

**Iowa Ambient Air Monitoring  
Annual Report  
2010**



**Air Quality Bureau  
Iowa Department of Natural Resources**

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## Iowa Ambient Air Monitoring Annual Network Report: 2010

Iowa Department of Natural Resources - Air Quality Bureau – Ambient Air Monitoring Group

### Introduction

The purpose of this review is to compare the maximum values of ambient air monitoring data gathered in the state of Iowa during 2010 to the level of the National Ambient Air Quality Standards (NAAQS) established by the Environmental Protection Agency (EPA). The EPA has established NAAQS for seven “criteria” pollutants: particulate matter with a diameter less than 10 microns (PM<sub>10</sub>), particulate matter with a diameter less than 2.5 microns (PM<sub>2.5</sub>), sulfur dioxide, ozone, nitrogen dioxide, carbon monoxide, and lead. Continuous monitoring methods have been approved by EPA for all criteria pollutants except lead. Filter samplers and laboratory filter weighing procedures have been approved by EPA for PM<sub>2.5</sub> and PM<sub>10</sub>. All data summarized in this review was obtained using methods that are currently approved by EPA for NAAQS comparisons. The monitor used for comparison with the carbon monoxide NAAQS at the Davenport multi-pollutant site was approved by EPA for NAAQS comparisons in October 2010, all other monitors in the network had EPA approval for NAAQS comparisons throughout 2010.

This report is divided into two parts. The first part is an executive summary, indicating where exceedances of the NAAQS were measured in Iowa during 2010. A more comprehensive review, which includes the location and summary data for each monitor in the network, is included in the second part.

Gaseous pollutant monitors (ozone, nitrogen dioxide, sulfur dioxide, and carbon monoxide) provide hourly values and operate 24 hours a day, seven days a week. Most ozone monitors are operated only when ozone levels are highest, from April through October. The ozone monitor located at the multi pollutant site in Davenport operates year-round to establish ozone trends in cooler temperatures. Particulate filter samplers run for 24 hours at a time and collect one filter per day. Most PM<sub>10</sub> and PM<sub>2.5</sub> filter based monitors are operated at a sampling frequency of one sample every third day. Some particulate monitoring sites are run at frequencies greater than this nominal frequency if they are located in highly populated areas, near pollution sources, or if pollutant levels are close to health standards. EPA finalized a monitoring rule for nitrogen dioxide setting a new 1 hour standard (100.5 ppb) in addition to the older annual standard. This rule became effective January 22, 2010. EPA finalized a monitoring rule for sulfur dioxide setting a new 1 hour standard (75.5 ppb) while retaining the 3 hour standard. This rule, effective August 23, 2010, revoked the 24 hour and annual standards.

Incomplete data may skew the summary statistics for a monitor. In order to alert the reader to data completeness problems data completeness statistics have been provided for each monitor. If a monitor collected all of the scheduled samples, then it has an associated data completeness of 100%. If the data capture from a monitor is insufficient to compute a valid annual average according to EPA completeness criteria, then the bar representing the comparison of the annual average to the NAAQS for that specific monitor is shaded to be lighter than the rest of the bars on the corresponding chart.

In 2010, there were 87 NAAQS exceedances in the state of Iowa. 65 of the exceedances were associated with the 24 hour PM<sub>2.5</sub> standard, 14 were exceedances of the 1 hour sulfur dioxide standard, 6 were exceedances of the lead standard, and 2 were associated with the 8 hour ozone standard. All of these exceedances are detailed in this report. The sulfur dioxide exceedances discussed in this report refer to those recorded after the rule became effective.

Data used to create this report were gathered by three organizations under contract with the Iowa Department of Natural Resources: the State of Iowa Hygienic Laboratory, the Linn County Public Health Department, and the Polk County Public Works Air Quality Division. Contract funds were provided by US EPA, the state of Iowa legislature, and regulated industry. Air pollution data for Iowa and all other states are available online at:

<http://www.epa.gov/airexplorer/>. Additional information on the NAAQS is available at:

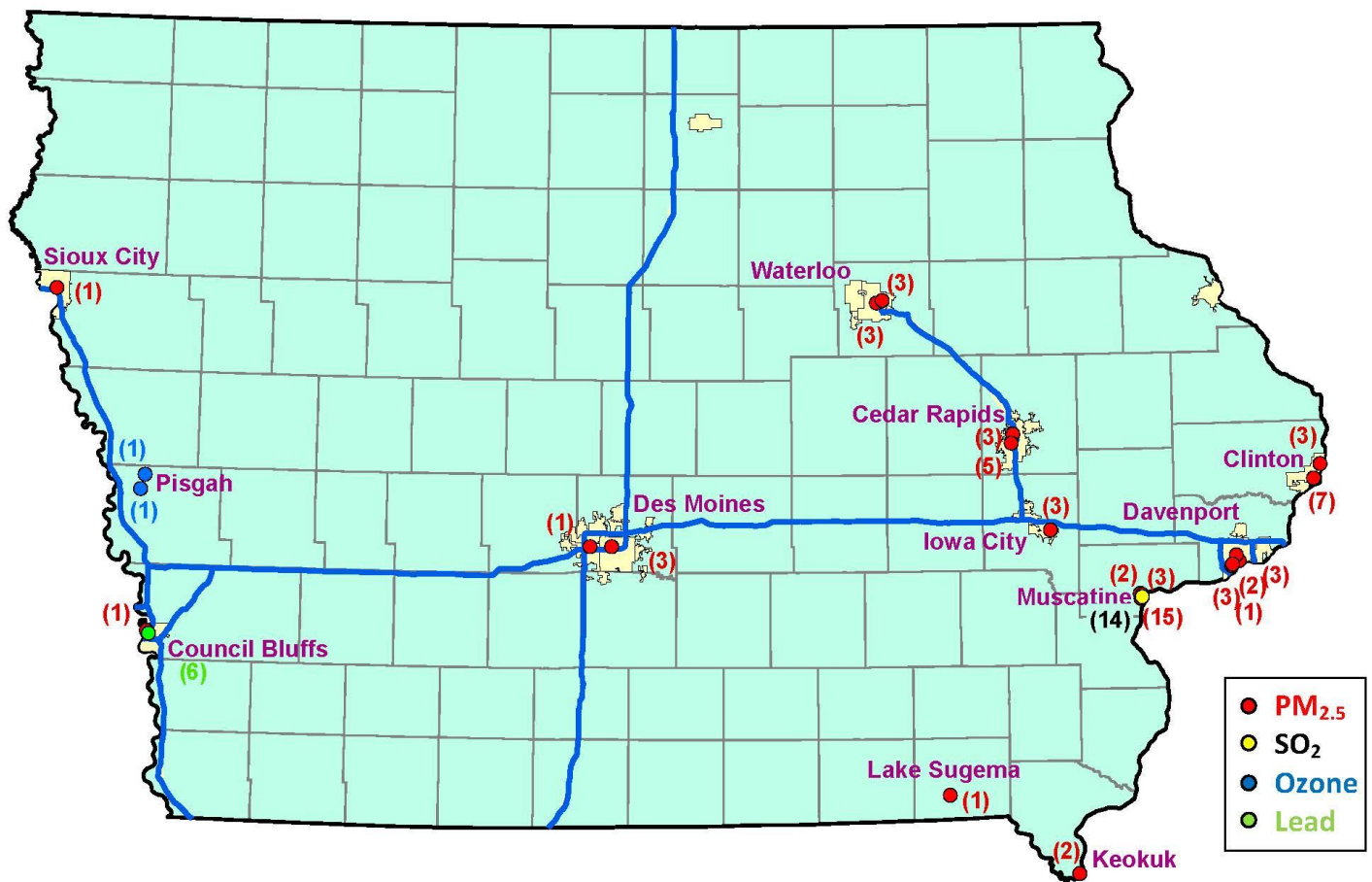
<http://www.epa.gov/air/criteria.html>.

### Exceedances of National Ambient Air Quality Standards (NAAQS) in 2010

Pollutant	Averaging Period	Exceedance Level	Units	Number of Exceedances
Ozone	8hr	76	ppb	2
PM <sub>2.5</sub>	24hr	35.5	micrograms per cubic meter	65
PM <sub>10</sub>	24hr	155	micrograms per cubic meter	0
Sulfur dioxide	1hr	75.5	ppb	14
	3hr	0.55	ppm	0
Carbon monoxide	1hr	35.5	ppm	0
	8hr	9.5	ppm	0
Nitrogen dioxide	annual	0.0535	ppm	0
	1hr	100.5	ppb	0
Lead	Rolling 3-month average	0.155	micrograms per cubic meter	6

### NAAQS Exceedance Counts at Iowa Monitoring Sites During 2010

(Values for individual sites indicated in parentheses)



**PM<sub>2.5</sub> NAAQS Exceedances Measured**

Sampling Frequency	1 in 3	1 in 3	1 in 3	daily	1 in 3	1 in 3	1 in 3	1 in 3	daily	daily	1 in 3	daily	1 in 3	1 in 3	daily	1 in 3	daily	1 in 3	daily	daily	Count
Monitoring Site	Sioux City, Bryant Elementary 191930019	Council Bluffs, Franklin School 191550009	Clive, Indian Hills School 191532510	Des Moines, Carpenter 191530030	Waterloo, Grout Museum 190130008	Waterloo, Water Tower 190130009	Lake Sugema 191770006	Cedar Rapids, Army Reserve 191130037	Cedar Rapids, Public Health 191130040	Iowa City, Hoover School 191032001	Keokuk, Fire Station 191110008	Muscatine, Garfield School 191390015	Muscatine, Greenwood Cemetery 191390016	Muscatine, Franklin School 191390018	Davenport, Blackhawk Foundry 191630019	Davenport, Adams School 191630018	Davenport, Jefferson School 191630015	Davenport, Hayes School 191630020	Clinton, Chancy Park 190450019	Clinton, Rainbow Park 190450021	
Exceedance Date	Concentration (micrograms per cubic meter)																				Count
1/5/2010	46.2	48.8																			
1/13/2010															40.0						1
1/20/2010												62.9									1
1/22/2010												37.5									1
1/31/2010									36.3												1
2/1/2010								35.8	36.7			36.3								35.5	4
2/2/2010																	35.5		38.7	36.6	3
2/3/2010												36.0			36.5		37		38.0	36.7	5
2/4/2010					38.8	37.5	38.3	36.5	40.2	39.4	41.2	41.3	37.2	38.3	41.9	40.5	40.5	40.7	42.8	42.2	16
2/5/2010				41.5																	1
2/12/2010				36.3																37.0	2
2/13/2010			40.3	41.6							40.7										3
2/19/2010					36.7	35.8						37.9	36.0	36.3		35.9					6
3/3/2010					37.7	37.8		36.2	39.2	38.6		35.9		35.6							7
3/4/2010									38.8	35.9		49.7									3
3/5/2010												36.7									1
3/8/2010												35.7								37.8	2

Monitoring Site	1 in 3	1 in 3	1 in 3	daily	1 in 3	1 in 3	1 in 3	1 in 3	daily	daily	1 in 3	daily	1 in 3	1 in 3	daily	1 in 3	daily	1 in 3	daily	daily	Count	
Sioux City, Bryant Elementary 191930019																						
Council Bluffs, Franklin School 191550009																						
Clive, Indian Hills School 191532510																						
Des Moines, Carpenter 191530030																						
Waterloo, Grout Museum 190130008																						
Waterloo, Water Tower 190130009																						
Lake Sugema 191770006																						
Cedar Rapids, Army Reserve 191130037																						
Cedar Rapids, Public Health 191130040																						
Iowa City, Hoover School 191032001																						
Keokuk, Fire Station 191110008																						
Muscatine, Garfield School 191390015												52.3										
Muscatine, Greenwood Cemetery 191390016																						
Muscatine, Franklin School 191390018																						
Davenport, Blackhawk Foundry 191630019																						
Davenport, Adams School 191630018																						
Davenport, Jefferson School 191630015																						
Davenport, Hayes School 191630020																						
Clinton, Chancy Park 190450019																						
Clinton, Rainbow Park 190450021																						
3/9/2010																						2
4/23/2010													63.4									1
5/20/2010													53.7									1
12/15/2010													40.7									1
12/20/2010													56.1									1
2010	1	1	1	3	3	3	1	3	5	3	2	15	2	3	3	2	3	1	7	3		65

**Ozone NAAQS Exceedances Measured**

Monitoring Site	Pisgah, Highway Maintenance Shed 190851101	Pisgah, Forestry Office 190850007	Exceedance Total
Exceedance Date	Concentration (ppb)		
5/29/2010	77	76	2

**SO<sub>2</sub> NAAQS Exceedances Measured**

Monitoring Site	Muscatine, Musser Park 191390016
Exceedance Date	Concentration (ppb)
8/27/2010	96.4
8/28/2010	76.3
8/29/2010	129.7
8/31/2010	122.9
9/5/2010	127.6
9/6/2010	135.0
9/20/2010	120.8
9/23/2010	102.8
10/23/2010	91.0
10/26/2010	134.0
11/21/2010	133.6
12/27/2010	76.2
12/30/2010	168.2
12/31/2010	108.8
Exceedance Total	14

