

# State of Kansas

---

## 2010 – 2011 Ambient Air Monitoring Network Plan



Department of Health and Environment  
Division of Environment  
Bureau of Air  
(785) 296-6024

## **Proposed Revisions to the Kansas Ambient Air Monitoring Network: 2010 - 2011 Annual Monitoring Plan**

The Kansas Department of Health and Environment will submit an annual ambient air quality monitoring plan to the United States Environmental Protection Agency. This notice is provided for the purpose of informing the public of this activity, and to provide an opportunity for interested parties to offer additional relevant information and comments to the Kansas Department of Health and Environment. Written comments must be received by the Bureau of Air no later than the close of business on July 9, 2010, to assure consideration prior to submission of this plan. Comments from the interested public should be addressed to:

Kansas Department of Health and Environment  
Bureau of Air  
1000 SW Jackson, Suite 310  
Topeka, KS 66612-1366  
Attention: Mike Martin

### **Air Monitoring**

The Bureau of Air's, Air Monitoring and Planning Section administers the air monitoring and modeling program and the emissions inventory program. In cooperation with two local agencies, section staff operates the Kansas Ambient Air Monitoring Network, which provides air quality data from 22 sites across the state. The monitoring data is analyzed to determine compliance with [federal standards for criteria pollutants](#) and to evaluate air quality trends. Staff members also conduct an annual emissions inventory of pollutants emitted from permitted facilities and other sources for the entire state. Staff who conduct air quality modeling use the emission inventory data. Modeling helps to better understand the causes of air pollution and to develop pollution reduction strategies in targeted areas. Such pollution reduction strategies are incorporated into state and regional plans to protect the public health, welfare and environment from the negative effects of air pollution.

### **New National Monitoring Network Design**

The Environmental Protection Agency (EPA) has developed a new National Ambient Air Monitoring Strategy (NAAMS). The goal of the new strategy is "to improve the scientific and technical competency of existing air monitoring networks to be more responsive to the public, and the scientific and health communities, in a flexible way that accommodates future needs in an optimized resource-constrained environment" (National Ambient Air Monitoring Strategy Document). As part of the Strategy, a new network design has been proposed called the [National Core Network \(NCORE\)](#). This network will accommodate the overall strategic goals as well as determine air quality trends, report to the public, assess emission reduction strategy effectiveness, provide data for health assessments and help determine attainment / non-attainment status. NCORE introduces a new multi-pollutant monitoring component, and addresses the following major objectives:

- **Provide timely reporting of data to public** through the [AIRNow](#) Web site ([www.airnow.gov](http://www.airnow.gov)), air quality forecasting and other public reporting mechanisms;
- **Support the development of emission strategies** through air quality model evaluation and other observational methods;

- **Provide accountability of emission strategy progress** through tracking long-term trends of criteria and non-criteria pollutants and their precursors;
- **Support long-term health assessments** that contribute to ongoing review of [National Ambient Air Quality Standards \(NAAQS\)](#);
- **Evaluate compliance with NAAQS** through designation of attainment / non-attainment areas; and
- **Support scientific studies** ranging across technological, health, and atmospheric process disciplines.

The Kansas Department of Health and Environment (KDHE) ambient air quality monitoring program has already accomplished much of the network reconfiguration needed to meet NCore objectives. Since 1999, as a result of implementing a major network reconfiguration associated with promulgation of the National Ambient Air Quality Standard (NAAQS) for PM<sub>2.5</sub>, the State of Kansas has:

- 1) completed a primary disinvestment in PM<sub>10</sub> sampling;
- 2) established five multi-pollutant sites, including one rural background, two rural transport and two urban trends sites;
- 3) expanded the ozone monitoring network in the Kansas City metropolitan area to optimize spatial distribution of monitors, adequately monitor background and transport and provide better coverage for AirNow mapping; and
- 4) added two IMPROVE-protocol (regional haze) sites in cooperation with EPA Region VII and the [Central Regional Air Planning Association \(CENRAP\)](#).

Certain NCore requirements necessitate modification of the Kansas Ambient Air Monitoring Network. In 2009, KDHE prepared a Monitoring Plan for NCore, which included two monitoring locations, one urban and one rural. The two monitoring locations, one urban and one rural, were proposed and accepted by EPA on October 30, 2009.

