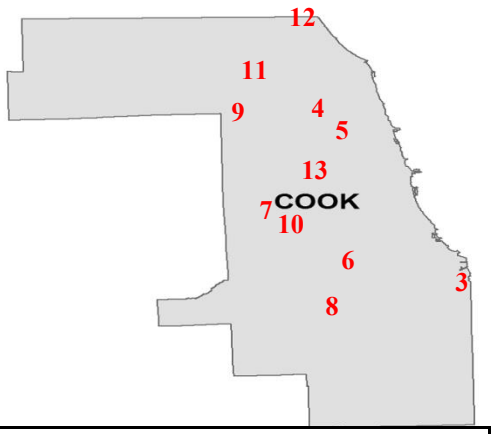
Table B4
Ozone Design Values

AQS ID	City	Fourth High 8-Hour Concentrations (ppm)					Design Values* (ppm)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-115-0013	Decatur Illinois EPA Trailer	0.066	0.066	0.067	0.064	0.076	0.066	0.065	0.069
17-117-0002	Nilwood	0.067	0.064	0.063	0.065	0.074	0.064	0.064	0.067
17-119-0008	Alton Clara Barton Elementary	0.073	0.069	0.072	0.072	0.084	**0.071**	**0.071**	**0.076**
17-119-1009	Maryville	0.067	0.064	0.070	0.075	0.084	0.067	0.069	**0.076**
17-119-3007	Wood River	0.075	0.069	0.070	0.069	0.087	**0.071**	0.069	**0.075**
17-119-9991	Highland	0.068	0.067	0.068	0.071	0.083	0.067	0.068	**0.074**
17-143-0024	Peoria Fire Station #8	0.068	0.060	0.064	0.058	0.065	0.064	0.060	0.062
17-143-1001	Peoria Heights	0.066	0.064	0.064	0.066	0.078	0.064	0.064	0.069
17-157-0001	Houston	0.066	0.065	0.071	0.065	0.081	0.067	0.067	**0.072**
17-161-3002	Rock Island	0.064	0.060	0.062	0.060	0.066	0.062	0.060	0.062
17-163-0010	East St. Louis	0.073	0.066	0.067	0.066	0.083	0.068	0.066	**0.072**
17-167-0014	Springfield State Fairgrounds	0.068	0.064	0.059	0.062	0.076	0.063	0.061	0.065
17-197-1011	Braidwood	0.064	0.064	0.064	0.061	0.071	0.064	0.063	0.065
17-201-2001	Loves Park	0.070	0.066	0.070	0.063	0.074	0.068	0.066	0.069
Statewide Average		0.070	0.065	0.066	0.065	0.079	0.067	0.065	0.070

*The design value is the three-year average of the fourth high concentration. Design value greater than 0.070 ppm is a violation of the National Ambient Air Quality Standard.

$PM_{2.5}$ 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
$PM_{2.5}$ 24-Hour Exceedances

EXCEEDANCES OF THE 24-HOUR PRIMARY STANDARD OF 35 ug/m3		
Date	**Location**	**Concentration (ug/m3)**
Total Over 35 ug/m3		
Total Days Over 35 ug/m3		

Table B6
$PM_{2.5}$ Highs

AQS ID	City	Total Samples	Samples Greater Than 35 ug/m3			Highest Samples							
			2016	2015	2014	1st	2nd	3rd	4th	5th	6th	7th	8th
17-019-0006	Champaign	115	0	0	0	21.5	16.5	15.0	14.6	14.4	14.3	13.7	13.3
17-019-1001	Bondville	324	0	0	0	19.2	17.2	17.0	16.7	15.6	15.4	15.3	15.2
17-031-0001	Alsip	56	0	1	0	19.1	16.9	16.3	14.9	14.7	14.4	13.1	13.1
17-031-0022	Chicago Washington High School	118	0	1	0	18.7	18.7	17.7	17.6	16.3	16.1	15.4	14.7
17-031-0052	Chicago Mayfair Pump Station	111	0	0	0	26.2	20.3	17.9	16.8	16.7	16.3	16.1	15.9
17-031-0057	Chicago Springfield Pump Station	61	0	2	0	19.9	17.5	17.2	16.9	16.7	15.7	15.7	14.7
17-031-0076	Chicago Com Ed Maintenance	58	0	1	0	21.5	19.0	16.5	15.4	14.7	14.5	14.1	13.6
17-031-1016	Lyons Township	118	0	1	0	26.4	25.4	19.9	19.1	19.0	16.5	16.1	15.9
17-031-3103	Schiller Park	117	0	1	0	18.0	17.8	17.6	17.5	17.3	16.9	16.9	16.1
17-031-3301	Summit	113	0	1	0	21.7	18.4	17.0	16.9	16.3	16.2	15.9	15.6
17-031-4007	Des Plaines	116	0	1	0	19.1	19.0	18.9	17.9	16.8	16.2	16.1	16.0
17-031-4201	Northbrook	127	0	1	0	18.8	18.4	18.4	17.5	17.2	16.9	16.6	15.9
17-031-6005	Cicero Liberty School	58	0	1	0	20.7	18.8	16.5	16.1	15.8	14.8	14.8	13.6
17-043-4002	Naperville	112	0	1	0	16.1	14.8	14.8	14.3	13.8	13.6	13.0	12.8
17-065-0002	Knight Prairie	161	0	1	0	18.5	17.8	16.7	16.0	15.6	15.5	15.4	15.2
17-083-1001	Jerseyville	167	0	0	0	21.0	20.0	19.0	18.8	18.2	17.8	17.7	17.1
17-089-0003	Elgin McKinley School	107	0	1	0	17.0	15.8	15.7	15.2	14.8	14.5	14.3	14.2
17-089-0007	Aurora	111	0	1	0	19.9	19.3	17.4	15.7	15.4	14.2	14.1	13.7
17-111-0001	Cary	42	0	0	0	14.7	14.0	13.8	11.7	11.4	10.7	10.7	9.9
17-113-2003	Normal	161	0	0	0	18.7	18.4	17.7	16.3	16.3	15.7	15.6	15.3
17-115-0013	Decatur Illinois EPA Trailer	59	0	0	0	14.9	14.6	14.4	13.2	13.0	12.6	12.5	12.0
17-119-0024	Granite City Gateway Medical Center	116	0	1	0	31.1	27.0	24.7	21.5	21.0	20.1	19.6	18.6
17-119-1007	Granite City Fire Station #1	60	0	1	0	16.6	16.2	16.2	16.0	15.2	15.1	15.0	14.7
17-119-2009	Alton SIU Dental Clinic	119	0	0	0	25.2	21.0	20.3	19.1	17.9	17.5	17.0	16.4
17-119-3007	Wood River	113	0	0	0	25.8	21.2	20.7	19.2	18.6	17.8	17.0	16.2
17-143-0037	Peoria City Office Building	59	0	0	0	15.3	14.3	14.2	13.4	12.4	12.2	11.8	11.3

Table B6
$PM_{2.5}$ Highs

AQS ID	City	Total Samples	Samples Greater Than 35 ug/m3			Highest Samples							
			2016	2015	2014	1st	2nd	3rd	4th	5th	6th	7th	8th
17-157-0001	Houston	174	0	0	0	22.2	19.4	18.6	18.4	18.3	17.7	17.3	17.2
17-161-3002	Rock Island	104	0	0	0	22.5	20.6	17.7	17.4	16.3	15.7	14.6	13.9
17-163-0010	East St. Louis	56	0	1	0	25.7	18.4	17.8	17.2	16.7	16.3	15.4	15.4
17-167-0012	Springfield Agricultural Building	114	0	0	0	20.6	19.4	19.1	19.1	15.6	13.7	13.6	13.3
17-197-1002	Joliet Pershing Elementary	104	0	0	0	20.3	18.9	16.6	15.3	14.5	14.1	13.8	13.4
17-197-1011	Braidwood	120	0	0	0	19.8	19.4	18.0	17.2	16.3	14.8	14.6	14.5
17-201-0013	Rockford Health Department	113	0	0	0	17.2	16.3	14.8	14.6	14.6	14.2	14.0	13.9
Statewide Average						20.4	18.5	17.4	16.6	16.0	15.4	15.1	14.6
Total Sites Over 35 ug/m3			0	17	0								
Total Days Over 35 ug/m3			0	3	0								

*$PM_{2.5}$ data for 2013 and 2014 is for informational purposes only. Contractor 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
$PM_{2.5}$ 24-Hour Design Values

