

Final: August 16, 2018

# Volkswagen Beneficiary Mitigation Plan



## Table of Contents

---

Background .....	1
Available Funding .....	2
Eligible Mitigation Actions .....	2
Category 1. Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks).....	2
Category 2. Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses).....	3
Category 3. Freight Switchers .....	4
Category 4. Ferries and Tugs.....	5
Category 5. Ocean Going Vessels Shorepower .....	5
Category 6. Class 4-7 Local Freight Trucks (Medium Trucks).....	6
Category 7. Airport Ground Support Equipment.....	7
Category 8. Forklifts and Port Cargo Handling Equipment.....	7
Category 9. Light Duty Zero Emission Vehicle Supply Equipment .....	8
Category 10. Diesel Emission Reduction Act (DERA) Option .....	9
South Dakota’s Overall Goal .....	10
National Ambient Air Quality Standards.....	10
Particulate Matter Concentrations in South Dakota .....	11
Ozone Concentrations in South Dakota.....	12
Nitrogen Dioxide Concentrations in South Dakota.....	13
Summary of Monitoring Data .....	14
Subject Volkswagen Diesel Vehicles Registered in South Dakota .....	15
Nitrogen Oxide Emissions in South Dakota .....	15
Nitrogen Oxide Emissions – County Distribution.....	16
Nitrogen Oxide Emissions – Sector Distribution .....	17
Nitrogen Oxide Emissions – Non-Road Diesel Equipment Distribution.....	18
Nitrogen Oxide Emissions – On-Road Heavy Duty Diesel Vehicle Distribution .....	19
Nitrogen Oxide Emissions – Locomotive Engine Distribution.....	20
Nitrogen Oxide Emissions – Area and Population .....	20
Funding Allocations for Eligible Mitigation Actions .....	22
Category 1 and 6 – Large and Medium Trucks.....	22
Category 2 – School, Shuttle, and Transit Buses.....	23

Category 3 and 7 – Freight Switches and Airport Equipment.....	23
Category 9 – Light Duty Zero Emission Vehicle Supply Equipment .....	23
Category 10 – The Diesel Emission Reduction Act (DERA) Option .....	23
Trust Funding Options.....	24
Anticipated Benefits from Eligible Actions .....	25
Administrative Expenditures.....	25
Public Input Process .....	26

## List of Figures

---

Figure 1: South Dakota Air Monitoring Sites.....	11
Figure 2: PM <sub>2.5</sub> Design Values in South Dakota .....	12
Figure 3: Ozone Design Values in South Dakota.....	13
Figure 4: Nitrogen Dioxide Design Values in South Dakota .....	14
Figure 5: Top 10 Counties – Subject VW Vehicles Registered in South Dakota.....	15
Figure 6: Top 10 Counties – Nitrogen Oxide Emissions in South Dakota .....	16
Figure 7: Source Distribution of Nitrogen Oxide Emissions in South Dakota.....	17
Figure 8: Distribution of Nitrogen Oxide Emissions from Mobile Sector.....	18
Figure 9: Top 10 Counties – Nitrogen Oxide Emissions from Non-Road Diesel Equipment.....	19
Figure 10: Top 10 Counties – NOx Emissions from On-Road Heavy Duty Diesel Vehicles .....	19
Figure 11: Top 10 Counties – Locomotive Engines .....	20
Figure 12: Top 10 Counties – Pounds of Nitrogen Oxide Emissions per Square Mile .....	21
Figure 13: Top 10 Counties – Pounds of Nitrogen Oxide Emissions per Population.....	22

## List of Tables

---

Table 1: Eligible Mitigation Actions and South Dakota’s Anticipated Funding.....	24
--	----

## Background

On October 25, 2016, the first of three partial settlements was finalized between the Volkswagen Corporation and its subsidiaries (collectively “VW”), the United States, and the state of California regarding the installation and use of defeat devices in diesel-powered vehicles for model years 2009 through 2016. These defeat devices, in the form of computer software designed to cheat on federal emission tests, violated the Clean Air Act. Under normal driving conditions the emission control equipment was turned off, defeated, or rendered less effective allowing the emissions of nitrogen oxide (NO<sub>x</sub>) to exceed up to 40 times the vehicle emission standard. Nearly 500,000 of the 2.0 liter diesel vehicles were sold or leased in the United States.

The settlement for the 2.0 liter vehicles is \$14.7 billion dollars including \$10 billion for vehicle buy-back and compensation to consumers, \$2.7 billion allocated to the states for mitigation of excess nitrogen oxide emissions and \$2 billion directed toward a national Zero Emission Vehicle (ZEV) plan to improve infrastructure, access and education to support and advance zero emission (e.g., fuel cell and electric) vehicles.

On May 17, 2017, a second partial consent decree was approved for the 3.0 liter diesel vehicles manufactured by VW that also had emission control defeat devices. The settlement for the 3.0 liter diesel vehicles is \$225 million for approximately 80,000 vehicles sold between 2008 and 2016 nationwide.

The first Partial Consent Decree established an “Environmental Mitigation Trust Agreement” or “Trust” to mitigate excess nitrogen oxide emissions resulting from the use of the emission control defeat devices on the VW light-duty diesel vehicles. The Trust requires states, not later than 30 days prior to submitting its first funding request, to make publicly available a “Beneficiary Mitigation Plan” or “Plan” that describes how the state will use the funds allocated to it under this Trust. The Trust stipulates the Plan shall address:

1. The State’s overall goals for use of the funds;
2. The categories of Eligible Mitigation Actions the State anticipates will be appropriate to achieve the stated goals and the preliminary assessment of the percentages of funds anticipated to be used for each type of Eligible Mitigation Actions;
3. A description of how the State will consider the potential beneficial impact of the selected Eligible Mitigation Actions on air quality in areas that bear a disproportionate share of the air pollution burden within its jurisdiction;
4. A general description of the expected ranges of emission benefits the State estimates would be realized by implementation of the Eligible Mitigation Actions identified in the Beneficiary Mitigation Plan;
5. The extent to which the State intends to fund projects in accordance with the DERA Program; and
6. An explanation of the process by which the State shall seek and consider public input on its Beneficiary Mitigation Plan.

On November 21, 2017, Governor Dugaard signed and submitted South Dakota’s Certification for Beneficiary Status form to the Trustee identifying the “South Dakota Department of Environment and Natural Resources” or “Department” as the Lead Agency. On January 29, 2018, the Trustee designated South Dakota as a beneficiary to the State Trust.

The Department is only providing the level of detail that is reasonably ascertainable at the time of submission of this Beneficiary Mitigation Plan. Nothing in this Plan is binding, nor does it create any rights in any person to claim an entitlement of any kind. The Department shall provide the Trustee with and make available on its Volkswagen Settlement webpage (<http://denr.sd.gov/des/aq/aaVW.aspx>) any updates to the Plan.

## **Available Funding**

Of the \$2.925 billion in Trust funds, the Environmental Mitigation Trust Agreement has allocated South Dakota \$7.5 million and \$625,000 based on the number of 2.0 liter and 3.0 liter diesel vehicles registered in South Dakota, respectively. The combined allocation for South Dakota totals \$8.125 million. A state is limited to dispersing up to one third of its allocation during the first funding year, and up to two thirds by the end of the second year. The Trust will be in place for ten years from the Trust Effective Date, October 2, 2027, with provisions for an extension based on fund dispersal.

Both non-government and government entities are eligible to apply for funding to implement eligible mitigation projects. Project funding will be awarded through an open and competitive process that will comply with all applicable state and federal procurement requirements. The Department will maintain and make publicly available all documentation submitted in support of each funding request and all records of eligible mitigation project expenditures. The Department is proposing to have some of the information available on the website and the remaining information available upon request. The instructions on how to obtain information that is not on the website will be available on the website.

## **Eligible Mitigation Actions**

The following 10 categories are eligible mitigation projects pursuant to Appendix D-2 of the first VW Partial Consent Decree:

### **Category 1. Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)**

1. Eligible large trucks with 1992-2009 engine model year Class 8 local freight or drayage trucks.
2. Eligible large trucks must be scrapped.
3. Eligible large trucks may be repowered with any new diesel or alternate fueled engine or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the eligible large trucks mitigation action occurs or one engine model year prior.

4. For non-government owned eligible Class 8 local freight trucks, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 25% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
  - d. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
5. For non-government owned eligible drayage trucks, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 50% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
  - d. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
6. For government owned eligible Class 8 large trucks, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 100% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
  - d. Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

**Category 2. Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)**

1. Eligible buses include 2009 engine model year or older, Class 4-8 school buses, shuttle buses, or transit buses.
2. Eligible buses must be scrapped.
3. Eligible buses may be repowered with any new diesel or alternate fueled or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the eligible bus mitigation action occurs or one engine model year prior.

4. For non-government owned buses, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 25% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
  - d. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
5. For government owned eligible buses, and privately owned school buses under contract with a public school district, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 100% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
  - d. Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

### **Category 3. Freight Switchers**

1. Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1,000 or more hours per year.
2. Eligible freight switchers must be scrapped.
3. Eligible freight switchers may be repowered with any new diesel or alternate fueled or all-electric engine(s) (including generator sets), or may be replaced with any new diesel or alternate fueled or all-electric (including generator sets) freight switcher, that is certified to meet the applicable Environmental Protection Agency (EPA) emissions standards as published in the Code of Federal Regulations for the engine model year in which the eligible freight switcher mitigation action occurs.
4. For non-government owned freight switchers, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine(s) or generator sets, including the cost of installation of such engines(s).
  - b. Up to 25% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) freight switcher.

- c. Up to 75% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).
- d. Up to 75% of the cost of a new all-electric freight switcher, including charging infrastructure associated with the new all-electric Freight Switcher.
- 5. For government owned eligible freight switchers, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine(s) or generator sets, including the costs of installation of such engine(s).
  - b. Up to 100% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) freight switcher.
  - c. Up to 100% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).
  - d. Up to 100% of the cost of a new all-electric freight switcher, including charging infrastructure associated with the new all-electric freight switcher.