### ***NCore Sites***

20-209-0021; Kansas City:

This site, which currently serves as an urban core multi-pollutant monitoring station, is under further development as an NCore station. This site is planned to be fully operational by January 1, 2011 as an NCore Station. The site is located close to Nebraska Ave and North 10<sup>th</sup> Street, Kansas City, Kansas (N 39.1175; W -94.63555).

Figure 1. Kansas City, KS JFK NCore Site Map

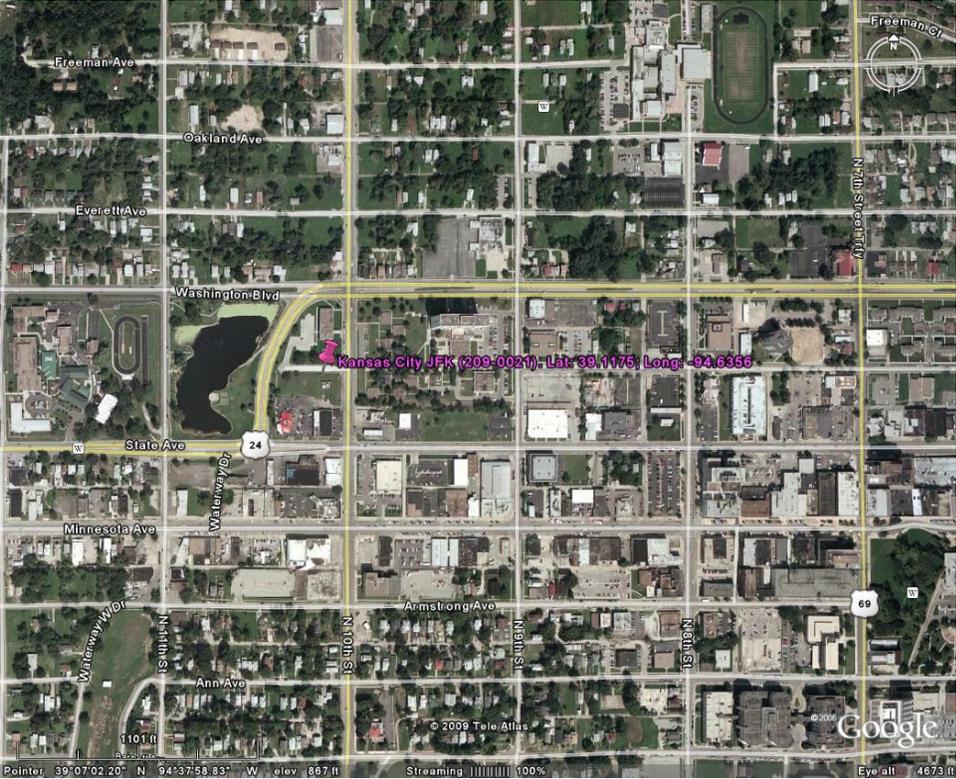


Figure 2. Kansas City, KS JFK NCore Site



20-017-0001; Tallgrass Prairie National Preserve:

This site, which currently includes an Interagency Monitoring of Protected Visual Environments (IMPROVE) protocol sampler, was accepted by EPA as a rural NCore station. Relocation of this site to another part of the Tallgrass Prairie National Preserve is likely, contingent upon pending negotiations with the National Park Service. This site's operational start date will be contingent on additional funding made available to KDHE by EPA. The site is located at N 38.433611; W -96.55944, northwest of Strong City, Kansas on Highway 177.

## **Lead (Pb) Monitoring Requirements**

### **Source-oriented Pb Monitoring**

According to 40 CFR Part 58, Appendix D, paragraph 4.5(a), state and, where appropriate, local agencies are required to conduct ambient air monitoring for lead (Pb) considering Pb sources that are expected to or have been shown to contribute to a maximum Pb concentration in ambient air in excess of the NAAQS. At a minimum, there must be one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each Pb source that emits one (1.0) or more tons per year. A search of reported emissions for 2007 revealed that only one source in Kansas exceeds the one ton threshold. This source is located at Salina.