AQS ID	City	98th Percentile Concentrations (ug/m3)					Design Values* (ug/m3)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-019-0006	Champaign	15.0	18.8	23.6	-	-	19.1	21.2	-
17-019-1001	Bondville	15.3	17.6	20.4	-	-	17.8	19.0	-
17-031-0001	Alsip	16.9	23.4	31.3	-	-	23.9	27.4	-
17-031-0022	Chicago Washington High School	17.7	24.8	24.5	-	-	22.3	24.7	-
17-031-0052	Chicago Mayfair Pump Station	17.9	24.0	29.3	-	-	23.7	26.7	-
17-031-0057	Chicago Springfield Pump Station	17.5	37.1	25.9	-	-	26.8	31.5	-
17-031-0076	Chicago Com Ed Maintenance	19.0	24.7	22.8	-	-	22.2	23.8	-
17-031-1016	Lyons Township	19.9	24.0	26.2	-	-	23.1	25.1	-
17-031-3103	Schiller Park	17.6	25.1	23.6	-	-	22.1	24.4	-
17-031-3301	Summit	17.0	27.1	24.0	-	-	22.7	25.6	-
17-031-4007	Des Plaines	18.9	25.3	21.1	-	-	21.8	23.2	-
17-031-4201	Northbrook	18.4	22.4	26.8	-	-	22.5	24.6	-
17-031-6005	Cicero Liberty School	18.8	30.1	22.2	-	-	23.7	26.2	-
17-043-4002	Naperville	14.8	22.5	22.0	-	-	19.8	22.3	-
17-065-0002	Knight Prairie	16.0	22.1	27.5	-	-	21.9	24.8	-
17-083-1001	Jerseyville	18.8	17.7	22.0	-	-	19.5	19.9	-
17-089-0003	Elgin McKinley School	15.7	19.6	27.1	-	-	20.8	23.4	-
17-089-0007	Aurora	17.4	18.8	21.3	-	-	19.2	20.1	-
17-111-0001	Cary	14.7	34.9	22.1	-	-	23.9	28.5	-
17-113-2003	Normal	16.3	18.3	17.4	-	-	17.3	17.9	-
17-115-0013	Decatur Illinois EPA Trailer	14.6	16.2	23.7	-	-	18.2	20.0	-
17-119-0024	Granite City Gateway Medical Center	24.7	24.8	27.0	-	-	25.5	25.9	-
17-119-1007	Granite City Fire Station #1	16.2	19.5	24.1	-	-	19.9	21.8	-
17-119-2009	Alton SIU Dental Clinic	20.3	19.0	20.9	-	-	20.1	20.0	-
17-119-3007	Wood River	20.7	23.0	24.8	-	-	22.8	23.9	-

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

AQS ID	City	98th Percentile Concentrations (ug/m3)					Design Values* (ug/m3)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-143-0037	Peoria City Office Building	14.3	15.7	25.7	-	-	18.6	20.7	-
17-157-0001	Houston	18.4	17.3	21.1	-	-	18.9	19.2	-
17-161-3002	Rock Island	17.7	22.8	21.5	-	-	20.7	22.2	-
17-163-0010	East St. Louis	18.4	21.7	22.5	-	-	20.9	22.1	-
17-167-0012	Springfield Agricultural Building	19.1	21.0	19.0	-	-	19.7	20.0	-
17-197-1002	Joliet Pershing Elementary	16.6	19.6	23.3	-	-	19.8	21.5	-
17-197-1011	Braidwood	18.0	16.3	26.4	-	-	20.2	21.4	-
17-201-0013	Rockford Health Department	14.8	22.2	20.9	-	-	19.3	21.6	-
Statewide Average		17.5	22.3	23.7	-	-	21.2	23.0	-

*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
$PM_{2.5}$ Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentrations (ug/m3)					Design Values* (ug/m3)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-019-0006	Champaign	7.6	8.6	10.9	-	-	9.0	9.8	-
17-019-1001	Bondville	7.3	8.5	10.0	-	-	8.6	9.2	-
17-031-0001	Alsip	8.6	11.1	9.9	-	-	9.9	10.5	-
17-031-0022	Chicago Washington High School	8.4	11.0	11.6	-	-	10.3	11.3	-
17-031-0052	Chicago Mayfair Pump Station	8.7	10.0	11.9	-	-	10.2	10.9	-
17-031-0057	Chicago Springfield Pump Station	9.2	12.5	10.7	-	-	10.8	11.6	-
17-031-0076	Chicago Com Ed Maintenance	9.0	11.1	9.7	-	-	10.0	10.4	-
17-031-3103	Schiller Park	9.4	11.8	11.7	-	-	11.0	11.8	-
17-031-3301	Summit	9.1	11.0	10.6	-	-	10.2	10.8	-
17-031-4007	Des Plaines	8.9	9.9	9.6	-	-	9.5	9.7	-
17-031-4201	Northbrook	7.9	9.1	10.4	-	-	9.2	9.8	-
17-031-6005	Cicero Liberty School	8.9	12.5	10.1	-	-	10.5	11.3	-
17-043-4002	Naperville	7.8	9.0	9.8	-	-	8.9	9.4	-
17-065-0002	Knight Prairie	7.8	8.2	10.5	-	-	8.8	9.4	-
17-083-1001	Jerseyville	7.9	7.7	10.1	-	-	8.5	8.9	-
17-089-0003	Elgin McKinley School	7.9	8.9	10.7	-	-	9.2	9.8	-
17-089-0007	Aurora	8.0	8.9	10.6	-	-	9.2	9.7	-
17-111-0001	Cary	7.3	9.9	10.4	-	-	9.2	10.2	-
17-113-2003	Normal	7.6	7.6	9.0	-	-	8.1	8.3	-
17-115-0013	Decatur IEPA Trailer	7.8	8.7	10.4	-	-	9.0	9.6	-
17-119-1007	Granite City Fire Station #1	9.1	10.4	12.9	-	-	10.8	11.6	-
17-119-2009	Alton SIU Dental Clinic	8.8	9.0	10.4	-	-	9.4	9.7	-
17-119-3007	Wood River	8.7	9.1	12.5	-	-	10.1	10.8	-
17-143-0037	Peoria City Office Building	7.6	8.6	9.8	-	-	8.7	9.2	-
17-157-0001	Houston	8.0	7.9	9.9	-	-	8.6	8.9	-

Table B8
$PM_{2.5}$ Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentrations (ug/m3)					Design Values* (ug/m3)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-161-3002	Rock Island	7.2	9.1	9.7	-	-	8.6	9.4	-
17-163-0010	East St. Louis	10.0	10.7	10.9	-	-	10.6	10.8	-
17-167-0012	Springfield Agricultural Building	7.7	8.2	10.7	-	-	8.9	9.4	-
17-197-1002	Joliet Pershing Elementary	8.0	7.0	10.2	-	-	8.4	8.6	-
17-197-1011	Braidwood	7.5	8.4	9.1	-	-	8.3	8.7	-
17-201-0013	Rockford Health Department	7.8	9.1	10.0	-	-	8.9	9.5	-
Statewide Average		8.2	9.5	10.5	-	-	9.4	10.0	-

*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.

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
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
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	2016	2015	2014	
17-031-0022	Chicago Washington High School	325	68	67	54	53	52	51	51	49	0	0	0	0.0
17-031-1016	Lyons Township	337	119	101	86	85	84	82	81	79	0	0	0	0.0
17-031-4201	Northbrook	57	53	42	39	38	29	28	27	26	0	0	0	0.0
17-119-1007	Granite City Fire Station #1	61	82	51	45	43	42	42	41	40	0	0	0	0.0
Statewide Average			81	65	56	55	52	51	50	49				
Total Over 150 ug/m3											0	0	0	
Total Days Over 150 ug/m3											0	0	0	