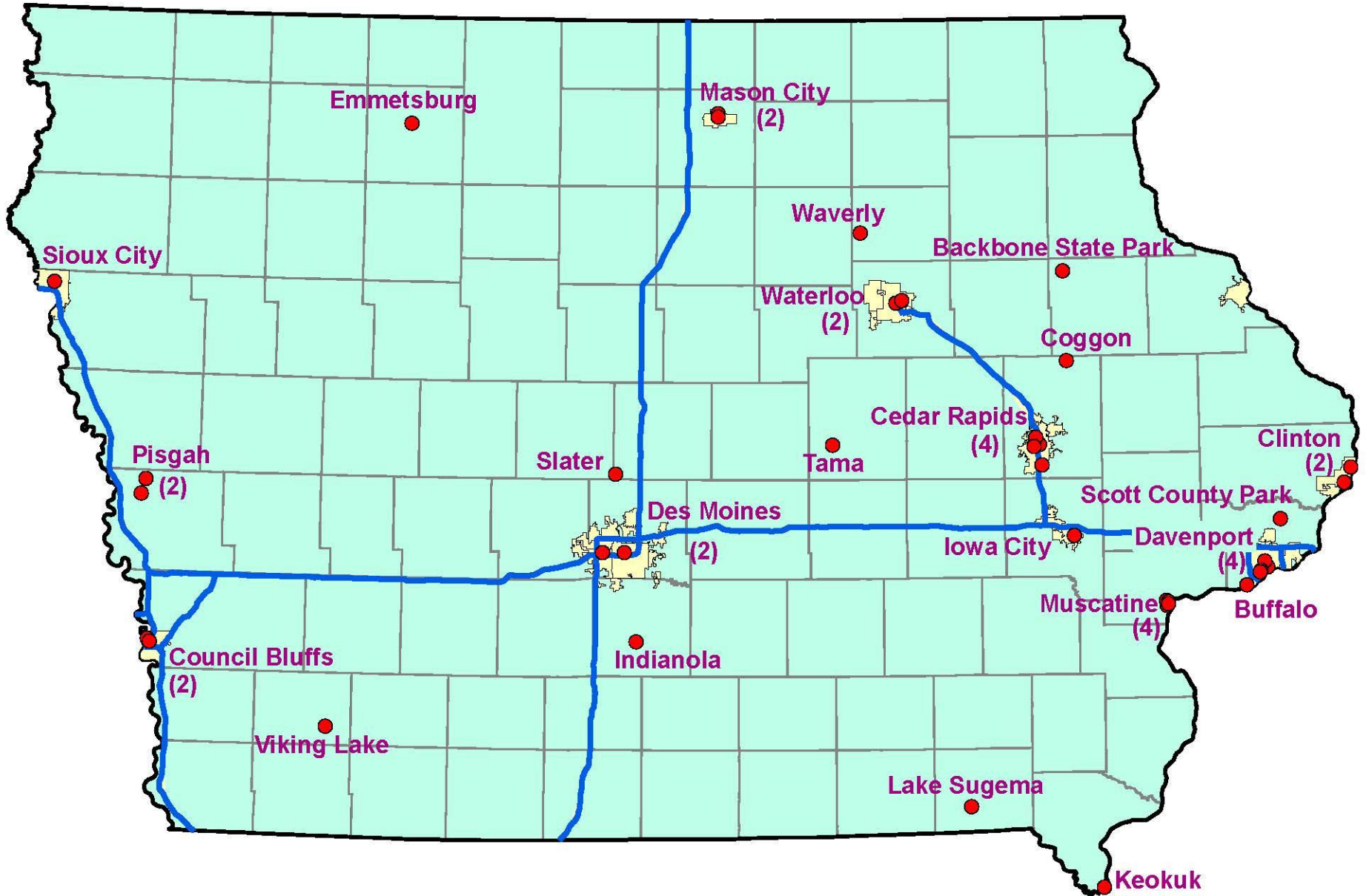


**Ambient Monitoring Network  
Site Locations**

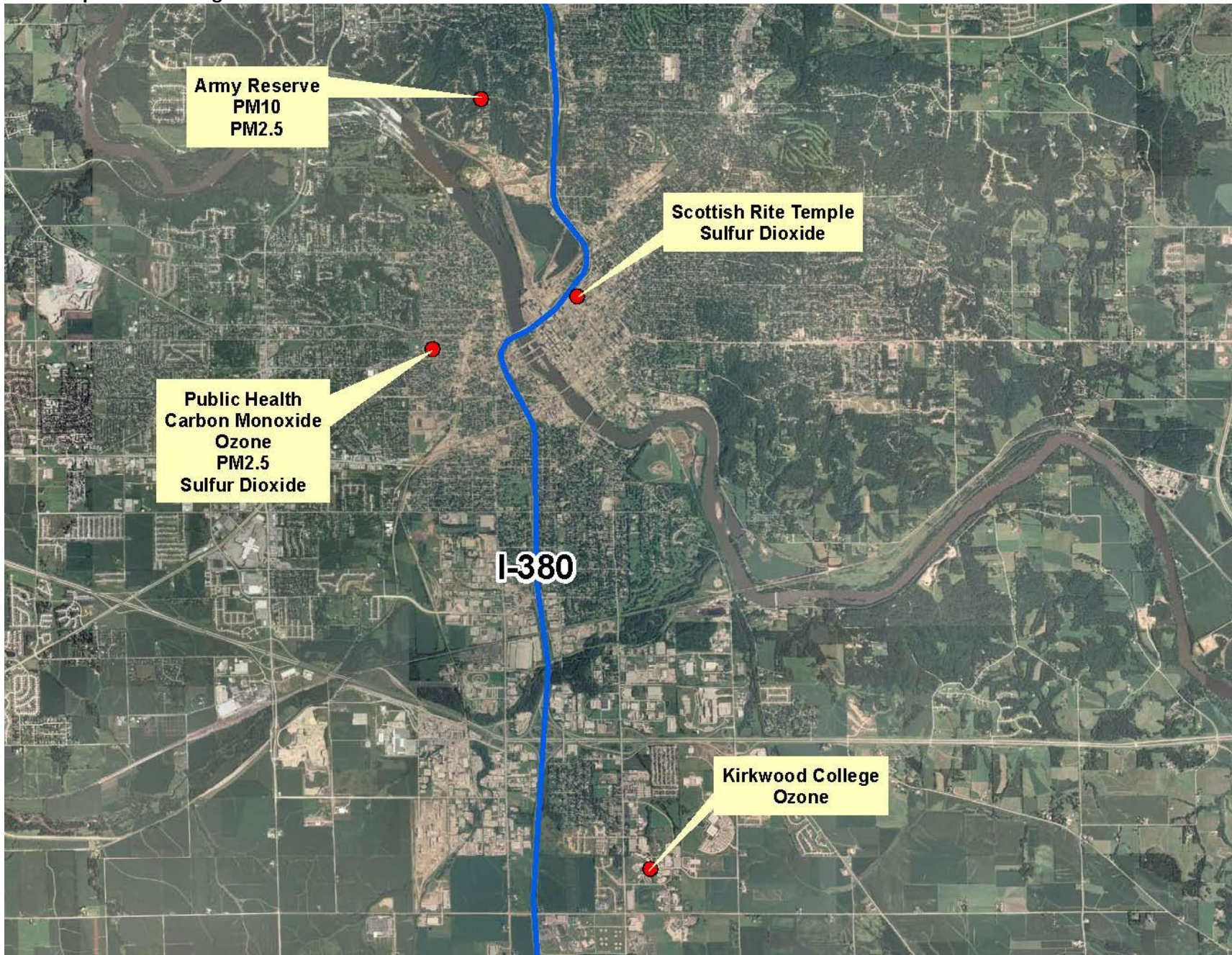
Site ID	Name	City	Address	County	Site Label	Pollutants
190130008	Grout Museum	Waterloo	West Park St. & South St.	Black Hawk	Waterloo, Grout Museum	PM10, PM2.5
190130009	Water Tower	Waterloo	Vine St. & Steely	Black Hawk	Waterloo, Water Tower	PM2.5
190170011	Waverly Airport	Waverly	Waverly Airport	Bremer	Waverly, Airport	Ozone
190330018	Holnam Cement	Mason City	17th St. & Washington St.	Cerro Gordo	Mason City, Holnam Cement	PM10
190330020	Washington School	Mason City	700 N. Washington Avenue	Cerro Gordo	Mason City, Washington Sch.	PM10
190450019	Chancy Park	Clinton	23rd & Camanche	Clinton	Clinton, Chancy Park	PM2.5, SO2
190450021	Rainbow Park	Clinton	Roosevelt St.	Clinton	Clinton, Rainbow Park	Ozone, PM2.5
190550001	Backbone State Park	not in a city	Fish Hatchery Backbone State Park	Delaware	Backbone State Park	PM10
190850007	Forestry Office	Pisgah	206 Polk St.	Harrison	Pisgah, Forestry Office	Ozone
190851101	Highway Maintenance Shed	Pisgah	1575 Hwy 183	Harrison	Pisgah, Highway Maintenance	Ozone
191032001	Hoover Elementary	Iowa City	2200 East Court	Johnson	Iowa City, Hoover Sch.	PM10, PM2.5
191110008	Fire Station	Keokuk	111S. 13th St.	Lee	Keokuk, Fire Station	PM2.5
191130028	Kirkwood College	Cedar Rapids	6301 Kirkwood Blvd SW (Iowa Hall)	Linn	Cedar Rapids, Kirkwood Coll.	Ozone
191130031	Scottish Rite Temple	Cedar Rapids	616 A Ave.	Linn	Cedar Rapids, Scottish Rite Temple	SO2
191130033	Coggon Elementary School	Coggon	408 E Linn St.	Linn	Coggon, Coggon Sch.	Ozone
191130037	Army Reserve Center	Cedar Rapids	1599 Wenig Rd. NE	Linn	Cedar Rapids, Army Reserve	PM10, PM2.5
191130040	Public Health	Cedar Rapids	500 11th St. NW	Linn	Cedar Rapids, Public Health	CO, SO2, Ozone, PM2.5
191370002	Viking Lake State Park	not in a city	2780 Viking Lake Road	Montgomery	Viking Lake State Park	Ozone, PM10, PM2.5
191390015	Garfield School	Muscatine	1409 Wisconsin	Muscatine	Muscatine, Garfield Sch.	PM10, PM2.5
191390016	Greenwood Cemetary	Muscatine	Fletcher St. & Kimble St.	Muscatine	Muscatine, Greenwood Cemetery	PM2.5
191390018	Franklin School	Muscatine	210 Taylor St.	Muscatine	Muscatine, Franklin Sch.	PM2.5
191390020	Musser Park	Muscatine	Oregon St. & Earl Ave.	Muscatine	Muscatine, Musser Park	SO2
191471002	Iowa Lakes College	Emmetsburg	Iowa Lakes Community College - S Camp	Palo Alto	Emmetsburg, Iowa Lakes Coll.	Ozone, PM10, PM2.5

Site ID	Name	City	Address	County	Site Label	Pollutants
191530030	Health Department	Des Moines	1907 Carpenter	Polk	Des Moines, Health Dept.	CO, SO2, NO2, Ozone, PM10, PM2.5
191532510	Indian Hills Jr. High School	Clive	9401 Indian Hills	Polk	Clive, Indian Hills Jr. High Sch.	PM10, PM2.5
191550009	Franklin School	Council Bluffs	3130 C Ave.	Pottawattamie	Council Bluffs, Franklin Sch.	PM10, PM2.5
191550011	Griffin Pipe	Council Bluffs	8th Avenue and 27th St	Pottawattamie	Council Bluffs, Griffin Pipe	Pb
191630014	Scott County Park	Davenport	Scott County Park	Scott	Scott County Park	Ozone
191630015	Jefferson School	Davenport	10th St. & Vine St.	Scott	Davenport, Jefferson Sch.	CO, SO2, NO2, Ozone, PM10, PM2.5
191630017	Linwood Mining	Buffalo	11100 110th Ave.	Scott	Buffalo, LW Mining	PM10
191630018	Adams School	Davenport	3029 N Division St.	Scott	Davenport, Adams Sch.	PM10, PM2.5
191630019	Blackhawk Foundry	Davenport	300 Wellman St.	Scott	Davenport, Blackhawk Foundry	PM10, PM2.5
191630020	Hayes School	Davenport	622 South Concord St	Scott	Davenport, Hayes Elementary	PM2.5
191690011	City Hall	Slater	105 Greene	Story	Slater, City Hall	Ozone
191710007	Meskwaki Tribal Center	Tama	349 Meskwaki Road	Tama	Tama, Meskwaki Tribal Center	PM2.5
191770006	Lake Sugema	not in a city	24430 Lacey Trl, Keosauqua Lake Sugema	Van Buren	Keosauqua, Lake Sugema	SO2, Ozone, PM10, PM2.5
191810022	Lake Ahquabi State Park	Indianola	1650 118th Ave.	Warren	Indianola, Lake Ahquabi	Ozone
191930019	Bryant School	Sioux City	821 30th St.	Woodbury	Sioux City, Bryant Sch.	PM10, PM2.5

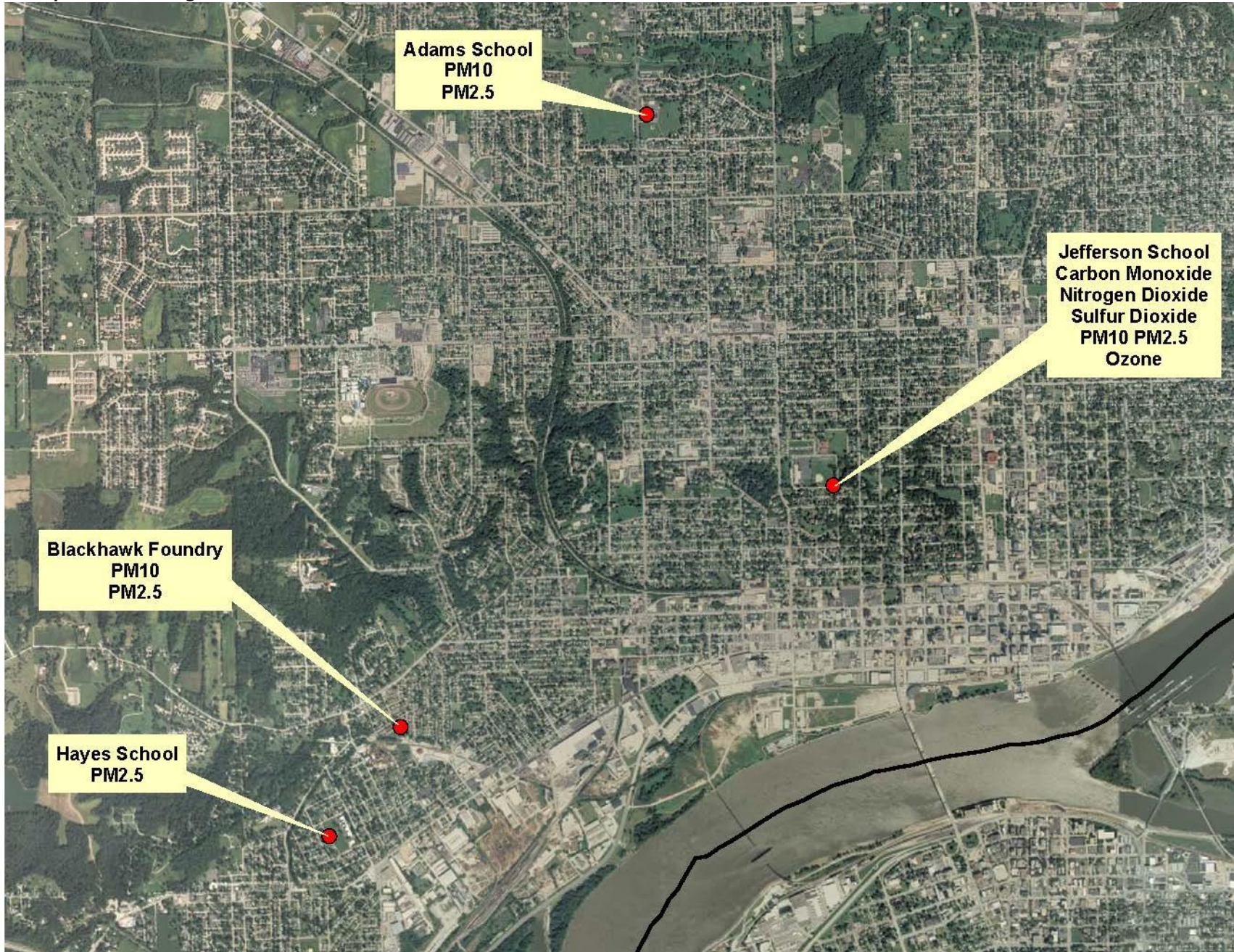
Monitoring Site Locations



**Cedar Rapids Monitoring Sites**



**Davenport Monitoring Sites**



**Des Moines/Clive Monitoring Sites**



**Ambient Monitoring Network Changes****Sites Removed at the End of 2009**

Site	Name	City	County	Site Label	Start Date	End Date	Pollutants
191970004	Jannsen Farm	Clarion	Wright	Clarion, Jannsen Farm	3/28/2002	12/31/2009	PM2.5

**Sites Added During 2010**

Site	Name	City	County	Site Label	Start Date	End Date	Pollutants
191550011	Griffin Pipe	Council Bluffs	Pottawattamie	Council Bluffs, Griffin Pipe	1/1/2010*	-	Pb
191630020	Hayes School	Davenport	Scott	Davenport, Hayes Elementary	1/1/2010	-	PM2.5
191710007	Meskwaki Tribal Center	Tama	Tama	Tama, Meskwaki Tribal Center	4/1/2010	-	PM2.5