#### **Category 4. Ferries and Tugs**

- 1. Eligible ferries and/or tugs include unregulated, Tier 1, or Tier 2 marine engines.
- 2. Eligible ferry and/or tug engines that are replaced must be scrapped.
- 3. Eligible ferries and/or tugs may be repowered with any new Tier 3 or Tier 4 diesel or alternate fueled engines, or with all-electric engines, or may be upgraded with an EPA Certified Remanufacture System or an EPA Verified Engine Upgrade.
- 4. For non-government owned eligible ferries and/or tugs, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine(s), including the costs of installation of such engine(s).
  - b. Up to 75% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).
- 5. Government owned eligible ferries and/or tugs, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine(s), including the costs of installation of such engine(s).
  - b. Up to 100% of the cost of a repower with a new all-electric engine(s), including the costs of installation of such engine(s), and charging infrastructure associated with the new all-electric engine(s).

#### **Category 5. Ocean Going Vessels Shorepower**

- 1. Eligible marine shorepower includes systems that enable a compatible vessel's main and auxiliary engines to remain off while the vessel is at berth. Components of such systems

eligible for reimbursement are limited to cables, cable management systems, shore power coupler systems, distribution control systems, and power distribution. Marine shore power systems must comply with international shore power design standards (ISO/IEC/IEEE 80005-1-2012 high voltage shore connection systems or the IEC/PAS 80005-3:2014 low voltage shore connection systems) and should be supplied with power sourced from the local utility grid. Eligible marine shorepower includes equipment for vessels that operate within the Great Lakes.

2. For non-government owned marine shorepower, Beneficiaries may only draw funds from the Trust in the amount of up to 25% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution components.
3. For government owned marine shorepower, Beneficiaries may draw funds from the Trust in the amount of up to 100% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution components.

#### **Category 6. Class 4-7 Local Freight Trucks (Medium Trucks)**

1. Eligible medium trucks with 1992-2009 engine model year Class 4-7 local freight trucks.
2. Eligible medium trucks must be scrapped.
3. Eligible medium trucks may be repowered with any new diesel or alternate fueled engine or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the eligible large trucks mitigation action occurs or one engine model year prior.
4. For non-government owned eligible medium trucks, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 25% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.
  - d. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
5. For government owned eligible medium trucks, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) engine, including the costs of installation of such engine.
  - b. Up to 100% of the cost of a new diesel or alternate fueled (e.g. compressed natural gas, propane, hybrid) vehicle.
  - c. Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine.

- d. Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

### **Category 7. Airport Ground Support Equipment**

1. Eligible airport ground support equipment includes:
  - a. Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment; and
  - b. Uncertified or certified to 3 grams/boiler horsepower-hour or higher emissions, spark ignition engine powered airport ground support equipment.
2. Eligible airport ground support equipment must be scrapped.
3. Eligible airport ground support equipment may be repowered with an all-electric engine, or may be replaced with the same airport ground support equipment in an all-electric form.
4. For non-government owned eligible airport ground support equipment, Beneficiaries may only draw funds from the Trust in the amount of:
  - a. Up to 75% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
  - b. Up to 75% of the cost of a new all-electric airport ground support equipment, including charging infrastructure associated with such new all-electric airport ground support equipment.
5. For government owned eligible airport ground support equipment, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
  - b. Up to 100% of the cost of a new all-electric airport ground support equipment, including charging infrastructure associated with such new all-electric airport ground support equipment.

### **Category 8. Forklifts and Port Cargo Handling Equipment**

1. Eligible forklifts includes forklifts with greater than 8,000 pounds lift capacity.
2. Eligible forklifts and port cargo handling equipment must be scrapped.
3. Eligible forklifts and port cargo handling equipment may be repowered with an all-electric engine, or may be replaced with the same equipment in an all-electric form.
4. For non-government owned eligible forklifts and port cargo handling equipment, Beneficiaries may draw funds from the Trust in the amount of:
  - a. Up to 75% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
  - b. Up to 75% of the cost of a new all-electric forklift or port cargo handling equipment, including charging infrastructure associated with such new all-electric forklift or port cargo handling equipment.
5. For government owned eligible forklifts and port cargo handling equipment, Beneficiaries may draw funds from the Trust in the amount of:

- a. Up to 100% of the cost of a repower with a new all-electric engine, including costs of installation of such engine, and charging infrastructure associated with such new all-electric engine.
- b. Up to 100% of the cost of a new all-electric forklift or P port cargo handling equipment, including charging infrastructure associated with such new all-electric forklift or port cargo handling equipment.

### **Category 9. Light Duty Zero Emission Vehicle Supply Equipment**

Each Beneficiary may use up to fifteen percent (15%) of its allocation of Trust funds on the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment for projects as specified below. Provided, however, that Trust funds shall not be made available or used to purchase or rent real estate, other capital costs (e.g., construction of buildings, parking facilities, etc.) or general maintenance (e.g. maintenance other than of the supply equipment).

- 1. Light duty electric vehicle supply equipment includes Level 1, Level 2 or fast charging equipment or analogous successor technologies that is located in a public place, workplace, or multi-unit dwelling and is not consumer light-duty electric vehicle supply equipment (e.g., not located at a private residential dwelling that is not a multi-unit dwelling).
- 2. Light duty hydrogen fuel cell vehicle supply equipment includes hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70 mega pascals (MPa) or analogous successor technologies that is located in a public place.
- 3. Subject to the 15% limitation above, each Beneficiary may draw funds from the Trust in the amount of:
  - a. Up to 100% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that will be available to the public at a government owned property.
  - b. Up to 80% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that will be available to the public at a non-government owned property.
  - c. Up to 60% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that is available at a workplace but not to the general public.
  - d. Up to 60% of the cost to purchase, install and maintain eligible light-duty electric vehicle supply equipment that is available at a multi-unit dwelling but not to the general public.
  - e. Up to 33% of the cost to purchase, install and maintain eligible light-duty hydrogen fuel cell vehicle supply equipment capable of dispensing at least 250 kilograms/day that will be available to the public.
  - f. Up to 25% of the cost to purchase, install and maintain eligible light-duty hydrogen fuel cell vehicle supply equipment capable of dispensing at least 100 kilograms/day that will be available to the public.

## Category 10. Diesel Emission Reduction Act (DERA) Option

Beneficiaries may use Trust funds for their non-federal voluntary match, pursuant to Title VII, Subtitle G, Section 793 of the DERA Program in the Energy Policy Act of 2005 (codified at 42 U.S.C. § 16133), thereby allowing Beneficiaries to use such Trust funds for actions not specifically stated under Eligible Mitigations Actions listed above, but otherwise eligible under DERA pursuant to all DERA guidance documents available through EPA.

The current Diesel Emission Reduction Act (DERA) funds the following projects:

1. Verified Exhaust Control Technologies: DERA will fund up to 100% of the cost (labor and equipment) of eligible verified exhaust control technologies.
2. Verified Engine Upgrades and Certified Remanufacture Systems: DERA will fund up to 40% of the cost (labor and equipment) of eligible EPA verified engine upgrades and certified remanufacture systems.
3. Verified/Certified Cleaner Fuel Use: DERA will not fund stand-alone cleaner fuels use. DERA will fund the cost differential between the eligible cleaner fuels and conventional diesel fuels if the cleaner fuels are used in combination, and on the same vehicles, with new eligible verified exhaust controls or eligible engine upgrades or eligible certified engine repowers or eligible certified vehicle/equipment replacements funded under this Plan.
4. Verified Idle Reduction Technologies:
  - a. Verified On-Highway Idle Reduction Technologies: Funding will cover up to 25% of the cost (labor and equipment) of verified idle reduction technologies on school buses and long-haul trucks.
  - b. Verified Locomotive Idle Reduction Technologies: DERA will fund up to 40% of the cost (labor and equipment) of eligible idle reduction technologies for locomotives.
  - c. Electrified Parking Spaces: DERA will fund up to 30% of the cost (labor and equipment) of eligible electrified parking space technologies, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional.
5. Verified Aerodynamic Technologies and Low Rolling Resistance Tires: DERA will not fund stand-alone aerodynamic technologies or low rolling resistance tires. DERA will fund up to 100% of the cost (labor and equipment) of verified aerodynamic technologies or verified low rolling resistance tires if the technology is combined on the same vehicle with a new eligible verified exhaust control technology funded under this Plan.
6. Certified Engine Repower: DERA will fund up to 40% of the cost (labor and equipment) of replacing a diesel engine with a diesel or alternative fueled engine (including hybrids) certified to EPA emission standards. DERA will fund up to 50% of the cost of replacing diesel engines with an engine certified to meet CARB's Optional Low-NOx Standards. DERA will fund up to 60% of the cost (labor and equipment) of replacing a diesel engine with an all-electric motor or electric power source.
  - a. Replacement of Drayage Trucks: DERA will fund up to 50% of the cost of a replacement drayage truck.
7. Certified Vehicle/Equipment Replacement: DERA will fund up to 25% of the cost of a replacement vehicle or piece of equipment powered by a diesel or alternate fueled engine (including hybrids) certified to EPA emission standards. DERA will fund up to 35% of

the cost of a replacement vehicle or equipment powered by an engine certified to meet CARB's Optional Low-NOx Standards. DERA will fund up to 45% of the cost of a replacement diesel vehicle or equipment powered by an all-electric motor or electric power source.

Trust funds shall not be used to meet the nonfederal mandatory cost share requirements, as defined in applicable DERA program guidance, of any DERA grant.

## **South Dakota's Overall Goal**

The primary goal of the Federal Clean Air Act and/or South Dakota's Air Pollution Control is to achieve and maintain reasonable levels of air quality which will protect human health and safety, prevent injury to plant and animal life and property, foster the comfort and convenience of its inhabitants, promote the economic and social development of the state and, to the greatest degree practicable, facilitate the enjoyment of the natural attractions of the state. The goal of this Plan is to facilitate the improvement and protection of the ambient air quality throughout South Dakota. The Department will achieve this goal by implementing eligible mitigation projects that:

1. Achieve reductions in diesel engine emissions by providing funding for emission reduction projects throughout the state and in areas of the state that bear a disproportionate share of the impact of nitrogen oxide emissions;
2. Achieve reductions in ground level ozone, for which nitrogen oxide is a precursor, in areas of the state where levels are approaching the federal National Ambient Air Quality Standards;
3. Maximize the use of Trust funds in reducing nitrogen oxide emissions; and
4. Award funds through a public process.

The Department used data collected and compiled by the U.S. Environmental Protection Agency, U.S. Census Bureau, South Dakota's Department of Revenue, and South Dakota's Department of Environment and Natural Resources to guide how the funds from the Trust could be used to meet the primary goal of the Clean Air Act and how best to meet the needs of South Dakota.

## **National Ambient Air Quality Standards**

The Department operates an ambient air quality monitoring network in South Dakota to determine compliance with federal National Ambient Air Quality Standards. The federal National Ambient Air Quality standards include maximum allowable pollution levels for particulate matter, sulfur dioxide, nitrogen dioxide, ozone, lead, and carbon monoxide. These federal National Ambient Air Quality Standards are designed to protect the public health and public welfare. Figure 1 shows a map of the general locations and cities with ambient monitoring sites for South Dakota's existing monitoring network.

**Figure 1: South Dakota Air Monitoring Sites**



The Trust was established to mitigate excess nitrogen oxide emissions. In the atmosphere, nitrogen oxide emissions are a mixture of gases composed of nitrogen and oxygen. Nitrogen oxides are highly reactive gases. Nitrogen oxides will react with other chemicals in the atmosphere to form nitrogen dioxide (NO<sub>2</sub>), particulate matter, and ozone.

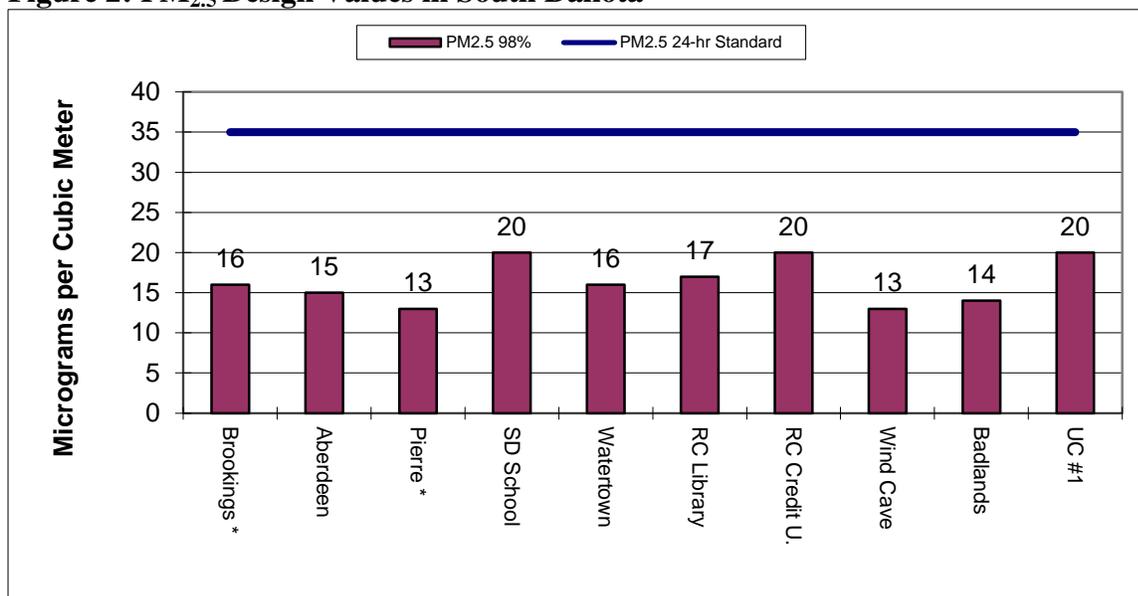
The Department reviewed its ambient air monitoring data for particulate matter, nitrogen dioxide, and ozone. Specific details on South Dakota’s ambient monitoring network are available on the Department’s webpage at <http://denr.sd.gov/des/daq/monitoring/state-mo.aspx>.

***Particulate Matter Concentrations in South Dakota***

The Department looked at particulate matter less than or equal to 2.5 microns in diameter (PM<sub>2.5</sub>), since it primarily comes from on and off-road vehicle exhaust and other combustion sources. There were 10 ambient air monitoring sites operated in South Dakota that measured PM<sub>2.5</sub> concentrations in 2017. The sampling locations were in Brookings, Aberdeen, Pierre, Sioux Falls, Watertown, Rapid City (Library), Rapid City (Credit Union), Wind Cave National Park, Badlands National Park, and Union County.

Figure 2 was derived from the 2017 South Dakota Ambient Air Monitoring Annual Plan and represents PM<sub>2.5</sub> data for calendar year 2016. The 2017 South Dakota Ambient Air Monitoring Annual Plan is available on the Department’s website at <http://denr.sd.gov/des/daq/aqnews/Annual%20plan%202017.pdf>.

**Figure 2: PM<sub>2.5</sub> Design Values in South Dakota**



The PM<sub>2.5</sub> design value is the 98<sup>th</sup> percentile averaged over three years for each monitoring site. The PM<sub>2.5</sub> design value in Figure 2 represent calendar year 2014, 2015, and 2016 and demonstrates each site is in compliance with the federal National Ambient Air Quality Standard for PM<sub>2.5</sub>.

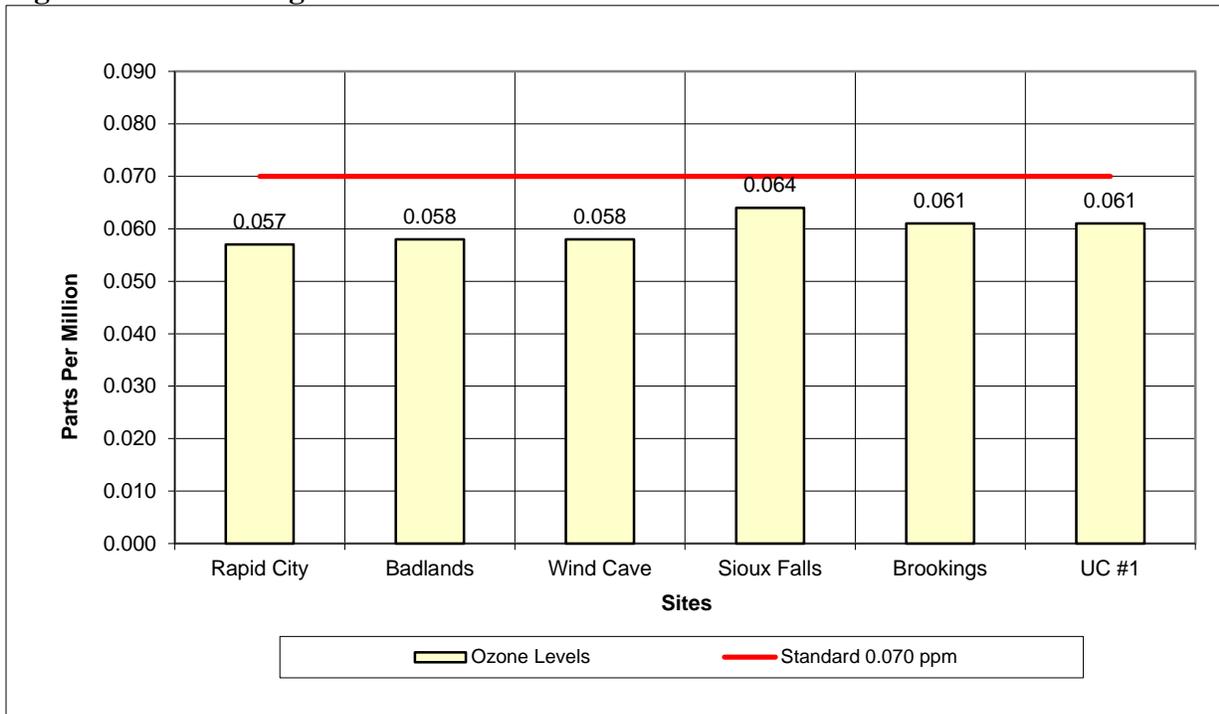
Even though the monitoring data shows compliance with the federal National Ambient Air Quality Standard for PM<sub>2.5</sub>, the Department reviewed the high concentration days to see what types of sources may be the cause. In 2016, PM<sub>2.5</sub> (24-hour) had three high concentration days. The Department could not identify any local sources to explain the high concentrations, but did identify smoke plumes originating from outside of South Dakota were occurring on all three days. Since nitrogen oxide is a precursor of PM<sub>2.5</sub>, reducing nitrogen oxide emissions throughout the state may help reduce PM<sub>2.5</sub> concentrations.

### ***Ozone Concentrations in South Dakota***

There were six ambient air monitoring sites operated in South Dakota that measured ozone concentrations in 2017. The sampling locations were in Sioux Falls, Brookings, Black Hawk, Badlands National Park, Wind Cave National Park, and Union County. In 2015, EPA lowered the National Ambient Air Quality standard for ozone to 0.070 parts per million. Since EPA has lowered the standard down to background levels in South Dakota, South Dakota may have areas that can exceed the lower ozone standard in both rural and urban areas of the state.

Figure 3 was derived from the 2017 South Dakota Ambient Air Monitoring Annual Plan and represents ozone data through calendar year 2016. The ozone design value is the 4<sup>th</sup> highest ozone concentration averaged over three years for each monitoring site. The ozone design values in Figure 3 represent calendar year 2014, 2015, and 2016 and demonstrate each site is in compliance with the federal National Ambient Air Quality Standard for ozone.

**Figure 3: Ozone Design Values in South Dakota**



Based on ozone data through 2016, ozone design values in South Dakota are within approximately 10% of each other throughout the state but the highest ozone concentrations are in the eastern edge of the state (Sioux Falls, Brookings, and UC #1, which represents Union County).

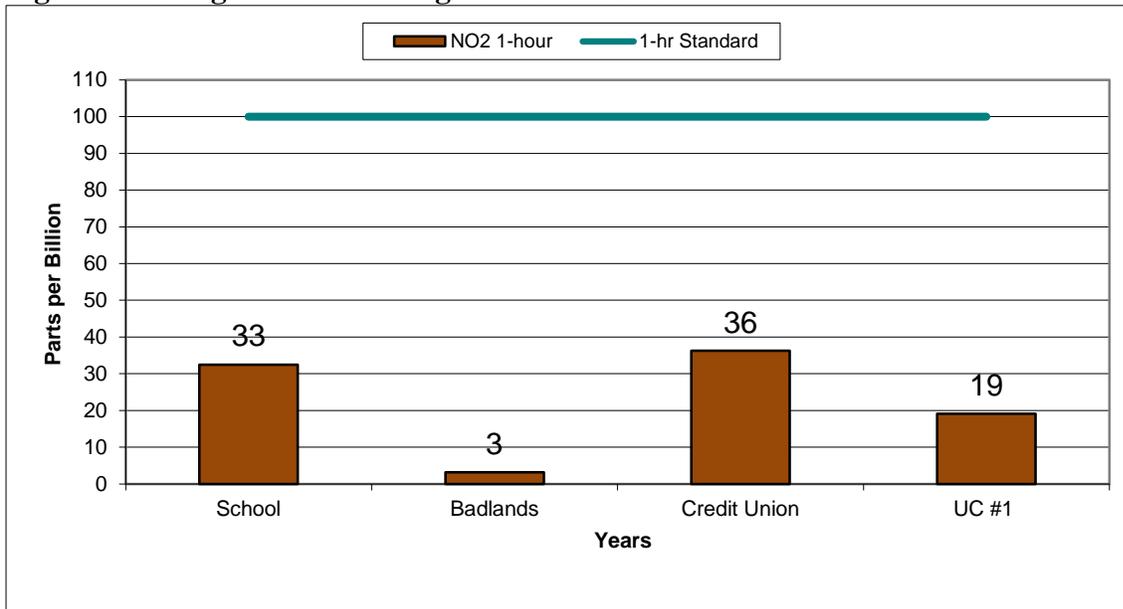
Modeling conducted by Western Regional Air Partnership (WRAP), an organization the Department is a member of, indicates that South Dakota contributes approximately 0.003 parts per million to its ozone concentration which represents approximately 5% of South Dakota's ozone levels. The remaining 95% is from natural sources and/or transported into South Dakota from other states and countries. Since nitrogen oxide is a precursor of ozone, reducing nitrogen oxide emissions throughout the state may help reduce the ozone concentrations.

### ***Nitrogen Dioxide Concentrations in South Dakota***

There were four ambient air monitoring sites operated in South Dakota that measured nitrogen dioxide concentrations in 2017. The sampling locations were in Sioux Falls, Rapid City (Credit Union), Badlands National Park, and Union County. Figure 4 was derived from the 2017 South Dakota Ambient Air Monitoring Annual Plan and represents nitrogen dioxide data for calendar year 2016.

The nitrogen dioxide design value is the 98<sup>th</sup> percentile averaged over three years for each monitoring site. The nitrogen dioxide design values in Figure 4 represent calendar year 2014, 2015, and 2016 and demonstrate each site is in compliance with the federal National Ambient Air Quality Standard for nitrogen dioxide.

**Figure 4: Nitrogen Dioxide Design Values in South Dakota**



Based on nitrogen dioxide data through 2016, the design values for nitrogen dioxide in South Dakota are less than 40% of the federal National Ambient Air Quality Standard. Even though the monitoring data shows compliance with the federal standard, nitrogen oxide is a precursor of nitrogen dioxide and reducing nitrogen oxide emissions throughout the state may help maintain nitrogen dioxide concentrations below the standard. This may be necessary in the future if EPA continues to lower the standard for nitrogen dioxide like it has for ozone.

### ***Summary of Monitoring Data***

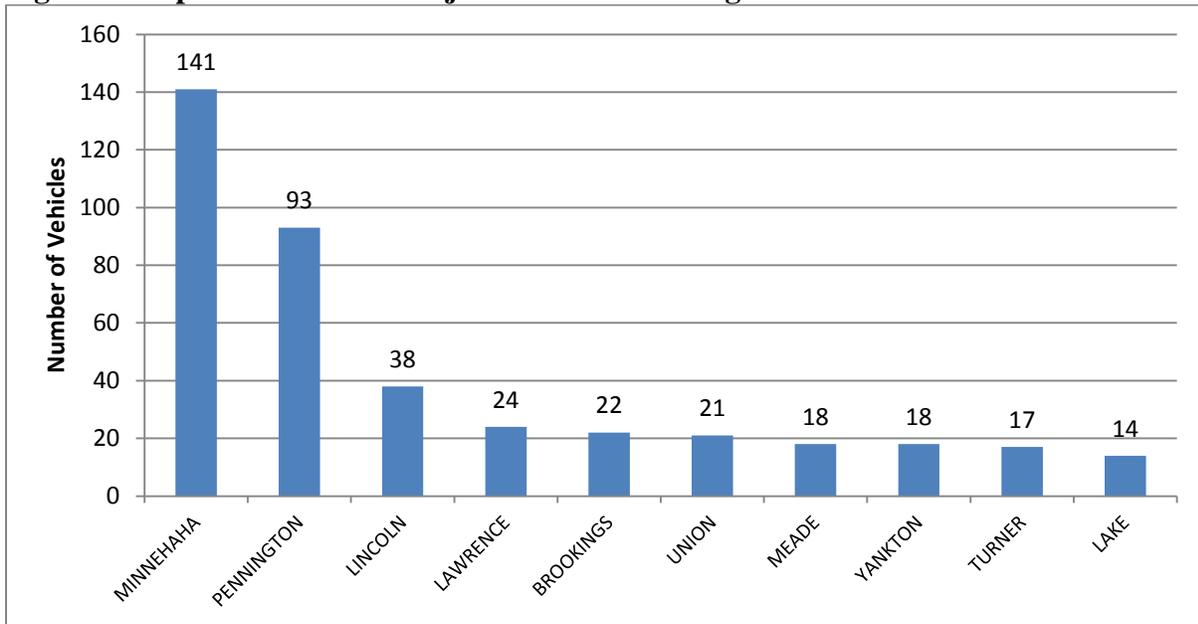
The Department’s monitoring data does not indicate that nitrogen oxide emissions in a specific city, county, or geographic area are causing exceedances of the federal national ambient air quality standards. Therefore, the Department considered other metrics to meet South Dakota’s goal with the Trust funds.

## Subject Volkswagen Diesel Vehicles Registered in South Dakota

The South Dakota Department of Revenue maintains data on the type and number of vehicles registered in South Dakota. Based on South Dakota's Department of Revenue data, there is a total of 575 diesel Volkswagen, Audi, and Porsche (VW) vehicles, model year 2009 through 2015, registered in South Dakota as of January 2018, that are subject to the Settlement. The total number of counties in South Dakota is 66, of which only 55 of those counties have registered VW vehicles subject to the Settlement. Figure 5 provides a graph displaying the top 10 counties with registered VW vehicles.

The largest percentage of VW vehicles is registered in Minnehaha County at 25% followed by Pennington County at 16%. The next eight counties in Figure 5 represent 30% of the VW vehicles registered in South Dakota. The remaining 45 counties having subject vehicles not identified in Figure 5 represent 29% of the registered VW vehicles and the range of registered vehicles declines from 12 to one per county.

**Figure 5: Top 10 Counties – Subject VW Vehicles Registered in South Dakota**



## Nitrogen Oxide Emissions in South Dakota

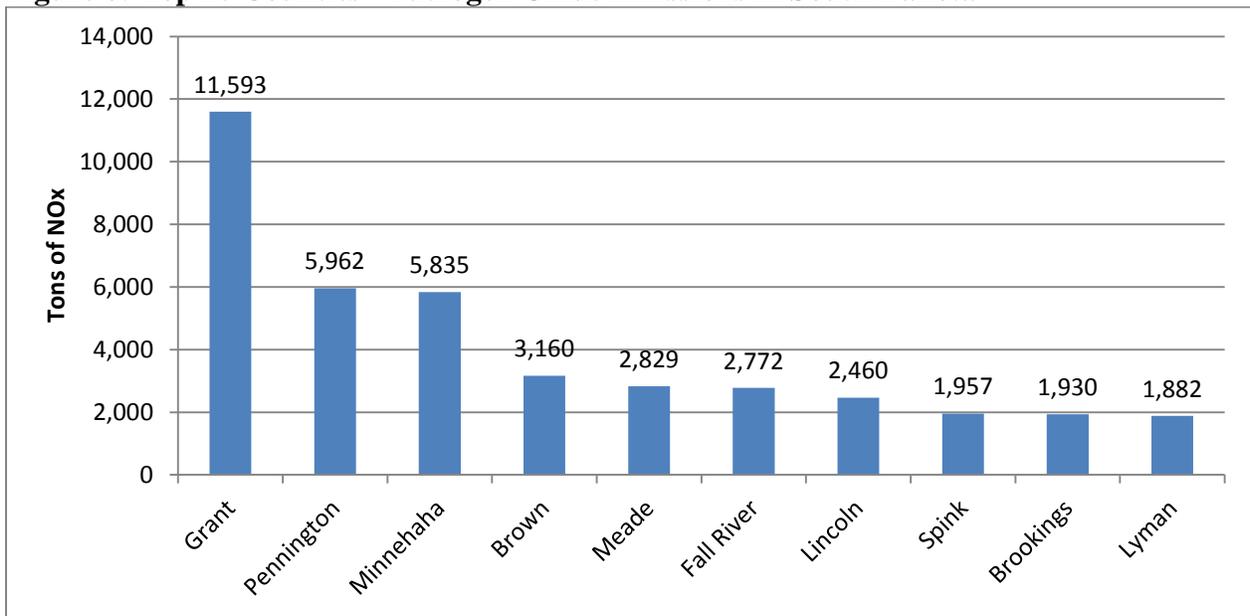
The EPA develops and maintains a National Emission Inventory, which is available on EPA's webpage at <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>. EPA's National Emission Inventory is a comprehensive and detailed estimate of air emissions for criteria air pollutants, criteria precursors, and hazardous air pollutants from stationary, mobile and natural air emissions sources. The National Emission Inventory is released every three years based primarily on data provided by state, local, and tribal air agencies for sources in their jurisdictions and supplemented by data developed by EPA. The National Emission Inventory includes emissions for different sectors such as point, nonpoint, on-road, non-road, and event

sources. The most current inventory is the 2014 National Emission Inventory which was released in December 2016.

### ***Nitrogen Oxide Emissions – County Distribution***

The Trust funds shall be used for environmental mitigation projects that reduce nitrogen oxide emissions. The 2014 National Emissions Inventory for South Dakota provided nitrogen oxide emissions by county which the Department used to determine which counties have the greatest nitrogen oxide emissions. Figure 6 lists the top 10 counties with the greatest nitrogen oxide emissions.

**Figure 6: Top 10 Counties – Nitrogen Oxide Emissions in South Dakota**



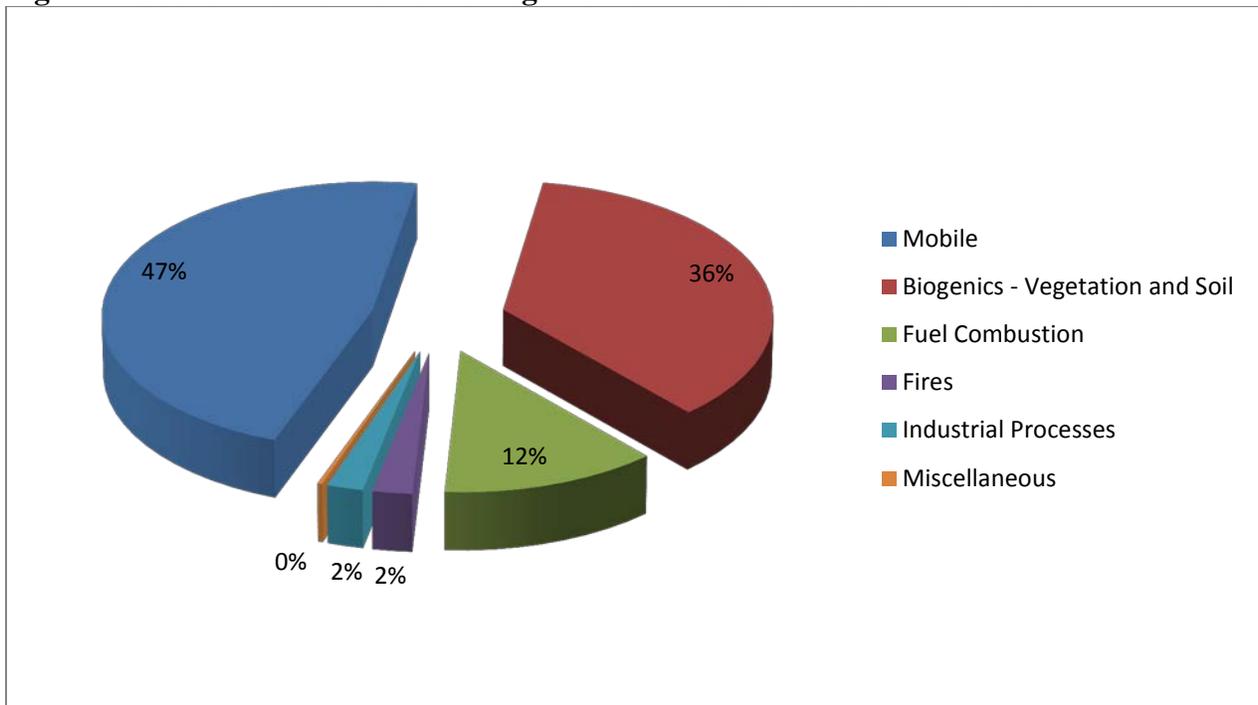
Grant County has the largest nitrogen oxide emissions with 11,593 tons in 2014. Approximately 91% or 10,507 tons of the nitrogen oxide emissions is from the Big Stone coal-fired power plant. Reducing nitrogen oxide emissions from a coal-fired power plant is not one of the Eligible Mitigation Actions. However, the owners of the Big Stone coal-fired power plant have already installed air pollution control equipment and reduced its nitrogen oxide emissions by approximately 90%.

Nitrogen oxide emissions from Pennington and Minnehaha counties represent the second and third largest contributors to nitrogen oxide emissions in South Dakota, respectively. Both counties represent approximately half of Grant County's nitrogen oxide emissions or just under 6,000 tons each in 2014. The fourth highest nitrogen oxide contributor is Brown County which represents approximately a quarter of Grant County's nitrogen oxide emissions or approximately 3,000 tons in 2014. The nitrogen oxide emissions from the 56 counties not displayed in Figure 2 ranges from 1,779 tons to 378 tons in 2014.

### ***Nitrogen Oxide Emissions – Sector Distribution***

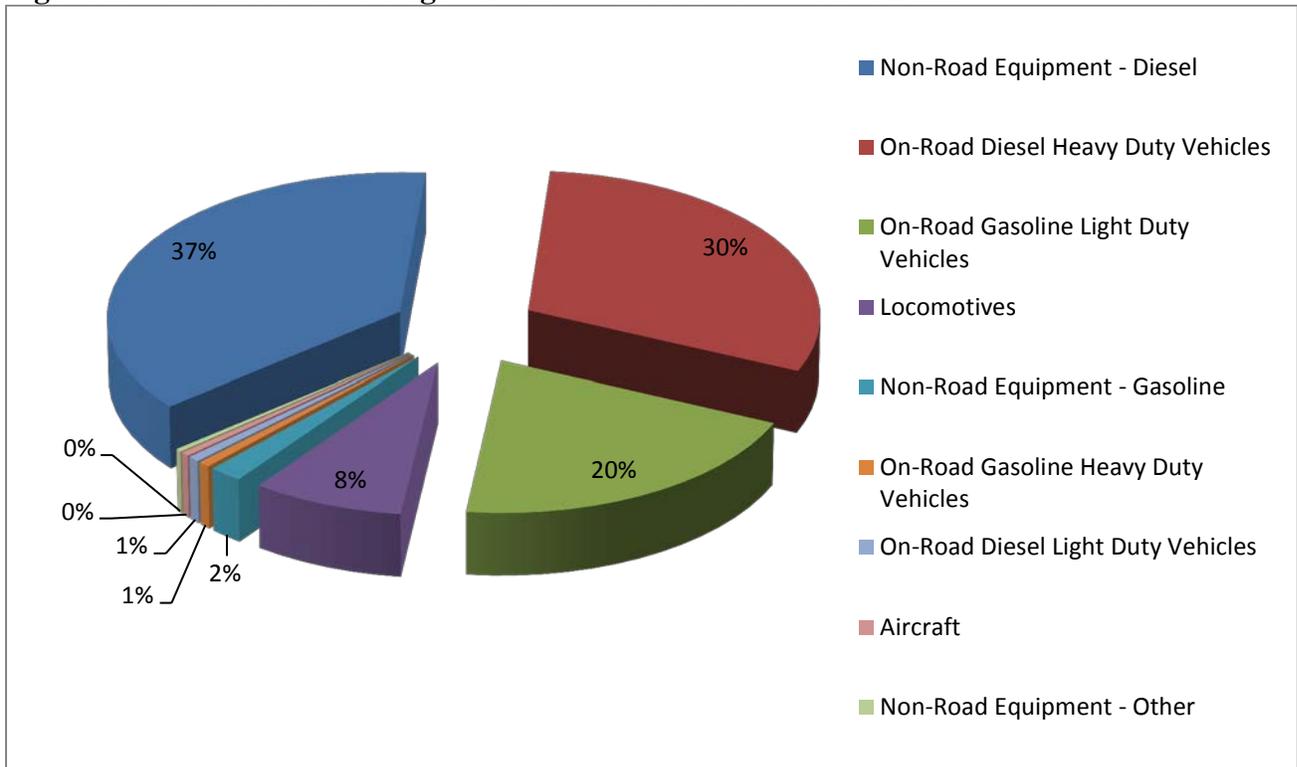
EPA’s 2014 National Emission Inventory for South Dakota divided the nitrogen oxide emissions throughout the state by sector or source of emissions such as mobile, biogenic, fuel combustion, fires, industrial process, and miscellaneous (see Figure 7). According to the 2014 National Emissions Inventory, the mobile sector represents 47% of South Dakota’s total nitrogen oxide emissions. The second highest sector of nitrogen oxide emissions in South Dakota is “Other” at 36%. The “Other” sector consists mainly of nitrogen oxide emissions from biogenic sources with less than 1% from bulk gasoline terminals and waste disposal. Therefore, the Department identified it in Figure 7 as “Biogenics” instead of “Other”. The remaining sectors represent 17% of the nitrogen oxide emissions in South Dakota and are made up of fuel combustion, fires, industrial processes, and miscellaneous activities.

**Figure 7: Source Distribution of Nitrogen Oxide Emissions in South Dakota**



The 2014 National Emission Inventory broke down each sector even further. For example, the mobile sector was subdivided into non-road equipment – diesel, on-road diesel heavy duty vehicles, on-road gasoline light duty vehicles, locomotives, non-road equipment – gasoline, on-road gasoline heavy duty, on-road diesel light duty vehicles, aircraft, and non-road equipment – other (see Figure 8). Non-road equipment that burns diesel emitted the greatest amount of nitrogen oxide from the mobile sector at 37% followed closely by on-road heavy duty diesel vehicles at 30%. On-road gasoline light duty vehicles were next at 20% of the nitrogen oxide emissions from the mobile sector, but are not considered one of the Eligible Mitigation Actions and will not be discussed further. The remaining nitrogen oxide emissions from the mobile sector represent 13% and are made up mostly of nitrogen oxide emissions from locomotives at 8%.

**Figure 8: Distribution of Nitrogen Oxide Emissions from Mobile Sector**



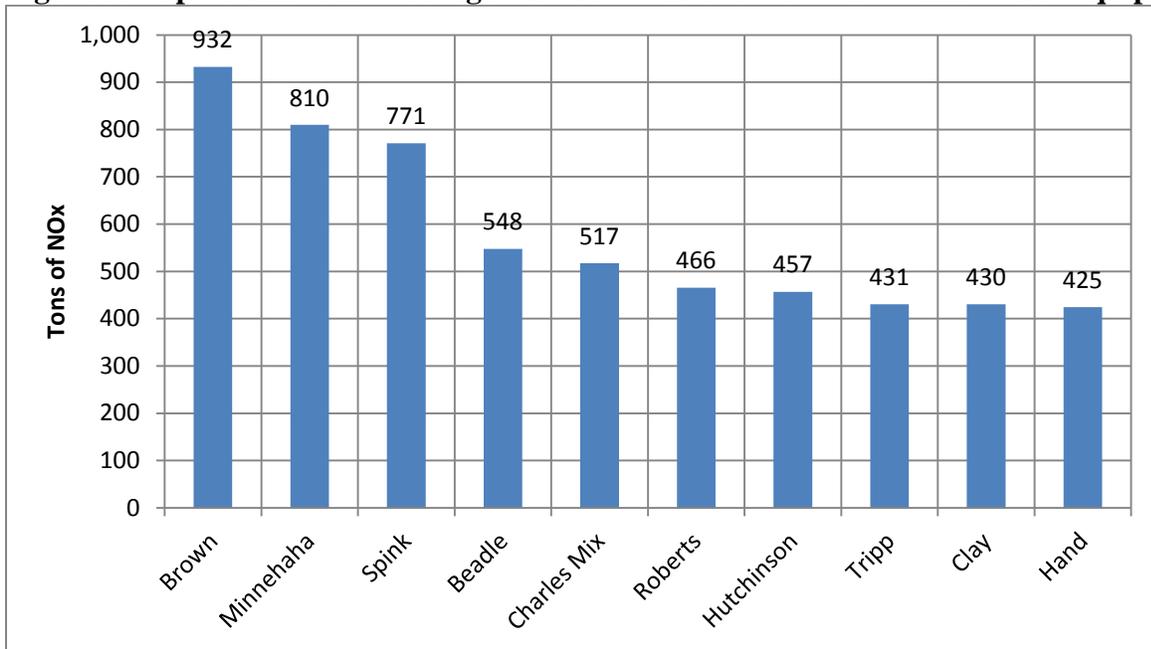
***Nitrogen Oxide Emissions – Non-Road Diesel Equipment Distribution***

As stated previously, non-road diesel equipment represents 37% of the nitrogen oxide emissions from the mobile sector in the 2014 National Emission Inventory. The 2014 National Emission Inventory provides nitrogen oxide emissions from non-road diesel equipment by county. Figure 5 displays nitrogen oxide emissions from non-road diesel equipment for the top 10 counties in South Dakota.

Brown County represents the largest nitrogen oxide emissions from non-road diesel equipment under the mobile source sector at 932 tons. Minnehaha and Spink counties follow next at 810 and 771 tons of nitrogen oxide emissions, respectively. After that the next seven counties drop from 548 to 425 tons of nitrogen oxide emissions. The remaining 56 counties not displayed in Figure 9 drops from 408 to 42 tons of nitrogen oxide emissions from non-road diesel equipment.

Non-road diesel equipment includes construction equipment, lawn and garden equipment, aircraft ground support equipment, etc. Although not listed in EPA’s website, the Department assumes farming equipment is included in non-road equipment. Category 4, 5, 7, and 8 of the Eligible Mitigation Actions represent non-road diesel equipment.

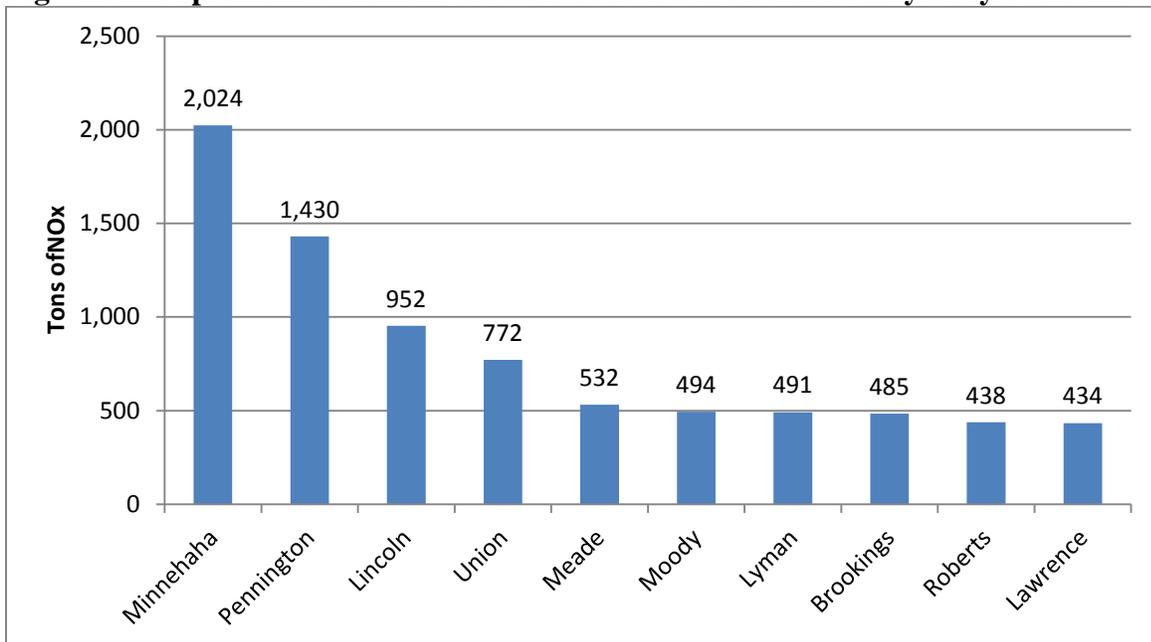
**Figure 9: Top 10 Counties – Nitrogen Oxide Emissions from Non-Road Diesel Equipment**



***Nitrogen Oxide Emissions – On-Road Heavy Duty Diesel Vehicle Distribution***

On-road heavy duty diesel vehicles represent 30% of nitrogen oxide emissions from the mobile sector in the 2014 National Emission Inventory. The 2014 National Emission Inventory also provided nitrogen oxide emissions from on-road heavy duty diesel vehicles by county. Figure 10 displays the top 10 counties that emit the largest amount of nitrogen oxide from on-road heavy duty diesel vehicles.

**Figure 10: Top 10 Counties – NOx Emissions from On-Road Heavy Duty Diesel Vehicles**

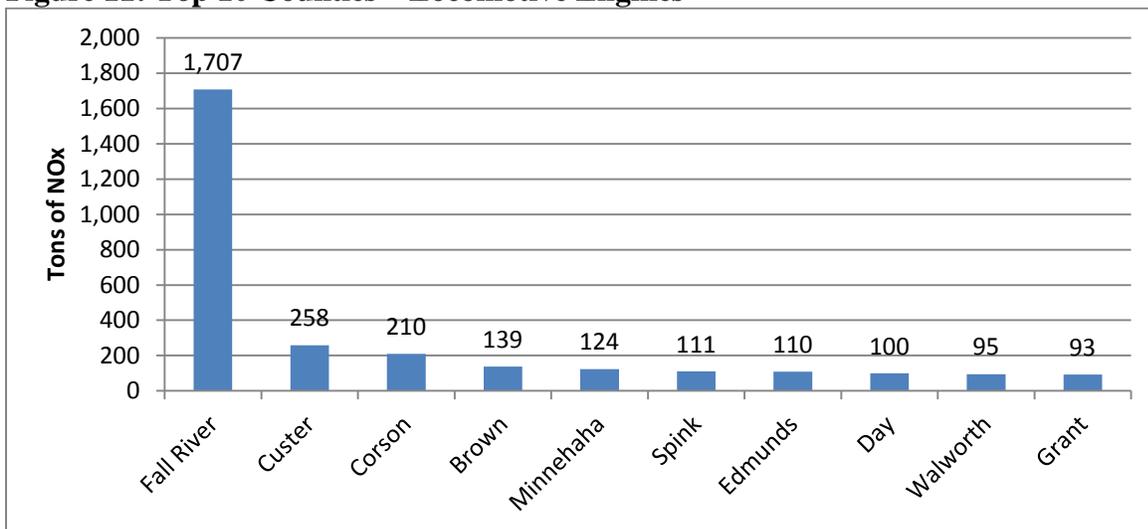


Minnehaha and Pennington counties, as expected, emit the greatest amount of nitrogen oxide because these are the two areas with the greatest population and mobile source activity. Lincoln County is in third with 952 tons of nitrogen oxide emissions followed by Union County with 772 tons. After that the nitrogen oxide emissions drop from 532 tons (Meade County) to 434 tons (Lawrence County) to round off the top ten counties. The remaining 56 counties not displayed in Figure 6 drop from 415 tons to 22 tons of nitrogen oxide emissions from on-road heavy duty diesel vehicles. Categories 1, 2, and 10 represent Eligible Mitigation Actions for on-road heavy duty diesel vehicles.

***Nitrogen Oxide Emissions – Locomotive Engine Distribution***

Locomotive engines represent 8% of South Dakota’s nitrogen oxide emissions from the mobile sector in the 2014 National Emission Inventory. The 2014 National Emission Inventory provided nitrogen oxide emissions from locomotive engines by county. Figure 11 displays the top 10 counties that emit the greatest amount of nitrogen oxide from locomotive engines. Fall River County emits by far the greatest amount of nitrogen oxide from locomotive engines at 1,707 tons. After that it drops from 258 tons (Custer County) to 93 tons (Grant County) of nitrogen oxide emissions for the top 10 counties. Category 3 of the Eligible Mitigation Actions addresses freight switchers.

**Figure 11: Top 10 Counties – Locomotive Engines**



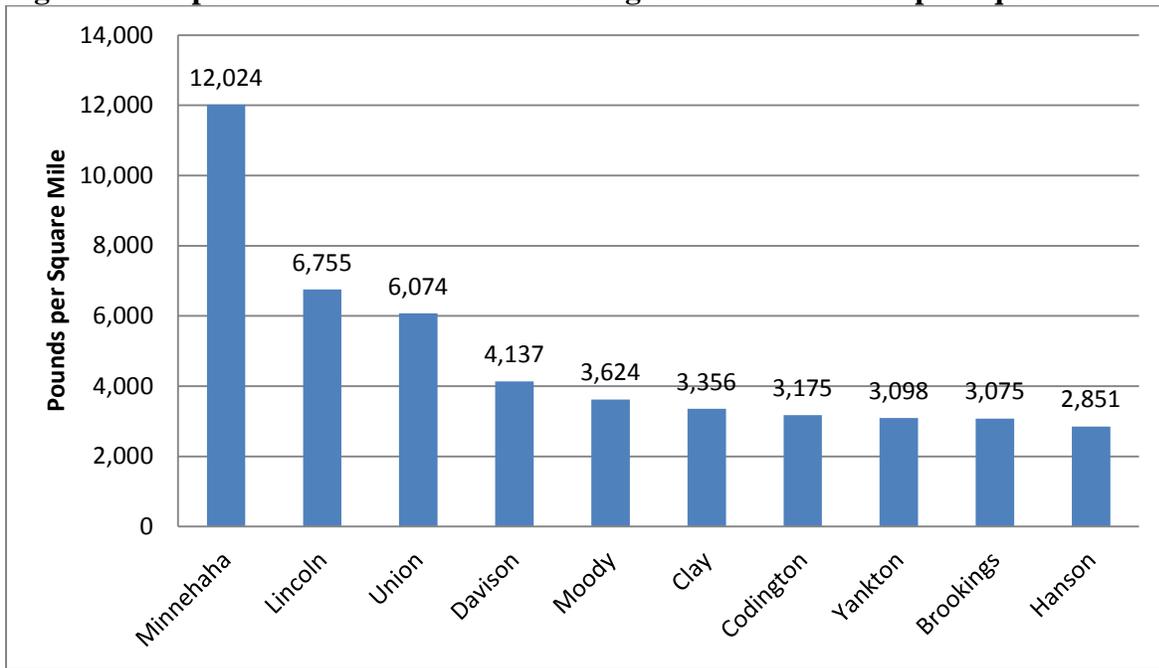
***Nitrogen Oxide Emissions – Area and Population***

The U.S. Census Bureau maintains data on the population and land area within the state, which may be found on their webpage at <https://www.census.gov/quickfacts/fact/table/US/PST045217>. The U.S. Census Bureau compiles the population and land area data on a county wide basis. The Department combined the data from EPA’s 2014 National Emission Inventory for nitrogen oxide with the data from the U.S. Census Bureau for each county to identify areas that could be considered for mitigation strategies. By using the emissions inventory data and converting it from tons to pounds by county and dividing by the land area (square miles) in the county, the

Department is able to generate a metric of pounds of nitrogen oxide emissions per square mile per county.

Figure 12 displays the top 10 counties that have the highest pounds of nitrogen oxide emissions per square mile. Existing infrastructure may disproportionately impact these counties. For example, Interstate 29 either runs through or near most of the 10 counties noted in Figure 12.

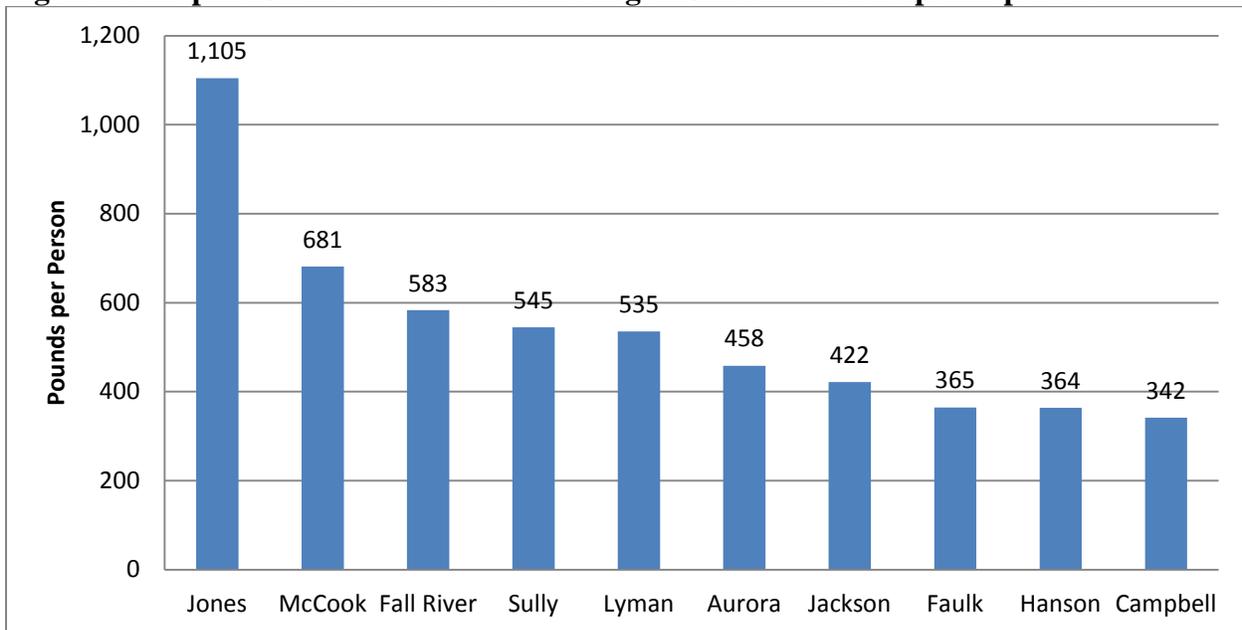
**Figure 12: Top 10 Counties – Pounds of Nitrogen Oxide Emissions per Square Mile**



By using the emissions inventory data (pounds) by county and dividing by the population (number of persons) of the county, the Department is able to generate a metric of pounds of nitrogen oxide emissions per person. In developing this metric, the Department used the 2014 estimated population from the U.S. Census Bureau data to correlate with EPA's 2014 National Emission Inventory.

Figure 13 displays the top 10 counties that have the highest pounds of nitrogen oxide emissions per person. Existing infrastructure in these counties may be more prone to use diesel fuel than other energy sources. Most of the 10 counties in Figure 13 have some of the lowest populations in South Dakota.

**Figure 13: Top 10 Counties – Pounds of Nitrogen Oxide Emissions per Population**



### **Funding Allocations for Eligible Mitigation Actions**

The categories of Eligible Mitigation Actions that will be appropriate to achieving South Dakota’s overall goal are largely dependent on the availability of the category. Based on an initial assessment of the 10 categories of Eligible Mitigation Actions, three of them are not applicable to South Dakota (Category 4 (ferries and tugs), 5 (ocean going vessels shorepower), and 8 (forklift and port cargo handling equipment)).

#### **Category 1 and 6 – Large and Medium Trucks**

On-road heavy duty diesel vehicles emitted 14,827 tons or 30% of all mobile sector nitrogen oxide in South Dakota during 2014. For example, replacing older heavy duty highway diesel vehicles with newer vehicles may provide up to a 96% reduction in nitrogen oxide emissions per vehicle based on replacing a model year 1992 engine with a model year 2007 engine or newer. Investing Trust funds to replace large and medium local freight trucks with new diesel, alternate fueled, or all-electric engines is a cost-effective method to reduce nitrogen oxide emissions and improve South Dakota’s air quality.

The Department has already received input from the public and other state agencies interested in using Trust funds for these two categories. The Department proposes to budget approximately 50% of the Trust funds to replace and scrap 1992-2009 model year Class 8 Local Freight Trucks (Heavy-Duty) and Class 4-7 Local Freight Trucks (Medium-Duty). This percentage may change depending on the number and types of requests the Department receives each year.

## **Category 2 – School, Shuttle, and Transit Buses**

Category 2, Class 4-8 school bus, shuttle bus or transit bus, also contributes to nitrogen oxide emissions under the on-road diesel vehicles discussed above. However, they are also eligible options under Category 10, Diesel Emission Reduction Act (DERA) option. The Clean Diesel Grant Program in South Dakota, which is derived from DERA, has helped public schools throughout the state replace older buses and reduce not only nitrogen oxide emission but other air emissions that may impact school children.

The Department has already received recommendations from the public to provide Trust funds available for this category. Therefore, the Department proposes to fund Category 2 vehicles using Category 10 but if the response for projects is extensive in a particular year, the Department may provide funding for Category 2 vehicles at approximately 10% of the Trust funds. This percentage may change depending on the number and types of requests the Department receives each year.

## **Category 3 and 7 – Freight Switches and Airport Equipment**

Category 3 and 7, freight switchers and airport ground support equipment, respectively, are non-road equipment that contributes to nitrogen oxide emission in South Dakota. The Department has received a request for using funds for airport ground support equipment. The Department is not proposing to use funds on these two categories but will reconsider based on public input and the impact it will have on helping the Department meet South Dakota's goal in this Plan.

## **Category 9 – Light Duty Zero Emission Vehicle Supply Equipment**

Category 9, light duty zero emission vehicle supply equipment, does not appear to be cost effective in reducing nitrogen oxide emissions in South Dakota because of the lack of electric vehicles. However, the Department has already received a request from the public that this category should be considered. Therefore, the Department may fund this category at approximately 5%. This percentage may change depending on the number and types of requests the Department receives each year.

## **Category 10 – The Diesel Emission Reduction Act (DERA) Option**

The Department's Clean Diesel Grant Program, funded under the federal DERA program was established to reduce emissions from South Dakota's fleet of diesel-powered equipment. With the Department's Clean Diesel Grant Program, South Dakota has provided DERA funding to public schools in South Dakota in order to effectively and permanently reduce nitrogen oxide and particulate matter 2.5 micrometers and smaller in diameter (PM<sub>2.5</sub>) emissions. Historically, the program has worked with school district fleets across the state to perform diesel retrofit projects and support the early retirement of fleet vehicles. The program maximizes public health benefits since children are especially vulnerable to the effects of diesel exhaust. Their lungs are not yet fully developed, and they breathe twice as much air as adults per pound of body weight. Some children can spend an average of an hour per day on diesel powered buses, inhaling the

mixture of pollutants. Diesel fuel contains 40 chemicals listed as hazardous air pollutants under the federal Clean Air Act. And, you don't have to ride the bus to breathe in these fumes. The air quality in and around schools is compromised by idling buses during morning and afternoon drop off and pick up, exposing not only students, but parents, teachers, administrators and bus drivers to unhealthy diesel emissions. Bus stops are areas of the state that bear a disproportionate share of the impact of nitrogen oxide emissions, since diesel engine emissions are concentrated at a small area with many people. Information about the Department's Clean Diesel Grant Program is available at <http://denr.sd.gov/des/aq/aadera.aspx>.

There have been several requests from the public for using some of the Trust funds for this purpose. Therefore, the Department is proposing to use Trust funds to meet the State's Clean Diesel Grant Program's non-federal voluntary match. In meeting the voluntary match equal to the base allocation offered by the EPA, the EPA will provide a matching incentive equal to 50 percent of the base allocation. Based on federal fiscal year 2017 DERA award, it is expected that South Dakota will use approximately 25% to meet the non-federal voluntary match.

The program is cost effective. For federal fiscal year 2017, EPA awarded South Dakota with a base allocation of \$223,801. By providing the \$223,801 non-federal voluntary match with Trust funds, South Dakota will receive a 50 percent bonus of \$111,901 to spend on qualifying DERA projects that it otherwise would not receive. The recipients purchase the bus and receive a rebate per replacement bus of up to 25% of the purchase price of a 2017 engine model year or newer engine certified to EPA emission standards, 35% of the purchase price of a 2017 engine model year or newer engine certified to meet CARB's Low-NOx standards, or 45% of the purchase price of an all-electric bus. The recipient incurs the mandatory cost share of 75%, 65% or 55%, respectively.

The Clean Diesel Grant Program can also be used to help replace other public transit systems. Therefore, the Department may consider options other than public school buses in the future for emissions reduction projects under the Clean Diesel Grant Program.

### Trust Funding Options

Table 1 lists the ten categories listed as Eligible Mitigation Actions and the anticipated percentages proposed for those categories to achieve the stated plan goals.

**Table 1: Eligible Mitigation Actions and Anticipated Funding**

Category	Eligible Mitigation Action	Funding
1/6	Class 8 (large) and 4-7 (medium) eligible local freight trucks	50%
2	Class 4-8 eligible school bus, shuttle bus, or transit bus	10%
3	Freight switchers	0%
4	Ferries and tugs	0%
5	Ocean going vessels shorepower	0%
7	Airport ground support equipment	0%
8	Forklifts and port cargo handling equipment	0%
9	Light duty zero emission vehicle supply equipment	5%
10	Diesel Emission Reduction Act (DERA) option	25%
<b>Total</b>		<b>90%</b>

The funding percentage in Table 1 equal 90%. As discussed below in the “Administrative Expenses” section, the Department is proposing to use 10% to cover administrative expenses. The Department will need to adjust each funding percentage in Table 1 depending on the number of projects submitted under each category and the administrative expenditures associated with administrating the Trust funds each year.

Final project selection criteria have not been determined at this time, but they will reflect the program’s goal and objectives outlined in this Beneficiary Mitigation Plan. The proposed funding priorities may include, but are not limited to:

1. Projects scaled to achieve the greatest nitrogen oxide emission reduction and cost-effectiveness of the project;
2. Projects in areas that receive a disproportionate quantity of air pollution from diesel fleets;
3. Projects with verified funding (e.g., for projects that require a cost-share) or leveraged funding; and
4. Projects that can be implemented within eighteen months of the award date.

It is important to note that the above list consists of preferential funding criteria and should not be considered as eligibility criteria. Funding priorities are subject to change based on public input, new or supplemental air quality or other data, and other applicable factors.

## **Anticipated Benefits from Eligible Actions**

The Department expects the benefits from funding these eligible actions include, but are not limited to:

1. Heavy duty highway vehicles may provide up to a 96% reduction in nitrogen oxide emissions per vehicle, based on replacing a model year 1992 engine with a model year 2007 engine;
2. Tons of pollution reduced over the lifetime of the vehicles, specifically nitrogen oxide;
3. Improved ambient air quality in communities located in areas that bear a disproportionate share of the air pollution burden; and
4. Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

The Department is being general in stating the anticipated benefits because it is difficult to provide quantitative benefits until after the actual projects are selected.

## **Administrative Expenditures**

The Department may use Trust funds for the following administrative expenditures, but not to exceed 15% of the Trust funds:

1. Personnel including costs of employee salaries and wages, but not consultants;
2. Fringe benefits including costs of employee fringe benefits such as health insurance, FICA, retirement, life insurance, and payroll taxes;
3. Travel including costs of Eligible Mitigation Action-related travel by program staff, but does not include consultant travel;
4. Supplies including tangible property purchased in support of the Mitigation Action that will be expensed on the Statement of Activities, such as educational publications, office supplies, etc. Identify general categories of supplies and their Mitigation Action costs;
5. Contractual including all contracted services and goods except for those charged under other categories such as supplies, construction, etc. Contracts for evaluation and consulting services and contracts with sub-recipient organizations are included;
6. Construction including costs associated with ordinary or normal rearrangement and alteration of facilities; and
7. Other costs including insurance, professional services, occupancy and equipment leases, printing and publication, training, indirect costs, and accounting.

The 15% cap includes the aggregated amount of eligible administrative expenditures incurred by the Department and any third-party contractor(s). The Department is proposing to use approximately 10% of the Trust funds for administrative expenditures. This percentage may change depending on the workload the Department actually experiences each year.

## **Public Input Process**

This section describes the public input process that the Department will implement to provide information on the development of this Beneficiary Mitigation Plan, as well as the public input process to be employed when revising this Beneficiary Mitigation Plan. The Department developed a website at <http://denr.sd.gov/des/aq/aaVW.aspx> where information regarding funding requests will be made publicly available. Additionally, SDCL 1-27, PUBLIC RECORDS AND FILES, makes public records available that are not exempt, open for inspection by all citizens of South Dakota and other interested persons.

The Department launched its VW website on September 13, 2017, as a clearinghouse for information related to the VW Partial Consent Decrees and soliciting informal input on what Eligible Mitigation Actions should be funded in the Beneficiary Mitigation Plan that best meets the needs of South Dakota. The Department will continue to use the VW website for future revisions to the Beneficiary Mitigation Plan. The Department is seeking public input on the draft Beneficiary Mitigation Plan through the following public participation process:

1. The Department's VW website will be used to provide the public with an opportunity to review and comment on the draft Beneficiary Mitigation Plan. Submitted comments will be available on the website for review. The opportunity for public comment will be identified on the VW website and provide the public with a 30-day public comment period for the current draft Plan and any future Plan revisions;

2. Face-to-face public meetings will be scheduled to provide additional opportunities for public input in Sioux Falls and Rapid City for the current draft Plan. The Department is not currently proposing any face-to-face public meetings for any future Plan revisions;
3. The Department will consider all comments received, review any new or revised requirements the Trustee develops, and make any relevant revisions to the current draft Beneficiary Mitigation Plan or any future Plan revisions;
4. A public hearing will be held by the Board of Minerals and Environment to revise and/or adopt the Beneficiary Mitigation Plan and any future revised Plan; and
5. The final Beneficiary Mitigation Plan and any future revised Plan will be posted on the Department's VW website and submitted to the Trustee.

The Department will periodically evaluate implementation of the Beneficiary Mitigation Plan after each year of funding and will determine whether any revisions to the Beneficiary Mitigation Plan and funding levels for each of the Eligible Mitigation Actions are appropriate or necessary. If future revisions to the Beneficiary Mitigation Plan are necessary, the Department will seek public input on the revisions consistent with the process outlined above.