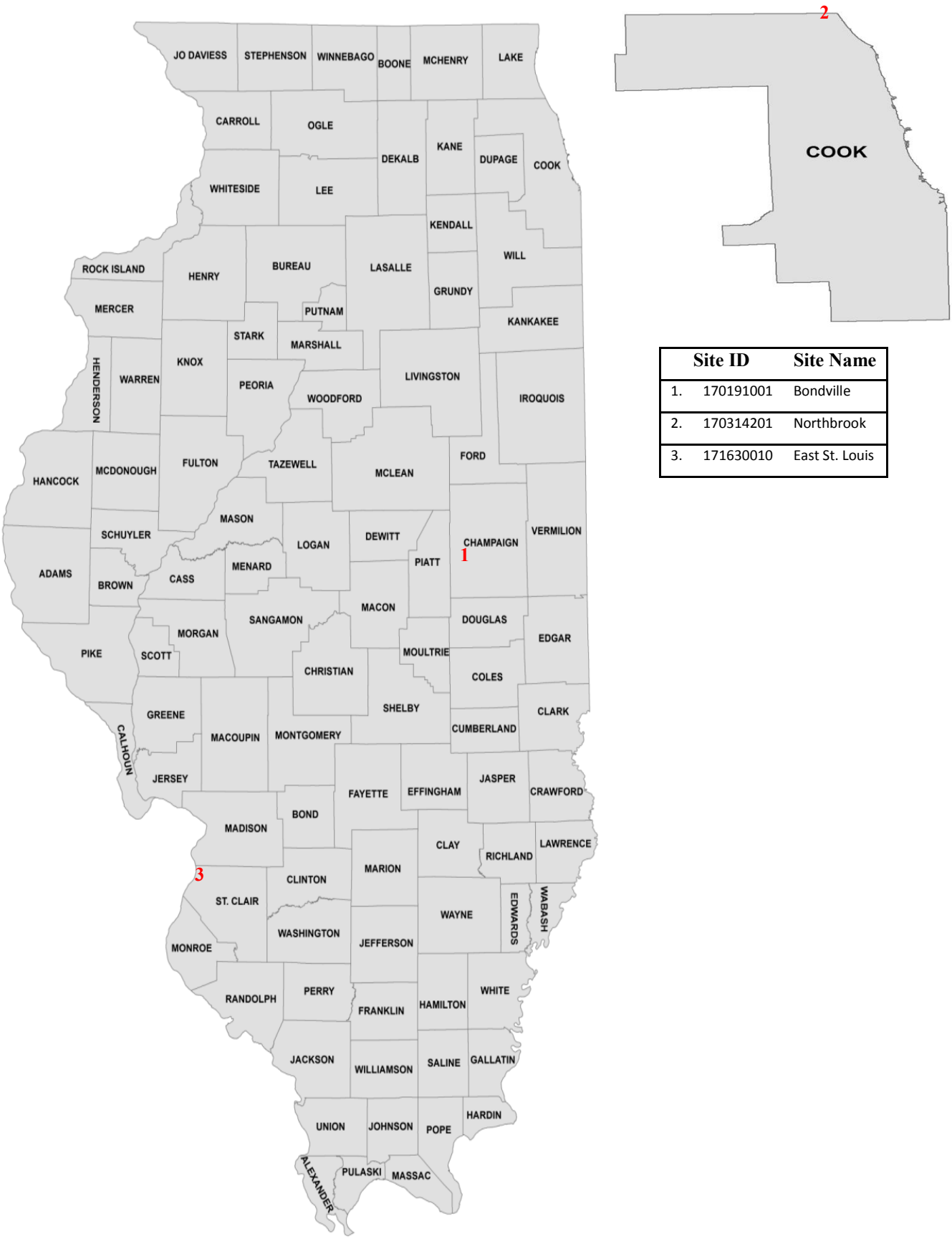
*The 24-hour PM_{10} standard is an exceedance-based standard set at 150 ug/m^3. The level is not to be exceeded more than once per year on average over three years. Three year averages more than one are a violation of the National Ambient Air Quality Standard.

Table B11
PM_{10} Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentration (ug/m3)					Design Values* (ug/m3)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-031-0022	Chicago Washington High School	16	23	29	30	31	23	27	30
17-031-1016	Lyons Township	27	36	45	39	25	36	40	36
17-031-4201	Northbrook	17	20	16	15	17	18	17	16
17-119-0010	Granite City Air Products	-	-	-	27	32	-	27	30
17-119-1007	Granite City Fire Station #1	28	30	39	32	-	32	34	36
Statewide Average		22	27	32	29	26	27	29	30

*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).

Carbon Monoxide Monitoring Sites



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

Table B12
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
Carbon Monoxide Highs

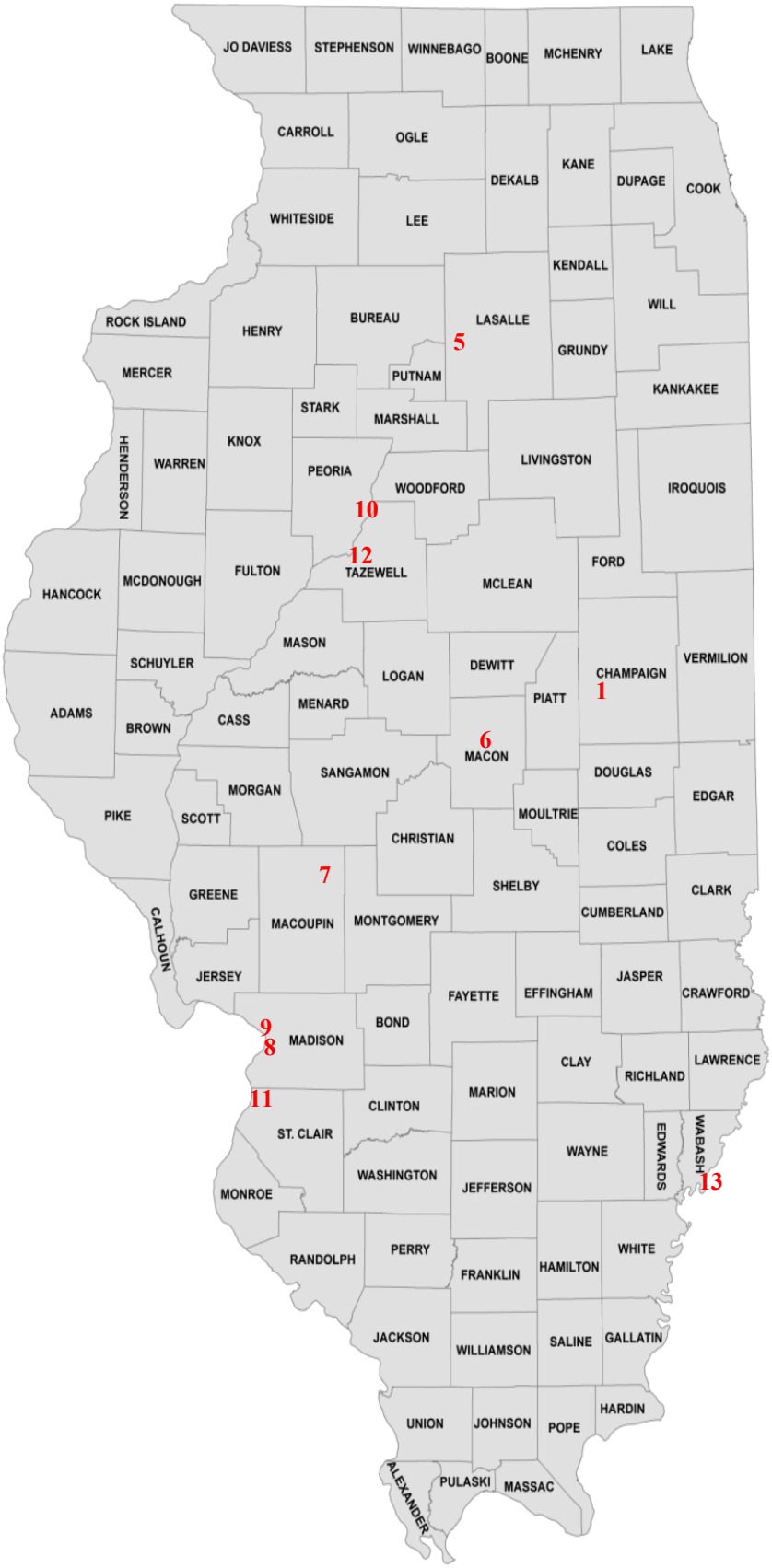
AQS ID	City	Total Hourly Samples	Fourth Highest Daily Samples 1-Hour (ppm)				Fourth Highest Samples 8-Hour (ppm)			
17-019-1001	Bondville	7011	0.36	0.36	0.36	0.35	0.30	0.30	0.30	0.30
17-031-4201	Northbrook	8051	1.22	1.22	1.15	1.09	0.78	0.67	0.65	0.64
17-163-0010	East St. Louis	7974	1.3	1.3	1.1	1.1	1.1	1.0	1.0	1.0
Statewide Average			1.0	1.0	0.9	0.8	0.7	0.7	0.7	0.6

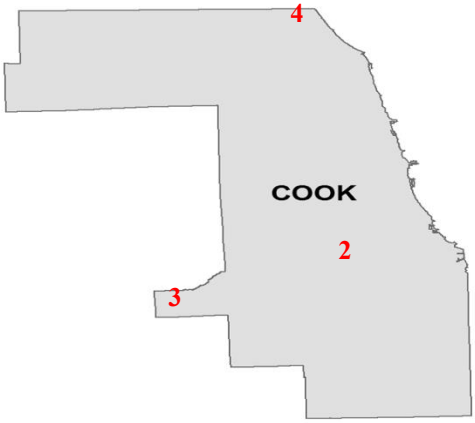
Table B14
Carbon Monoxide 1-Hour and 8-Hour Design Values

AQS ID	City	1-Hour Samples Greater than 35 (ppm)					8-Hour Samples Greater than 9 (ppm)				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
17-019-1001	Bondville	0	0	0	0	0	0	0	0	0	0
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.

