



**Beneficiary Mitigation Plan  
Volkswagen, Audi, and Porsche  
Clean Air Act Settlements  
Revised: September 18, 2019**

**I. Introduction**

Volkswagen Group of America and certain related entities (collectively Volkswagen or VW) have admitted that they violated the federal Clean Air Act from 2009 to 2016 by selling 580,000 vehicles with 2.0 liter and 3.0 liter diesel engines that emit more air pollution than the Clean Air Act allows and by cheating on federal emission tests to hide the excess pollution. Volkswagen partially settled its civil liability for these violations of the Clean Air Act by entering two judicial consent decrees. Judicial settlements approved on October 25, 2016<sup>1</sup> and May 17, 2017<sup>2</sup> require Volkswagen to pay more than \$2.9 billion into an environmental mitigation trust fund (henceforth “the trust”), which will be administered by an independent trustee.<sup>3</sup> States and tribes that elect to become beneficiaries of the trust may receive funds over a period of 3-10 years to offset the excess nitrogen oxide (NOx) pollution emitted by affected Volkswagen and Audi vehicles. In addition, the consent decrees require Volkswagen to repair, buy back, or pay for the early termination of leases of affected vehicles and to make a \$2.0 billion National Zero Emission Vehicle (ZEV) Investment. Volkswagen and some of its employees also face civil and criminal liability under a variety of consumer protection, financial, and other laws.

The State Mitigation Trust Agreement (State Trust Agreement) was filed with the Court on October 2, 2017, thereby establishing October 2, 2017 as the Effective Date for the Trust.<sup>4</sup> In accordance with Subparagraph 4.0.2 of the State Trust Agreement, Colorado was provided with the Notice of Beneficiary Designation which was filed with the Court on January 29, 2018<sup>5</sup>, officially designating Colorado as a beneficiary of the Volkswagen Diesel Emissions Environmental Mitigation Trust. As a designated beneficiary of the trust, Colorado’s initial allocation is a combined \$68.7 million for the 2.0L and 3.0L vehicles. The Colorado Department of Public Health and Environment (CDPHE) has been designated as the state’s lead agency to oversee the administration of the trust. Colorado, no later

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<sup>1</sup> Order Granting the United States’ Motion to Enter Proposed Consent Decree, *In re: Volkswagen “Clean Diesel” Marketing, Sales Practices, and Products Liability Litigation*, Case No. 3:15-md-02672 (N.D. Cal., Oct. 25, 2016), available at [www.cand.uscourts.gov/crb/vwmdl](http://www.cand.uscourts.gov/crb/vwmdl) (the “October 2016 Consent Decree”).

<sup>2</sup> The “May 2017 Consent Decree,” available at [www.cand.uscourts.gov/crb/vwmdl](http://www.cand.uscourts.gov/crb/vwmdl).

<sup>3</sup> On March 15, 2017, the court appointed Wilmington Trust, N.A. as trustee of the environmental mitigation trust.

<sup>4</sup> Available at [www.vwenvironmentalmitigationtrust.com](http://www.vwenvironmentalmitigationtrust.com).

<sup>5</sup> Available at [www.vwenvironmentalmitigationtrust.com](http://www.vwenvironmentalmitigationtrust.com).

than 30 Days prior to submitting its first funding request pursuant to Paragraph 5.2, shall submit and make publicly available its Beneficiary Mitigation Plan.

Pursuant to Appendix D, paragraph 4.1, of the October 2017 State Trust Agreement, the State of Colorado must submit a Beneficiary Mitigation Plan summarizing how Colorado plans to use the mitigation funds. The BMP is intended to provide the public with insight into the State's high-level vision for use of the mitigation funds and information about the specific mitigation actions for which funding is expected to be requested. The BMP is designed to "provide the level of detail reasonably ascertainable at the time of submission." The trust allows Colorado to revise its Beneficiary Mitigation Plan.

This is an update to the original state of Colorado BMP filed March 21<sup>st</sup>, 2018. Changes to the programs and funding are a result of directions from Governor Jared Polis' executive order B 2019 002, Supporting a Transition to Zero Emission Vehicles, signed January 17<sup>th</sup>, 2019. This executive order directs CDPHE to, "focus all remaining eligible investments on supporting electrification of transportation, including transit buses, school buses, and trucks." Additional changes to the BMP are based on lessons learned during the first year of implementing the trust. This includes relative funding demands amongst programs, streamlining administrative processes, and updated information on currently available and anticipated technology.

The settlement specifies certain categories of mitigation actions that are eligible to receive funding from the trust. The parties to the State Trust Agreement have determined that each of these eligible mitigation actions achieve sufficient NOx reductions to fulfill the purposes of the trust. Colorado is therefore free to fund any of the eligible mitigation actions in any proportion, except that no more than 15% of the funds may be used for light duty zero emission vehicle supply equipment including any related administrative costs. When selecting eligible projects for funding, CDPHE and its partner agencies will consider all the benefits of a proposed project, including NOx emission reductions, reductions of other pollutants and improved safety, among other benefits. Particular consideration will be given to projects that are transformational in nature and would have been unable to be realized without the funding. The categories of eligible mitigation actions that Colorado deems appropriate to achieve the goals of the trust include:

- Class 8 local freight trucks with a GVWR greater than 33,000 pounds
- Class 4-7 local freight trucks with a GVWR between 14,001 and 33,000 pounds
- Class 4-8 school buses, shuttle buses, or transit buses with a GVWR greater than 14,001 pounds
- Airport ground support equipment
- Light duty zero emission vehicle supply equipment
- Matching funds for projects eligible under the Diesel Emission Reduction Act (the "DERA option")
- Railroad freight switchers
- Forklifts with a lift capacity greater than 8,000 pounds

## II. Public Outreach

### a. Public Outreach

The Colorado Department of Public Health and Environment (CDPHE) has coordinated with the Colorado Department of Transportation, Colorado Energy Office, Regional Air Quality Council, and other

agencies for public outreach regarding the Mitigation Trust Fund, and will continue to do so. During the fall of 2016, CDPHE and partner agencies started conducting outreach to potential beneficiaries, government officials, transportation organizations, and the public.

Information on the settlement has been available online on CDPHE's Volkswagen webpage, <https://www.colorado.gov/cdphe/VW> since approximately August 2016. The site allows the public to see up-to-date information regarding the settlement and to submit comments. CDPHE also created an email listserv for the VW settlement.

CDPHE solicited comments and ideas on all aspects of Colorado's implementation of the settlement. A Request for Comment was published on September 30, 2016. A solicitation email was sent to stakeholders statewide and was available on CDPHE's Volkswagen Settlement webpage.

CDPHE hosted a public stakeholder meeting on November 7, 2016 in Denver, Colorado. The meeting was announced online, by email to the listserv, and in various public meetings.

CDPHE and its partner agencies met with interested entities and individual stakeholders upon request. These agencies gave approximately 15 public presentations about the VW settlement at numerous events. These agencies described the settlement and the state's anticipated process for implementing the trust at meetings of the General Assembly's Joint Budget Committee, the Statewide Transportation Advisory Committee (STAC), the Freight Advisory Council, the RAQC board, Denver Regional Council of Governments, North Front Range Metropolitan Planning Organization and the Pikes Peak Area Council of Governments, among others.