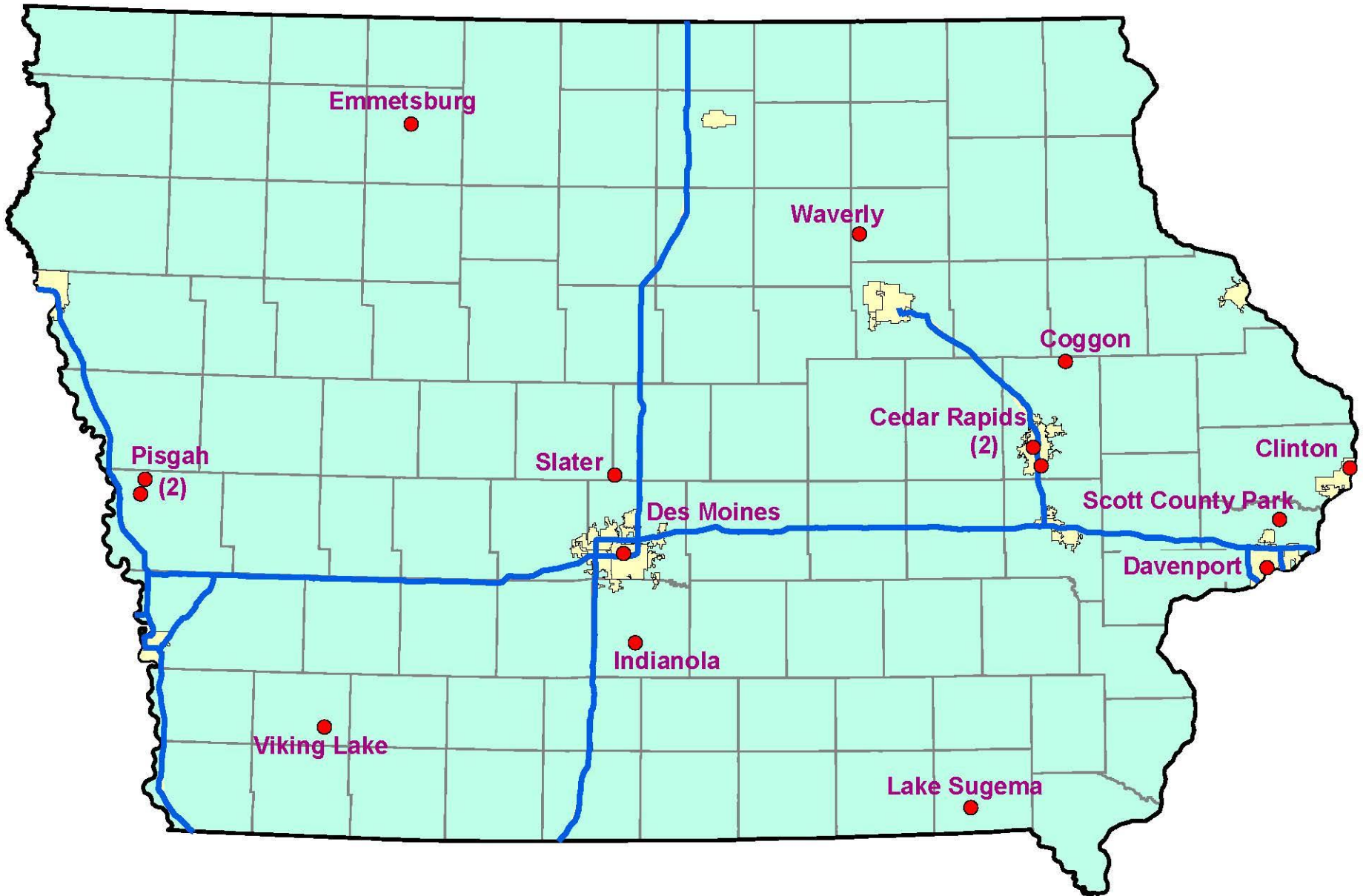
\* The lead monitoring site in Council Bluffs, Iowa was started on November 1, 2009 in order to ensure complete data to calculate the first backward rolling three month average in 2010. This average included data from November 2009, December 2009, and January 2010.

**Ozone Monitoring Sites****Site Locations**

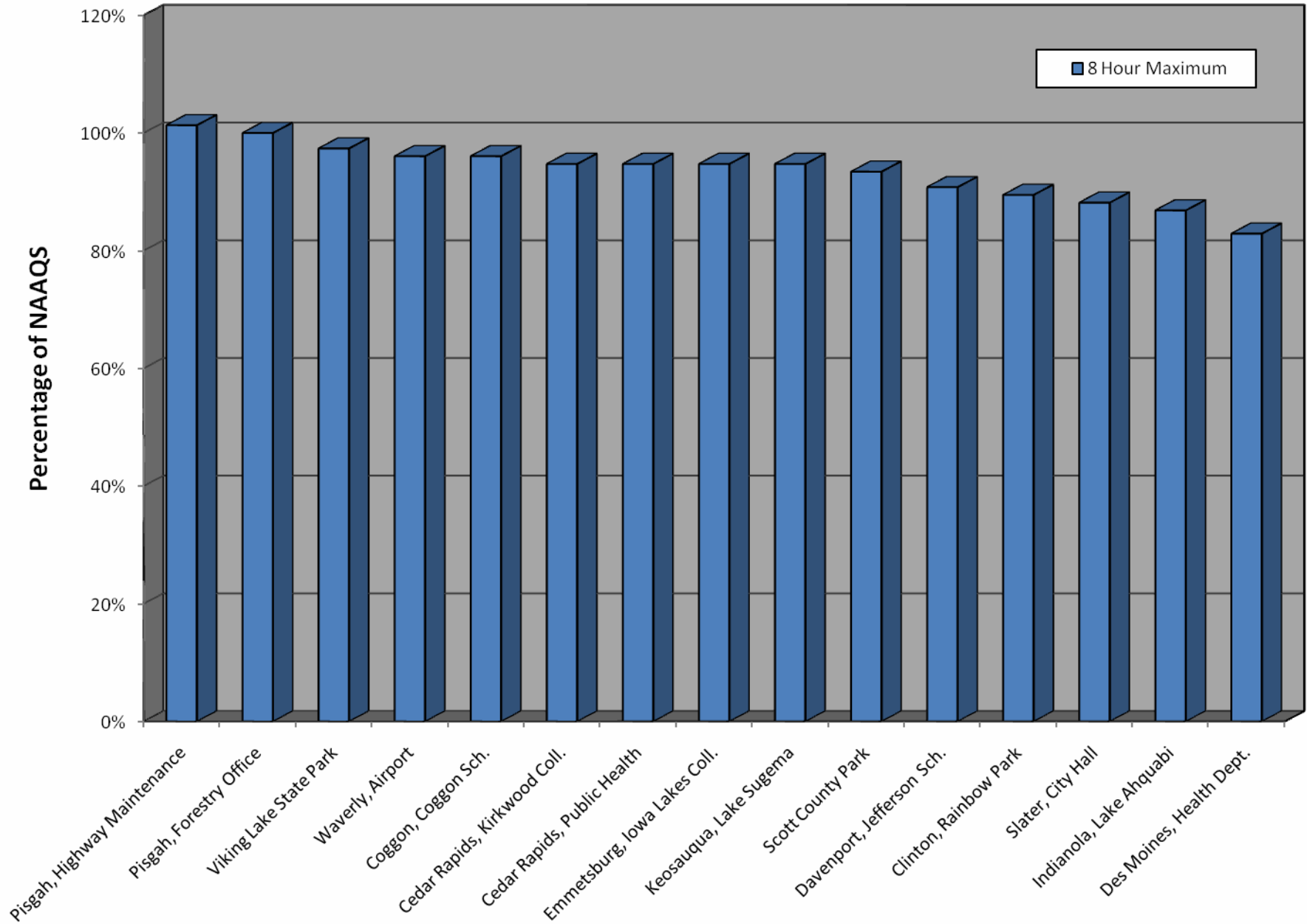
<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
190170011	Waverly Airport	Waverly	Bremer	Waverly, Airport
190450021	Rainbow Park	Clinton	Clinton	Clinton, Rainbow Park
190850007	Forestry Office	Pisgah	Harrison	Pisgah, Forestry Office
190851101	Highway Maintenance Shed	Pisgah	Harrison	Pisgah, Highway Maintenance
191130028	Kirkwood College	Cedar Rapids	Linn	Cedar Rapids, Kirkwood Coll.
191130033	Coggon Elementary School	Coggon	Linn	Coggon, Coggon Sch.
191130040	Public Health	Cedar Rapids	Linn	Cedar Rapids, Public Health
191370002	Viking Lake State Park	not in a city	Montgomery	Viking Lake State Park
191471002	Iowa Lakes College	Emmetsburg	Palo Alto	Emmetsburg, Iowa Lakes Coll.
191530030	Health Department	Des Moines	Polk	Des Moines, Health Dept.
191630014	Scott County Park	Davenport	Scott	Scott County Park
191630015	Jefferson School	Davenport	Scott	Davenport, Jefferson Sch.
191690011	City Hall	Slater	Story	Slater, City Hall
191770006	Lake Sugema	not in a city	Van Buren	Keosauqua, Lake Sugema
191810022	Lake Ahquabi State Park	Indianola	Warren	Indianola, Lake Ahquabi