Sulfur Dioxide Monitoring Sites





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

Table B15
Sulfur Dioxide Exceedances

EXCEEDANCES OF THE 1-HOUR PRIMARY STANDARD OF 75 ppb		
Date	**City**	**Concentration (ppb)**
1/29	Decatur	126
2/19	Pekin	165
3/15	Pekin	135
3/16	Pekin	126
4/2	Pekin	108
10/23	Pekin	98
11/1	Pekin	79
11/18	Pekin	146
11/30	Pekin	133
12/1	Pekin	146
12/26	Pekin	151
Total Over 75 ppb	11	
Total Days Over 75 ppb	11	

Table B16
Sulfur Dioxide Highs

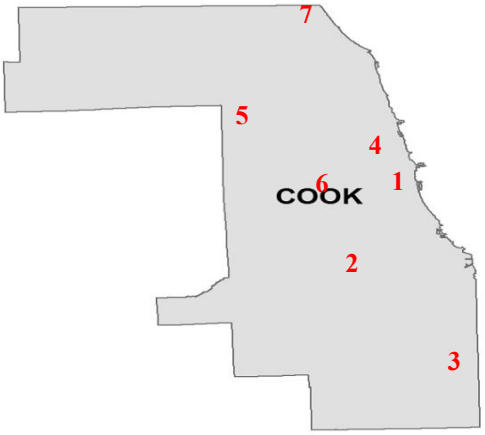
AQS ID	City	Total Valid Sample Days	Samples Greater Than 75 ppb			Highest Daily 1-Hour Samples (ppb)				Highest 3-Hour Block Averages (ppb)	
			2016	2015	2014	1st	2nd	3rd	4th	1st	2nd
17-019-1001	Bondville	341	0	0	0	8	4	4	4	4	3
17-031-0076	Chicago Com Ed Maintenance	363	0	0	0	15	12	12	9	11	9.4
17-031-1601	Lemont	356	0	0	0	19	16	12	12	14	9
17-031-4201	Northbrook	246	0	0	0	6	5	4	4	5	4
17-099-0007	Oglesby	350	0	0	0	25	23	19	15	13	13
17-115-0013	Decatur Illinois EPA Trailer	366	1	0	1	126	62	58	54	56	47
17-117-0002	Nilwood	355	0	0	0	9	6	6	5	6	4
17-119-1010	South Roxana	313	0	0	0	28	21	14	13	16	14
17-119-3007	Wood River	366	0	0	0	33	32	27	24	23	22
17-143-0024	Peoria Fire Station #8	364	0	0	0	39	34	30	27	34	25
17-163-0010	East St. Louis	361	0	0	0	31	29	26	19	14	14
17-179-0004	Pekin	351	10	15	28	165	151	146	146	146	112
17-185-0001	Mount Carmel	364	0	0	2	54	45	44	42	37	28
Statewide Average						43	34	31	29	29	23
Total Over 75 ppb			11	15	31						
Total Days Over 75 ppb			11	15	29						

Table B17
Sulfur Dioxide 1-Hour Design Values

AQS ID	City	99th Percentile Concentrations (ppb)					Design Values* (ppb)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-019-1001	Bondville	4	12	15	14	14	10	14	14
17-031-0076	Chicago Com Ed Maintenance	9	13	15	10	17	12	13	14
17-031-1601	Lemont	12	20	16	73	108	16	36	66
17-031-4002	Cicero Cook County Trailer	-	-	18	12	16	-	-	15
17-031-4201	Northbrook	4	8	12	10	17	8	10	13
17-099-0007	Oglesby	15	7	10	9	6	11	9	8
17-115-0013	Decatur Illinois EPA Trailer	54	39	38	33	38	44	37	36
17-117-0002	Nilwood	5	7	10	7	8	7	8	8
17-119-1010	South Roxana	13	13	18	23	17	15	18	19
17-119-3007	Wood River	24	20	30	29	30	25	26	30
17-143-0024	Peoria Fire Station #8	27	22	38	32	44	29	31	38
17-157-0001	Houston	-	12	12	11	24	-	12	16
17-163-0010	East St. Louis	19	19	25	19	24	21	21	23
17-167-0006	Springfield Sewage Treatment Plant	-	7	21	12	15	-	13	16
17-179-0004	Pekin	146	116	190	195	245	**151**	**167**	**210**
17-185-0001	Mount Carmel	42	43	53	55	89	46	50	66
Statewide Average		29	24	33	34	45	30	31	37

*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.

Nitrogen Dioxide Monitoring Sites



	Site ID	Site Name
1.	170310063	Chicago Transit Authority
2.	170310076	Chicago – Com Ed Maintenance
3.	170310116	Kingery near-road (in process)
4.	170310216	Kennedy near-road (in process)
5.	170313103	Schiller Park
6.	170314002	Cicero
7.	170314201	Northbrook
8.	171630010	East St. Louis

Table B18
Nitrogen Dioxide 1-Hour Exceedances

EXCEEDANCES OF THE 1-HOUR PRIMARY STANDARD OF 100 PPB		
Date	**City**	**Concentration (ppb)**
None	None	None
Total Over 100 ppb	0	
Total Days Over 100 ppb	0	

Table B19
Nitrogen Dioxide Highs

AQS ID	City	Total Valid Sample Days	Samples Greater Than 100 ppb			Highest Samples							
			2016	2015	2014	1st	2nd	3rd	4th	5th	6th	7th	8th
17-031-0063	Chicago CTA Building	313	0	0	0	80.5	62.4	62.1	61.7	61.0	58.7	58.4	56.1
17-031-0076	Chicago Com Ed Maintenance	354	0	0	0	91.7	87.0	75.3	74.8	62.6	61.3	61.2	60.8
17-031-3103	Schiller Park	358	0	0	1	75.5	70.8	65.4	61.9	59.7	57.8	56.5	55.9
17-031-4002	Cicero Cook County Trailer	284	0	0	0	84.7	66.8	63.7	55.8	55.1	54.7	54.5	52.3
17-031-4201	Northbrook	91	0	0	0	39.7	39.7	39.5	37.0	36.9	36.5	36.2	35.8
17-163-0010	East St. Louis	363	0	0	0	39.9	37.4	37.0	36.5	36.5	36.1	35.4	35.3
Statewide Average						68.7	60.7	57.2	54.6	52.0	50.9	50.4	49.4
Total Over 100 ppb			0	0	1								
Total Days Over 100 ppb			0	0	1								

Table B20
Nitrogen Dioxide 1-Hour Design Values

AQS ID	City	98th Percentile Concentrations (ppb)					Design Values* (ppb)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-031-0063	Chicago CTA Building	58.4	57.4	61.0	63.0	65.0	59	60	63
17-031-0076	Chicago Com Ed Maintenance	60.8	45.2	67.0	62.0	70.0	58	58	66
17-031-3103	Schiller Park	56.0	60.8	59.0	63.0	63.0	59	61	62
17-031-4002	Cicero Cook County Trailer	54.7	62.4	64.0	64.0	58.0	60	63	62
17-031-4201	Northbrook	39.7	42.8	50.0	48.0	44.0	44	47	47
17-163-0010	East St. Louis	35.3	39.9	43.0	43.0	49.0	39	42	45
Statewide Average		50.8	51.4	57.0	57.0	58.0	53	56	58

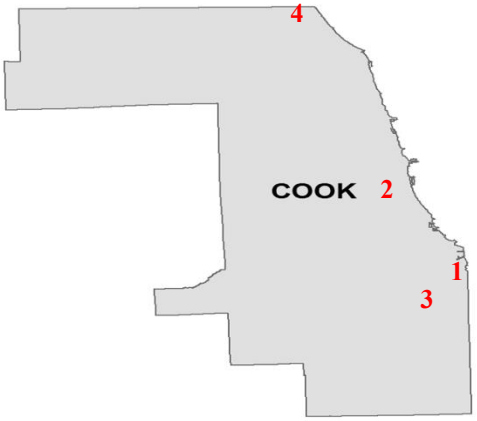
*The design value is the three-year average of the 98th percentile concentration. Design value greater than 100 ppb is a violation of the National Ambient Air Quality Standard.