According to 40 CFR Part 58, Appendix D, paragraph 4.5(a), source-oriented monitors are to be sited at the location of predicted maximum concentration in ambient air taking into account the potential for population exposure, and logistics. Typically, dispersion modeling will be required to identify the location of predicted maximum concentration.

Dispersion modeling was performed by KDHE to determine the area of maximum concentration for sampler placement. KDHE has recently prepared a Monitoring Plan for Airborne Lead.

The Pb site near the Exide Technologies facility at Salina, KS has been designated with AQS site ID 020-169-0004. A high volume (HiVol), total suspended particulate (TSP) sampler is running at the site on a 1/6 day schedule and began sampling on February 2, 2010. The monitoring site is located at the following legal description:

SOUTH INDUSTRIAL AREA, S1, T15, R3, BLOCK 2, ACRES 13.4, LTS 21-30 EXC E 32 LT 30

Figure 3. Salina, KS Pb Source Monitoring Site



## List of Proposed Changes to the Kansas Ambient Air Monitoring Network

### Proposed NCore Sites

20-209-0021; Kansas City:

This site, which currently serves as an urban core multi-pollutant monitoring station, is under development as an NCore station. The site is located close to Nebraska Ave and North 10<sup>th</sup> Street, Kansas City, Kansas (N 39.1175; W -94.63555).

20-017-0001; Tallgrass Prairie National Preserve:

This site, which currently includes an Interagency Monitoring of Protected Visual Environments (IMPROVE) protocol sampler, was accepted by EPA as a rural NCore station. Relocation of this site to another part of the Tallgrass Prairie National Preserve is likely, contingent upon pending discussions with the National Park Service. This site's operational start date will be contingent on additional funding made available to KDHE by EPA. The site is located at N 38.433611; W -96.55944, northwest of Strong City, Kansas on highway 177.

### **Lead (Pb) Site**

20-169-0004; Salina:

Source-oriented monitoring for lead (Pb) will be required at this site. Modeling was performed to determine an area of maximum concentration of Pb emissions to meet siting criteria. Sampling began at this site on February 2, 2010.

Population based monitoring for lead for Kansas City, KS will be placed at an existing ambient air monitoring station located at the JFK Community Center (AQS site ID: 020-209-0021) and due to become an NCore site in 2011.

### **Other Proposed Network Modifications**

20-125-0006; Coffeyville:

Termination of the sulfur dioxide (SO<sub>2</sub>) monitor at this site is recommended. This monitor has never measured an exceedance of the NAAQS for SO<sub>2</sub>. Also, termination of the Hydrogen Sulfide (H<sub>2</sub>S) and Ammonia (NH<sub>3</sub>) monitors are recommended. The H<sub>2</sub>S and NH<sub>3</sub> monitors have seen occasional spikes in monitored values over the years of their operation but have been relatively stable over the last several years. In addition, extremely limited resources at the present time and the additional monitoring requirements required for the new lead, nitrogen oxide, and ozone standards, has forced the Department to re-examine our resources and make changes to our existing monitoring network.

Monitor type: Special Purpose Monitor (SPM)

20-107-0002; Mine Creek:

Termination of the sulfur dioxide (SO<sub>2</sub>) monitor at this site is under consideration. This monitor has never measured an exceedance of the NAAQS for SO<sub>2</sub>. As part of the Kansas five-year network assessment, movement of this entire site to Chanute is under consideration.

Monitor type: Special Purpose Monitor (SPM)

20-133-0002; Chanute:

Termination of the Total Suspended Particulate Matter sampler (TSP) is under consideration. This pollutant is not a criteria pollutant, and this is the last TSP sampler in the network. The data provided does not enhance the data provided by the PM<sub>10</sub> HiVol sampler at this location. Replacement of the PM<sub>10</sub> HiVol sampler with a continuous monitor is being considered. As part of the Kansas five year network assessment, moving the Mine Creek sampling site to this location is also under consideration.

20-173-0008; Wichita:

As part of the Kansas five year network assessment, termination of the PM<sub>2.5</sub> sampler at this site, which is located at the corner of George Washington Ave. and Skinner (37.659722; -97.297222), is likely. Levels of PM<sub>2.5</sub> are consistent across the Wichita area because fine particulate matter is a regional-scale pollutant. Termination of this monitor would not adversely affect the distribution of PM<sub>2.5</sub> samplers in the Wichita area. This sampler has never measured an exceedance of the NAAQS for PM<sub>2.5</sub>.