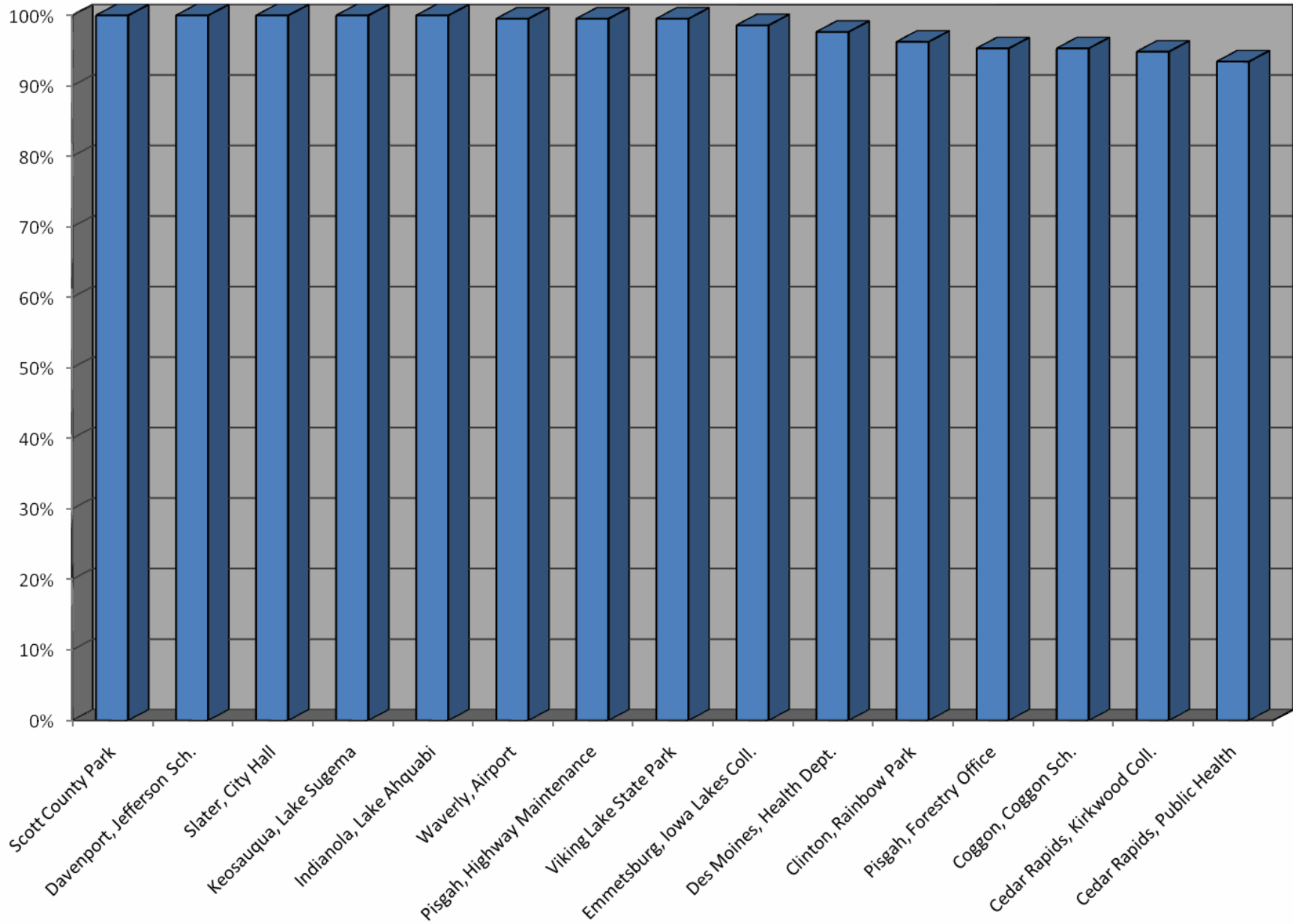
Ozone Monitoring Locations



### Comparison of 2010 Ozone Data with National Ambient Air Quality Standards



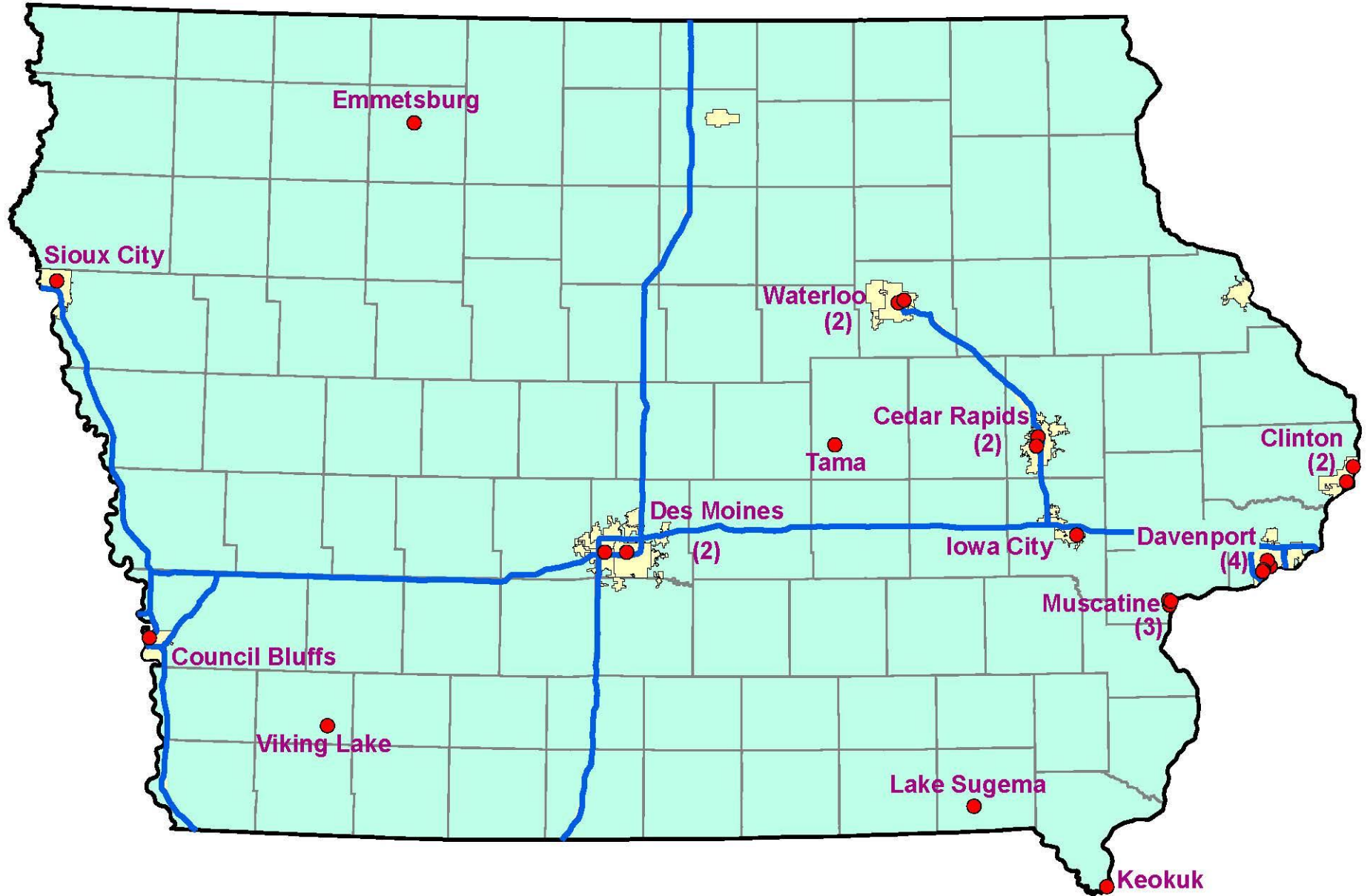
## Data Completeness



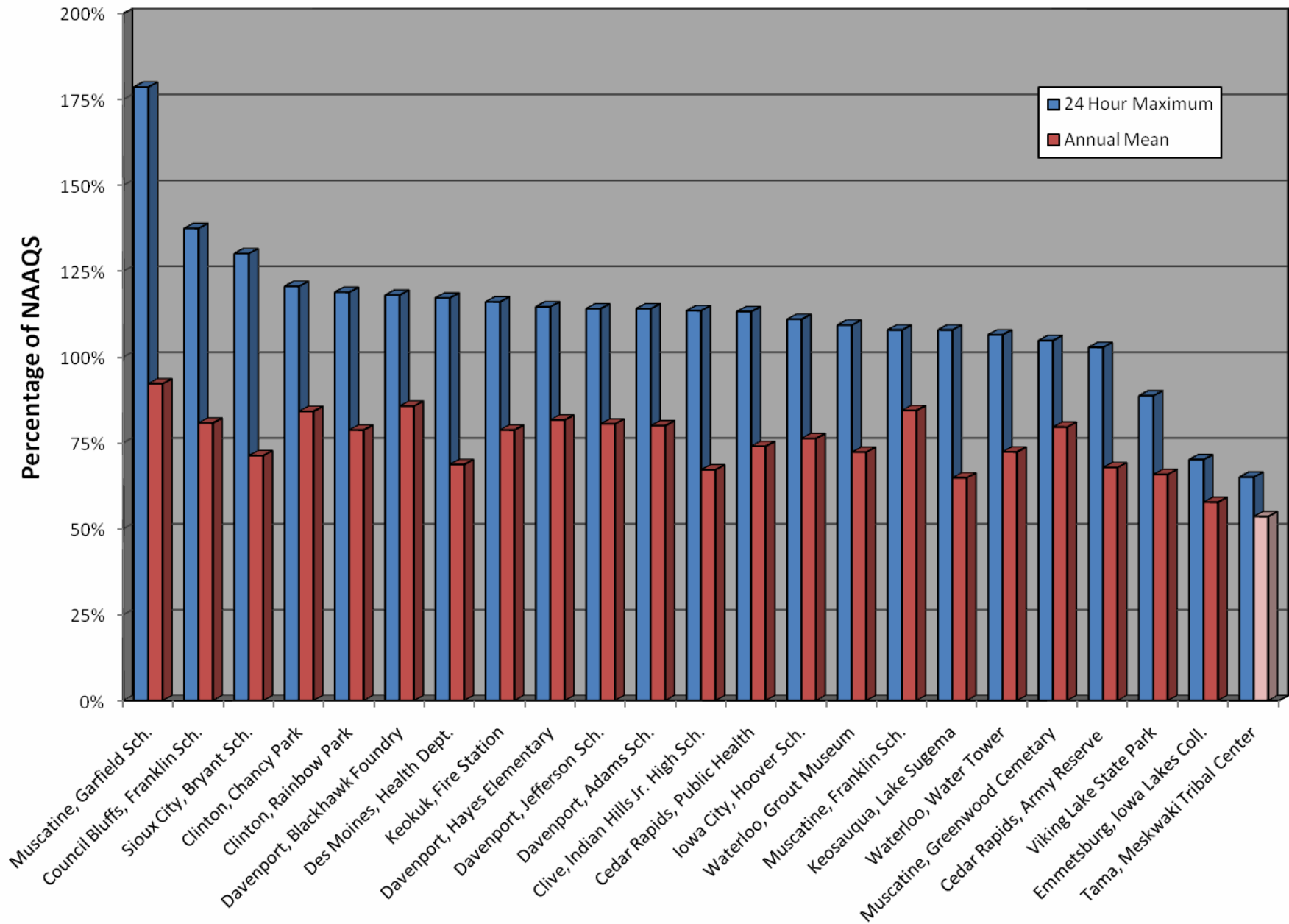
**PM<sub>2.5</sub> Monitoring Sites****Site Locations**

<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
190130008	Grout Museum	Waterloo	Black Hawk	Waterloo, Grout Museum
190130009	Water Tower	Waterloo	Black Hawk	Waterloo, Water Tower
190450019	Chancy Park	Clinton	Clinton	Clinton, Chancy Park
190450021	Rainbow Park	Clinton	Clinton	Clinton, Rainbow Park
191032001	Hoover Elementary	Iowa City	Johnson	Iowa City, Hoover Sch.
191110008	Fire Station	Keokuk	Lee	Keokuk, Fire Station
191130037	Army Reserve Center	Cedar Rapids	Linn	Cedar Rapids, Army Reserve
191130040	Public Health	Cedar Rapids	Linn	Cedar Rapids, Public Health
191370002	Viking Lake State Park	not in a city	Montgomery	Viking Lake State Park
191390015	Garfield School	Muscatine	Muscatine	Muscatine, Garfield Sch.
191390016	Greenwood Cemetery	Muscatine	Muscatine	Muscatine, Greenwood Cemetery
191390018	Franklin School	Muscatine	Muscatine	Muscatine, Franklin Sch.
191471002	Iowa Lakes College	Emmetsburg	Palo Alto	Emmetsburg, Iowa Lakes Coll.
191530030	Health Department	Des Moines	Polk	Des Moines, Health Dept.
191532510	Indian Hills Jr. High School	Clive	Polk	Clive, Indian Hills Jr. High Sch.
191550009	Franklin School	Council Bluffs	Pottawattami e	Council Bluffs, Franklin Sch.
191630015	Jefferson School	Davenport	Scott	Davenport, Jefferson Sch.
191630018	Adams School	Davenport	Scott	Davenport, Adams Sch.
191630019	Blackhawk Foundry	Davenport	Scott	Davenport, Blackhawk Foundry
191630020	Hayes School	Davenport	Scott	Davenport, Hayes Elementary
191710007	Meskwaki Tribal Center	Tama	Tama	Tama, Meskwaki Tribal Center
191770006	Lake Sugema	not in a city	Van Buren	Keosauqua, Lake Sugema
191930019	Bryant School	Sioux City	Woodbury	Sioux City, Bryant Sch.

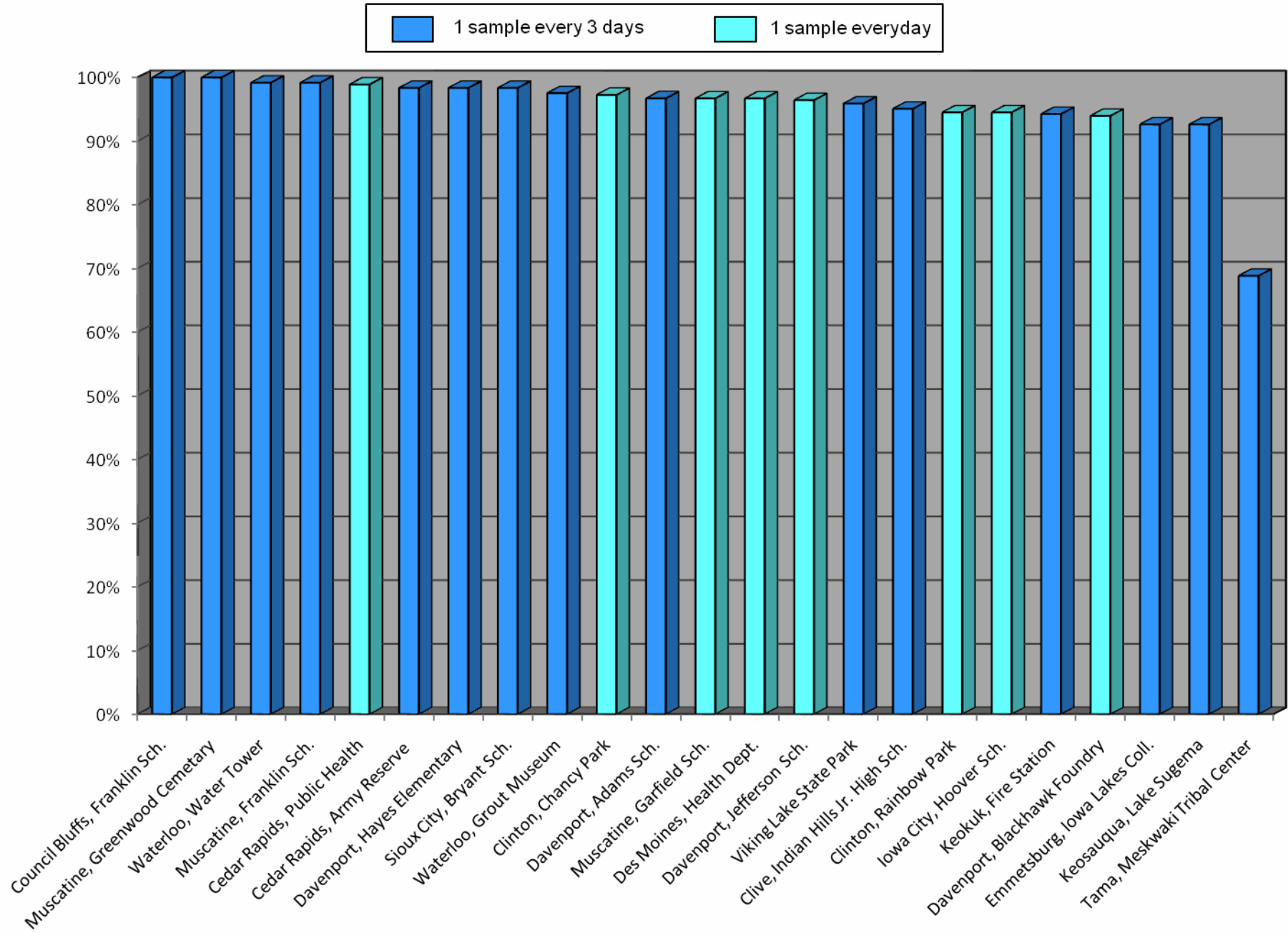
PM<sub>2.5</sub> Monitoring Locations



### Comparison of 2010 PM<sub>2.5</sub> Data with National Ambient Air Quality Standards



## Data Completeness

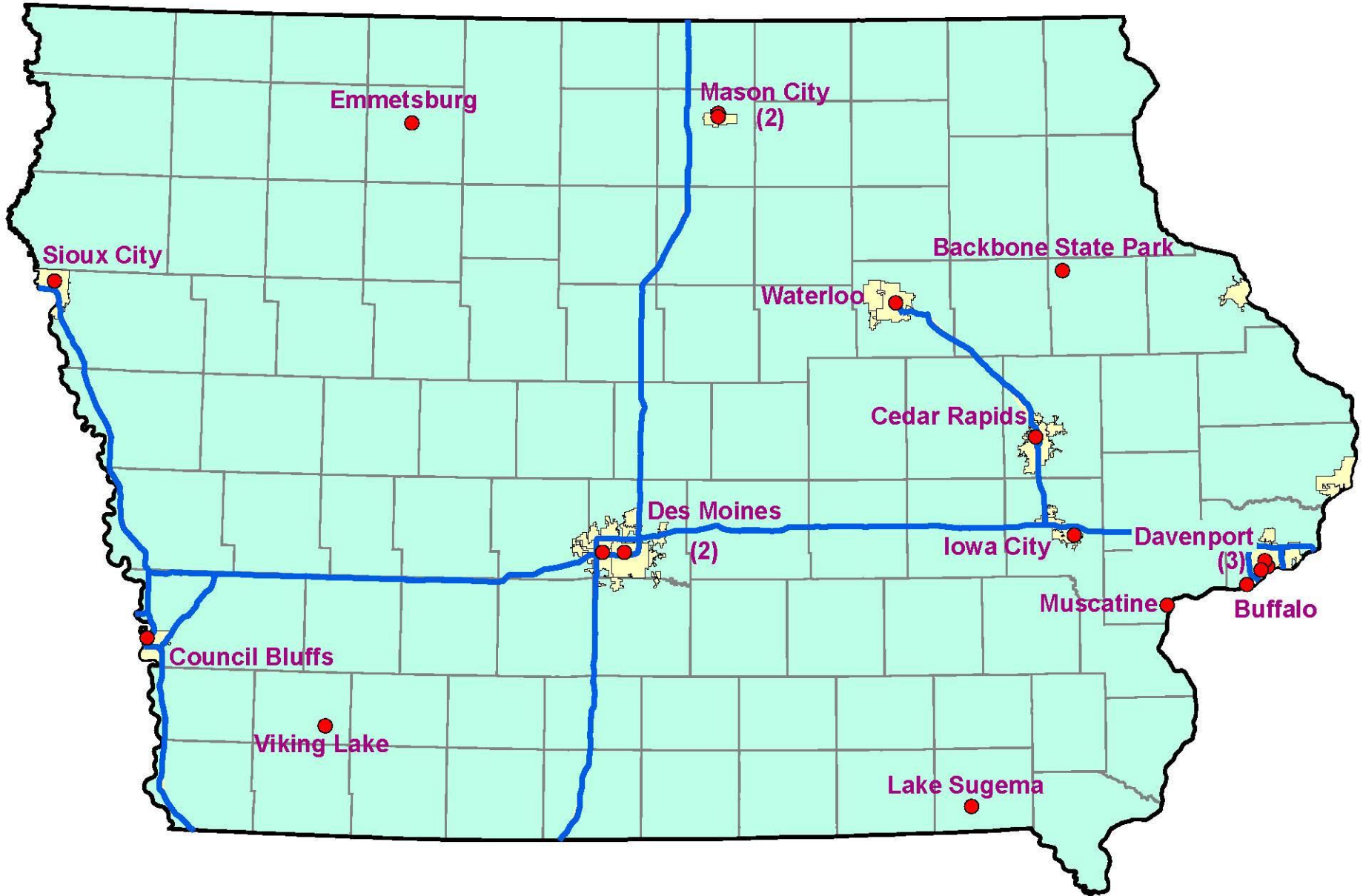


**PM<sub>10</sub> Monitoring Sites****Site Locations**

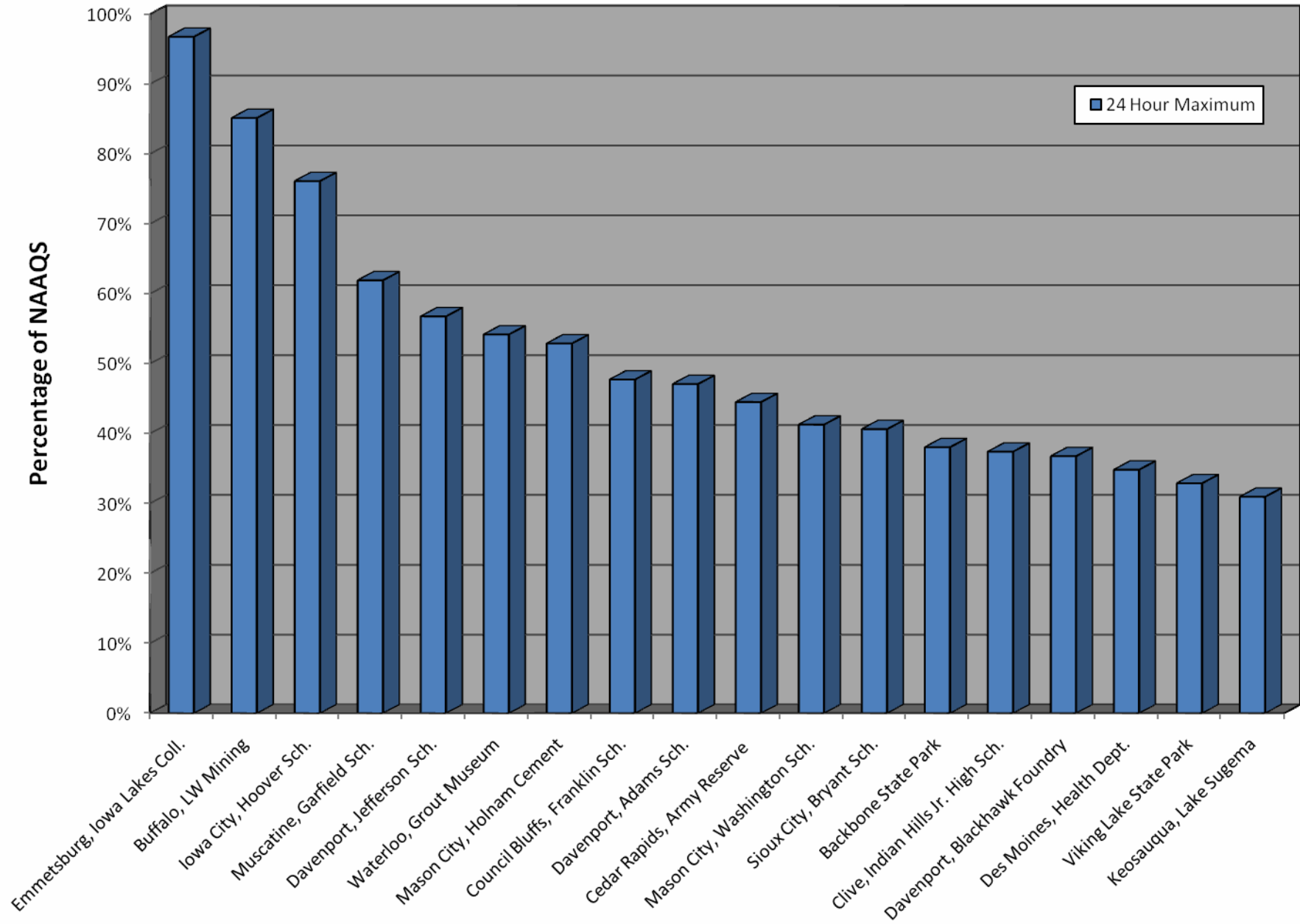
<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
190130008	Grout Museum	Waterloo	Black Hawk	Waterloo, Grout Museum
190330018	Holnam Cement	Mason City	Cerro Gordo	Mason City, Holnam Cement
190330020	Washington School	Mason City	Cerro Gordo	Mason City, Washington Sch.
190550001	Backbone State Park	not in a city	Delaware	Backbone State Park
191032001	Hoover Elementary	Iowa City	Johnson	Iowa City, Hoover Sch.
191130037	Army Reserve Center	Cedar Rapids	Linn	Cedar Rapids, Army Reserve
191370002	Viking Lake State Park	not in a city	Montgomery	Viking Lake State Park
191390015	Garfield School	Muscatine	Muscatine	Muscatine, Garfield Sch.
191471002	Iowa Lakes College	Emmetsburg	Palo Alto	Emmetsburg, Iowa Lakes Coll.
191530030	Health Department	Des Moines	Polk	Des Moines, Health Dept.
191532510	Indian Hills Jr. High School	Clive	Polk	Clive, Indian Hills Jr. High Sch.
191550009	Franklin School	Council Bluffs	Pottawattamie	Council Bluffs, Franklin Sch.
191630015	Jefferson School	Davenport	Scott	Davenport, Jefferson Sch.
191630017	Linwood Mining	Buffalo	Scott	Buffalo, LW Mining
191630018	Adams School	Davenport	Scott	Davenport, Adams Sch.
191630019	Blackhawk Foundry	Davenport	Scott	Davenport, Blackhawk Foundry
191770006	Lake Sugema	not in a city	Van Buren	Keosauqua, Lake Sugema
191930019	Bryant School	Sioux City	Woodbury	Sioux City, Bryant Sch.



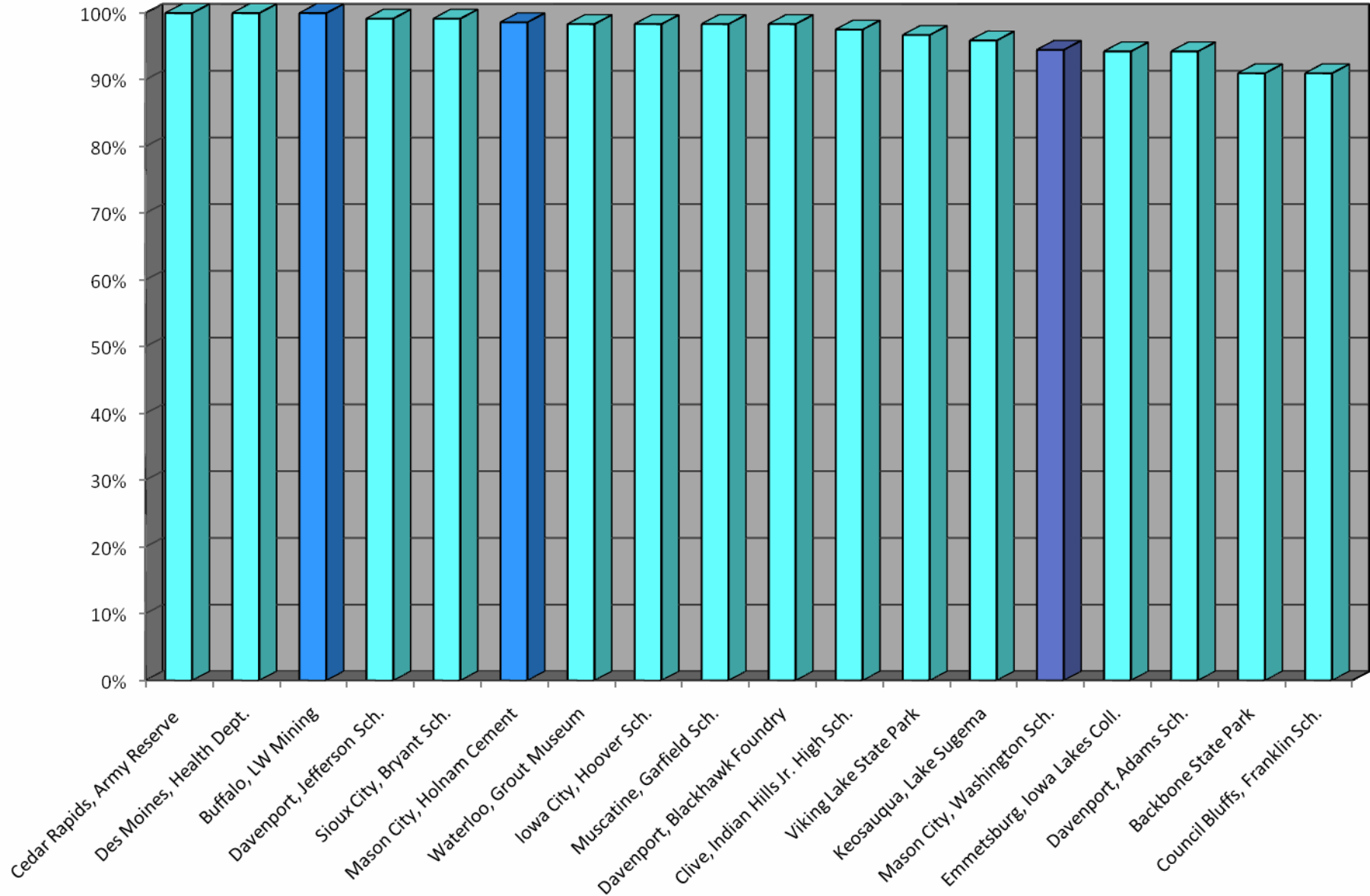
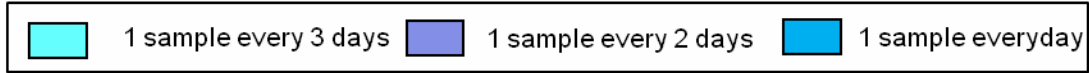
PM<sub>10</sub> Monitoring Locations



### Comparison of 2010 PM<sub>10</sub> Data with the National Ambient Air Quality Standard



Data Completeness

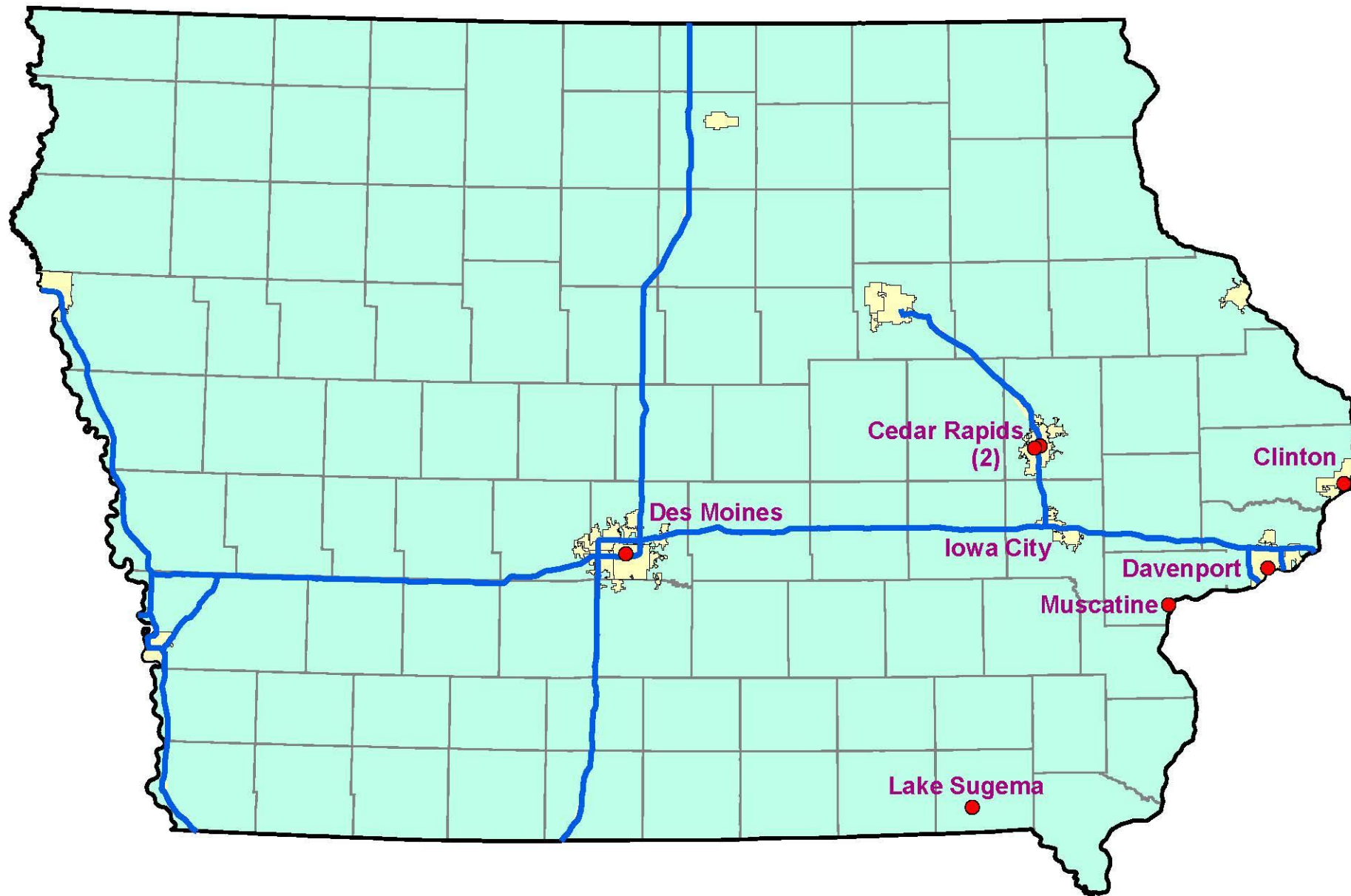


**Sulfur Dioxide Monitoring Sites****Site Locations**

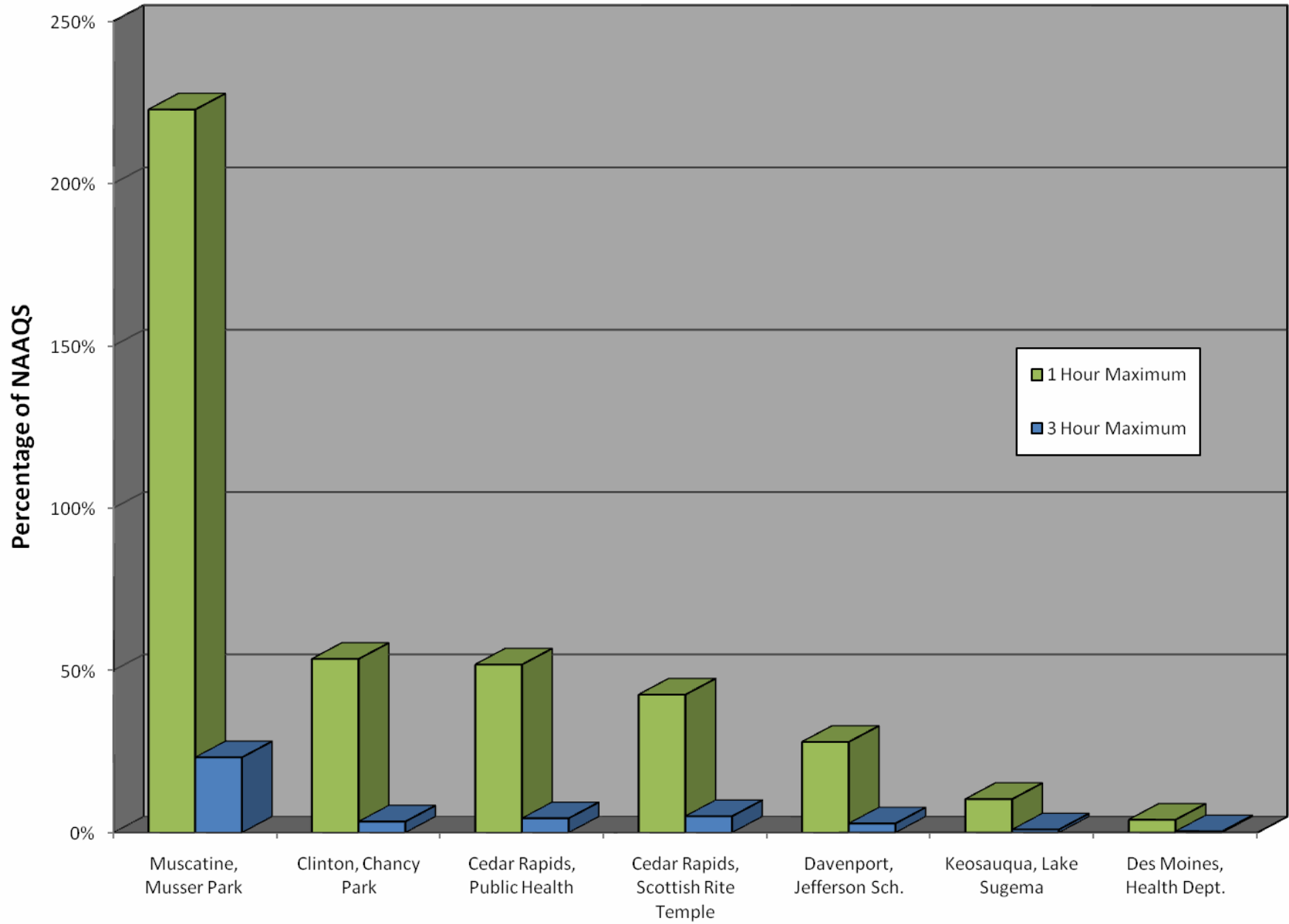
<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
190450019	Chancy Park	Clinton	Clinton	Clinton, Chancy Park
191130031	Scottish Rite Temple	Cedar Rapids	Linn	Cedar Rapids, Scottish Rite Temple
191130040	Public Health	Cedar Rapids	Linn	Cedar Rapids, Public Health
191390020	Musser Park	Muscatine	Muscatine	Muscatine, Musser Park
191530030	Health Department	Des Moines	Polk	Des Moines, Health Dept.
191630015	Jefferson School	Davenport	Scott	Davenport, Jefferson Sch.
191770006	Lake Sugema	not in a city	Van Buren	Keosauqua, Lake Sugema

**Note:** In August of 2010, EPA conducted an audit of the Muscatine Musser Park SO<sub>2</sub> monitoring site. The audit showed that the monitor recorded levels about 16% higher than EPA's SO<sub>2</sub> standard. The failed audit was traced back to the use of bad calibration standards to calibrate the SO<sub>2</sub> monitor. After dialog with EPA, the department decided to invalidate the data gathered at this site over the period when the bad standards were in use; from 9/30/2008 to 8/20/2010.

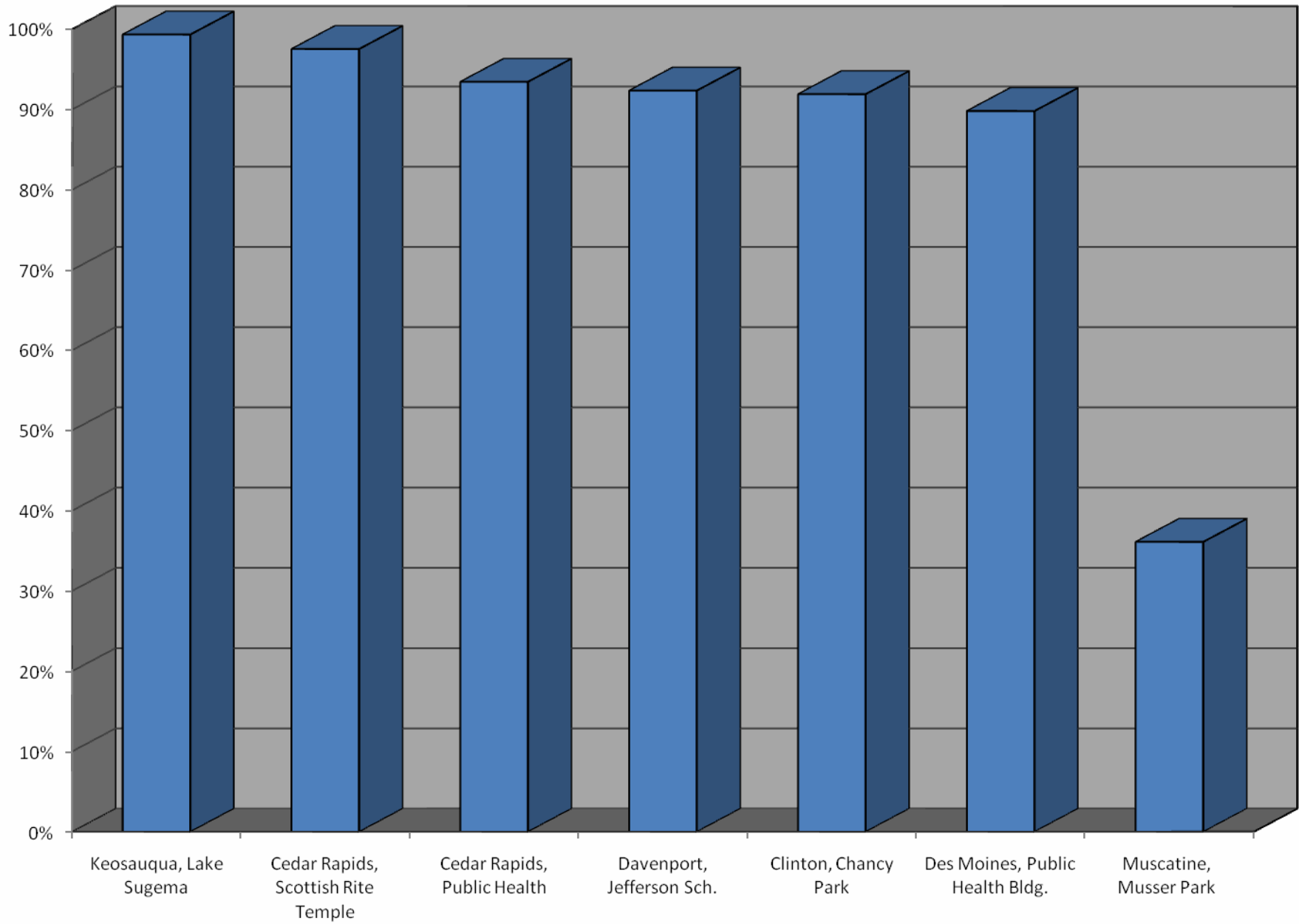
Sulfur Dioxide Monitoring Locations



### Comparison of 2010 Sulfur Dioxide Data with National Ambient Air Quality Standards



## Data Completeness

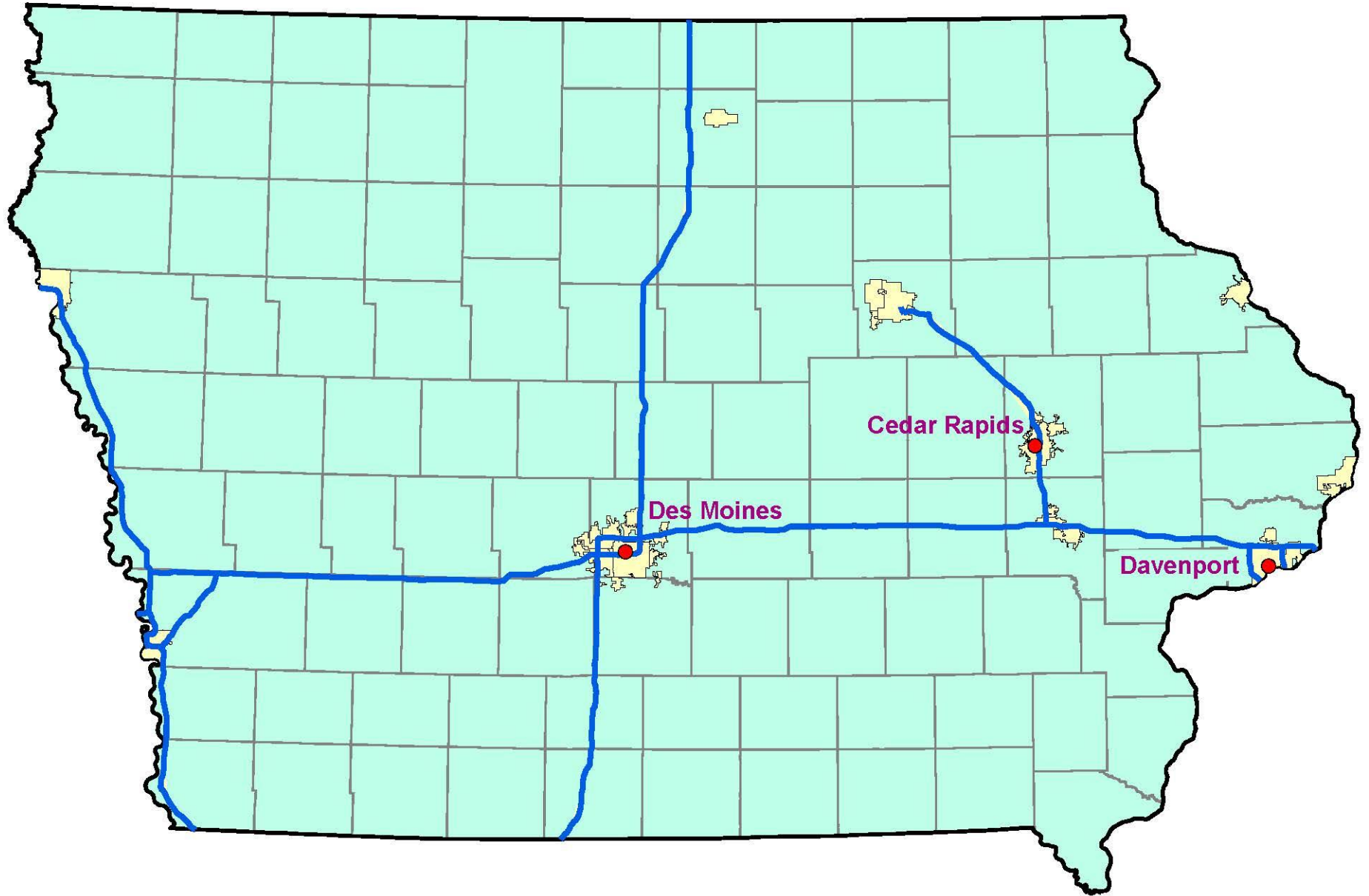


**Carbon Monoxide Monitoring Sites  
Site Locations**

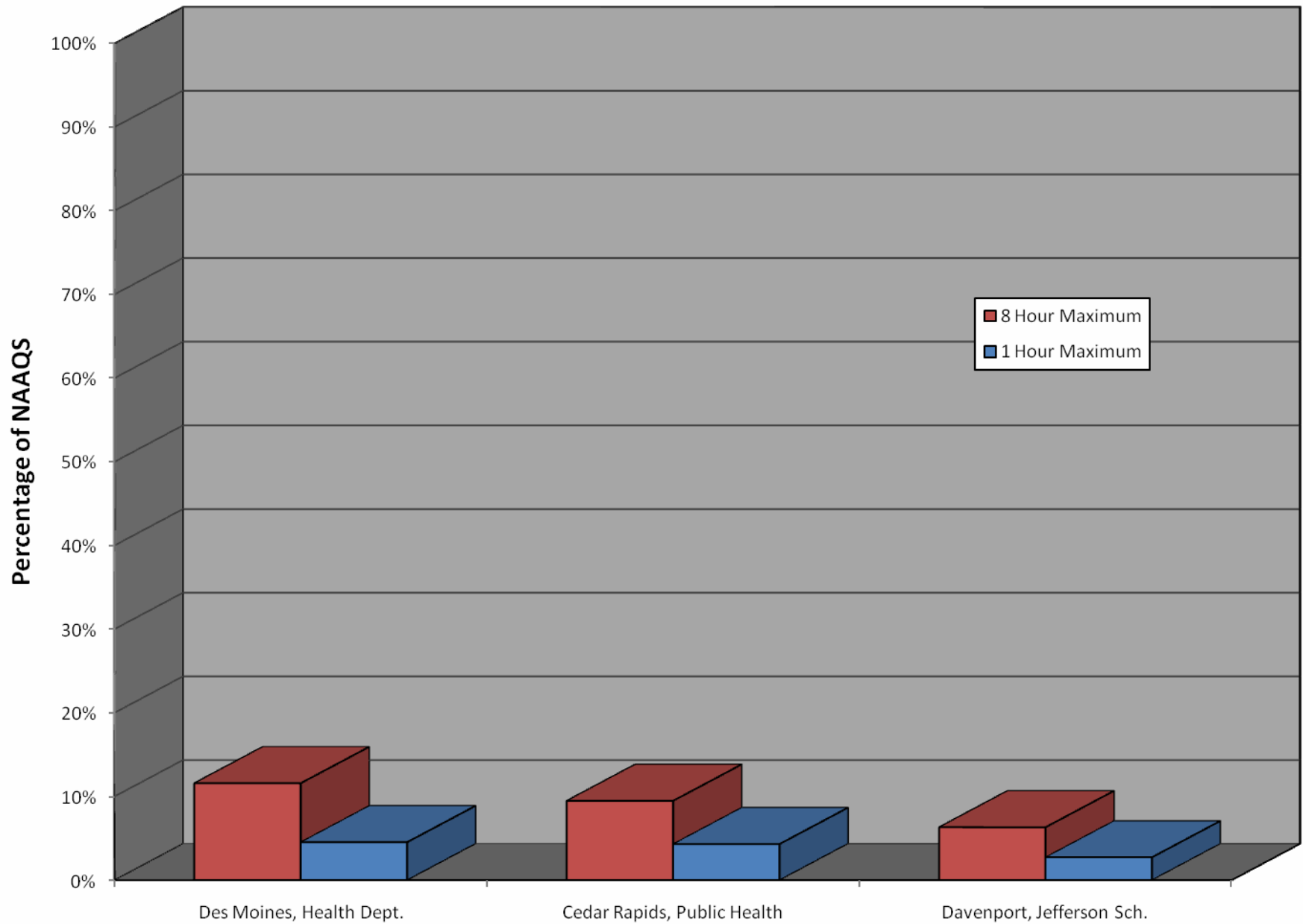
<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
191130040	Public Health	Cedar Rapids	Linn	Cedar Rapids, Public Health
191530030	Health Department	Des Moines	Polk	Des Moines, Health Dept.
191630015	Jefferson School	Davenport	Scott	Davenport, Jefferson Sch.



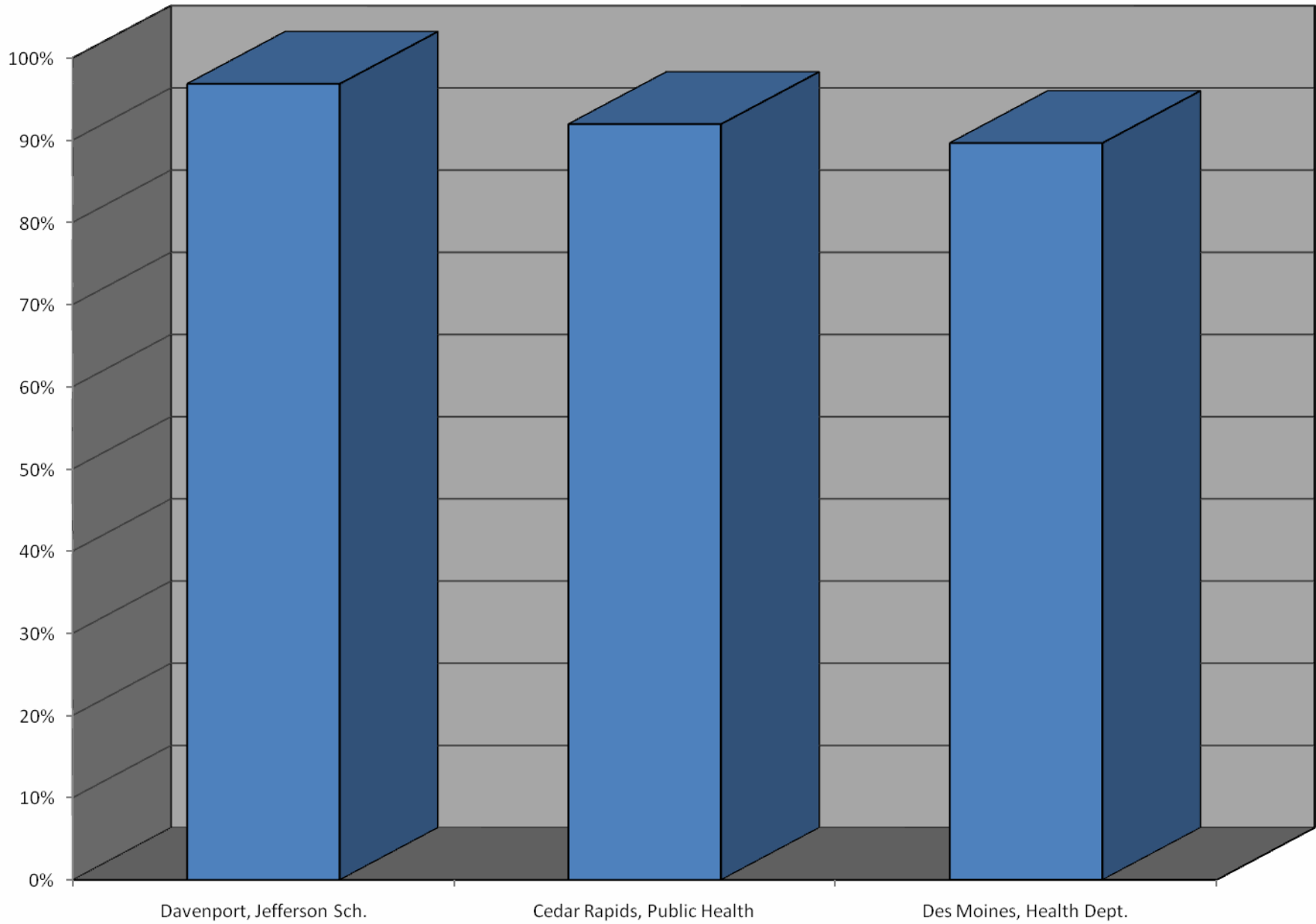
Carbon Monoxide Monitoring Locations



Comparison of 2010 Carbon Monoxide Data with National Ambient Air Quality Standards



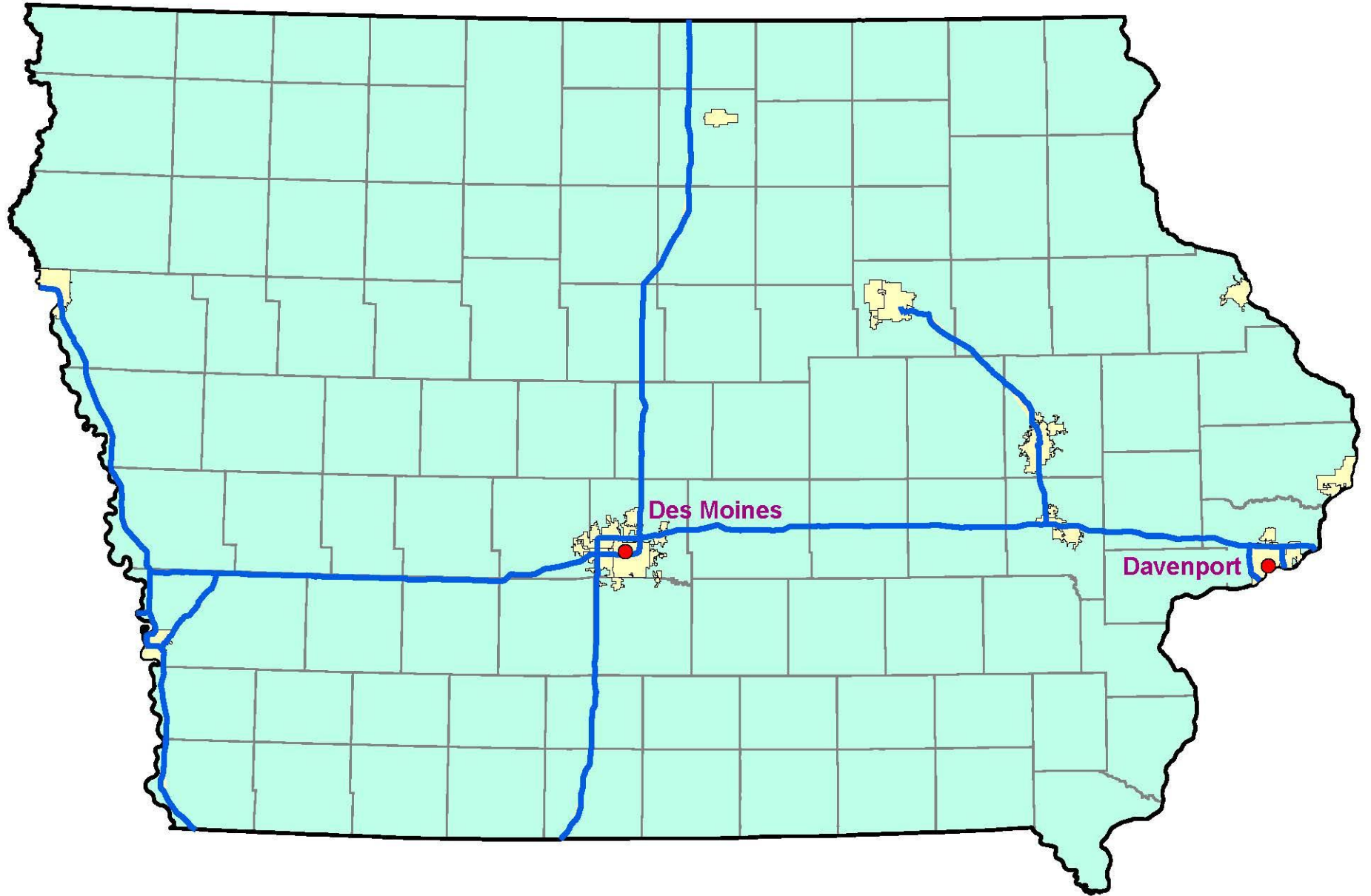
## Data Completeness



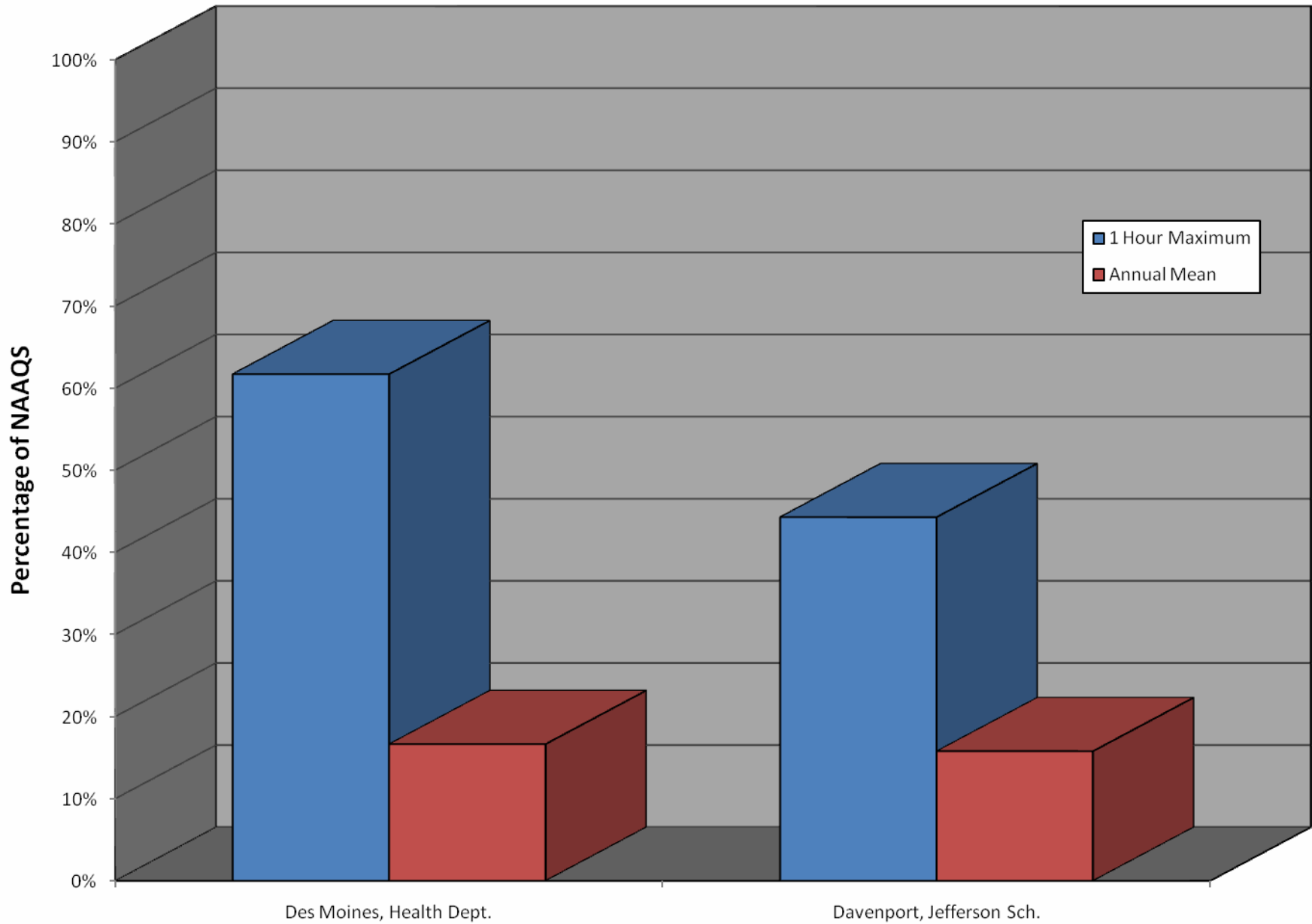
**Nitrogen Dioxide Monitoring Sites****Site Locations**

<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
191530030	Health Department	Des Moines	Polk	Des Moines, Health Dept.
191630015	Jefferson School	Davenport	Scott	Davenport, Jefferson Sch.

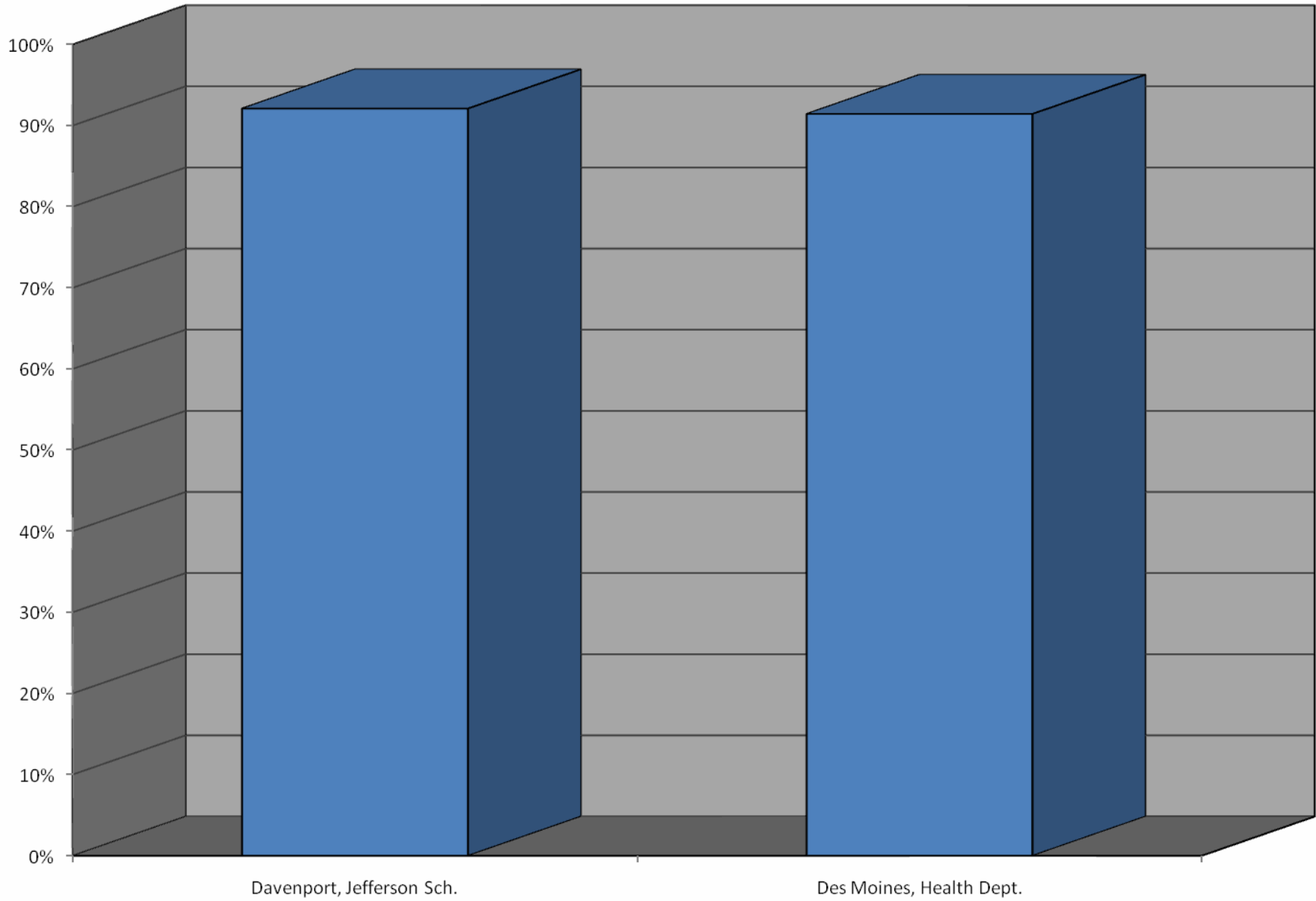
Nitrogen Dioxide Monitoring Locations



### Comparison of 2010 Nitrogen Dioxide Data with the National Ambient Air Quality Standard



## Data Completeness



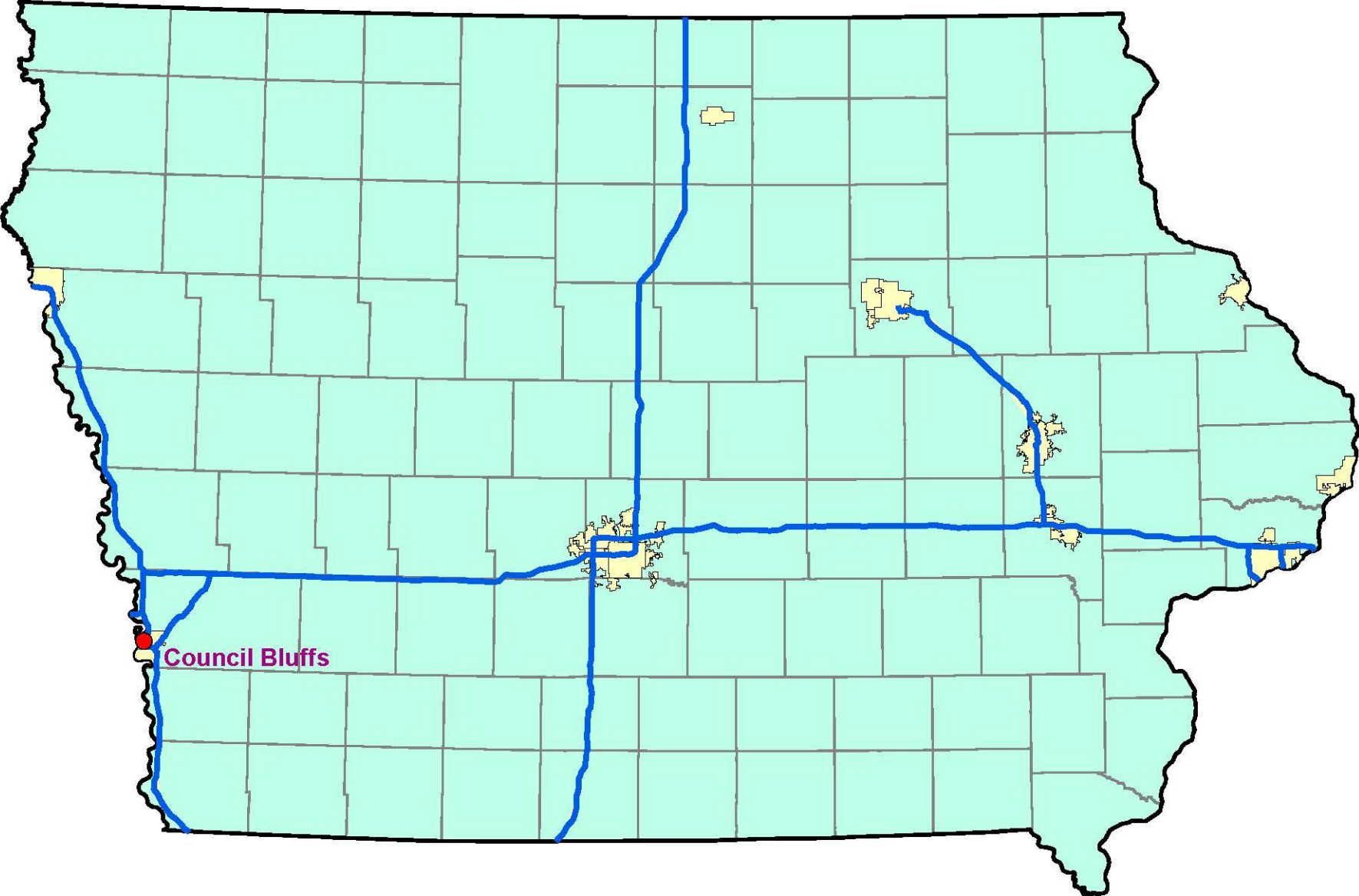
**Lead Monitoring Sites**

**Site Locations**

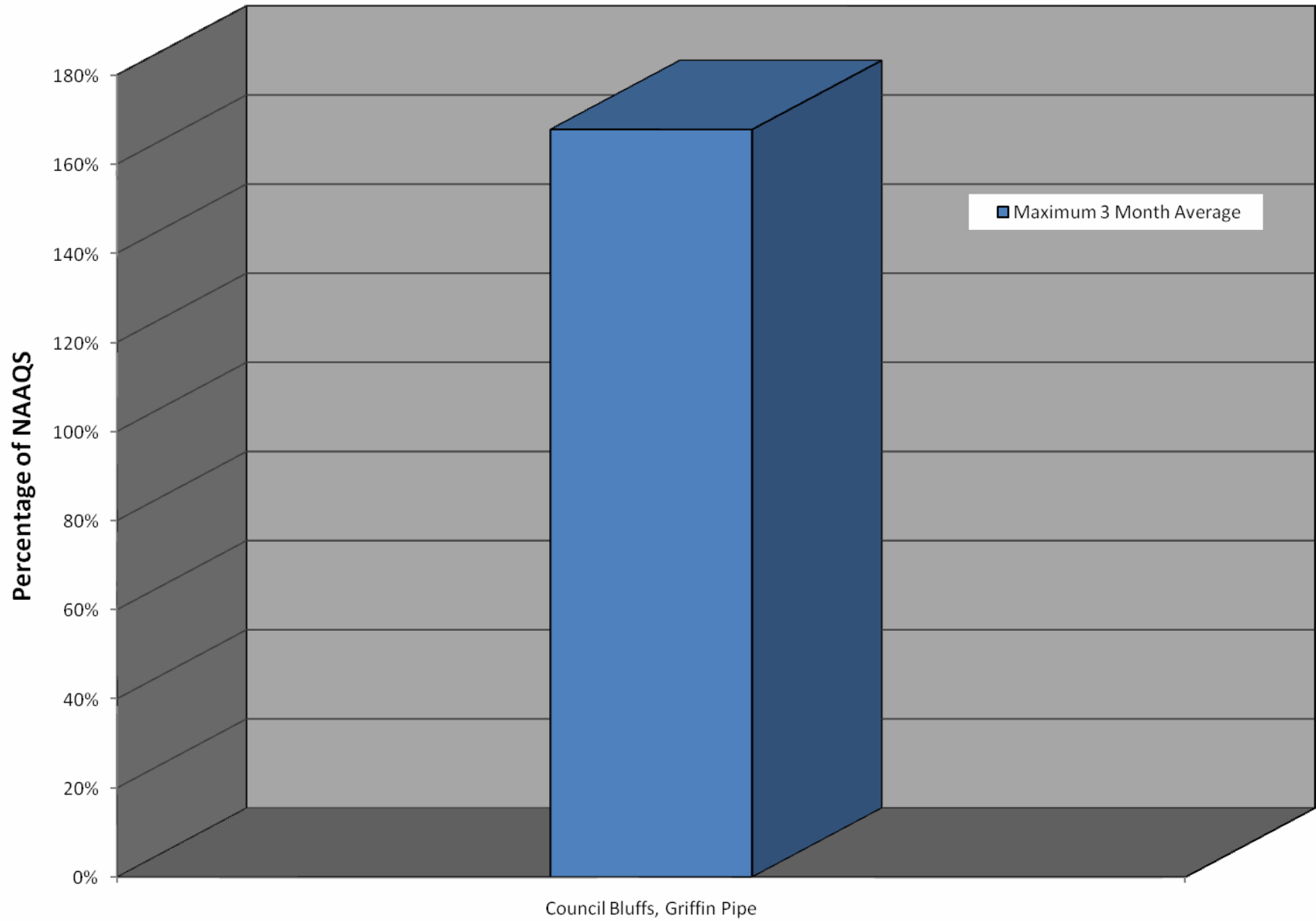
<b>Site</b>	<b>Name</b>	<b>City</b>	<b>County</b>	<b>Site Label</b>
19155001	Griffin Pipe	Council Bluffs	Pottawattamie	Council Bluffs, Griffin Pipe



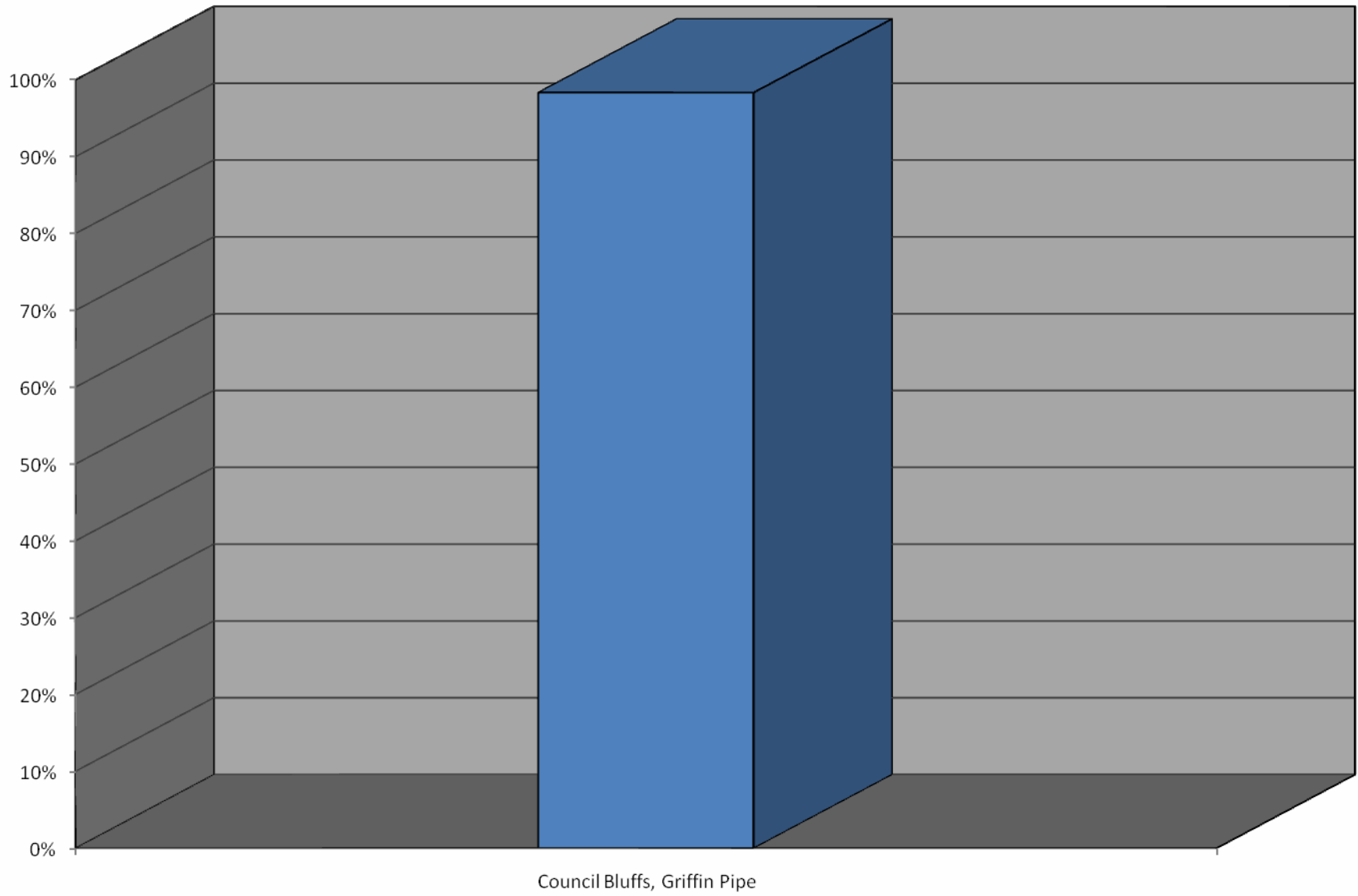
Lead Monitoring Locations



Comparison of 2010 Lead Data with the National Ambient Air Quality Standard



## Data Completeness



## Additional Chart Information

Listed below is additional information that may be useful in interpreting the charts contained in this review

### Ozone

#### Comparison of 2010 Ozone Data with National Ambient Air Quality Standards

This chart shows the highest eight hour ozone average (expressed as a percentage of the 76 ppb eight-hour NAAQS) for each ozone monitor operated in 2010. The National Ambient Air Quality Standard for ozone was changed from 85 ppb to 76 ppb in May of 2008.

#### Data Completeness

This chart shows the total number of valid ozone monitoring days (expressed as a percentage of the total number of days in the ozone season) for each ozone monitor operated in 2010. According to EPA guidelines, an ozone monitoring day is considered valid if at least 75% of the 24 8-hour averages for the day are valid. An 8-hour average is valid if at least 75% of the hourly average values for the 8-hour period are available. In the event that less than 75% of the 8-hour averages are available, a day is also counted as valid if the daily maximum 8-hour average for that day exceeds the NAAQS ( $\geq 76$  ppb). Ozone season runs from April through October; this amounts to 214 possible sampling days. An ozone monitor that recorded data for all 214 days of the season would have a data capture rate of 100%.

### PM<sub>2.5</sub>

#### Comparison of 2010 PM<sub>2.5</sub> Data with National Ambient Air Quality Standards

This chart shows the highest 24 hour value (expressed as a percentage of the 35.5  $\mu\text{g}/\text{m}^3$  24-hour NAAQS), and the annual average (expressed as a percentage of the 15.05  $\mu\text{g}/\text{m}^3$  annual NAAQS) for each PM<sub>2.5</sub> monitor operated in 2010. [Back to Chart](#)

#### Data Completeness

This chart shows the fraction of scheduled sampling days for each PM<sub>2.5</sub> monitor operated in 2010, where a valid PM<sub>2.5</sub> sample was collected. During 2010, PM<sub>2.5</sub> samplers in Iowa were scheduled to operate at a sampling frequency of either one sample every third day (122 scheduled samples) or one sample every day (365 scheduled samples). The sampling frequency of each monitor is indicated by the color of the bar.

### PM<sub>10</sub>

#### Comparison of 2010 PM<sub>10</sub> Data with National Ambient Air Quality Standards

This chart shows the highest 24 hour value (expressed as a percentage of the 155  $\mu\text{g}/\text{m}^3$  24-hour NAAQS) for each PM<sub>10</sub> monitor operated in 2010.

#### Data Completeness

This chart shows the fraction of scheduled sampling days in 2010, for each PM<sub>10</sub> monitor operated in 2010, where a valid PM<sub>10</sub> sample was collected. During 2010, PM<sub>10</sub> samplers in Iowa were scheduled to operate at a frequency of one sample every third day (122 scheduled samples), one sample every other day (183 scheduled samples), or one sample every day (365 scheduled samples). The sampling frequency of each monitor is indicated by the color of the bar in the chart.

### Sulfur Dioxide

#### Comparison of 2010 Sulfur Dioxide Data with National Ambient Air Quality Standards

This chart shows the highest 1 hour value (expressed as a percentage of the 75.5 ppb 1 hour NAAQS), and highest 3 hour value (expressed as a percentage of the 0.55 ppm 3 hour NAAQS) for each sulfur dioxide monitor operated in Iowa in 2010.

#### Data Completeness

This chart shows the total number of hourly sulfur dioxide values (expressed as a percentage of the total number of hours in 2010) for each sulfur dioxide monitor that operated in 2010. A sulfur dioxide monitor that recorded data for all 8760 hours during 2010 would have a data capture rate of 100%.

## **Carbon Monoxide**

### **Comparison of 2010 Carbon Monoxide Data with National Ambient Air Quality Standards**

This chart shows the highest 1 hour value (expressed as a percentage of the 35.5 ppm 1 hour NAAQS) and the highest 8 hour value (expressed as a percentage of the 9.5 ppm 8 hour NAAQS) for each carbon monoxide monitor operated in 2010.

### **Data Completeness**

This chart shows the total number of hourly carbon monoxide values (expressed as a percentage of the total number of hours in 2010). A carbon monoxide monitor that recorded data for all 8760 hours during 2010 would have a data capture rate of 100%.

## **Nitrogen Dioxide**

### **Comparison of 2010 Nitrogen Dioxide Data with National Ambient Air Quality Standards**

This chart shows the maximum 1 hour value (expressed as a percentage of the 100.5 ppb 1 hour NAAQS), and the annual average (expressed as a percentage of the 0.0535 ppm annual NAAQS) for each nitrogen dioxide monitoring site that operated in 2010.

### **Data Completeness**

This chart shows the total number of hourly nitrogen dioxide values (expressed as a percentage of the total number of hours in 2010). A nitrogen dioxide monitor that recorded data for all 8760 hours during 2010 would have a data capture rate of 100%.

## **Lead**

### **Comparison of 2010 Lead Data with National Ambient Air Quality Standards**

This chart shows the maximum three month average (expressed as a percentage of the 0.155  $\mu\text{g}/\text{m}^3$  annual NAAQS) for each lead monitoring site that operated in 2010.

### **Data Completeness**

This chart shows the fraction of scheduled sampling days for each lead monitor operated in 2010, where a valid lead sample was actually collected. During 2010, lead samplers in Iowa were scheduled to operate at a one in three day sampling frequency (122 scheduled samples).