Table B21
Nitrogen Dioxide Annual Design Values

AQS ID	City	Annual Arithmetic Mean Concentrations* (ppb)				
		2016	2015	2014	2013	2012
17-031-0063	Chicago CTA Building	16.85	16.93	20.64	20.61	22.10
17-031-0076	Chicago Com Ed Maintenance	13.49	13.01	15.83	15.90	15.93
17-031-3103	Schiller Park	17.08	18.20	19.28	19.47	22.30
17-031-4002	Cicero Cook County Trailer	14.07	16.74	17.29	18.45	14.17
17-031-4201	Northbrook	12.10	9.69	9.82	11.82	12.08
17-163-0010	East St. Louis	9.12	8.32	10.92	11.24	12.13
Statewide Average		13.95	13.82	15.63	16.25	16.45

*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.

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
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	52	0.027	0.016	0.014	0.012	0.012	0.02
17-031-0110	Chicago Perez Elementary	55	0.018	0.017	0.015	0.013	0.012	0.01
17-031-0113	Chicago ArcelorMittal Steel	20	0.013	0.007	0.006	0.006	-	0.01
17-031-4201	Northbrook	21	0.004	0.003	0.002	0.001	-	0.00
17-089-0113	Geneva Johnson Controls	61	0.113	0.049	0.039	0.037	0.034	0.05
17-115-0110	Decatur Mueller	59	0.079	0.063	0.036	0.030	0.023	0.04
17-119-0010	Granite City Air Products	55	0.024	0.023	0.020	0.019	0.018	0.02
Statewide Average			0.040	0.025	0.019	0.017	0.020	0.021

Table B23
Lead Design Values

AQS ID	City	Maximum Three-Month Rolling Mean (ug/m3)					Design Values* (ug/m3)		
		2016	2015	2014	2013	2012	2014-2016	2013-2015	2012-2014
17-031-0022	Chicago Washington High School	0.02	0.04	0.04	0.05	0.04	0.04	0.05	0.05
17-031-0110	Chicago Perez Elementary	0.01	0.03	0.03	0.04	0.05	0.03	0.04	0.05
17-031-0113	Chicago ArcelorMittal Steel	0.01	0.01	0.03	0.01	-	0.03	0.03	0.03
17-031-3103	Schiller Park	-	-	-	0.01	0.04	-	0.01	0.04
17-031-4201	Northbrook	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01
17-031-6003	Maywood 4th District Court	-	-	-	0.02	0.04	-	0.02	0.04
17-089-0113	Geneva Johnson Controls	0.05	0.05	0.03	0.03	-	0.05	0.05	0.03
17-115-0110	Decatur Mueller	0.04	0.04	0.05	0.05	0.08	0.05	0.05	0.08
17-119-0010	Granite City Air Products	0.02	0.02	0.04	0.06	0.36	0.04	0.06	**0.36**
17-143-0110	Bartonville	-	-	-	0.01	0.01	-	0.01	0.01
17-143-0210	Mapleton	-	-	-	0.01	0.01	-	0.01	0.01
17-195-0110	Sterling	-	-	-	0.02	0.03	-	0.02	0.03
17-201-0110	Rockford J. Rubin & Company	-	-	-	0.05	0.03	-	0.05	0.05
Statewide Average		0.02	0.03	0.03	0.03	0.06	0.04	0.03	0.06

*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
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	-	-	-	-	-	-	-	-	52	0.025	0.020	0.002
17-031-0110	Chicago Perez Elementary	-	-	-	-	-	-	-	-	55	0.002	0.001	0.000
17-031-0113	Chicago ArcelorMittal Steel	20	0.000	0.000	0.000	20	0.000	0.000	0.000	20	0.000	0.000	0.000
17-031-4201	Northbrook	21	0.000	0.000	0.000	21	0.000	0.000	0.000	21	0.000	0.000	0.000
17-089-0113	Geneva Johnson Controls	61	0.000	0.000	0.000	61	0.000	0.000	0.000	61	0.000	0.000	0.000
17-115-0110	Decatur Mueller	59	0.000	0.000	0.000	59	0.000	0.000	0.000	59	0.000	0.000	0.000
17-119-0010	Granite City Air Products	55	0.010	0.000	0.000	55	0.000	0.000	0.000	55	0.000	0.000	0.000

Table B24
Filter Analysis Data

AQS ID	City	Chromium				Iron				Manganese			
		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	52	0.017	0.016	0.005	51	2.390	1.930	0.629	52	0.370	0.190	0.068
17-031-0110	Chicago Perez Elementary	55	0.009	0.008	0.003	55	1.250	1.230	0.380	55	0.063	0.052	0.016
17-031-0113	Chicago ArcelorMittal Steel	20	0.027	0.024	0.009	20	7.143	4.525	2.095	20	0.658	0.483	0.182
17-031-4201	Northbrook	21	0.003	0.002	0.000	21	1.450	0.720	0.315	21	0.045	0.034	0.010
17-089-0113	Geneva Johnson Controls	61	0.066	0.012	0.002	61	1.045	0.865	0.342	61	0.038	0.037	0.012
17-115-0110	Decatur Mueller	59	0.005	0.004	0.001	59	1.536	1.489	0.681	59	0.066	0.061	0.026
17-119-0010	Granite City Air Products	55	0.007	0.007	0.002	55	2.045	1.476	0.749	55	0.146	0.127	0.426

Table B24
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	52	0.011	0.009	0.003								
17-031-0110	Chicago Perez Elementary	55	0.014	0.007	0.003								
17-031-0113	Chicago ArcelorMittal Steel	20	0.003	0.003	0.000								
17-031-4201	Northbrook	21	0.000	0.000	0.000								
17-089-0113	Geneva Johnson Controls	61	0.000	0.000	0.000								
17-115-0110	Decatur Mueller	59	0.008	0.007	0.000								
17-119-0010	Granite City Air Products	55	0.003	0.000	0.000								

Table B25
Toxic Compounds

AQS ID	City	Compounds	Highest 24-hour Samples (ppbc)				Annual Average
			1st	2nd	3rd	4th	
17-031-4201	Northbrook	1,3 Butadiene	0.3	0.2	0.2	0.1	0.1
		Dichloromethane	39.8	9.4	5.8	4.7	1.3
		Chloroform	11.6	7.5	6.8	6.1	0.9
		Carbon Tetrachloride	0.1	0.1	0.1	0.1	0.1
		Tetrachloroethylene	0.1	0.1	0.1	0.1	0.0
		Trichlorethylene	2.2	0.4	0.1	0.1	0.1
		1,2 Dichloropropane	0.0	0.0	0.0	0.0	0.0
		Vinyl Chloride	0.1	0.0	0.0	0.0	0.0
		Benzene	1.8	1.5	1.5	1.5	0.8
		Toluene	6.5	6.3	6.2	5.7	2.0
		Formaldehyde	5.8	5.4	4.7	4.6	1.8
		Acetaldehyde	4.4	3.9	3.7	3.2	1.6
		Acrolein	2.7	2.4	2.4	2.4	0.9
17-031-3103	Schiller Park	1,3 Butadiene	0.5	0.5	0.4	0.4	0.2
		Dichloromethane	1.3	1.2	1.2	1.1	0.6
		Chloroform	0.1	0.1	0.1	0.1	0.0
		Carbon Tetrachloride	0.1	0.1	0.1	0.1	0.1
		Tetrachloroethylene	1.3	0.5	0.5	0.5	0.2
		Trichlorethylene	1.0	0.6	0.5	0.5	0.1
		1,2 Dichloropropane	0.1	0.1	0.0	0.0	0.0
		Vinyl Chloride	0.1	0.0	0.0	0.0	0.0
		Benzene	2.6	2.1	1.9	1.8	1.2
		Toluene	8.1	6.5	5.6	5.5	2.4
		Formaldehyde	9.6	7.9	5.2	4.9	2.9
		Acetaldehyde	16.4	9.0	8.8	8.5	2.7
		Acrolein	3.0	2.8	2.5	2.3	1.2

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

Table C1

Carbon Monoxide Point Source Emission Distribution (Tons/Year)

