Nebraska Department of Water, Energy, and Environment

Public Inspection Draft:

Nebraska 2026 Ambient Air Monitoring Network Plan

For the period 1 July 2026 through 30 June 2027

DWEE Document 26-024

Jesse Bradley, Director

May 14, 2026

NEBRASKA

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DEPT. OF WATER, ENERGY, AND ENVIRONMENT

This document fulfills the requirements of 40 CFR Part 58.10 for an annual plan for the ambient air quality monitoring conducted by the Nebraska Department of Water, Energy, and Environment, the Lincoln-Lancaster County Health Department, and the Douglas County Health Department.

Nebraska 2026 Ambient Air Monitoring Network Plan

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Acronyms, Abbreviations, and Definitions

Agencies/Organizations

DCHD - Douglas County Health Department
EPA - United States Environmental Protection Agency
EPA R7 - United States Environmental Protection Agency Region VII
LLCHD - Lincoln-Lancaster County Health Department
DWEE - Nebraska Department of Water, Energy, and Environment

Regulations

CFR - Code of Federal Regulations

NAAQS - National Ambient Air Quality Standards
Title 129 - Nebraska Air Quality Regulations

Site Types

CASTNET - The Clean Air Status and Trends Network, established to assess trends in pollutant concentrations and dry deposition of acidic sulfur and nitrogen compounds
IMPROVE - Interagency Monitoring of Protected Visual Environments (monitoring performed to evaluate regional haze)
MDN - Mercury Deposition Network (a type of NADP site)
NADP - National Atmospheric Deposition Program (analysis of deposition components in precipitation. May include NTN and MDN sites)
NCore - National Core multi-pollutant monitoring stations. Monitors at these sites are required to measure particles ($PM_{2.5}$, speciated $PM_{2.5}$, $PM_{10–2.5}$), O_3, SO_2, CO, nitrogen oxides (NO/NO_y), Pb, and basic meteorology.
NTN - National Trends Network (a type of NADP site that analyzes for acidity, sulfate, nitrate, ammonium, chloride, and base cations (e.g., CA, Mg, K and Na))
RadNet - Nationwide system that monitors air, precipitation, and drinking water to track radiation in the environment
SLAMS - State and Local Air Monitoring Stations

Monitor Terminology

AirNow - EPA web application that reports current local air quality conditions (airnow.gov).
AQS - Air Quality System, the name for EPA's air monitoring database
FRM - Federal Reference Method used for determining compliance with the NAAQS
FEM - Federal Equivalent Method used for determining compliance with the NAAQS
PWEI - Population Weighted Emissions Index (a term defined in 40 CFR Part 58 Appendix D that relates to SO_2 monitoring requirements)
2026 Network Plan – Nebraska's *2026 Ambient Air Monitoring Network Plan (i.e., this document)*

Concentration Units

ppb - Parts per billion (a volume/volume concentration unit)
ppm - Parts per million (a volume/volume concentration unit)
mg/m^3 - Milligrams per cubic meter (a mass/volume concentration unit)
$\mu g/m^3$ - Micrograms per cubic meter (a mass/volume concentration unit)

Acronyms, Abbreviations, and Definitions (continued)

Pollutants

CO - Carbon Monoxide

NO - Nitric Oxide

NO_2 - Nitrogen Dioxide

NOx - Oxides of nitrogen, including NO, NO_2, and NOy

NOy - Total reactive oxides of nitrogen. The parameter NOy – NO measured at NCore sites approximates the concentration of NO_2 but may report higher than the actual concentration.

O_3 - Ozone

Pb - Lead

TSP - Total Suspended Particulates

TSP-Pb - Lead sampled using a TSP sampler

$PM_{2.5}$ - Particulate matter with an average diameter equal to or less than 2.5 micrometers or microns (reported as $\mu g/m^3$ with air volumes measured at local conditions)

PM_{10} - Particulate matter with an average diameter equal to or less than 10 micrometers or microns (reported as $\mu g/m^3$ with air volumes measured at standard conditions (25º C, 1 atm))

$PM_{10-2.5}$ - The difference between PM_{10} and $PM_{2.5}$ (both being calculated at local conditions)

SO_2 - Sulfur Dioxide

SOx - Group of sulfur oxides, including SO_2 and SO_3

Definitions

Criteria Pollutants – The six pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, particulates, and lead.

in situ - A Latin phrase meaning *in the place*. As used in this report it refers to the formation of pollutants in the atmosphere. For example, ozone is formed *in situ* from the photochemical reaction of pollutant precursors. Ozone is not emitted directly from sources. $PM_{2.5}$ and haze are also formed *in situ*, although they are also emitted by sources. PM_{10} and CO, on the other hand, are largely emitted from sources; *in situ* formation being of minimal importance. NOx and SOx are emitted and then undergo transformations to NO_2 and SO_2; they also can play a role in the *in-situ* formation of ozone and $PM_{2.5}$.

Census Terms

Core-Based Statistical Area (CBSA) – a geographic area defined by the Office of Management and Budget containing an urbanized core of at least 10,000 people and adjacent areas that have a high degree of social and economic integration with the core. CBSAs are made up of whole counties or county equivalents.

Metropolitan Statistical Area (MSA) – a CBSA that has at least one urbanized area with population of 50,000 or more.

Micropolitan Statistical Area (MiSA) – a CBSA that has at least one urban cluster with population at least 10,000 but less than 50,000.

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Nebraska 2026 Ambient Air Monitoring Network Plan

I. Introduction and Purpose

This Nebraska 2026 Ambient Air Monitoring Network Plan (referred to as the "2026 Network Plan" in this document) was prepared to meet federal requirements set forth in the Code of Federal Regulations (CFR) Title 40, Part 58.10. State air monitoring agencies are required to submit to the U.S. Environmental Protection Agency (EPA) by July 1 each year an ambient air monitoring network plan with the following purposes:

- Describe the current ambient air monitoring network, including the location and purpose of each monitoring site.
- Describe changes made in the network since submission of the previous plan.
- Review whether the ambient air monitoring network meets the requirements set forth in 40 CFR Part 58 Appendices A, C, D, and E.
- Describe planned and possible changes in the ambient air monitoring network in the upcoming year, as best they can be determined at the time the plan is prepared.

More information on federal ambient air quality surveillance regulations can be found at:
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-58.
Specific requirements regarding the annual air monitoring network plan can be found at:
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-58/subpart-B/section-58.10.

II. Public Participation

Federal regulations require that annual ambient air monitoring network plans must be made available for public inspection and comment for at least 30 days prior to submission to the EPA. The Nebraska Department of Water, Energy, and Environment (DWEE) meets this requirement by posting the plan on the DWEE website (https://dwee.nebraska.gov/forms/publications-grants-forms). Written comments regarding this 2026 Network Plan may be submitted to the Nebraska Department of Water, Energy, and Environment during the 30-day inspection period as provided below:

Mail:

Nebraska Department of Water, Energy, and Environment
Attn: David Adams – Monitoring Section
245 Fallbrook Boulevard, Suite 100
Lincoln, NE 68521

Email:

DWEE.AirQuality@nebraska.gov

The deadline for submittal of written comments can be found on the DWEE website. Informal inquiries may also be directed to David Adams at 402-471-4159. Verbal comments are not necessarily included or addressed as review comments.

III. Purpose of Ambient Air Quality Monitoring

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, come from numerous and diverse sources, and are considered harmful to public health and the environment. Standards have been established for six "criteria" air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), lead, and particle pollution, which is subdivided into particulate matter less than 10 micrometers in diameter (PM_{10}) and particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$).

The statute established two types of national standards for each criteria pollutant. Primary standards set limits to protect public health, including the health of sensitive populations such as people with asthma, children, and the elderly. Secondary standards set limits to protect the public welfare and the environment, including protection against damage to animals, crops, and vegetation, and to minimize visibility impairment.

A. Criteria Pollutants

Carbon monoxide is a colorless and odorless gas formed when carbon in fuel is not burned completely. The majority of CO emissions come from mobile sources. Breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the bloodstream to critical organs like the heart and brain.

Nitrogen dioxide is the indicator pollutant for a family of nitrogen oxides (NOx), a group of highly reactive gases primarily composed of nitrogen and oxygen atoms, that are formed by burning fuel at high temperature. NO_2 is emitted by cars, diesel trucks and buses, electrical power plants and industrial boilers, and off-road equipment. It is an irritant that can aggravate respiratory diseases, including asthma. NO_2 and other NOx react with other chemicals in the air to form both particulate matter and ozone, which are also harmful when inhaled due to effects on the respiratory system. NOx compounds can also react with water vapor to form acid droplets that contribute to acid rain and reduce visibility.

Sulfur dioxide, a colorless, pungent, toxic gas composed of sulfur and oxygen atoms, is formed from burning coal or fuel oil containing sulfur. Coal-fired electric power plants are the largest source of these emissions. SO_2 dissolves in water vapor to form sulfuric acid, which in high concentrations can irritate the human respiratory system and can contribute to acid rain that damages plant foliage. Sulfur dioxide can also react with other compounds in the air to form small particles that contribute to particulate matter pollution and atmospheric haze that reduce visibility.

Ground level ozone, a molecule made up of three oxygen atoms, is a criteria pollutant that is not emitted directly, but forms from other atmospheric pollutants. While stratospheric ozone (6–30 miles above the Earth) is a good protective layer shielding the Earth from harmful ultraviolet (UV) radiation, ozone near the ground is both a dangerous pollutant and a primary component of smog. Ground-level ozone is formed in the atmosphere from NOx and volatile organic compounds (VOCs) in the presence of sunlight. Volatile organic compounds are produced by fuel combustion (vehicles and industrial sources), gasoline vapors, and chemical solvents and paints. Ground-level ozone is produced primarily on hot sunny days in urban environments, but it can be transported long distances by wind into surrounding rural areas. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased needs for medical care.

Lead pollution typically affects small areas close to industrial sources such as lead smelters, foundries, and steel plants. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The lead effects most commonly encountered in current populations are neurological effects in children and cardiovascular effects (e.g., high blood pressure and heart disease) in adults.

Particulate matter (PM) is a general term for a mixture of solid particles and liquid droplets found in the air that are small enough to be inhaled.

Larger particles (PM_{10}) are less than 10 micrometers in diameter (about five times smaller than a human hair). They include dust blown from construction sites, agricultural fields, or unpaved roads; the concentration of these particles in the air typically decreases rapidly away from these local sources.

Finer particles ($PM_{2.5}$) are 2.5 micrometers in diameter or smaller; they include combustion products from industrial sources and fires, organic compounds, and metals, as well as droplets produced in the atmosphere

by complex reactions of chemicals such as SO_2 and NOx. Because of their small size and secondary production, finer particles may be transported large distances in the atmosphere.

B. NAAQS in Effect in 2026

The current primary and secondary standards for the six criteria air pollutants are shown in Table 1. The units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, or micrograms per cubic meter of air ($\mu g/m^3$). (A common way to understand a ppm is to think of it as one minute every two years. Using a similar comparison, 1 ppb would be one second of time every 32 years.) The Form column in Table 1 specifies how pollutant measurements must be analyzed to calculate a "design value" that is compared to the NAAQS level to determine if the site complies with the standard. The most recent design values for Nebraska's ambient air monitors are presented in Appendix B.

An area that is in compliance with the standard for a criteria pollutant is said to be in *attainment*. All areas of Nebraska are currently in attainment for each of the NAAQS.

Table 1. National Ambient Air Quality Standards (NAAQS) in effect in 2026

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		Primary	8 hours	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 $\mu g/m^3$ (1)	Not to be exceeded
Nitrogen Dioxide (NO_2)		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and Secondary	1 year	53 ppb (2)	Annual mean
Ozone (O_3)		Primary and Secondary	8 hours	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hour average concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	Primary	1 year	9.0 $\mu g/m^3$	Annual mean, averaged over 3 years
		Secondary	1 year	15.0 $\mu g/m^3$	Annual mean, averaged over 3 years
		Primary and Secondary	24 hours	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	Primary and Secondary	24 hours	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		Primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3 hours	10 ppb (5)	Annual average, averaged over 3 years

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 $\mu g/m^3$ as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015; retained in December 2020. The previous (2008) O_3 standards are not revoked and remain in effect for designated areas. In October 2021, EPA announced it is reconsidering the 2020 decision to retain the 2015 O_3 NAAQS; that review is not yet complete.

(4) A final rule published March 6, 2024, and effective May 6, 2024, revised the primary annual $PM_{2.5}$ standard, lowering it to 9 $\mu g/m^3$. The rule also revised category breakpoints for the $PM_{2.5}$ Air Quality Index. The agency retained the current primary and secondary 24-hour standards for $PM_{2.5}$ and PM_{10}.

(5) EPA issued a final rule on December 10, 2024, on secondary standards for NO_2, SO_2, and $PM_{2.5}$. The secondary standard for SO_2 was revised from a 3-hour value of 0.5 ppm not to be exceeded more than once per year, to an annual average value (averaged over three consecutive years) of 10 ppb. The other two secondary standards were retained without revision.

An area in which measured pollutant levels exceed the NAAQS for one or more pollutants is said to be in non-attainment. States that include non-attainment areas are required by EPA to create mandatory plans to reduce emissions in the area and return to it to compliance.

When an air quality monitor temporarily records pollutant levels that exceed the NAAQS limit, that measurement is termed a "NAAQS exceedance". For most criteria pollutants a single recorded exceedance does not violate the standard; monitoring data from the most recent three-year period must be analyzed to make that determination, as noted in the Form column of Table 1.

An ambient air monitoring network serves several purposes, one of which is supporting compliance with NAAQS standards and pollution control strategies. Ambient air quality networks also provide air pollution data to the public in a timely manner, and support air pollution research studies. An ambient air monitoring network may include a variety of types of sites to provide information on peak air pollution levels, typical levels of exposure, air pollution levels near significant sources, and pollutant transport. EPA has identified the following general site types:

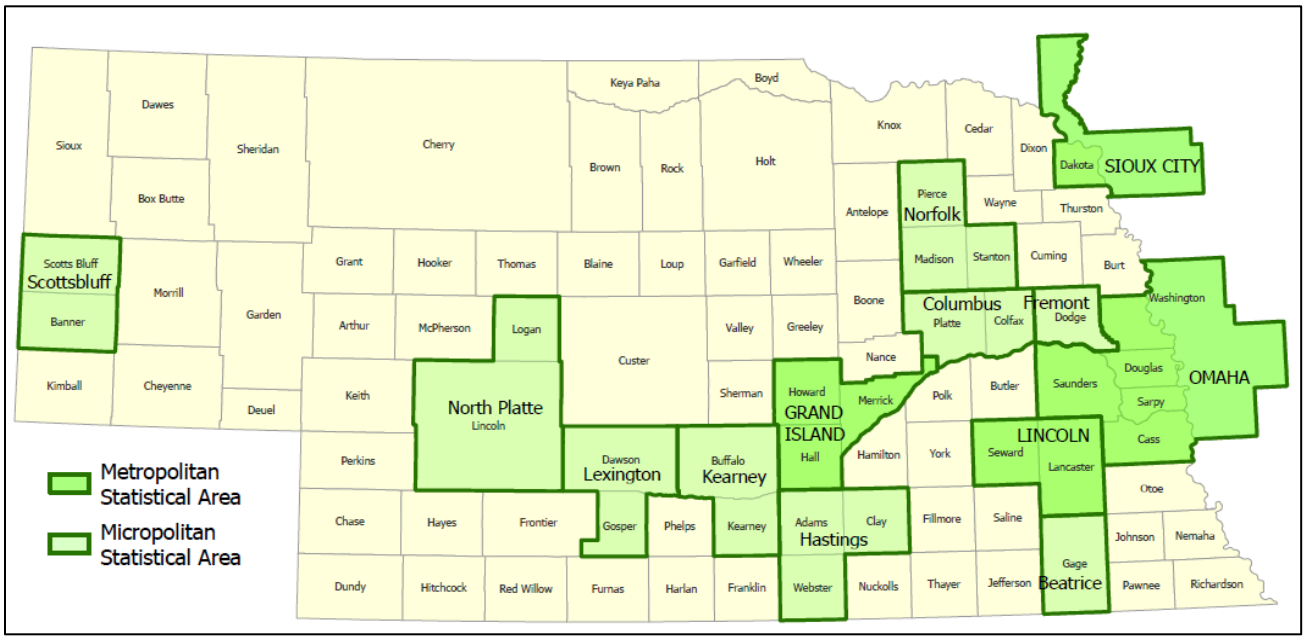
- Sites located to determine the highest concentrations expected to occur in the area covered by the network.
- Sites located to measure typical concentrations in areas of high population density.
- Sites located to determine the impact of significant sources or source categories.
- Sites located to determine general background levels.
- Sites located to determine the extent of regional pollutant transport among populated areas.
- Sites located to measure air pollution impacts on visibility, vegetation, or other welfare-based impacts.

IV. Nebraska Metropolitan and Micropolitan Statistical Areas

Discussions of the ambient air monitoring network in Nebraska in remaining portions of this document are organized around the Metropolitan Statistical Areas (MSAs) and Micropolitan Statistical Areas (MiSAs) in which the monitors are located. The U.S. Office of Management and Budget (OMB) is responsible for designating MSAs (each of which has at least one urbanized area with population of 50,000 or more) and MiSAs (containing at least one urban cluster with population at least 10,000 but less than 50,000) in the United States. Each of these federally-defined urbanized units consist of one or more entire counties. As populations and economic activity evolve through time, OMB may update these areas periodically by the addition or removal of one or more counties. MSAs and MiSAs are used by the U.S. Census Bureau and other federal agencies for a variety of purposes.

Nebraska includes all or part of four Metropolitan Statistical Areas (Omaha, Lincoln, Grand Island, and Sioux City) along with nine Micropolitan Statistical Areas. A map of Nebraska's MSAs and MiSAs is shown in Figure 1 on the next page.

Figure 1. Nebraska Metropolitan and Micropolitan Statistical Areas (MSAs and MiSAs)*



* Areas as defined by the U.S. Office of Management and Budget, July 2023.

V. Overview of Current Ambient Air Monitoring Network

Nebraska's current air monitoring network is summarized in Table 2 on the following page, and monitor locations are shown in Figures 2 and 3. The network description tables in Appendix A provide more detailed information on the network, including site locations and monitoring objectives.

Nebraska's State and Local Air Monitoring Stations (SLAMS) network includes sites for ozone, carbon monoxide, nitrogen oxides, sulfur dioxide, lead, PM_{10}, $PM_{2.5}$, and $PM_{10-2.5}$ (particles between 10 and 2.5 micrometers in diameter). A National Core Multipollutant Monitoring Network (NCore) station in Omaha provides continuous monitoring of particles, pollutant gases, and meteorology. NCore stations support health assessments, scientific studies, and emission strategies by providing high-sensitivity data on criteria pollutants. Monitors at the SLAMS sites are subject to 40 CFR Part 58 requirements and are used for NAAQS attainment determinations. Nebraska's SLAMS network is operated by the Nebraska Department of Water, Energy, and Environment and two local agencies: the Douglas County Health Department (DCHD) and the Lincoln-Lancaster County Health Department (LLCHD).

Table 2. Nebraska Ambient Air Monitoring Network on March 31, 2026 [1]					
	DCHD Omaha MSA[2][3]	DWEE Cass County[4]	LLCHD Lincoln MSA	DWEE Other Areas	Total
SLAMS Sites (includes NCore)	7[5]	1	2	4	14
IMPROVE[6]	0	0	0	1	1
NADP[6]	1	0	0	3	4
CASTNET[6]	0	0	0	1	1
Total Monitoring Sites	8	1	2	9	20
Sites by Pollutant: SLAMS Sites including NCore[3]					
Ozone	2[5]	0	1	1	4
Carbon Monoxide	2	0	0	0	2
Nitrogen Oxides	1	0	0	0	1
Sulfur Dioxide	2	0	0	0	2
PM_{10}	2[5]	1	0	0	3
$PM_{2.5}$	4	0	1	3	8
$PM_{10-2.5}$	1	0	0	0	1
$PM_{2.5}$ Speciation	1	0	0	0	1
Lead	0	0	0	1[7]	1
Total Pollutant Sites	15[3]	1	2	5	23

Footnotes:

(1) This table summarizes the number of operating sites as of 3/31/26 in the NE SLAMS network (including NCore) by operating agency, as well as IMPROVE and NADP sites in Nebraska.

(2) The Omaha MSA encompasses five NE counties: Cass, Douglas, Sarpy, Saunders, & Washington. DCHD operates the Douglas, Sarpy & Washington Counties. DWEE operates the Cass County site.

(3) There were two multi-pollutant monitoring sites in the Omaha MSA in 2022; 1616 Whitmore – SO_2 & Ozone (2 pollutants) and NCore (42nd & Woolworth) – CO, NO-NOy, O_3, SO_2, and PM (8 pollutants). The number of monitoring sites by individual pollutant is thus greater than the number of monitoring locations within the Omaha MSA and for the state as a whole.

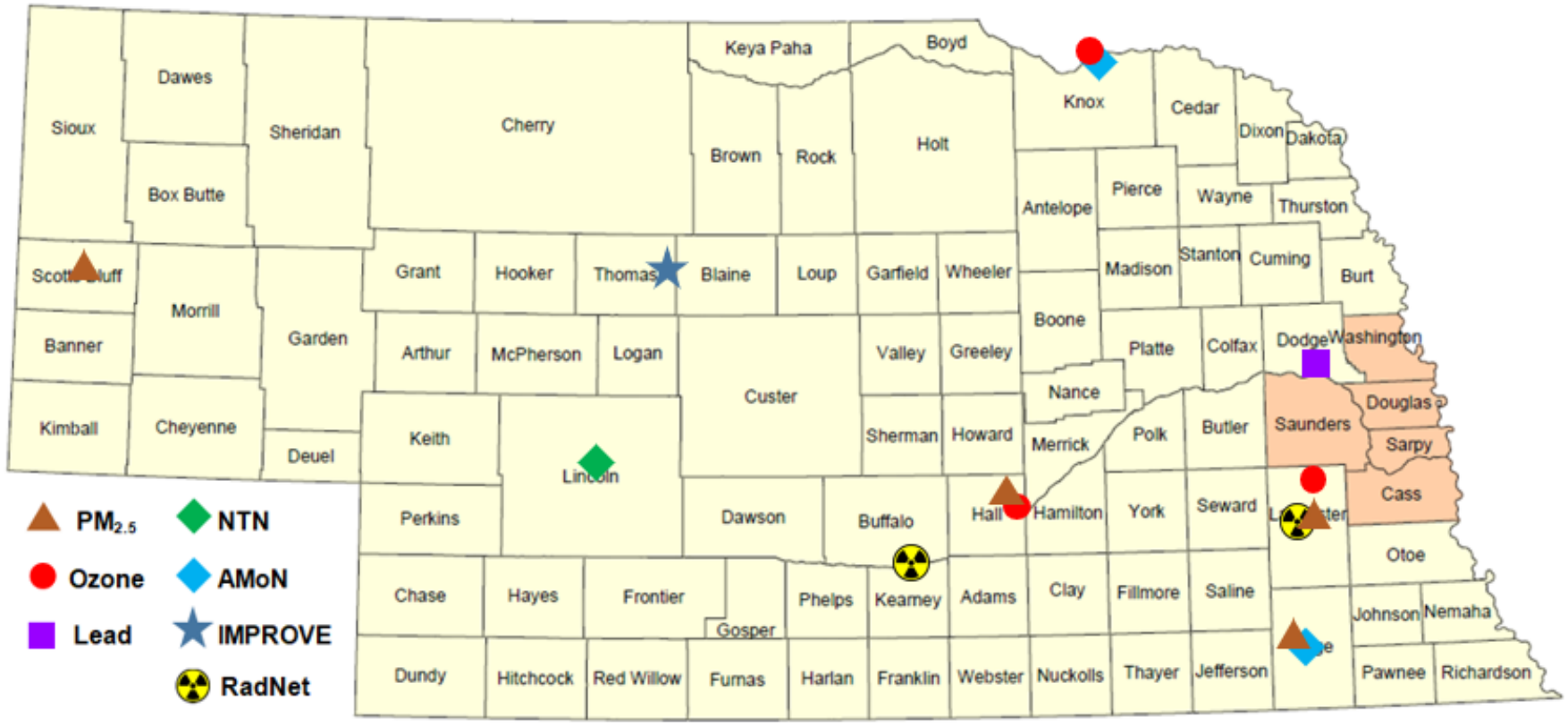
(4) Cass County has limestone mining and processing facilities, which are subject to specific air emission rules for the county set forth in Chapter 2, Section 005 of Nebraska Administrative Code Title 129 – Nebraska Air Quality Regulations.

(5) Counts do not include the South Omaha ozone-PM_{10} site currently closed for relocation.

(6) See text for discussion of CASTNET, IMPROVE, and NADP sites.

(7) The lead monitor site in Fremont was closed in 2018 and reopened at a nearby location in July 2023.

Figure 2. Nebraska Air Quality Monitoring Sites Outside of the Omaha-Council Bluffs Metropolitan Statistical Area, 3/31/2026



$PM_{2.5}$
Lincoln (Lancaster County)
Homestead National Historic Park (Gage County)
Grand Island (Hall County)
Scottsbluff (Scottsbluff County)

Ozone
Davey (Lancaster County)
Grand Island (Hall County)
Santee Sioux (Knox County; CASTNET site operated by EPA)

Lead
Fremont (Dodge County)

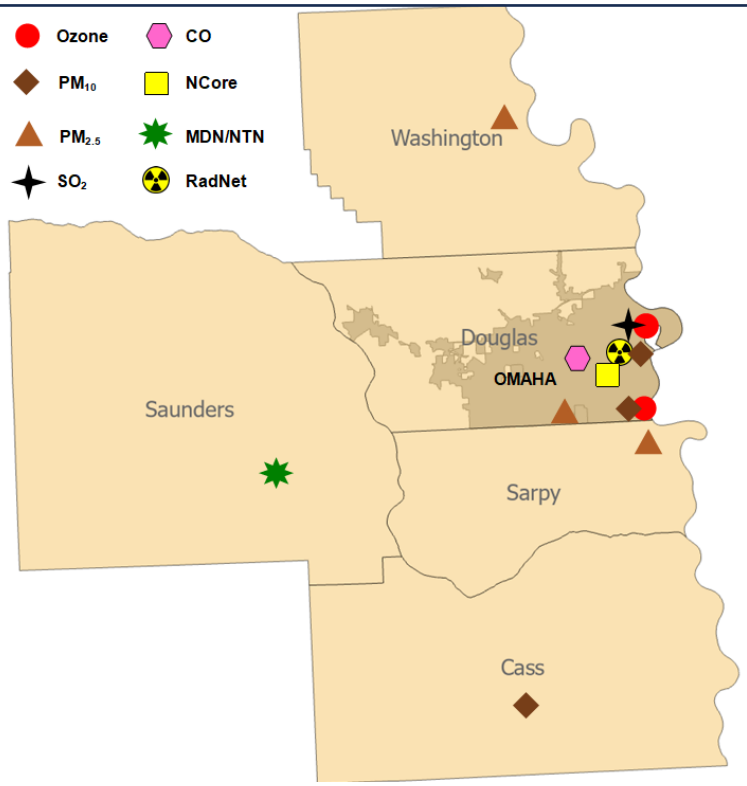
National Atmospheric Deposition Program (NADP)
North Platte (Lincoln County): NTN (National Trends Network)
Santee (Knox County): AMoN (Ammonia Monitoring Network)
Homestead (Gage County): AMoN

IMPROVE
Nebraska National Forest (Thomas County)

RadNet
Lincoln (Lancaster County), Kearney(Buffalo County)

The Nebraska counties in the Omaha-Council Bluffs Metropolitan Statistical Area are indicated by the orange shading.

Figure 3. Air Quality Monitor Locations in the Nebraska Portion of the Omaha NE-IA Metropolitan Statistical Area, 3/31/2026



NCore
4102 Woolworth Avenue

Ozone
Omaha, 4102 Woolworth Avenue (NCore)
Omaha, 1616 Whitmore Street
Omaha, 2411 O Street (currently closed)

Carbon Monoxide
Omaha, 4102 Woolworth Avenue (NCore)
Omaha, 7747 Dodge Street

Sulfur Dioxide (SO_2)
Omaha, 4102 Woolworth Avenue (NCore)
Omaha, 1616 Whitmore Street

PM_{10}
Omaha, 19th & Burt Streets
Omaha, 2411 O Street (currently closed)
Omaha, 4102 Woolworth Avenue (NCore)
Weeping Water, 102 P Street

$PM_{2.5}$
Omaha, 4102 Woolworth Avenue (NCore)
Omaha, 9225 Berry Street
Bellevue, 2912 Coffey Avenue
Blair, 2242 Wright Street

National Atmospheric Deposition Program
Mead, Saunders County: MDN (Mercury Deposition Network), NTN (National Trends Network)

RadNet
Omaha

EPA operates other specialized ambient air monitoring sites in Nebraska that are not part of DWEE's SLAMS network and are not used for NAAQS attainment determinations. These sites are part of the CASTNET, IMPROVE, NAPD, and RadNet networks.

The Clean Air Status and Trends Network (CASTNET) was established to assess trends in pollutant concentrations and dry deposition of acidic sulfur and nitrogen compounds. Dry deposition is the non-liquid removal of gases and particles from the atmosphere onto surfaces like soil, water, and vegetation. These sites also measure hourly ambient ozone concentrations. The ozone monitoring site in the Santee Sioux reservation in Knox County, shown in the map on page 7, is a CASTNET site.

Interagency Monitoring of Protected Visual Environments (IMPROVE) sites host particulate monitors to provide information for studying regional haze that may impact Class I National Park and wilderness areas. These sites measure both coarse and fine particulates, and fine particulates are chemically analyzed for sulfates, nitrates, and carbon, all of which affect visibility. Class I areas are specific, protected federal lands (including national parks over 6,000 acres and wilderness areas over 5,000 acres) that existed in 1977. Class I areas are managed by the National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and several Native American Tribes. The DWEE provides administrative support (with EPA funding) for one IMPROVE site at the Nebraska National Forest near Halsey, NE.

Four locations in Nebraska are part of the National Atmospheric Deposition Program (NADP), which includes several networks that measure surface deposition of air pollutant gases and particles onto soil, water, or other surfaces. The site at Mead (Saunders County) is part of the Mercury Deposition Network (MDN), which measures mercury concentrations in precipitation (rain and snow). The Mead and North Platte (Lincoln County) sites are part of the National Trends Network (NTN), which measures several chemicals in precipitation, including calcium, magnesium, sodium, potassium, sulfate, and nitrate. The Ammonia Monitoring Network (AMoN) measures ammonia concentrations in the air at rural sites, including the Santee Sioux CASTNET site and a location at Homestead National Historic Park in Gage County. The DWEE provides administrative support (with EPA funding) for sample analyses for the NADP sites in the state.

RadNet is a nationwide system that monitors air, precipitation, and drinking water to track radiation in the environment. RadNet sample testing and monitoring track changes in normal background levels of radiation and can also detect higher radiation levels during a radiological incident. RadNet air monitoring sites are located in Omaha, Lincoln, and Kearney. These stations continuously monitor and report gamma ray levels and capture airborne particulates for laboratory analysis to detect radioactive particles.

VI. Nebraska Ambient Air Monitoring Network: January 1, 2025, through March 31, 2026

The following sections of this plan describe Nebraska's Ambient Air Monitoring Network that was in place from January 1, 2025, through March 31, 2026, and changes made during that period. If you wish for more detailed information on individual monitoring sites, including purpose, scale, monitor specifications, and start dates, please see Appendix A.

This section is organized around the Metropolitan Statistical Areas (MSAs) and Micropolitan Statistical Areas (MiSAs) in which monitoring is conducted (shown in the map in Figure 1).

A. Omaha NE-IA MSA Sites Operated by the Douglas County Health Department (DCHD)

Nebraska and Iowa share responsibilities for air quality monitoring in the Omaha NE-IA MSA. Iowa currently relies on monitors in the Nebraska portion of the MSA to meet minimum monitoring requirements for ozone, $PM_{2.5}$, PM_{10}, and SO_2. DCHD currently operates an ambient air network of seven sites in Douglas, Sarpy, and Washington Counties, Nebraska. Multi-pollutant monitoring is currently conducted at two of the sites:

- The NCore site monitors for eight pollutant parameters (CO, NOy/NO, O_3, SO_2, $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$,

and $PM_{2.5}$ speciation), as well as meteorological parameters and atmospheric radiation (RADNET*).

- The 1616 Whitmore site has both SO_2 and ozone monitors.

In addition, there are single-pollutant monitoring sites for carbon monoxide (one), $PM_{2.5}$ (three), and PM_{10} (one). The Omaha area monitoring network is therefore more extensive than the seven-site total might indicate; if the pollutants are counted separately, there are 15 pollutant monitoring sites. See Appendix A for detailed information on the sites operated by DCHD.

B. Omaha NE-IA MSA Site Operated by DWEE

DWEE operates a MetOne BAM 1020 continuous PM_{10} sampler at the Weeping Water wastewater treatment plant in Cass County. This is a population and source-oriented site that monitors particulates generated by nearby limestone mining and processing facilities in the surrounding rural area.

C. Lincoln MSA Sites Operated by the Lincoln-Lancaster County Health Department (LLCHD)

LLCHD operates two SLAMS monitoring sites: a $PM_{2.5}$ site at 3140 N Street in Lincoln (the Health Department Building), and an ozone site in Davey (northern Lancaster County). The 3140 N Street $PM_{2.5}$ site has three monitors: a primary filter-based Federal Reference Method (FRM) sampler, a collocated filter-based FRM sampler, and a MetOne BAM 1020 Federal Equivalent Method (FEM) continuous monitor. FRMs are designed to provide the most fundamentally sound and scientifically defensible concentration measurement and serve as the basis of comparison upon which to judge other measurement methods. FRM particulate monitors collect samples over particular intervals (three or six days); these samples are then weighed in a laboratory to obtain precise measurements of the mass of the particles, from which the average concentration in the air is calculated. FEMs are intended to provide a comparable level of compliance decision making quality as provided by FRMs, and may include newer, innovative technologies to reduce overall operating cost and to achieve multiple monitoring objectives (e.g, hourly real-time reporting for health studies and for issuing timely public health advisories).

Data from the FRM samplers in Lincoln is reported to EPA's Air Quality System (AQS) database and used to demonstrate NAAQS compliance. The AQS contains ambient air pollution data collected by EPA, state, local, and tribal air pollution control agencies from over thousands of monitors. AQS also contains meteorological data and descriptive information about each monitoring station including its geographic location and its operator.

Data from the continuous (FEM) monitor in Lincoln is transmitted to AirNow but is not reported to AQS. AirNow is an EPA web application (https://www.airnow.gov) that provides public access to current local air quality conditions using a color-coded Air Quality Index (AQI) designed to communicate whether air quality is healthy or unhealthy. AirNow also provides maps of monitoring sites colored by AQI and locations of fires and smoke plumes that can affect air quality.

D. Sioux City MSA

There are no monitoring sites in the Nebraska portion of the Sioux City MSA (Dakota County). There are currently two monitoring sites in the Iowa portion of the MSA. Iowa Department of Natural Resources (DNR) operates a $PM_{2.5}$ site in Sioux City with a FRM sequential sampler, and an ozone site in Stone State Park northwest of Sioux City with continuous monitors.

E. Grand Island MSA

The three-county Grand Island MSA is centered on the City of Grand Island, the fourth-largest city by population in Nebraska. DWEE operates a continuous $PM_{2.5}$ monitor at Nebraska Department of Transportation's (NDOT) equipment yard at 3305 West Old Potash Highway, with data reported to AirNow

and AQS. DWEE began ozone monitoring at the Grand Island NDOT site on March 1, 2025, with AIRS ID: 31-079-0005.

F. Beatrice MiSA

DWEE operates a $PM_{2.5}$ monitoring site at Homestead National Historical Park, three miles west of Beatrice. This site has a primary continuous FEM monitor and a collocated sequential (filter-based) FRM sampler that samples every third day. Data from the continuous monitor is transmitted to AirNow. This site assists with background surveillance and is in the potential path of smoke moving northward from spring prescribed burns in the Kansas Flint Hills. The monitor was not in operation during the last quarter of 2025 but was repaired and back in operation in late February 2026.

G. Scottsbluff MiSA

DWEE operates a $PM_{2.5}$ monitoring site at Scottsbluff Senior High School, with a MetOne BAM 1020 FEM continuous monitor installed at the location. The Scottsbluff continuous $PM_{2.5}$ data is reported to AirNow in addition to AQS.

H. Fremont MiSA

DWEE operated primary and collocated total suspended particulate lead samplers at 1255 Front Street in Fremont beginning in 2010 to provide source-oriented monitoring of the Magnus Bearings facility, which casts bronze bearings for the railroad industry. The lead monitors were removed from this location at the end of September 2018 at the request of the property owner. After a protracted search and negotiations, an alternative site at an adjacent property was established, and the samplers resumed operation on July 1, 2023. Subsequent EPA air dispersion modeling of lead emissions from Magnus Bearings showed that the new monitoring site lies outside of the maximum concentration area beyond the facility fence line. DWEE is currently investigating alternative sites for a monitoring location that would sample the maximum concentration area surrounding the facility.

I. NCore Monitoring

EPA established the National Core Multipollutant Monitoring Network (NCore) in 2011 to deploy advanced measurement systems for airborne particles, pollutant gases, and meteorology. Each state is required to operate at least one site which must measure, at a minimum, $PM_{2.5}$ particle mass using continuous and filter-based samplers; speciated $PM_{2.5}$ (chemical identification of particles); $PM_{10\text{-}2.5}$ particle mass; O_3; SO_2; CO; total reactive nitrogen (NOy) and nitrogen oxide (NO); wind speed and direction; relative humidity; and ambient temperature. Nebraska's NCore site is located at 4102 Woolworth Avenue in Omaha, on the campus of the Douglas County Health Department (DCHD), which operates the site.

VII. Considerations for Network Planning

A. EPA Air Monitoring and Network Design Requirements

The Nebraska Ambient Air Monitoring Network must comply with the applicable requirements of 40 CFR Part 58 Appendices A through E. Appendix C of this plan assesses compliance with those requirements. Although the Nebraska network operated by DWEE, DCHD, and LLCHD is meeting most of the applicable requirements of 40 CFR Part 58 Appendices A, C, D, and E, population growth in the Lincoln and Omaha MSAs since 2023 has triggered additional monitoring requirements that will be detailed in later sections of this document.

1. **Appendix A to Part 58 - Quality Assurance Requirements for Monitors used in Evaluations of National Ambient Air Quality Standards** specifies the minimum quality system requirements applicable to SLAMS and other monitor types whose data are intended to be used to determine compliance with the NAAQS. Section 3.2.3 of this appendix specifies quality control sampling

procedures for $PM_{2.5}$ with respect to Federal Reference Method (FRM) and Federal Equivalent Method (FEM) monitors. This section requires that for each distinct monitoring method (FRM or FEM) that a Primary Quality Assurance Organization (PQAO) utilizes as a primary monitor, there must be a collocated quality control monitor at 15% of the monitor sites, with a minimum of one collocated monitor. The first collocated monitor must be a designated FRM monitor. DWEE operates primary FEM monitors at three sites (Homestead, Grand Island, and Scottsbluff) with one collocated FRM sampler at Homestead, which meets this collocation requirement. DCHD operates primary FEM monitors at four sites (NCore and Berry Street in Omaha, Bellevue, and Blair) with a collocated FRM sampler at NCore to fulfil this requirement.

2. **Appendix B to Part 58 - Quality Assurance Requirements for Prevention of Significant Deterioration (PSD) Air Monitoring** applies to monitoring as part of New Source Review. Monitoring required for PSD is generally conducted by the source rather than a state or local monitoring agency. Therefore, compliance with Appendix B is not directly addressed in this network plan. No pre-construction monitoring took place in Nebraska during 2025.
3. **Appendix C to Part 58 - Ambient Air Quality Monitoring Methodology** specifies the criteria pollutant monitoring methods (manual methods or automated analyzers) which must be used in SLAMS and NCore stations that are a subset of SLAMS.
4. **Appendix D to Part 58 - Network Design Criteria for Ambient Air Quality Monitoring** describes monitoring objectives and general criteria to be applied in establishing the required SLAMS ambient air quality monitoring stations and for choosing general locations for additional monitoring sites.
5. **Appendix E to Part 58 - Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring** contains specific location criteria applicable to ambient air quality monitoring probes, inlets, and optical paths of SLAMS, NCore, PAMS, and other monitor types whose data are intended to be used to determine compliance with the NAAQS. The Photochemical Assessment Monitoring Station (PAMS) network is an ozone precursor monitoring network operated by state and local agencies. The PAMS program was originally started in the early 1990s, and calls for ozone precursor measurements to be made at existing NCore sites with a population of one million or more. The main objective of the required PAMS sites is to develop a database of ozone precursors and meteorological measurements to support ozone model development.

B. Air Quality and NAAQS Attainment

Nebraska's ambient air monitoring data for 2023 through 2025 show that all monitoring sites in Nebraska (and sites in portions of the Omaha and Sioux City MSAs in adjacent states) are in attainment with the NAAQS. See the monitoring data tables in Appendix B for the detailed results.

1. Ozone

The current 8-hour NAAQS for ozone (O_3) of 0.070 parts per million (ppm; or 70 parts per billion) for both the primary and secondary standard was set in 2015 and retained in 2020. In August 2023, EPA announced a new full review of the ozone NAAQS to ensure the standards reflect the most current relevant science. As part of this process, EPA released the first two volumes of the Integrated Review Plan for the ozone review. In December 2025, the EPA issued its final decision to retain the existing primary and secondary standards of 0.070 ppm.

Nebraska's ozone monitoring network includes two sites in the Omaha MSA, one site in the Lincoln MSA, one site in the Grand Island MSA, and an EPA-operated site in the Santee Sioux reservation in northeast Nebraska.

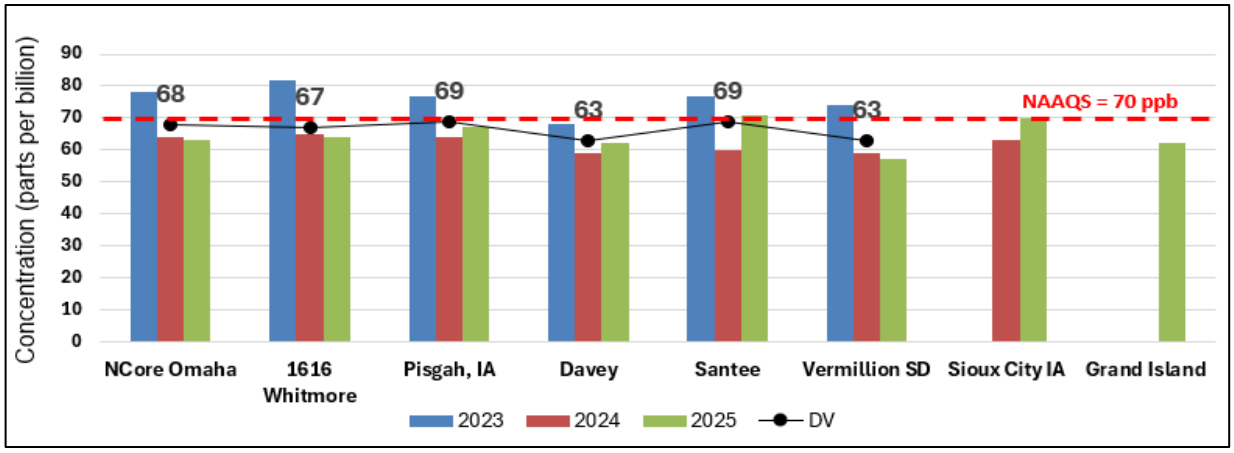
The Douglas County Health Department operates two ozone monitors in the city of Omaha, and Iowa DNR operates one monitor in Pisgah, Iowa, near the northern edge of the Omaha NE-IA MSA. Midyear 2024 population estimates for the Omaha MSA exceeded one million. Photochemical Assessment Monitoring Station (PAMS) sites are required in Core Based Statistical Areas (CBSAs) with a population of one million or more[1]. The PAMS requirement is discussed further in Section VIII.B of this plan.

The Lincoln Lancaster-County Health Department operates an ozone monitoring station at Davey, northern Lancaster County, in the Lincoln MSA. A second ozone monitoring site in the Lincoln MSA is necessitated as the 2024 population estimate for the Lincoln MSA exceeded 350,000 and DVs exceeded 85% of the ozone NAAQS. Candidate locations for the second site are being reviewed by the LLCHD at the time of this report drafting.

The estimated population of the Grand Island MSA exceeds 50,000. Although it is not currently required by federal regulation, DWEE began operating an ozone monitor in Grand Island, Nebraska, in March 2025.

One ozone monitoring site is currently required for the Sioux City MSA. This requirement is met by a site near Sioux City, Iowa, which began operation by Iowa DNR in 2024. In addition, the South Dakota Department of Agriculture and Natural Resources operates an ozone monitor just outside of the western boundary of the MSA, near Vermillion, South Dakota

Figure 4. Plot of Annual Average Ozone Values 2023-2025 and Three-Year Design Values (DV) for Nebraska and Nearby Sites.



Three-year design values are not available for the Sioux City, IA or Grand Island locations as only two years of data has been collected at the former location, and only one year of data has been collected at the latter. As shown in Figure 4, Table 3, and in Appendix B, Table B-1, the 2023-2025 ozone DVs at monitoring sites in Nebraska all exceeded 88% of the ozone NAAQS. Sites in the Omaha and Lincoln MSAs remained in attainment with the standard. Data from all five ozone monitoring sites in Nebraska are reported to AirNow and are used to compute the daily Air Quality Index (AQI). As shown in Table 3, AQI values for ozone were in the Good range more than 90% of measurement days at all five Nebraska sites. Three of the sites experienced days with AQI in the Unhealthy for Sensitive Groups range, with the highest reading recorded at the Santee site. None of these sites had any days in the Unhealthy range.

[1] 40CFR Part 58, Appendix D, Paragraph 5.

Table 3. Ozone 2025 Design Values as Percentage of the NAAQS and Air Quality Index (AQI) Status for Nebraska Locations (Number of Days and Percentage of Days Per Category).

	Design Value as Percent of NAAQS	Number of Monitoring Days	Good		Moderate		Unhealthy for Sensitive Groups		Unhealthy	
			Days	%	Days	%	Days	%	Days	%
Omaha NCore [1]	97.1	361	343	95.0	17	4.7	1	0.3	0	0
1616 Whitmore, Omaha [2]	95.7	242	218	90.1	23	9.5	1	0.4	0	0
Davey (Lancaster Co.) [2]	90.0	203	191	94.1	12	5.9	0	0	0	0
Grand Island (Hall Co.) [3]	88.6	184	169	91.8	15	8.2	0	0	0	0
Santee (Knox Co.) [1]	98.6	348	320	92.0	24	6.9	4	1.1	0	0

(1) Ozone monitoring is active year-round, but total number of monitoring days may be less than 365 due to maintenance and down-time.
(2) Ozone monitoring conducted between March 1 and October 31.
(3) Informal Design Value at Grand Island based on one complete year of data.

The highest daily ozone levels at Nebraska monitoring locations during 2025 occurred during the time period of May 11, 2025 through June 1, 2025. As shown in Table 4, from May 11 through May 13 the Santee site recorded readings of 71 to 75 ppb, which exceeded the NAAQS for ozone. On June 1, the Santee site recorded a reading of 71 ppb, and the Omaha NCore and 1616 Whitmore site each reported ozone concentrations at 72 ppb on that date, which exceeded the NAAQS. Each recorded exceedance resulted in an AQI value in the Unhealthy for Sensitive Groups range at the impacted monitoring site. AQI values for ozone were in the Moderate range for all other Nebraska monitoring sites on those dates.

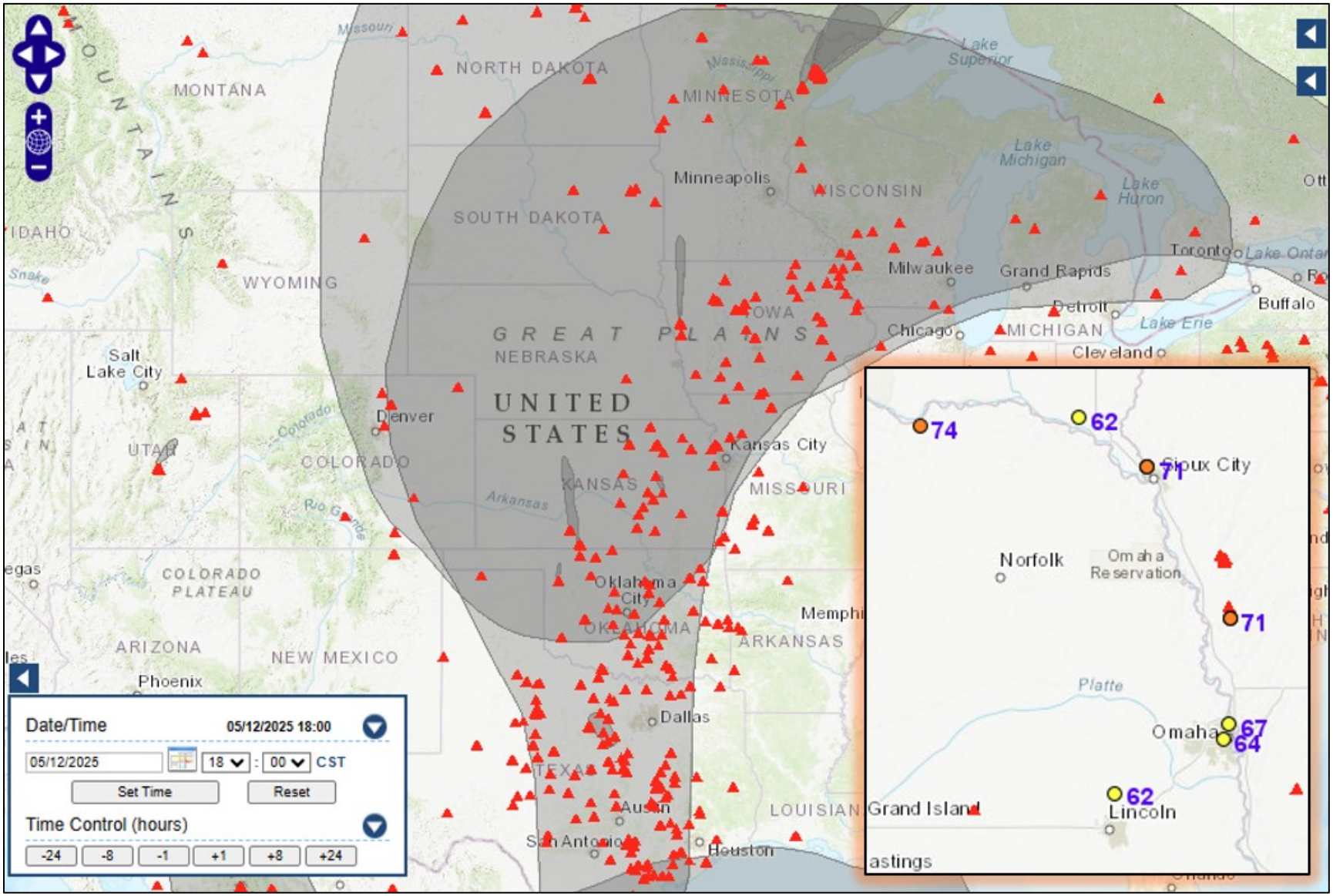
Table 4. Maximum Daily 8-hour Ozone Levels (in ppb) at Nebraska Monitoring Locations for Dates in 2025 with Levels Exceeding the Ozone NAAQS (70 ppb)[1]

	Ozone Level (PPB) and AQI Category Color				
Date	**Davey**	**Grand Island**	**NCore**	**Whitmore**	**Santee**
5/11/2025	60	61	61	63	**71**
5/12/2025	62	62	64	67	**74**
5/13/2025	56	65	61	63	**75**
6/1/2025	64	66	**72**	**72**	**71**

(1) Values exceeding the NAAQS are in bold font. Table cell background colors correspond to AQI categories as shown in Table 3

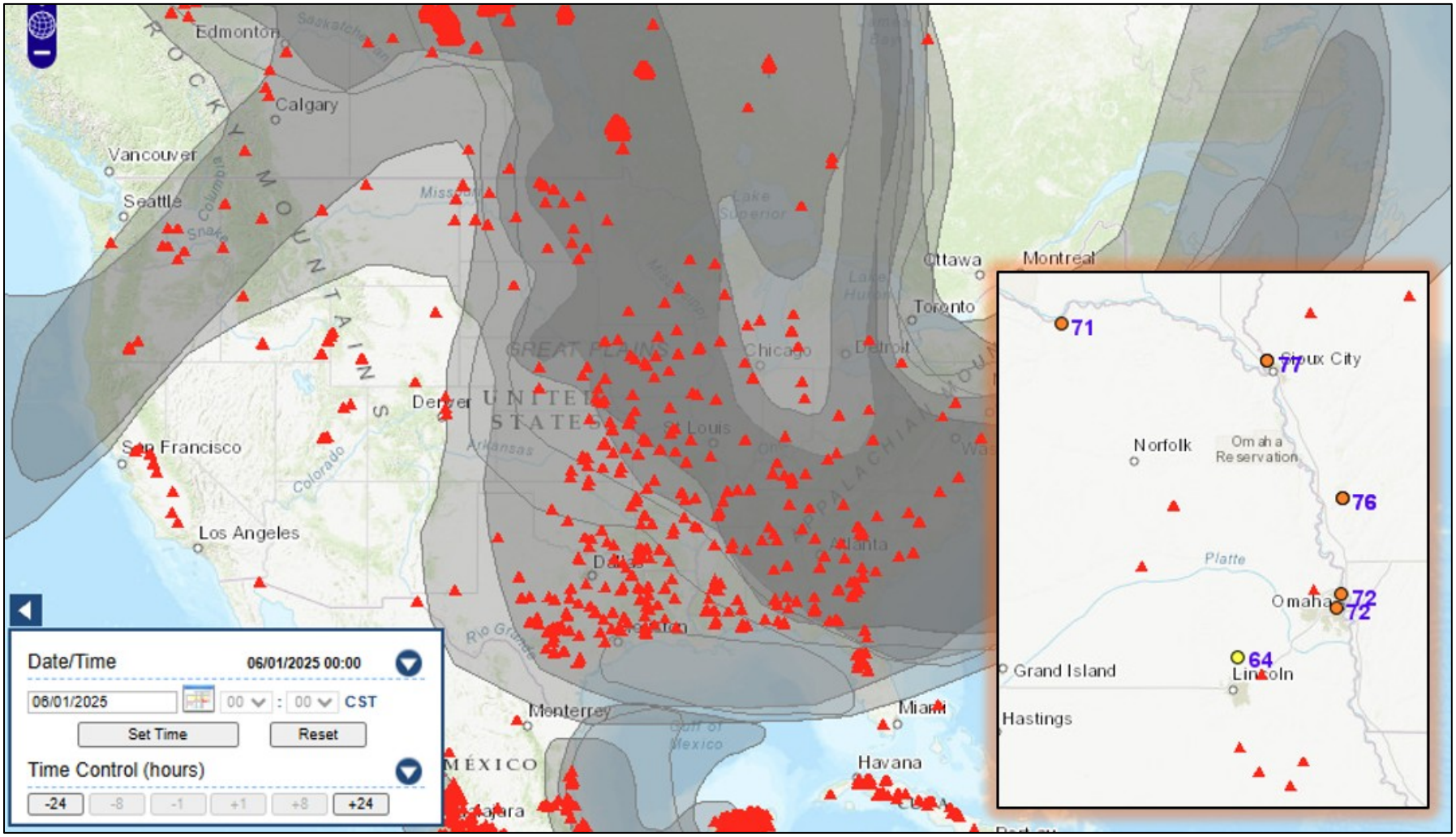
On the May dates when ozone exceedances occurred, Nebraska was affected by widespread smoke plumes from wildfires in Mexico, Texas, and Oklahoma, as illustrated in Figure 5. As shown in Figure 6, on June 1 Nebraska was impacted by smoke from wildfires in western Canada, augmented by fires in the southern Great Plains. Ozone formation on these dates was likely triggered by components in the smoke.

Figure 5. Regional Map of Ozone Monitoring Sites and Smoke for May 12, 2025.*



* Smoke plumes (gray) and fire locations (red triangles) on 5/12/2026. Inset map shows eastern Nebraska monitoring locations with ozone values (ppb) colored by AQI category, with smoke overlay omitted for clarity Both maps from EPA Air Now Tech website (http://www.airnowtech.org).

Figure 6. Regional Map of Ozone Monitoring Sites and Smoke for June 1, 2025.*

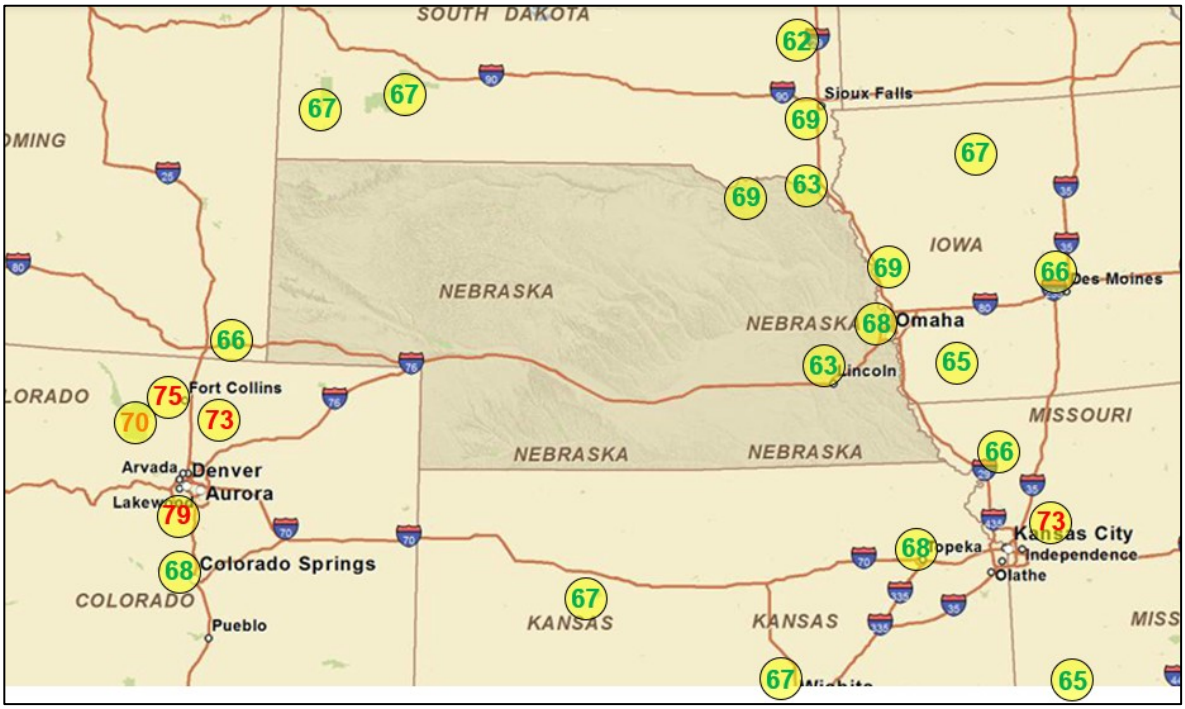


* Smoke plumes (gray) and, fire locations (red triangles) on 6/1/2025. Inset map shows eastern Nebraska monitoring locations with ozone values (ppb) colored by AQI category, with smoke overlay omitted for clarity Both maps from EPA Air Now Tech website (http://www.airnowtech.org).

As part of the analysis of Nebraska ozone data, DWEE tracks values from monitoring sites in surrounding states to understand the regional context and trends. Design values from these sites are included in Appendix B, Table B-1.

The map in Figure 7, below, shows the 2023-2025 ozone DVs for monitoring sites in Nebraska and surrounding states. All urban and rural monitoring sites in the region show DVs above 60 ppb (a DV of 59.5 ppb is 85% of the NAAQS). The highest ozone levels in the region are found in Kansas City and in the northern Colorado Front Range.

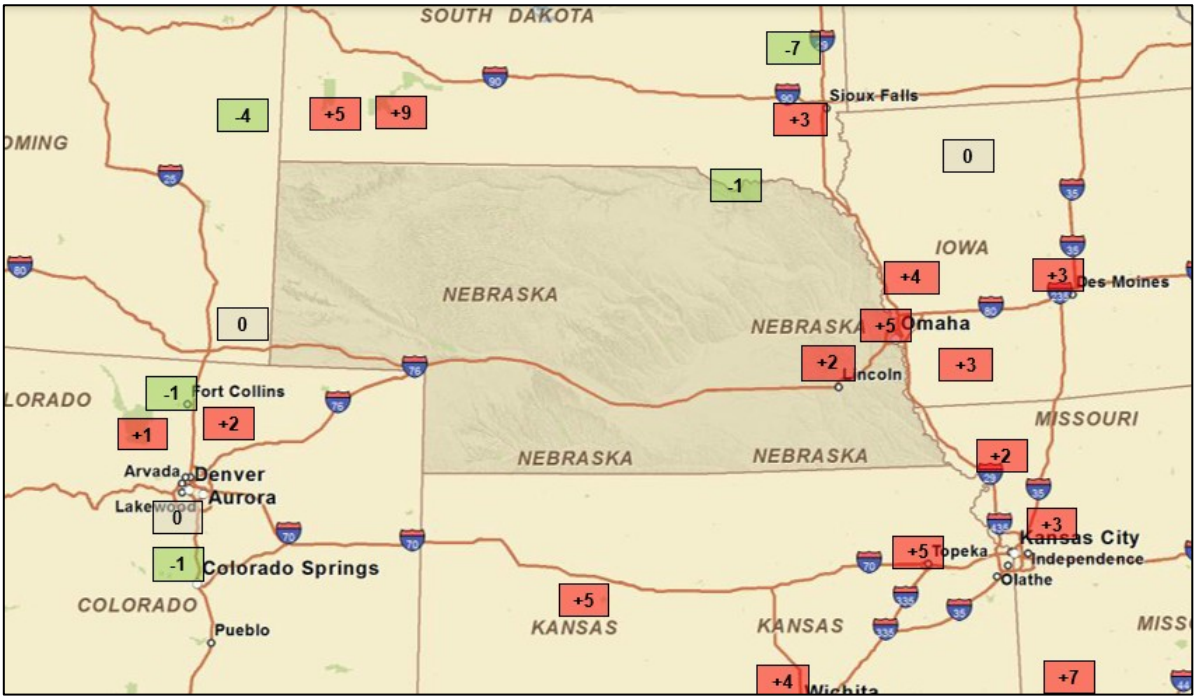
Figure 7. Three-Year (2023-2025) Ozone Design Values (DVs, in ppb) for Locations in and Around Nebraska*



* Where there is more than one monitoring site in a locale, the highest ozone DV is shown. DVs in green are in attainment with the NAAQS (70 ppb); values in red are not in attainment.

The map in Figure 8, on the following page, shows the difference between the 2023-2025 ozone design value and the site-average design value for 2020 through 2024 for monitor sites in Nebraska and the surrounding region. Many sites in Nebraska and surrounding states have three-year DVs that are above the five-year monitoring site average value. The current DVs include the effect of unusually high ozone levels recorded across the region in 2023 due to prolonged impact of smoke from Canadian wildfires.

Figure 8. Difference Between 2023-2025 Ozone Design Value (ppb) and 2020-2024 Site Average Design Value for Monitor Sites in and Around Nebraska *



* Red background color in boxes indicates sites with a 2025 DV higher than the site average; green background color indicates sites with a 2025 DV lower than the site average. Where there is more than one monitoring site in the locale, the value for the site with the highest 2025 DV is shown.

Figures 9, 10, and 11, on the following pages, show trends in 8-hour ozone values from 2016 through 2025 for monitors in the Omaha NE-IA MSA; Lincoln and Sioux City MSAs; and rural monitor sites in the region, respectively. Each figure includes a plot of annual design values (which are used for regulatory comparison to the NAAQS) and a second plot of the annual 4th-highest daily maximum 8-hour ozone values, which are used to calculate the three-year design values for each location. The averaging used to calculate the design values yields smoother trends with less year-to-year variation, while the annual 4th highest plots reveal the true annual differences in measured values.

Most sites show a similar trend in design values: a slight increase from 2016 through 2018, gradually falling DVs through 2022, and increased values from 2022 through 2025. The plots of annual 4th highest values show the abruptly higher values recorded in 2023 at most sites due to the prolonged impact of smoke from Canadian wildfires. All of the monitoring sites in the Omaha and Sioux City MSAs had 4th highest values that exceeded the NAAQS.

Figure 9. Trends 2016-2025 in Ozone Design Values and Annual 4th High Daily Maximum 8-hour Values for Monitors in the Omaha NE-IA MSA

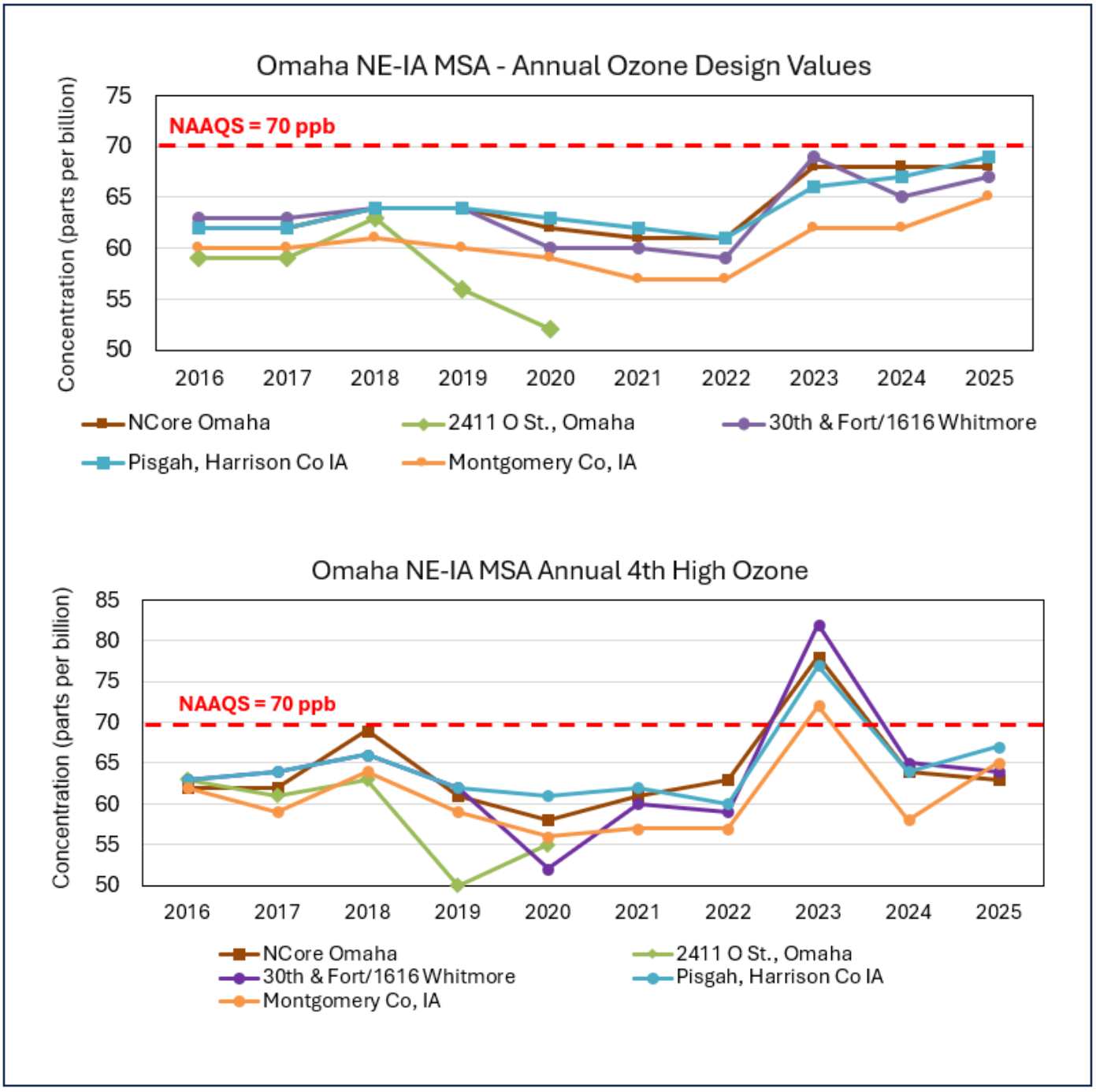
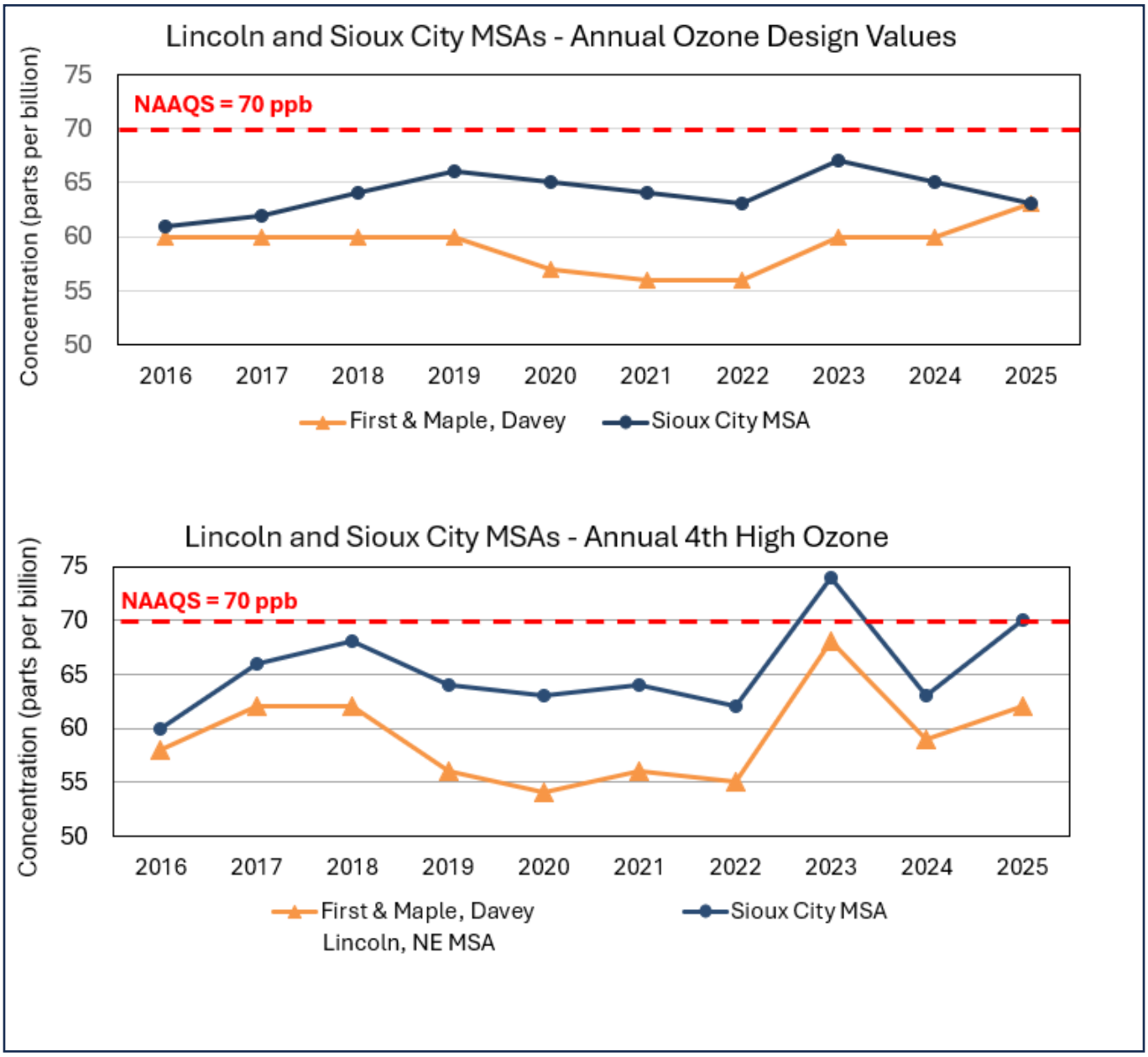
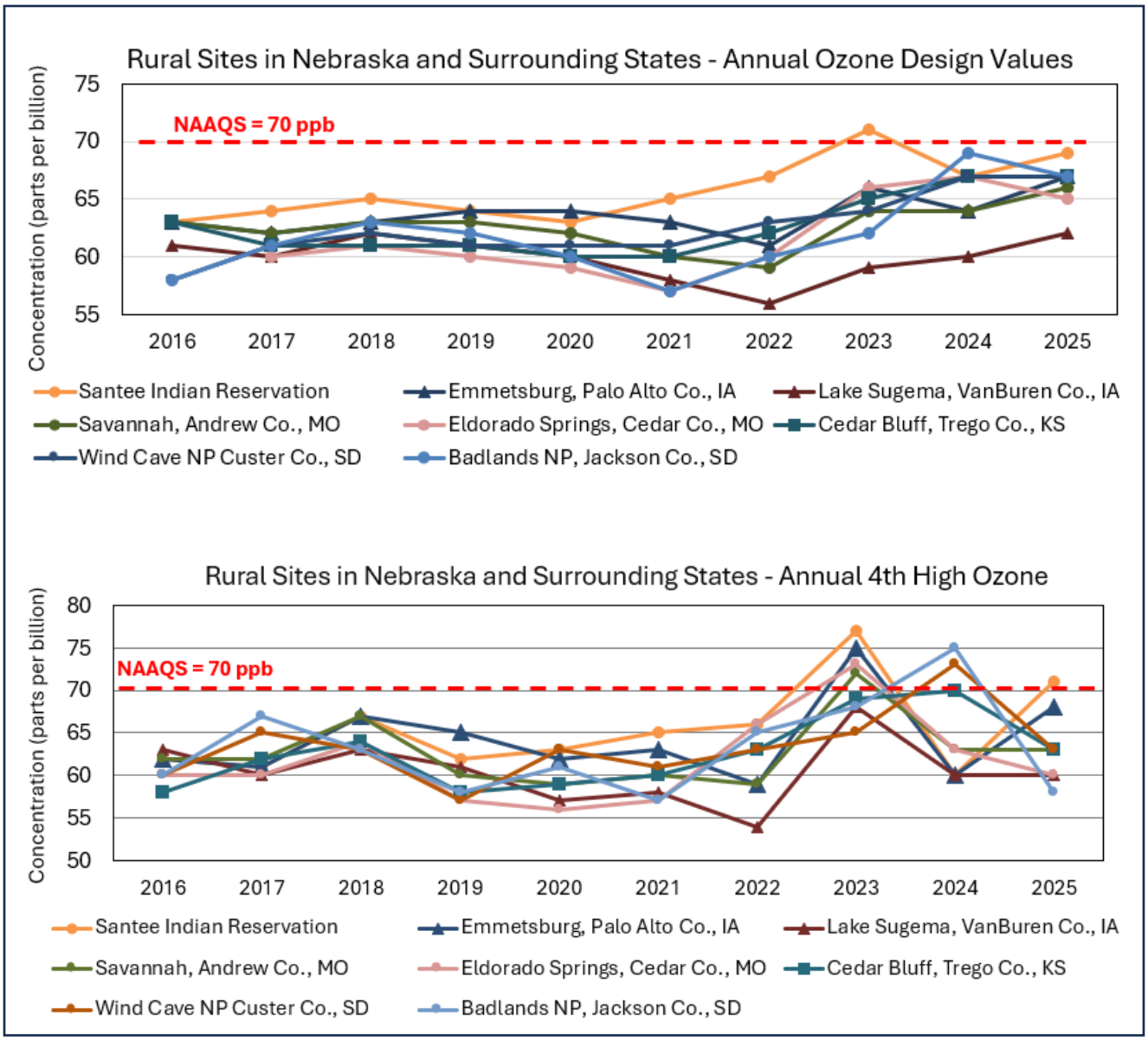


Figure 10. Trends 2016-2025 in Ozone Design Values and Annual 4th High Daily Maximum 8-hour Values for Monitors in the Lincoln, NE and Sioux City, IA MSAs



A comparison in the trends in the annual ozone design value for the Santee Indian Reservation in Nebraska and annual design values from rural monitoring sites in the neighboring states of Missouri, Iowa, South Dakota, and Kanas are shown in Figure 11.

Figure 11. Trends 2016-2025 in Ozone Design Values and Annual 4th High Daily Maximum 8-hour Values for Monitors at Rural Sites in Nebraska and Surrounding States



2. Fine Particulate Matter: $PM_{2.5}$

Particulate matter is a general term for a mixture of solid particles and liquid droplets found in the air that are small enough to be inhaled. Fine particles less than 2.5 micrometers in diameter (about 30 times smaller than the width of a human hair) are referred to as $PM_{2.5}$.

In May 2024, EPA lowered the primary annual average $PM_{2.5}$ NAAQS standard to 9.0 µg/m^3, while retaining the secondary annual standard of 15.0 µg/m^3. EPA also retained the primary and secondary 24-hour $PM_{2.5}$ standards of 35.0 µg/m^3. In March 2025, EPA announced that the agency is revisiting the revised annual

standard, and in November 2025 filed a motion to vacate the primary annual $PM_{2.5}$ 2024 standard. At the time of this report, the primary annual $PM_{2.5}$ NAAQS standard of 9.0 µg/m^3 remains in effect.

Nebraska's $PM_{2.5}$ monitoring network includes four sites in the Omaha NE-IA MSA operated by the Douglas County Health Department; two are in Omaha (NCore and Berry Street), one site in Bellevue, and one in Blair. There is one $PM_{2.5}$ monitoring site in the Lincoln MSA operated by the Lincoln-Lancaster County Health Department. The Department of Water, Energy and Environment operates one monitoring site in the Grand Island MSA, one site at the Homestead National Historic Park in Gage County, and one site in Scottsbluff. Figures 2 and 3 of this report show the locations of the monitoring sites in Nebraska.

As shown in Figures 12 and 13, Table 5, and in more detail in Appendix B, Tables B-6a and B-6b, all monitored metropolitan areas in Nebraska are in attainment with the primary annual average and 24-hour $PM_{2.5}$ NAAQS in effect in 2025.

Figure 12. Plot of Annual Average $PM_{2.5}$ Values 2023-2025 and Three-Year Design Values (DV) for Nebraska and Nearby Sites.

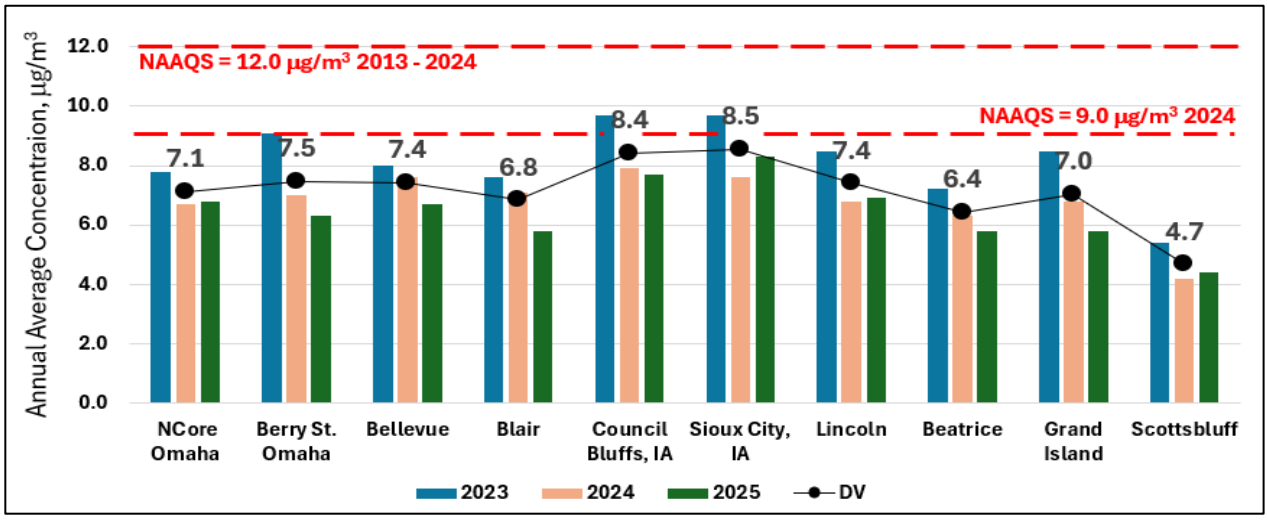


Figure 13. Plot of 24-Hour 98th Percentile Concentration $PM_{2.5}$ Values 2023-2025 and Three-Year Design Values (DV) for Nebraska and Nearby Sites.

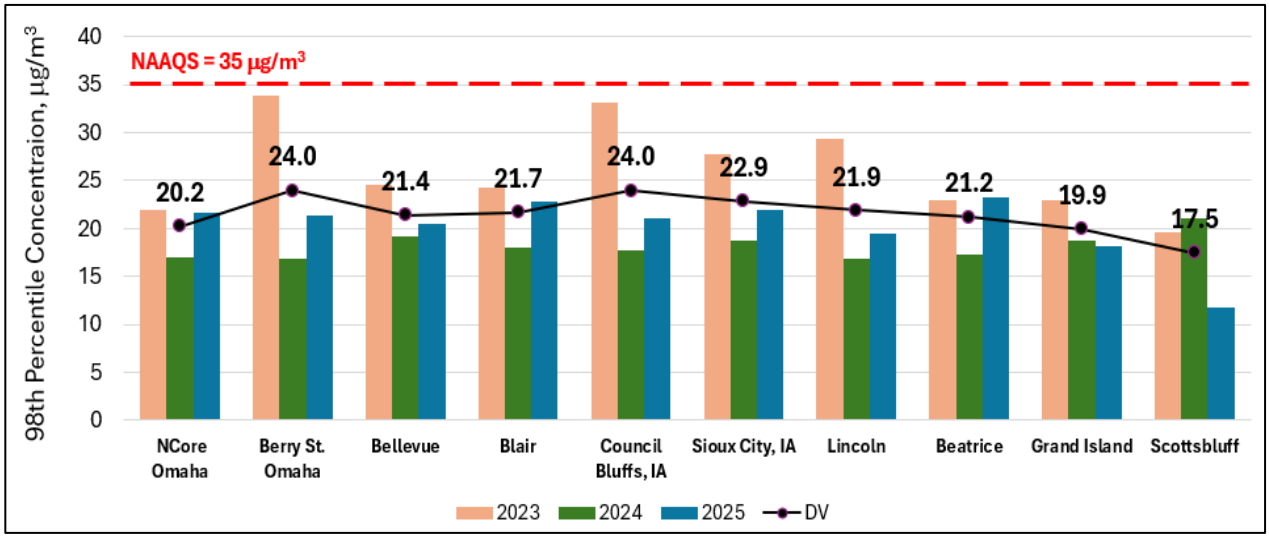


Table 5. 24-hour $PM_{2.5}$ Design Values (as percentage of the NAAQS) and Daily Air Quality Index (AQI) Results[(1)] in 2025 for Continuous Monitoring Locations in and Nearby Nebraska.

	24-hour Design Value (%)	Number of Monitoring Days	Good		Moderate		Unhealthy for Sensitive Groups		Unhealthy	
			# Days	%	# Days	%	# Days	%	# Days	%
Beatrice (Homestead)	54	335	254	75.8	80	23.9	1	0.3	0	0
Bellevue	61	353	278	78.8	74	21.0	1	0.3	0	0
Blair	62	336	291	86.6	44	13.1	1	0.3	0	0
Grand Island	57	327	278	85.0	47	14.4	2	0.6	0	0
Omaha – NCore	58	360	290	80.6	69	19.2	1	0.3	0	0
Scottsbluff	59	308	295	95.8	13	4.2	0	0	0	0
Vermillion SD	72	343	308	89.8	33	9.6	2	0.6	0	0

(1) Number and percentage of days in each category

As shown in Table 5, the percentage of days in 2025 in the AQI Good range for $PM_{2.5}$ ranged from 75.8% to 95.8%. Due to smoke impacts, five sites in Nebraska experienced from one to two days in the Unhealthy for Sensitive Groups level, one site in South Dakota experienced two days in the Unhealthy for Sensitive Groups level, and no sites recorded any days in the Unhealthy level.

Daily exceedances of the $PM_{2.5}$ standard were registered at six Nebraska monitoring sites on August 1, 2025. The Grand Island monitoring site registered a second daily exceedance on August 2, 2025 (Table 6).

As shown in Table 6, AQI scores reached the Unhealthy for Sensitive Groups range on August 1, 2025 at the Blair, NCore, Berry Street, Bellevue, Homestead and Grand Island monitoring sites. The Grand Island site had a second day with an AQI value in the Unhealthy for Sensitive Groups on August 2, 2025, while the other five sites showed a Moderate AQI level on that day.

Table 6. Maximum Daily 24-hour $PM_{2.5}$ Levels at Nebraska Continuous Monitoring Sites for Dates in 2025 with Exceedances of the NAAQS (35 µg/m^3)*.

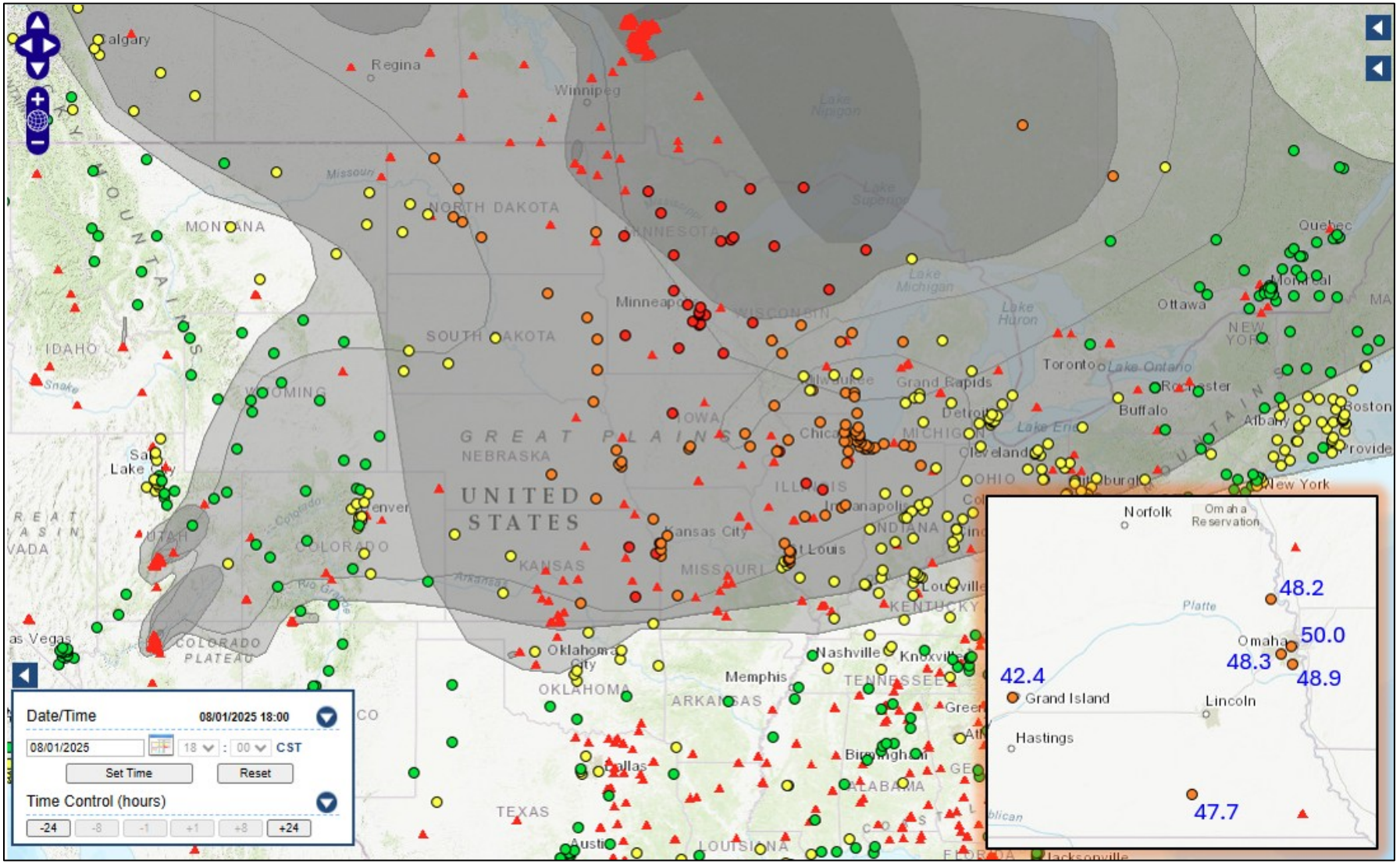
Date	Blair	NCore Omaha	Berry St. Omaha	Bellevue	Beatrice (Homestead Nat. Pk.)	Grand Island
8/1	**48.2**	**50.0**	**48.3**	**48.9**	**47.7**	**42.4**
8/2	30.0	29.6	30.1	28.5	32.9	**38.9**

* Values exceeding the standard are in bold font. Cell colors indicate Air Quality Index category as shown in Table 5. The Scottsbluff monitor was not operational at the time of the exceedance.

Smoke from wildfires and prescribed fires can temporarily increase $PM_{2.5}$ levels in Nebraska. Prescribed burns are used in Nebraska and in nearby states for prairie conservation, maintenance of grazing lands, and to eliminate dry vegetation that could feed larger wildfires. Air quality reductions from prescribed burns are typically brief, while wildfire smoke can persist over many days.

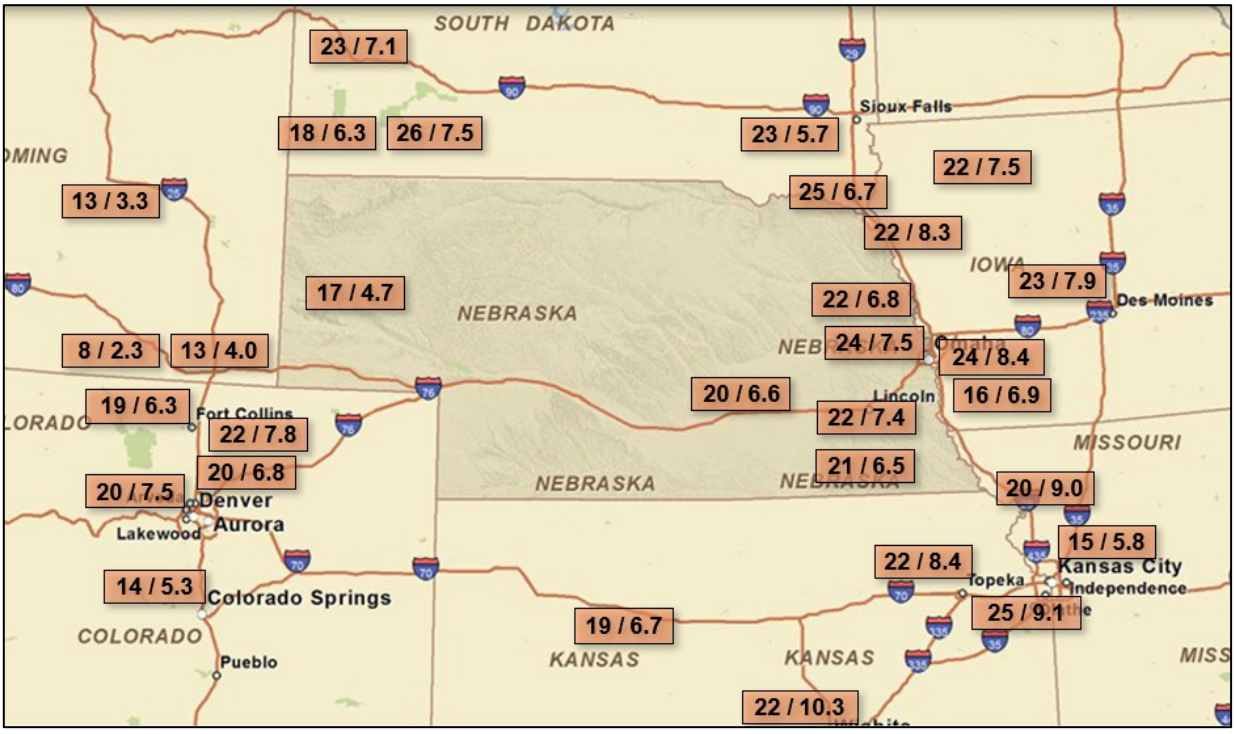
As can be seen in Figure 14, the 24-hour NAAQS exceedances on the first and second days of August can be attributed to smoke from Canadian forest fires and wildfires in Utah and Arizona including the Monroe Canyon Fire, and the White Sage Fire and Dragon Bravo fire near the North Rim of Grand Canyon, Arizona.

Figure 14. Regional Map of $PM_{2.5}$ Monitoring Sites and Active Fires and Smoke for August 1, 2025.*



* Smoke plumes (gray), active fires (red triangles), and monitoring locations with ozone values colored by AQI category. Inset map (without smoke overlay) shows eastern Nebraska monitoring sites with 24-hour concentrations. All data from EPA Air Now Tech website (http://www.airnowtech.org).

Figure 15. $PM_{2.5}$ 2023-2025 Design Values (DVs) for Sites in and Around Nebraska.(1)

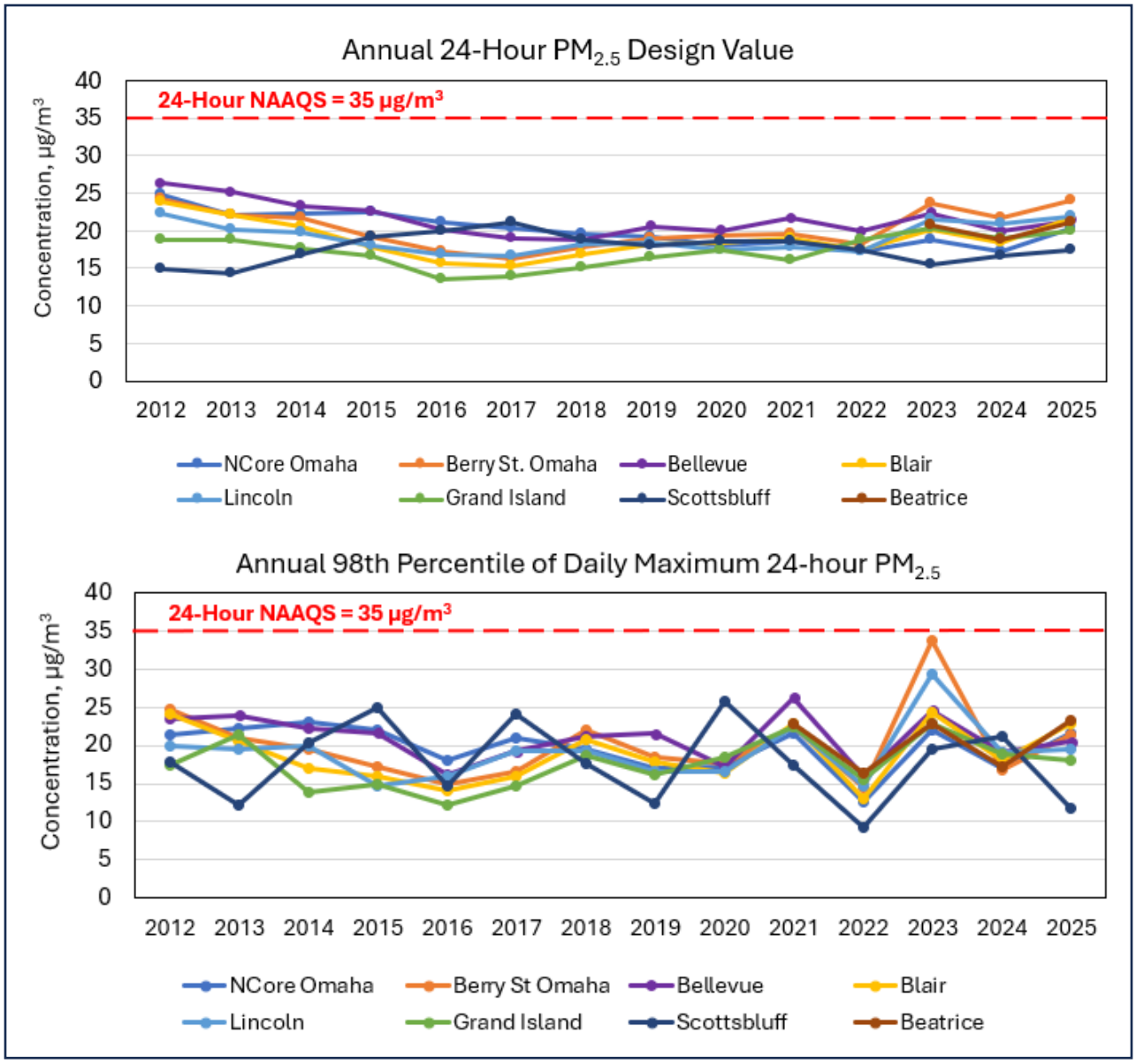


(1) The first number is the 24-hour DV and the second number is the annual average DV. Where there is more than one site in a metropolitan area, the highest DVs are shown.

Figure 15 shows the 2023-2025 design values for $PM_{2.5}$ monitoring sites in and around Nebraska. Higher annual average values were measured in the larger metropolitan areas in the region (Omaha-Council Bluffs, Kansas City, and Denver). All sites in the region were in attainment with both primary $PM_{2.5}$ NAAQS standards.

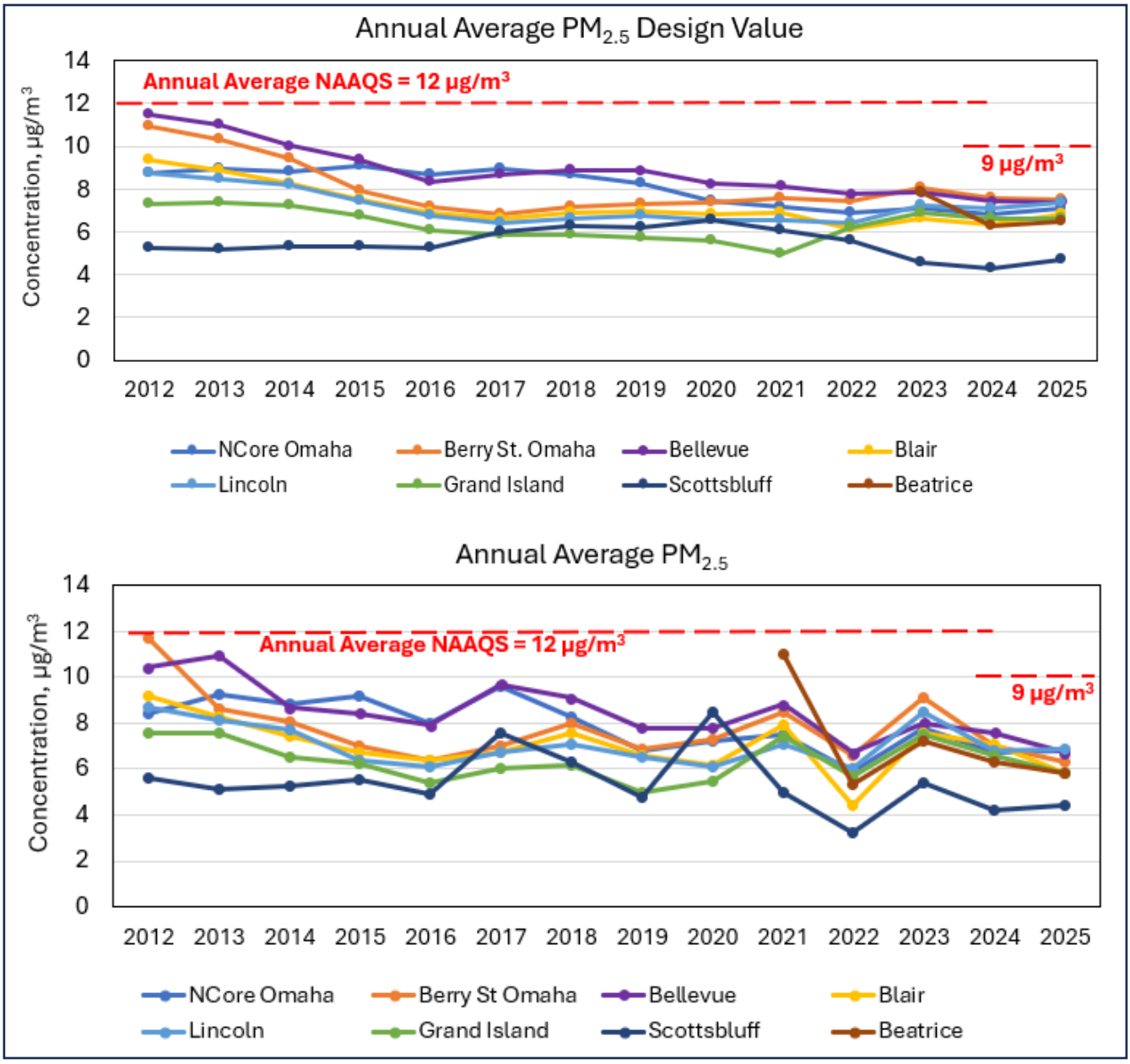
Figures 16 and 17, on the following pages, plot trends in $PM_{2.5}$ values from 2012 through 2025 for the annual 98th percentile of daily maximum 24-hour data and the annual average data, respectively. Each figure shows a plot of design values followed by a plot of the annual data used to calculate the design values. Most sites in eastern and central Nebraska show a small overall downward or flat trend in both parameters despite large year-to-year variations. All sites showed elevated levels in 2023 due to the persistent wildfire smoke that blanketed the region from May through September.

Figure 16. Trends in Daily Maximum 24-hour $PM_{2.5}$ for Nebraska Monitoring Sites 2012-2025*



* A new continuous monitor was installed at Scottsbluff in 2020. The 2020 value shown was computed from only 252 days of continuous monitor data and is thus not valid for NAAQS comparison.

Figure 17. Trends in Annual Average $PM_{2.5}$ for Nebraska Monitoring Sites 2012-2025*



* A new continuous monitor was installed at Scottsbluff in 2020. The 2020 value shown was computed from only 252 days of continuous monitor data and is thus not valid for NAAQS comparison.

Because smoke from wildfires and prescribed fires sometimes impacts populated areas, DWEE collaborates with the National Weather Service (NWS), the Nebraska Department of Health and Human Services (DHHS), LLCHD, and DCHD in a public smoke advisory system, through which advisories are issued through local health departments. The DWEE also helps prepare air quality alerts that are issued by the NWS for counties impacted by smoke. Both advisories and alerts are issued during the spring prescribed burn season and whenever wildfire smoke has potential for air quality impacts on Nebraska.

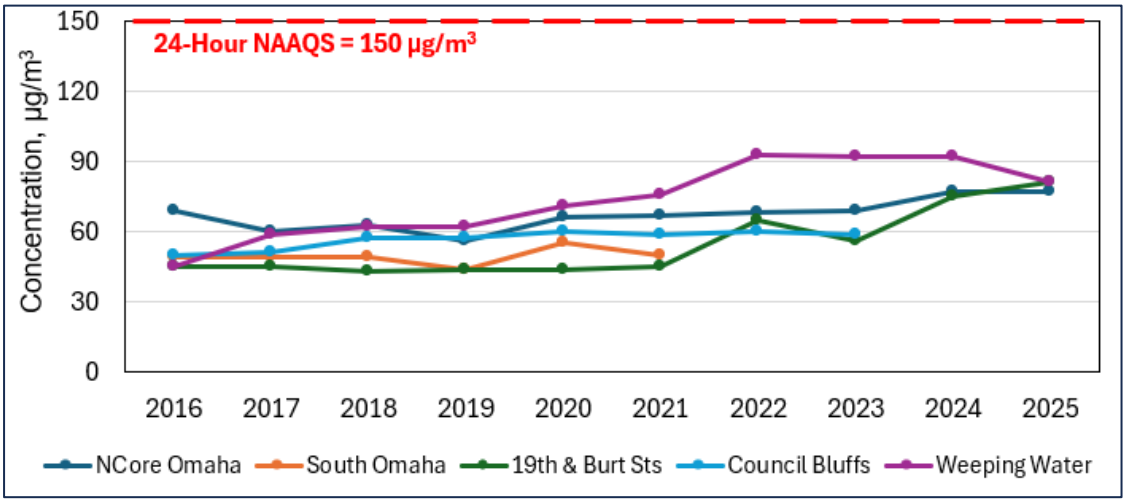
3. Coarse Particulate Matter: PM_{10}

The current national ambient air quality 24-hour standard (NAAQS) for coarse particulate matter (PM_{10}) is 150 µg/m^3 for both the primary standard and the secondary standard. The PM_{10} NAAQS states that the 24-hour standard of 150 µg/m^3 is not to be exceeded more than once per year on average over the latest three-year time frame, where an exceedance is a 24-hour average value of 155 µg/m^3 or more. This means that the 4th highest value over the most recent three years needs to be below 155 µg/m^3 to avoid nonattainment of the NAAQS.

Nebraska's PM_{10} monitoring network consists of two monitoring sites in the Omaha NE-IA MSA operated by the Douglas County Health Department, and one in Cass County operated by DWEE. Cass County has limestone mining and processing facilities, which are subject to specific air emissions rule set forth in Chapter 2 of Title 129 – Air Quality Regulations. There is a third monitoring site in South Omaha presently closed for relocation.

There were no 24-hour exceedances of the 150 µg/m^3 value over the 2023-2025 period at any of the Nebraska sites, so all are in attainment with the NAAQS (see Appendix B, Table B-5a). Their 4th highest values over that period was less than 55% of the NAAQS (see Appendix B, Tables B-5b). The 4th highest values for Nebraska sites from 2016 through 2025 are plotted in Figure 18.

Figure 18. Nebraska 24-hour PM_{10} Trends, 2016-2025



* 4th highest 24-hour measurement in the three-year period ending in the labeled year.

Nebraska's current PM_{10} monitoring network meets federal minimum monitoring requirements and provides adequate coverage in high-population areas. DWEE will continue to work with DCHD to locate a new site for the south Omaha monitoring station.

4. Sulfur Dioxide (SO_2)

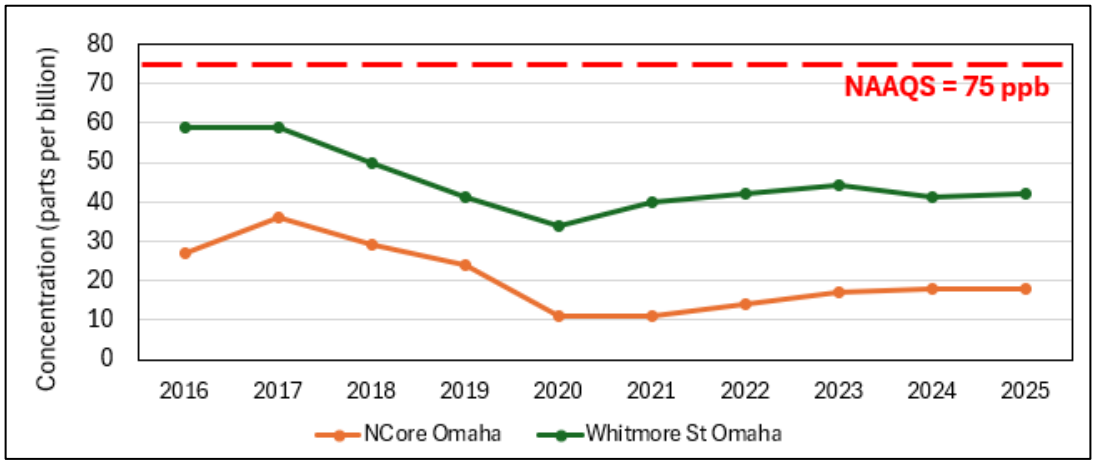
The one-hour primary standard NAAQS for SO_2 is 75 ppb (annual 99th percentile of daily maximum one-hour average concentrations, averaged over three years). All areas of Nebraska are currently designated as "Attainment/Unclassifiable" with respect to this standard. An "unclassifiable" designation is applied to geographical areas where the EPA lacks sufficient data to determine if they meet or violate the NAAQS. These areas are often treated as attainment areas for planning purposes but can be redesignated if monitoring reveals air quality issues.

The only current SO2 monitoring sites in Nebraska are operated by DCHD in Omaha. The 2023-2025 1-hour SO_2 annual levels and Design Values (DVs) for these sites are listed in Appendix B, Table B-3. The

highest DV of 42 ppb (56% of the NAAQS) was recorded at the Whitmore Street site in north Omaha. The DV at the neighborhood-scale Omaha NCore site was 18 ppb, 24% of the NAAQS. Figure 19 on the next page shows trends in the SO2 design value for these sites from 2016 through 2025.

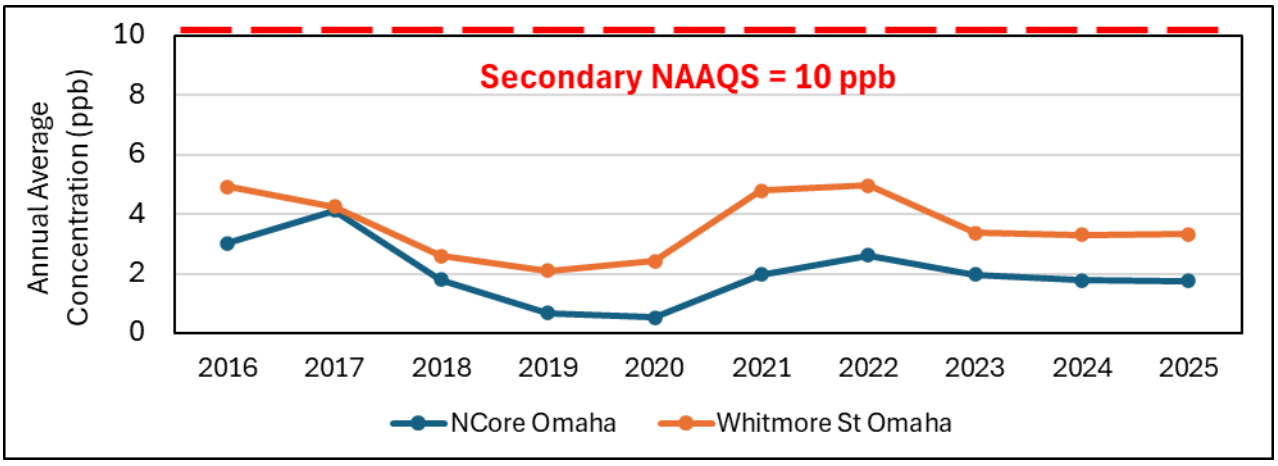
The Whitmore Street monitor shows the higher concentrations, as expected from its location near North Omaha Station, a coal-fired electrical generation plant operated by the Omaha Public Power District (OPPD). SO_2 levels at Whitmore Street and NCore have declined since 2017, after OPPD, in 2016, converted three of the five generating units at North Omaha Station from coal to natural gas. Measured levels have increased slightly at these sites since reaching low points in 2020-2021.

Figure 19. Trends in 1-hr SO_2 Design Value for Omaha Monitoring Sites 2016-2025



In December 2024, EPA revised the secondary NAAQS for SO_2 to be based on daily averages of 1-hour data and the annual average derived from those data. The latest three-year average of those values must be less than the new standard of 10 parts per billion. Figure 20, which plots the annual averages of SO_2 at the two Omaha monitoring sites from 2016 to 2025, shows that both sites have maintained annual averages less than fifty percent of the revised secondary NAAQS.

Figure 20. Trends in Annual Average 1-hr SO_2 at Omaha Monitoring Sites 2016-2025 in Comparison to Revised Secondary NAAQS



Nebraska's SO_2 monitoring network meets all federal requirements and shows generally low to medium concentrations well below the primary and secondary NAAQS. DWEE does not plan any changes in the network at this time.

Nebraska has three areas adjacent to coal-fired electrical generating plants that are subject to requirements set forth in 40 CFR Part 51 Subpart BB (known as the SO_2 Data Requirements Rule). These areas are required to demonstrate attainment with the 2010 SO_2 NAAQS by air dispersion modeling. As required by 40 CFR Subpart BB, §51.1205(b), DWEE is submitting an annual report to document the SO_2 emissions of the applicable source in each of these areas and assess the cause of any emissions increase from the previous year. This report is being submitted as Appendix D of this Network Plan.

5. Nitrogen Dioxide (NO_2)

The EPA primary 1-hour NAAQS for NO_2 is 100 parts per billion (ppb; based on the 98th percentile of the annual distribution of daily maximum one-hour NO_2 concentrations, averaged over three years). There is also a primary and secondary annual average standard of 53 ppb. EPA has designated all areas of Nebraska (and all areas of the country) as "unclassifiable/attainment" with respect to these standards.

Currently there are no NO_2 monitoring sites in Nebraska. At multipollutant NCore sites (such as Omaha NCore), EPA requires measurement of reactive oxides of nitrogen (NOy) instead of NO_2 in order to quantify more of the breakdown products of nitric oxide (NO) in the air, which contribute to the secondary formation of ozone and $PM_{2.5}$. The difference between measured NOy and NO (NOy-NO) generally approximates NO_2, with NOy-NO being equal to or possibly higher than NO_2.

Nitrogen oxide monitoring data from the Omaha NCore site for 2023-2025 are presented in Appendix B, Table B-4. The design value from the 98th percentile of 1-hour NO-NOy data was 34% of the standard, and the annual average design value was 11% of the NAAQS. Figures 21 and 22 plot trends in annual 1-hour and annual average data, respectively, from 2011-2024 for Omaha NCore (NO-NOy) and a rural background site in Union County, South Dakota (true NO_2). The Union County site was closed in 2021. The Omaha NCore site shows continued low values during the entire time period.

Figure 21. Trends in Annual 1-hr NO-NO_y and NO_2 for Nebraska and Nearby Monitoring Site 2011-2025

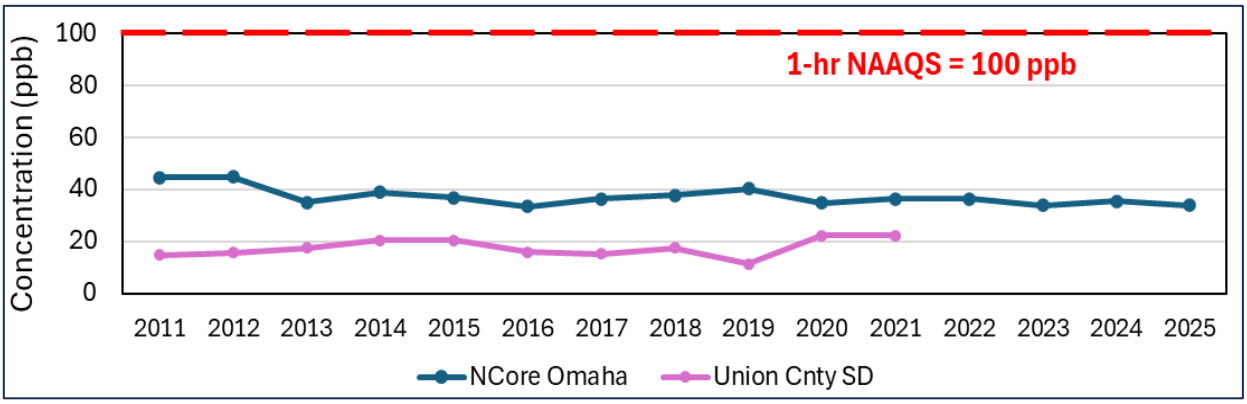
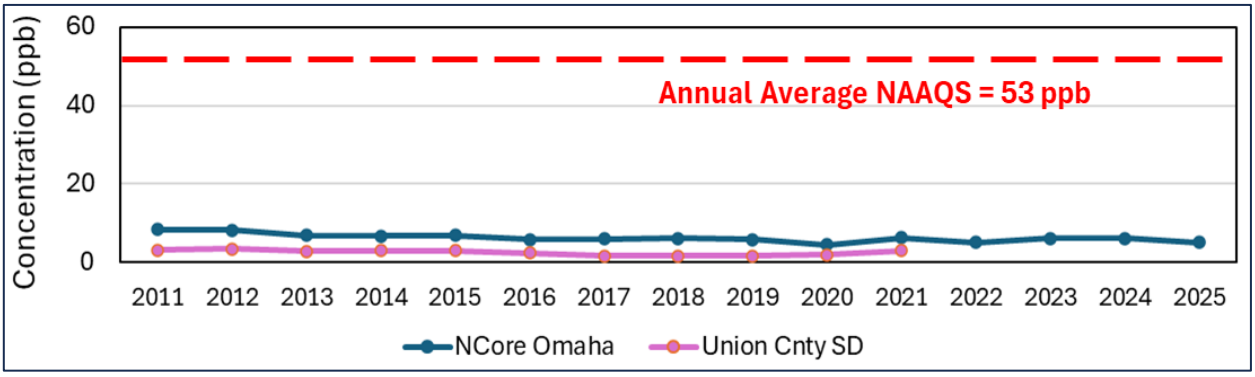


Figure 22. Trends in the Annual Average NO-NO_y and NO_2 for Nebraska and Nearby Monitoring Site 2011-2025



Federal regulations require near-road and area-wide monitoring of true NO_2 in MSAs with population greater than one million. As the estimated population of the Omaha MSA surpassed that threshold in 2024, these regulations now apply. A near-road site is required to be adjacent to a highest-traffic highway and to monitor carbon monoxide and $PM_{2.5}$ in addition to NO_2. Appendix E of this plan includes an analysis of siting factors for the Omaha area and proposals for two potential near-road monitoring sites in south Omaha.

6. Carbon Monoxide (CO)

The NAAQS for CO includes a primary one-hour average concentration standard of 35 parts per million (ppm) and a primary 8-hour average concentration standard of 9 ppm, with each standard not to be exceeded more than once per year. The annual value for each measurement duration is thus the second-highest average value for the year, and the design value is the highest annual value over the most recent three years.

Vehicle emissions are a primary source of carbon monoxide emissions. The Omaha NCore monitoring site includes a required neighborhood-scale CO monitor, and DCHD also operates a near-road, highest-concentration monitoring site at 78th and Dodge Streets in Omaha.

As shown in Table B-2 in Appendix B, during the 2023-2025 timeframe both Omaha sites recorded CO design values 15% or less of the one-hour NAAQS and less than 30% of the 8-hour standard. Figures 23 and 24 show trends in annual CO values from 2011 through 2025 for these sites.

Figure 23. Trends in Annual 2nd Highest 1-hour Average CO Values 2011-2024 at Omaha Monitoring Sites

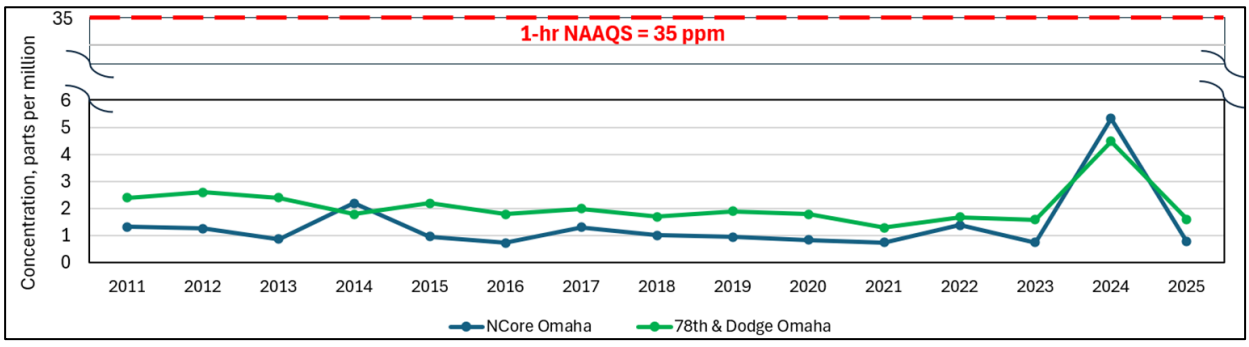
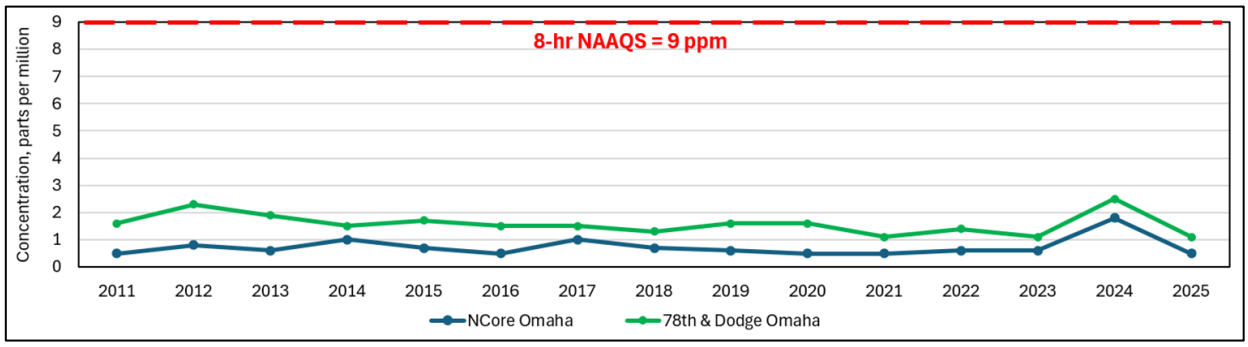


Figure 24. Trends in Annual 2nd Highest 8-hour Average CO Values 2011-2024 at Omaha Monitoring Sites



7. Lead (Pb)

The lead NAAQS is 0.15 µg/m^3 as determined from the highest three-month average concentration of suspended particulates in the last three years. EPA requires source-oriented SLAMS lead monitoring near industrial facilities that emit over 0.5 tons per year of lead. The rule allows the EPA Regional Administrator to waive the monitoring requirements if the air agency can demonstrate that the lead source will not contribute to a maximum lead concentration in ambient air in excess of 50% of the NAAQS. This demonstration can be made through historical monitoring data or air dispersion modeling. Currently there are two lead sources in Nebraska that are potentially subject to the lead monitoring requirement.

a. Magnus Bearings, Fremont

Magnus Bearings in Fremont is a casting facility that produces high-leaded bronze railway traction motor support bearings. DWEE began operating a lead monitoring site at 1255 Front Street, north of this facility, in 2010. The site had primary and collocated total suspended particulate samplers. In 2012 the maximum three-month average ambient lead level was 0.14 µg/m3 or 93% of the NAAQS. In 2016 through 2018 the maximum three-month average lead concentrations were lower at 41%, 28%, and 16% of the NAAQS, respectively. Facility awareness and diligence, coupled with agency feedback on ambient air lead concentrations, appear to have facilitated the air quality improvements.

Removal of the monitors at the request of the landowner occurred in September 2018. In 2023, DWEE signed a lease agreement to host the new monitors at 1500 Front Street, immediately adjacent to the former lead monitoring site; the site became operational on July 1, 2023. EPA approved the new site as part of the approval of the 2023 Network Plan; however, subsequent EPA air dispersion modeling of Magnus Bearings lead emissions showed that the new monitoring site lies outside of the maximum concentration area.

DWEE plans to conduct an audit to determine actual annual lead emissions from Magnus Bearings. If annual emissions are lower than 50% of the NAAQS, the facility can request a lead monitoring waiver, provided that modeling demonstrations also show the facility is below the 50% threshold. DWEE is also investigating an alternative site for monitoring if the facility does not qualify for a waiver, but due to the location of this plant in an industrial area between an elevated highway causeway and railway lines, there are few options for a suitable nearby monitoring location.

b. Nucor Steel, Norfolk (Lead Monitoring Waiver)

Nucor Corporation's production facility in Norfolk, Nebraska, is a steel recycling facility that utilizes ferrous metal scrap material in the production of steel billets and various finished steel bar products. In April 2014 EPA approved a lead monitoring waiver request from Nucor Steel that provided modeling

demonstrating that ambient lead levels would not exceed 50% of the NAAQS. The waiver was effective for five years.

Requests to renew the Nucor Steel lead monitoring waiver for an additional five years were approved by EPA Region 7 in October 2019 and again in November 2024. EPA subsequently notified DWEE that lead monitoring waiver requests are required to be submitted as part of the Five-Year Assessment. As a result, this lead monitoring waiver request was included again in the 2025 Network Plan and Five-Year Assessment to extend the term of waiver to 2030, when the next Five-Year Assessment will be due.

C. Population Trends and Network Design

Population data is reviewed as part of the network planning process because population growth may be associated with pollution source growth, high population density generally correlates with high air pollution potential, and some 40 CFR Part 58 requirements are based on population and/or federally defined metropolitan statistical definitions.

On March 12, 2025, the U.S. Census Bureau released county-level population estimates for mid-year 2024. According to the Census data, the 2024 estimated population of the Lincoln MSA of 350,626 exceeded 350,000 for the first time. In addition, the 2024 estimated population of the Omaha MSA (including five Nebraska counties and three Iowa counties) of 1,001,010 surpassed the one million population threshold for the first time. These changes trigger several new monitoring requirements which will be discussed in Section VIII.

D. Funding

Air monitoring is supported by a combination of fees and federal, state, and local funding sources. Table 7 provides a summary of the primary funding sources used for air monitoring. Federal CAA §105 funding supports operation of the Nebraska SLAMs network, and Federal CAA §103 funding supports operation of $PM_{2.5}$ and IMPROVE monitors.

Table 7. Primary Funding Sources Used to Support Air Monitoring in Nebraska

Funding Source	*Comments*
Nebraska Department of Environment and Energy (DWEE)	
State General Funds	At a minimum must be sufficient to meet minimum federal match requirements
State Title V Funds	Fees paid by major sources based on the quantity of air pollutants they emit. DWEE collects Title V fees for sources throughout Nebraska, except those regulated by LLCHD and Omaha Air Quality Control. Title V funds cannot be used for state/local match.
CAA §105 Funds	Federal grant funds used for air monitoring activities set forth in a negotiated EPA-DWEE work plan. Requires a 40% state/local match. A portion of this grant funding is passed on to DCHD and LLCHD.
CAA §103 Funds	Federal grant funds used for air monitoring activities set forth in a negotiated EPA-DWEE work plan. This money is currently limited to funding $PM_{2.5}$ and IMPROVE monitoring, and sometimes for specified equipment purchases and/or special monitoring studies. Requires no state/local match. A portion of this grant funding is passed on to DCHD and LLCHD.

Table 8. Primary Funding Sources Used to Support Air Monitoring in Nebraska continued	
Funding Source	*Comments*
Douglas County Health Department (DCHD) and Omaha Air Quality Control (OAQC)	
Local County Funds	At a minimum must be sufficient to meet minimum federal match requirements
City of Omaha Title V funds	See *State Title V Funds* comments above. Omaha Air Quality Control regulates air emission sources in the City of Omaha, including the collection of Title V fees from major sources. A portion of the Omaha Title V funds are directed to DCHD to support air monitoring. Title V funds cannot be used for state/local match.
CAA §105 Funds	DWEE passes through a portion of the Federal §105 funds to DCHD for activities described in an DWEE/DCHD work plan. DCHD is required to meet the 40% state/local match requirement.
CAA §103	DWEE passes through a portion of the federal §103 funds to DCHD for activities described in an DWEE/DCHD work plan, primarily $PM_{2.5}$ related monitoring activities. There is no state/local match requirement.
Lincoln Lancaster County Health Department (LLCHD)	
Local County Funds	At a minimum must be sufficient to meet minimum federal match requirements
Lancaster County Title V Funds	See *State Title V Funds* comments above. LLCHD regulates air emission sources in Lancaster County, including the collection of Title V fees from major sources. A portion of the Title V funds are used to support air monitoring activities performed by LLCHD. Title V funds cannot be used for state/local match.
CAA §105 Funds	DWEE passes through a portion of the Federal §105 funds to LLCHD for activities described in an DWEE/LLCHD work plan. LLCHD is required to meet the 40% state/local match requirement.
CAA §103	DWEE passes through a portion of the federal §103 funds to LLCHD for activities described in a DWEE/LLCHD work plan, primarily $PM_{2.5}$ related monitoring activities. There is no state/local match requirement.

Current funding levels are adequate to continue the operation of the existing Nebraska air monitoring network, provided that major new equipment purchases are not required to be covered under existing funding levels. DWEE is currently reviewing funding to determine what additional funding will be needed to support the additional monitoring equipment and operating expenses that is or will be required by the EPA.

VIII. Anticipated Nebraska Ambient Air Monitoring Network Modifications

A. Lincoln MSA: Additional Ozone Monitoring Site Required

The Lincoln MSA (Lancaster and Seward Counties) currently has one ozone monitoring site near the village of Davey in northern Lancaster County. This is an urban-scale site designed to measure high concentrations downwind of the area having highest precursor emissions.

The 2024 estimated population of the Lincoln MSA of 350,626, exceeding 350,000 for the first time. 40 CFR Part 58, Appendix D, section 4.1 requires that an MSA with population between 350,000 and 4 million must have at least one ozone monitoring site, but it must have at least two sites if the latest three-year Design Value (DV) is equal to or greater than 85% of the NAAQS for ozone (0.070 ppm). Table 8 shows ozone design values for the Davey site from 2017 through 2025.

Table 9. Ozone Design Values (in ppb) for the Davey Site, 2017-2025

	2017	2018	2019	2020	2021	2022	2023	2024	2025
O_3 DV	60	60	60	57	56	56	60	60	63
%NAAQS	85.7%	85.7%	85.7%	81.4%	80%	80%	85.7%	85.7%	90%

The ozone DVs for the 2017-2019 and 2023-2025 time periods were 60 ppb or greater, (85.7%-90% of the NAAQS), exceeding the 85% NAAQS threshold. Given the increase in estimated population, the Lincoln MSA requires an additional ozone monitoring site. The existing Davey site meets the requirement that at least one monitoring site be designed to record the maximum concentration for the metropolitan area. DWEE is working with EPA and LLCHD to approve a suitable second location for ozone monitoring.

B. Omaha MSA: New Monitoring Requirements

The 2024 estimated population of the Omaha MSA, which includes five Nebraska counties and three Iowa counties (see Figure 1 on page 5) of 1,001,010 has surpassed the one million population threshold. This change triggers several new monitoring requirements. Air quality monitoring in the Nebraska portion of the Omaha MSA is administered by DCHD. DWEE is working with EPA Region 7 and DCHD to determine the technical requirements, timeline, funding, and location details associated with the following new minimum monitoring requirements.

1. Photochemical Assessment Monitoring Station (PAMS)

Photochemical Assessment Monitoring Stations (PAMS) measure ozone precursors (nitrogen oxides and volatile organic compounds) and meteorological conditions to support ozone model development and to track the trends of important ozone precursor concentrations. As set forth in 40 CFR Part 58, Appendix D, section 5, state and local monitoring agencies are required to collect and report PAMS measurements at each NCore site located in a CBSA with a population of 1,000,000 or more. Nebraska's required NCore multipollutant monitoring site is maintained on the campus of the DCHD facility in Omaha. Some indoor space may need to be repurposed at this facility to accommodate the PAMS instruments. DWEE is working with EPA Region 7 on funding options and to determine the equipment needed to establish PAMS monitoring at the Omaha NCore site.

2. Near-Road NO_2 Monitoring

As set forth in 40 CFR Part 58, Appendix D, section 4.3.2, a CBSA with a population of 1,000,000 or more is required to have at least one microscale near-road NO_2 monitoring site with Federal Reference Monitors measuring NO, NO_2, and NOx. The site shall be selected by ranking all road segments by annual average daily traffic (AADT) count and then identifying a location adjacent to the highest-ranked segments. According to Appendix E of 40 CFR Part 58, section 2.5.4, the monitor probe must be within 50 meters of the outside edge of the traffic lanes, and where possible, within 20 meters of the edge of the target road segment. Examination of traffic count data from the Nebraska Department of Transportation and the Metropolitan Area Planning Agency indicates that the highest-ranked road segments in the Omaha area are portions of Interstate 80 in south Omaha. Appendix E of this document includes an analysis of siting factors

for the Omaha area and proposals for two potential near-road monitoring sites in south Omaha. This site will also include monitoring for carbon monoxide and $PM_{2.5}$ to satisfy the requirements noted below.

3. Near-Road CO Monitoring

Section 4.2 of 40 CFR Part 58, Appendix D states that one CO monitor is required to operate collocated with one required near-road NO_2 monitor in CBSAs having a population of 1,000,000 or more.

4. Near-Road $PM_{2.5}$ Monitoring

Section 4.7.1 of 40 CFR Part 58, Appendix D states that for CBSAs with a population of 1,000,000 or more, at least one $PM_{2.5}$ monitor is to be collocated at a required near-road NO_2 station.

C. Omaha MSA: Relocation of Ozone and PM_{10} Monitors from 2411 O Street, Omaha

Douglas County Health Department operated an ozone and PM_{10} monitoring site at 2411 O Street in south Omaha beginning in 1978. In late 2020 the owner of that property requested the removal of the monitors. Ozone monitoring ceased at the end of October 2020 (the end of the ozone monitoring season), while PM_{10} monitoring continued until the site was closed at the end of March 2021. DCHD has worked for several years to locate a new ozone and PM_{10} monitoring site (or sites) in south Omaha or the surrounding area but have been unable to find a willing property owner at a suitable site. Nebraska continues to meet minimum monitoring requirements in the Omaha MSA for both ozone and PM_{10} without the South Omaha site, but DWEE and DCHD continue to explore options for restoring ozone and PM_{10} monitoring in South Omaha.

D. Relocation of Fremont Lead Monitors

As discussed on page 25, DWEE re-established source-oriented lead monitoring northeast of the Magnus Bearings facility in Fremont after the previous monitoring site was closed in 2018 at the landowner's request. The new location was approved by EPA with the approval of Nebraska's 2023 Network Plan.

Subsequent EPA air dispersion modeling of Magnus Bearings lead emissions showed that the new monitoring site lies outside of the maximum concentration area beyond the facility fence line. DWEE is currently investigating alternative sites, but due to the location of this plant in an industrial area between an elevated highway causeway and railway lines, there are few options for a nearby monitoring location that would sample the maximum concentration area surrounding the facility. DWEE plans to conduct an audit of the facility's permits, operations, and emissions inventories to determine if the annual emissions from Magnus Bearings still exceed the EPA threshold requiring lead monitoring.

Appendix A: Ambient Air Monitoring Sites in Nebraska

See Appendix C for a compliance review with respect to 40 CFR Part 58 Appendices A through E.

Omaha NCore Site Operated by DCHD

Site Name: Omaha NCore [1]	AIRS ID: 31-055-0019 [1]
Location: 4102 Woolworth Ave., Omaha	Latitude: 41.246792º Longitude: -95.973964º
Operating Agency: Douglas County Health Department	
Purpose: NCore	Scale: Neighborhood
Monitor/Pollutant: Carbon Monoxide (CO) - Trace Level	
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 48i-TLE	EPA Method: RFCA-0981-054 (AQS 554)
Start-Up Date: 1/20/2011	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor/Pollutant: Ozone (O_3)	
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 49iQ	EPA Method: EQOA-0880-047
Start-Up Date: 4/1/2011	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor/Pollutant: Nitrogen Oxides (NO/NO_y)	
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 42i $NO/NO_2/NOx$	EPA Method: RFNA-1289-074
Start-Up Date: 1/20/2011	Closure Date: Currently operating
Data used for NAAQS comparison: Not Applicable. Monitors for NO & NOy, but not NO_2	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor/Pollutant: Sulfur Dioxide (SO_2) – Trace Level	
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 43i-TLE	EPA Method: EQSA-0486-060 (AQS 560)
Start-Up Date: 1/20/2011	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor/Pollutant: $PM_{2.5}$ [2]	
Type/POC: Primary Continuous / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020 [2] [3]	EPA Method: EQPM-0308-170
Start-Up Date: 1/1/2011 [2]	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor/Pollutant: $PM_{2.5}$ [2]	
Type/POC: POC 02	Monitoring Frequency: Once every 6 days
Analyzer/Sampler: Met One E-SEQ-FRM [2]	EPA Method: RFPS-0717-245
Start-Up Date: 1/1/1999 [2]	Closure Date: Currently operating
Data used for NAAQS comparison: Only when POC 1 data is not available.	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Continued on next page	

Appendix A: Ambient Air Monitoring Sites in Nebraska

Omaha NCore Site Operated by DCHD - continued

Site Name: Omaha NCore AIRS ID: 31-055-0019 (See Comment 1)
Location: 4102 Woolworth Ave., Omaha Latitude: 41.246792º Longitude: -95.973964º
Operating Agency: Douglas County Health Department (continued from previous page)

Monitor/Pollutant: $PM_{2.5}$ Speciation
Type/POC: Speciation / POC 05 Monitoring Frequency: Once every 3 days
Analyzer/Sampler: $PM_{2.5}$ Speciation Sampler Type: SASS and a 3000 URG (3)
Start-Up Date: 5/25/2001 Closure Date: Currently operating
Data used for NAAQS comparison: Not applicable
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable

Monitor/Pollutant: PM_{10} – STP & Local Conditions
Type/POC: Continuous / POC 01 Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020 (3) EPA Method: EQPM-0798-122
Start-Up Date: 1/1/2011 (3) Closure Date: Currently operating
Data used for NAAQS comparison: Local conditions data only
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable

Monitor/Pollutant: $PM_{10-2.5}$ – Local Conditions
Type/POC: Continuous / POC 01 Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020 (3) EPA Method: EQPM-0709-185
Start-Up Date: 1/1/2011 (3) Closure Date: Currently operating
Data used for NAAQS comparison: Yes
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable

Meteorological Parameters – Manufacturer & Model – Start Date
Wind Direction & Velocity – MetOne 50.5 Sonic - 5/13/11
Temperature - MetOne Model 083D – 4/12/2011 Barometric Pressure – MetOne Model 090D – 4/12/2011
Relative Humidity – MetOne 083D – 4/12/2011 Solar Radiation – MetOne Model 096-1 – 4/12/2011
Closure Date: Currently operating

Atmospheric Radiation – RadNet Air Monitor
RadNet is a nationwide system that monitors the nation's air, drinking water, precipitation, and pasteurized milk to determine levels of radiation in the environment. RadNet sample analyses and monitoring results provide baseline data on background levels of radiation in the environment and can detect increased radiation from radiological incidents. The RadNet monitor is not subject 40 CFR Part 58 requirements. It is recognized in this Network Plan for informational purposes only. The RadNet monitor began operating at the Woolworth site in June 2006.

Comments:

1. Site History: Site 31-055-0019 was referred to as the "Woolworth site" through 12/31/10. The Woolworth site was a PM monitoring site with $PM_{2.5}$ filter-based, continuous and speciation monitors located on the roof of Douglas County Hospital. To accommodate NCore monitoring, more space was required, and the site was moved approximately 550 ft north to the roof of an adjacent/attached building in December 2010. Gaseous and meteorological monitors began operation in 2011 and lead in 2012. Lead monitoring was discontinued at the end of 2017 in accordance with the 2017 Network Plan. Permanent discontinuation of lead monitoring was approved by EPA Region 7 in December 2018.

2. On 1/1/99 $PM_{2.5}$ sampling was initiated using primary and collocated R&P 2025 filter-based FRM samplers. A continuous monitor was first operated at this site 2/1/04. It was replaced by a MetOne BAM FEM monitor on 1/6/09. The MetOne BAM was operated as an auxiliary monitor to the primary and collocated R&P 2025 FRM samplers through September 2009. Beginning 10/1/09, the MetOne BAM was designated the primary sampler and an R&P 2025 FRM sampler was retained as the collocated sampler. The 2025 FRM sampler was replaced by a MetOne E-SEQ-FRM 16-channel sequential sampler on 1/1/2020.

3. Two Met One BAM-1020 samplers operate as a paired $PM_{10-2.5}$ monitoring system. The paired units comprising the $PM_{10-2.5}$ monitoring system were put on-line on 1/1/11.

Appendix A: Ambient Air Monitoring Sites in Nebraska

Carbon Monoxide Sites in the Omaha MSA Operated by DCHD

Site Name: 78th & Dodge – Omaha	AIRS ID: 31-055-0056
Location: 78th St and W Dodge Rd, Omaha	Latitude: 41.259175º Longitude: -96.028628º
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: Carbon Monoxide (CO)**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 48c	EPA Method: RFCA-0981-054 (AQS 554)
Purpose: Highest Concentration	Scale: Microscale
Start-Up Date: 10/01/2007	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: None	

Combined Sulfur Dioxide & Ozone Site in the Omaha MSA Operated by DCHD

Site Name: Whitmore – Omaha	AIRS ID: 31-055-0053
Location: 1616 Whitmore St, Omaha (1)	Latitude: 41.297778º Longitude: -95.937500º
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: Sulfur Dioxide (SO_2)**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 43c-TLE	EPA Method: EQSA-0486-060 (AQS 560)
Purpose: High Conc. & Population Oriented (1)	Scale: Neighborhood (1)
Start-Up Date: 7/1/1999	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: Ozone (O_3) (2)**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 49C	EPA Method: EQOA-0880-047
Purpose: Population Oriented (1)	Scale: Neighborhood (1)
Start-Up Date: 4/1/2015	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: (1) This site is in a socioeconomically disadvantaged area. (2) The ozone monitor from the 30th & Fort Street site was re-located to this site in 2015.	

Appendix A: Ambient Air Monitoring Sites in Nebraska

Temporarily Closed Combined Ozone & PM10 Site in the Omaha MSA Operated by DCHD

Site Name: South Omaha – Ozone	AIRS ID: 31-055-0028
Location: 2411 O Street, Omaha	Latitude: 41.207500º Longitude: -95.947500º
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: Ozone (O_3)**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Thermo 49C	EPA Method: EQOA-0880-047
Purpose: Population Oriented	Scale: Neighborhood
Start-Up Date: 7/1/1978	Closure Date: 12/31/2020
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: PM_{10}**
Type/POC: Primary / POC 01	Monitoring Frequency: Once every 6 days
Analyzer/Sampler: SA / GMW Hi-Vol Filter	EPA Method: RFPS 1287-063
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 6/1/2006 (1)	Closure Date: 3/31/2021
Data used for NAAQS comparison: Only when there is no primary data	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	

Comments:

(1) The PM_{10} sampler was initially set-up as a SPAM at 25th & L Sts and then moved to 2411 O St on 8/22/07.

(2) In 2020 the landowner at 2411 O Street asked for the site to be removed from the property. Ozone monitoring continued through the end of October 2020, the end of the required monitoring season. PM_{10} sampling was allowed to continue until the end of March 2021. As of May 2024 a new site has not been located.

Appendix A: Ambient Air Monitoring Sites in Nebraska

PM_{10} Site in the Omaha MSA Operated by DCHD

Site Name: 19th & Burt, Omaha	AIRS ID: 31-055-0054
Location: 701 Florence Blvd, Omaha	Latitude: 41.26604º Longitude: -95.93993º
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: PM_{10}**
Type/POC: Primary / POC 01	Monitoring Frequency: Once every 3 days
Analyzer/Sampler: SA / GMW Hi-Vol Filter	EPA Method: RFPS 1287-063
Purpose: Population & Source Oriented	Scale: Middle
Start-Up Date: 6/1/2001	Closure Date: 3/31/2024
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: PM_{10}**
Type/POC: Collocated / POC 02	Monitoring Frequency: Once every 6 days (1)
Analyzer/Sampler: SA / GMW Hi-Vol Filter	EPA Method: RFPS 1287-063
Purpose: Population & Source Oriented	Scale: Middle
Start-Up Date: 6/1/2001	Closure Date: 3/31/2024
Data used for NAAQS comparison: Only when there is no primary data	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: PM_{10}**
Type/POC: Primary / POC 03	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One E-BAM Plus	EPA Method: EQPM-1215-226
Purpose: Population & Source Oriented	Scale: Middle
Start-Up Date: 4/1/2024	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: The 19th & Burt Streets site was originally located at 1909 Burt Streets on the rooftop of a building owned by Creighton University. Due to building demolition the site was moved on March 10, 2021, one and one-half blocks to the east to a new location at 723 North 18th Streets. The collocated Hi-Vol Filter samplers were replaced by a Met One E-BAM Plus continuous monitor on April 1, 2024. Due to additional building demolition the site was moved again on October 1, 2024 to the rooftop of the Creighton Univ. recreation center at the present address.	

Appendix A: Ambient Air Monitoring Sites in Nebraska

$PM_{2.5}$ Sites in the Omaha MSA Operated by DCHD

Site Name: Berry Street Omaha	AIRS ID: 31-055-0052
Location: 9225 Berry Street, Omaha	Latitude: 41.19812º Longitude: -96.00562º
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary / POC 01	Monitoring Frequency: Once every 3 days
Analyzer/Sampler: Thermo 2025 Sequential	EPA Method: RFPS-0498-118
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 1/1/1999	Closure Date: 9/30/2024
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Collocated / POC 02	Monitoring Frequency: Once every 6 days
Analyzer/Sampler: R&P/Thermo 2025 Sequential	EPA Method: RFPS-0498-118
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 10/1/2014	Closure Date: 9/30/2024
Data used for NAAQS comparison: Only when there is no primary data	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary / POC 03	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM 1020	EPA Method: EQPM-0308-170
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 10/1/2024	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: The Thermo 2025 Sequential samplers at this site were replaced with a single BAM 1020 monitor on 10/1/2024.	

Site Name: Bellevue	AIRS ID: 31-153-0007
Location: 2912 Coffey Ave., Bellevue	Latitude: 41.166944º Longitude: -95.923889º
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary Continuous / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020 (1)	EPA Method: EQPM-0308-170
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 3/1/1999	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: (1) This site was operated with a 2025 sequential sampler from 3/1/99 thru 6/30/10 (RFPS-0498-118). On 7/1/10 a Met One BAM monitor began operating.	

Appendix A: Ambient Air Monitoring Sites in Nebraska

Site Name: Blair	AIRS ID: 31-177-0002
Location: 2242 Wright St., Blair	Latitude: 41.551136º Longitude: -96.146753
Operating Agency: Douglas County Health Department	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020 (1)	EPA Method: EQPM-0308-170
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 4/6/1999	Closure Date: Currently operating
Data used for NAAQS comparison: Yes Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: This site was operated with a 2025 sequential sampler from 4/6/99 thru 3/31/22 (RFPS-0498-118). On 4/1/22 a Met One BAM monitor began operating.	

PM_{10} Site in the Weeping Water Area* Operated by DWEE

* The Weeping Water Area is in Cass County, which is part of the Omaha MSA. This is a relatively non-urbanized area of the county with limestone mining and processing activities. The PM_{10} monitoring conducted here is for evaluation of air quality in the vicinity of Weeping Water, and not the Omaha MSA as a whole.

Site Name: Weeping Water City (1)	AIRS ID: 31-025-0002
Location: 102 P Street, Weeping Water	Latitude: 40.866228 Longitude: -96.137678
Operating Agency: Nebraska Department of Environment and Energy	
Monitor Information	**Pollutant: PM_{10}**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM (2)	EPA Method: EQPM-0798-122
Purpose: Population & Source Oriented	Scale: Neighborhood
Start-Up Date: 01/01/1985	Closure Date: Currently operating
Data used for NAAQS comparison: Yes Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes. See Section V.A.1.a. App B not applicable	
Comments: (1) Site is located at the city wastewater treatment facility. (2) This site was operated with a primary 2025 sequential monitor from 8/12/2004 to 9/30/2016. A MetOne BAM continuous monitor began operating on 10/1/2016. A collocated 2025 sequential monitor at the site suffered a major electronic breakdown and last sampled on 3/25/15. With the installation of the continuous monitor, collocation is no longer required.	

Appendix A: Ambient Air Monitoring Sites in Nebraska

Sites in the Lincoln MSA Operated by LLCHD

Site Name: Davey	AIRS ID: 31-109-0016
Location: 1st & Maple Sts., Davey	Latitude: 40.984722º Longitude: -96.677222º
Operating Agency: Lincoln Lancaster County Health Department	
Monitor Information	**Pollutant: Ozone**
Type/POC: Primary / POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Teledyne API T400E	EPA Method: EQOA-0992-087
Purpose: Population Oriented	Scale: Urban
Start-Up Date: 1/1/1985	Closure Date: Currently operating
Data used for NAAQS comparison: Yes Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: This site was upgraded at the beginning of the 2014 ozone season with the Teledyne API 400E analyzer replacing the Dasibi 1003 AH analyzer.	

Site Name: LLCHD Building	AIRS ID: 31-109-0022
Location: 3140 N St., Lincoln	Latitude: 40.812590º Longitude: -96.683020º
Operating Agency: Lincoln Lancaster County Health Department	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary / POC 01(1)	Monitoring Frequency: Once every 3 days
Analyzer/Sampler: Thermo 2025i Seq. Filter	EPA Method: RFPS 0498-118
Purpose: Population Oriented	Scale: Neighborhood
Start-Up Date: 1/1/1999	Closure Date: Currently operating
Data used for NAAQS comparison: Yes Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Collocated / POC 02	Monitoring Frequency: Once every 6 days
Analyzer/Sampler: Thermo 2025i Seq. Filter	EPA Method: RFPS 0498-118
Purpose: Population Oriented	Scale: Neighborhood
Start-Up Date: 1/1/1999	Closure Date: Currently operating
Data used for NAAQS comparison: Only when primary data is not available. Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Continuous / POC 03(2)	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020	EPA Method: EQPM-0308-170
Purpose: Population Oriented	Scale: Neighborhood
Start-Up Date: 7/1/2006	Closure Date: Currently operating
Data used for NAAQS comparison: No. Reports to AirNow, but not AQS (1) Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comment: (1) The Thermo 2025i sampler replaced an R&P 2025 sampler in March 2023. The Thermo sampler previously operated in Scottsbluff, Nebraska but was replaced with a MetOne BAM in 2020. (2) The MetOne BAM monitor reports data to AirNow, but not AQS. Data from the MetOne BAM is not used for NAAQS comparison. The MetOne BAM data typically demonstrate a negative bias when compared to same day FRM data. In 2022, there was a -8.5% bias on same-day annual average data, and a -7.1% bias for the same-day 98th percentile.	

Appendix A: Ambient Air Monitoring Sites in Nebraska

Combined $PM_{2.5}$ & Ozone Site Operated by DWEE

Site Name: Grand Island NDOT	AIRS ID: 31-079-0005
Location: 3305 W Old Potash Hwy, Grand Island	Latitude: 40.915555º Longitude: -98.378889º
Operating Agency: Nebraska Department of Environment and Energy	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary Continuous/ POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020	EPA Method: EQPM-0308-170
Purpose: Background & Transport	Scale: Regional
Start-Up Date: 11/26/2019	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: Ozone (O_3)**
Type/POC: Primary Continuous/ POC 02	Monitoring Frequency: Continuous
Analyzer/Sampler: Teledyne T400	EPA Method: EQOA-0992-087
Purpose: Population Oriented	Scale: Regional
Start-Up Date: 3/1/2025	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: DWEE established ozone monitoring in Grand Island on May 1, 2025. Routine monitoring will take place from March 1 through October 31 each year.	

$PM_{2.5}$ Sites Operated by DWEE

Site Name: Homestead National Historical Park	AIRS ID: 31-067-0005
Location: 24405 SW 75 Rd, Beatrice	Latitude: 40.28506º Longitude: -96.82431º
Operating Agency: Nebraska Department of Environment and Energy	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary Continuous/ POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020	EPA Method: EQPM-0308-170
Purpose: Background Surveillance	Scale: Regional
Start-Up Date: 06/02/2021	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Collocated / POC 02	Monitoring Frequency: Once every 6 days
Analyzer/Sampler: Thermo 2025i Sequential	EPA Method: RFPS-0498-118
Purpose: Background Surveillance	Scale: Regional
Start-Up Date: 06/02/2021	Closure Date: Currently operating
Data used for NAAQS comparison: Only when primary data is not available.	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Comments: None	

Appendix A: Ambient Air Monitoring Sites in Nebraska

Site Name: Scottsbluff Senior High School	AIRS ID: 31-157-0004
Location: Hwy 26 & 5th Ave, Scottsbluff (1)	Latitude: 41.875556º Longitude: -103.658056º
Operating Agency: Nebraska Department of Environment and Energy	
Monitor Information	**Pollutant: $PM_{2.5}$**
Type/POC: Primary Continuous/ POC 01	Monitoring Frequency: Continuous
Analyzer/Sampler: Met One BAM-1020	EPA Method: EQPM-0308-170
Purpose: Population Oriented & Transport	Scale: Regional & Neighborhood
Start-Up Date: 3/24/2020	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	

Comments:
(1) A Thermo 2025i FRM Sequential sampler operated at this location on a 3-day sampling schedule until 3/24/20, when a continuous sampler was installed. Due to AQS software issues a new AIRS ID (31-157-0006) was assigned at that time. In April 2022 the site reverted back to the original AIRS ID.

Source-Oriented Lead (Pb) Site Operated by DWEE

Site Name: Fremont	AIRS ID: 31-053-0005
Location: 1500 Front St., Fremont, NE	Latitude: 41.425º Longitude: -96.48º
Operating Agency: Nebraska Department of Environment and Energy	
Monitor Information	**Pollutant: Lead (Pb)**
Type/POC: Primary / POC 01	Monitoring Frequency: Once every 6 days
Analyzer/Sampler: Hi-Vol TSP-Pb (ICP-MS)	EPA Method: EQL-0310-189
Purpose: Source Oriented (1)	Scale: Microscale
Start-Up Date: 3/9/10	Closure Date: Currently operating
Data used for NAAQS comparison: Yes	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	
Monitor Information	**Pollutant: Lead (Pb)**
Type/POC: Collocated / POC 02	Monitoring Frequency: Once every 12 days
Analyzer/Sampler: Hi-Vol TSP-Pb (ICP-MS)	EPA Method: EQL-0310-189
Purpose: Source Oriented	Scale: Microscale
Start-Up Date: 3/9/10	Closure Date: Currently operating
Data used for NAAQS comparison: Only if primary sampler data is not available	
Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Yes, App B not applicable	

Comment: Source-oriented with respect to Magnus LLC facility. Monitoring at this site was suspended in September 2018 at the request of the landowner. The site was moved a short distance to an adjacent property and resumed sampling on July 1, 2023.

Source-Oriented Lead Monitoring Waivers pursuant to 40 CFR Part 58 Section 4.5(ii)

(1) Nucor Steel in Norfolk, NE: Five-year waiver first approved by the EPA R7 Administrator in April 2014 and effective through April 2019. Renewal of this waiver was requested and approved in the Nebraska 2019 Network Plan and again in the 2024 Nebraska Network Plan. The waiver remains in effect until April 2029.

Appendix A: Ambient Air Monitoring Sites in Nebraska

Interagency Monitoring of Protected Visual Environments (IMPROVE) Site *

* Interagency Monitoring of Protected Visual Environments (IMPROVE) monitors are operated to evaluate regional haze that may impact Federal Class I areas in National Parks and Wilderness Areas. Fine particulate and particulate speciation monitoring is conducted at these sites. They do not have an AIRS ID, are not subject to 40 CFR Part 58 requirements, and are not used for NAAQS attainment determinations.

Site Name: NE National Forest IMPROVE **Location: Nebraska National Forest, Thomas Co.**	AIRS ID: Not applicable, See Comments Latitude: 41.8888º Longitude: -100.3387º
Operating Agency: Nebraska Department of Environment and Energy / US Forest Service	
Monitor Information Type/POC: IMPROVE Method Description: : IMPROVE Purpose: Background & Transport Start-Up Date: 2002	**Pollutant: IMPROVE** (See Comments) Monitoring Frequency: Every 3 days EPA Method: Not applicable Scale: Regional Closure Date: Currently operating.
Data used for NAAQS comparison: Not applicable. Meets applicable provisions of 40 CFR Part 58 Appendixes A thru E: Not applicable	
Comments: Samplers, shelter, and electrical supply line were destroyed by a wildfire in October 2022. Sampling resumed at the site in fall 2024.	

National Atmospheric Deposition Program (NADP) Sites**

** The NADP site information below is included in the Network Plan for informational purposes only. They are not subject to 40 CFR Part 58 requirements, nor used for NAAQS attainment determinations.

Site Name: Mead NADP **Location: U of NE Field Lab, Saunders Co.** Operating Agency: University of Nebraska	AIRS ID: Not applicable, See Comments Latitude: 41.1528º Longitude: -96.4912
Monitor Information Type/POC: NTN/MDN Method Description: NTN/MDN Purpose: Background & Transport Start-Up Date: 7/25/1978	**Pollutant: TNT/MDN** Monitoring Frequency: Weekly EPA Method: Not applicable Scale: Regional Closure Date: Currently operating
Comments: The Mead and North Platte National Atmospheric Deposition Program (NADP) sites are operated by the University of Nebraska with analytical and data processing support from the NADP. NADP sites are not subject to review under the provisions of 40 CFR Part 58.10, and thus are not subject to review under this Network Plan. They are included herein for informational purposes only. • Monitoring methods are specific to this program and are not Federal Reference or Equivalent Methods (FRM/FEM). • The National Trends Network (NTN) sites collect deposition data on acidity, sulfate, nitrate, ammonium, chloride, and base cations (e.g., calcium, magnesium, potassium, and sodium). • Mercury Deposition Network (MDN) sites collect mercury deposition data. • The NADP oversees both NTN and MDN sites and provides analytical and data processing support. • The Mead site began operation as an NTN site in 1978 and began MDN operations in June 2007. DWEE provides financial support for MDN operations.	

Appendix A: Ambient Air Monitoring Sites in Nebraska

National Atmospheric Deposition Program (NADP) Sites (continued)

Site Name: North Platte NADP	AIRS ID: Not applicable, See Comments
Location: U of Ne Ag Station, Lincoln, Co.	Latitude: 41.0592º Longitude: -100.7464º
Operating Agency: University of Nebraska	
Monitor Information	**Pollutant:** NTN
Type/POC: NTN	Monitoring Frequency: Weekly
Method Description: NTN	EPA Method: Not applicable
Purpose: Background & Transport	Scale: Regional
Start-Up Date: 9/24/1985	Closure Date: Currently operating

Comments: The Mead and North Platte National Atmospheric Deposition Program (NADP) sites are operated by the University of Nebraska with analytical and data processing support from the NADP. NADP sites are not subject to review under the provisions of 40 CFR Part 58.10, and thus are not subject to review under this Network Plan. They are included herein for informational purposes only.

- Monitoring methods are specific to this program and are not Federal Reference or Equivalent Methods (FRM/FEM).
- The National Trends Network (NTN) sites collect deposition data on acidity, sulfate, nitrate, ammonium, chloride, and base cations (e.g., calcium, magnesium, potassium, and sodium).
- Mercury Deposition Network (MDN) data was collected at this site from October 2009 thru October 2011 using Nebraska Environmental Trust funding.
- The NADP oversees both NTN and MDN sites and provides analytical and data processing support.

Site Name: Homestead NADP	AIRS ID: Not applicable, See Comments
Location: Homestead Nat. Historic Park	Latitude: 40.2850º Longitude: -96.8244º
Operating Agency: National Park Service	
Monitor Information	**Pollutant:** Ammonia
Type/POC: AMoN	Monitoring Frequency: Weekly
Method Description: AMoN	EPA Method: Not applicable
Purpose: Background & Transport	Scale: Regional
Start-Up Date: 7/26/2016	Closure Date: Currently operating

Comments: The Homestead National Atmospheric Deposition Program (NADP) site is operated by the National Park Service. NADP sites are not subject to review under the provisions of 40 CFR Part 58.10, and thus are not subject to review under this Network Plan. They are included herein for informational purposes only.

- Monitoring methods are specific to this program and are not Federal Reference or Equivalent Methods (FRM/FEM).
- The Ammonia Monitoring Network (AMoN) sites measure ammonia concentrations in ambient air at rural location.
- The NADP oversees the AMoN sites and provides analytical and data processing support.

Appendix A: Ambient Air Monitoring Sites in Nebraska

National Atmospheric Deposition Program (NADP) Sites (continued)

Site Name: Santee Sioux NADP **Location: 52948 Hwy 12, Niobrara, NE** Operating Agency: EPA	AIRS ID: Not applicable, See Comments Latitude: 42.7475º Longitude: -97.9282º
Monitor Information Type/POC: AMoN Method Description: AMoN Purpose: Background & Transport Start-Up Date: 4/26/2011	**Pollutant:** Ammonia Monitoring Frequency: Weekly EPA Method: Not applicable Scale: Regional Closure Date: Currently operating

Comments: The Santee Sioux National Atmospheric Deposition Program (NADP) site is operated by the U.S. EPA. NADP sites are not subject to review under the provisions of 40 CFR Part 58.10, and thus are not subject to review under this Network Plan. They are included herein for informational purposes only.

- Monitoring methods are specific to this program and are not Federal Reference or Equivalent Methods (FRM/FEM).
- The Ammonia Monitoring Network (AMoN) sites measure ammonia concentrations in ambient air at rural location.
- The NADP oversees the AMoN sites and provides analytical and data processing support.

Clean Air Status and Trends Network (CASTNET) Site

Site Name: Santee Sioux CASTNET **Location: 52948 Hwy 12, Niobrara, NE** Operating Agency: EPA	AIRS ID: 31-107-9992 Latitude: 42.7475º Longitude: -97. 9282º
Monitor Information Type/POC: CASTNET Method Description: CASTNET Purpose: Background & Transport Start-Up Date: 7/5/2006	**Pollutant:** CASTNET, Ozone Monitoring Frequency: Weekly/Continuous (O_3) EPA Method: Not applicable Scale: Regional Closure Date: Currently operating

Comments: The Santee Sioux CASTNET site is operated by the U.S. EPA. CASTNET sites are not subject to review under the provisions of 40 CFR Part 58.10 and thus are not subject to review under this Network Plan. They are included herein for informational purposes only.

This site was relocated to the present address in June 2024 and the AIRS ID was changed from 31-107-9991 to 31-107-9992.

Except for ozone, monitoring methods are specific to this program and are not Federal Reference or Equivalent Methods (FRM/FEM).

Appendix B: Ambient Air Monitoring Sites in Nebraska

This appendix compares ambient air quality data from 2023 through 2025 to the NAAQS. The annual data and estimated Design Values (DVs) presented below were retrieved from the EPA AQS database.

Table B-1: Ozone Data

Comparison of 3-Year Design Values for 8-hour Ozone to NAAQS (1)						
Site	**Operator**	**2023**	**2024**	**2025**	**DV**	**% NAAQS**
Omaha MSA and Near-By Montgomery Co., IA						
Omaha NCore	DCHD	0.078	0.064	0.063	0.068	97.1%
1616 Whitmore St, Omaha	DCHD	0.082	0.055	0.064	0.067	95.7%
Pisgah, Harrison Co., IA	IA DNR	0.077	0.064	0.067	0.069	98.6%
Montgomery County, IA	IA DNR	0.072	0.058	0.065	0.065	92.9%
Lincoln MSA						
First & Maple, Davey	LLCHD	0.068	0.059	0.062	0.063	90.0%
Grand Island MSA						
3305 W Old Potash Hwy, Grand Island (2)	DWEE	ND	ND	0.62		
Sioux City MSA						
1005 N Crawford Rd., Clay Co., SD (3)	SD DANR	0.074	0.059	0.057	0.063	90.0%
5001 Talbot Rd., Sioux City, IA (3)	IA DNR		0.063	0.070		
Nebraska Non-MSA						
Santee Sioux Indian Reservation (4)	US EPA	0.077	0.060	0.071	0.069	98.6%
Sites in Surrounding States						
Emmetsburg, IA	IA DNR	0.075	0.060	0.068	0.067	95.7%
Des Moines, IA	IA DNR	0.077	0.059	0.064	0.066	94.3%
Savanah, MO	MO DNR	0.072	0.063	0.063	0.066	94.3%
Kansas City Metro (Max DV site)	MO DNR	0.074	0.068	0.079	0.073	104.3%
Topeka KS	KS DHE	0.074	0.066	0.066	0.068	97.1%
Cedar Bluff Reservoir, KS	KS DHE	0.069	0.070	0.063	0.067	95.7%
Denver, CO Metro (Max DV site)	CO DPHE	0.076	0.088	0.073	0.079	112.9%
Greeley, CO	CO DPHE	0.068	0.081	0.071	0.073	104.3%
Cheyenne, WY (Max DV site)	WY DEQ	0.059	0.071	0.068	0.066	94.3%
Sioux Falls, SD	SD DANR	0.082	0.062	0.063	0.069	98.6%
Wind Cave NP, Custer Co., SD	SD DANR	0.065	0.073	0.063	0.067	95.7%
Badlands NP, Jackson Co., SD	SD DANR	0.068	0.075	0.058	0.067	95.7%

Notes and Explanations:

(1) EPA AQS data retrieval 3/20/26. Concentrations are in units of ppm. Annual values are the 4th highest daily maximum 8-hour concentrations (ppm). The Design Value (DV) is the truncated 3-year average of the 4th highest maximum values. The NAAQS = 0.070 ppm (promulgated 10/1/2015). Values shown in red indicate insufficient data.

(2) DWEE established ozone monitoring in Grand Island on May 1, 2025.

(3) The Clay Co. SD site was established by the South Dakota Department of Agriculture & Natural Resources in 2022 just outside the Sioux City MSA. In 2024 Iowa DNR established the Talbot Rd site in Sioux City as the required ozone monitoring location within the Sioux City MSA.

(4) The Santee site was relocated in 2024 and assigned a new AIRS ID. Data are incomplete during the relocation year.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-2: Carbon Monoxide Data

Comparison of 3-Year Maximum Annual Values for 1-Hour Carbon Monoxide to NAAQS (1) (2)					
Site	**2023**	**2024**	**2025**	**Design Value (2)**	**% NAAQS**
Omaha MSA					
78th & Dodge Streets, Omaha	1.59	4.48	1.60	4.48	13%
Omaha NCore (4)	0.75	5.32	0.78	5.32	15%
Comparison of 3-Year Maximum Annual Values for 8-Hour Carbon Monoxide to NAAQS (1) (3)					
Site	**2023**	**2024**	**2025**	**Design Value (3)**	**% NAAQS**
Omaha MSA					
78th & Dodge Streets, Omaha	1.1	2.5	1.1	2.5	28%
Omaha NCore (4)	0.6	1.8	0.50	1.8	20%

Notes and Explanations:

(1) EPA AQS data retrieval 4/3/26. The carbon monoxide NAAQS were last revised in 1984. The latest review was concluded in August 2011 when EPA determined no changes in the CO NAAQS were warranted.

(2) The 1-hour NAAQS = 35 ppm. The annual values shown are the 2nd highest maximum values. The Design Value is the highest annual 2nd highest maximum value over the last 3 years. Concentrations are in units of ppm.

(3) The 8-hour NAAQS = 9 ppm. The annual values shown are the 2nd highest 8-hour maximum values. The Design Value is the highest annual 2nd highest maximum value over the last 3 years. Concentrations are in units of ppm.

(4) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

Table B-3: Sulfur Dioxide Data

Comparison of Daily Maximum 1-Hour Sulfur Dioxide Levels to the Primary NAAQS (1)					
Site	**2023**	**2024**	**2025**	**Design Value (1)**	**% NAAQS**
Omaha MSA					
1616 Whitmore St., Omaha	39.1	38.0	47.5	41.5	55%
Omaha NCore (2)	16.0	20.4	17.0	17.8	24%

Notes and Explanations:

(1) EPA AQS data retrieval 4/3/26. The primary 1-hour NAAQS is 75 ppb or 0.075 ppm (promulgated in June 2010 and retained in December 2020). The annual values shown are the 99th percentile of the daily maximum values in ppb units. The Design Value is the three-year average of the annual 99th percentile daily maximum values. Concentrations are in units of ppb.

(2) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-4: Nitrogen Oxide Data from the Omaha NCore Site (1)(2)

Parameter	2023	2025	2025	Approx. DV (3)	Max % NAAQS
1-Hour Data: 98th Percentile (3)					
NOy-NO (5)(6)(7)	32.9	34.8	32.9	34	34%
Annual Average Data (4)					
NOy-NO	6.16	6.16	5.49	5	11%

Footnotes:

(1) EPA AQS data retrieval 4/7/26. All concentrations expressed in parts per billion.

(2) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

(3) The 1-hour NO_2 NAAQS is 100 ppb (promulgated Feb. 2010 and retained Apr. 2018). NAAQS attainment is achieved if the 3-year average of the annual 98th percentile of the daily maximum 1-hour values does not exceed 0.100 ppm.

(4) The Annual Average NO_2 NAAQS is 53 ppb not to be exceeded in a calendar year. It was promulgated 1971 and retained in 1996, 2010, and 2018. The Design Value is simply the annual average for the most recent year.

(5) NOy – Reactive oxides of nitrogen, which include NO, NO_2 and other nitrogen oxides, including organic nitrogen oxide compounds.

(6) NO – Nitrogen oxide

(7) NOy-NO provides an approximation of nitrogen dioxide (NO_2), with some possibility of over-estimating the true NO_2 concentration. For this reason, the NOy-NO parameter can be used to demonstrate attainment, but not non-attainment.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-5a: PM_{10} – Annual Number of Exceedances (1) (2)

Site	2023	2024	2025	Design Value (1)
Omaha MSA Sites				
Omaha NCore, 4102 Woolworth St. (3)	0	0	0	0
2411 O St, Omaha (4)	ND	ND	ND	
19th & Burt Streets, Omaha	0	0	0	0
Weeping Water City (5)	0	0	0	0

Notes and Explanations:

(1) EPA AQS data retrieval 4/7/26. The PM_{10} NAAQS is an exceedance-based standard with a 24-hour averaging time and 150 µg/m³ level at standard temperature (25° C) and pressure (760 mm Hg) conditions. This standard is not to be exceeded more than once per year on average over 3 years, where exceedance is defined as a value of 155 µg/m³ or more. Sites with 3-year average of exceedances of 1.0 or less are in attainment with the NAAQS. Annual values and Design Values that do not meet data completeness requirements are shown in red. ND = No data.

(2) NAAQS History: The primary 24-hour NAAQS was initially set at 150 µg/m³ in 1987 and was retained at this level in the 1997, 2006 and 2012 PM NAAQS reviews.

(3) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

(4) The 2411 O Street site was closed for relocation 3/31/2021.

(5) Weeping Water is a limestone mining and processing area in Cass County, which is located 15 to 20 miles south of the main urbanized area within the Omaha MSA.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-5b: PM_{10} – Annual Maximum 24-Hour Data [1] [2]

Site	2023	2024	2025	4th Highest Value [1]	% NAAQS
Omaha MSA Sites [6]					
Omaha NCore, 4102 Woolworth St. [3]	77	88	102	77	51%
2411 O St, Omaha [4]	ND	ND	ND		
19th & Burt Streets, Omaha [5]	56	84	116	81	54%
Weeping Water City [6]	85	90	82	81	54%

Notes and Explanations:

(1) EPA AQS data retrieval 4/7/26. Year columns show annual maximum 24-hour average values of PM_{10}. NAAQS = 150 µg/m^3, not to be exceeded more than once per year on average over 3 years, where exceedance is defined as a value of 155 µg/m^3 or more. Annual values that do not meet completeness requirements are shown in red; ND = No data. The 4th-highest 24-hour average value in the three-year period is shown for informal comparison to the NAAQS.

(2) NAAQS History: The primary 24-hour NAAQS was initially set at 150 µg/m^{3}in 1987, and was retained at this level in the 1997, 2006 and 2012 PM NAAQS reviews.

(3) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

(4) The 2411 O Street site was closed for relocation 3/31/2021 at the request of the landowner. A new site has not yet been determined.

(5) The 19th & Burt Streets site operated with sequential samplers with three-day and six-day sample intervals until 3/31/2024. On 4/1/2024 a continuous E-BAM monitor began operations. The higher maximum value for 2024 (based on 24-hour maxima) compared with earlier years may be a result of the increase in sampling rate.

(6) Weeping Water is a limestone mining and processing area in Cass County, which is located 15 to 20 miles south of the main urbanized area within the Omaha MSA. This is a source-oriented site not considered representative of the MSA.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-5c: PM_{10} - Annual Average Data [1]

Site	2023	2024	2025	3-Year Average	% Old Std
Omaha MSA [4]					
Omaha NCore, 4102 Woolworth St. [2]	20.9	21.9	21.5	21.4	43%
2411 O St, Omaha [3]	ND	ND	ND		
19th & Burt Streets, Omaha [4]	23.3	26.9	23.0	24.4	50%
Weeping Water City [5]	21.2	21.7	23.8	22.2	44%

Notes and Explanations:

(1) EPA AQS data retrieval 4/7/26. There is currently no NAAQS for the annual average PM_{10} concentration. An annual average NAAQS of 50 $\mu g/m^3$ was established in 1987 and then rescinded on December 18, 2006. Annual values and average values that do not meet completeness requirements are shown in red; ND = No data. Comparison to the rescinded NAAQS is provided for informational purposes only. Concentrations are in units of $\mu g/m^3$.

(2) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

(3) The 2411 O Street site was closed for relocation 3/31/2021 at the request of the landowner. A new site has not yet been determined.

(4) The 19th & Burt Streets site operated with sequential samplers with three-day and six-day sample intervals until 3/31/2024. On 4/1/2024 a continuous E-BAM monitor began operations.

(5) Weeping Water is a limestone mining and processing area in Cass County, which is located 15 to 20 miles south of the main urbanized area within the Omaha MSA. This is a source-oriented site not considered representative of the MSA.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-6a: $PM_{2.5}$ - 98th Percentile 24-Hour Data (1)

Site	2023	2024	2025	Design Value (1)	% NAAQS
Omaha MSA & Montgomery Co., IA (4)					
Omaha NCore (2)	22.0	17.0	21.7	20	57%
9225 Berry St.; Omaha	33.8	16.8	21.3	24	69%
2912 Coffey Ave., Bellevue	24.6	19.1	20.5	21	60%
2242 Wright St., Blair	24.3	18.0	22.8	22	63%
3130 C Ave., Council Bluffs, IA (3)	33.1	17.7	21.1	24	69%
Montgomery Co., IA (outside Omaha MSA) (3) (4)	19.7	14.5	14.8	16	46%
Lincoln MSA					
3140 N Street, Lincoln	29.3	19.1	19.5	22	60%
Sioux City MSA					
901 Floyd Blvd, Sioux City, IA (3)	27.8	18.8	22.0	23	66%
1005 N Crawford Rd., Clay Co., SD (5)	41.3	15.9	18.8	25	72%
Other Nebraska Sites					
Beatrice (6)	22.9	17.3	23.3	21	60%
Grand Island	22.9	18.8	18.1	20	57%
Scottsbluff	19.6	21.1	11.7	17	49%

Notes and Explanations:

(1) EPA AQS data retrieval 3/26/26. Concentrations are in units of µg/m^3. The Design Values are the 3-year average of the annual 98th percentile of daily 24-hour average values, rounded to the integer value. To determine attainment status, the Design Values are compared to the 35 µg/m^3 NAAQS. Annual values and Design Values that do not meet data completeness requirements are shown in red; ND = No data.

(2) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

(3) The Council Bluffs, Montgomery Co., and Sioux City IA sites are operated by the IA DNR

(4) The Montgomery County, IA site is located outside the Omaha MSA at Viking Lake State Park, ~18 miles east of the Mills-Montgomery County line and ~ 45 miles SE of the I-29/I-80 intersection.

(5) A Union Co., SD site was operated in the Sioux City MSA by the South Dakota Department of Agriculture & Natural Resources and closed in October 2021. In 2022 the site was relocated to Clay County, 10 miles from the Union Co. site and just outside the Sioux City MSA.

(6) The Beatrice site is located at Homestead National Historical Park, 3 miles west of town. Monitoring at the site began in 2021.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-6b: $PM_{2.5}$ - Annual Average Data [1]

Site	2023	2024	2025	Design Value [1]	% NAAQS
Omaha MSA & Montgomery Co., IA [4]					
Omaha NCore [2]	7.8	6.7	6.8	7.1	79%
9225 Berry St.; Omaha	9.1	7.0	6.3	7.5	83%
2912 Coffey Ave., Bellevue	8.0	7.6	6.7	7.4	83%
2242 Wright St., Blair	7.6	7.1	5.8	6.8	76%
3130 C Ave., Council Bluffs, IA [3]	9.7	7.9	7.7	8.4	94%
Montgomery Co., IA (outside Omaha MSA) [3] [4]	8.1	6.0	6.5	6.9	76%
Lincoln MSA					
3140 N Street, Lincoln	8.5	6.8	6.9	7.4	82%
Sioux City MSA					
901 Floyd Blvd, Sioux City, IA [3]	9.7	7.6	7.6	8.3	92%
1005 N Crawford Rd., Clay Co., SD [5]	8.7	6.5	4.8	6.7	74%
Other Nebraska Sites					
Beatrice [6]	7.2	6.6	5.8	6.5	73%
Grand Island	7.5	6.6	5.8	6.6	74%
Scottsbluff	5.4	4.2	4.4	4.7	52%

Notes and Explanations:

(1) EPA AQS data retrieval 3/26/26. The Design Values are the 3-year average of the annual average 24-hour average values. To determine attainment status, the Design Values are compared to the 9 µg/m^3 NAAQS. Concentrations are in units of µg/m^3. Annual values and Design Values that do not meet completeness requirements are shown in red; ND = No data.

(2) Omaha NCore is a multi-pollutant monitoring site located at 4102 Woolworth Street.

(3) The Council Bluffs, Montgomery Co., and Sioux City IA sites are operated by the IA DNR

(4) The Montgomery County, IA site is located outside the Omaha MSA at Viking Lake State Park, ~18 miles east of the Mills-Montgomery County line and ~ 45 miles SE of the I-29/I-80 intersection.

(5) A Union Co., SD site was operated in the Sioux City MSA by the South Dakota Department of Agriculture & Natural Resources and closed in October 2021. In 2022 the site was relocated to Clay County, 10 miles from the Union Co. site and just outside the Sioux City MSA.

(6) The Beatrice site is located at Homestead National Historical Park, 3 miles west of town. Monitoring at the site began in 2021.

Appendix B: Ambient Air Monitoring Sites in Nebraska

Table B-7: Lead in Total Suspended Particulate (TSP-Pb)

Annual Maximum Rolling 3-Month Average Values (1) (2)					
Site	**2023**	**2024**	**2025**	**DV (1)**	**% NAAQS**
Fremont (3)	0.02	0.03	0.04	0.04	27%

Notes and Explanations:

(1) Concentrations are in units of µg/m^3. The 3-month average NAAQS = 0.15 µg/m^3. The DV or Design Value is the highest 3-month average in the last 3 years. Annual values and Design Values that do not meet completeness requirements are shown in red; ND = No data.

(2) NAAQS History: The initial NAAQS was promulgated in 1978 and was set at 1.5 µg/m^3 calendar quarter average. In 2008, it was modified to 0.15 µg/m^3 3-month running average.

(3) The Fremont lead monitor was temporarily closed 9/31/2018 pending relocation at the request of the site host. A new location was located on an adjacent property, and sampling resumed 7/1/2023. EPA subsequently determined that the new site is not within the modeled area of maximum concentration, so a new monitor location is being sought.

Nebraska 2026 Ambient Air Monitoring Network Plan

Appendix C: Compliance Verification with 40 CFR Part 58

This appendix reviews compliance with applicable requirements in 40 CFR Part 58 Appendices A through E. Nebraska ambient air monitoring activities and the ambient air monitoring network are in compliance with these requirements.

I. 40 CFR Part 58 Appendix A Review

40 CFR Part 58 Appendix A sets forth quality assurance requirements for the collection, calculation, and reporting of ambient air monitoring data. The *Quality Assurance Project Plan (QAPP) for the Nebraska Ambient Air Monitoring Program Revision 4.0* (approved by EPA in January 2026) was developed to comply with Part 58 requirements and the provisions of the EPA *Quality Assurance Handbook for Air Pollution Measurement Systems Volume II* (January 2017). The Douglas County Health Department (DCHD) and Lincoln-Lancaster County Health Department (LLCHD) also use this QAPP. Actual procedures for operating monitors, as well as for collecting, reviewing and submitting data, are set forth in Standard Operating Procedures (SOPs) that comply with the QAPP.

40 CFR Part 58 Appendix A also sets forth requirements specifying the number of collocated monitors required for particulate monitoring ($PM_{2.5,}$ $PM_{10,}$ $PM_{10\text{-}2.5}$ and lead). Table C-1 summarizes the collocated sites in Nebraska. All PM and lead sub-networks operated by DCHD, LLCHD and DWEE either currently meet collocation requirements or will do so after network changes outlined in this 2026 Network Plan.

II. 40 CFR Part 58 Appendix C Review

40 CFR Part 58 Appendix C contains requirements for approved ambient air monitoring methodologies. Any monitor that is used to evaluate NAAQS compliance must be a Federal Reference Method (FRM) or a Federal Equivalent Method (FEM) sampler or an alternatively approved method as defined in 40 CFR Part 58 Appendix C. The network description tables in Appendix A of this network plan identify the sampling method used by each monitor in the Nebraska ambient air monitoring network. All monitors used to evaluate compliance with the NAAQS are FRM or FEM certified. The only monitors that are not FRM/FEM certified are those not subject to 40 CFR Part 58 requirements (i.e., NADP, IMPROVE, RadNet, etc.)

Table C-1: Compliance Summary: Particulate Sampling Collocation Requirements of 40 CFR Part 58 Appendix A[1]

Parameter	Primary Measurement Method FRM = Federal Reference Method FEM = Federal Equivalent Method	Percent Collocation Required	DWEE/LLCHD [2]			DCHD [2]		
			# of Sites	# Collocated	% Collocated	# of Sites	# Collocated	% Collocated
PM_{10}	Hi-Vol Sampler (FRM)	15%	0	0	na	0 [3]	0	na
PM_{10}	Met One E-BAM Plus Continuous (FEM)	None	0	0	na [4]	1	0	na [4]
PM_{10}	Met One BAM Continuous (FEM)	None	1	0	na [4]	1	0	na [4]
$PM_{2.5}$	Met One BAM Continuous (FEM)	15%	3 [5]	1 [5]	33%	4	1	25%
$PM_{10-2.5}$	Met One BAM Continuous (FEM)	None	0	0	na	1	0	na [6]
TSP-Lead	Hi-Vol Sampler (FRM)	15% except NCore	1 [7]	1	100%	0	0	0

Footnotes:

(1) Collocation Requirements: 40 CFR Part 58 Appendix A requires 15% of the particulate monitoring sites in each parameter/method category to have collocated monitors with the exception of primary PM_{10} continuous monitors. Listed site counts incorporate any network changes outlined in this Network Plan.

(2) Collocation requirements apply to each Primary Quality Assurance Organization (PQAO) separately. There are two PQAO's in Nebraska: DCHD and DWEE/LLCHD.

(3) Does not include the South Omaha site currently closed for relocation.

(4) Collocated monitors are not required for continuous PM_{10} monitors.

(5) LLCHD operates a Met One BAM $PM_{2.5}$ sampler for AirNow and AQI reporting. It is collocated with the primary and collocated sequential samplers at the Lincoln site but is not used for NAAQS comparison.

(6) DCHD operates 2 Met One BAM samplers at the NCore site. One is set up to sample $PM_{2.5}$ and the other samples PM_{10}. $PM_{10-2.5}$ is calculated using the results from these 2 samplers. There is a sequential $PM_{2.5}$ collocated sampler at the NCore site, but not a collocated PM_{10} sampler. Collocated PM_{10} samplers are not required in Appendix A for continuous PM_{10} samplers. EPA has designated some NCore sites to have collocated samplers for $PM_{10-2.5}$; the Omaha NCore site is not one of them.

(7) Fremont lead site was closed at the request of the property owner in 2018 and reopened at a nearby site in July 2023.

Network Descriptions:

DWEE Continuous PM_{10}: Weeping Water City (collocation not required)

DWEE Met One BAM Continuous $PM_{2.5}$: Grand Island and Scottsbluff

DWEE Met One BAM Continuous and collocated sequential 2025i $PM_{2.5}$: Homestead

LLCHD Primary and collocated sequential 2025i $PM_{2.5}$: Lincoln

DWEE TSP-Lead: Fremont (collocated)

DCHD Hi-Vol PM_{10}: South Omaha (currently closed)

DCHD Met One BAM Continuous PM_{10}: NCore Omaha

DCHD Met One E-BAM Plus Continuous PM_{10}: 19th & Burt St Omaha

DCHD Met One BAM Continuous and collocated sequential E-SEQ FRM $PM_{2.5}$: NCore

DCHD Met One BAM Continuous $PM_{2.5}$: Bellevue, Berry St. Omaha, and Blair

DCHD Met One BAM Continuous $PM_{10-2.5}$: NCore (collocation not required)

III. 40 CFR Part 58 Appendix D Review

40 CFR Part 58 Appendix D sets forth monitoring objectives, spatial scales, design criteria, and minimum monitoring site requirements for air pollutants. The review that follows demonstrates that the Nebraska ambient air monitoring network meets the current Appendix D requirements.

EPA periodically re-evaluates the NAAQS and monitoring requirements. Regulatory modifications may impact the minimum monitoring requirements in one of two ways:

- 40 CFR Part 58 Appendix D minimum monitoring requirements may be changed (i.e., more or less monitoring could be required); or
- Monitoring needs may change as a result of a NAAQS modification (e.g., when the annual average $PM_{2.5}$ NAAQS was lowered from 15 $\mu g/m^3$ to 12 $\mu g/m^3$, the 85% of NAAQS threshold set forth in 40 CFR Part 58 Appendix D Sec. 4.7 Table D.5 was crossed, and the minimum number of $PM_{2.5}$ monitoring sites for the Omaha MSA increased from 1 to 2).

A. 40 CFR Part 58 Appendix D - Objectives Review

40 CFR Part 58 Appendix D Section 1.1 sets forth three objectives that ambient air monitoring networks must be designed to meet:

- Provide air pollution data to the general public in a timely manner.
- Support compliance with ambient air quality standards and emissions strategy development.
- Support for air pollution research studies.

Each of these objectives is discussed below.

1. Timely Dissemination of Data - Met

Air monitoring data is made available to the public and other parties in several ways.

a. Ambient air monitoring data is reviewed quarterly and entered into the national EPA-operated AQS database. The AQS database is available to federal, state, and local monitoring agency personnel, as well as some other public agencies and researchers. AQS data cannot be directly accessed by the general public, but the DWEE does respond to data requests.

b. Current Air Quality Index values are posted for public view by DCHD and LLCHD for their respective jurisdictions. The AQI information is made available on their respective agency websites.

c. Monitoring data from continuous particulate, ozone, and CO monitors in the Omaha, Lincoln, and Grand Island MSAs and the Beatrice and Scottsbluff MiSAs report directly to the EPA AirNow system. The general public can access air quality index information online at www.airnow.gov. Since 2019 DWEE has replaced sequential $PM_{2.5}$ samplers in Grand Island and Scottsbluff with continuous monitors reporting to AirNow, and the Department added a new $PM_{2.5}$ continuous monitoring site at Homestead National Historic Park near Beatrice to increase public access to real-time particulate monitoring data. In 2024 the Douglas County Health Department replaced sequential samplers at the Berry Street site in Omaha with a continuous monitor reporting to AirNow.

2. Support compliance with ambient air quality standards and emissions strategy development: Met

The DWEE reviews all data collected by DCHD, LLCHD, and DWEE during the previous year as part of the annual data certification process, the results of which are submitted to EPA by May 1st. At this time

design values are calculated and compared with the NAAQS. This design value information is then incorporated into the annual Network Plan. The annual Network Plans discuss attainment/non-attainment status and monitoring strategies that may be related.

The DWEE, DCHD, and LLCHD also perform data validation reviews at least once each quarter and in many instances monthly. Any potential non-attainment or near non-attainment circumstances will be recognized during these reviews. If such conditions are identified, efforts are made to ascertain the cause and to the extent possible bring about corrective action through regulatory and/or voluntary mechanisms.

DWEE staff can access current ozone and $PM_{2.5}$ values through the AirNow Tech website when needed. When elevated ozone or $PM_{2.5}$ levels are reported, this information is passed on to air quality managers at DCHD, LLCHD, and DWEE.

The examples below illustrate how state and local air quality programs have recognized air quality issues and reacted to them.

a. Prescribed fire is an important range management tool in Nebraska and surrounding states, both to encourage growth of favored grass species and to reduce the spread of woody species such as eastern red cedar. In March and April each year, ranchers in the Flint Hills area of eastern Kansas and northeast Oklahoma conduct extensive prescribed burns on grazing lands. Depending on wind conditions, smoke from these fires can move northward and remain close to the ground, raising $PM_{2.5}$ and ozone levels in populated areas in Nebraska.

   Beginning in early 2018, DWEE has engaged with stakeholders and key players to address the air quality impacts associated with prescribed fires in the Flint Hills and the surrounding region. DWEE organizes and coordinates roundtable meetings held in February each year to discuss current trends, research, and options for collaboration and coordination to provide timely health advisories and notifications to the public. In addition to the local Nebraska air quality agencies, the group includes representatives from EPA Region 7, Kansas Department of Health and Environment (KDHE), the National Weather Service, the University of Nebraska Lincoln, the Nebraska Department of Health and Human Services (DHHS), the Nebraska Game and Parks Commission, and the Nebraska Prescribed Fire Council.

   As a result of this effort, beginning with the 2018 spring burn seasons KDHE has provided DWEE and local Nebraska air quality agencies with weekly forecasts of fire activity and impacts along with summaries of burn activity in the Flint Hills and the resulting smoke impacts during the previous week.

b. In 2021 DWEE established a new $PM_{2.5}$ monitoring site at Homestead National Historical Park near Beatrice, Nebraska. The site has co-located continuous and sequential monitors, with continuous data provided to AirNow. Located north of the Flint Hills and south of the urban centers of southeastern Nebraska, the real-time data provided by this site provides advance warning of potential impacts from Flint Hills burn activity in the spring.

c. DWEE has partnered with the National Weather Service and the Nebraska Department of Health and Human Services (DHHS) to establish a smoke impact working group to assess potential smoke impacts from prescribed fires and wildfires and to issue smoke advisories and air quality alerts when needed. These advisories and alerts are relayed to relevant local health departments in Nebraska and disseminated to the public by DHHS. The Smoke Awareness web page on the DWEE website has been expanded with additional information on spring burn activity and to provide access to smoke impact outlooks from prescribed burning and wildfires. This communication framework has been instrumental in addressing smoke and air quality impacts from nearby and distant wildfires and has provided timely communication to the public regarding those impacts and related health concerns.

3. Support for air pollution research studies – Met

The DWEE, DCHD, and LLCHD operate the Nebraska SLAMS network in accordance with the monitor specifications, site placement, and QA requirements set forth in 40 CFR Part 50 and 58. EPA Region 7 provides oversight to ensure that regulatory requirements are met with respect to methodology and QA.

Data are reviewed quarterly before being submitted to EPA's AQS database. Once in AQS, the data are available for pollution research studies.

Near real-time data are also reported to the EPA AirNow data from the continuous PM, CO, and ozone monitors operating in the Omaha and Lincoln MSA and Beatrice MiSA. These data are also available for research purposes.

B. 40 CFR Part 58 Appendix D Review – Minimum Monitoring Site Requirements for MSAs

40 CFR Part 58 Appendix D sets the minimum number of monitoring sites required for each criteria air pollutant. These requirements are set by Core Based Statistical Area (CBSA), which includes Metropolitan Statistical Areas (MSAs) and Micropolitan Statistical Areas (MiSAs). The minimum monitoring site requirements and compliance status for each of the four MSAs in Nebraska are examined and documented in Tables D-2.a through D-2.d below.

It should be noted that the number of monitoring sites required in a network generally needs to be greater than the minimum number required by 40 CFR Part 58 Appendix D. This is stated in 40 CFR Part 58 Appendix D Section 1.1.2: "… total number of monitoring sites that will serve the variety of data needs will be substantially higher than these minimum requirements provide…".

As detailed in Tables C-2.a and C-2.b, increases in estimated population from 2023 to 2024 in the Omaha and Lincoln MSAs have triggered additional monitoring requirements in both areas.

With the estimated population of the Omaha MSA surpassing the 1,000,000 threshold in 2024, the following new monitoring requirements are now in effect (relevant sections of Appendix D shown in parentheses:

1) Photochemical Assessment Monitoring (PAMS) for ozone precursors is required at the NCore station during June, July, and August (Section 5). DWEE is working with EPA Region 7 on funding options and to the equipment needed to establish PAMS monitoring at the Omaha NCore site.

2) A microscale near-road NO_2 monitoring station must be sited near a major road with highest annual average daily traffic counts. Measurements must be made of NO, NO_2, and NOx (Section 4.3.2).

3) A CO monitor must be collocated at the required near-road NO_2 monitoring site (Section 4.2).

4) A $PM_{2.5}$ monitor must be collocated at the required near-road NO_2 monitoring site (Section 4.7.1).

Appendix E of this document includes an analysis of near-road monitoring siting factors for the Omaha area and proposals for two potential near-road monitoring sites in south Omaha. This site will include monitoring for NO_2, CO, and $PM_{2.5}$ to satisfy the requirements listed in items 2 through 4 above.

With the population of the Lincoln MSA exceeding 350,000, and the most recent ozone Design Value exceeding 85% of the NAAQS, two ozone monitors are required for this area (Section 4.1). A new location to supplement the existing monitoring site at Davey will thus be required. DWEE is working with EPA and LLCHD to approve a suitable second location for ozone monitoring in the Lincoln MSA.

Tables C-2a through C-2d: Minimum Monitoring Reviews for Each Nebraska MSA

Table C-2a: 40 CFR Part 58 Appendix D Review: Omaha-Council Bluffs MSA (MSA Population ~ 1,001,010) *

Pollutant	App. D Citation	Review Criteria & *Comments*	Sites Required	NE Sites Operated	Criteria Met?
Ozone	Sec. 4.1 Table D-2	The Omaha MSA population is between 350,000 and 4M and latest O_3 design values are ≥ 85% of NAAQS (*See Design Values in Attachment B).*	2	2** Includes NCore	Y
CO	Sec. 4.2	The population threshold for requiring a near-road CO monitoring site in a CBSA is 1 million. The midyear 2024 estimated population of the Omaha MSA is now above this threshold.	1	2 Includes NCore	Y
NO_2	Sec. 4.3.2	One near-road NO_2 monitoring site is required in a CBSA with population > 1,000,000. The midyear 2024 estimated population of the Omaha MSA is now above this threshold.	1	0	N
	Sec.4.3.3	Area-Wide monitoring is required if CBSA ≥ 1M; Omaha MSA population is now > 1 M)	1	1 @ NCore	Y
	Sec. 4.3.4	Regional Administrator required monitoring: None at this time.	0	0	Y
SO_2	Sec. 4.4	The need for SO_2 sites is based on the *Population Weighted Emissions Index* (PWEI). Omaha's PWEI = 12,729, which falls within the 5,000 to 100,000 range requiring 1 site (see Table D-3 below for PWEI calculation data).	1	2 Includes NCore	Y
		Regional Administrator required monitoring: None at this time.	0	0	Y
Lead	Sec. 4.5 (a)	There are no sources emitting ≥ 0.5 tpy of lead in the Nebraska portion of the Omaha MSA.	0	0	Y
	Sec. 4.5 (b)	Revised regulations effective 4/27/16 eliminated the requirement for one community-based lead monitor at each NCore site. DCHD discontinued lead monitoring at the Omaha NCore site at the end of 2017 in accordance with this regulation change and the 2017 Network Plan.	0	0	Y
	Sec. 4.5 (c)	Regional Administrator required monitoring: None at this time.	0	0	Y
PM_{10}	Sec. 4.6 Table D-4	The Omaha MSA has a population over 1,000,000 and a low PM_{10} concentration range with max values < 80% of NAAQS; 2 to 4 monitoring sites required. (No sites in the MSA have exceeded the 80% NAAQS threshold since 2017. See Appendix B for PM_{10} data.)	2-4	3** Includes NCore & 1 site @ Weeping Water	Y
$PM_{2.5}$	Sec 4.7 Table D-5	The Omaha MSA has a population over 1,000,000 and $PM_{2.5}$ levels < 85% of NAAQS range at all but one monitor location (*See Design Values in Appendix B).*	2	4 Includes NCore	Y
	Sec 4.7.2	Continuous monitor required.	1	4 Includes NCore	Y
	Sec. 4.7.4	$PM_{2.5}$ Speciation Trends Network monitoring required (included SASS and URG samplers as one)	1	1 @ NCore	Y
	Sec. 4.7.1 (b)(2)	For CBSA with population over 1,000,000, at least one monitor collocated at a near-road NO2 station. Omaha MSA population > 1 M	1	0	N
PAMS	Sec. 5	Required at NCore site in CBSA with population over 1,000,000. Omaha MSA population > 1 M.	1	0	N
NCore	Sec. 3	Omaha has been designated to operate an NCore site with NOx/NOy monitoring.	1	1	Y

* Unless noted otherwise, this analysis does not count monitors located in Iowa toward meeting the minimum monitoring requirements. It does consider pollutant levels measured at Iowa sites when determining minimum monitoring needs for ozone and $PM_{2.5}$.

** Counts do not include the South Omaha Ozone-PM_{10} site that is currently closed for relocation.

Table C-2b: 40 CFR Part 58 Appendix D Review: Lincoln MSA (Population ~ 350,626)

Pollutant	App. D Citation	**Review Criteria & *Comments***	Sites Required	Sites Operated	Criteria Met?
Ozone	Sec. 4.1 Table D-2	The Lincoln MSA population is between 350,000 and 4 million and latest O_3 design value is $\geq$ 85% of NAAQS (*See Design Values in Attachment B).*	2	1	N
CO	Sec. 4.2	Near-road monitoring: No requirement for CBSA < 1 M.	0	0	Y
NO_2	Sec. 4.3.2	Near-road monitoring: No requirement for CBSA < 500K.	0	0	Y
	Sec.4.3.3	Area-Wide monitoring only required if CBSA $\geq$ 1M (Lincoln MSA population < 1 M).	0	0	Y
	Sec. 4.3.4	Regional Administrator required monitoring: none.	0	0	Y
SO_2	Sec. 4.4	The number of SO_2 sites required is based on the *Population Weighted Emissions Index* (PWEI). Lincoln's PWEI = 594, which falls below 5,000 (see Table D-3 below for PWEI calculation data). Thus no sites are required.	0	0	Y
		Regional Administrator required monitoring: none.	0	0	Y
Lead	Sec. 4.5 (a)	There are no sources emitting $\geq$ 0.5 tpy of lead.	0	0	Y
	Sec. 4.5 (b)	Community-based monitoring not required.	0	0	Y
	Sec. 4.5 (c)	Regional Administrator required monitoring: none.	0	0	Y
PM_{10}	Sec. 4.6 Table D-4	The Lincoln MSA population is between 250,000 and 500,000. Monitoring is only required if current monitoring indicates PM_{10} $\geq$ 80% of NAAQS.	0-1	0	Y
$PM_{2.5}$	Sec 4.7 Table D-5	The Lincoln MSA population is between 50,000 – 500,000 and $PM_{2.5}$ levels < 85% of NAAQS (*See Design Values in Appendix B).*	0	1	Y
	Sec 4.7.2	Continuous monitor not required.	0	1	Y
	Sec. 4.7.4	$PM_{2.5}$ Speciation Trends Network monitoring not required.	0	0	Y
PAMS	Sec. 5	Only required for areas classified as serious, severe, or extreme non-attainment for O_3.	0	0	Y
NCore	Sec. 3	Lincoln has not been designated to operate an NCore site.	0	0	Y

Table C-2c: 40 CFR Part 58 Appendix D Review: Sioux City MSA (Population ~ 171,819) *					
Pollutant	App. D Citation	**Review Criteria & *Comments***	Sites Required	NE Sites Operated	Criteria Met?
Ozone	Sec. 4.1 Table D-2	The Sioux City MSA population is between 50,000 and 350,000, with one ozone site required if the DV $\geq$ 85% of the NAAQS. Until 9/31/2021 there was one ozone monitor in the MSA located in a rural area of Union County, SD. The latest 3-year DV from the Union County site was 64 ppb or 91% of the NAAQS. In 2024 Iowa DNR established a new ozone monitoring site in Sioux City to satisfy this requirement for the MSA.	1	0	Y See comment
CO	Sec. 4.2	Near-road monitoring: No requirement for CBSA < 1 million.	0	0	Y
NO_2	Sec. 4.3.2	Near-road monitoring: No requirement for CBSA < 500,000.	0	0	Y
	Sec.4.3.3	Area-Wide monitoring only required if CBSA $\geq$ 1 million (Sioux City MSA population < 1 million)	0	0	Y
	Sec. 4.3.4	Regional Administrator required monitoring; none.	0	0	Y
SO_2	Sec. 4.4	The number of SO_2 sites required is based on the *Population Weighted Emissions Index* (PWEI). Sioux City MSA's PWEI = 514, which falls below the 5,000 to 100,000 range requiring 1 site (see Table D-3 below for PWEI calculation data).	0	0	Y See comment
		Regional Administrator required monitoring: none	0	0	Y
Lead	Sec. 4.5 (a)	There are no sources emitting $\geq$ 0.5 tpy of lead in the Nebraska portion of the Sioux City MSA.	0	0	Y
	Sec. 4.5 (b)	Community-based lead monitoring not required.	0	0	Y
	Sec. 4.5 (c)	Regional Administrator required monitoring: none.	0	0	Y
PM_{10}	Sec. 4.6 Table D-4	The Sioux City MSA population is between 100,000 – 250,000 and PM_{10} levels are < 80% of NAAQS (*See Design Values in Attachment B).*	0	0	Y
$PM_{2.5}$	Sec 4.7 Table D-5	The Sioux City MSA population is between 50,000 and 500,000 and $PM_{2.5}$ levels are < 85% of NAAQS, thus no monitor is required. (*See Design Values in Appendix B).*	0	0	Y
	Sec 4.7.2	Continuous monitor not required	0	0	Y
	Sec. 4.7.4	$PM_{2.5}$ Speciation Trends Network monitoring not required	0	0	Y
PAMS	Sec. 5	Only required for areas classified as serious, severe, or extreme non-attainment for O_3	0	0	Y
NCore	Sec. 3	The Nebraska portion of the Sioux City MSA has not been designated to operate an NCore site.	0	0	Y

* Unless noted otherwise, this analysis does not count monitors located in Iowa and South Dakota toward meeting the minimum monitoring requirements. It does use pollutant levels measured at IA and SD monitoring sites when determining minimum monitoring needs for ozone and PM.

Table C-2d: 40 CFR Part 58 Appendix D Review: Grand Island MSA (Population ~ 77,278)					
Pollutant	App. D Citation	**Review Criteria &** ***Comments***	Sites Required	Sites Operated	Criteria Met?
Ozone	Sec. 4.1 Table D-2	Grand Island MSA population is between 50,000 -350,000. Monitoring is only required if current monitoring finds O_3 > 85% of NAAQS as set forth in Part 58 Appendix D Table D-2.	0	1	Y
CO	Sec. 4.2	Near-road monitoring: No requirement for CBSA < 1 million.	0	0	Y
NO_2	Sec. 4.3.2	Near-road monitoring: No requirement for CBSA < 500,000.	0	0	Y
	Sec.4.3.3	Area-Wide monitoring only required if CBSA ≥ 1million (Grand Island MSA population < 1 million)	0	0	Y
	Sec. 4.3.4	Regional Administrator required monitoring: none	0	0	Y
SO_2	Sec. 4.4	*Population Weighted Emissions Index* (PWEI) = 33, which falls below 5,000 (see Table D-3 below for PWEI calculation data). No monitoring sites required.	0	0	Y
		Regional Administrator required monitoring: none	0	0	Y
Lead	Sec. 4.5 (a)	There are no sources emitting ≥ 0.5 tpy of lead	0	0	Y
	Sec. 4.5 (b)	Community-based lead monitoring not required.	0	0	Y
	Sec. 4.5 (c)	Regional Administrator required monitoring: none	0	0	Y
PM_{10}	Sec. 4.6 Table D-4	PM_{10} monitoring is not required if MSA population < 100,000	0	0	Y
$PM_{2.5}$	Sec 4.7 Table D-5	Grand Island's CBSA population is between 50,000 – 500,000 and $PM_{2.5}$ levels are < 85% of NAAQS (*See Design Values in Appendix B)*	0	1(1)	Y
	Sec 4.7.2	Continuous monitoring is not required	0	0	Y
	Sec. 4.7.4	$PM_{2.5}$ Speciation Trends Network monitoring is not required	0	0	Y
PAMS	Sec. 5	Only required for areas classified as serious, severe, or extreme non-attainment for O_3	0	0	Y
NCore	Sec. 3	The Grand Island MSA has not been designated to operate a NCore site	0	0	Y

Footnote:
(1) The $PM_{2.5}$ site operated in Grand Island is one of Nebraska's transport and background monitoring sites.

C. 40 CFR Part 58 Appendix D Review – Minimum Monitoring Requirements for non-MSAs

The review for non-MSA areas of the state was performed on a pollutant-specific basis, as detailed below.

NCore – (40 CFR Part 58 App. D Sec. 3) No sites required or operated outside of MSAs.

Nebraska has one required NCore site located in the Omaha MSA. At this time there is no requirement or plan to develop an additional NCore site in Nebraska.

Ozone (O_3) – (40 CFR Part 58 App. D Sec. 4.1) No sites required or operated.

At this time there is no requirement or plan to deploy ozone monitoring sites outside of the MSAs.

Carbon Monoxide (CO) – (40 CFR Part 58 App. D Sec. 4.2) No sites required or operated.

At this time there is no requirement or plan to conduct CO monitoring outside the MSAs. Elevated CO levels are primarily associated with vehicle emissions and congested traffic areas. Highest levels would be anticipated in the Omaha and Lincoln MSAs. Highest concentration site monitoring in Lincoln and Omaha has consistently found CO levels well below the NAAQS. Thus there is no need for additional monitoring sites in less populated communities.

Nitrogen Dioxide (NO_2) – (40 CFR Part 58 App. D Sec. 4.3) No sites required or operated.

At this time there is no requirement or plan to conduct NO2 monitoring outside the MSAs.

Sulfur Dioxide (SO_2) – (40 CFR Part 58 App. D Sec. 4.4) No sites required or operated.

There are no Part 58 requirements to operate SO2 monitoring sites in non-MSA areas. However, pursuant to Part 51, Subpart BB, monitoring may be used to demonstrate attainment with the 1-hour SO2 NAAQS. DWEE has no current plans for SO2 monitoring in non-MSA areas.

Lead (Pb) – (40 CFR Part 58 App. D Sec. 4.5)

Two source-oriented monitoring sites required; 1 currently active and 1 waived.

40 CFR Part 58 Appendix D requires source-oriented monitoring near sources with lead emissions of 0.5 tpy or more. Three sources in Nebraska initially met this threshold: Nucor Steel in Norfolk, Magnolia Metals in Auburn, and Magnus LLC in Fremont.

Part 58 Appendix D Section 4.5(a)(ii) stipulates that the Regional Administrator may grant a waiver from lead monitoring if the state or local agency can demonstrate that the source will not contribute to maximum lead concentration in ambient air in excess of 50% of the NAAQS (based on historical monitoring data, modeling, or other means). DWEE first requested a waiver from EPA Region 7 for Nucor Steel in April 2014. This waiver was in effect for five years. DWEE's requests for renewal of this waiver in the 2019 and 2024 Network Plans were approved by EPA. EPA subsequently notified DWEE that lead monitoring waiver requests are required to be submitted as part of the Five-Year Assessment. As a result, this lead monitoring waiver request was included again in the 2025 Network Plan and Five-Year Assessment to extend the term of waiver to 2030, when the next Five-Year Assessment will be due.

Monitoring near the Magnolia Metals facility in Auburn was initiated in 2010. In 2012 and 2013 Magnolia Metals installed pollution-control equipment that reduced their lead emissions to 0.1 tpy. Ambient lead levels dropped to below 5% of the NAAQS in 2015. The 2015 Network Plan proposed to discontinue lead monitoring near Magnolia Metals. The Auburn lead site was shut down in June 2016 in accordance with the approved 2015 Network Plan.

The Magnus LLC facility in Fremont currently is the only Nebraska facility that requires lead monitoring. Monitoring on a property north of this facility began in 2010 but was discontinued in September 2018 at the request of the site host. DWEE identified an alternative site on a nearby commercial property; this location

was approved by EPA Region 7 during a site visit on December 5, 2019. However, negotiations with the property owner stalled. An alternative site was located in 2022 and a site lease agreement was signed by the new property owner in March 2023. DWEE requested EPA approval of the new site in the 2023 Network Plan, and installation of the samplers at the new was completed at the beginning of July 2023. However, modeling conducted by EPA Region 7 in 2024 showed that the relocated site is not in the area of expected maximum lead concentration as required. DWEE is working to identify a property owner in the required area willing to allow the monitoring equipment to be sited on their property. The Department is also planning to review the facility's permits, operations, and emissions inventories to get an up to date picture of annual lead emissions.

Coarse Particulate Matter (PM_{10}): (40 CFR Part 58 App. D Sec. 4.6) No sites required. No sites operated. There are no minimum PM_{10} monitoring requirements for areas outside of MSAs.

Fine Particulate Matter ($PM_{2.5}$): (40 CFR Part 58 Appendix D Section 4.7 & 4.7.3) Two (2) sites required and three operated.

States are required to operate a background site and a transport site for PM2.5. The Homestead (Beatrice MSA) location is a background site, Scottsbluff is a transport site, and the Grand Island monitor serves as both a background and transport site.

Coarse Particulate Matter ($PM_{10-2.5}$): (40 CFR Part 58 App D Sec 4.8) No sites required or operated.

Table C-3: SO_2 Population Weighted Emissions Index (PWEI) Data for Nebraska Core Based Statistical Areas (CBSAs) [a] [b] [c] Page 1 of 2

CBSA	County	Population 7/1/2025 [c]	SO_2 Emissions (tons/year)		SO_2 Emissions % Change	PWEI [a] [b]	
			2017 EI	2020 EI		2017 EI	2020 EI
Omaha MSA	Douglas	606,460	8,951	5,691	-36%	20,799	**12,729**
	Sarpy	208,303	267	79	-70%		
	Cass	27,657	749	702	-6%		
	Saunders	23,702	46	13	-72%		
	Washington	21,302	63	95	52%		
	Pottawattamie, IA	92,996	10,430	5,983	-43%		
	Mills, IA	14,793	30	10	-68%		
	Harrison, IA	14,623	60	32	-47%		
	Totals	**1,009,836**	**20, 596**	**12,605**	**-39%**		
Lincoln MSA	Lancaster	334,049	2,626	1,654	-37%	950	**594**
	Seward	18,032	73	33	-54%		
	Totals	**352,081**	**2,699**	**1,687**	**-37%**		
Sioux City MSA[d]	Woodbury, IA	106,649	9,316	2,900	-69%	1,686	**514**
	Plymouth, IA	25,697	331	12	-96%		
	Dakota	21,687	138	20	-86%		
	Union, SD	17,402	50	66	33%		
	Totals	**171,435**	**9,835**	**2,998**	**-70%**		
Grand Island MSA	Hall	63,633	621	395	-36%	55	**33**
	Howard	6,538	27	13	-53%		
	Merrick	7,905	52	12	-77%		
	Totals	**78,076**	**700**	**419**	**-40%**		

Observation: The EPA's emission inventory data indicates that SO_2 emissions from the four Nebraska MSAs decreased by 37% to 70% from 2017 to 2020.

Footnotes:

(a) Population Weighted Emission Index (PWEI) = (CBSA Population) x (SO_2 Emissions (tpy))/1,000,000.

(b) SO_2 Emission data were obtained from the EPA National Emission Inventory (EI) database for 2017 and 2020. The 2020 NEI data are the most recent available from EPA at the time this table was created (March 26, 2025).

(c) U.S. Census population estimate data for 7/1/2025 were used in this table and the PWEI calculations.

(d) Prior to July 2023, the Sioux City MSA also included Dixon County, Nebraska.

The PWEI calculated with 2020 Emission Inventory data is currently applicable. The PWEI was also calculated with 2017 EI data to document changes that have occurred.

Table C-3 (continued): SO_2 Population Weighted Emissions Index (PWEI) Data for Nebraska Core Based Statistical Areas (CBSAs) [a] [b] [c] Page 2 of 2

CBSA	County	Population 7/1/2025 [c]	SO_2 Emissions (tons/year)		SO_2 Emissions (% Change)	PWEI [a] [b]	
			2017 EI	2020 EI		2017 EI	2020 EI
Kearney MiSA	Buffalo	51,172	136	37	-73%	8.8	**2.3**
	Kearney	6,790	16	3	-79%		
	Totals	**57,962**	**152**	**40**	**-73%**		
Norfolk MiSA	Madison	36,106	102	13	-87%	16	**12**
	Pierce	7,378	37	23	-37%		
	Stanton	5,744	188	216	15%		
	Totals	**49,228**	**327**	**252**	**-23%**		
Hastings MiSA	Adams	31,071	2,604	2,235	-14%	107	**91**
	Clay	6,170	16	9	-43%		
	Webster	3,336	6	10	81%		
	Totals	**40,577**	**2,626**	**2,254**	**-14%**		
Scottsbluff MiSA[e]	Banner	686	1	52	5058%	8.2	**7.8**
	Scotts Bluff	35,586	224	162	-27%		
	Totals	**36,272**	**225**	**214**	**-5%**		
North Platte MiSA[f]	Lincoln	33,303	21,346	18,332	-14%	725	**624**
	Logan	669	4	24	503%		
	Totals	**33,972**	**21,350**	**18,356**	**-14%**		
Fremont MiSA	Dodge	**38,057**	**1,032**	**935**	**-9%**	39	**36**
Columbus MiSA	Platte	35,649	516	411	-20%	30	**22**
	Colfax	10,934	123	56	-55%		
	Totals	**46,583**	**639**	**467**	**-27%**		
Lexington MiSA	Dawson	24,452	114	23	-80%	3.3	**0.7**
	Gosper	1,803	11	3	-70%		
	Totals	**26,255**	**125**	**26**	**-79%**		
Beatrice MiSA	Gage	**21,711**	**93**	**41**	**-56%**	2.0	**0.9**

Footnotes:
(e) Prior to July 2023, the Scottsbluff MiSA also included Sioux County.
(f) Prior to July 2023, the North Platte MiSA also included McPherson County.

IV. 40 CFR Part 58 Appendix E Review

Appendix E sets forth requirements for probe and monitoring path placement, including: horizontal and vertical placement, spacing from minor sources, spacing from obstructions, spacing from trees, spacing from roadways, cumulative interferences on a monitoring path, maximum monitoring path length, and probe material and sample residence time. Compliance with these criteria is verified when the site is set up and periodically thereafter. Compliance is evaluated using review sheets developed for that purpose.

Nebraska Department of Water, Energy, and Environment

Annual Report: Ongoing Data Requirements for the 2010 1-Hour Sulfur Dioxide Primary National Ambient Air Quality Standards

Jesse Bradley, Director

MONTH DAY, 2026

Introduction

On August 21, 2015, the U.S. Environmental Protection Agency (EPA) issued the Data Requirements Rule (DRR)[2], which requires states to evaluate compliance with the 2010 one-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) in areas surrounding stationary sources that emitted 2,000 tons per year (tpy) or more of SO_2. Pursuant to the DRR, states were to characterize the air quality surrounding these sources using either air quality monitoring, air dispersion modeling, or demonstration of enforceable emissions limitations that are below the 2,000 tpy threshold.

The Department identified five (5) sources/areas as subject to the DRR and selected the method of characterization as follows:

Source	Area	Method of Characterization
Gerald Gentleman Station (Nebraska Public Power District)	Lincoln County	Modeling
Nebraska City Station (Omaha Public Power District)	Otoe County	Modeling
North Omaha Station (Omaha Public Power District)	Douglas County	Monitoring
Gerald T. Whelan Energy Center (Hastings Utilities)	Adams County	Modeling
Sheldon Power Station (Nebraska Public Power District)	Lancaster County	Monitoring

Modeling analyses and ambient air monitoring were conducted pursuant to the rule, demonstrating compliance[3] with the NAAQS at each source/area. Those characterized by monitoring were approved[4] by EPA to discontinue monitoring activities associated with the DRR. The sources/areas characterized by modeling are subject to additional requirements, which are described in the rule.

The ongoing data requirements[5] require states to submit an annual report to EPA documenting the SO_2 emissions of those sources for which the surrounding areas were designated unclassifiable/attainment based on a maximum modeled concentrations below the 1-hour SO_2

[2] *Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS)*, August 21, 2015 (80 CFR 51052), https://www.govinfo.gov/content/pkg/FR-2015-08-21/pdf/2015-20367.pdf.

[3] Design Values were calculated pursuant to the 2010 1-hour SO_2 NAAQS based on three years of monitoring data; modeled concentrations were below the 1-hour SO_2 NAAQS. Areas in Nebraska were designated as attainment/unclassifiable (Round 2 – 81 FR 45039 (July 12, 2016) and 86 FR 37683 (July 16, 2021); Round 3 – 83 FR 1098 (January 9, 2018); Round 4 – 86 FR 16055 (March 26, 2021).

[4] December 22, 2020, Letter from EPA Regional Administrator James Gulliford – approval to remove Sheldon Station and North Omaha Station SO_2 monitors (effective January 1, 2021). Available via the DWEE Public Records search portal https://ecmp.nebraska.gov/PublicAccess/index.html?MyQueryID=340, Facility IDs: 33563 (Sheldon) and 59763 (North Omaha Station) – DEQ Program: Air, Document date: 12/22/2020, Document type: DEQ Letter, DEQ Description: Revised monitoring schedule/EPA Approval.

[5] Described at 40 CFR 51.1205(b) *Ongoing Data Requirements – Modeled Areas.*

NAAQS. The state must also determine if additional modeling is necessary to characterize air quality in these areas. If the maximum modeled concentration at a source/area is below 50 percent of the 1-hour SO_2 NAAQS, and the modeling demonstration is approved by the EPA Regional Administrator, the state will not be subject to annual reporting for this source/area. In Nebraska, two facilities remain subject to annual reporting requirements:

- Gerald Gentleman Station (Nebraska Public Power District (NPPD)) – Lincoln County
- Whelan Energy Center (Hastings Utilities) – Adams County

A third source/area (Nebraska City Station (Omaha Public Power District (OPPD) – Otoe County) has been exempt from annual reporting based on approval[6] of the modeling analysis that demonstrated a maximum modeled concentration below 50 percent of the NAAQS. Despite the exemption, this source/area has been included in a number of Nebraska's annual reports for the purpose of addressing emissions increases; in these instances, the estimated maximum impact, based on the most current three years of emissions evaluated, did not exceed 50 percent of the NAAQS or the modeled impact value.

As described in this report, DWEE confirms that sources/areas subject to the DRR remain in attainment with the 2010 1-hour SO_2 NAAQS.

For this report, the Department evaluated the most recent three-year emissions average for each source and compared this to the three-year emissions average used in the modeling analyses, from which the pollutant impact value was calculated for each source/area. This impact value was relied on as the basis for NAAQS designation.

If the most recent three-year average for a source is equal to or less than the three-year average used in the modeling analysis, then the current pollutant impact is assumed to be less than the impact value derived from the modeling analysis, and the Department concludes that additional modeling is not necessary. If the most recent three-year average is greater than the average used in the modeling analysis, then the current pollutant impact is calculated; if this value is equal to or less than the impact value derived from the modeling analysis, the Department concludes that additional modeling is not necessary. If the current value exceeds the modeled impact value, then further discussion is initiated to determine if additional modeling is necessary.

Following evaluation of the most recent emissions from the sources subject to the DRR, the Nebraska Department of Water, Energy, and Environment (DWEE) confirms that these areas continue to demonstrate attainment with the NAAQS, and that additional air quality modeling is not necessary at this time. Nebraska remains proactive in limiting stationary source emissions through the use of state and Title V air construction and operating permits to enforce emission limits and the use of engineering controls and other measures to maintain compliance with the NAAQS. Analysis of emissions data and discussion for the sources and areas subject to the DRR are provided in this report.

[6] The EPA relied on the modeling analysis for this source for the basis of its designation of the area, as described in its Technical Analysis for the Nebraska City Station (Conclusion, p16), https://www.epa.gov/sites/default/files/2016-03/documents/ne-epa-tsd-r2.pdf.

Areas Subject to Ongoing Requirements

The following sections describe areas in Nebraska subject to the ongoing requirements described in 40 CFR Part 51.1205. Modeling analyses conducted to characterize these areas utilized actual emissions data and these areas have no subsequent "nonattainment" designations.

The area surrounding Gerald Gentleman Station (GGS), Sutherland, NE

Nebraska Public Power District (Lincoln County)

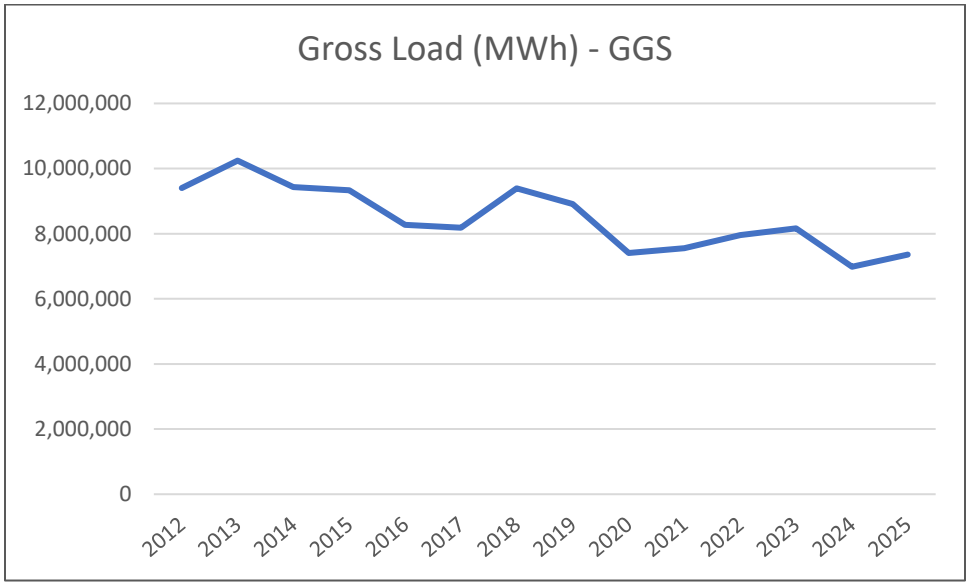
The modeling analysis[7] used to characterize this area was performed in September 2015 and utilized actual facility emissions from 2012-2014. This analysis indicated the SO_2 impact (99th percentile 1-hour SO_2 concentration) on the area to be 144.8 ug/m^3, or 55.3 parts per billion (ppb). This impact value equates to 73.7% of the 1-hour SO_2 NAAQS of 75 ppb, and this area (Lincoln County) was designated "unclassifiable/attainment" on July 12, 2016 (81 FR 45039).

Emissions data for GGS are shown in **Table D-1**. Data from 2012-2014 used in the modeling analysis, and emissions data for 2023-2025, are included for comparison. The SO_2 emissions reported for 2025 indicate an 8.7% increase from 2024, however, the 2023-2025 average actual emissions are 19.7% lower than the 2012-2014 modeled three-year average, and overall facility SO_2 emissions decreased on average by about 1.2% annually since 2012. Emissions increases at this facility typically correlate with the amount electricity generated (gross load), as shown in **Figures D1** and **D2**. GGS also participates in the Cross-State Air Pollution Rule (CSAPR) trading program for SO_2, and actual 2025 facility emissions are below the SO_2 allocations of 13,780 tons (Unit 1) and 15,116 tons (Unit 2).[8]

Based on the SO_2 emissions data from GGS, DWEE maintains that the area surrounding this source continues to be in attainment with the 1-hour SO_2 NAAQS, and additional modeling is not necessary at this time.

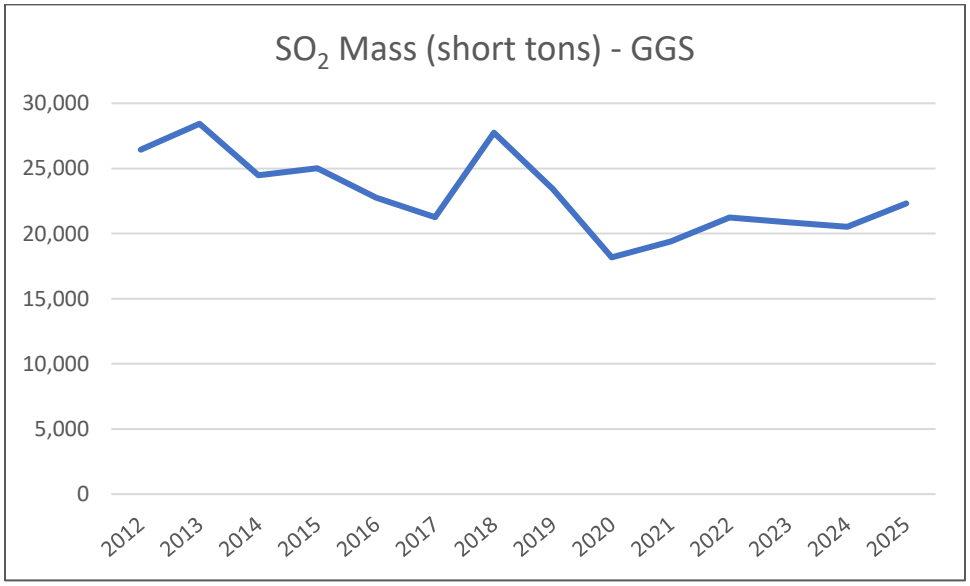
[7] Available via the DWEE Public Records search portal https://ecmp.nebraska.gov/PublicAccess/index.html?MyQueryID=340, Facility ID: 34385 – DEQ Program: Air, Document date 9/18/2015, DEQ Data, Modeling.
[8] CSAPR Allowance Allocations, https://www.epa.gov/csapr/csapr-allowance-allocations.

Figure D1. Gross Load (MWh) – Gerald Gentleman Station



Gross load data were acquired from the Clean Air Markets Division, https://campd.epa.gov/data

Figure D2. Emissions (short tons) – Gerald Gentleman Station



Emissions data were acquired from the Clean Air Markets Division, https://campd.epa.gov/data

Table D-1. Gerald Gentleman Station						
Unit	SO_2 Emissions (tons per year)					
	2012	2013	2014	2023	2024	2025
GGS1	14,832	13,047	12,539	10,202	8,326	11,259
GGS2	11,605	15,383	11,945	10,675	12,191	11,052
Total	**26,437**	**28,430**	**24,484**	**20,877**	**20,517**	**22,311**
Average (2012-2014)	**26,450**					
Average (2023-2025)				**21,235**		

Emissions data were acquired from the Clean Air Markets Division, https://campd.epa.gov/data.

The area surrounding Gerald Whelan Energy Center (WEC)

Hastings Utilities (Adams County)

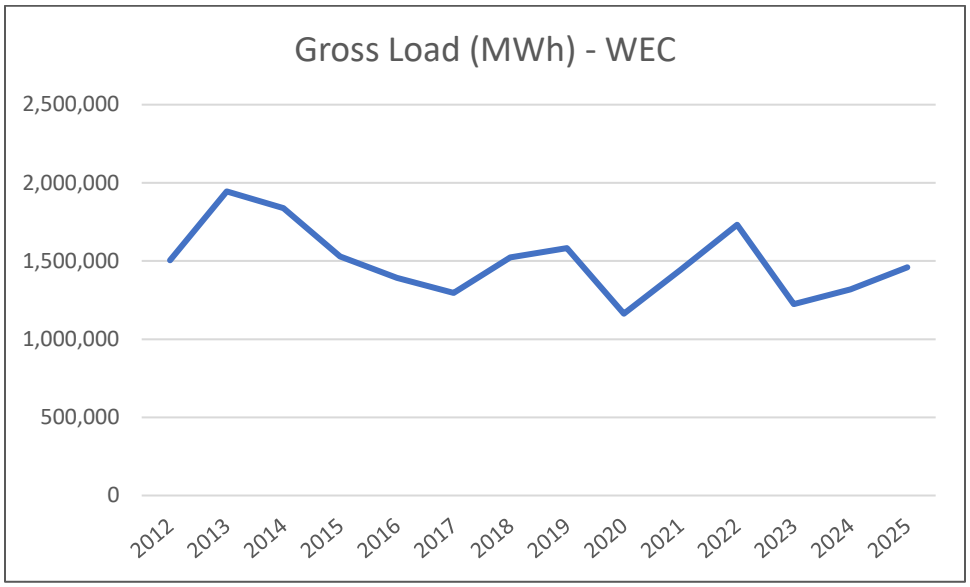
The modeling analysis[9] used to characterize this area was performed in December 2016 and utilized actual facility emissions data from 2013-2015. This analysis indicated the SO_2 impact (99th percentile 1-hour SO_2 concentration) on the area to be 188.7 µg/m^3, or 72.02 ppb, which equates to 96% of the NAAQS. This impact value is below the 1-hour SO_2 NAAQS of 75 ppb and the area (Adams County) was designated "attainment/unclassifiable" on January 9, 2018 (83 FR 1098).

Emissions data for Whelan Energy Station is shown in **Table D-2**. Data from 2013-2015 used in the modeling analysis, and reported emissions data for 2023-2025 are included to provide comparison. The 2025 SO_2 emissions show a 4.1% decrease from 2024. The 2023-2025 average is 12.6% lower than the 2013-2015 modeled three-year average, with overall facility SO_2 emissions decreasing on average by about 0.7% annually since 2013. Emissions from this source typically correlate with the amount of electricity generated, though at times increased efficiency in generation (as in 2025) is demonstrated, as shown in **Figures D3** and **D4**. WEC participates in the Cross-State Air Pollution Rule (CSAPR) trading program for SO_2 (Unit 1) and actual 2025 emissions from Unit 1 were below the SO_2 allocations[10] of 1,722 tons for that unit.

Based on SO_2 emissions data from WEC, DWEE maintains that the area surrounding this source continues to be in attainment with the 1-hour SO_2 NAAQS, and additional modeling is not necessary at this time.

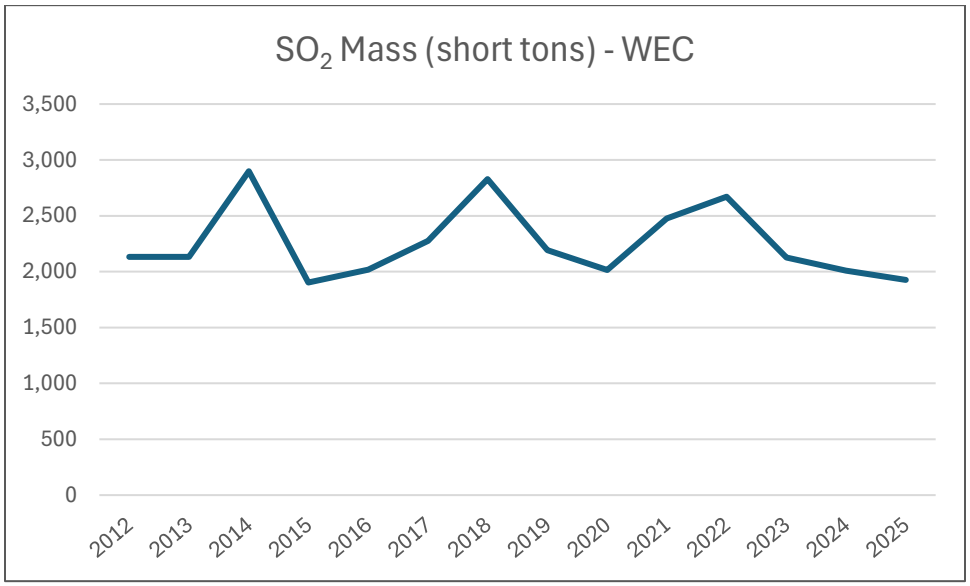
[9] Available via the DWEE Public Records search portal https://ecmp.nebraska.gov/PublicAccess/index.html?MyQueryID=340, Facility ID: 58048 – DEQ Program: Air, Document date 12/13/2016, DEQ Data, Modeling.
[10] CSAPR Allowance Allocations https://www.epa.gov/csapr/csapr-allowance-allocations.

Figure D3. Gross Load (MWh) – Whelan Energy Center



Gross load data were acquired from the Clean Air Markets Division, https://campd.epa.gov/data

Figure D4. Emissions (short tons) – Whelan Energy Center



Emissions data were acquired from the Clean Air Markets Division, https://campd.epa.gov/data

Table D-2. Whelan Energy Center						
Unit	SO_2 Emissions (tons per year)					
	2013	2014	2015	2023	2024	2025
WEC1	1,439	2,302	1,495	1,653	1,520	1,473
WEC2	692	598	409	424	489	452
Total	**2,131**	**2,900**	**1,904**	**2,126**	**2,009**	**1,926**
Average (2013-2015)	**2,312**					
Average (2023-2025)				**2,020**		

Emissions data were acquired from the Clean Air Markets Program Data, https://campd.epa.gov/data.

The area surrounding Nebraska City Station (NCS)
Omaha Public Power District (Otoe County)

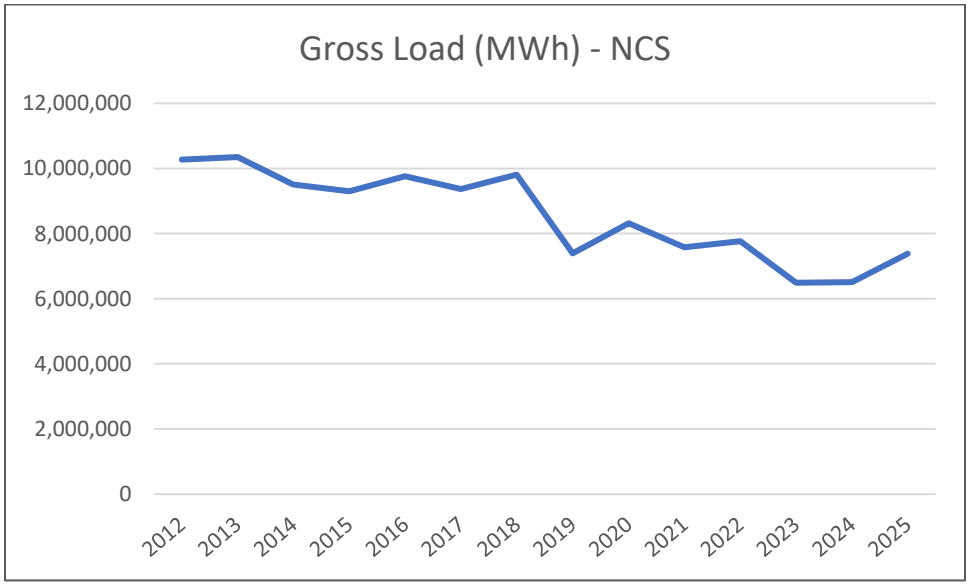
The modeling analysis[11] used to characterize this area was performed in August 2015, utilizing actual facility emissions data from 2012-2014. This analysis indicated the SO_2 impact (99th percentile 1-hour SO_2 concentration) on the area to be 78.5 ug/m^3 (32.7 ppb), which equates to an impact of 39.9% of the NAAQS. Pursuant to 40 CFR Part 51.1205(b)(2), a state is not subject to the requirement for annual reports if the air quality modeling demonstrates that air quality values at all receptors in the area are less than 50% of the NAAQS. The area surrounding this facility was designated "unclassifiable/attainment" on July 12, 2016 (81 FR 45039).

Though annual emissions in 2025 show a 44.1% increase compared to 2024 emissions[12], the most current three-year average of emissions (2023-2025) for this facility is 39.6% less than the three-year average of the emissions used for modeling. Emissions increases at this facility typically correlate with the amount electricity generated (gross load), as shown in **Figures D5** and **D6**. NCS participates in the Cross-State Air Pollution Rule (CSAPR) trading program for SO_2, and actual 2025 facility emissions are below the SO_2 allocations of 12,313 tons (Unit 1) and 3,377 tons (Unit 2).[13]

[11] Available via the DWEE Public Records search portal https://ecmp.nebraska.gov/PublicAccess/index.html?MyQueryID=340, Facility ID: 58343 – DEQ Program: Air, Document date 8/21/2015, DEQ Letter, Modeling.
[12] Emissions data were acquired from the Clean Air Markets Program Data, https://campd.epa.gov/data. Annual 2025 SO_2 emissions were compared to emissions from 2024.
[13] CSAPR Allowance Allocations https://www.epa.gov/csapr/csapr-allowance-allocations.

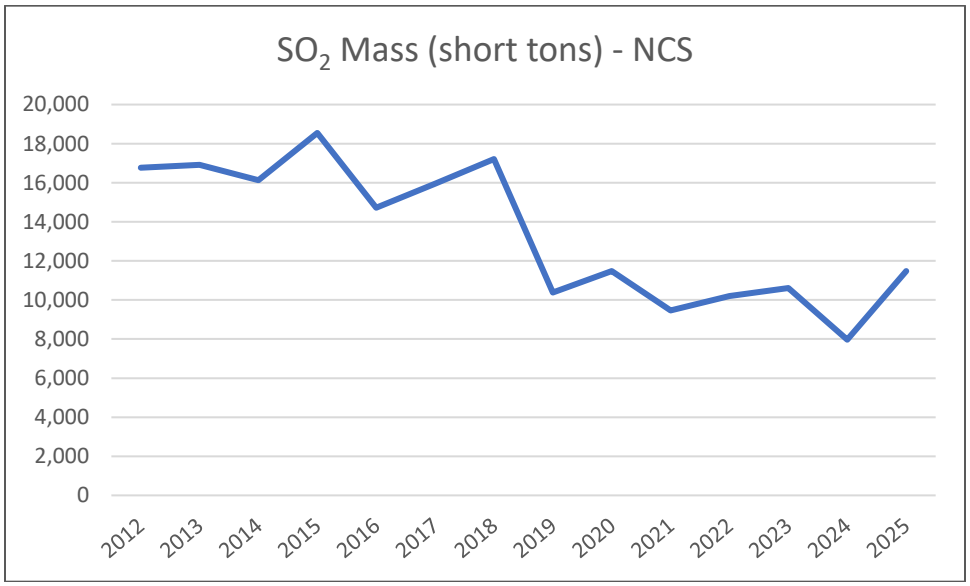
Based on SO_2 emissions data from NCS, DWEE maintains that the area surrounding this source continues to be in attainment with the 1-hour SO_2 NAAQS, and that additional modeling is not necessary at this time.

Figure D5. Gross Load (MWh) – Nebraska City Station



Emissions data were acquired from the Clean Air Markets Program Data, https://campd.epa.gov/data

Figure D6. Emissions (short tons) – Nebraska City Station



Emissions data were acquired from the Clean Air Markets Program Data, https://campd.epa.gov/data

Table D-3. Nebraska City Station						
Unit	SO_2 Emissions (tons per year)					
	2012	2013	2014	2023	2024	2025
GGS1	14,544	14,696	13,969	9,292	6,297	9,992
GGS2	2,222	2,214	2,165	1,325	1,670	1,489
Total	**16,766**	**16,910**	**16,134**	**10,617**	**7,967**	**11,481**
Average (2012-2014)	**16,603**					
Average (2023-2025)				**10,022**		

Emissions data were acquired from the Clean Air Markets Division, https://campd.epa.gov/data.

Conclusion

The Department's evaluation of current emissions from sources addressed in this report indicates continued compliance with the SO_2 NAAQS. Overall, emissions from these sources show a downward trend since the period when the modeling analyses were conducted. Although recent emissions from the two largest sources (Gerald Gentleman Station and Nebraska City Station) have increased, these increases correlate directly to the amount of electricity generated at those facilities during this period. At Whelan Energy Center, emissions in 2025 decreased despite an increase in the amount of electricity generated. As technology continues to improve and drive more efficient production and consumption of electricity, this occurrence may become more common.

In conclusion, the annual evaluation of Nebraska sources subject to the ongoing requirements contained in the Data Requirements Rule indicates that these areas continue to demonstrate attainment with the 2010 1-hour SO_2 NAAQS and, based on these analyses, DWEE maintains that no additional modeling is necessary at this time to further characterize these areas.

Public Notice

This document was made available for public inspection and comment from **DATE**, 2026 until **DATE**, 2026. No comments were received during this time. A copy of the public notice is attached.

Siting Proposal for Near-Road Ambient Air Monitoring in the Omaha Nebraska-Iowa Metropolitan Statistical Area

Nebraska Department of Water, Energy, and Environment

Jesse Bradley, Director

NEBRASKA
DEPT. OF WATER, ENERGY, AND ENVIRONMENT

February 27, 2026

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B. Executive Summary

This document evaluates prospective sites in the Omaha Nebraska-Iowa Metropolitan Statistical Area (MSA) to establish near-road ambient air monitoring in order to comply with requirements in 40 CFR Part 58, Appendix D – Network Design Criteria for Ambient Air Quality Monitoring. The Nebraska Department of Water, Energy, and Environment (DWEE) has identified two prospective sites and seeks EPA approval of these sites pending further administrative analysis.

DWEE's review of traffic data indicates that the highest traffic counts in the MSA are recorded along Interstate 80 (I-80) in south Omaha, within the Nebraska portion of the MSA. This highway section is bounded by the interchanges with Interstate 680 on the west and Interstate 480/U.S. 75 on the east. DWEE divided this section into four segments between major interchanges, informally labeled segments 80-D, 80-E, 80-F, and 80-G from west to east. For the period 2021 through 2024, Segment 80-E, between South 72nd and South 60th Streets, has the highest average Annual Average Daily Traffic (AADT) counts and the highest average Fleet Equivalent (FE) AADT counts.

The top four highway segments are part of a limited access divided freeway trending roughly east-west through an area with diverse land use, including residential, commercial, and light industrial uses. The terrain in this area includes rolling hills with mostly gentle slopes and overall vertical relief of 350 feet. The highway crosses two south-flowing creeks on bridges. In the uplands between the bridges, most stretches of I-80 are below grade on the north side but above grade with respect to the southern right-of-way. However, the western portion of segment 80-E is below grade on both north and south sides. Highway planning documents indicate that one additional freeway lane in each direction is expected to be required between 2031 and 2036 in all four top highway segments.

The dominant wind directions in the Omaha area are from the south-southeast and north-northwest. Strong winds from the south-southeast occur year-round, with winds from the north-northwest equally strong or stronger only during December through April. Thus a near-road monitoring site on the north side of the I-80 corridor in south Omaha would be better positioned to detect traffic-related emissions than a site south of the highway.

Terrain, the configuration of the Interstate 80 right-of-way, and the pattern of surface streets and properties severely limit the number of safely-accessible locations within 50 meters of the outside travel lanes of the interstate, particularly on the favored north side of the highway. Two potential sites, both north of the highway, have been identified and are designated the Phelps Street and 72nd Street sites.

The Phelps Street site is adjacent to segment 80-E, the highway segment with the highest average AADT and FE-AADT counts. The site is within a grass-covered area that is an unused City of Omaha street right-of-way, 35 to 40 meters north of the outermost highway travel lane. This site can be safely accessed from low-traffic surface streets and the parking area of an adjacent commercial property. Several electrical poles are close to the site.

The 72nd Street site is within the Nebraska Department of Transportation (NDOT) right-of-way in the northwest portion of the I-80 and South 72nd Street interchange (a partial cloverleaf). This location is at the east end of segment 80-D, which has the third-highest average AADT counts and fourth highest FE-AADT counts. However, the site would also measure traffic emissions from South 72nd Street, a busy arterial.

Permission would be required from NDOT to occupy the candidate site, which is in a grassy area 40 to 45 meters north of the outermost highway travel lane. Several potential electrical connections are nearby. The site could be accessed from the west shoulder of South 72nd Street, though this access point (flanked by a block-off traffic lane) is about 60 meters from the proposed site, and the traffic volume on this street reduces the safety level of site access.

Although there are no guardrails or barrier walls along the highway adjacent to either site, each would be protected from stray vehicles by an intervening ditch and by distance from the highway edge. This distance also means that the expected future construction of an additional travel lane should not require relocation of either monitoring site. Neither of these proposed sites have nearby major emissions sources.

The Phelps and 72nd Street sites have similar terrain, distance from the roadway, meteorology, land use patterns, nearby electrical infrastructure, and lack of significant source impacts. DWEE prefers the Phelps Street site due to its safer and closer access and potentially less complex access approval. On that basis, DWEE staff prefers selecting the Phelps Street candidate for the new near-road monitoring site. However, DWEE requests EPA approval of both sites in case access permits cannot be obtained for the preferred site.

C. Introduction

The U.S. Census Bureau's July 1, 2024, population estimate for the Omaha Nebraska-Iowa Metropolitan Statistical Area (MSA) was 1,001,010. This is the first population estimate for this Core-Based Statistical Area (CBSA) exceeding 1,000,000, which is the population threshold for several minimum ambient air monitoring requirements, including near-road monitoring. In this document the Nebraska Department of Water, Energy, and Environment is proposing a location in south Omaha for a new ambient air monitoring site to meet the following requirements in 40 CFR Part 58, Appendix D – Network Design Criteria for Ambient Air Quality Monitoring:

4.3.2 Requirement for Near-road Nitrogen Dioxide (NO_2) Monitors

(a) Within the NO_2 network, there must be one microscale near-road NO_2 monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected maximum hourly concentrations sited near a major road with high AADT counts as specified in paragraph 4.3.2(a)(1) of this appendix.

(1) The near-road NO2 monitoring sites shall be selected by ranking all road segments within a CBSA by AADT and then identifying a location or locations adjacent to those highest ranked road segments, considering fleet mix, roadway design, congestion patterns, terrain, and meteorology, where maximum hourly NO2 concentrations are expected to occur and siting criteria can be met in accordance with appendix E of this part.

4.2 Carbon Monoxide (CO) Design Criteria

4.2.1 General Requirements
(a) Except as provided in subsection (b), one CO monitor is required to operate collocated with one required near-road NO_2 monitor, as required in Section 4.3.2 of this part, in CBSAs having a population of 1,000,000 or more persons.

4.7 Fine Particulate ($PM_{2.5}$) Design Criteria

4.7.1 (b) (2)
For CBSAs with a population of 1,000,000 or more persons, at least one $PM_{2.5}$ monitor is to be collocated at a near-road NO_2 station required in section 4.3.2(a) of this appendix.

In addition, proposed sites must comply with the following section of 40 CFR Part 58, Appendix E – Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring:

2.5.4 Spacing for Nitrogen Dioxide (NO_2) Probes

(a) In siting near-road NO_2 monitors as required in section 4.3.2 of appendix D of this part, the monitor probe shall be as near as practicable to the outside nearest edge of the traffic lanes of the target road segment but shall not be located at a distance greater than 50 meters, in the horizontal, from the outside nearest edge of the traffic lanes of the target road segment. Where possible, the near-road NO2 monitor probe should be within 20 meters of the target road segment.

In addition to the required near-road monitoring, the proposed site may also house an ozone monitor relocated from a south Omaha site that had to be closed in 2020 at the property owner's request.

D. Omaha Nebraska-Iowa MSA

The Omaha Nebraska-Iowa MSA, as defined by the U.S. Office of Management and Budget in July 2023, includes eight counties, of which five are in Nebraska and three are in Iowa. A map of the area is shown in Figure 1, and 2024 estimated population data for the counties is provided in Table 1.

The most populous county in the MSA is Douglas County, Nebraska (population 601,158), which includes the city of Omaha. Sarpy County in Nebraska ranks next with about one-third the population of Douglas County. Pottawattamie County, Iowa, which includes the city of Council Bluffs, ranks third with a population of 93,529. The other five counties in the MSA include smaller communities and large rural areas.

Figure 25. Map of Counties in the Omaha NE-IA MSA

Nebraska counties in green, Iowa counties in yellow.

Table 10. Estimated county populations in the Omaha NE-IA MSA as of July 1, 2024

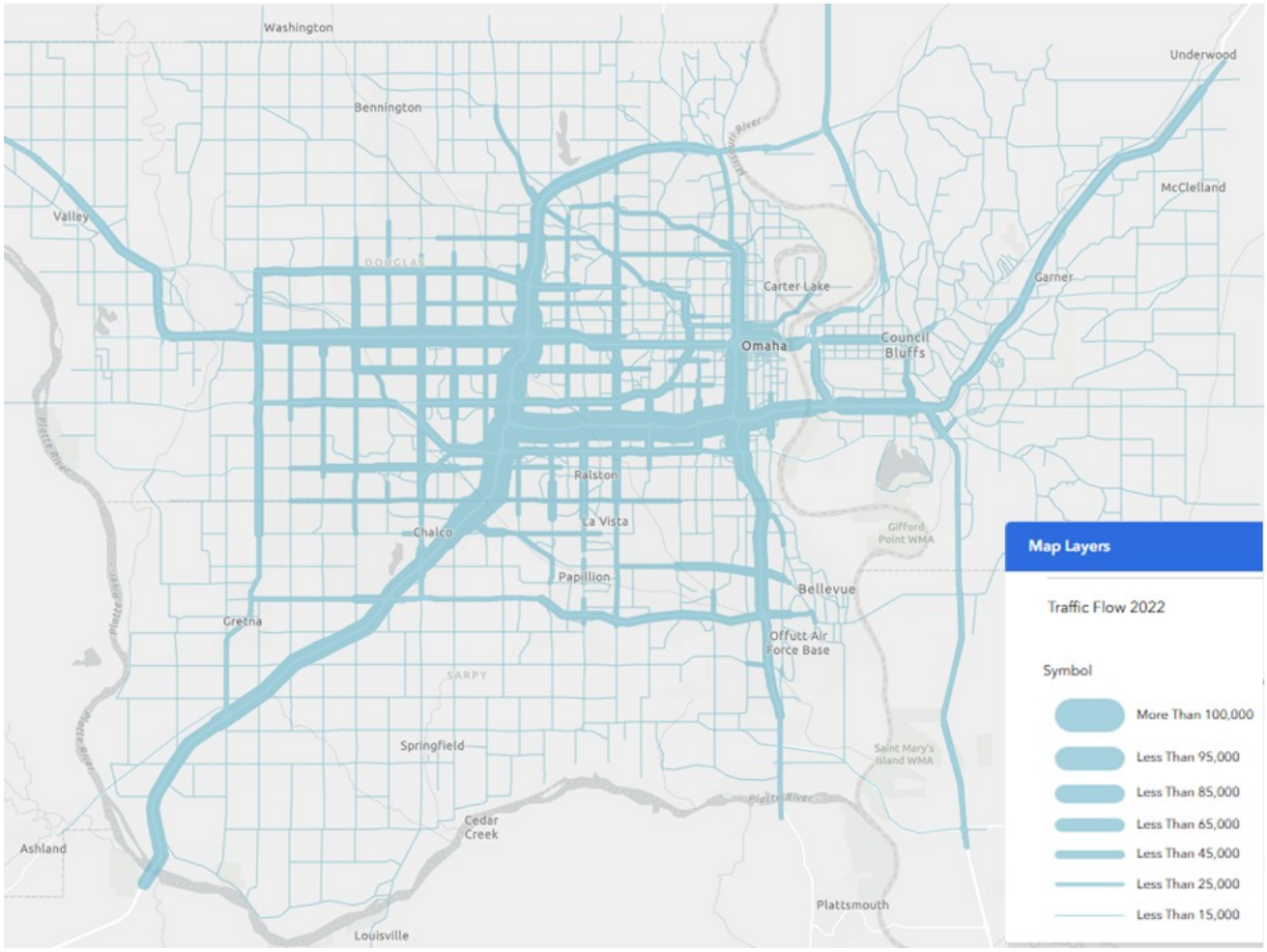
Nebraska Counties	Population		Iowa Counties	Population
Douglas	601,158		Pottawattamie	93,529
Sarpy	204,828		Mills	14,717
Cass	27,492		Harrison	14,626
Saunders	23,406			
Washington	21,254			

E. Omaha NE-IA MSA Traffic Data Analysis

The Omaha Metropolitan Area Planning Agency (MAPA) compiles traffic data for the most densely populated portion of the MSA (Douglas, Sarpy, and western Pottawattamie counties) and presents annual traffic flow maps on the agency website. The most recent (2022) map is shown in Figure 2.

This graphic illustrates that traffic volumes in the Nebraska portion of the MSA are significantly higher than in the Iowa counties, consistent with the higher populations in the Nebraska communities. For this reason, and the availability of more detailed data on Nebraska highway segments, the remaining traffic data analysis focuses on the Nebraska portion of the Omaha NE-IA MSA.

Figure 26. Traffic flow map (2022) of Douglas, Sarpy, and Western Pottawattamie counties



Map from the Omaha Metropolitan Area Planning Agency (MAPA), https://mapacog.org

Traffic count data for state and federal highways in the Nebraska portion of the Omaha MSA were obtained by processing statewide map data available from the Nebraska Department of Transportation (NDOT). From the online statewide highway map, DWEE extracted the highway segments within or partially within the Nebraska portion of the MSA. These highway segments have attached annual average traffic counts and average truck traffic counts for years from 2016 through 2024, with each set of annual

count data attached as a separate record to the relevant highway segment. The most heavily-traveled segments have counts for each year in that interval, while other segments were counted at longer intervals.

DWEE exported the attribute table from the map extract to form the basis of the traffic count analysis. The resulting data listing includes 2,266 segment records, which were sorted by annual average traffic count (AADT). The raw attributes did not include unique segment identifiers or beginning and ending locations. DWEE was able to match records to highway segments based on the length of the line segments and to add beginning and ending location data for the high-count records. Table 1 lists all segment-year records with AADT values greater than 100,000 in order of decreasing counts. The highest AADT value in the dataset is 183,605. This is below the 250,000 AADT value that is the threshold that would require a second near-road NO_2 monitoring site in an MSA with population between 1,000,000 and 2,500,000.

Because the segment data include counts for multiple years, DWEE analyzed the data to determine which annual data to include in the analysis. The raw segment listing sorted by AADT values identified seven segments of Interstate 80 (I-80) in south Omaha and three segments of Interstate 680 in west Omaha as the set of segments with the highest overall AADT counts. These segments were assigned DWEE identifiers and are shown in Figure 3.

Figure 27.Omaha area highway segments with highest AADT counts 2016-2024

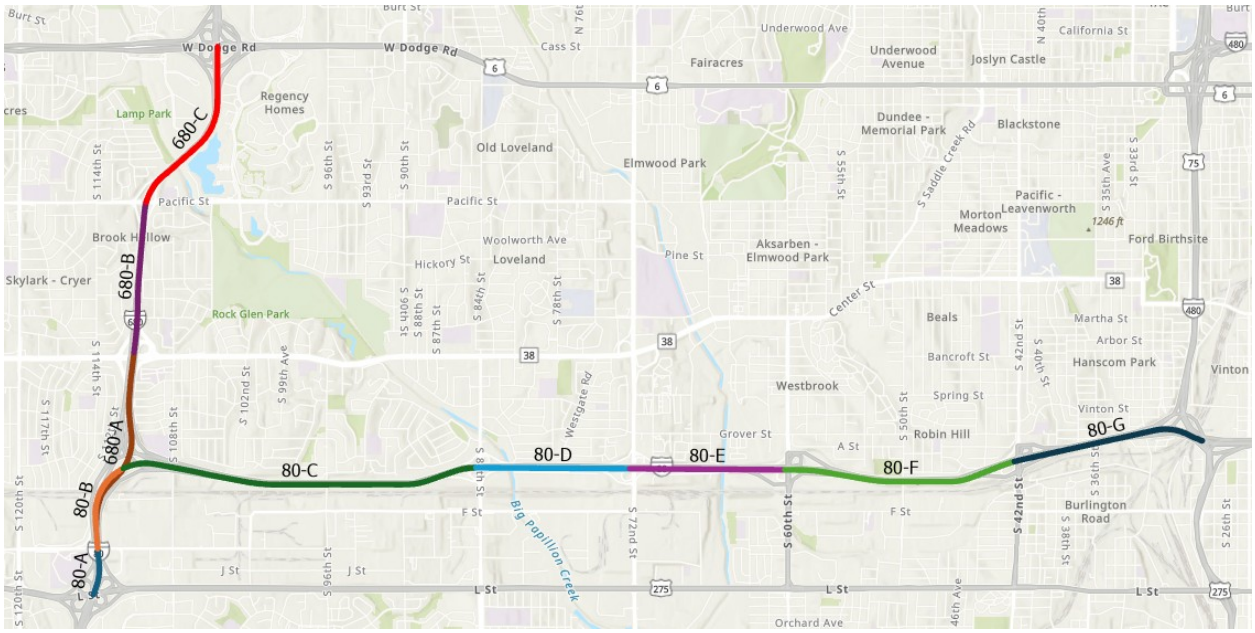


Table 11. Omaha MSA highway segments with AADT counts higher than 100,000 from 2021 through 2024

Route ID	FROM	TO	AADT	TRUCK_AADT	COUNT_YEAR
080	S 72nd St	S 60th St	183605	12745	2024
080	S 60th St	S 42nd St	182970	12835	2024
080	S 42nd St	US 75	179396	13120	2024
080	S 72nd St	S 60th St	178960	12525	2023
080	S 84th St	S 72nd St	178270	12860	2024
080	S 60th St	S 42nd St	176960	12600	2023
080	S 72nd St	S 60th St	175695	12550	2022
080	S 84th St	S 72nd St	174510	12620	2023
080	S 42nd St	US 75	173355	12825	2023
080	S 60th St	S 42nd St	173220	12695	2022
080	S 72nd St	S 60th St	173045	12445	2021
080	S 84th St	S 72nd St	170825	12855	2022
080	I-680 Overpass	S 84th St	170130	12495	2024
080	S 60th St	S 42nd St	169850	12595	2021
080	S 42nd St	US 75	169620	13815	2022
080	I-680 Overpass	S 84th St	167495	12380	2023
080	I St	I-680 Overpass	166265	12205	2024
080	S 42nd St	US 75	165445	12830	2021
080	S 84th St	S 72nd St	165085	12770	2021
080	I-680 Overpass	S 84th St	164350	12445	2022
080	I St	I-680 Overpass	163235	12045	2023
080	I St	I-680 Overpass	159485	12055	2022
080	I-680 Overpass	S 84th St	159105	12365	2021
080	US 275	I St	158255	12045	2024
680	Mile Post 0	W Center Rd	158100	7005	2024
080	I St	I-680 Overpass	156240	12010	2021
080	US 275	I St	155235	11895	2023
680	Mile Post 0	W Center Rd	154555	6995	2023
680	W Center Rd	Pacific St	152320	6835	2024
680	Mile Post 0	W Center Rd	152030	6860	2022
080	US 275	I St	151365	11905	2022
680	W Center Rd	Pacific St	149510	6830	2023
080	US 275	I St	149060	11860	2021
680	Mile Post 0	W Center Rd	148370	5965	2021
680	W Center Rd	Pacific St	147385	6680	2022
680	W Center Rd	Pacific St	144390	5790	2021
680	Pacific St	W Dodge Rd	142780	6715	2024
680	Pacific St	W Dodge Rd	140660	6685	2023

Table 2 (Continued)

Route ID	FROM	TO	AADT	TRUCK_AADT	COUNT_YEAR
680	Pacific St	W Dodge Rd	139835	6525	2022
006	MM 364.6	MM 365	138085	4000	2022
680	Pacific St	W Dodge Rd	137015	5640	2021
006	MM 365	I-680 Overpass	133460	3715	2022
006	144th St	137th St	120380	3605	2024
006	132nd St	MM 363.7	120115	3570	2024
006	137th St	132nd St	119425	3590	2024
006	MM 364.6	MM 365	117040	3385	2024
006	MM 364.6	MM 365	116505	3375	2021
006	150th St	144th St	115615	3540	2024
080	Giles Rd	US 275	115575	11265	2024
480	I-80	Marth St	115550	5105	2024
480	Martha St	Leavenworth St	115095	5045	2024
480	I-80	Marth St	114665	5095	2023
006	156th St	150th St	114330	3600	2024
480	Martha St	Leavenworth St	113845	4925	2023
006	144th St	137th St	112880	3380	2022
080	Giles Rd	US 275	112410	11070	2023
075	F St	I-480	109225	3220	2024
080	Giles Rd	US 275	108540	11085	2022
006	132nd St	MM 363.7	107945	3205	2022
006	132nd St	MM 363.7	107775	3200	2021
080	Giles Rd	US 275	107730	11040	2021
006	137th St	132nd St	107305	3190	2021
006	137th St	132nd St	107085	3185	2022
006	156th St	150th St	106470	3355	2023
006	144th St	137th St	106345	3185	2021
075	F St	I-480	104305	3075	2023
480	I-80	Marth St	104265	4755	2022
480	Martha St	Leavenworth St	103555	4575	2022
480	I-80	Marth St	103310	5415	2021
006	150th St	144th St	102245	3140	2021
480	Martha St	Leavenworth St	102015	5235	2021
006	150th St	144th St	101660	3120	2023
006	168th St	156th St	100615	3395	2024

Figures 4 and 5 plot AADT and Truck AADT counts from 2016 through 2024 for the 10 highest-count highway segments. All segments experienced a substantial decline in AADT from 2019 to 2020, which can be attributed to the effects of the COVID 19 pandemic. Truck traffic experienced a much less pronounced decline due to the pandemic. AADT counts in all segments have been steadily increasing from 2021 through 2024, with some overlap in count trends between different segments. To avoid the pandemic impact on traffic counts, DWEE based ranking analysis on the count averages from 2021 through 2024.

Figure 28. Plot of AADT counts 2016-2024 for Omaha top highway segments

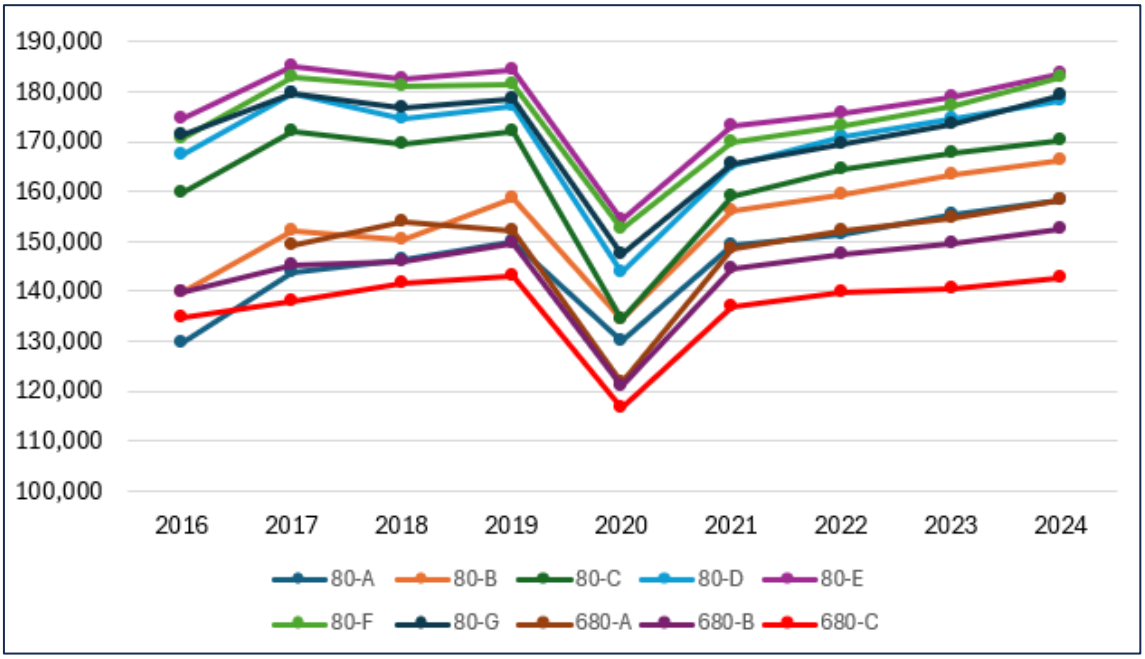


Figure 29. Plot of truck AADT counts 2016-2024 for Omaha top highway segments

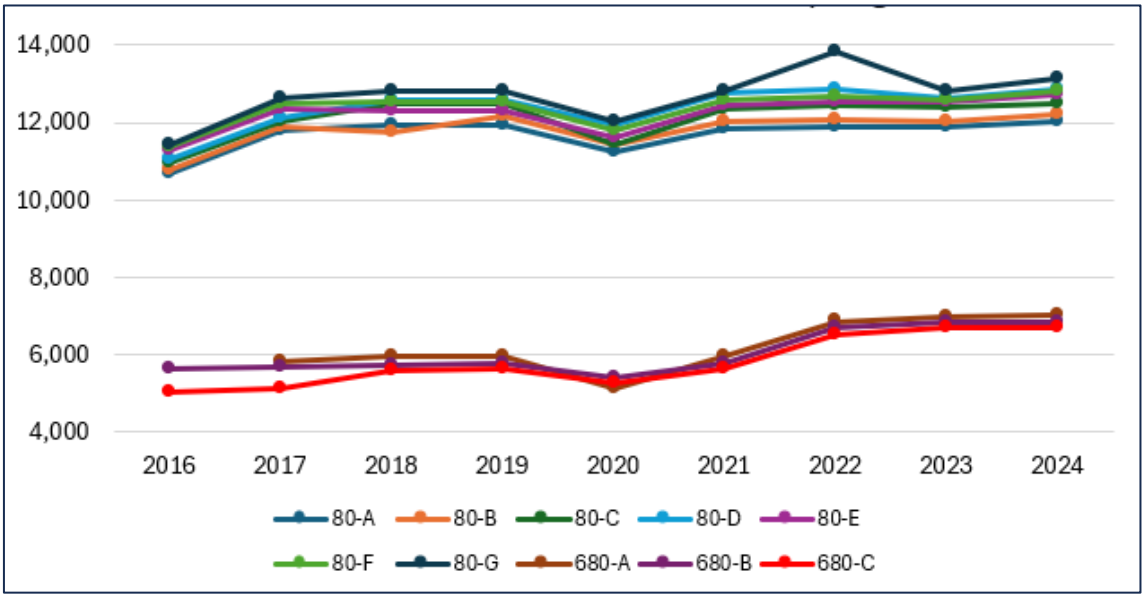


Table 3 lists vehicle AADT counts for 2021 through 2024 for the top ten highway segments along with the four-year average count, and the rank order based on average count. Segment 80-E (S 72nd Street to S 60th Street) is the highest-ranked segment based on the four-year average AADT. All of the I-80 segments rank higher than the three Interstate 680 segments based on average AADT.

Table 12. Top highway segment vehicle AADT counts 2021-2024 with average and rank

ID	From	To	2021	2022	2023	2024	Average	Rank
80-E	S 72nd St	S 60th St	173,045	175,695	178,960	183,605	177,826	1
80-F	S 60th St	S 42nd St	169,850	173,220	176,960	182,970	175,750	2
80-D	S 84th St	S 72nd St	165,085	170,825	174,510	178,270	172,173	3
80-G	S 42nd St	US 75	165,445	169,620	173,355	179,396	171,954	4
80-C	I-680 OP	S 84th St	159,105	164,350	167,495	170,130	165,270	5
80-B	I St	I-680 OP	156,240	159,485	163,235	166,265	161,306	6
80-A	US 275	I St	149,060	151,365	155,235	158,255	153,479	7
680-A	I-80 Split	W Center Rd	148,370	152,030	154,555	158,100	153,264	8
680-B	W Center Rd	Pacific St	144,390	147,385	149,510	152,320	148,401	9
680-C	Pacific St	W Dodge Rd	137,015	139,835	140,660	142,780	140,073	10

Table 4 lists truck AADT counts, four-year average counts, and rank order for the top highway segments. Segment 80-G (S 42nd Street to US 75) ranks highest in truck AADT counts, and segment 80-E has the fourth-highest average truck AADT count.

Table 13. Top highway segment truck AADT counts 2021-2024 with average and rank

ID	From	To	2021	2022	2023	2024	Average	Rank
80-G	S 42nd St	US 75	12,830	13,815	12,825	13,120	13,148	1
80-D	S 84th St	S 72nd St	12,770	12,855	12,620	12,860	12,776	2
80-F	S 60th St	S 42nd St	12,595	12,695	12,600	12,835	12,681	3
80-E	S 72nd St	S 60th St	12,445	12,550	12,525	12,745	12,566	4
80-C	I-680 OP	S 84th St	12,365	12,445	12,380	12,495	12,421	5
80-B	I St	I-680 OP	12,010	12,055	12,045	12,205	12,079	6
80-A	US 275	I St	11,860	11,905	11,895	12,045	11,926	7
680-A	I-80 Split	W Center Rd	5,965	6,860	6,995	7,005	6,706	8
680-B	W Center Rd	Pacific St	5,790	6,680	6,830	6,835	6,534	9
680-C	Pacific St	W Dodge Rd	5,640	6,525	6,685	6,715	6,391	10

In order to produce a single ranking based on total vehicular traffic and truck traffic while taking into account the higher emissions impact from diesel trucks, DWEE calculated the annual Fleet Equivalent ADDT (FE-AADT) and four-year averages for the top ten highway segments using Equation 2 from the EPA Near-Road Technical Assistance Document (TAD):

$$Fleet\ Equivalent\ AADT = (AADT - HD_c) + (HD_m * HD_c)$$

where HD_c is the truck AADT and HD_m is a multiplier to represent the NOx emissions ratio between heavy-duty (HD) truck and light-duty vehicles. In the absence of local data on this ratio, DWEE adopted a default value of 10 for HD_m, following the TAD guidance. Table 5 shows the FE-AADT counts, averages, and rank for the top ten highway segments. Segment 80-E has the highest FE-AADT rank (as well as the highest AADT rank), while segment 80-G (with highest truck AADT) ranks second. However, average FE-AADT counts for the top three segments are closely clustered, with first and third rank (segment 80-F) differing by only 1,042 counts. These top three segments are contiguous sections of I-80 stretching from South 72nd Street eastward to the intersection with US 75 and Interstate 480.

Table 14. Top highway segment FE-AADT counts 2021-2024 with average and rank

ID	From	To	2021	2022	2023	2024	Average	Rank
80-E	S 72nd St	S 60th St	285,050	288,645	291,685	298,310	290,923	1
80-G	S 42nd St	US 75	280,915	293,955	288,780	297,476	290,282	2
80-F	S 60th St	S 42nd St	283,205	287,475	290,360	298,485	289,881	3
80-D	S 84th St	S 72nd St	280,015	286,520	288,090	294,010	287,159	4
80-C	I-680 OP	S 84th St	270,390	276,355	278,915	282,585	277,061	5
80-B	I St	I-680 OP	264,330	267,980	271,640	276,110	270,015	6
80-A	US 275	I St	255,800	258,510	262,290	266,660	260,815	7
680-A	I-80 Split	W Center Rd	202,055	213,770	217,510	221,145	213,620	8
680-B	W Center Rd	Pacific St	196,500	207,505	210,980	213,835	207,205	9
680-C	Pacific St	W Dodge Rd	187,775	198,560	200,825	203,215	197,594	10

Level-of-service (LOS) and volume-to-capacity traffic congestion measures are not available for these highway segments for the 2021 to 2024 timeframe. As an approximate congestion measure, Table 6 shows average FE-AADT by traffic lane for these segments. The number of traffic lanes is variable within each section, so the calculation and ranking is based on the predominant number of lanes per section. Segment 80-E has the highest rank, while segments 80-F and 80-G have lower rankings compared to FE-AADT count due to the higher number of traffic lanes in these segments.

Table 15. Top highway segment FE-AADT by lane

ID	From	To	Avg FE-AADT	# Lanes	FE-AADT by Lane	Rank
80-E	S 72nd St	S 60th St	290,923	10	29,092	1
80-A	US 275	I St	260,815	9	28,979	2
80-D	S 84th St	S 72nd St	287,159	10	28,716	3
80-C	I-680 OP	S 84th St	277,061	10	27,706	4
80-F	S 60th St	S 42nd St	289,881	11	26,353	5
80-B	I St	I-680 OP	270,015	12	22,501	6
80-G	S 42nd St	US 75	290,282	13	22,329	7
680-C	Pacific St	W Dodge Rd	197,594	9	21,955	8
680-B	W Center Rd	Pacific St	207,205	10	20,721	9
680-A	I-80 Split	W Center Rd	213,620	12	17,802	10

Older congestion information is found in the Phase 1 Final Report (2015) of the Metro Area Travel Improvement Study, a collaborative effort between the Nebraska Department of Transportation and the Metropolitan Planning Agency. The Phase 1 report detailed then-current roadway conditions and included Level of Service (LOS) categorization of highway segments (based on AADT data from 2000 through 2012). Table 7 lists the current top ten highway segments in FE-AADT rank order along with morning (AM) and afternoon (PM) LOS category assignments from the Phase 1 Report (based on the older traffic data).

Table 16. Top highway segment FE-AADT average, rank, and Level of Service (LOS) metric in 2012

ID	From	To	Avg FE-AADT	Rank	AM LOS	PM LOS
80-E	S 72nd St	S 60th St	290,923	1	D	C
80-G	S 42nd St	US 75	290,282	2	C	C
80-F	S 60th St	S 42nd St	289,881	3	D	D
80-D	S 84th St	S 72nd St	287,159	4	D	C
80-C	I-680 OP	S 84th St	277,061	5	C-D	C
80-B	I St	I-680 OP	270,015	6	C	C
80-A	US 275	I St	260,815	7	C	B
680-A	I-80 Split	W Center Rd	213,620	8	D	C
680-B	W Center Rd	Pacific St	207,205	9	D	C
680-C	Pacific St	W Dodge Rd	197,594	10	B	C

The top four segments each had LOS grades of C and/or D, where C is “stable flow, at or near free flow” and D is “approaching unstable flow”. Of these highest-ranking segments, only segment 80-G (rank 2) had a grade of C for both morning and afternoon traffic; the other three segments had a grade of D for at least

part of the day. Although the top twp segments show little separation in FE-AADT counts, the morning LOS grade of D for segment 80-E reinforces its position as the top-ranked segment in comparison to the less-congested segment 80-G.

Based on the traffic data, subsequent analysis focuses on the four segments of I-80 with highest FE-AADT: segments 80-D, 80-E, 80-F, and 80-G (Figure 6 and Table 8).

Figure 30 . Plot of truck AADT counts 2016-2024 for Omaha top highway segments

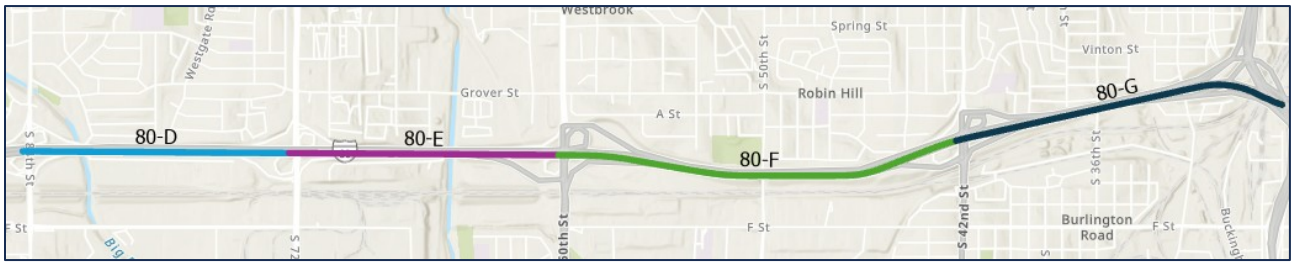


Table 17. Traffic count summary for four segments with highest counts

	80-D	80-E	80-F	80-G
From	S 84th St	S 72nd St	S 60th St	S 42nd St
To	S 72nd St	S 60th St	S 42nd St	US 75
Average AADT	172,173	177,826	175,750	171,954
Average AADT Rank	3	**1**	2	4
Average Truck ADDT	12,776	12,566	12,681	13,148
Average Truck ADDT Rank	2	4	3	**1**
Average FE-ADDT	287,159	290,923	289,881	290,282
Average FE-ADDT Rank	4	**1**	3	2

F. Target Segment Characteristics

Roadway Design and Terrain

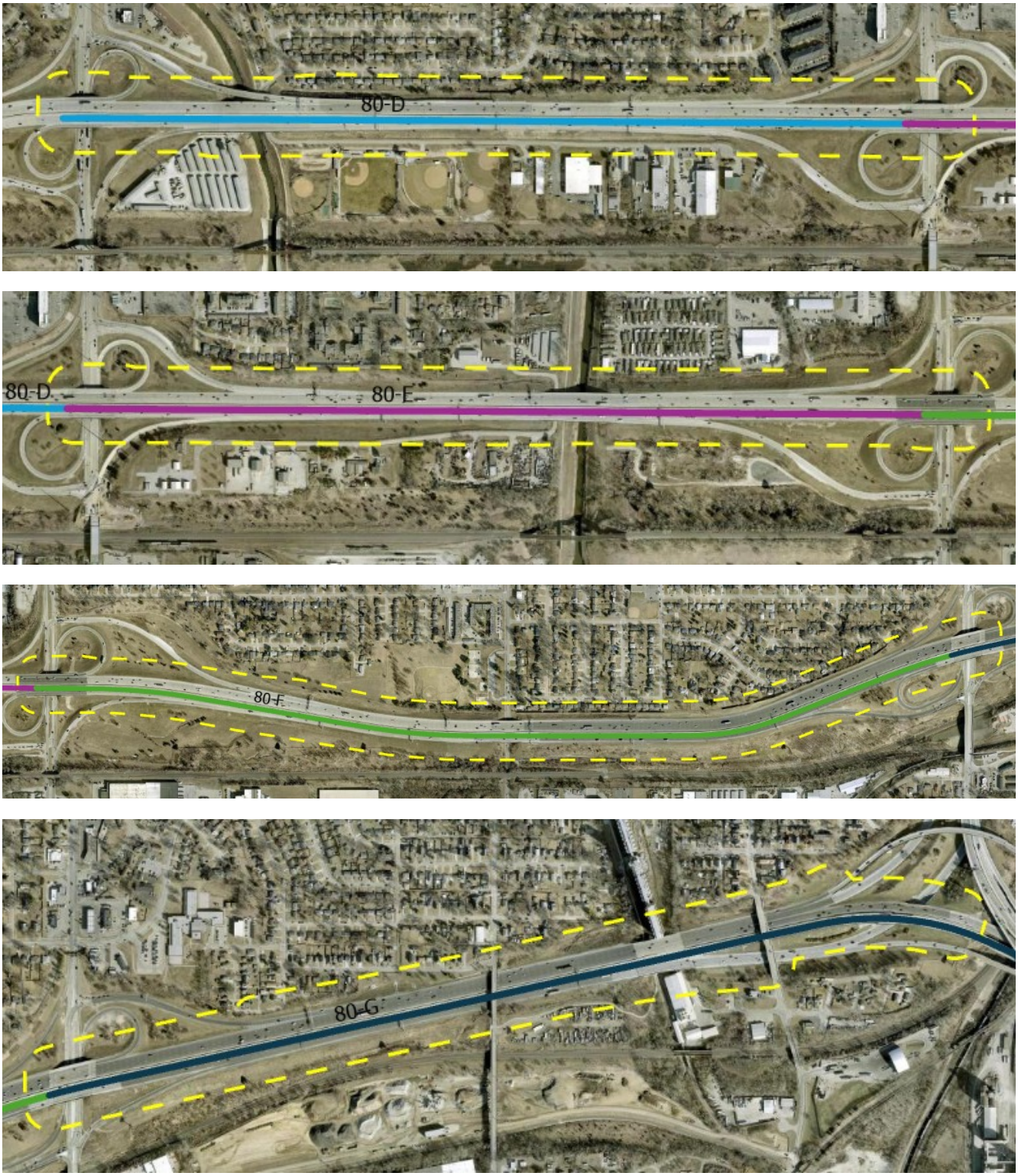
Segments 80-D through 80-G of Interstate 80 trend roughly west to east through south Omaha. This is a limited access divided freeway with partial cloverleaf interchanges at 72nd, 60th, and 42nd Streets (marking segment boundaries) and a more complex interchange at the east end of segment 80-G with Interstate 480 (to the north) and U.S. 75 (to the south). Segments 80-D and 80-E have eight to ten traffic lanes, while segments 80-F and 80-G have nine to 13 traffic lanes. The highway is within a right-of-way of variable width that has mostly grass cover with local patches of shrubs and trees. Figure 7 shows these highway segments in leaf-on Google Earth imagery.

Figure 8 shows each highway segment with a 50-meter buffer polygon from the edge of the outside travel lane. Along these segments most of the area within 50 meters of the outside travel lane is within the Nebraska Department of Transportation (NDOT) highway right-of-way.

Figure 31. Highway segments 80-D, 80-E, 80-F, and 80-G in Google Earth imagery

The area adjacent to the north side of the highway is primarily residential and commercial. Along large stretches, the north edge of the highway right-of-way abuts the rear edge of private properties (as close as 20 meters to the traffic lanes). In these areas there is little open space adjacent to the highway right-of-way and there is little access to the right-of-way from surface streets. The north edge of the right-of-way is also lined with trees in many places.

Figure 32. Highway segments 80-D, 80-E, 80-F, and 80-G with 50-meter buffer polygons from I-80 outside travel lanes (yellow dashes)



Commercial and industrial properties predominate on the south side of these highway segments, and a rail line roughly parallels the highway. Along segments 80-D and 80-E the rail line is 200 to 220 meters south of the outside highway travel lane, and there are commercial properties between the rail line and

interstate highway, with access via frontage roads. Along segments 80-F and 80-G the spacing between highway and rail line is variable, locally as close as 75 meters, and the highway right-of-way extends to the rail line. There is no access to the right-of-way from surface streets on the south side of segments 80-F and 80-G.

The terrain of the I-80 corridor in south Omaha, illustrated in Figure 9, includes rolling hills with mostly gentle slopes and overall vertical relief of 350 feet. The highway crosses the valleys of Big Papillion and Little Papillion Creeks, which flow southeastward to southward before joining 1.1 mile south of I-80. Big Papillion Creek crosses highway segment 80-D, while Little Papillion Creek crosses segment 80-E. Figure 10 shows the Federal Emergency Management Agency (FEMA) Flood Hazard Zones for the areas of these highway crossings.

Figure 33. Digital elevation model of the Interstate 80 corridor in south Omaha

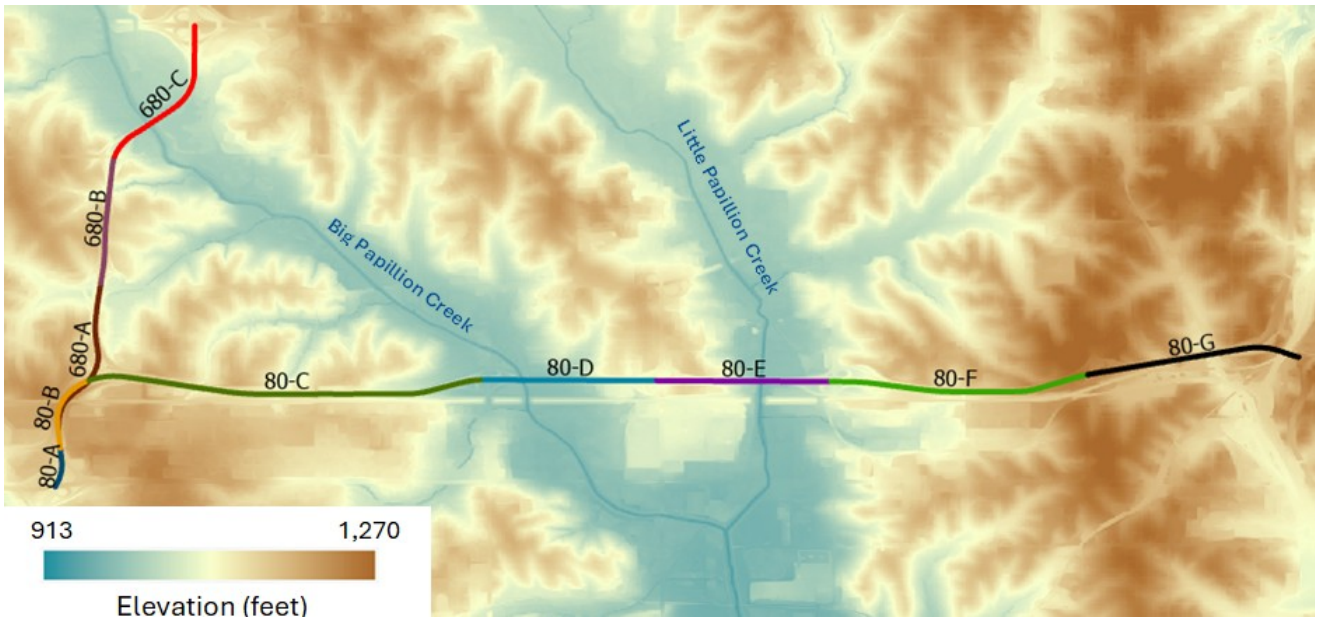
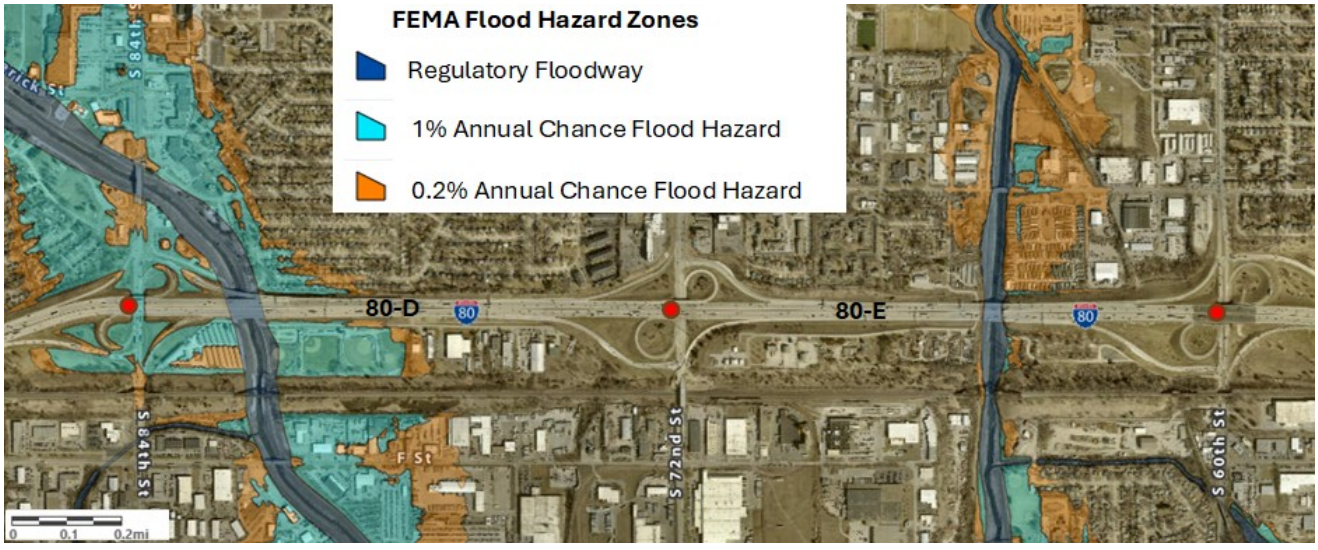


Figure 34. Flood hazard zones affecting Interstate 80 corridor in south Omaha



Interstate 80 is elevated on an embankment adjacent to the Big Papillion Creek and Little Papillion Creek crossings. Lower-elevation areas adjacent to the western half of segment 80-D are within the flood hazard zones of Big Papillion Creek. Little Papillion creek is deeply incised in a narrow floodway 24 to 30 feet below the surrounding terrain, so very little of the right-of-way along segment 80-E is within the flood hazard zones.

Figure 11 shows detailed terrain images of segments 80-D through 80-G, with color-coded elevation superimposed on a shaded relief image, both created from LIDAR-derived elevation models with 1-meter horizontal and 6-centimeter resolution, obtained from https://data-dogis.opendata.arcgis.com.

Figures 12 and 13 show maps of the highway segments categorized by roadway level in comparison to the surrounding ground level (above grade, at grade, or below grade) as well bridges and overpasses. Westbound and eastbound sections are categorized separately. Figure 12 shows grade-level categories along with locations of noise-barrier walls, displayed over an aerial image basemap. Figure 13 shows grade-level categories over a terrain image showing percent slope (where 100 % slope equals a 45-degree slope angle) merged with shaded relief. In the uplands between the creek crossings, most stretches of Interstate 80 are below grade on the north side but above grade with respect to the southern right-of-way. However, the western portion of segment 80-E is below grade on both north and south sides.

Future Highway Construction

According to the NDOT 2026 "Program Book", which lists highway projects for state fiscal years 2026 through 2031, segments 80-D, 80-E, and the west half of 80-F are scheduled for surface grinding (to smooth pavement), concrete repair, and sealing in the first half of calendar year 2026, and segment 80-D is also scheduled for milling, resurfacing, and bridge repair during that same period. The time frame and minor scope of these actions do not impact monitoring site selection. The east half of segment 80-F and segment 80-G are scheduled for later structural work (grading, surfacing, and work on bridges or culverts) between FY 2027 and 2031.

The Metro Area Travel Improvement Study, a collaboration between NDOT and the Omaha-Council Bluffs Metropolitan Planning Agency (MAPA), developed longer-term plans for the Omaha highway system. The study's Phase 3 Report (2019) projects adding two freeway lanes (one on either side) to I-80 segments 80-C through 80-F, including 12-foot wide shoulders. The plan states that these lanes would be needed between 2031 and 2036. In view of this future work, a near-road air monitoring site should be located with enough set-back from the current highway edge to ensure that this future roadway expansion would not require relocation of the monitoring site.

Figure 35. Digital terrain images (elevation and shaded relief) of segments 80-D through 80-G

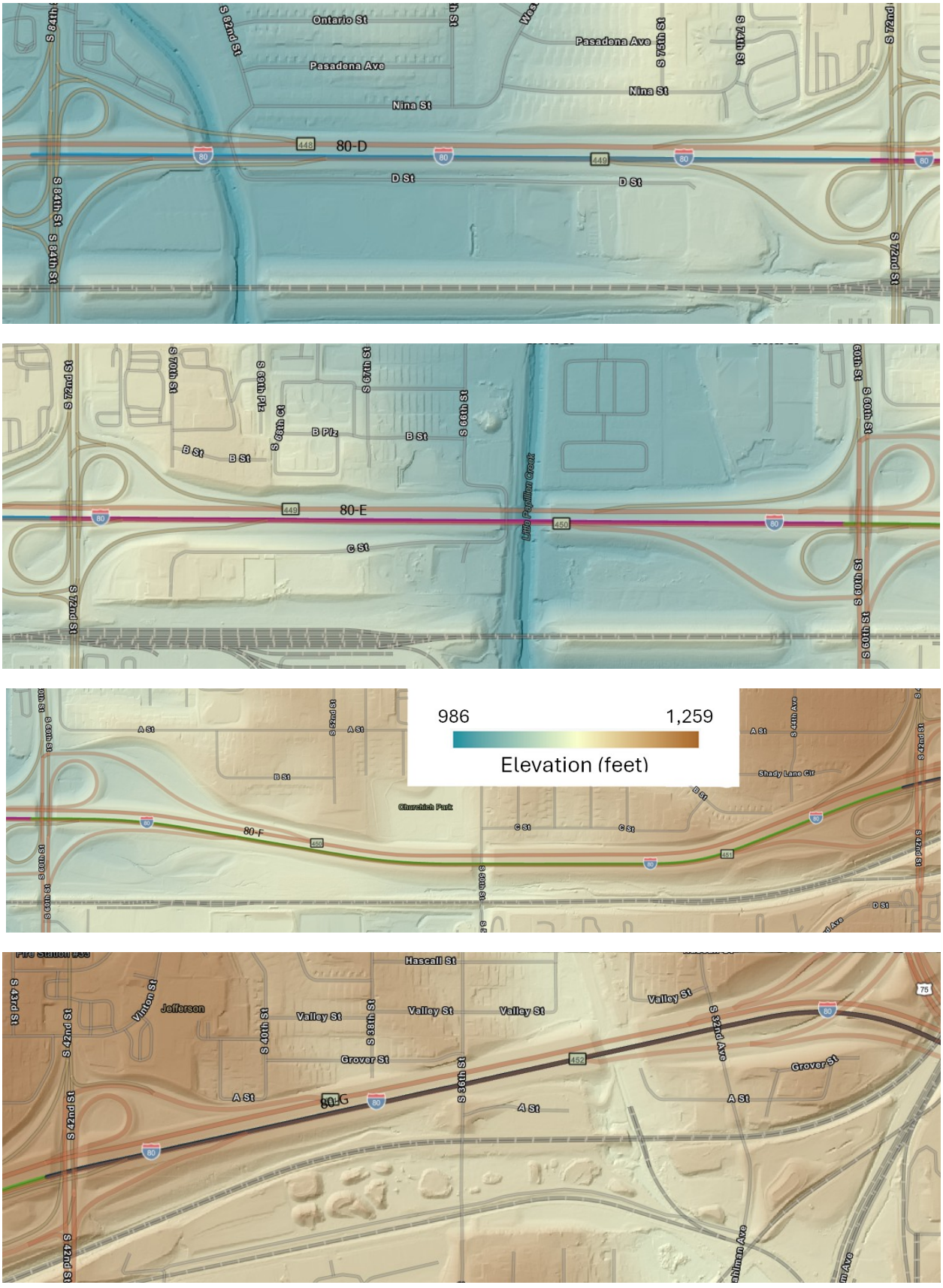


Figure 36. Road level with respect to surrounding terrain and locations of noise barrier walls for segments 80-D through 80-G

Segment 80-D

Segment 80-E

Segment 80-F

Segment 80-G

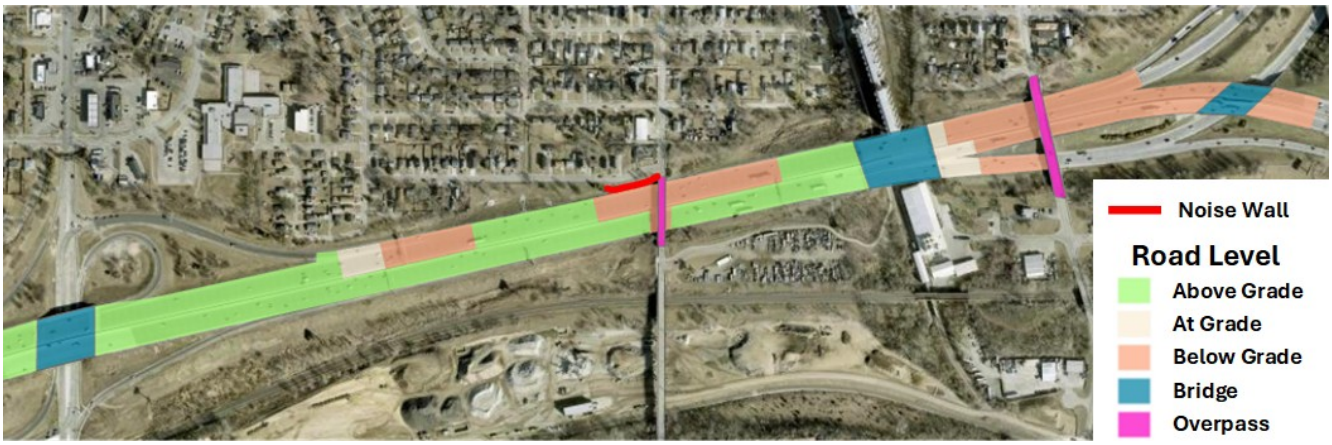
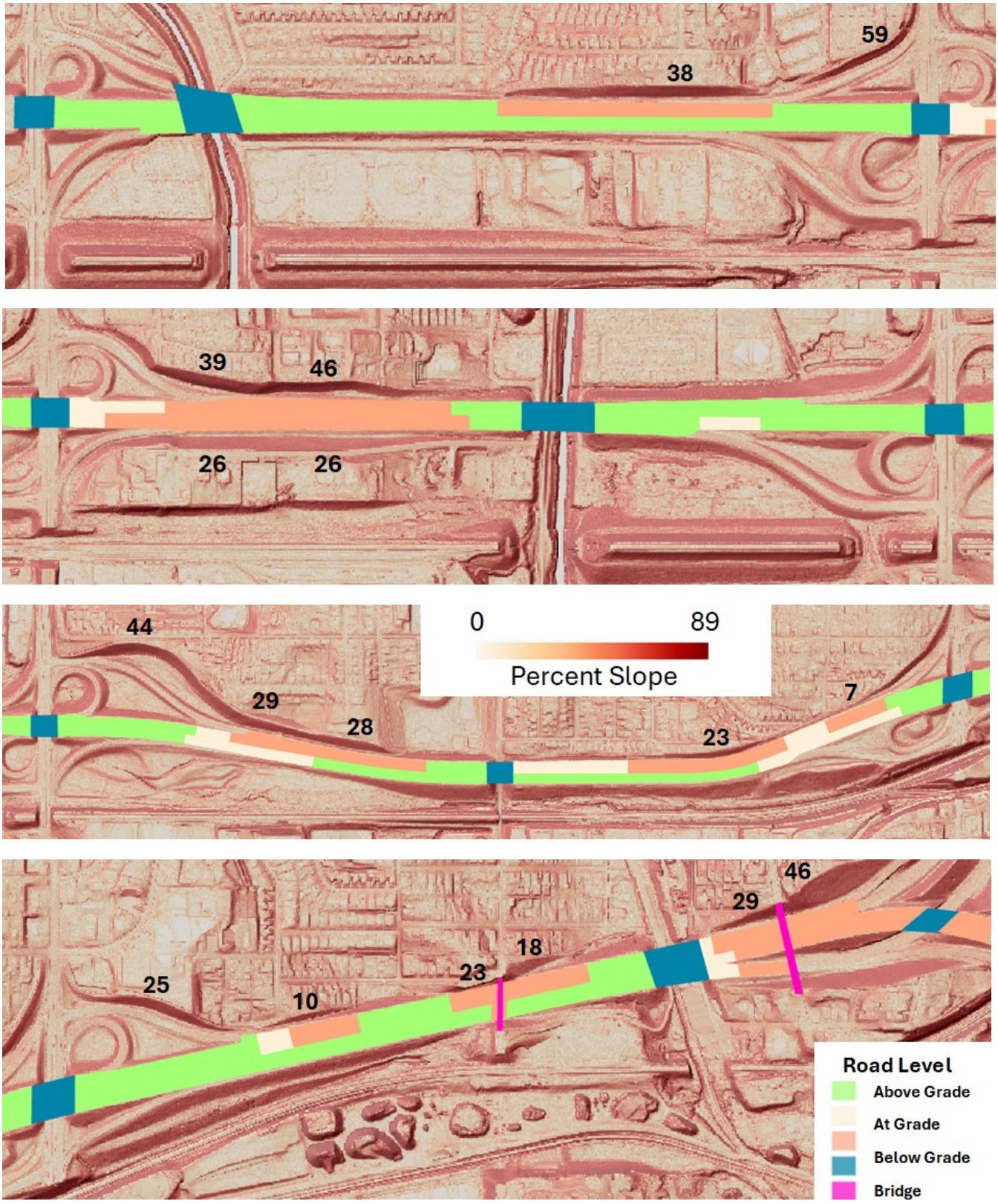


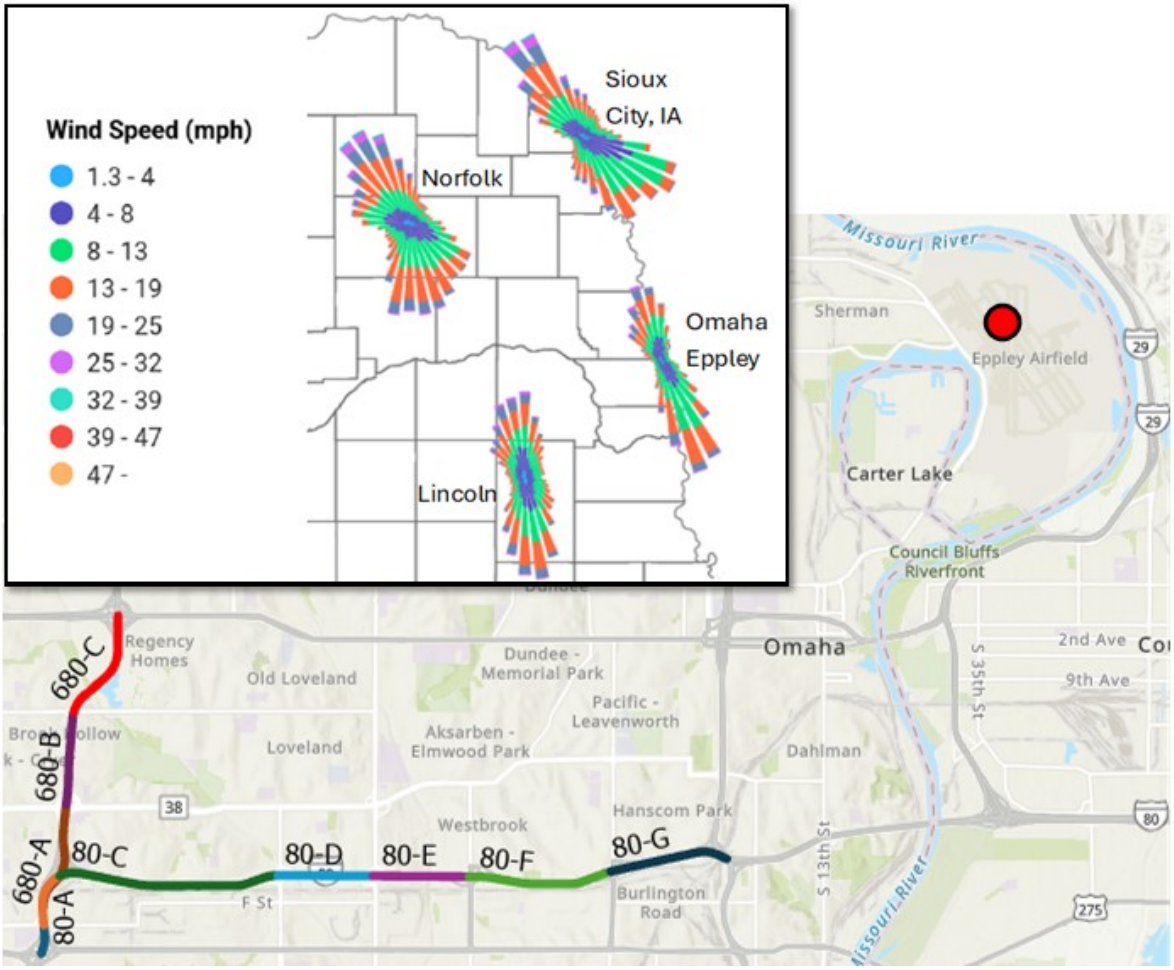
Figure 37. Road level categories with percent slope/relief shade images of segments 80-D through 80-G



Meteorology

The nearest National Weather Service reporting station to the south Omaha I-80 corridor is at Omaha Eppley Airfield, 8.5 miles northeast of the east end of highway segment 80-G (location shown in Figure 14). That figure also shows wind roses for Omaha Eppley and other reporting stations in eastern Nebraska.

Figure 38. Location of National Weather Service station at Omaha Eppley Airfield and wind roses for weather stations in eastern Nebraska.



Wind roses from full hourly data 2015 through 2024. Data from Midwest Regional Climate Center.

The dominant wind directions in the Omaha and Lincoln areas are from the north-northwest and south-southeast. Figure 15 shows average monthly wind directions for Omaha Eppley Airfield from 2015 through 2024. These wind roses show strong winds from the south-southeast throughout the year. However, while north-northwest winds are equally strong from December through April, they are greatly diminished from May through November. Given these seasonal changes in wind patterns, a near-road monitoring site on the north side of the I-80 corridor in south Omaha would be better positioned to detect traffic-related emissions than a site south of the highway. With dominant wind directions at a high angle to the highway direction, local terrain and grade changes are important factors in locating a monitoring site.

Figure 39. Omaha Eppley Airfield average monthly wind directions 2015-2024

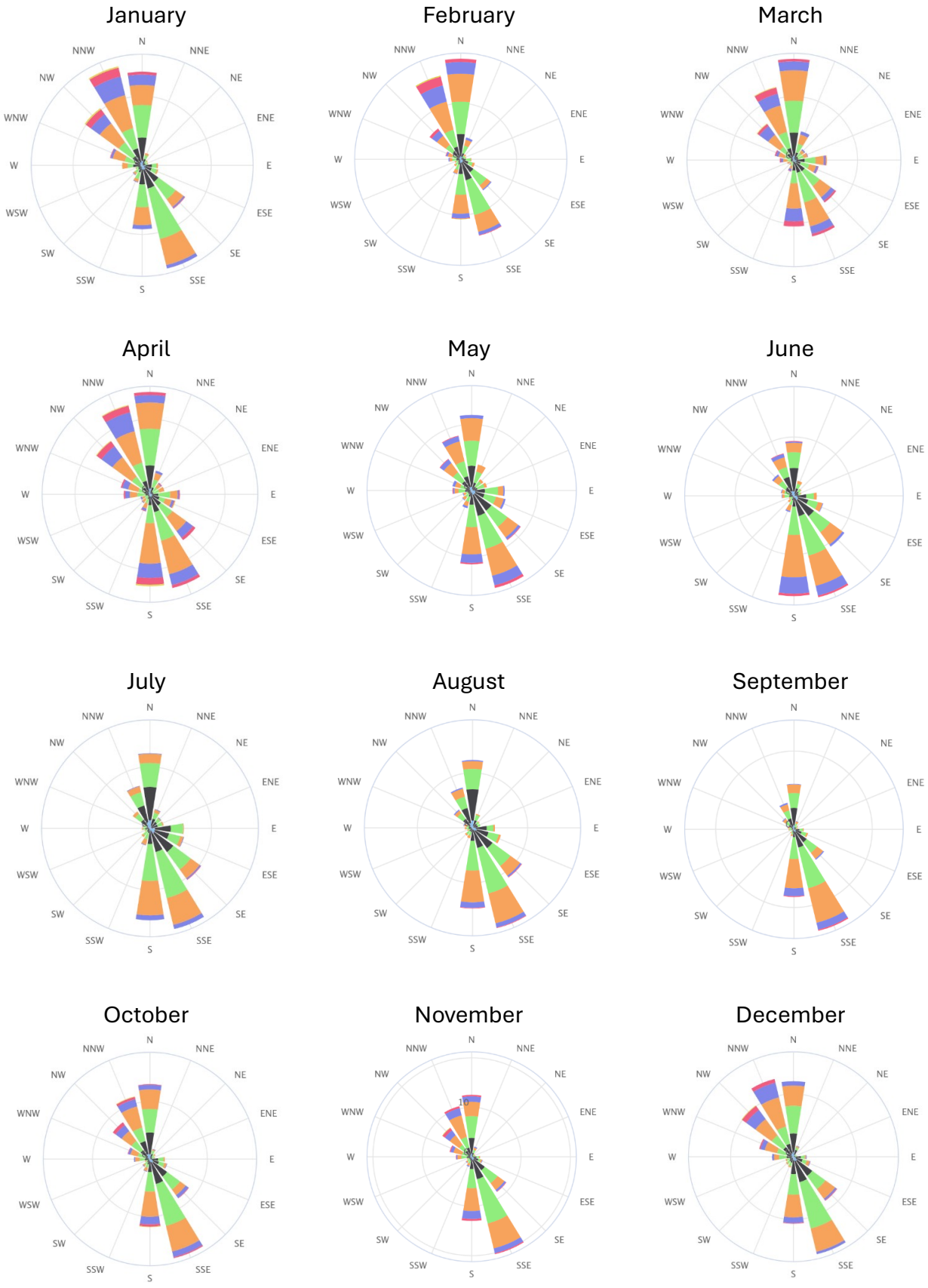
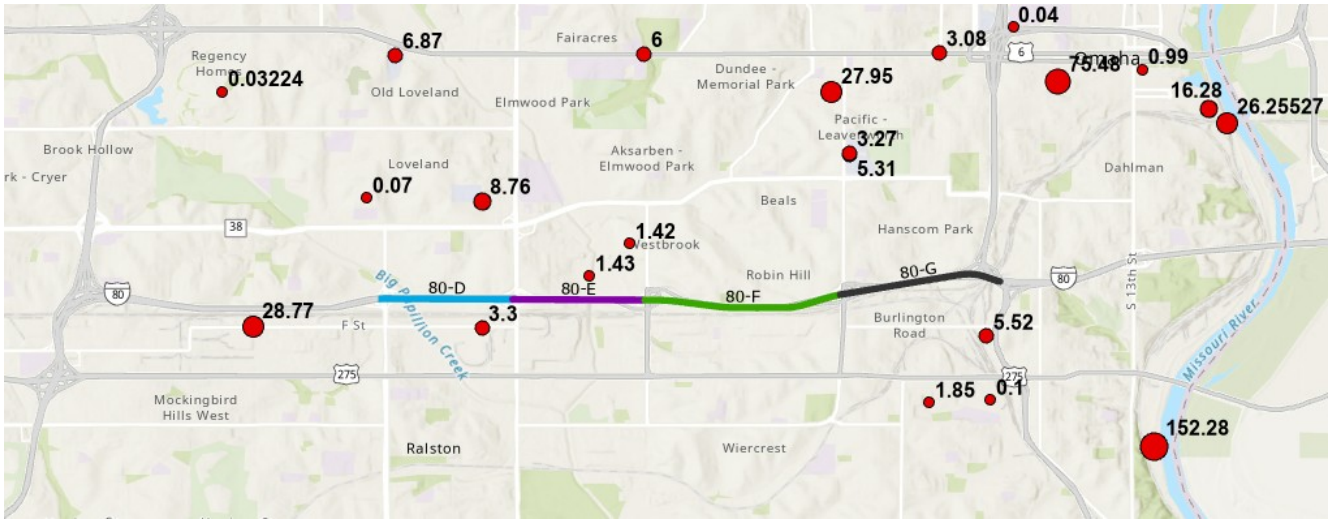
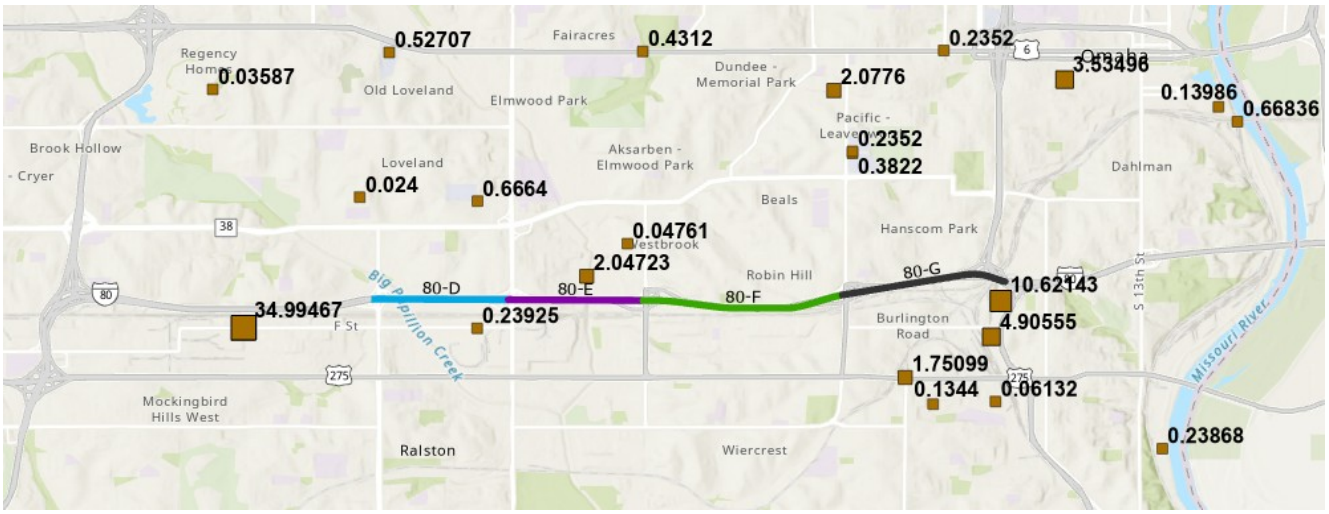


Figure 40. Locations of facilities in the project area with emissions of nitrogen oxides, primary PM2.5, and carbon monoxide (tons/yr) reported in the 2020 National Emissions Inventory

Nitrogen Oxides



Primary $PM_{2.5}$



Carbon Monoxide

Emissions Sources

Figure 16 shows the locations of stationary facilities in the project area with air emissions listed in the 2020 National Emissions Inventory; the point labels show the reported annual tons of nitrogen oxides, primary $PM_{2.5}$, and carbon monoxide emitted by each facility. There are relatively few major stationary emissions sources within one mile of the Interstate 80 corridor in south Omaha. In particular, there are few major sources on the south side of the interstate corridor with the exception of a cereal manufacturing plant about 1.2 miles west of the west end of segment 80-D, and a cluster of sources on the south side of segment 80-G.

G. Site Candidates

Terrain, the configuration of the I-80 right-of-way, and the pattern of surface streets and properties severely limit the number of safely-accessible locations within 50 meters of the outside travel lanes of the interstate, particularly on the favored north side of the highway. Two potential site locations, designated the Phelps Street and 72nd Street sites, are shown in Figure 17.

Figure 41. Locations of Phelps Street and 72nd Street monitoring site candidates

Dashed orange line is 50-meter buffer around I-80 segments.

Phelps Street Site Candidate

Location, Access, and Infrastructure

The Phelps Street site candidate is on the north side of I-80 between South 66th and South 67th Streets, about 70 meters west of the point where South 67th Street curves to the east into Phelps Street (see overviews in Figures 18 and 19). The location is approximately 35 to 40 meters north of the edge of the outside travel lane of west-bound I-80 segment 80-E. Figure 20 provides a detailed site map.

The site is in a grassy area between the north edge of the NDOT I-80 right-of-way (marked by a chain-link fence) and the concrete pad of a commercial-industrial property to the north. (See site photos in Figures 21 and 22). Douglas County survey maps show the site is within the designated right-of-way (ROW) of Phelps Street, which is shown extending west of South 66th Street to an intersection with South 67th Street. However, this portion of the Phelps Street ROW is undeveloped, and several barrier walls at the southwest corner of the adjacent commercial property have been constructed within the ROW. Permission from the City of Omaha Public Works Department will be required in order to occupy the candidate site.

The site can be accessed safely from low-traffic surface streets (South 66th Street and Phelps Street) and the parking area of the commercial property north of the site. There are several electric utility poles in the vicinity, the closest of which is 10 to 15 meters southeast of the proposed location (Figure 20).

Roadway Design, Traffic, and Terrain

This segment of I-80 is a limited-access freeway oriented east-west with five traffic lanes in each direction. This segment has the highest 2021-2024 Average AADT (177,826) and Average FE-AADT (290,923) in the Omaha MSA.

In the Phelps Street location the highway transitions from below grade on both sides (west) to above grade on both sides (east; Figures 18 and 23). Adjacent to the Phelps Street location the highway is constructed on a raised embankment with sloped boundaries (14 to 15°) down to minor drainages three to four meters below (Figures 23 and 24). The C Street frontage road on the south side of the highway is also on a raised embankment less than half a meter above the level of the highway.

Figure 25 is an elevation contour map of the site area (contour interval 0.5 feet), and Figure 26 is an elevation profile from the outside edge of the north travel lane to the private property north of the proposed monitoring site. The NDOT right-of-way includes a drainage about four meters below the highway level leading eastward toward Little Papillion Creek. The candidate monitoring site is separated from this minor drainage by a broad ridge about two meters higher than the drainage bottom. The fenceline at the NDOT ROW boundary coincides with the top of this ridge. The Phelps Street site is in a broad swale north of this ridge; it is just over three meters below the highway level.

The Interstate surface in the Phelps Street area slopes about 1.6° downward to the east. The raised embankment ends about 100 meters east of the Phelps Street site at the west edge of the bridge over Little Papillion Creek. Figure 18 shows the FEMA Flood Hazard Zones along Little Papillion Creek. The narrow, deeply-incised creek canyon (about 30 feet below surrounding grade) is designated by FEMA as a floodway that is flanked by narrow zones designated as 0.2% Annual Chance Flood Hazard. The Phelps Street site is about 25 feet higher in elevation than the edge of the closest flood hazard zone.

Figure 42. Overview maps of Phelps Street candidate monitoring site location and terrain (slope and shaded relief)

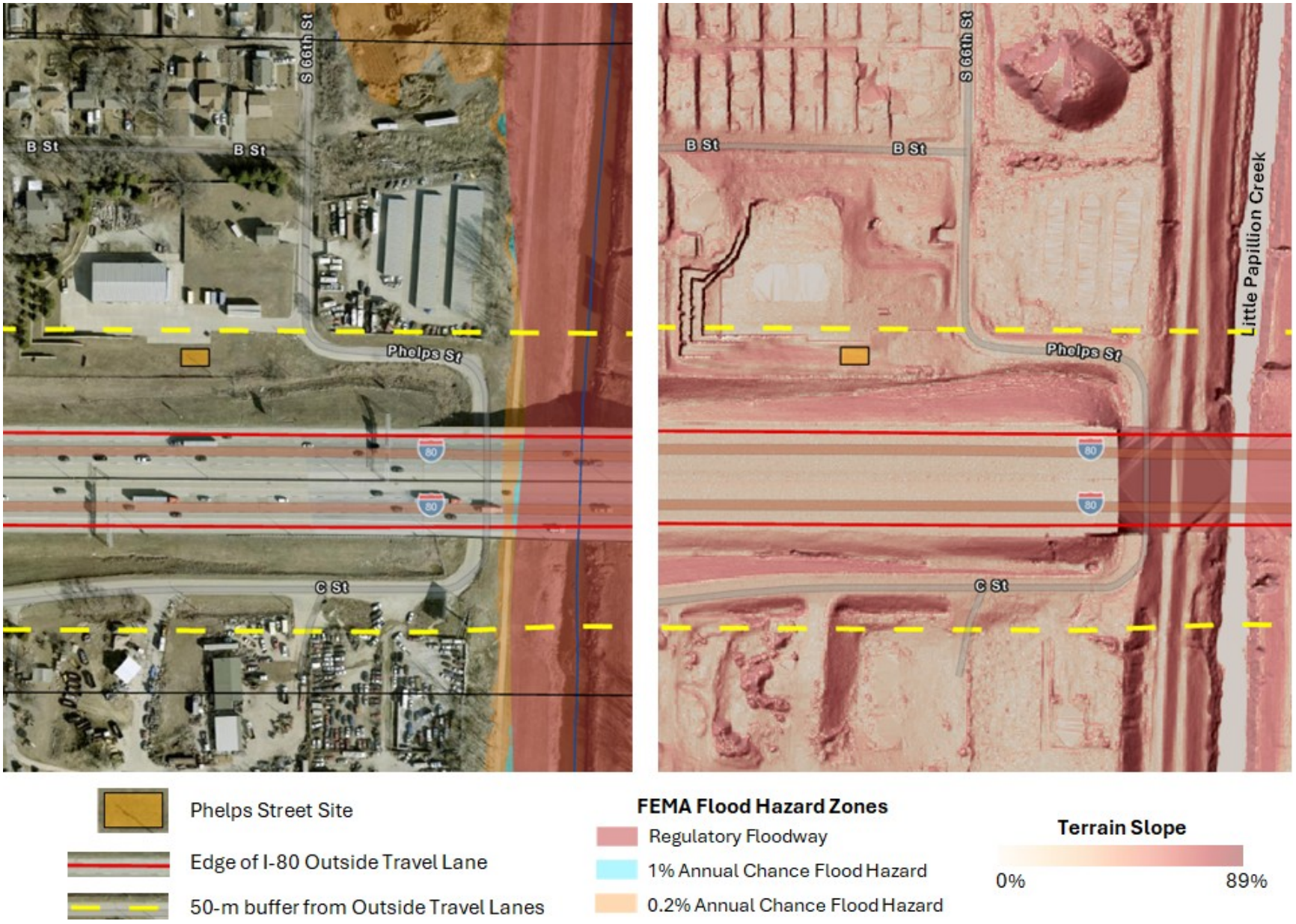


Figure 43. Oblique Google Earth views of Phelps Street candidate monitoring site

Top: view to the north. Bottom: view to the west. Phelps Street site is indicated by the orange rectangle.

Figure 44. Detailed location map of Phelps Street candidate site

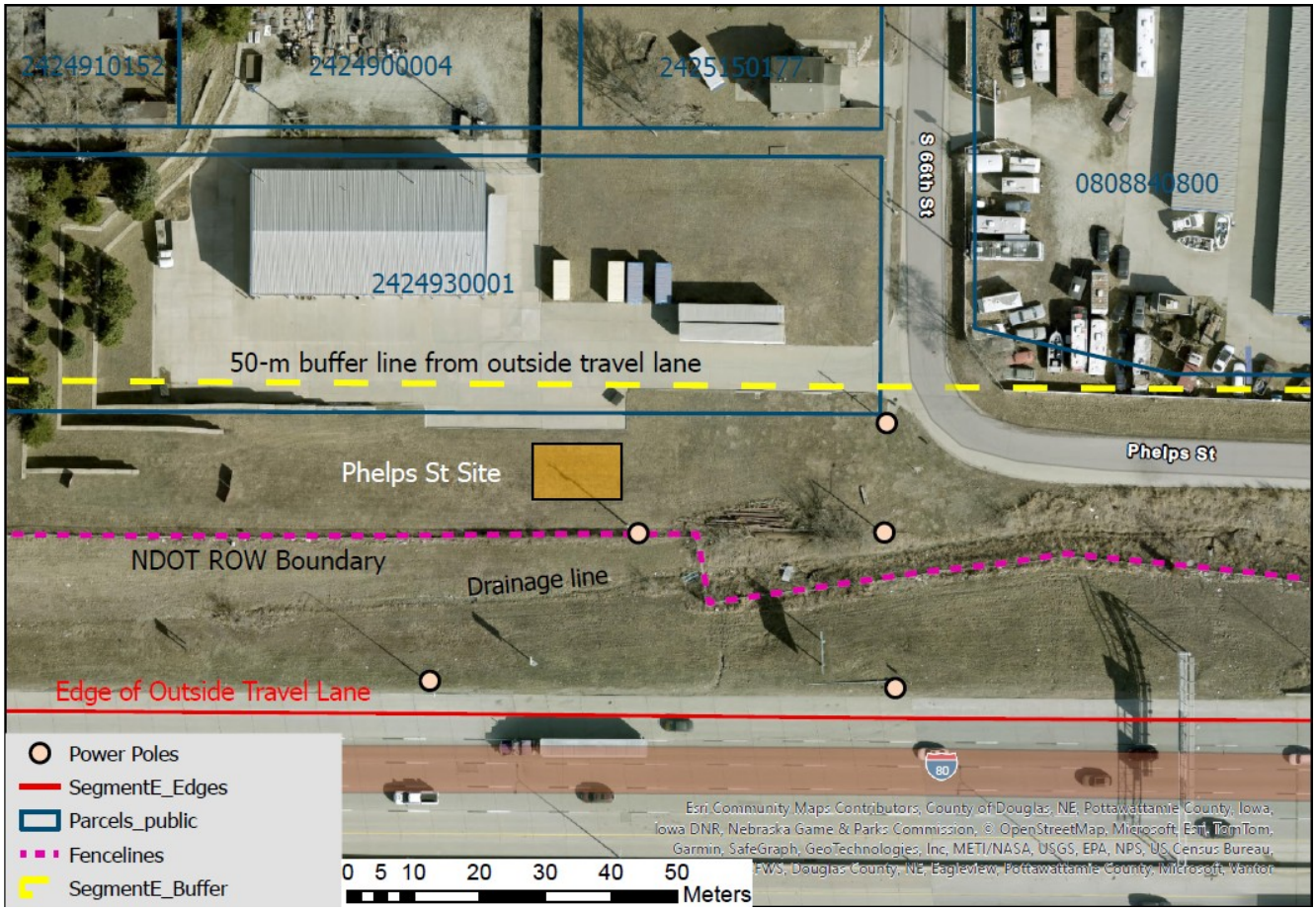


Figure 45. Google Street View image of Phelps Street candidate site from Phelps/South 66th Streets

Elevated Interstate 80 at left. Red line marks the candidate site location.

Figure 46. Photo of Phelps Street candidate site looking east

Candidate site location is in the grassy area to the right of the car.

Figure 47. Terrain map (relief shading and percent slope) of Phelps Street candidate site

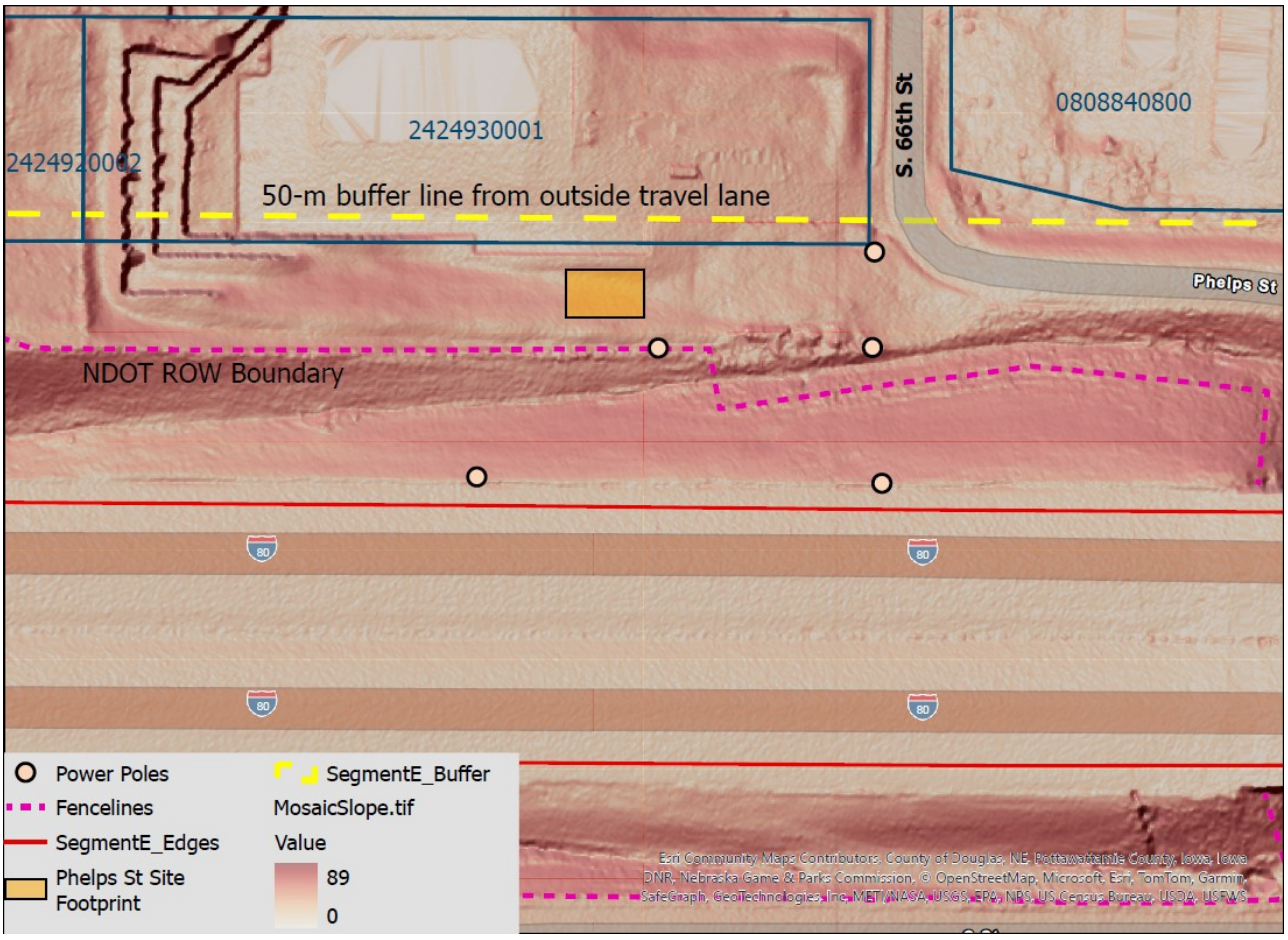
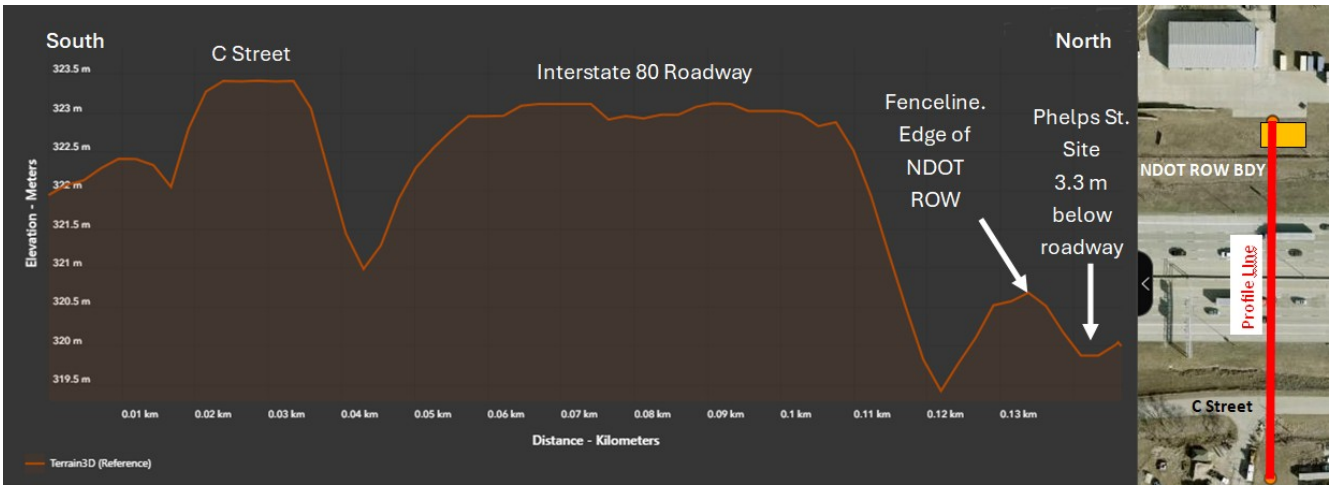


Figure 48. Elevation profile across Interstate 80 and the Phelps Street candidate monitoring site



Elevation profile from LIDAR-derived elevation grid with 1-meter horizontal resolution and 10-cm vertical resolution. Vertical exaggeration ~ 10X.

Figure 49. Elevation contour map of Phelps Street candidate monitoring site

Contour interval 0.5 feet.

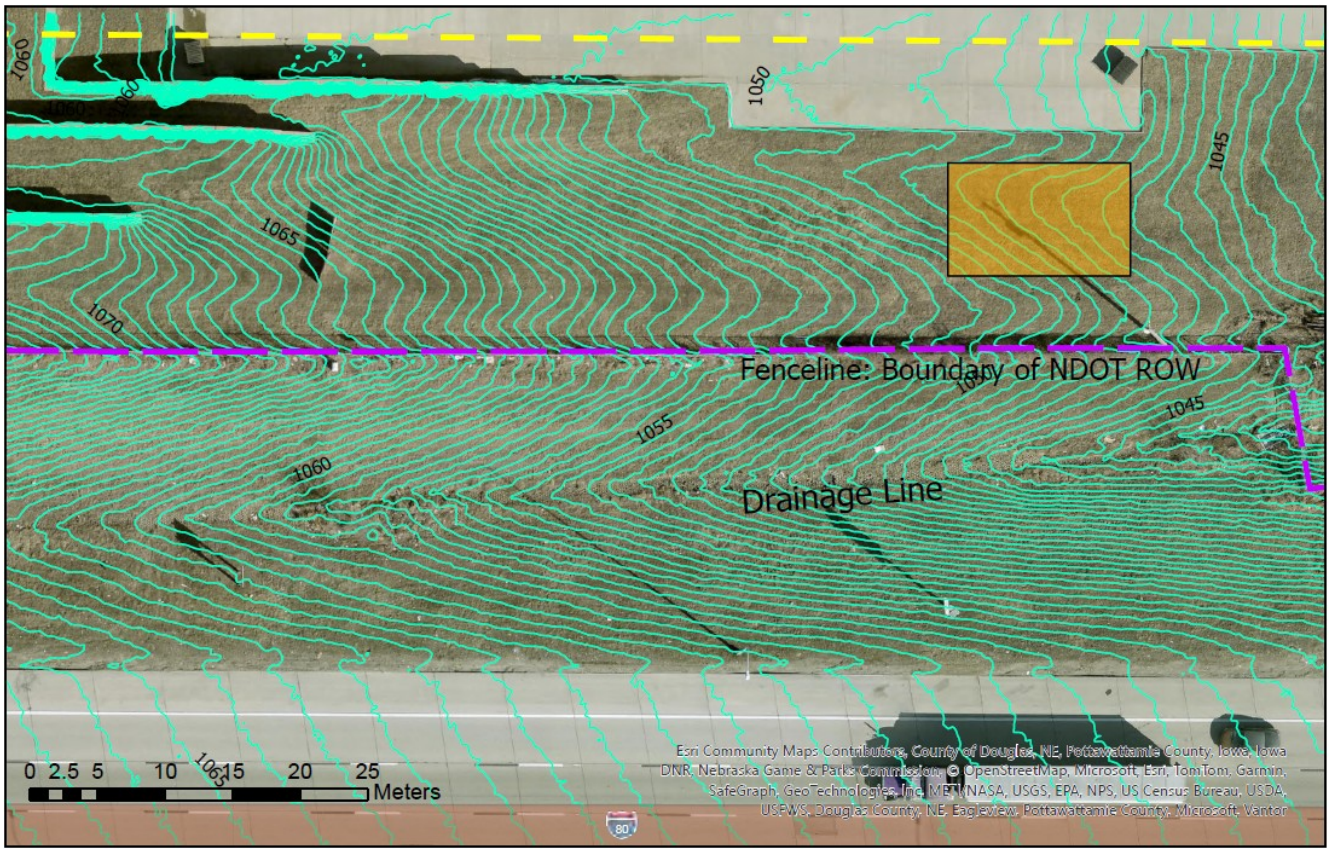
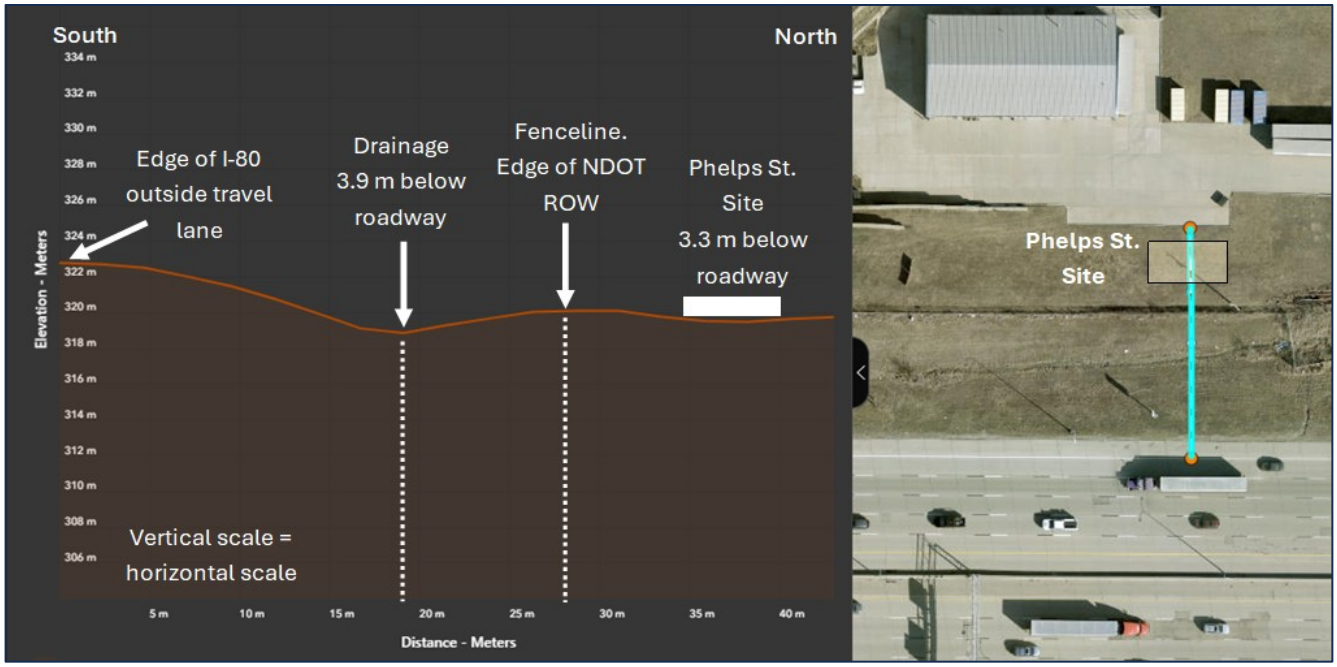


Figure 50. Elevation profile from I-80 outside travel lane through Phelps Street candidate site



Meteorology, Land Use, and Population Exposure

As shown in Figure 15, the dominant wind directions in this area during most of the year are from the south-southeast, with equal or slightly stronger winds from the north-northwest during the winter months (December to April). The Phelps Street location is downwind from the highway during most of the year.

The area within one-half mile north of the Phelps Street site is a mixture of residential (single-family and apartments) and commercial-light industrial properties. The portion of this area closest to the proposed site (within one-quarter mile) is primarily residential. The area south of Interstate has similar land use.

Roadside Structures and Safety Features

There are no guardrails or hard barriers along the north side of I-80 adjacent to the candidate Phelps Street location. However, the drainage, low ridge, and chain-link fence at the NDOT ROW boundary would provide some protection to the site from potential damage from vehicles leaving the highway.

Nearby Sources

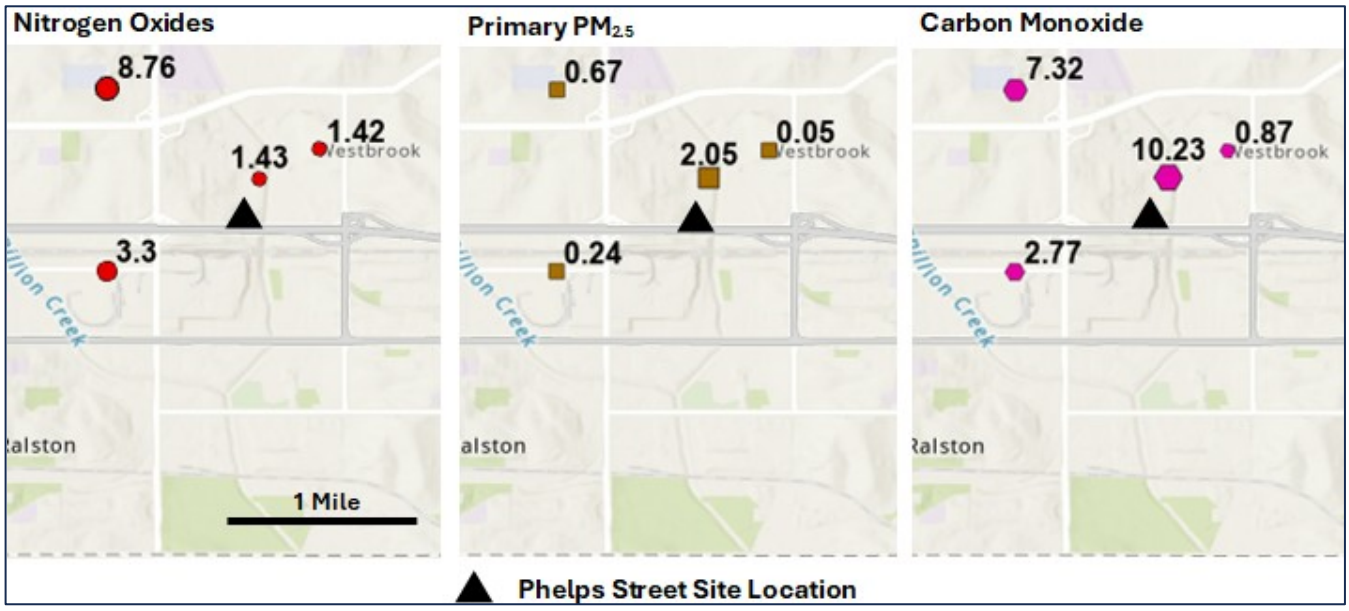
Figure 27 shows emissions sources near the Phelps Street site (marked by the black triangle in the figure) as identified in the EPA 2020 National Emissions Inventory. There are no significant sources near the site on the south side of I-80 (upwind of the site for most of the year). The closest sources (within one half mile northeast of the site) have low annual emissions of nitrogen oxides and $PM_{2.5}$.

Current and Future Road Construction

NDOT has scheduled surface grinding, concrete repair, and sealing on this section of I-80 to be concluded by June 30, 2026 (prior to site operation). NDOT projects that traffic growth will require the addition of one lane on either side of I-80 in this section between 2031 and 2036. There is ample room

between the proposed site and the current travel lanes to accommodate the lane addition without requiring relocation of the site.

Figure 51. Emissions sources in the vicinity of the Phelps Street site with annual emissions in tons



Data from the EPA 2020 National Emissions Inventory.

72nd Street Site Candidate

Location, Access, and Infrastructure

The 72nd Street Site Candidate is within the Nebraska Department of Transportation (NDOT) Right-of-Way in the northwest portion of the I-80 & South 72nd Street interchange (a partial cloverleaf). It is within the triangular area bounded by I-80 on the south, South 72nd Street on the east, and the onramp from South 72nd Street to westbound I-80 (Figures 28 and 29). Permission would be required from NDOT to occupy the candidate site.

The site candidate is approximately 40 to 45 meters north of the edge of the outside travel lane of westbound I-80 segment 80-D. The area is mostly grass-covered with some small trees and shrubs. The site candidate is located between small trees on the east and west sides. Installing the monitoring site in this location could require removal of the largest tree just to the west of the site.

The site could be accessed from the west (southbound) side of South 72nd Street south of the westbound I-80 ramp (Figures 30 and 31). Although 72nd Street is a busy arterial, the outermost southbound travel lane is blocked off for about 60 meters south of the ramp by widely-spaced pylons. A vehicle could enter the lane between pylons to access the paved shoulder to park. The NDOT ROW is not fenced in this location. However, this potential access point is about 60 meters from the proposed site location.

There are several potential sources of electricity close to the site candidate adjacent to the I-80 roadway, including two streetlights and a camera tower at the west edge of the 72nd Street overpass. The latter location is the closest to the candidate site (35 to 40 meters).

Figure 52. Overview maps of 72nd Street candidate monitoring site location and terrain (shaded relief and percent slope)

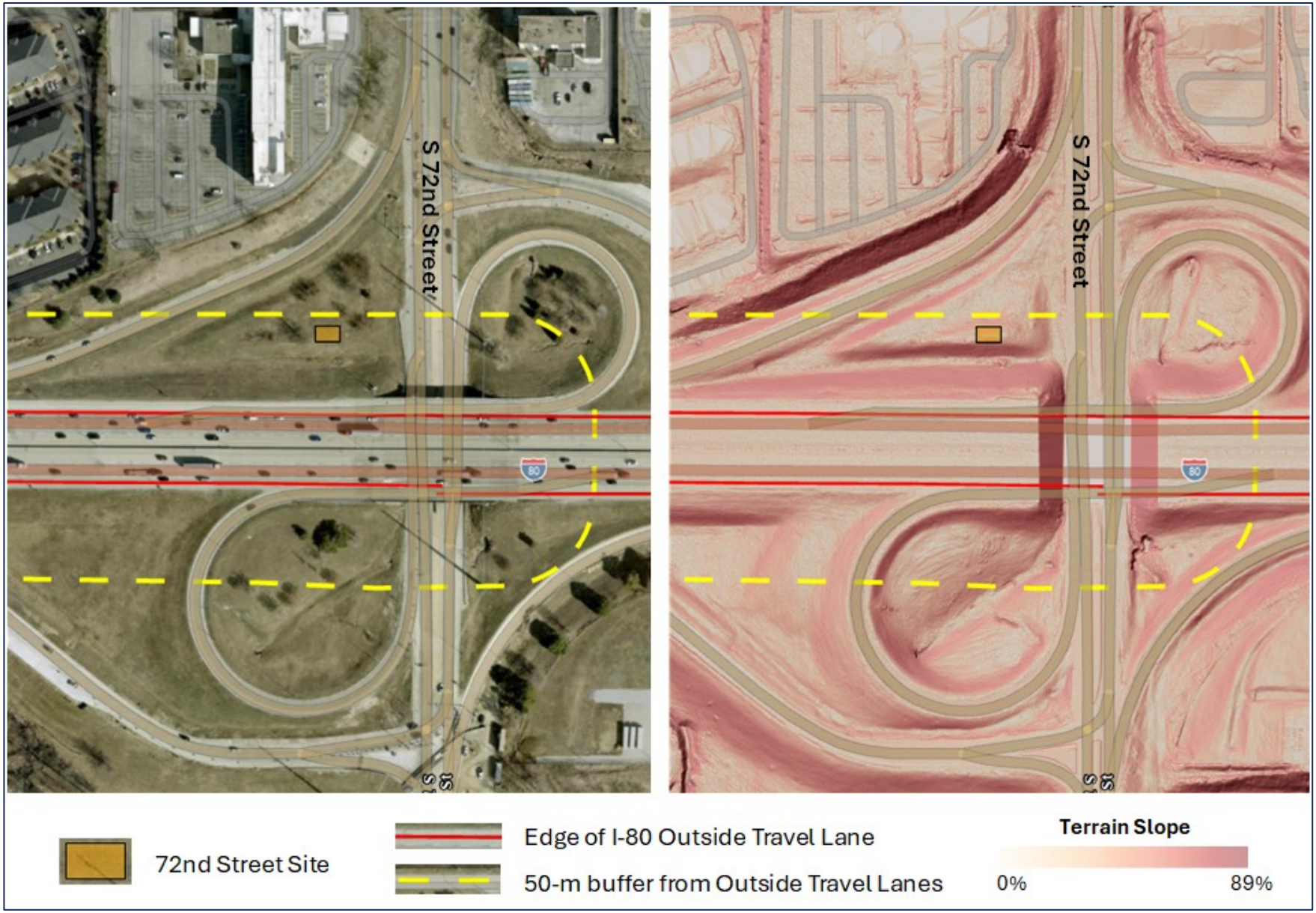


Figure 53. Oblique Google Earth views of 72nd Street candidate monitoring site

Top: view to the north. Bottom: view to the west. Candidate site is indicated by the yellow polygon.

Figure 54. Detailed location map of 72nd Street candidate monitoring site

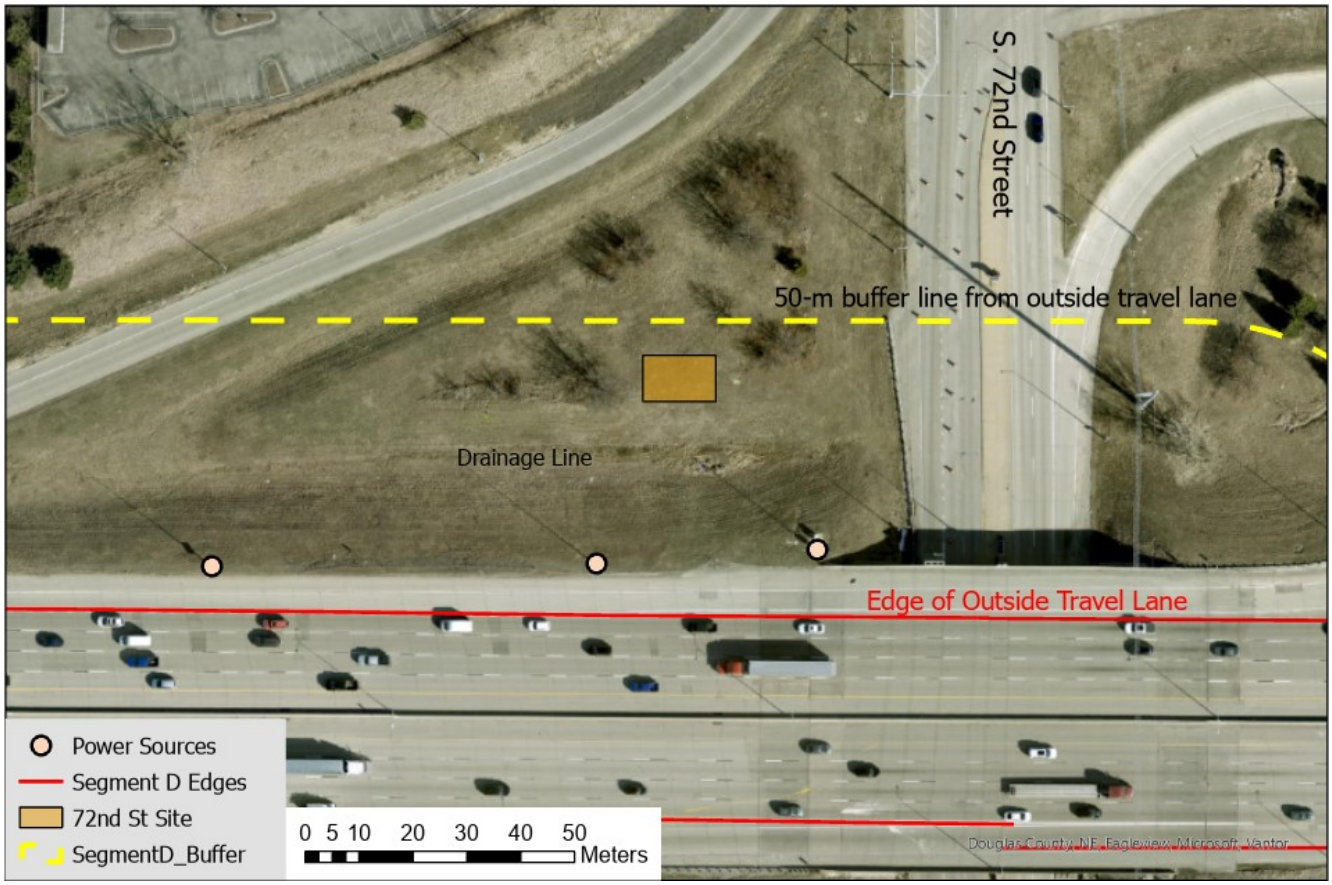
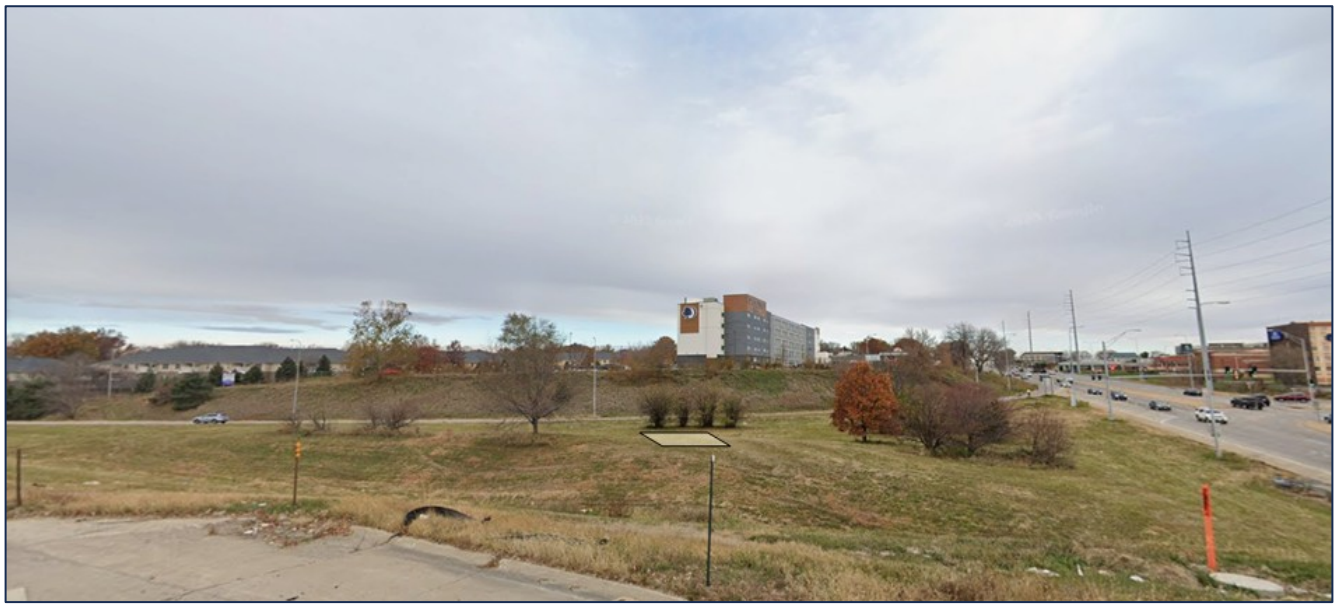


Figure 55. Google Street View image of 72nd Street candidate site from Interstate 80

Yellow polygon marks the candidate monitor site location.



Roadway Design, Traffic, and Terrain

This segment of I-80 is a limited-access freeway oriented east-west with four through traffic lanes in each direction plus two on-ramp merge lanes. This segment has the third-highest 2021-2024 Average AADT (172,173) and fourth-highest Average FE-AADT (287,159) in the Omaha MSA. However, traffic data from the Metropolitan Area Planning Agency (MAPA) for the I-80 and 72nd Street interchange for 2021 and 2022 shows an average combined AADT of 212,500. (No HD vehicle data is available from MAPA.)

In the 72nd Street location In-80 is constructed on a raised embankment with sloping boundaries, with the exception of the bridge over 72nd Street just east of the candidate site (Figures 28, 32, and 33). The embankment slope is about 12° down to a minor drainage on the north side and 9 to10° down on the south side.

Figure 34 is an elevation contour map of the site area (contour interval 0.5 feet), and Figure 35 is an elevation profile from the outside edge of the north travel lane through the candidate monitoring site. The I-80 roadway in this area slopes less than one degree eastward toward the 72nd Street bridge. The NDOT right-of-way on the northwest portion of the interchange includes a minor drainage about five meters below the highway level at the location of the candidate site. From a high point just southeast of the site, this low area drains eastward toward 72nd Street and westward toward the onramp's intersection with Interstate 80. The candidate site is on a high area above the drainage that is about 2 meters below the I-80 roadway elevation.

Meteorology, Land Use, and Population Exposure

As shown in Figure 15, the dominant wind directions in this area during most of the year are from the south-southeast, with equal or slightly stronger winds from the north-northwest during the winter months (December to April). The 72nd Street location is downwind from the highway during most of the year.

The area within one mile north of the candidate site is primarily residential west of 72nd Street, and a mix of residential and commercial east of 72nd Street. The area south of the candidate site is primarily commercial and industrial.

Roadside Structures and Safety Features

There are no guardrails or hard barriers along the north side of I-80 adjacent to the candidate 72nd Street location. However, the drainage between the roadway and the site, about 3 meters below the site level, would provide some protection to the site from potential damage from vehicles leaving the highway.

Nearby Sources

Figure 36 shows emissions sources near the 72nd Street candidate site (marked by the black triangle in the figure) as identified in the EPA 2020 National Emissions Inventory. There is only one significant source on the south side of Interstate 80 within one mile of this site, a corrugated box manufacturing facility with low annual emissions of nitrogen oxides and $PM_{2.5}$. Nearby sources on the north side of I-80 also have low annual emissions.

Figure 56. Terrain map (relief shading and percent slope) of 72nd Street candidate monitoring site

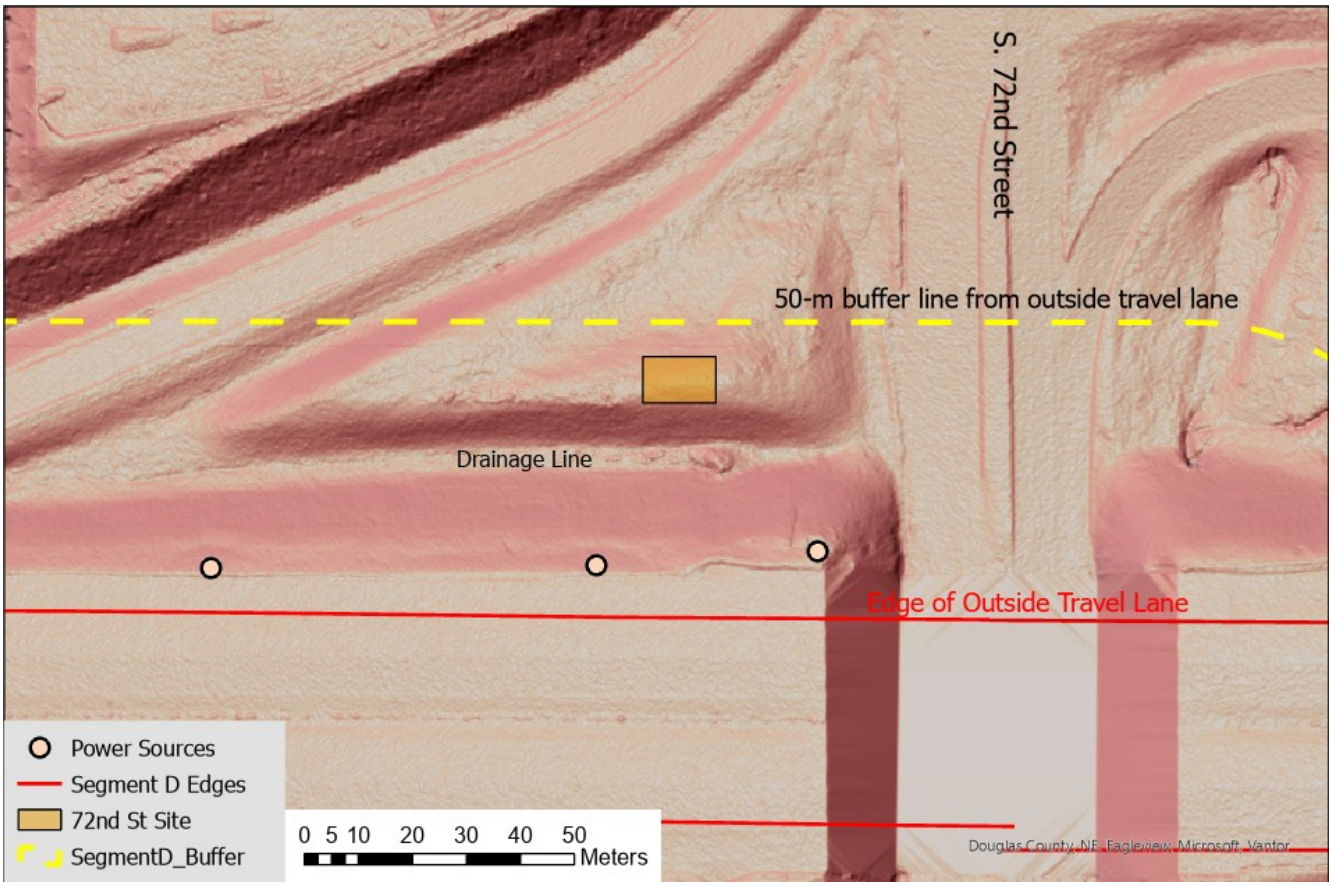
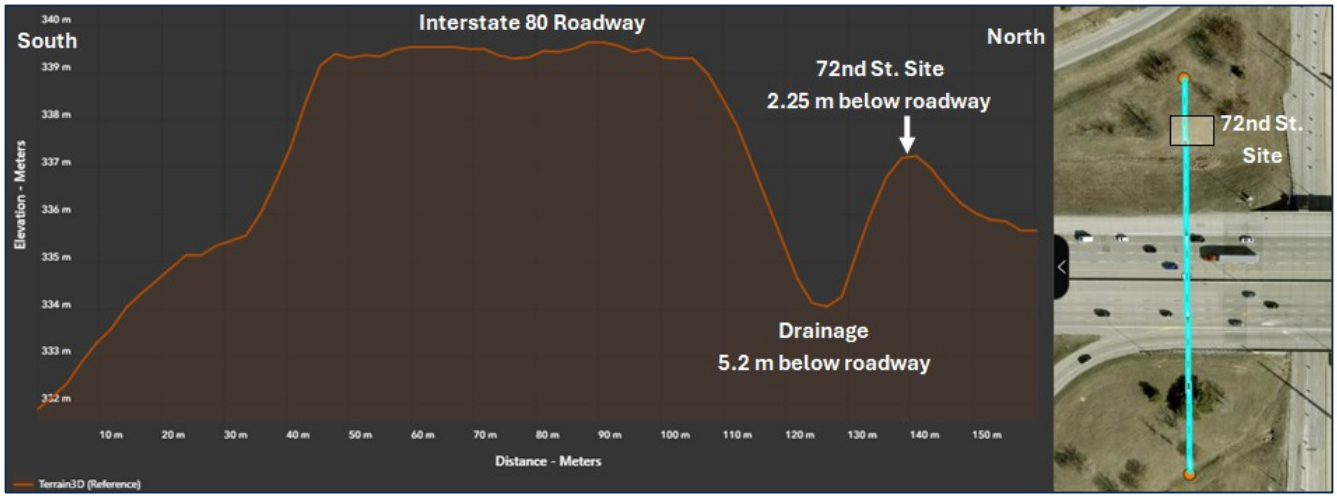


Figure 57. Elevation profile across Interstate 80 and the 72nd Street candidate monitoring site



Elevation profile from LIDAR-derived elevation grid with 1-meter horizontal resolution and 10-cm vertical resolution. Vertical exaggeration ~ 7.5X.

Figure 58. Elevation contour map of the 72nd Street candidate monitoring site

Contour interval 0.5 feet.

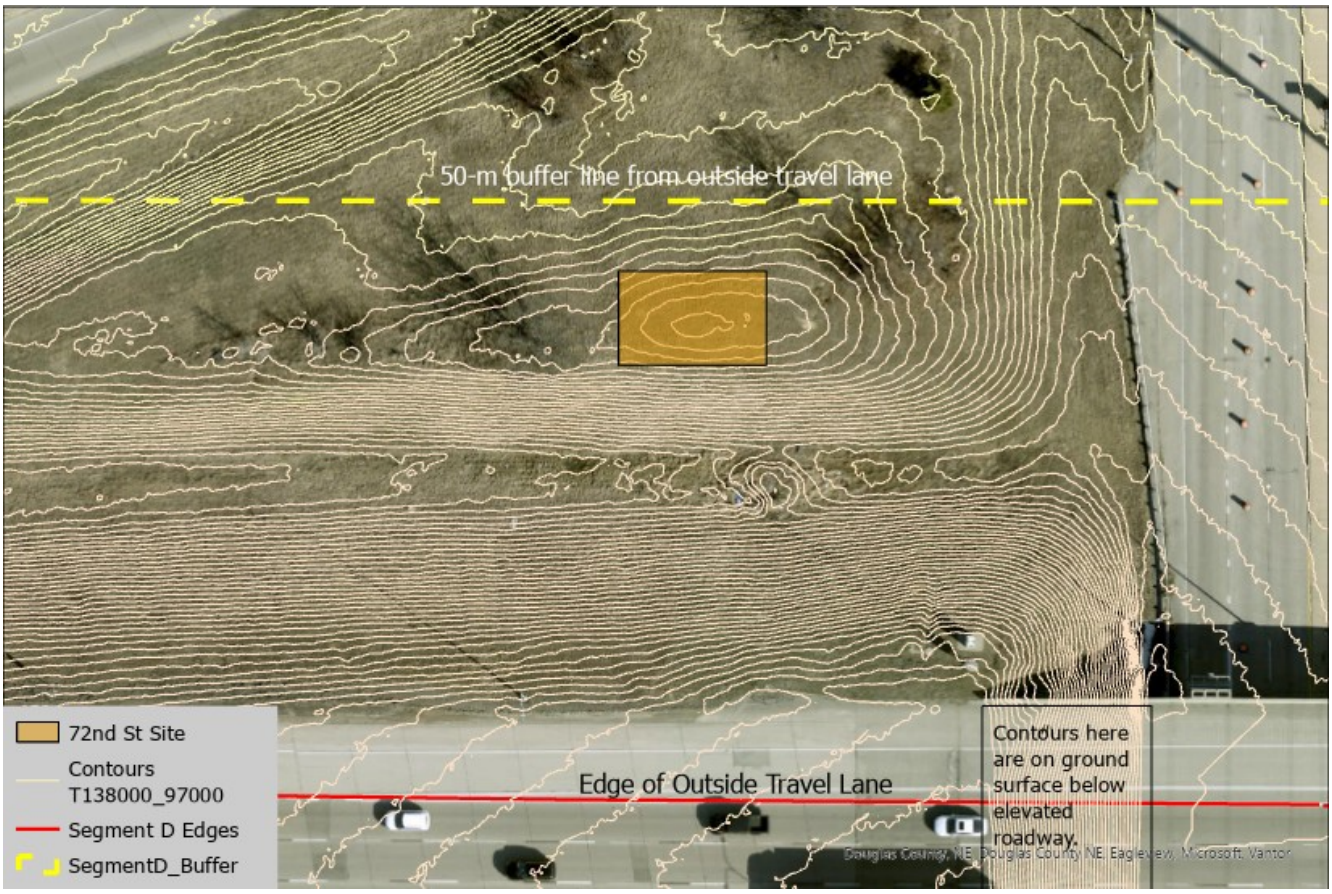
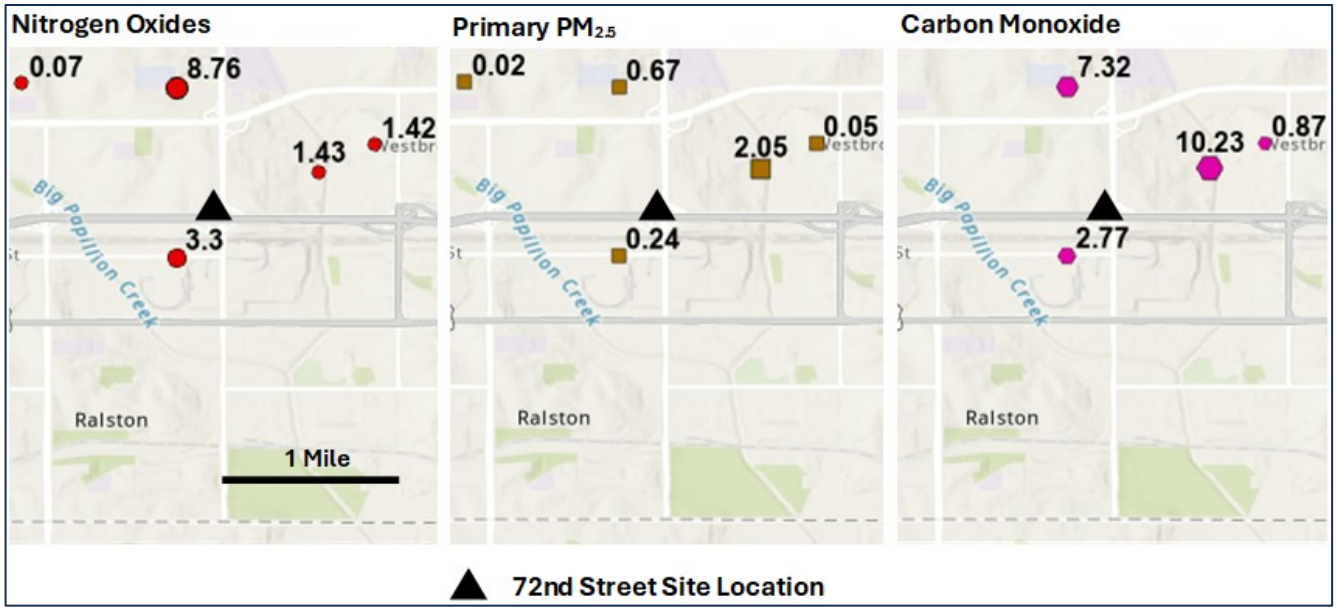


Figure 59. Elevation profile from I-80 outside travel lane through 72nd Street candidate site

Figure 60. Emissions sources in the vicinity of the 72nd Street site with annual emissions in tons



Current and Future Road Construction

NDOT has scheduled surface grinding, concrete repair, and sealing on this section of I-80 to be concluded by June 30, 2026 (prior to site operation). NDOT projects that traffic growth will require the addition of one lane on either side of I-80 in this section between 2031 and 2036. There is ample room between the proposed site and the current travel lanes to accommodate the lane addition without requiring relocation of the site.

H. Comparison of Site Candidates and Selection Recommendation

Due to terrain and access constraints, DWEE staff were able to identify only two prospective candidate sites for near-road ambient air monitoring in the Interstate 80 corridor in south Omaha: the Phelps Street and 72nd Street sites. Table 9 provides a comparison matrix of the site parameters for the two sites.

The Phelps and 72nd Street sites have similar terrain, distance from the roadway, meteorology, land use patterns, nearby electrical infrastructure, and lack of significant source impacts. The Phelps Street site is adjacent to the I-80 segment with the highest average AADT and FE-AADT counts recorded by NDOT for 2021 through 2024 in the Omaha area, while the 72nd Street site segment has the third-highest average AADT count and fourth-highest FE-AADT count. However, the 72nd Street site is adjacent to an interchange and would also measure emissions from 72nd Street.

Ease and safety of access is the most significant distinguishing parameter between the two sites. The Phelps Street site has safe and close access from little-traveled surface streets and the parking area of the adjacent commercial property (subject to permission from the landowner. In contrast, access to the 72nd Street site would be from a busy multi-lane arterial street that does not provide close access to the candidate site. In addition, we foresee a less complex permitting procedure from the City of Omaha compared to NDOT. On that basis, DWEE staff prefers selecting the Phelps Street candidate for the new near-road monitoring site. However, DWEE requests EPA approval of both sites in case access permits cannot be obtained for the preferred site.

Table 18. Comparison matrix of site candidate parameters

Parameter	Phelps Street	72nd Street
Location	41.224326, -96.014817	41.224376, -96.024539
Probe Distance from Outside Lane	35 to 40 meters	40 to 45 meters
Road Segment Name	I-80 Segment 80-E	I-80 Segment 80-D
Segment End Points	S 72nd St (West) 96.023927 W, 41.223970 N to S 60th St (East) 96.004598 W, 41.223867 N	S 84th St (West) 96.043186 W, 41.223957 N to S 72nd St (East) 96.023927 W, 41.223970 N
Road Type	Limited access freeway	Limited access freeway
AADT	177,826 (Average 2021-2024)	172,173 (Average 2021-2024)
HD Counts	12,566 (Average 2021-2024)	12,776 (Average 2021-2024)
FE-AADT	290,923 (Average 2021-2024)	287,159 (Average 2021-2024)
Congestion FE-AADT/Lane	29,092 (Average 2021-2024)	28,716 (Average 2021-2024)
Roadway Design	Elevated fill with sloped boundary, 14 to 15° slope down to drainage 3-4 m below roadway grade. Proposed site ~3.3 m below roadway.	Elevated fill with sloped boundary, 12 to 13° slope down to drainage 5 m below roadway. Proposed site is ~2 meter below roadway.
Terrain	Highway on raised embankment w/ 14-15° slopes. No terrain obstructions.	Highway on raised embankment w/ 9-12° slopes. No terrain obstructions.
Meteorology	Predominant winds from SSE in summer & fall, from NNW in winter. Sites are downwind during summer. Road segment at 68/122 angle to summer/winter wind directions.	
Population Exposure	Commercial & residential areas downwind.	Commercial & residential areas downwind.
Roadside Structures	No guardrails or solid barriers.	No guardrails or solid barriers.
Safety Features	Wide drainage ditch, low rise, and chain-link fence between highway and monitoring site.	Wide drainage ditch between roadway and elevated monitoring site.
Infrastructure	Utility pole 10-15 meters from site.	Streetlights and camera tower within 50 meters of site.

Interchanges	S 72nd St (0.46 mile west); S 60th St (0.55 mile east)	S 84th St (0.97 mile west); S 72nd St (0.03 mile east)
Land Use	Mix of residential and commercial-light industrial.	Mix of residential and commercial-light industrial.

Table 9. Comparison matrix of site candidate parameters (continued)

Parameter	Phelps Street	72nd Street
Nearby Sources	Minimal low-emission sources nearby.	Minimal low-emission sources nearby.
Current Road Construction	Surface grinding, concrete repair, & sealing through June 30, 2026	Surface grinding, concrete repair, & sealing through June 30, 2026.
Future Road Construction	Potential lane addition 2031-2036	Potential lane addition 2031-2036
Frontage Roads	C Street on the south side of the highway provides access to commercial properties.	None
Space Limitations	None.	Several small trees adjacent to candidate site.
Property Type	Right-of-way	Right-of-way
Property Owner	City of Omaha	Nebraska Department of Transportation
Likelihood of Access	High	High