As part of the Kansas five year network assessment, termination of the PM<sub>10</sub> sampler at this site is also likely.

Monitor type: State or Local Air Monitoring Station (SLAMS)

20-173-0009; Wichita:

As part of the Kansas five year network assessment, termination of the PM<sub>2.5</sub> sampler at this site, which is located at the corner of Glenn and Pawnee (37.651111; -97.362222), is likely. Levels of PM<sub>2.5</sub> are consistent across the Wichita area because fine particulate matter is a regional-scale pollutant. Termination of this monitor would not adversely affect the distribution of PM<sub>2.5</sub> samplers in the Wichita area. This sampler has never measured an exceedance of the NAAQS for PM<sub>2.5</sub>.

As part of the Kansas five year network assessment, termination of the PM<sub>10</sub> sampler at this site is also likely.

Monitor type: State or Local Air Monitoring Station (SLAMS)

20-173-1012; Wichita:

Termination of the collocated PM<sub>10</sub> HiVol sampler at this site, which is located at Kansas 96 highway and Hydraulic (37.747222; -97.316389), is likely. The HiVol runs on a one in six day schedule, while the continuous monitor provides the same data on a daily (and hourly) basis. There is no scientific or technical reason for continuation of this duplication of effort.

Monitor type: Special Purpose Monitor (SPM)

20-173-1014; Wichita:

Termination of the CO monitor at this site is recommended since measured pollutant levels are well below the National Ambient Air Quality Standard for CO.

Monitor type: State or Local Air Monitoring Station (SLAMS)

20-177-0013; Topeka:

A continuous PM<sub>10</sub> monitor has been installed at this site. Termination of the PM<sub>10</sub> HiVol sampler at this site, which is located at Southwest 25<sup>th</sup> Street and Randolph Ave (39.02427; -95.71128), is probable, since there is no need for duplication of monitoring effort.

Monitor type: Special Purpose Monitor (SPM)

20-181-0001; Goodland:

As part of the Kansas five year network assessment, termination of the PM<sub>10</sub> monitor at this site is under consideration. This monitor has never measured an exceedance of the NAAQS for PM<sub>10</sub>.

Monitor type: Special Purpose Monitor (SPM)

20-057-0002; Dodge City:

As part of the Kansas five year network assessment, termination of the PM<sub>10</sub> monitor at this site is under consideration. This monitor has never measured an exceedance of the NAAQS for PM<sub>10</sub>.

Monitor type: Special Purpose Monitor (SPM)

20-091-0007; Kansas City:

As part of the Kansas five year network assessment, termination of the PM<sub>2.5</sub> sampler at this site, which is located at the Justice Center (38.974444; -94.686944), is likely. Levels of PM<sub>2.5</sub> are consistent across the Kansas City area because fine particulate matter is a regional-scale pollutant. Termination of this monitor would not adversely affect the distribution of PM<sub>2.5</sub> samplers in the Kansas City area. This sampler has never measured an exceedance of the NAAQS for PM<sub>2.5</sub>.

Monitor type: State or Local Air Monitoring Station (SLAMS)

20-209-0022; Kansas City:

As part of the Kansas five year network assessment, termination of the PM<sub>2.5</sub> sampler at this site, which is located at Midland Trail (39.045833; -94.694444), is likely. Levels of PM<sub>2.5</sub> are consistent across the Kansas City area because fine particulate matter is a regional-scale pollutant. Termination of this monitor would not adversely affect the distribution of PM<sub>2.5</sub> samplers in the Kansas City area. This sampler has never measured an exceedance of the NAAQS for PM<sub>2.5</sub>.

Monitor type: State or Local Air Monitoring Station (SLAMS)

20-209-0015; Kansas City:

As part of the Kansas five year network assessment, termination of the PM<sub>10</sub> sampler at this site is likely. This sampler has never measured an exceedance of the NAAQS for PM<sub>10</sub>.

Monitor type: State or Local Air Monitoring Station (SLAMS)