Category	2012	2013	2014	2015	2016
External Fuel Combustion					
Electric Generation	18,188.3	16,586.9	19,111.4	20,092.2	17,065.5
Industrial	6,158.6	5,571.9	5,939.0	5,781.1	5,345.5
Commercial/Institutional	1,795.0	1,541.4	1,683.6	1,498.3	1,493.7
Space Heating	17.7	19.5	21.2	38.9	21.3
Internal Fuel Combustion					
Electric Generation	3,266.7	3,133.1	2,811.4	2,306.4	2,475.6
Industrial	5,426.0	4,968.5	5,244.1	4,684.8	3,552.2
Commercial/Institutional	260.5	240.4	261.6	190.6	226.8
Engine Testing	209.4	124.2	98.3	215.8	168.4
Industrial Processes					
Chemical Manufacturing	2,266.9	2,055.8	1,828.1	1,814.1	1,591.6
Food/Agriculture	2,857.8	1,426.2	1,456.8	1,420.2	1,576.8
Primary Metal Production	21,723.5	15,695.1	16,070.1	15,855.7	13,226.3
Secondary Metal Production	2,563.0	2,501.7	2,423.6	2,041.5	2,492.9
Mineral Products	3,195.9	2,875.3	2,934.2	2,820.9	3,580.7
Petroleum Industry	4,095.1	3,905.2	3,812.4	3,085.2	3,245.9
Paper and Wood Products	1.5	1.5	1.5	1.5	0.5
Rubber and Plastic Products	33.2	34.2	31.7	26.3	24.5
Fabricated Metal Products	224.4	226.7	223.7	203.1	214.2
Oil and Gas Production	219.2	249.6	279.6	274.6	241.6
Miscellaneous Machinery				1.3	1.2
Electrical Equipment	2.2	2.2	1.6	2.0	2.0
Health Services	261.2	200.8	181.7	153.6	175.3
In-Process Fuel Use	506.2	470.7	486.7	946.8	403.2
Miscellaneous Manufacturing	143.0	153.0	128.8	59.5	37.5
Organic Solvent Emissions					
Organic Solvent Use		0.3	0.0	0.0	0.2
Surface Coating Operations	167.5	161.3	232.7	271.2	232.0
Petroleum Product Storage		0.0	0.0	0.0	0.2
Bulk Terminals/Plants	70.6	74.8	71.4	32.9	26.0
Printing/Publishing	6.2	6.0	3.8	1.1	
Petroleum Marketing/Transport	33.4	33.3	54.1	46.9	21.2
Organic Chemical Storage (large)				2.7	
Organic Solvent Evaporation	35.8	24.0	16.0	9.8	9.0
Solid Waste Disposal					
Government	1,813.1	1,914.8	1,650.3	1,562.0	1,758.0
Commercial/Institutional	59.7	46.2	43.5	25.0	40.9
Industrial	639.2	667.4	797.6	605.0	691.7
Site Remediation	14.0	2.7	2.8	1.2	2.2
MACT Processes					
Vinyl Based Resins	0.1	0.1	0.0	0.0	
Totals	**76,255.0**	**64,915.0**	**67,920.6**	**66,072.1**	**59,944.8**

Table C2

Nitrogen Oxides Point Source Emission Distribution (Tons/Year)

Category	2012	2013	2014	2015	2016
External Fuel Combustion					
Electric Generation	69,919.6	51,512.4	50,853.1	45,242.2	33,102.0
Industrial	11,095.2	11,126.9	11,510.4	9,941.2	9,217.5
Commercial/Institutional	2,337.5	2,113.3	2,161.3	2,059.7	1,938.0
Space Heating	88.5	87.5	97.6	96.5	86.6
Internal Fuel Combustion					
Electric Generation	2,894.1	3,110.4	2,762.1	2,229.8	2,409.4
Industrial	21,002.4	19,219.0	20,531.5	20,229.6	14,482.6
Commercial/Institutional	488.1	414.6	470.3	404.0	541.3
Engine Testing	691.8	679.4	524.2	439.4	563.8
Industrial Processes					
Chemical Manufacturing	1,395.4	1,387.7	1,432.7	1,361.0	1,552.0
Food/Agriculture	1,415.5	1,389.9	1,497.7	1,449.6	1,504.3
Primary Metal Production	1,780.2	1,580.6	1,521.8	1,779.1	1,329.7
Secondary Metal Production	721.5	713.3	710.4	585.3	667.0
Mineral Products	8,904.9	7,813.4	7,232.8	6,275.5	5,410.1
Petroleum Industry	5,373.0	5,060.1	4,870.4	4,636.0	4,191.9
Paper and Wood Products	1.3	1.3	1.3	1.3	0.9
Rubber and Plastic Products	40.7	42.0	36.4	30.6	26.4
Fabricated Metal Products	308.0	288.0	272.8	236.3	269.8
Oil and Gas Production	800.4	734.4	783.3	706.3	620.6
Miscellaneous Machinery	0.2	0.2	0.3	1.8	0.6
Electrical Equipment	3.0	2.9	2.1	2.5	2.5
Health Services	6.6	6.6	6.6	4.0	6.6
Textile Products	0.9	0.9	0.9	0.9	0.9
In-Process Fuel Use	731.7	672.6	799.3	803.1	190.3
Miscellaneous Manufacturing	30.6	29.4	29.9	18.3	15.7
Organic Solvent Emissions					
Organic Solvent Use		0.3	0.0	0.0	0.2
Surface Coating Operations	368.6	329.3	421.1	375.1	420.7
Bulk Terminals/Plants	27.8	39.1	33.6	13.5	0.2
Printing/Publishing	8.6	6.8	4.4	1.5	13.3
Petroleum Marketing/Transport	28.6	28.0	34.2	20.1	8.8
Organic Chemical Storage (large)				1.6	
Organic Solvent Evaporation	42.8	28.7	13.9	13.7	11.3
Solid Waste Disposal					
Government	562.0	626.3	518.0	558.9	592.1
Commercial/Institutional	14.5	15.2	15.2	17.2	13.3
Industrial	219.1	242.7	266.6	214.4	245.7
Site Remediation	22.4	4.5	4.5	2.5	2.8
MACT Processes					
Vinyl Based Resins	0.4	0.4	0.0	0.0	
Totals	**131,326.0**	**109,307.8**	**109,444.3**	**99,752.5**	**79,438.9**

Table C3

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

Category	2012	2013	2014	2015	2016
External Fuel Combustion					
Electric Generation	8,093.0	6,228.1	5,776.4	5,637.2	4,335.2
Industrial	1,536.3	1,174.9	1,346.9	1,304.5	1,180.1
Commercial/Institutional	273.6	191.4	207.2	193.9	186.6
Space Heating	3.1	4.9	4.9	6.6	3.4
Internal Fuel Combustion					
Electric Generation	525.0	376.1	286.5	208.0	358.4
Industrial	286.9	260.1	275.2	303.3	238.0
Commercial/Institutional	31.5	31.5	29.6	25.2	35.2
Engine Testing	15.1	17.9	16.2	15.7	24.0
Industrial Processes					
Chemical Manufacturing	872.9	869.5	943.9	836.6	1,031.2
Food/Agriculture	6,355.6	5,950.5	5,851.2	5,677.7	5,846.3
Primary Metal Production	1,222.5	1,037.5	986.0	1,233.1	872.1
Secondary Metal Production	1,232.5	1,240.3	1,196.9	1,034.4	955.0
Mineral Products	5,052.2	5,071.9	4,822.1	4,449.2	4,733.0
Petroleum Industry	1,007.8	1,367.4	1,227.6	1,239.5	1,189.0
Paper and Wood Products	167.2	148.9	109.8	93.1	112.7
Rubber and Plastic Products	173.3	178.6	189.6	113.7	168.2
Fabricated Metal Products	227.5	260.0	269.4	220.3	248.4
Oil and Gas Production	13.4	14.7	15.8	7.9	13.4
Building Construction	1.6	1.6	1.6	1.6	0.1
Miscellaneous Machinery	13.2	13.1	15.7	12.2	14.8
Electrical Equipment	1.8	3.4	5.4	4.4	5.1
Transportation Equipment	19.5	7.1	14.1	2.0	0.6
Health Services	8.9	63.4	77.7	63.9	76.9
Leather and Leather Products	17.2	9.7	9.7	2.7	9.7
Textile Products	0.1	0.1	0.1	0.2	0.1
Process Cooling	422.4	313.0	274.8	263.1	271.6
In-Process Fuel Use	82.5	75.3	81.6	181.2	81.4
Miscellaneous Manufacturing	15.0	27.8	28.0	20.1	19.2
Organic Solvent Emissions					
Organic Solvent Use	1.5	1.8	1.7	0.1	2.9
Surface Coating Operations	197.2	206.0	245.3	176.9	257.4
Petroleum Product Storage					1.1
Bulk Terminals/Plants	2.6	1.3	3.4	0.4	1.1
Printing/Publishing	11.7	29.7	30.1	28.9	29.3
Petroleum Marketing/Transport	2.3	2.0	2.8	1.2	1.3
Organic Chemical Storage (large)	4.4	4.5	6.4	1.5	5.8
Dry Cleaning (petroleum based)				0.5	0.7
Organic Solvent Evaporation	7.0	5.9	5.4	3.5	5.7
Solid Waste Disposal					
Government	406.7	365.1	366.7	424.7	355.2
Commercial/Institutional	15.1	8.2	8.0	7.5	7.9
Industrial	112.2	92.4	110.3	95.4	92.0
Site Remediation	43.0	16.1	16.6	14.7	14.2
MACT Processes					
Food and Agriculture Processes	0.0	0.0			
Styrene or Methacrylate Based Resins	0.2	0.1	0.1	0.0	
Alkyd Resin Production	0.6	0.6	1.3	1.6	0.9
Vinyl Based Resins	63.6	60.1	59.4	45.4	26.8
Miscellaneous Polymers	6.9	6.9	7.1	0.2	7.1
Inorganic Chemicals	0.3	0.1	0.1	0.5	0.1
Consumer Products Manufacturing	0.2	0.2	1.2	0.1	1.0
Paint Stripper Use		1.0	1.0	0.0	
Miscellaneous Processes	1.0	3.2	6.0	4.8	
Phthalate Plasticizers Production	3.2				
Totals	**28,623.9**	**25,744.0**	**24,941.8**	**23,959.2**	**22,820.2**