On August 28, 2017 CDPHE and its partner agencies solicited public input on the proposed Beneficiary Mitigation Plan. The proposed BMP was posted on CDPHE's VW website, <https://www.colorado.gov/cdphe/VW>. Notice of the opportunity for public comment was sent via email to CDPHE's listserv. CDPHE also shared the information through various public and industry outreach methods.

CDPHE held a public comment meeting regarding the proposed BMP on September 18, 2017 at the CDOT headquarters building, 4201 East Arkansas Avenue, Denver, CO 80222. Comments were accepted during the public meeting and in writing until October 13, 2017. Presentations were given to several air quality and transportation planning organizations, such as the North Front Range Metropolitan Planning Organization and the Pikes Peak Area Council of Governments, at their regularly scheduled meetings.

Oral comments were recorded during the public meeting. All oral and written comments are posted on CDPHE's VW website along with a summary of the comments received.

**b. Public Availability of Trust Documents**

Colorado will implement the trust transparently. Colorado will account for trust expenditures and conduct audits as necessary to ensure compliance with applicable requirements. Colorado will provide appropriate reports to the trustee and the public. Documentation of trust expenses will be made available to the public in accordance with the Colorado Open Records Act (CORA) and trust requirements. Documents submitted by fleet owners and project applicants in support of funding requests and all records supporting expenditures of Eligible Mitigation Action funds will likewise be

made publicly available, subject to applicable laws governing the publication of confidential business information and personally identifiable information.

### III. Impacts of Volkswagen's Emission Cheating

#### a. Scope of the Excess Emissions

Volkswagen and certain affiliated companies sold approximately 580,000 diesel vehicles in the United States with software that recognized federal emission test protocols and operated the engine in ways that reduced emissions and overall performance while the vehicles were being tested. This allowed the vehicles to pass federal emission tests. The engines produced more power and performed better during normal driving (when the vehicles were not being tested), but the vehicles' NOx emissions far exceeded the legal limit. The affected diesel vehicles include certain 2.0 and 3.0 liter variants of the 2009-2016 model year Volkswagen Jetta, Touareg, Golf, Passat and Beetle, Audi A3, A6 Quattro, A7, A8L, Q5 and Q7, and Porsche Cayenne.

Although vehicles emit a variety of pollutants into the atmosphere, the primary effect of the illegal software was to alter the operation of emissions control components that regulate the amount of NOx the vehicles emit. The Environmental Protection Agency (EPA) reported that NOx emission levels from the 2.0 liter vehicles are 10 - 40 times higher than emission standards, and NOx emissions levels from the 3.0 liter vehicles are up to nine times higher than the emission standards.<sup>6</sup>

#### b. Location of the Excess Emissions

There were approximately 11,140 affected vehicles registered in Colorado at the time the cheating was discovered, out of approximately 3.4 million total vehicles in the state. The distribution of the affected vehicles was:

- 53% - Denver Metro Area (Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson Counties)
- 13% - Pikes Peak region (El Paso County)
- 12% - North Front Range (Larimer, Weld Counties)
- 22% - distributed among the remaining counties statewide

Figures 1 and 2 display the vehicle distribution geocoded by registration address for both 2.0 and 3.0 liter vehicles.

Data compiled by the U.S. Department of Energy conclude that 68.4% of the vehicle miles traveled in Colorado occur on urban roads, versus 31.6% traveled on rural roads.<sup>7</sup> This, in conjunction with the registration data for the affected vehicles, indicates that the preponderance of excess NOx emissions originated in the urban corridors within the Denver Metro/North Front Range ozone nonattainment area and the Pikes Peak region.

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<sup>6</sup> United States Environmental Protection Agency, *Frequent Questions about Volkswagen Violations* (January 12, 2017), <https://www.epa.gov/vw/frequent-questions-about-volkswagen-violations>.

<sup>7</sup> United States Department of Energy, Office of Energy Efficiency & Renewable Energy, *Fact #902: December 7, 2015 Rural versus Urban Vehicles Miles Traveled by State*, <https://energy.gov/eere/vehicles/fact-902-december-7-2015-rural-versus-urban-vehicle-miles-travel-state>.

### Volkswagen 2.0 Liter Distribution

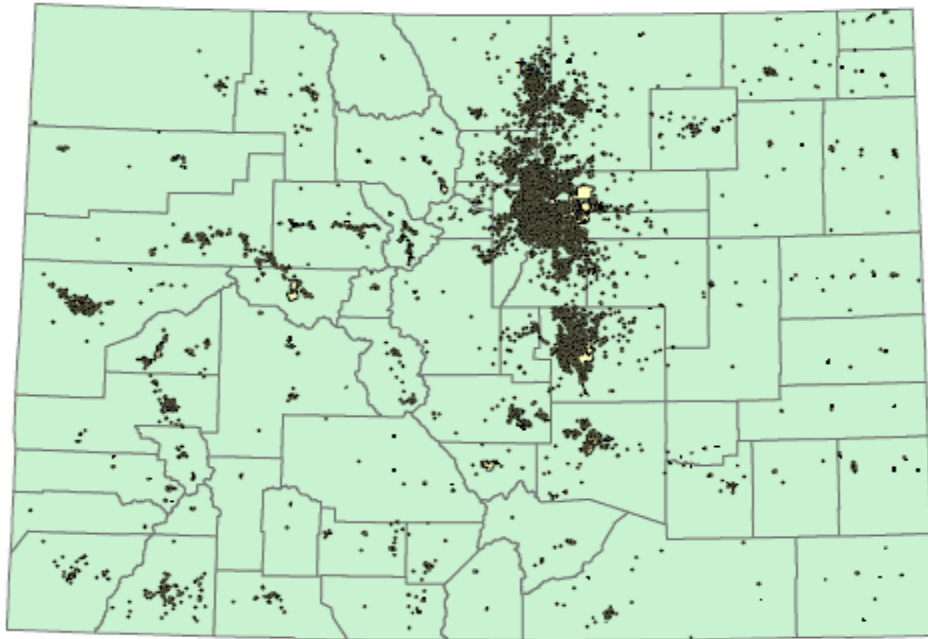


Figure 1. Volkswagen 2.0 Liter Distribution

### Volkswagen 3.0 Liter Distribution

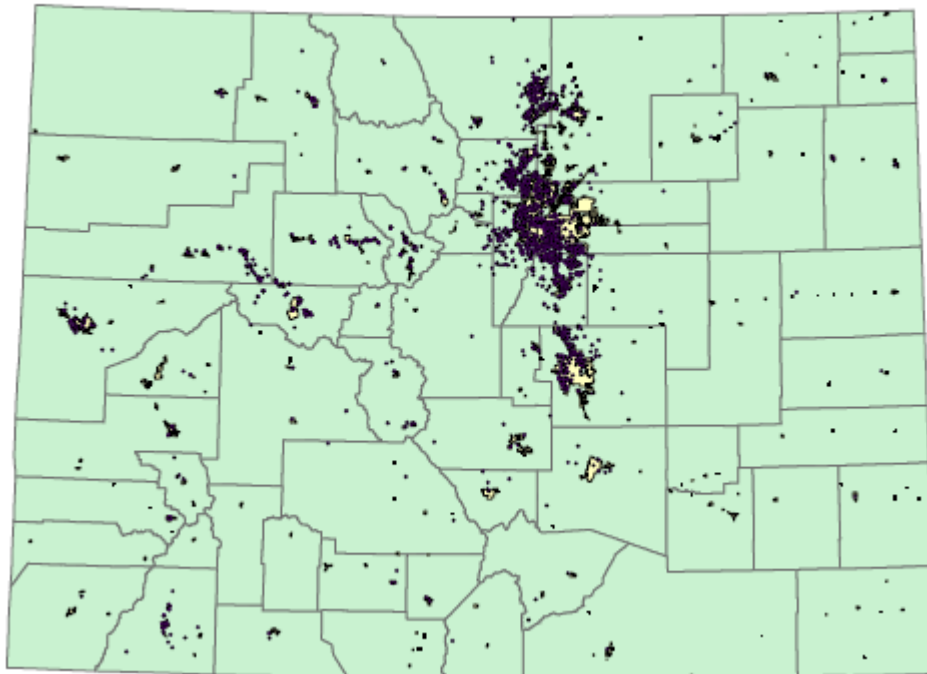


Figure 2. Volkswagen 3.0 Liter Distribution

c. Ozone Nonattainment Area

Ground level ozone is a pollutant that causes health concerns, particularly for sensitive people such as the elderly, young children, and those with asthma or other respiratory problems. Ozone can cause chest pains, breathing difficulties, coughing, and stinging in the eyes or throat. Ozone forms in the atmosphere through a chemical reaction between NO<sub>x</sub>, volatile organic compounds, and to a lesser extent carbon monoxide. Currently, parts of Colorado are not attaining two critical air quality standards for ozone.

In March 2008, EPA revised the National Ambient Air Quality Standard for 8-hour ozone from 84 parts per billion (ppb) to 75 ppb. At the time of initial designations, ozone concentrations in the Denver Metro/North Front Range (DM/NFR) area exceeded the standard, resulting in EPA classifying the DM/NFR as a Marginal nonattainment area. The designated area included all of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas and Jefferson Counties and portions of Weld and Larimer Counties, as shown in Figure 3. The area missed its initial deadline to attain the 75 ppb standard and as a result EPA reclassified it as a Moderate nonattainment area in 2016. The DM/NFR area also missed the Moderate area deadline of July 2018, and thus will soon be reclassified to a Serious nonattainment area under the 2008 ozone standard. This will require the development of a State Implementation Plan demonstrating how the region will attain the standard by the new attainment date of July 2021.

In addition to the 2008 ozone NAAQS, in October 2015 the EPA adopted a more stringent ozone standard of 70 ppb. The DM/NFR is also in nonattainment for this tighter standard and must attain by August 2021 or face reclassification from Marginal to a Moderate nonattainment area.

The illegal software used by Volkswagen and certain affiliated companies to cheat on federal emission tests caused the affected vehicles to emit excess NO<sub>x</sub>. As noted above, approximately 65% of the affected vehicles in Colorado were registered in the ozone nonattainment area. Their excess NO<sub>x</sub> emissions contributed to ozone formation.

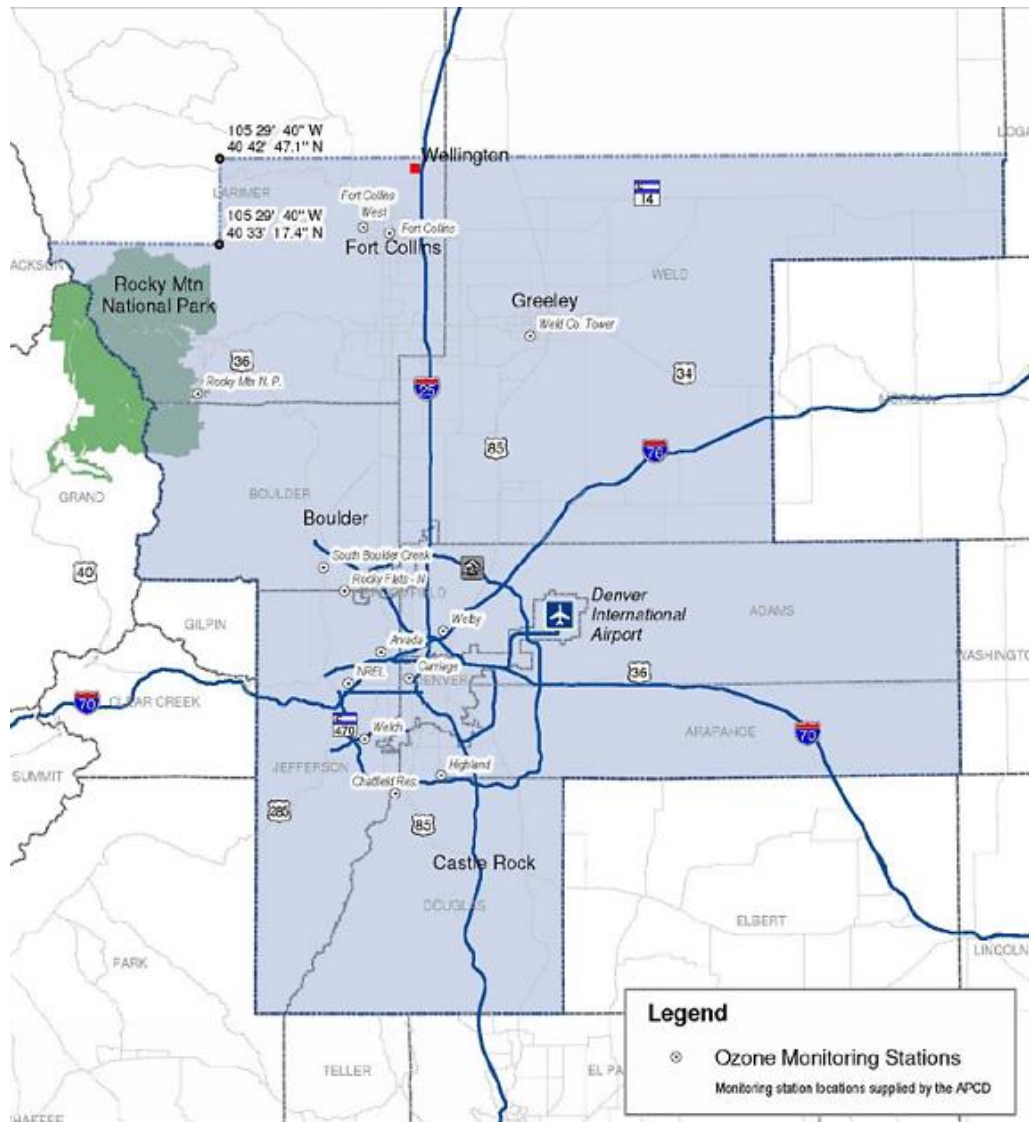


Figure 3. DMNFR Ozone Nonattainment Area

#### IV. Colorado’s Overall Goals and Principles for Using Trust Funds

Colorado’s overall goal for the use of the funds is to achieve the maximum long-term air quality benefit for the state of Colorado by stimulating demand for new classes and types of zero emission vehicles where consistent with the mitigation actions outlined in the consent decree. CDPHE and its partner agencies have considered the public comments received to date and with directives from the Governor’s Executive Order B 2019 002<sup>8</sup>, have developed the following principles for administering the trust funds:

<sup>8</sup> State of Colorado Governor’s Office, *Executive Order B 2019-002 Supporting a Transition to Zero Emission Vehicles* (January 17, 2019), <https://assets.documentcloud.org/documents/5688666/B-2019-002-Zev.pdf>.



- Incentivize transformational projects that promote a broader shift in fleet technology and operations, thereby yielding longer-term emissions benefits beyond the projects directly funded by the expenditure of the \$68.7 million state allocation;
- Maximize the trust’s air quality benefits in Colorado, including reductions of NOx, greenhouse gases, and other pollutants;
- Use trust funds to catalyze the adoption of zero emission vehicles;
- Distribute settlement funds quickly, within approximately five years;
- Award funds through a transparent public process;
- Fully account for all funds and comply with legal requirements;
- Set incentives at an appropriate level that attracts a high level of participation to increase the number of projects funded through this BMP;
- Devote 15% of trust funds (the maximum allowable amount) to light duty zero emission vehicle infrastructure and align these funds with the Colorado Electric Vehicle Plan<sup>9</sup>;
- Provide appropriate funding for:
  - Mass transit projects including transit electrification;
  - Eligible projects within areas disproportionately impacted by the VW diesel vehicle emissions, including the Denver/North Front Range ozone nonattainment area and the Pikes Peak region;
  - Emission reductions in communities that have historically borne a disproportionate share of the adverse impacts of such emissions;
  - Projects involving eligible public and private fleets,
  - Non-road diesel engines, including those eligible for DERA funding;
- Appropriately balance the cost of the project and emission reduction benefits;
- Improve air quality in areas that have historically borne a disproportionate share of the air pollution burden within Colorado;
- Enhance efficiency by utilizing or building on existing processes and programs to select projects and distribute trust funds;
- Minimize and reimburse implementation costs as allowed; and
- Complement any investments in ZEV infrastructure, access, or education that Electrify America makes in Colorado through its nationwide \$2 billion Zero Emissions Vehicle Investment Commitment or those made by other public, private, and utility stakeholders.

Colorado proposes to distribute the trust funds to both public and private fleets using several programs that are already in place. Colorado will also use existing programs to deploy funding for zero emission vehicle infrastructure. The existing programs will be modified as necessary to fulfill the goals and requirements of the trust. This approach will streamline and expedite the implementation of the trust and allow the state to build on existing expertise. This approach will also reduce the burden on applicants because they will not have to learn a completely new process to apply for funds. Colorado began to distribute funds in 2018 and intends to distribute all remaining funds within five years or sooner. Funds will be allocated as summarized below and shown in Figure 4.

1. Medium & Heavy Duty Vehicles: Colorado will distribute approximately \$21.5 million to replace medium and heavy duty trucks, school and shuttle buses, railroad freight switchers, airport ground support equipment, and heavy forklifts with zero emission vehicles and to install

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<sup>9</sup> Colorado Energy Office, *Colorado Electric Vehicle Plan* (January 24, 2018), <https://www.colorado.gov/pacific/energyoffice/atom/162026>



charging infrastructure associated with new all-electric vehicles. These funds will be distributed through the existing ALT Fuels Colorado program administered by the Regional Air Quality Council (RAQC), with appropriate modifications for the VW program. RAQC will implement this program under a contract with CDPHE, in partnership with the Colorado Energy Office (CEO) and the Colorado Department of Transportation (CDOT).

2. **Transit Buses:** Colorado will distribute approximately \$30 million to replace Class 4-8 transit buses with zero emission transit buses and to install charging infrastructure associated with new all-electric transit buses. These funds will be distributed by the CDOT Division of Transit and Rail through its existing Consolidated Call for Capital Projects.
3. **ZEV Equipment:** Colorado will continue to distribute approximately \$10.3 million, or 15% of its initial allocation of trust funds, to fund the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle (ZEV) supply equipment located in public places, workplaces or multi-unit dwellings. The Colorado Energy Office and the Regional Air Quality Council will implement this program through the existing ALT Fuels Colorado and Charge Ahead Colorado programs. Costs needed to administer these programs will be included in the 15%.
4. Colorado will distribute \$1.5 million to reduce emissions from diesel engines eligible for funding through the Diesel Emissions Reduction Act (DERA) option. The Volkswagen settlement's DERA option allows Colorado to match or over-match federal DERA grants with private (non-federal) trust funds. A number of projects to reduce emissions from diesel vehicles and non-road diesel engines are eligible for replacement with new zero emission vehicles and other all-electric non-road engines under DERA. The DERA option makes a wider range of emission reduction actions eligible for funding. CDPHE will coordinate with interested stakeholders to select and fund appropriate DERA projects.
5. The State Trust Agreement allows beneficiaries to use up to 15% of the states total allocation to fund administrative expenditures associated with implementing programs. Colorado plans to use no more than 8% of the state's total allocation of funds (approximately \$5.4 million) to administer these programs. Colorado is keeping implementation costs low by distributing funds through existing CDPHE, CDOT, CEO, and RAQC programs. These funds will cover the costs of program outreach, soliciting and reviewing project applications, verifying project completion, accounting, audits, legal compliance, recordkeeping, reporting, training and related implementation costs. Colorado anticipates that some of these functions, such as verifying the destruction of engines and chassis of the vehicles being replaced, may be outsourced to private contractors. This cost estimate is based on the historical costs of administering Alt Fuels Colorado, Charge Ahead Colorado and the Consolidated Call for Capital Projects, and projections for the unique aspects of the Volkswagen settlement programs. Colorado will report its actual administrative expenditures associated with implementing each Eligible Mitigation Action as part of its regular reports to the Trustee and the public.

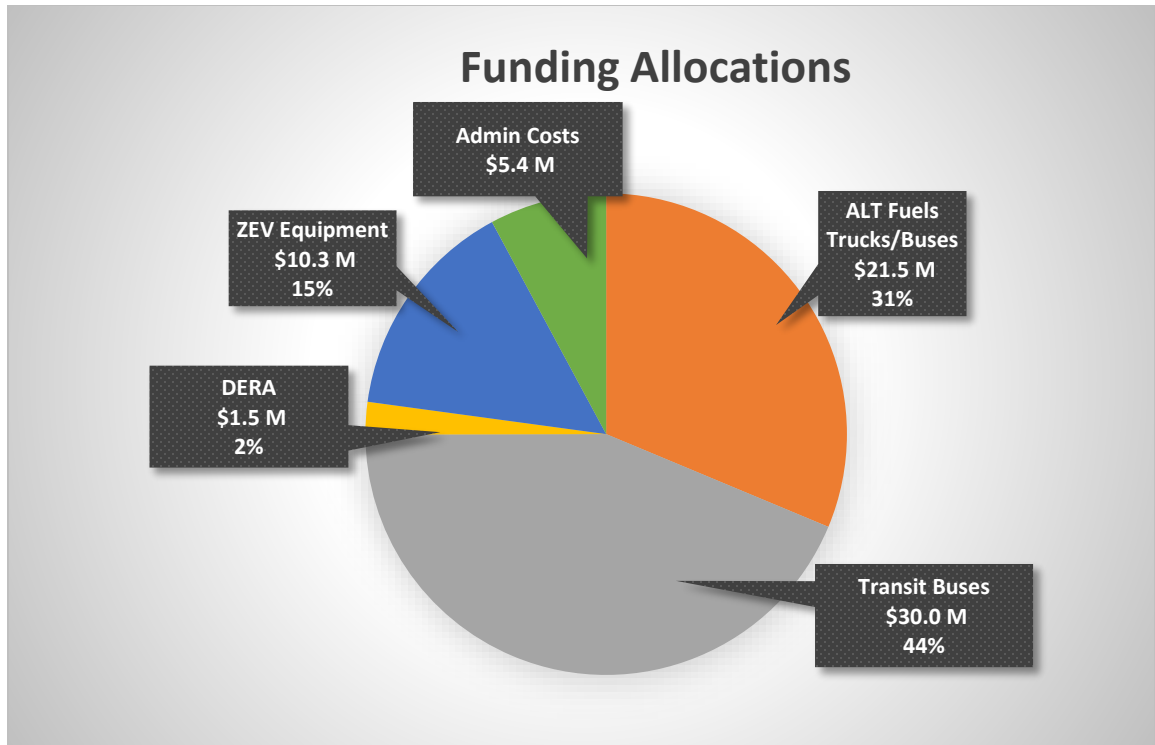


Figure 4. Allocation of Trust Funds

**V. Description of Eligible Mitigation Actions**

This section of the BMP describes the categories of Eligible Mitigation Actions that Colorado anticipates will be appropriate to achieve its stated goals and Colorado’s preliminary assessment of the funds anticipated to be used for each type of Eligible Mitigation Action. Except for the maximum 15% allocation to the ZEV Supply Equipment Program, all other program funding levels are proposed and may change depending on future program demand.

**a. Zero-Emission Vehicle Replacement Program**

Colorado proposes to budget \$21.5 million through approximately FY 2023 to the ALT Fuels Colorado program implemented by the Regional Air Quality Council under a contract with CDPHE, in partnership with the Colorado Energy Office and the Colorado Department of Transportation. Between March 21<sup>st</sup>, 2018 and January 11<sup>th</sup>, 2019 this program awarded approximately \$5.3 million to eligible projects under the original Colorado BMP. The RAQC will use the remaining \$16.2 million to scrap eligible diesel-powered vehicles and replace them with zero emission vehicles and associated charging infrastructure. Eligible equipment includes Class 8 Local Freight Trucks (heavy duty), Class 4-7 Local Freight Trucks (medium duty), Class 4-8 School Buses and intra-facility Shuttle Buses, railroad freight switchers, airport ground support equipment, and heavy forklifts.

The proposed \$21.5 million Zero Emission Vehicle Replacement Program will operate statewide in Colorado during approximately FY 2019 - 2023. This program will require existing vehicles to be replaced and scrapped as required by the VW trust agreement.

The program goals for the VW trust Zero Emission Vehicle Replacement Program are to:

- Provide statewide incentives to scrap and replace medium- and heavy-duty trucks, school and shuttle buses, railroad freight switchers, airport ground support equipment, and heavy forklifts with zero emission vehicles;
- Reduce NOx and other criteria air pollutants and greenhouse gases (GHG);
- Achieve the maximum long-term air quality benefit by stimulating demand for new classes and types of zero emission vehicles where consistent with the mitigation actions outlined in the consent decree;
- Improve public safety;
- Expand the use of domestic energy sources;
- Gather data and promote fleet sustainability; and
- Promote the replacement of vehicles that operate in communities that have historically borne a disproportionate share of the adverse impacts from air pollution and communities where social, economic and environmental inequities may present risks of adverse health outcomes by conducting outreach to the communities, fleets, and potential partners.

Eligible Equipment:

- Model year 1992-2009 Class 8 Diesel Local Freight Trucks (Heavy-Duty) as defined by Appendix D-2 of the October 2, 2017 final State Trust Agreement, may be replaced with new original equipment manufacturer (OEM) zero emission vehicles.
- Model year 1992-2009 Class 4-7 Diesel Local Freight Trucks (Medium-Duty), as defined by Appendix D-2 of the October 2, 2017 final State Trust Agreement, may be replaced with new OEM zero emission vehicles.
- Model year 2009 and older Diesel Class 4-8 School Buses and intra-facility Shuttle Buses, as defined by Appendix D-2 of the October 2, 2017 final State Trust Agreement, may be replaced with new, OEM zero emission vehicles.
- Airport Ground Support Equipment (Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment; and Uncertified, or certified to 3 g/bhp-hr or higher emissions, spark ignition engine powered airport ground support equipment), as defined by Appendix D-2 of the October 2, 2017 Trust Agreement, may be replaced with all-Electric Airport Ground Support Equipment.
- Railroad Freight Switchers (pre-Tier 4 switcher locomotives that operate 1000 or more hours per year) as defined by Appendix D-1 of the October 2, 2017 Trust Agreement, may be replaced with any All-Electric (including Generator Sets) Railroad Freight Switcher, that is certified to meet the applicable EPA emissions standards (or other more stringent equivalent State standard) as published in the CFR for the engine model year in which the Eligible Railroad Freight Switcher Mitigation Action occurs.

Program Criteria Include:

- One qualifying comparable vehicle must be scrapped (cut the vehicle's frame rails completely in half and cut a minimum 3-inch hole in the engine block) for each new vehicle that is funded.
- Replaced vehicles must be drivable and must have been registered, operated and insured in Colorado for the previous two years.<sup>10</sup> This will help to ensure the program achieves real emission reductions and prevent abuse.
- Public and private fleets are eligible, including federal government fleets.

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<sup>10</sup> Government-owned vehicles are eligible for funding if the owner certifies that the vehicle being replaced is operable and the availability of trust funding played no role in the decision to acquire the vehicle or bring it into Colorado.

- The Zero Emission Vehicle Replacement Program is limited to vehicle replacements and will not fund engine repowers or conversion kits. Repowers and conversions can lead to warranty and maintenance concerns. Requiring new vehicle purchases will enhance vehicle safety and invest trust funds in projects with longer service lives.
- If mitigation trust funds are awarded for a new all-electric vehicle, airport ground support equipment, railroad freight switcher, or forklift, charging equipment associated with that vehicle may also receive funding from this program.

The Zero Emission Vehicle Replacement program anticipates providing incentives for public and private fleets to cover 110% of the incremental cost. The incremental cost is defined as the cost difference between the new zero-emission vehicle and a comparable, new diesel vehicle. These incentive levels are designed to cover the incremental cost of the new vehicle plus the lost potential resale price of the old vehicle. The incremental cost will be determined at the time of application from vendor quotes for similarly specified vehicles. If the zero-emission vehicle is all-electric, the fleet will be eligible to receive funding for the purchase and installation of the associated charging station. The review committee will determine award amounts for related charging equipment, but generally this is capped at \$9,000 for a level II charging station or \$30,000 for a level III charging station. The review committee reserves the right to adjust the funding cap depending on future demand. Funding for charging stations will not exceed the cost of equipment or installation. Incentive levels for vehicles and charging stations may change depending on market developments or future program demand.

CDPHE, CDOT, CEO and RAQC will monitor the market for zero emission technology that is both innovative and viable. This program may consider funding vehicles that use hydrogen fuel cells and/or Renewable Natural Gas (RNG). In Spring 2019, the Colorado Energy Office launched a study of the RNG market in Colorado, especially its use as a transportation fuel. The results of this study will guide the implementation of grant funding for CNG vehicles operating on RNG. Applicants applying for funding for CNG vehicles operating on RNG will be required to provide proof of RNG procurement, such as a verification of an RNG purchasing agreement, to ensure that the vehicles are using natural gas produced from a verified renewable source.

Per the requirements of the trust funding levels for CNG vehicles operating on RNG for public fleets are not to exceed 100% of the cost of a new, OEM vehicle and funding levels for private fleets are not to exceed 25% of the cost of a new, OEM vehicle. Per the requirements of the trust, public funding will not exceed 100% of the cost of a new, OEM All-Electric vehicle and incentives for private fleets will not exceed 75% of the cost of a new, OEM All-Electric vehicle. Please refer to program websites for the most current incentive levels available for these project types.

Project applicants are responsible for all project costs not covered by the incentive payment. Project applicants are free to pursue additional cost shares, grants, tax credits, or other incentive payments in accordance with applicable law. Project applicants may not receive VW trust funding from more than one agency for the same vehicle or piece of equipment.

RAQC's implementation of the Zero Emission Vehicle Replacement Program will include public outreach, solicitation and evaluation of grant applications, verifying project completion by grant recipients, distributing funds to grant recipients after project completion, recordkeeping and reporting. Project applicants must submit vehicle bids to determine base vehicle pricing and the incremental cost for the new replacement vehicle. RAQC will accept applications for funding

throughout the year as posted on the [cleanairfleets.org](http://cleanairfleets.org) webpage. Funds will be distributed after the vehicle owner provides proof that the old vehicle has been scrapped and a qualifying new vehicle has been purchased, proof of costs, and other necessary documentation.

**b. Transit Bus Replacement Program**

Colorado proposes to budget \$30 million to replace Class 4-8 transit buses with zero emission buses and to install necessary charging infrastructure associated with new all-electric transit buses. The Transit Bus Replacement program will operate in conjunction with CDOT's existing process for transit capital project grants. The Transit Bus Replacement Program will operate statewide in Colorado during approximately FY 2019-2023. This program will require existing vehicles to be replaced and scrapped.

The CDOT Division of Transit and Rail (DTR) will implement this program under an intergovernmental agreement with CDPHE. DTR currently conducts an annual competitive process known as the Consolidated Call for Capital Projects (CCCP) as a means to identify, evaluate, and select transit capital projects for grant assistance. Eligible capital projects include the acquisition or construction of transit vehicles, equipment, and facilities. Funding programs include FTA Sections 5310, 5311, 5339 and state FASTER Transit funds. Instead of conducting a separate application process for each source of funds it administers, CDOT consolidates the capital funds into a single competitive application process that occurs annually in the fall. DTR staff evaluate projects and, if the project is selected for funding, determine the most appropriate funding program.

The program goals for the VW trust Transit Bus Replacement program are to:

- Provide statewide incentives to scrap and replace conventional-fuel transit buses with zero emission (e.g., All-Electric or hydrogen fuel cell vehicles) buses.
- Accelerate the future adoption of zero emission vehicles by demonstrating to transit fleet operators and the public that these vehicles are viable and by allowing transit fleet operators to gain familiarity and expertise with them.
- Remove barriers to the adoption of zero emission transit vehicles.
- Promote the development of zero emission vehicle technologies by expanding the market for large electric buses.
- Allow local transit agencies and members of the general public who use mass transit to benefit directly from Volkswagen trust funds.
- Promote greater access to the benefits of transportation electrification in communities and populations that do not have the ability to purchase a personal electric vehicle while encouraging a statewide overall reduction in vehicle miles traveled per capita.

Eligible Equipment:

- Model year 2009 and older Diesel Class 4-8 Transit buses, as defined by Appendix D-2 of the October 2, 2017 final State Trust Agreement, may be replaced with new, OEM zero emission vehicles.

Program criteria include:

- An identified vehicle must be scrapped (cut the vehicle's frame rails completely in half and cut a minimum 3-inch hole in the engine block) for each new vehicle that is funded.

- Vehicles identified for replacement must be drivable and must have been registered, operated and insured in Colorado for the previous two years.<sup>11</sup> This will help to ensure the program achieves real emission reductions and prevent abuse.
- Public, private, for-profit and non-profit fleets used only for the delivery of public transit services that meet all other applicable eligibility requirements.
- The Transit Bus Replacement Program is limited to vehicle replacements and will not fund engine repowers or non-OEM conversion kits. Repowers and non-OEM conversions can lead to warranty and maintenance concerns. Requiring new vehicle purchases will enhance vehicle safety and invest trust funds in projects with longer service lives.
- If mitigation trust funds are awarded for a new all-electric vehicle, charging equipment associated with that vehicle may also receive trust funds.

DTR will use a combination of existing funds and Volkswagen funds to incentivize the purchase of zero emission transit vehicles. As the CCCP awards typically cover 80% of capital purchases, DTR will fund the equivalent of 80% of a new diesel replacement bus from existing funding streams. DTR's existing funds will be supplemented by funds from the Volkswagen trust in an amount equivalent to 110% of the incremental cost of a new zero emission bus and its associated charging infrastructure, subject to the funding caps established in the trust. The review committee will determine award amounts for related charging equipment, but generally this is capped at \$100,000. The review committee reserves the right to adjust the funding cap depending on future demand. Vehicle replacement requests that are not awarded funding with existing federal or state funds are still eligible to receive Trust fund awards for 110% of the incremental cost. By combining both types of funds, the transit fleet's cost for a new zero emission transit bus may be less than the fleet would pay for a new diesel transit bus. Actual costs will vary and depend on a number of factors.

Per the requirements of the trust, if CDOT were to fund vehicles operating on RNG, funding levels for public fleets are not to exceed 100% of the cost of a new, OEM vehicle and funding levels for private fleets are not to exceed 25% of the cost of a new, OEM vehicle. Please refer to program websites for the most current incentive levels available for these project types.

CDPHE, CDOT, CEO and RAQC will monitor the market for zero emission technology that is both innovative and viable. This program may consider funding vehicles that use hydrogen fuel cells, and Renewable Natural Gas (RNG). In spring 2019, the Colorado Energy Office requested a study of the RNG market in Colorado, especially its use as a transportation fuel. The results of this study will guide the decision to fund CNG vehicles operating on RNG. If the program funds CNG vehicles operating on RNG, applicants will be required to provide proof of RNG procurement, such as a verification of an RNG purchasing agreement, to ensure that the vehicles are using natural gas produced from a verified renewable source.

### c. ZEV Supply Equipment Program

Colorado has allocated the maximum allowable portion of trust monies to zero emission vehicle (ZEV) supply equipment, focused on electric vehicle (EV) charging stations. Doing so is consistent with Executive Order D 2017-015, *Supporting Colorado's Clean Energy Transition*, Executive Order B 2019-

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<sup>11</sup> Government-owned vehicles are eligible for funding if the owner certifies that the vehicle being replaced is operable and the availability of trust funding played no role in the decision to acquire the vehicle or bring it into Colorado.

002, *Supporting a Transition to Zero Emission Vehicles*, and the *Colorado Electric Vehicle Plan*, which directs state agencies to develop a grant program to develop EV fast-charging stations across Colorado's transportation corridors. Public comments submitted to CDPHE strongly supported using trust funds to accelerate the adoption of ZEVs.

Funding for the ZEV Supply Equipment Program will be distributed through the existing Charge Ahead Colorado and ALT Fuels Colorado programs, managed in partnership between the Colorado Energy Office and Regional Air Quality Council. CDPHE will enter into contracts or intergovernmental agreements with CEO and RAQC to implement the ZEV Supply Equipment Program. Funds for ZEV supply equipment will be available statewide. CEO and RAQC will program funds to address gaps in Colorado's EV charging network, prioritizing those sites that help reduce barriers to greater EV adoption. Colorado will monitor developments in the hydrogen fuel cell vehicle industry and, as appropriate, review and modify program incentives as needed to accommodate applications for fueling infrastructure in this sector.

Colorado agencies have substantial data about the electric vehicle market and EV policy. CEO prepared the Colorado Electric Vehicle Market Implementation Study in 2015. RAQC, CEO and the City and County of Denver have completed a study investigating the barriers to charging infrastructure in multi-family housing, the business case for different direct current fast-charging models, desired fast-charging corridor site characteristics and the air quality benefits of EVs. The National Renewable Energy Laboratory, in partnership with RAQC, CDOT and CEO, conducted a study to determine appropriate locations for charging stations and anticipated consumer demand for fast-charging corridor stations based on a number of scenarios and EV battery ranges. These studies have helped guide the administration of the ZEV Supply Equipment Program.

The Colorado Energy Office will manage fast-charging highway corridor investments through ALT Fuels Colorado with the support of RAQC. Fast-charging stations will be installed primarily along Tier 1 and Tier 2 corridors identified in Colorado's 2016 Statewide Network Plan. As proposed in the plan, EV charging stations may be installed on average every 50 miles. The installation of highway corridor charging stations will help reduce the "range anxiety" that accompanies ZEVs and should promote a more rapid transition to ZEV technologies across Colorado.

Fast-charging corridor incentives will range from \$250,000 for 2-dispenser stations to \$380,000 for 4-dispenser stations. Incentives and program requirements may change depending on market developments or needs of an individual site.

CEO and the RAQC will co-manage community-based charging investments through the Charge Ahead Colorado program. Funding will be used to incentivize EV charging stations in cities and towns and at popular destination points such as ski resorts or national and state parks. Among other locations, EV charging stations will be installed in public parking garages, parking lots, multi-unit dwellings and workplaces. Incentives cover 80% of project costs up to a cap, \$9,000 for Level II dual port stations and \$30,000 for a DC fast-charging dual protocol stations. Incentives and program requirements are subject to change. Up to date information can be found at [www.cleanairfleets.org](http://www.cleanairfleets.org).

#### **d. DERA Option**

The Diesel Emissions Reduction Act is part of the Energy Policy Act of 2005. DERA allows EPA to distribute State Clean Diesel Grants. The states use this money to incentivize certain eligible diesel



emission reduction projects. While some projects are eligible under both DERA and the Volkswagen trust, DERA program criteria allow states to fund a number of projects that are not otherwise eligible under the trust. DERA funds may be spent on non-road diesel engines such as construction equipment and engines used in agriculture, mining, or oil and natural gas production. Eligible non-road engines may be replaced with a new all-electric engine. Depending on horsepower, engines as old as 1985 may be eligible under DERA. Non-road engines are estimated to produce approximately 33% of the man-made NOx emissions in the DMNFR ozone nonattainment area,<sup>12</sup> yet the state's authority to require emission reductions from these engines after they are manufactured and placed in service is quite limited. Colorado views the trust's DERA option as a useful way to address such emissions.

The DERA option allows states to use trust funds to voluntarily match or over-match DERA State Clean Diesel Grants. Matching funds must be spent in accordance with DERA requirements.<sup>13</sup> In recent years Colorado has received DERA grants in the range of \$200,000 - \$300,000 each year. However, the state's voluntary match may be larger than the DERA grant. States that match the DERA grant base amount receive an additional bonus match amount of EPA DERA funding to add to the grant (50% of the base amount). Colorado plans to set aside \$1.5 million of trust funds for DERA projects, and may adjust this number as the state gains more experience with the DERA option. Projects that qualify for incentives under both DERA and one of the trust's other eligible mitigation actions should apply for funds through the Alternative Fuel Vehicle Replacement Program or Transit Bus Replacement Program described in the Beneficiary Mitigation Plan, however, these projects may be considered by CDPHE in consultation with the agencies administering trust funds. The DERA option may be considered for a project that does not exactly fit the required criteria for the other eligible mitigation actions or for an applicant with limited capacity to navigate the application process.

Colorado is evaluating DERA-eligible engines to identify cost-effective emission reduction opportunities and establish appropriate incentives. Diesel engines used to drill oil and natural gas wells or to pump hydraulic fracturing fluids appear to be promising candidates. These are large engines that may produce 1,300 to 1,500 or more horsepower, depending on the make and model, and often see heavy use. All-electric engines are available but are more expensive. Construction equipment and engines used in agriculture also appear to be promising DERA candidates. Colorado would take steps to ensure that engines receiving funds remain in Colorado long enough for the state to realize the benefits of the emission reductions. DERA establishes certain caps on the available incentives. Colorado may choose to offer less than the maximum allowable incentives. CDPHE will implement the DERA option. CDPHE will solicit, evaluate, select and fund project applications based on the projected emission reductions and costs.

#### **e. Geographic Distribution of Funds**

The trust makes all areas of the state eligible to receive funding. The trust also requires the Beneficiary Mitigation Plan to describe how the projects will benefit air quality in "areas that bear a

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<sup>12</sup> Moderate Area Ozone SIP for the Denver Metro and North Front Range Non-Attainment Area, Appendix 4-A. This figure includes estimated 2017 NOx emissions from agricultural equipment, construction and mining equipment, and engines used in the oil and gas sector of all fuel types, divided by total anthropogenic emissions.

<sup>13</sup> A detailed comparison of the trust's eligible mitigation actions and the DERA option can be found in EPA's comparison document, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100WKF6.pdf>.

disproportionate share of the air pollution burden.”<sup>14</sup> In addition, trust funds are intended to reduce emissions where the non-compliant vehicles were, are, or will be operated.<sup>15</sup>

In Colorado, the Denver Metro/North Front Range (DMNFR) 8-hour ozone nonattainment area bears a disproportionate share of the air pollution burden. The DMNFR, which includes all or parts of Denver, Jefferson, Adams, Arapahoe, Douglas, Boulder, Broomfield, Larimer and Weld Counties, is currently the only part of Colorado that is designated as a nonattainment area for any of the National Ambient Air Quality Standards (NAAQS) under the federal Clean Air Act.<sup>16</sup> NOx is an ozone precursor, meaning that NOx reacts with other pollutants in the atmosphere to form ozone. A large number of affected vehicles covered by the trust are registered in the ozone nonattainment area and their excess NOx emissions made the ozone problem worse. Accordingly, this area has experienced a disproportionate share of air pollution from these affected vehicles as well as from other sources of emissions. It is appropriate to spend trust funds in the ozone nonattainment area.

The vehicles affected by the emissions cheating scandal are clustered in the Denver metro area, Pikes Peak region, and North Front Range. See section III and Figures 1 and 2. The areas with high numbers of registered vehicles coincide with the DMNFR, with the addition of the Pikes Peak region. Spending trust funds in the DMNFR and Pikes Peak region will fulfill two key purposes of the trust by reducing emissions where the non-compliant vehicles were, are or will be operated, and benefiting areas that bear a disproportionate share of air pollution.

Colorado is committed to health equity and environmental justice. While the trust does not speak in terms of health equity or environmental justice, Colorado will conduct outreach to ensure that all communities are aware of the settlement and have sufficient information to provide an equal opportunity to apply for trust funds. The CDPHE Air Pollution Control Division, in conjunction with the CDPHE Office of Health Equity, will coordinate with program partners to conduct outreach to communities where social, economic and environmental inequities may present risks of adverse health outcomes. This includes communities that may experience high concentrations of vehicle traffic, industrial facilities, or other sources of air pollution. CDPHE and its project partners will provide outreach to affected communities and the public and private vehicle fleets operating there.

Additional considerations apply to the geographic distribution of funds for zero emission vehicle infrastructure projects such as electric vehicle charging stations. Charging stations are needed both in an electric vehicle’s local operating area and along transportation corridors throughout the state. “Range anxiety” and a lack of charging stations are significant barriers to the adoption of zero emission vehicles.<sup>17</sup> Spending trust funds on statewide ZEV infrastructure will help to reduce range anxiety, support Colorado’s statewide electric vehicle plan, and promote the adoption of zero emission vehicles.

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<sup>14</sup> Appendix D, Paragraph 4.1.

<sup>15</sup> Appendix D, Purpose and Recitals.

<sup>16</sup> Parts of Colorado have previously been designated as nonattainment areas for carbon monoxide, particulate matter smaller than 10 microns (PM-10), the 1-hour ozone standard, and an earlier version of the 8-hour ozone standard. However, those areas have been redesignated as attainment/maintenance areas or the relevant NAAQS has been revoked. See the EPA’s Green Book at [www.epa.gov/green-book](http://www.epa.gov/green-book) for more information.

<sup>17</sup> Hanley, Steve (January 1, 2017), *60% of Americans Unaware Electric Cars Exist*, <http://gas2.org/2017/01/01/60-americans-unaware-battery-cars-exist/>.

Because of the geographic distribution of Colorado’s population, vehicle fleets, and vehicle miles travelled (VMT), CDPHE and its partner agencies anticipate receiving a substantially higher number of applications for funding in the DMNFR ozone nonattainment area and Pikes Peak region. This dynamic is expected to channel trust funds toward the areas of disproportionate NOx impact and the areas with non-compliant vehicles without the need to establish formal geographic restrictions. Colorado is not limiting the geographic distribution of funds at this time. Colorado will fund projects in all parts of the state, including but not limited to ZEV infrastructure and projects that promote health equity and environmental justice. If Colorado does not receive enough applications for projects that would benefit areas of disproportionate air quality impacts or areas with non-compliant vehicles, Colorado may develop criteria to rebalance the distribution of trust funds.

**f. Estimated Emission Benefits**

Colorado estimated the emission reduction benefits that could be achieved from the Zero-Emission Vehicle Replacement Program, Transit Bus Replacement Program, and ZEV Supply Equipment Program at the proposed funding levels. The estimates were prepared using a combination of projects that have already been awarded funding along with a hypothetical mix of vehicle categories, model years, and charging station capacities for the remaining funds. These estimated calculations show the annual emissions benefit of the vehicles directly receiving funds from the programs. CDPHE and its partner agencies hope that by incentivizing transformational projects that promote a broader shift in fleet technology and operations, the funds will also yield additional longer-term emissions benefits beyond the projects directly funded by the expenditure of the \$68.7 million state allocation. Emission factors were sourced from the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model from Argonne National Laboratory. Annual VMT were sourced from the Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool from Argonne National Laboratory and current Alt Fuels Colorado reporting data. The estimated emission reductions do not include the benefits of DERA projects because DERA allows a wider range of actions and the projects have not yet been selected. For all eligible mitigation actions, actual emission benefits will vary depending on the specifics of the projects approved for trust funding.

**Table 5: Estimated Emissions Benefits**

<b>Program</b>	<b>VOC (tons/year)</b>	<b>NO<sub>x</sub> (tons/year)</b>	<b>PM10 (tons/year)</b>	<b>PM2.5 (tons/year)</b>	<b>GHG (tons/year)</b>
<b>1. Zero-Emission Vehicle Replacement Program</b>	5	57	4	3	3,800
<b>2. ZEV Supply Equipment Program</b>	20	20	1	1	35,000-50,000
<b>3. Zero-Emission Transit Vehicle Replacement Program</b>	1	18	1	1-2	6,200
<b>Total</b>	26	95	6	5	45,000-60,000

**VI. Project Application, Evaluation and Funding Process**

Colorado may submit funding requests to the trustee thirty days after submitting this Beneficiary Mitigation Plan. Colorado may not request payout of more than (i) one-third of its initial allocation during the first year after the Settling Defendants make their Initial Deposit into the trust or (ii) two-

thirds of its initial allocation during the first two years after the Settling Defendants make their Initial Deposit. The trustee must approve, deny, or request modifications of funding requests within 60 days of receipt. The trustee shall respond to any modified or supplemental submission within 30 days of receipt. The trustee shall begin disbursing funds within 15 days of approval of a funding request “according to the written instructions and schedule provided by the Beneficiary.” Appendix D, paragraph 5.2.15.1.

Colorado has established a state account called the “Volkswagen Settlement Fund” to receive and hold disbursements from the trustee until an eligible mitigation action is completed. Colorado will fully track and account for all trust funds in its possession using established accounting mechanisms. Colorado will use program codes and appropriation codes to track the expenditures for each Eligible Mitigation Action and facilitate reporting. Funds must be spent in accordance with state fiscal and contracting laws and regulations.

CDPHE will enter contracts or interagency agreements with partner agencies to administer specific programs. As described above, RAQC will administer the Alternative Fuel Vehicle Replacement Program, CDOT will administer the Transit Bus Replacement Program, and the Colorado Energy Office and RAQC will jointly administer the ZEV Supply Equipment Program. CDPHE will administer DERA projects, publish Requests for Application, and award grants directly to funding recipients.

RAQC, CDOT or CEO will oversee the execution of individual projects, such as the replacement of one or more trucks or buses, or the installation of an electric vehicle charging station. These partner agencies will announce the availability of funds, publish criteria and applicable requirements for receiving funds, solicit applications, determine eligibility, and approve applications for funds.

Zero Emission Vehicle Replacement projects and ZEV Supply Equipment projects will be evaluated and awarded through the current Charge Ahead Colorado and ALT Fuels Colorado evaluation and award process. Currently there are seven public organizations represented on the evaluation committee. They include:

- Regional Air Quality Council
- Colorado Energy Office
- Colorado Department of Transportation
- Colorado Department of Public Health and Environment
- Colorado Department of Labor and Employment
- Colorado Department of Local Affairs
- National Renewable Energy Laboratory

Additional evaluation team members will be considered as necessary. Once projects are approved for funding, staff will provide mandatory awardee training before any projects are authorized to proceed.

For Transit Bus Replacement projects, DTR will use their existing CCCP evaluation and award process. CDOT staff evaluates applications and eligibility to determine funding levels and the allocation of federal or state funds for awarded projects.

After a project is completed, the grant applicant will submit receipts and any other necessary documents to the RAQC, CDOT or CEO, who will submit a payment request to CDPHE. If the request satisfies the terms of the trust and the contract or intergovernmental agreement, CDPHE will make a payment to the RAQC, CDOT or CEO, who will then pay the grant applicant.

The funding requests CDPHE submits to the trustee will include allowable implementation costs. CDPHE, the RAQC, CDOT and CEO will be periodically reimbursed for implementation costs. All expenditures will be reported to the trustee and audited as required. Reports will be made available to the public.