Table C4

Sulfur Dioxide Point Source Emission Distribution (Tons/Year)

Category	2012	2013	2014	2015	2016
External Fuel Combustion					
Electric Generation	216,854.5	157,862.8	146,872.6	136,043.9	89,806.2
Industrial	29,303.3	27,402.6	27,936.1	24,913.5	19,064.4
Commercial/Institutional	4,167.1	2,355.7	2,649.7	2,665.7	2,582.8
Space Heating	0.5	0.5	0.6	0.6	0.6
Internal Fuel Combustion					
Electric Generation	445.2	228.3	232.1	237.5	223.0
Industrial	86.1	67.7	90.6	65.8	62.8
Commercial/Institutional	48.4	21.5	22.4	15.8	24.0
Engine Testing	12.2	10.6	10.7	3.2	8.1
Industrial Processes					
Chemical Manufacturing	1,440.5	1,381.3	1,412.2	1,333.3	1,330.6
Food/Agriculture	1,365.4	1,718.8	1,102.1	1,238.6	1,192.5
Primary Metal Production	2,954.6	2,685.2	2,630.5	2,502.8	2,046.8
Secondary Metal Production	119.9	100.4	95.6	118.6	93.6
Mineral Products	14,409.7	13,079.8	13,305.3	8,183.3	4,816.4
Petroleum Industry	3,119.6	3,043.6	2,532.7	3,026.0	2,498.1
Paper and Wood Products	0.0	0.0	0.0	0.0	0.0
Rubber and Plastic Products	4.6	4.7	0.3	1.5	0.3
Fabricated Metal Products	33.4	32.2	15.3	11.8	15.6
Oil and Gas Production	332.8	373.0	3.7	3.3	1.3
Miscellaneous Machinery				0.0	0.0
Electrical Equipment	0.0	0.0	0.0	0.0	0.0
Transportation Equipment	0.0				
Health Services	7.5	7.5	7.5	5.1	7.5
Process Cooling	0.0	0.0	0.0	0.0	0.0
In-Process Fuel Use	209.9	192.4	223.6	419.0	175.4
Miscellaneous Manufacturing	60.1	57.7	57.4	17.1	0.5
Organic Solvent Emissions					
Organic Solvent Use		0.3	0.0	0.0	0.2
Surface Coating Operations	3.4	2.4	3.8	3.6	9.6
Petroleum Product Storage	7.7	7.7	7.7	7.7	8.3
Printing/Publishing	0.1	0.8	1.6	0.4	0.8
Petroleum Marketing/Transport	1.3	5.9	0.2	0.0	75.3
Organic Chemical Transportation	5.9		5.9	0.4	0.1
Organic Chemical Storage (large)	0.1	0.1	0.1	0.1	
Organic Solvent Evaporation	3.2	3.1	32.5	25.1	3.5
Solid Waste Disposal					
Government	712.1	529.8	608.0	914.8	949.8
Commercial/Institutional	2.8	2.7	2.7	0.4	2.6
Industrial	495.9	493.0	366.5	364.4	342.5
Site Remediation	4.3	0.9	1.3	0.0	1.4
MACT Processes					
Food and Agriculture Processes	199.7	199.7	117.9	76.5	76.1
Totals	**276,412.0**	**211,872.9**	**200,349.5**	**182,200.0**	**125,421.1**

Table C5

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

Category	2012	2013	2014	2015	2016
External Fuel Combustion					
Electric Generation	1,445.1	1,312.0	1,372.5	1,383.4	1,095.4
Industrial	332.1	350.7	350.0	341.0	321.4
Commercial/Institutional	113.5	89.8	96.5	92.4	86.7
Space Heating	3.4	4.3	4.9	5.3	4.6
Internal Fuel Combustion					
Electric Generation	682.4	418.2	360.7	256.3	387.6
Industrial	1,207.2	1,121.6	1,133.5	1,025.9	793.6
Commercial/Institutional	46.1	40.0	46.9	31.8	35.1
Engine Testing	47.9	48.0	41.2	77.9	39.1
Fugitive Emissions					
Industrial Processes					
Chemical Manufacturing	6,130.2	6,130.8	6,066.6	6,487.1	6,261.4
Food/Agriculture	10,209.9	9,481.7	8,707.9	8,855.2	9,461.8
Primary Metal Production	527.3	468.7	409.2	414.7	287.8
Secondary Metal Production	760.2	683.2	676.2	671.9	697.4
Mineral Products	1,494.1	1,342.7	1,283.5	925.9	1,163.9
Petroleum Industry	2,054.5	2,409.2	2,137.9	1,866.2	1,987.0
Paper and Wood Products	207.6	195.1	88.6	74.6	78.4
Rubber and Plastic Products	1,991.6	1,952.3	1,917.9	1,778.8	1,839.3
Fabricated Metal Products	582.8	659.5	641.5	638.6	689.8
Oil and Gas Production	305.3	352.2	371.3	374.5	327.4
Miscellaneous Machinery	56.5	56.5	56.6	81.5	83.4
Electrical Equipment	40.9	34.5	36.9	38.9	38.9
Transportation Equipment	137.8	33.9	33.9	21.8	18.5
Health Services	32.0	30.9	27.2	16.4	12.6
Leather and Leather Products	16.9	16.9	16.9	16.2	16.9
Textile Products	3.0	3.0	2.3	2.0	2.3
Process Cooling	68.0	71.4	77.7	77.1	78.9
In-Process Fuel Use	36.6	36.0	35.8	32.7	9.6
Miscellaneous Manufacturing	179.0	127.8	119.9	158.3	139.3
Organic Solvent Emissions					
Organic Solvent Use	495.0	464.9	422.1	386.2	394.
Surface Coating Operations	6,892.8	7,060.5	7,468.4	6,955.5	6,879.4
Petroleum Product Storage	2,706.9	2,711.9	2,615.3	2,487.0	2,524.1
Bulk Terminals/Plants	1,087.2	1,215.8	1,289.7	1,037.7	1,162.7
Printing/Publishing	3,522.2	3,268.0	3,358.3	3,217.7	3,081.6
Petroleum Marketing/Transport	601.2	513.0	502.3	325.1	434.5
Organic Chemical Storage (large)	742.6	773.6	739.8	489.4	705.5
Organic Chemical Transportation	95.3	89.6	89.6	144.8	102.5
Dry Cleaning (petroleum based)	462.1	468.3	426.7	377.3	374.8
Organic Chemical Storage (small)			0.4	0.0	0.2
Organic Solvent Evaporation	435.3	420.0	447.5	438.6	416.3

Table C5

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

Category	2012	2013	2014	2015	2016
Solid Waste Disposal					
Government	361.5	338.2	514.8	313.0	359.4
Commercial/Institutional	5.4	5.4	5.4	1.6	3.8
Industrial	100.2	64.9	65.0	38.5	58.2
Site Remediation	227.8	219.5	169.0	116.2	142.2
MACT Processes					
Food and Agriculture Processes	26.0	26.0	20.1	15.3	17.0
Agricultural Chemical Production	0.1	0.1	0.1	0.0	
Styrene or Methacrylate Based Resins	6.5	4.6	4.6	1.5	
Alkyd Resin Production	61.3	54.7	51.3	34.1	39.6
Vinyl Based Resins	89.7	88.1	96.0	45.9	18.8
Miscellaneous Polymers	1.0	1.0	1.0	1.1	1.0
Inorganic Chemicals Manufacturing	16.3	0.0	0.0	0.0	0.0
Consumer Product Mfg Facilities	292.7	158.6	158.1	161.8	210.5
Paint Stripper Use	3.1	3.1	3.1	0.2	0.1
Miscellaneous Processes	12.3	9.1	9.1	9.8	
Totals	**46,956.6**	**45,430.1**	**44,610.1**	**42,344.8**	**42,884.5**

Table C6

2016 Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	PM_{10}	Sulfur Dioxide	Volatile Organic Material
Adams	263.3	273.0	281.6	915.8	897.4
Alexander	23.4	23.7	57.7	0.3	335.5
Bond	24.5	15.3	18.7	1.6	30.7
Boone	239.3	184.4	131.0	5.8	831.5
Brown	0.0	0.0	2.8	0.0	0.0
Bureau	84.8	109.7	61.5	0.8	39.3
Calhoun	0.6	0.7	5.2	0.0	0.1
Carroll	28.3	28.6	32.8	1.1	15.2
Cass	31.4	34.9	28.2	27.0	22.0
Champaign	396.0	619.2	194.3	256.6	428.
Christian	955.1	1,845.1	241.2	2,395.2	429.6
Clark	49.7	10.2	74.5	3.6	164.3
Clay	5.5	7.8	24.5	0.1	152.0
Clinton	400.4	1,282.7	69.2	297.9	94.1
Coles	102.7	89.0	86.2	10.6	853.7
Cook	10,338.9	5,049.4	2,494.2	2,797.0	7,375.9
Crawford	1,124.8	1,478.4	523.8	2,425.1	904.3
Cumberland	13.2	3.2	21.8	1.0	19.2
DeKalb	105.2	85.7	95.4	23.2	230.4
DeWitt	161.8	69.9	86.0	4.8	127.6
Douglas	1,022.3	3,125.7	129.9	1.6	465.2
DuPage	753.9	842.5	257.4	70.8	1,205.8
Edgar	18.2	93.3	86.4	0.1	149.6
Edwards	1.1	2.8	10.1	0.0	9.4
Effingham	21.7	25.3	59.2	0.8	255.0
Fayette	73.5	248.4	23.8	73.7	27.3
Ford	56.0	128.2	197.7	6.9	702.0
Franklin	5.4	3.9	24.6	0.0	29.4
Fulton	326.2	1,029.4	69.8	78.5	51.6
Gallatin	0.0	0.0	16.6	0.0	0.0
Greene	0.1		20.6	0.2	0.4
Grundy	533.1	950.6	224.9	53.7	584.8
Hamilton	1.2	4.0	37.4	0.1	1.0
Hancock	14.9	1.6	58.5	0.2	4.9
Hardin	3.9	4.7	34.4	0.0	2.0
Henderson	0.0	0.0	24.9	0.0	0.0
Henry	424.6	1,025.6	150.5	18.2	319.7
Iroquois	77.4	56.3	128.0	4.7	398.1
Jackson	169.0	113.8	34.9	240.0	40.8
Jasper	750.1	2,215.4	352.1	12,878.0	138.7
Jefferson	45.3	58.3	25.1	0.3	375.2
Jersey	0.7		6.5		10.3
Jo Daviess	410.9	594.0	170.7	3.5	75.4
Johnson	25.1	23.9	7.8	220.0	5.9
Kane	479.1	553.3	228.9	45.7	1,021.4
Kankakee	528.7	595.8	179.6	40.9	922.6
Kendall	271.4	434.2	210.7	37.0	242.6
Knox	23.3	22.0	78.7	1.9	33.2
Lake	1,401.1	1,885.8	405.2	2,521.8	440.6
La Salle	1,362.1	2,981.1	933.3	716.6	1,209.1
Lawrence	8.7	5.1	11.6	0.9	17.2
Lee	841.9	380.8	329.6	202.1	300.8

Table C6

2016 Estimated County Stationary Point Source Emissions (Tons/Year)

County	Carbon Monoxide	Nitrogen Oxides	PM_{10}	Sulfur Dioxide	Volatile Organic Material
Livingston	422.3	330.0	127.4	89.8	291.4
Logan	55.8	469.8	128.7	469.2	57.4
McDonough	56.6	107.9	40.7	5.9	77.7
McHenry	196.4	194.5	156.8	5.2	288.2
McLean	309.7	301.8	155.0	11.2	506.8
Macon	1,606.9	3,582.4	2,165.9	13,521.7	4,078.3
Macoupin	6.2	6.7	28.0	0.0	5.0
Madison	8,768.3	3,445.4	1,336.7	2,785.2	3,027.3
Marion	38.1	42.7	44.0	47.7	588.8
Marshall	22.1	69.0	134.0	228.3	396.5
Mason	327.3	897.8	143.3	860.6	47.5
Massac	1,175.5	5,010.1	767.2	13,596.5	230.7
Menard			14.2		62.1
Mercer	0.4	0.5	17.1	0.0	2.9
Monroe	6.4	12.3	12.3	0.5	7.4
Montgomery	740.4	1,614.7	101.4	40.9	123.6
Morgan	70.6	217.3	42.8	33.9	42.0
Moultrie	3.2	9.6	29.2	0.0	231.5
Ogle	417.9	327.7	350.1	119.2	441.9
Peoria	1,740.8	3,363.6	526.1	6,587.5	1,502.0
Perry	28.0	86.0	106.7	0.7	14.1
Piatt	288.4	3,226.7	61.8	0.3	803.6
Pike	61.8	70.3	75.8	87.6	29.7
Pope					
Pulaski	117.0	20.1	52.1	7.2	9.9
Putnam	349.1	1,356.3	151.9	4,994.5	111.4
Randolph	1,525.9	4,295.3	195.8	4,185.3	292.7
Richland	0.6	2.6	5.7	0.0	12.1
Rock Island	343.8	305.3	169.6	21.6	713.6
St. Clair	436.2	425.9	248.7	172.2	618.0
Saline	12.5	4.5	90.3	2.6	6.8
Sangamon	1,149.4	1,435.9	245.0	1,056.6	173.2
Schuyler	5.1	6.1	9.6	0.0	6.1
Scott	33.1	27.1	30.9	6.4	3.2
Shelby	20.5	73.1	51.2	1.8	59.3
Stark			15.7		4.5
Stephenson	43.6	79.4	76.2	5.9	116.7
Tazewell	772.9	4,186.2	1,179.8	14,637.3	708.5
Union	77.0	63.3	40.7	732.5	6.2
Vermilion	516.7	817.0	193.1	14.0	2,000.0
Wabash	2.9	2.8	29.0	2.4	8.0
Warren	29.6	23.5	61.9	183.3	13.4
Washington	1,461.3	3,650.5	529.8	7,884.4	103.5
Wayne	204.6	521.5	11.5	4.4	35.9
White	22.5	105.7	14.7	3.0	81.5
Whiteside	1,405.5	360.3	159.0	187.6	166.3
Will	9,657.3	8,092.7	3,164.3	21,923.6	2,572.7
Williamson	1,104.8	1,244.0	155.8	4,250.9	189.3
Winnebago	305.1	325.2	269.1	265.9	686.6
Woodford	5.0	10.8	43.1	0.1	59.8

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
2015	66,072	99,753	23,959	182,200	42,345
2016	59,945	79,439	22,820	125,421	42,885

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
2014	65,865	99,230	21,962	182,337	40,767
2015	57,690	80,350	19,535	136,744	40,027

Illinois EPA's Website Information

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

- http://www.epa.state.il.us/air/air-quality-menu.html

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:

- https://www.epa.gov/outdoor-air-quality-data

To access status and trends of key air pollutants:

- https://www.epa.gov/air-trends

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

- https://www.epa.gov/air-trends/air-quality-design-values

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

- http://www.epa.gov/green-book

Other

- Ambient Monitoring Technology Information Center: https://www.epa.gov/amtic
- Toxic Release Inventory Search: http://iaspub.epa.gov/triexplorer/tri_release.chemical
- Toxic Release Inventory Data and Tools: https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools