# STATE OF FLORIDA BENEFICIARY MITIGATION PLAN



## FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF AIR RESOURCE MANAGEMENT OCTOBER 2019

Pursuant to the Environmental Mitigation Trust Agreement for State Beneficiaries, issued in partial fulfillment of diesel emissions mitigation obligations under the Volkswagen Settlement <u>https://floridadep.gov/volkswagen</u>

# **Table of Contents**

Executive Summary
Volkswagen Settlement Summary4
1. Introduction4
2. Partial Consent Decrees4
3. Final Trust Agreement4
Beneficiary Mitigation Plan Requirements6
1. Public Input
A. Requests for Information7
B. Public Survey7
C. Informational Meetings and Webinars8
D. Draft Mitigation Plan Public Comment Period8
E. Future Public Outreach9
2. Overall Goal of Florida's Mitigation Plan9
3. Areas with a Disproportionate Share of the Air Pollution Burden9
A. National Emissions Inventory10
B. Ambient Air Monitoring Data16
C. Environmental Justice Screening Tool19
D. Population Data21
E. Air Quality Priority Areas23
4. Eligible Mitigation Actions24
5. Emissions Benefits
Appendix A – Florida's Diesel Emissions Mitigation Program Public Survey Results28
Appendix B – Mobile Diesel NOx, PM 2.5, PM10 by County (NEI Data 2014)41
Appendix C – EJSCREEN 2017 By County44
Appendix D – Eligible Mitigation Actions and Mitigation Action Expenditures47
Appendix E – Draft Beneficiary Mitigation Plan Public Comment Period Summary59

## **Executive Summary**

The Florida Department of Environmental Protection (Department) presents the Beneficiary Mitigation Plan (Mitigation Plan) for Florida in accordance with the Volkswagen Settlement's Environmental Mitigation Trust for State Beneficiaries (Final Trust Agreement). This Mitigation plan contains all of the elements required by the Final Trust Agreement.

The purpose of the Mitigation Trust is to provide money for mobile source emissions mitigation projects. Cumulatively, these projects are intended to mitigate the excess nitrogen oxides  $(NO_x)$  emissions caused by the Volkswagen vehicles operating without the legally required emissions controls.

The Department sought public input to develop the Mitigation Plan through Requests for Information (RFI), a public survey, in-person public informational meetings and webinars, and a public comment period for written comments to be submitted.

The primary goal of Florida's Mitigation Plan is to reduce emissions of NO<sub>x</sub>, particulate matter, and hazardous air pollutants in areas where people live, work, and visit. To achieve this goal, Florida's Mitigation Plan will balance the following factors:

- 1. Prioritizing projects that replace eligible units with electric-powered and/or alternative fueled units;
- 2. Identifying the areas in Florida where the largest number of people are impacted by higher levels of emissions from diesel-powered vehicles and equipment; and
- 3. Identifying cost-effective mitigation projects, factoring in the prioritized fuel types.

The Department utilized a suite of available resources to designate comparatively overburdened areas which will provide the largest environmental benefits for the most people. This designation does not preclude other areas from funding.

The Mitigation Plan identifies the following categories of Eligible Mitigation Actions along with an estimated percentage breakdown for project-specific funding:

Eligible Mitigation Action	Allocation
School, Transit, and Shuttle Buses	70%
Light-Duty ZEV Supply Equipment	15% (Maximum Allowable)
Diesel Emissions Reduction Act (DERA)	15%

The Department intends to encumber as much of the total state allotment as possible for projectspecific funding but reserves the right to allow for minimal funding on administrative costs. As stated in the Final Trust Agreement, Florida has the discretion to adjust priorities and objectives as necessary and reserves the right to adjust this goal and spending plans at the state's discretion while maintaining the primary goal of the plan. If the Mitigation Plan needs to be amended, the Department will provide the public and the Trustee with updates on any changes.

## **Volkswagen Settlement Summary**

## 1. Introduction

On September 18, 2015, the United States (U.S.) Environmental Protection Agency (EPA) served the Volkswagen Group of America, Inc. (Volkswagen) with a Notice of Violation of the Clean Air Act (CAA). The EPA determined that Volkswagen violated section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(b), which prohibits the use of defeat devices to bypass, defeat, or render inoperative elements of vehicles' emission control systems that exist to comply with CAA emissions standards.<sup>1</sup> Additionally, by using defeat devices and then selling noncompliant vehicles, Volkswagen violated section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), which prohibits the sale of any vehicles that do not conform to the emissions standards of the CAA.

Volkswagen's defeat devices allowed the 2.0-liter and 3.0-liter diesel vehicles to meet applicable federal nitrogen oxides (NO<sub>x</sub>) emissions limits during controlled emissions tests while not meeting these limits during normal vehicle operation. NO<sub>x</sub> is produced when fuel is burned in motor vehicles, power plants, industrial boilers, and other sources, and can be harmful to human health. NO<sub>x</sub> is also a precursor pollutant for ground-level ozone (O<sub>3</sub>), also known as smog. Ozone forms when NO<sub>x</sub> and volatile organic compounds (VOC) mix in the air and react to heat and sunlight.<sup>2</sup>

## 2. Partial Consent Decrees

On October 25, 2016, Volkswagen entered into a Partial Consent Decree with the U.S. government settling claims that it violated the CAA by selling diesel vehicles that violated the EPA mobile source emission standards. Volkswagen's actions consisted of the installation and use of emission testing defeat devices in approximately 500,000 turbocharged direct injection (TDI) 2.0-liter diesel engine vehicles sold and operated in the U.S. from model year 2009 through 2015.

On May 17, 2017, Volkswagen entered into the Second Partial Consent Decree with the U.S. government settling additional claims that it violated the CAA by selling approximately 80,000 TDI 3.0-liter diesel engines also equipped with defeat devices.

To resolve the 2.0-liter and 3.0-liter diesel engine CAA violations, Volkswagen agreed to provide funding to mitigate the excess  $NO_x$  emissions emitted by the approximately 500,000 2.0-liter vehicles and 80,000 3.0-liter vehicles equipped with defeat devices.

## 3. Final Trust Agreement

On October 2, 2017, the Environmental Mitigation Trust Agreement for State Beneficiaries (Final Trust Agreement) was filed with the federal district court in Northern District of California, establishing the terms and conditions of the Mitigation Trust.<sup>3</sup> This action established October 2,

<sup>&</sup>lt;sup>1</sup> U.S. Clean Air Act, 42 U.S.C. § 7522(a)(3)(b): <u>https://www.gpo.gov/fdsys/pkg/USCODE-2009-title42/pdf/USCODE-2009-title42-chap85-subchapII-partA-sec7522.pdf</u>

<sup>&</sup>lt;sup>2</sup> Environmental Protection Agency Webpage on NO<sub>2</sub>: <u>https://www.epa.gov/no2-pollution</u>

<sup>&</sup>lt;sup>3</sup> Final Trust Agreement: <u>https://floridadep.gov/sites/default/files/Executed-Trust-Agreements-Oct-02-2017.pdf</u>

2017, as the Trust Effective Date. The Trustee, Wilmington Trust, N.A., will manage the funds held in trust for the beneficiaries according to the responsibilities listed in Attachment A, Section III of the Final Trust Agreement.<sup>4</sup>

In addition to establishing the Mitigation Trust, the Final Trust Agreement also included the following components which are separate from Florida's allocation under the Mitigation Trust:

- A requirement that Volkswagen spend \$11 billion to buy back or install pollution control equipment for at least 85 percent of the 2.0-liter and 3.0-liter TDI engines (more information on vehicle buybacks and modifications is available at <a href="http://www.VWCourtSettlement.com">www.VWCourtSettlement.com</a>);
- A \$2 billion investment to promote the use of zero emission vehicles (ZEV) and infrastructure<sup>5</sup> (more information is available in EPA's Frequently Asked Questions On the Zero Emission Vehicle Investment).<sup>6</sup>

Under the terms of the Mitigation Trust, all 50 states, the District of Columbia, and Puerto Rico, are eligible to become beneficiaries and receive a pre-determined share of \$2.865 billion in total Mitigation Trust funding. This sum is based upon the number of 2.0-liter and 3.0-liter diesel vehicles sold within all jurisdictions covered by the Mitigation Trust. Florida's share is more than \$166 million, or 5.68 percent of the funds held in the Mitigation Trust. Florida's \$166 million share is the combined amount from both the 2.0-liter settlement (\$152.4 million) and the 3.0-liter settlement (\$13.9 million), as specified in Appendix D-1B to the Mitigation Trust.<sup>7</sup>

The purpose of the Mitigation Trust is to provide money for mobile source emissions mitigation projects. Cumulatively, these projects are intended to mitigate the excess  $NO_x$  emissions caused by the subject 2.0-liter and 3.0-liter vehicles operating without the legally required emissions controls to mitigate the excess  $NO_x$  emissions attributable to these vehicles. The Department estimates that from 2009 through the mandated buyback period, the 33,160 vehicles sold in Florida have an annual average of 261 tons of excess  $NO_x$  emissions. This estimate includes the number of violating vehicles removed through the minimum 85 percent Volkswagen buy-back program requirement.

On November 28, 2017, the State of Florida elected to become a beneficiary under the Final Trust Agreement by submitting the completed Certification Form to the Trustee. The Certification, signed by the Governor of Florida, designated the Florida Department of Environmental Protection as Lead Agency for purposes of participation in the Environmental Mitigation Trust.<sup>8</sup> On January 30, 2018, the Trustee issued notification designating Florida as a beneficiary under the Trust.<sup>9</sup>

<sup>&</sup>lt;sup>4</sup> Environmental Mitigation Trust Agreement for State Beneficiaries: https://floridadep.gov/sites/default/files/Attachment-A-State-Environmental-Mitigation-Trust.pdf

<sup>&</sup>lt;sup>5</sup> Electrify America: https://www.electrifyamerica.com/

<sup>&</sup>lt;sup>6</sup> Environmental Protection Agency Zero Emission Vehicle Investment FAQ:

https://www.epa.gov/sites/production/files/2016-11/documents/vw-faqs-app-c-final-11-18-16.pdf

<sup>&</sup>lt;sup>7</sup> Department Link to Appendix D-1B: <u>https://floridadep.gov/air/air-director/documents/appendix-d-1b-vw</u> <sup>8</sup> Notice of Filing of Certification for Beneficiary Status: <u>https://floridadep.gov/air/air/air/director/documents/notice</u>

<sup>&</sup>lt;sup>8</sup> Notice of Filing of Certification for Beneficiary Status: <u>https://floridadep.gov/air/air-director/documents/notice-filing-certification-beneficiary-status-vw</u>

<sup>&</sup>lt;sup>9</sup> Notice of Beneficiary Designation: <u>https://floridadep.gov/air/air-director/documents/notice-beneficiary-designation</u>

The Mitigation Trust specifies that once the Trustee designates the state a beneficiary, the state must, among other requirements, submit to the Trustee, a State Beneficiary Mitigation Plan (Mitigation Plan) prior to requesting funding for mobile source emissions mitigation projects. This document satisfies that requirement.

## **Beneficiary Mitigation Plan Requirements**

All state beneficiaries must develop and submit to the Trustee a Beneficiary Mitigation Plan. Under Section 4.1 of the Final Trust Agreement, this Mitigation Plan must address the following elements:

- 1. An explanation of the process by which the Beneficiary sought and considered public input on its Beneficiary Mitigation Plan;
- 2. The state's overall goals for the use of the funds;
- 3. A description of how the state will consider the potential impact of the actions on air quality in areas that bear a disproportionate share of the air pollution burden within its jurisdiction;
- 4. The categories of eligible mitigation actions that the state anticipates will be appropriate to achieve these goals and an estimate of the percentage of funds to be spent on each of these actions; and
- 5. A description of the range of emissions benefits that would be realized by implementation of the actions identified in the Mitigation Plan.

Section 4.1 of the Final Trust Agreement also states that the Mitigation Plan "need only provide the level of detail reasonably ascertainable at the time of submission." The purpose of the Mitigation Plan is to "provide the public with insight into a Beneficiary's high-level vision for use of the mitigation funds and information about the specific uses for which funding is expected to be requested."

Aside from these required elements of every state Mitigation Plan, Florida has the following additional informational objectives for its Mitigation Plan:

- To inform the public on key elements of the Final Settlement Agreement; and
- To provide details on air quality in Florida relevant to the objectives of the Final Settlement Agreement.

## 1. Public Input

When developing Florida's Mitigation Plan, the Department sought and considered input from a range of interested parties, potential project partners, and members of the public through numerous discrete and interrelated public engagement, outreach, and educational efforts.

In April 2017, the Department created a webpage within the Department's website summarizing the process by which the Volkswagen Mitigation Trust Fund was established, detailing the mitigation actions eligible for funding, and directing users to a range of related resources concerning

the Settlement process.<sup>10</sup> The Department updated the website by posting Beneficiary Designation documents, a public survey, public informational meeting and webinar notices, presentation materials, and a post-public meeting Question and Answer document. The Department provided updates and uploaded documents to the webpage including the Mitigation Plan and will do so for the Volkswagen Settlement activities to follow. Concurrently with the publication of the website, the Department provided to the public an opportunity to subscribe to a mailing list that distributed news and updates relating to the Volkswagen Settlement from the Department. As of the publication date of this Mitigation Plan, this mailing list has more than 5,400 subscribers.

## A. Requests for Information

In May 2017, the Department published six Requests for Information (RFI) seeking information from interested parties, potential project partners, and owners of units in the following categories:

- 1. Heavy and Medium Duty Trucks;
- 2. School, Shuttle, and Transit Buses;
- 3. Airport and Non-Road Equipment;
- 4. Ports Shorepower and Marine Diesel;
- 5. Locomotives; and
- 6. Electric Vehicle Charging Stations.

The information received via these RFIs provided the Department with information regarding the types of potential project partners and the types of vehicles and equipment that could be eligible for replacement, repowering, or retrofitting, the location of potential projects, and the emissions benefits associated with potential projects.

## **B.** Public Survey

In March 2018, the Department announced the availability of an online public survey asking a series of questions related to the requirements of the Mitigation Plan. The survey was available to interested individuals and members of the public and private sectors for a period of sixty (60) days. The Department conducted a series of five (5) in-person and two (2) webinar public informational meetings coinciding with the online public survey during the first thirty (30) days. There were 2,023 completed surveys submitted to the Department. The Department used the results to develop this Mitigation Plan. A full summary of survey results may be found in Appendix A.

The top two responses for ranking project-specific funding were:

- 1. School Buses, Shuttle Buses, and Transit Buses; and
- 2. Electric Vehicle Charging Stations.

<sup>&</sup>lt;sup>10</sup> Department's Volkswagen Settlement Website: <u>https://floridadep.gov/volkswagen</u>

The top three responses for ranking factors for funding projects were:

- 1. Projects that replace diesel units with alternative fuels and/or electric vehicles and equipment;
- 2. Projects that focus on communities that bear a disproportionate share of the air pollution burden; and
- 3. Projects with greater emission reductions per dollar invested.

## C. Informational Meetings and Webinars

The Department conducted five public informational meetings around the state to inform the public about the settlement, the actions taken by the Department, and the development of the Mitigation Plan. These public meetings included a presentation<sup>11</sup> by Department staff that summarized the required elements of the Mitigation Plan and the process the Department would follow in finalizing the Mitigation Plan. Additionally, the Department conducted two public informational webinars for those who were unable to attend in person. The public informational meetings and webinars were conducted on the following dates:

- Wednesday, March 21, 2018 Informational Meeting, Jacksonville
- Thursday, March 22, 2018 Informational Meeting, Tallahassee
- Tuesday, March 27, 2018 Informational Meeting, Orlando
- Wednesday, March 28, 2018 Informational Meeting, Temple Terrace
- Thursday, March 29, 2018 Informational Meeting, West Palm Beach
- Thursday, April 19, 2018 Webinar
- Thursday, April 26, 2018 Webinar

Concurrent with the sixty (60) day public survey period, the Department issued a general request for written comments regarding all issues to be addressed in the state's Mitigation Plan. The Department considered these comments in drafting this Mitigation Plan, particularly as they related to the overall goals of the Mitigation Plan and the types of eligible mitigation actions that should be favored.

## D. Draft Mitigation Plan Public Comment Period

A draft of this Mitigation Plan was made publicly available via Florida Administrative Register (FAR) notice for comment for a period of thirty (30) days, which started on July 17, 2019 and ended August 16, 2019, at 5:00 PM, ET. The Department compiled and reviewed all public comments and finalized the Mitigation Plan for submittal to the Trustee.

The Department received a total of 1,414 public comments. A general table describing the types of comments received are as follows (some submitted comments provided multiple suggestions, making the count greater than the number of submissions):

<sup>&</sup>lt;sup>11</sup> The Department's Volkswagen Mitigation Plan presentation is available at: <u>https://floridadep.gov/air/air-monitoring/documents/diesel-emissions-mitigation-program-public-informational-meetings</u>

Electric Vehicle Proponents	Electric Bus Proponents	EV Infrastructure Proponents	Other
71	1307	47	47

The Department has considered all comments submitted and revised the Mitigation Plan, primarily to clarify the Department's initial intent. The Department has also provided a list of common themes from the public comment period. A list of revisions to the finalized Mitigation Plan and responses to common themes from the public comment period are included in Appendix E.

## E. Future Public Outreach

As previously stated, the Department manages an electronic mailing list service for any interested individual to subscribe and receive updates on all activities and publications related to the Department's work on the Volkswagen Settlement. Interested individuals are encouraged to subscribe to this service.<sup>12</sup>

After submitting the Mitigation Plan, the Department plans to publish a suite of RFIs for the purpose of receiving detailed information on the programs for project-specific funding based on the Eligible Mitigation Actions selected for participation. The RFIs will be publicly noticed through the FAR as well as communicated through the Volkswagen Settlement email notification service and webpage.<sup>13</sup>

## 2. Overall Goal of Florida's Mitigation Plan

The primary goal of Florida's Mitigation Plan is to reduce emissions of  $NO_x$ , particulate matter, and hazardous air pollutants in areas where people live, work, and visit. To achieve this goal, Florida's Mitigation Plan will balance the following factors informed, in part, by the state's outreach efforts and input received from the public:

- 1. Prioritizing projects that replace eligible units with electric-powered and/or alternative fueled units;
- 2. Identifying the areas in Florida where the largest number of people are impacted by higher levels of emissions from diesel-powered vehicles and equipment; and
- 3. Identifying cost-effective mitigation projects, factoring in the prioritized fuel types.

As stated in the Final Trust Agreement, Florida has the discretion to adjust priorities and objectives as necessary and reserves the right to adjust this goal and spending plans at the state's discretion while maintaining the primary goal of the plan. If the Mitigation Plan needs to be amended, the Department will provide the Trustee and the public with updates on any changes.

## 3. Areas with a Disproportionate Share of the Air Pollution Burden

Most air pollutants in Florida occur in concentrations well below the National Ambient Air Quality Standards (NAAQS), though some air pollutants can occur in concentrations in local or regional

<sup>&</sup>lt;sup>12</sup> Department Subscription Service: <u>https://floridadep.gov/subscribe</u>

<sup>&</sup>lt;sup>13</sup> Florida Administrative Register: <u>https://www.flrules.org/</u>

areas that could potentially affect the health of Florida's residents and visitors. The pollutants of most concern are ground-level ozone and particulate matter, including the emissions of precursor pollutants, such as NO<sub>x</sub>, sulfur dioxide (SO<sub>2</sub>), VOCs, and hazardous air pollutants (HAPs).<sup>14</sup> The use of diesel-powered vehicles is a substantial contributor to the total amount of emissions that lead to ground-level ozone formation and increased concentrations of particulate matter. Emissions from diesel-powered vehicles can lead to localized impacts on air quality, especially in congested urban corridors.

Florida is attaining the NAAQS for the following criteria air pollutants: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone, particulate matter (both  $PM_{10}$  and  $PM_{2.5}$ ), and lead (Pb). The vast majority of Florida is in attainment for SO<sub>2</sub>, except for two small geographic areas centered around certain large stationary sources. These remaining two areas are in the process of being redesignated to attainment by EPA, which means that Florida should be in attainment for all NAAQS criteria air pollutants by 2020.

Air quality in Florida varies by geography. Generally, air quality is better in rural areas (with fewer total mobile and stationary sources of air pollution) than in more urban areas (which tend to have higher concentrations of both mobile and stationary sources of air pollution). Paragraph 4.1 of Attachment A of the Final Settlement Agreement requires beneficiaries to specify how they "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[.]"<sup>15</sup> In order to identify the specific geographic areas that "bear a disproportionate share of the air pollution burden," the Department utilized the following suite of available resources to develop Air Quality Priority Areas for project-specific funding.

- 1. The 2014 National Emissions Inventory;
- 2. Design values in Florida for NO<sub>2</sub>, ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>;
- 3. The Environmental Justice Screening tool (EJSCREEN); and
- 4. U.S. Census population data.

## A. National Emissions Inventory

The National Emissions Inventory (NEI) is a comprehensive and detailed estimate of air emissions for criteria air pollutants, criteria precursors, and 187 hazardous air pollutants (HAPs) from air emissions sources. The 2014 NEI is the most recent complete version released by EPA. The NEI is based primarily upon data provided by State, Local, and Tribal air agencies for sources in their jurisdictions and supplemented by data developed by EPA.<sup>16</sup>

NEI on-road sources include emissions from on-road vehicles that use gasoline, diesel, and other fuels. These sources include on-road light-duty and heavy-duty vehicle emissions. EPA uses the Motor Vehicle Emission Simulator (MOVES) model to compute on-road emissions based on model inputs.<sup>17</sup> NEI non-road sources include off-road mobile sources that use gasoline, diesel, and other

<sup>&</sup>lt;sup>14</sup> EPA VOCs: <u>https://www.epa.gov/ozone-pollution</u>

<sup>&</sup>lt;sup>15</sup> Final Trust Agreement: <u>https://floridadep.gov/air/air-director/documents/executed-trust-agreements-vw</u>

<sup>&</sup>lt;sup>16</sup> National Emissions Inventory: <u>https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei</u>

<sup>&</sup>lt;sup>17</sup> EPA MOVES Model: <u>https://www.epa.gov/moves</u>

fuels. Source types include construction equipment, lawn and garden equipment, aircraft ground support equipment, and locomotives. For many non-road sources, the EPA uses the MOVES-NONROAD model.<sup>18</sup>

According to the 2014 NEI, Florida's total emissions of  $NO_x$  from all sources, both stationary and mobile, was 582,390 tons.<sup>19</sup> The vast majority of these  $NO_x$  emissions came from mobile sources. These sources emitted 416,565 tons in 2014, approximately 71% of the total statewide  $NO_x$  emissions. In Florida, approximately 33% of all  $NO_x$  emissions (194,638 tons) are from diesel-powered mobile sources. Figure 1 shows the sources of  $NO_x$  emissions in Florida. Figure 2 shows the distribution of total  $NO_x$  emissions by county.





<sup>&</sup>lt;sup>18</sup> EPA Nonroad MOVES Model: <u>https://www.epa.gov/moves/nonroad-technical-reports</u>

<sup>&</sup>lt;sup>19</sup> EPA's 2014 NEI Data: https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data



Figure 2. Distribution by County for All NO<sub>x</sub> Emissions in Florida (2014)

Of the 194,638 tons of  $NO_x$  emitted from diesel-powered mobile sources, the sources break down into the following specific subcategories:

- 100,709 tons from on-road diesel heavy-duty vehicles (e.g., tractor trailers);
- 63,675 tons from non-road diesel equipment (e.g., heavy forklifts);
- 16,786 tons from commercial marine vessels (e.g., cruise and container ships);
- 7,448 tons from on-road diesel light-duty vehicles (i.e., personal vehicles); and
- 6,020 tons from diesel-powered locomotives (e.g., switcher locomotives).

The Environmental Mitigation Trust Fund provides funding to reduce  $NO_x$  emissions from each of these categories (except on-road diesel light-duty vehicles), focusing on older and higher emitting mobile sources. Figure 3 show the main categories of  $NO_x$  emissions from diesel-powered mobiles sources. Figure 4 shows mobile sources of  $NO_x$  distributed by county.







Figure 4. Distribution by County for Mobile Source NO<sub>x</sub> Emissions in Florida (2014)

Use of the NEI provides insight as to where the sources of air pollution that could impact citizens' health are located. The NEI allows states to review county-level emissions data, sector-wide emissions data (i.e., point sources, mobile sources, or area sources), or a combination of both. Using the 2014 NEI, the Department has identified which counties have the most  $NO_x$ ,  $PM_{2.5}$ , and  $PM_{10}$  emissions from mobile diesel sources. Figure 5 shows the top 10 counties. A complete county list may be found in Appendix B.

## Figure 5. Counties with the Highest Mobile Diesel Emissions in Tons Per Year (TPY) (2014)

## **Emissions of NO<sub>x</sub> from Mobile Diesel Sources**

#### Emissions of PM<sub>2.5</sub> from Mobile Diesel Sources

County	Total PM <sub>2.5</sub> (TPY)
Miami-Dade	1,107
Broward	779
Palm Beach	760
Hillsborough	746
Monroe	682
Orange	614
Duval	545
Lee	469
Pinellas	417
Polk	322

#### **Emissions of PM<sub>10</sub> from Mobile Diesel Sources**

County	Total PM <sub>10</sub> (TPY)
Miami-Dade	1,429
Broward	951
Hillsborough	913
Palm Beach	864
Orange	751
Duval	661
Pinellas	570
Lee	557
Monroe	402
Volusia	396

#### **B.** Ambient Air Monitoring Data

A simple quantification of emissions is only one of the indicators that helps to identify areas that bear a disproportionate burden. Another relevant factor is the actual monitored air quality around the state. As noted above, Florida's ambient air monitoring network shows that all of Florida is in attainment for ozone, NO<sub>x</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub>. However, some areas of the state have monitoring data that are closer to the NAAQS than others. For NO<sub>2</sub>, the state has consistent levels of annual and one-hour concentration design values. Florida's ambient monitoring network for NO<sub>2</sub> shows that there are no monitors within 50 percent of the 1-hour NO<sub>2</sub> NAAQS or within 80 percent of the annual NO<sub>2</sub> NAAQS.

Although Florida's ambient monitoring network demonstrates that there are no monitored air quality issues relating to  $NO_2$ ,  $NO_x$  remains one of the primary precursor pollutants for the formation of ground-level ozone. The formation of ozone occurs when  $NO_x$  and other precursor pollutants, such as VOCs, react in the presence of sunlight to form ozone, also known as ground-level ozone or smog. Exposure to high levels of ozone can cause respiratory issues, such as increased frequency of asthma attacks.<sup>20</sup>

Although moderate levels of ground-level ozone do occur in Florida, the Department's ambient monitoring network shows that there are no monitors exceeding the 2015 8-hour ozone NAAQS of 70 parts per billion (ppb). Figure 6 illustrates the ozone design values from 2015 to 2017.

<sup>&</sup>lt;sup>20</sup> EPA's Webpage for Ozone Health Effects: <u>https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution</u>



Figure 6. Ozone Design Values (2015-2017)

On occasion, there are days in the spring when meteorological conditions conducive to ozone formation cause an air monitor to measure ozone values above the 8-hour average concentration of 70 ppb. Figure 7 shows county information for the number of days with at least one monitored reading above 70 ppb. Some counties have multiple air monitors that have been placed in locations based on federal regulations. This figure does not show how many air monitors are in each county, and which individual and/or combination of air monitors measured an exceedance.<sup>21</sup> Additionally, this figure does not show official exceedances, but rather shows 2013-2017 data using the 2015 standard of 70 ppb. The standard for 2013 and 2014 was 75 ppb.

<sup>&</sup>lt;sup>21</sup> EPA Webpage for the National Ambient Air Quality Standards: <u>https://www.epa.gov/criteria-air-pollutants/naaqs-table</u>



Figure 7. Exceedance Days from 2013-2017 Using the 2015 Standard

Another pollutant that diesel-powered vehicles emit is particulate matter (PM), specifically fine particulate matter, called  $PM_{2.5}$ . Depending on the location of the monitor, different sources of  $PM_{2.5}$  can be the primary driver of any air quality issues. There are many sources of  $PM_{2.5}$  including:

- 1. Naturally-occurring direct emissions of PM<sub>2.5</sub> (e.g. fires);
- 2. Naturally-occurring secondarily-formed PM<sub>2.5</sub> (e.g. biogenic VOCs);
- 3. Anthropogenic sources of directly-emitted PM<sub>2.5</sub> (e.g. PM<sub>2.5</sub> from mobile sources); and
- 4. Anthropogenic sources of secondarily-formed  $PM_{2.5}$  (e.g.  $SO_2$  and  $NO_x$  emissions)

Although there are a diverse set of sources of both primary and secondary particulate matter, Florida's ambient monitoring network for  $PM_{2.5}$  shows that there are no monitors exceeding either the annual or 24-hour  $PM_{2.5}$  NAAQS. Figure 7 shows the current design values for the annual and 24-hour  $PM_{2.5}$  NAAQS around Florida. Generally, design values increase towards the northern half of Florida and into the Panhandle, partially due to impacts from in-state and out-of-state fires.



### Figure 8. Statewide PM<sub>2.5</sub> Design Values

## C. Environmental Justice Screening Tool

For estimating population impacts, the state utilized EPA's Environmental Justice Screening Tool, known as "EJSCREEN." EJSCREEN takes geographic area and provides specific demographic and environmental information and creates EJ indexes.<sup>22</sup>

The six (6) demographic indicators used by EJSCREEN are (1) Percent Low-Income; (2) Percent Minority; (3) Less Than High School Education; (4) Linguistic Isolation; (5) Individuals Under Age 5; and (6) Individuals Over Age 64.

The eleven (11) environmental indicators used by EJSCREEN are (1) National Scale Air Toxics Assessment Air Toxics Cancer Risk; (2) National Scale Air Toxics Assessment Respiratory Hazard Index; (3) National Scale Air Toxics Assessment Diesel PM (DPM); (4) Particulate Matter (PM<sub>2.5</sub>); (5) Ozone; (6) Lead Paint Indicator; (7) Traffic Proximity and Volume; (8) Proximity to Risk

<sup>&</sup>lt;sup>22</sup> EJSCREEN: <u>https://www.epa.gov/ejscreen</u>

Management Plan Sites; (9) Proximity to Treatment Storage and Disposal Facilities; (10) Proximity to National Priorities List Sites; and (11) Proximity to Major Direct Water Dischargers. EJSCREEN results were supplemented with additional information, including local knowledge, to get a better understanding of the issues as the tool does not provide data on every environmental impact and demographic indicator that may be relevant to a location.

EJSCREEN is used as an additional indicator to identify potential areas where more people may be exposed to more pollution, thus receiving a disproportionate share of the air pollution burden. The state used population density statistics within EJSCREEN to determine the number of people that may be impacted in the areas surrounding a project. For example, a project involving trucks that routinely drive through more populated areas may have more overall benefit than a similar project involving trucks that routinely drive along more rural routes.

EJSCREEN uses a formula to combine a single environmental factor with the demographic indicator to calculate an "EJ Index". The "EJ Index" uses the raw environmental indicators combined with census data on low-income and minority populations to determine counties where these populations are most burdened by air quality issues. Figure 9 is sorted by National Air Toxics Assessment Diesel PM "EJ Index" as it is most relevant to finding overburdened areas impacted by diesel emissions. A full County-level "EJ Index" may be found in Appendix C.

	EJ Index (percentile in state)					
County*	PM <sub>2.5</sub>	Ozone	NATA Diesel PM	<b>Traffic Proximity</b>		
Osceola	96	96	94	87		
Orange	85	86	88	87		
Miami-Dade	83	82	86	91		
Broward	69	68	74	87		
DeSoto	68	70	65	71		
Hillsborough	58	58	65	77		
Alachua	53	53	62	76		
Duval	56	54	62	72		
Hendry	76	78	62	68		
Leon	54	53	62	66		
Gadsden	82	76	61	61		
St. Lucie	56	57	61	69		
Palm Beach	54	55	59	78		
Polk	59	60	59	67		
Hardee	69	70	58	70		

# Figure 9. Output from EPA's Environmental Justice Screening Tool (EJSCREEN Version 2017) – County-Level EJ Indexes and Environmental Indicators

\*This table shows fifteen (15) counties from the output of EPA's EJSCREEN. A complete output can be found in Appendix C of this Mitigation Plan.

#### **D.** Population Data

The final factor that the Department considered is the most recent population data for Florida. This is consistent with the state's overall goal of reducing emissions of  $NO_x$ , particulate matter, and organic hazardous air pollutants from diesel-powered mobile sources that impact the most people. Figure 10 shows population density by county and Figure 11 shows the most recent U.S. Census data identifying Florida's urban areas.







Figure 11. Florida Urban Areas (Latest U.S. Census Data, 2010)

#### E. Air Quality Priority Areas

The Department identified five air quality priority areas using the four overburdened area factors discussed above (emissions inventories, air monitoring data, environmental justice indicators, and population data). The Department will prioritize these areas for certain diesel emission mitigation projects. The Department's overburdened areas analysis shows that mitigation funds spent in these priority areas will have the largest environmental benefits for the most people, consistent with the Department's overall goal of the Mitigation Plan.

The Department identified urban areas with the highest emissions, highest ozone design values, highest population, and highest environmental justice indicator. The Miami-Broward-Palm Beach, Tampa-St. Petersburg, Orlando, Jacksonville, and Pensacola urbanized areas were the highest urbanized areas for these factors. The Department then included nearby secondary urbanized areas that are connected to these five primary urbanized areas. The result of this analysis is shown in Figure 12, identifying priority counties, with a focus on the more urbanized areas within those counties.



Figure 12. Air Quality Priority Areas in Florida

These five air quality priority areas (incorporating the counties and primary and secondary urbanized areas in each) are as follows:

### **Southeast Florida**

- Covering Broward, Martin, Miami-Dade, Palm Beach, and St. Lucie counties;
- Primary urbanized area: Miami-Broward-Palm Beach; secondary urbanized area: Port St. Lucie;

#### **Southwest Florida**

- Covering Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, and Sarasota counties;
- Primary urbanized area: Tampa-St. Petersburg; secondary urbanized areas: Spring Hill, Zephyrhills, Lakeland, Winter Haven, and Sarasota-Bradenton;

#### **Central Florida**

- Covering Lake, Orange, Osceola, Seminole, and Volusia counties;
- Primary urbanized area: Orlando; secondary urbanized areas: Kissimmee, Deltona, Leesburg-Eustis-Tavares;

#### **Northeast Florida**

- Covering Clay, Duval, and St. Johns counties;
- Primary urbanized area: Jacksonville; secondary urbanized area: St Augustine;

#### **Northwest Florida**

- Covering Escambia, Okaloosa, and Santa Rosa counties;
- Primary urbanized area: Pensacola; secondary urbanized area: Fort Walton Beach-Navarre-Wright.

Florida's air quality priority areas for certain diesel emission reduction projects cover ~16,000,000 people (78% of all Floridians);  $\sim$ 125,000 tons of mobile-diesel NO<sub>x</sub> emissions (65% of all Florida mobile-diesel NO<sub>x</sub>); all areas within 10% of the 2015 ozone NAAQS (2015-2017) design values of 63 or above); and the top four Diesel PM "EJ Index" counties.

## 4. Eligible Mitigation Actions

Appendix D-2 of the Final Trust Agreement lists ten (10) Eligible Mitigation Actions for states to consider in the development of the Mitigation Plan. A complete copy of Appendix D-2 can be found as Appendix D-2 to the Mitigation Plan and can also be found on the Department's webpage.<sup>23</sup> Additionally, the Department has a helpful drop-down tool on the Volkswagen Settlement webpage to assist interested individuals in understanding the eligibility requirements of each of the ten (10) Eligible Mitigation Actions.<sup>24</sup> Florida considered which eligible mitigation actions would achieve

<sup>&</sup>lt;sup>23</sup> DEP's Link to Appendix D-2 of the Final Trust Agreement: https://floridadep.gov/air/air-

director/documents/appendix-d-2-vw <sup>24</sup> DEP's Volkswagen Settlement Website with Drop-down Tool: <u>https://floridadep.gov/air/air/content/volkswagen-</u> settlement-mitigation-trust

the state's primary goal of improving air quality around the state and identifying projects projected to yield real and measurable environmental benefits.

The Department identified the following categories of Eligible Mitigation Actions for project-specific funding:

Eligible Mitigation Action	Allocation
School, Transit, and Shuttle Buses	70%
Light-Duty ZEV Supply Equipment	15% (Maximum Allowable)
Diesel Emissions Reduction Act (DERA)	15%

The Final Settlement Agreement allows for up to 15% of the total cost of each eligible mitigation action to be used for actual administrative expenditures, as described in Appendix D-2 of the Final Trust Agreement. The Department intends to encumber as much of the total state allotment as possible for project-specific funding but reserves the right to allow for minimal funding on administrative costs.

These types of projects are projected to meet the state's overall goal for reducing excess  $NO_x$  emissions in areas where improvement in air quality could yield the greatest public health benefits (due to a combination of population density and relatively poorer air quality levels) as the emission reductions will inure to communities around concentrated areas of mobile emissions sources.

#### **Diesel Emissions Reduction Act (DERA)**

The DERA State Grant Program is funded in part through federal grants administered by EPA. The DERA grant program is analogous to Appendix D-2 of the Final Trust Agreement because the program is designed to provide funding to reduce harmful emissions from diesel engines. This similarity makes the DERA Option under the Eligible Mitigation Actions a valuable option to leverage additional funds for the same purpose.<sup>25</sup> The Department has participated in DERA previously and posted a webpage dedicated to the DERA program.<sup>26</sup>

As stated in EPA's DERA 2019 Program Guide: "Projects may include, but are not limited to, diesel emission reduction solutions from the following heavy-duty emission source types:

- 1. Buses;
- 2. Medium-duty or heavy-duty trucks;
- 3. Marine Engines;
- 4. Locomotives; and
- 5. Nonroad engines, equipment or vehicles used in:
  - a) Construction;
  - b) Handling of cargo (including at a port or airport);
  - c) Agriculture;
  - d) Mining; or
  - e) Energy production (including stationary generators and pumps)."

<sup>&</sup>lt;sup>25</sup> EPA's Clean Diesel and DERA Funding: <u>https://www.epa.gov/cleandiesel</u>

<sup>&</sup>lt;sup>26</sup> DEP's DERA Program Webpage: <u>https://floridadep.gov/air/air-director/content/diesel-emissions-reduction-act-dera-florida</u>

The Department's decision to use Mitigation Trust funds in conjunction with the DERA program will allow for funding project-types that were not selected as individual Eligible Mitigation Actions. Participating in DERA provides versatility for project types with the highest mitigation value based on the factor of cost per ton. The Department encourages those interested to visit the Department's DERA program webpage.<sup>27</sup>

## 5. Emissions Benefits

Section 4.1 of Appendix D of the Final Trust Agreement requires that states provide a description of the range of emissions benefits projected to result from actions identified in their Mitigation Plans. The Department estimates that from 2009-2018, the 33,160 vehicles sold in Florida have an annual average of 261 tons of excess NO<sub>x</sub> emissions. This estimate includes the number of violating vehicles removed through the minimum 85 percent Volkswagen buy-back program requirement.

Florida has utilized EPA's Diesel Emissions Quantifier (DEQ) to provide general data related to the NO<sub>x</sub> emission reductions associated with various Eligible Mitigation Actions.<sup>28</sup> The DEQ is an EPA tool that enables users to estimate emissions from diesel vehicles and equipment for both highway and nonroad vehicles and marine vessels. The DEQ is capable of the following:

- Calculating emissions from a single emissions reduction project; and
- Comparing fleet emissions using different retrofit control technologies.

Figures 13 and 14 show the potential annual emissions benefits for electric replacement units. The annual emissions benefits estimates are based on a scenario using the total available funding amount identified in Section 4 of the Mitigation Plan for each row of examples. This figure does not have a full list of fuel types and electric-powered units eligible for project specific funding but serves as a general range of annual emissions benefits. Not included in this estimate are the emissions benefits from the installation of light-duty electric vehicle charging stations. The Department is developing a method to estimate the emissions benefits from the full 15% allowed under the Final Trust Agreement for charging infrastructure.

Figure 13. Emissions Benefits Estimate for Electric Replacement Units

NO <sub>x</sub> Emissions Benefits Based on Possible Cost-Share Amounts							
Unit Type	Estimated	80% Cost-Share (From State)			60% Cost	-Share	(From State)
\$116.4M each)	Unit Cost	New Units	TPY	Cost/lb./Year	New Units	TPY	Cost/lb./Year
Electric School Bus	\$350,000	415	51	\$1,136	553	68	\$856
Electric Transit Bus	\$900,000	161	142	\$410	215	190	\$306

<sup>&</sup>lt;sup>27</sup> Florida's DERA Webpage: <u>https://floridadep.gov/air/air-director/content/diesel-emissions-reduction-act-dera-florida</u>

<sup>&</sup>lt;sup>28</sup> EPA's Diesel Emissions Quantifier (DEQ): <u>https://cfpub.epa.gov/quantifier/index.cfm?action=main.home</u>

<b>DERA NO<sub>x</sub> Emissions Benefit in Tons Per Year (TPY)</b>								
Unit Type (15% or \$24.9M each)	Estimated Unit Cost	40% Maximum State Cost-Share (60% Unit-Owner Contribution)					40% Maximum State Cost-Sha (60% Unit-Owner Contributio	
		Number of New Units	TPY	Cost/lb./Year				
Tug Boat (Propulsion) Engine Replacement	\$1,000,000	62	865	\$14				
Switcher Locomotive Engine Replacement	\$1,000,000	62	197	\$63				
*These are two examples of emissions benefits from eligible unit-types. For a full list of eligibility requirements, including all eligible unit-types, please visit the Department's DERA webpage and download EPA's DERA 2019 Program Guide.								

## Figure 14. Emissions Benefits Estimate Under DERA\*

Once projects commence, the Department will use project-specific emissions factors and modeling software to estimate the range of air pollution reductions associated with each mitigation project.

The state expects that each Eligible Mitigation Action will:

- 1. Reduce NO<sub>x</sub> emissions for the remainder of the lifecycle for the units being replaced;
- 2. Improve air quality in areas that bear a disproportionate share of the air pollution burden, as discussed under Section 3 above; and
- 3. Reduce exposure to other pollutants resulting from diesel combustion such as diesel particulate matter and organic hazardous air pollutants.

\*\*\*

Appendix A





# 1. In which county do you reside? (Total Completed Surveys: 2,023)









3. Are you interested in receiving funding for a diesel emission reduction project?



# Project Funding Interest Follow Up

# If yes, what type of project are you interested partnering or participating?

# **Common Responses include:**

- Government fleet modernization
- Replacement of older diesel school buses
- EV charging station infrastructure
- Update statewide fleets of garbage collection
- · Repowering of locomotives and heavy trucks
- Alternative fueling stations
- Private fleet replacement projects
- Repower of maritime equipment at state ports



4. As a percentage, how should Florida divide the total available funding between government-

owned vehicles and equipment and partnerships with business-owned vehicles and equipment?

# **Public to Private Funding Response**





5. There are several major project categories to which the state may direct funding. Please rate these categories from 1 (most preferred) to 7 (least preferred).

Item	Overall Rank	Rank Distribution	Score	No. of Rankings
School Buses, Shuttle Buses, and Transit Buses	1		11,778	1,939
Electric Vehicle Charging Stations	2		9,800	1,928
On-Road Medium and Heavy-Duty Diesel Trucks	3		7,738	1,794
Seaport Shorepower, Cargo Handling Equipment, and Marine Diesel Engines	4		6,233	1,780
Airport Ground Support Equipment	5		5,858	1,784
Locomotives	6		5,488	1,769
Non-Road Diesel Equipment	7		5,019	1,775

Lowest Rank Highest Rank



6. These maps show the relative concentrations of mobile-source air pollution in Florida and ozone levels relative to the National Ambient Air Quality Standard. Should Florida prioritize funding in areas with more emissions sources and higher ozone levels?





# 7. There are many factors that may be useful in identifying and prioritizing mitigation projects. Please rate the following from 1 (most preferred) to 7 (least preferred)

Item	Overall Rank	Rank Distribution	Score	No. of Rankings
Projects that replace diesel units with alternative fuels and/or electric vehicles and equipment	1		10,240	1,937
Projects that focus on communities that bear a disproportionate share of the air pollution burden	2		8,108	1,861
Projects with greater emission reductions per dollar invested	3		7,495	1,833
Projects that replace the highest emitting diesel units regardless of their location	4		7,208	1,856
Projects in areas with higher diesel engine emissions	5		7,119	1,837
Projects that incentivize business investment in cleaner technologies	6		6,755	1,846
Projects that focus funding on modernizing transportation hubs (seaports, airports, railyards)	7		5,860	1,832

Lowest Rank Highest Rank



8. Are you planning on buying or leasing an electric (plugin) vehicle in the next five years?





## Common Responses to why include:

- · I already own an electric vehicle
- Reducing gas consumption and vehicle emissions
- · More cost effective in the long run
- Cheaper to operate over time
- To invest in cleaner energy

Common Responses to why not include:

- Too expensive
- · The technology is too new
- · Vehicles currently available won't meet fleet needs
- Available range/shortage of infrastructure
- · Already own a hybrid vehicle
- · Not wanting to wait for a charge
- Questionable reliability on new technology
- · Just bought a new car recently/happy with current car



# *9. Please provide any additional information that you think may be helpful in developing Florida's Beneficiary Mitigation Plan.*

Percent of Responses by Category

- EV Replacement Projects
- EV Infrastructure Projects
- Clean Diesel Projects
- Government Projects
- Private Sector Projects
- Alternative Fuel Projects
- Airport and Marine Projects





# Appendix B

Mobile Diesel NO<sub>x</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> by County (NEI Data 2014)

Emissions of NO <sub>x</sub> from mobile diesel sources				
County	Total NO <sub>x</sub> (TPY)			
Miami-Dade	15,646			
Monroe	14,699			
Broward	11,944			
Palm Beach	11,698			
Hillsborough	11,160			
Orange	9,205			
Duval	8,608			
Lee	6,832			
Pinellas	6,044			
Brevard	5,455			
Polk	5,392			
Volusia	5,245			
Marion	4,415			
Sarasota	4,146			
Manatee	3,835			
Collier	3,834			
St. Johns	3,775			
Pasco	3,544			
Osceola	3,232			
Seminole	3,098			
Escambia	3,072			
Alachua	3,001			
St. Lucie	2,953			
Martin	2,861			
Lake	2,608			
Leon	2,463			
Okaloosa	2,170			
Sumter	2,108			
Charlotte	1,983			
Indian River	1,953			
Bay	1,888			
Nassau	1,721			

Emissions of PM <sub>2.5</sub> from mobile diesel sources					
County	Total PM2.5 (TPY)				
Miami-Dade	1,107				
Broward	779				
Palm Beach	760				
Hillsborough	746				
Monroe	682				
Orange	614				
Duval	545				
Lee	469				
Pinellas	417				
Polk	322				
Brevard	321				
Volusia	321				
Marion	269				
Sarasota	268				
Manatee	260				
Collier	253				
Pasco	230				
St. Johns	209				
Seminole	205				
Osceola	205				
Escambia	186				
St. Lucie	174				
Martin	167				
Lake	166				
Alachua	165				
Leon	162				
Okaloosa	131				
Charlotte	119				
Indian River	117				
Bay	117				
Sumter	104				
Santa Rosa	96				

Emissions of PM <sub>10</sub> from mobile diesel sources					
County	Total PM10 (TPY)				
Miami-Dade	1,429				
Broward	951				
Hillsborough	913				
Palm Beach	864				
Orange	751				
Duval	661				
Pinellas	570				
Lee	557				
Monroe	402				
Volusia	396				
Polk	382				
Brevard	375				
Sarasota	333				
Marion	318				
Manatee	308				
Collier	307				
Pasco	278				
St. Johns	251				
Seminole	249				
Osceola	244				
Escambia	210				
Lake	201				
Alachua	200				
Leon	199				
St. Lucie	196				
Martin	185				
Okaloosa	160				
Indian River	140				
Charlotte	140				
Bay	138				
Sumter	118				
Santa Rosa	113				

Emissions of NO <sub>x</sub> from				
mobile diesel sources				
County	NOx			
county	(TPY)			
Walton	1,685			
Santa Rosa	1,673			
Columbia	1,590			
Hernando	1,420			
Flagler	1,346			
Clay	1,236			
Jackson	1,163			
Citrus	1,095			
Gadsden	976			
Highlands	877			
Suwannee	832			
Hamilton	821			
Madison	799			
Baker	651			
Putnam	605			
Levy	601			
Okeechobee	574			
Jefferson	572			
Hendry	571			
Franklin	527			
Washington	465			
Bradford	455			
DeSoto	440			
Gulf	416			
Holmes	407			
Glades	375			
Hardee	334			
Wakulla	327			
Taylor	297			
Dixie	235			
Gilchrist	181			
Calhoun	177			
Union	130			
Liberty	108			
Lafayette	92			

Emissions of PM <sub>2.5</sub> from mobile diesel sources				
County	Total PM <sub>2.5</sub> (TPY)			
Nassau	96			
Walton	91			
Flagler	88			
Hernando	86			
Clay	81			
Citrus	71			
Columbia	68			
Highlands	54			
Jackson	54			
Gadsden	44			
Suwannee	40			
Hendry	37			
Madison	34			
Putnam	33			
Okeechobee	31			
Hamilton	31			
Baker	30			
Levy	29			
DeSoto	29			
Bradford	26			
Jefferson	26			
Franklin	24			
Washington	22			
Gulf	21			
Hardee	21			
Holmes	20			
Wakulla	18			
Glades	17			
Taylor	14			
Dixie	11			
Gilchrist	10			
Calhoun	10			
Union	7			
Liberty	6			
Lafayette	5			

Emissions of PM <sub>10</sub> from mobile diesel sources				
County	Total PM <sub>10</sub> (TPY)			
Hernando	105			
Walton	104			
Flagler	101			
Clay	96			
Nassau	95			
Citrus	87			
Columbia	83			
Highlands	63			
Jackson	61			
Gadsden	50			
Suwannee	46			
Hendry	42			
Putnam	40			
Madison	37			
Hamilton	36			
Okeechobee	36			
Levy	34			
Baker	33			
DeSoto	33			
Jefferson	29			
Bradford	26			
Washington	25			
Hardee	25			
Holmes	22			
Wakulla	22			
Franklin	21			
Gulf	19			
Glades	19			
Taylor	17			
Dixie	13			
Gilchrist	13			
Calhoun	12			
Union	9			
Lafayette	6			
Liberty	6			

# Appendix C

EJSCREEN 2017 By County

EJSCREEN 2017 - Florida County-Level EJ Indexes (by Percentile)							
		_	NATA	Traffic			
County	PM2.5	Ozone	Diesel PM	Proximity			
Alachua	53	53	62	76			
Raker	21	24	32	55			
Bay	25	29	38	24			
Bradford	41	41	45	51			
Brevard	32	30	29	15			
Broward	69	68	74	87			
Calhoun	54	53	50	55			
Charlotte	28	27	31	23			
Citrus	20	21	32	28			
Clav	14	16	18	17			
Collier	48	48	53	51			
Columbia	43	44	47	35			
DeSoto	68	70	65	71			
Dixie	44	45	47	52			
Duval	56	54	62	72			
Escambia	45	46	50	70			
Flagler	39	38	38	33			
Franklin	49	49	48	35			
Gadsden	82	76	61	61			
Gilchrist	33	35	43	36			
Glades	59	60	52	62			
Gulf	43	44	47	38			
Hamilton	70	66	56	57			
Hardee	69	70	58	70			
Hendry	76	78	62	68			
Hernando	35	35	39	31			
Highlands	49	49	52	57			
Hillsborough	58	58	65	77			
Holmes	43	45	47	54			
Indian River	42	41	41	26			
Jackson	59	56	52	54			
Jefferson	69	64	57	57			
Lafayette	53	52	49	59			
Lake	34	33	36	43			
Lee	44	44	48	58			
Leon	54	53	62	66			
Levy	46	46	48	54			
Liberty	60	58	51	56			
Madison	68	64	57	62			
Manatee	31	31	40	57			
Marion	41	41	45	60			
Martin Miawi Dada	30	20	25	19			
Mami-Dade	83	82	80	<u>91</u> 51			
Monroe	45	44	47	51			
Nassau Okalaasa	14	17	24	30			
Okaoobabaa	23	3U 66	30 50	10			
Orango	04 95	86	00 00	07 97			
	00	00	00	0/ 97			
Dalm Baach	<u>90</u> 57	90 55	50	01 70			
	34 34	31 31	28 34	/ O 25			
Pinollae	36	36	34	20			
Polk	50	60	54	67			
Putnam	53	54	53	63			
		<u> </u>					

EJSCREEN 2017 - Florida County-Level EJ Indexes (by Percentile)						
County	PM2.5	Ozone	NATA Diesel PM	Traffic Proximity		
Santa Rosa	10	14	29	15		
Sarasota	16	15	18	14		
Seminole	38	38	36	66		
St. Johns	3	3	6	18		
St. Lucie	56	57	61	69		
Sumter	0	0	0	16		
Suwannee	45	46	48	50		
Taylor	58	56	51	52		
Union	61	60	53	50		
Volusia	41	40	43	28		
Wakulla	19	24	39	25		
Walton	31	33	44	20		
Washington	52	51	49	52		
Yellow highlighted boxes are the highest percentile in the column.						

## **Appendix D**

# Eligible Mitigation Actions and Mitigation Action Expenditures (Directly from Appendix D-2 of Final Trust Agreement)

## APPENDIX D-2

### ELIGIBLE MITIGATION ACTIONS AND MITIGATION ACTION EXPENDITURES

- 1. <u>Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)</u>
  - a. Eligible Large Trucks include 1992-2009 engine model year Class 8 Local Freight or Drayage. For Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, Eligible Large Trucks shall also include 2010-2012 engine model year Class 8 Local Freight or Drayage.
  - b. Eligible Large Trucks must be Scrapped.
  - c. 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.
  - d. For Non-Government Owned Eligible Class 8 Local Freight Trucks, Beneficiaries may only draw funds from the Trust in the amount of:
    - 1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
    - 2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.
    - 3. 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.
    - 4. Up to 75% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
  - e. For Non-Government Owned Eligible Drayage Trucks, Beneficiaries may only draw funds from the Trust in the amount of:
    - 1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
    - 2. Up to 50% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

- 3. 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.
- 4. Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
- f. For Government Owned Eligible Class 8 Large Trucks, Beneficiaries may draw funds from the Trust in the amount of:
  - 1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
  - 2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.
  - 3. 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.
  - 4. Up to 100% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
- 2. <u>Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)</u>
  - a. Eligible Buses include 2009 engine model year or older class 4-8 school buses, shuttle buses, or transit buses. For Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year buses at the time of the proposed Eligible Mitigation Action, Eligible Buses shall also include 2010-2012 engine model year class 4-8 school buses, shuttle buses, or transit buses.
  - b. Eligible Buses must be Scrapped.
  - c. 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.
  - d. For Non-Government Owned Buses, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
    - 2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.

- 3. 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.
- 4. Up to 75% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
- e. 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:
  - 1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
  - 2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.
  - 3. 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.
  - 4. Up to 100% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
- 3. Freight Switchers
  - a. Eligible Freight Switchers include pre-Tier 4 switcher locomotives that operate 1000 or more hours per year.
  - b. Eligible Freight Switchers must be Scrapped.
  - c. 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 EPA emissions standards (or other more stringent equivalent State standard) as published in the CFR for the engine model year in which the Eligible Freight Switcher Mitigation Action occurs.
  - d. For Non-Government Owned Freight Switchers, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s) or Generator Sets, including the costs of installation of such engine(s).
    - 2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) Freight Switcher.
    - 3. 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).
    - 4. Up to 75% of the cost of a new All-Electric Freight Switcher, including charging infrastructure associated with the new All-Electric Freight Switcher.
  - e. For Government Owned Eligible Freight Switchers, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. Up to 100% of the cost of a Repower with a new diesel or Alternate

Fueled (e.g., CNG, propane, Hybrid) engine(s) or Generator Sets, including the costs of installation of such engine(s).

- 2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) Freight Switcher.
- 3. 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).
- 4. Up to 100% of the cost of a new All-Electric Freight Switcher, including charging infrastructure associated with the new All-Electric Freight Switcher.
- 4. Ferries/Tugs
  - a. Eligible Ferries and/or Tugs include unregulated, Tier 1, or Tier 2 marine engines.
  - b. Eligible Ferry and/or Tug engines that are replaced must be Scrapped.
  - c. 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.
  - d. For Non-Government Owned Eligible Ferries and/or Tugs, Beneficiaries may only draw funds from the Trust in the amount of:
    - 1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s), including the costs of installation of such engine(s).
    - 2. 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).
  - e. For Government Owned Eligible Ferries and/or Tugs, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine(s), including the costs of installation of such engine(s).
    - 2. 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).
- 5. Ocean Going Vessels (OGV) Shorepower
  - a. 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.

- b. 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.
- c. 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.
- 6. Class 4-7 Local Freight Trucks (Medium Trucks)
  - a. Eligible Medium Trucks include 1992-2009 engine model year class 4-7 Local Freight trucks, and for Beneficiaries that have State regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed Eligible Mitigation Action, Eligible Trucks shall also include 2010-2012 engine model year class 4-7 Local Freight trucks.
  - b. Eligible Medium Trucks must be Scrapped.
  - c. Eligible Medium Trucks 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 Medium Trucks Mitigation Action occurs or one engine model year prior.
  - d. For Non-Government Owned Eligible Medium Trucks, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. Up to 40% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
    - 2. Up to 25% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.
    - 3. 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.
    - 4. Up to 75% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
  - e. For Government Owned Eligible Medium Trucks, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. Up to 100% of the cost of a Repower with a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) engine, including the costs of installation of such engine.
    - 2. Up to 100% of the cost of a new diesel or Alternate Fueled (e.g., CNG, propane, Hybrid) vehicle.
    - 3. 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.

- 4. Up to 100% of the cost of a new All-Electric vehicle, including charging infrastructure associated with the new All-Electric vehicle.
- 7. Airport Ground Support Equipment
  - a. Eligible Airport Ground Support Equipment includes:
    - 1. Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment; and
    - 2. Uncertified, or certified to 3 g/bhp-hr or higher emissions, spark ignition engine powered airport ground support equipment.
  - b. Eligible Airport Ground Support Equipment must be Scrapped.
  - c. 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.
  - d. For Non-Government Owned Eligible Airport Ground Support Equipment, Beneficiaries may only draw funds from the Trust in the amount of:
    - 1. 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.
    - 2. 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.
  - e. For Government Owned Eligible Airport Ground Support Equipment, Beneficiaries may draw funds from the Trust in the amount of:
    - 1. 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.
    - 2. 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.
- 8. Forklifts and Port Cargo Handling Equipment
  - a. Eligible Forklifts includes forklifts with greater than 8000 pounds lift capacity.
  - b. Eligible Forklifts and Port Cargo Handling Equipment must be Scrapped.
  - c. 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.
  - d. For Non-Government Owned Eligible Forklifts and Port Cargo Handling Equipment, Beneficiaries may draw funds from the Trust in the amount of:
  - 1. 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.
  - 2. 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.
  - e. For Government Owned Eligible Forklifts and Port Cargo Handling

Equipment, Beneficiaries may draw funds from the Trust in the amount of:

- 1. 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.
- 2. Up to 100% 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.
- 9. <u>Light Duty Zero Emission Vehicle Supply Equipment</u>. 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 (i.e., maintenance other than of the Supply Equipment).
  - a. 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 (i.e., not located at a private residential dwelling that is not a multi-unit dwelling).
  - b. Light duty hydrogen fuel cell vehicle supply equipment includes hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70 megapascals (MPa) (or analogous successor technologies) that is located in a public place.
  - c. Subject to the 15% limitation above, each Beneficiary may draw funds from the Trust in the amount of:
  - 1. 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.
  - 2. 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.
  - 3. 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.
  - 4. 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.
  - 5. 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 kg/day that will be available to the public.
  - 6. 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 kg/day that will be available to the public.

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), or Section 792 (codified at 42 U.S.C. § 16132) in the case of Tribes, thereby allowing Beneficiaries to use such Trust Funds for actions not specifically enumerated in this Appendix D-2, but otherwise eligible under DERA pursuant to all DERA guidance documents available through the EPA. Trust Funds shall not be used to meet the non- federal mandatory cost share requirements, as defined in applicable DERA program guidance, of any DERA grant.

## Eligible Mitigation Action Administrative Expenditures

For any Eligible Mitigation Action, Beneficiaries may use Trust Funds for actual administrative expenditures (described below) associated with implementing such Eligible Mitigation Action, but not to exceed 15% of the total cost of such Eligible Mitigation Action. The 15% cap includes the aggregated amount of eligible administrative expenditures incurred by the Beneficiary and any third-party contractor(s).

- 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 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.
- 7. Other costs including insurance, professional services, occupancy and equipment leases, printing and publication, training, indirect costs, and accounting.

## Definitions/Glossary of Terms

"Airport Ground Support Equipment" shall mean vehicles and equipment used at an airport to service aircraft between flights.

"All-Electric" shall mean powered exclusively by electricity provided by a battery, fuel cell, or the grid.

"Alternate Fueled" shall mean an engine, or a vehicle or piece of equipment that is powered by an engine, which uses a fuel different from or in addition to gasoline fuel or diesel fuel (e.g., CNG, propane, diesel-electric Hybrid).

"Certified Remanufacture System or Verified Engine Upgrade" shall mean engine upgrades certified or verified by EPA or CARB to achieve a reduction in emissions.

"Class 4-7 Local Freight Trucks (Medium Trucks)" shall mean trucks, including commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers) with a Gross Vehicle Weight Rating (GVWR) between 14,001 and 33,000 lbs. "Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses)" shall mean vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,001 lbs. used for transporting people. <u>See</u> definition for School Bus below.

"Class 8 Local Freight, and Port Drayage Trucks (Eligible Large Trucks)" shall mean trucks with a Gross Vehicle Weight Rating (GVWR) greater than 33,000 lbs. used for port drayage and/or freight/cargo delivery (including waste haulers, dump trucks, concrete mixers).

"CNG" shall mean Compressed Natural Gas.

"Drayage Trucks" shall mean trucks hauling cargo to and from ports and intermodal rail yards. "Forklift" shall mean nonroad equipment used to lift and move materials short distances; generally includes tines to lift objects. Eligible types of forklifts include reach stackers, side loaders, and top loaders.

"Freight Switcher" shall mean a locomotive that moves rail cars around a rail yard as compared to a line-haul engine that moves freight long distances.

"Generator Set" shall mean a switcher locomotive equipped with multiple engines that can turn off one or more engines to reduce emissions and save fuel depending on the load it is moving.

"Government" shall mean a State or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds), and a tribal government or native village. The term "State" means the several States, the District of Columbia, and the Commonwealth of Puerto Rico.

"Gross Vehicle Weight Rating (GVWR)" shall mean the maximum weight of the vehicle, as specified by the manufacturer. GVWR includes total vehicle weight plus fluids, passengers, and cargo.

Class 1: < 6000 lb. Class 2: 6001-10,000 lb. Class 3: 10,001-14,000 lb. Class 4: 14,001-16,000 lb. Class 5: 16,001-19,500 lb. Class 6: 19,501-26,000 lb. Class 7: 26,001-33,000 lb. Class 8: > 33,001 lb.

"Hybrid" shall mean a vehicle that combines an internal combustion engine with a battery and electric motor.

"Infrastructure" shall mean the equipment used to enable the use of electric powered vehicles (e.g., electric vehicle charging station).

"Intermodal Rail Yard" shall mean a rail facility in which cargo is transferred from drayage truck to train or vice-versa.

"Port Cargo Handling Equipment" shall mean rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

"Plug-in Hybrid Electric Vehicle (PHEV)" shall mean a vehicle that is similar to a Hybrid but is equipped with a larger, more advanced battery that allows the vehicle to be plugged in and recharged in addition to refueling with gasoline. This larger battery allows the car to be driven on a combination of electric and gasoline fuels.

"Repower" shall mean to replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternate fuel, diesel engine replacement with an electric power source (e.g., grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) (genset), diesel engine upgrades in Ferries/Tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in Ferries/Tugs with an EPA Verified Engine Upgrade. All-Electric and fuel cell Repowers do not require EPA or CARB certification.

"School Bus" shall mean a Class 4-8 bus sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events. May be Type A-D.

"Scrapped" shall mean to render inoperable and available for recycle, and, at a minimum, to specifically cut a 3-inch hole in the engine block for all engines. If any Eligible Vehicle will be replaced as part of an Eligible project, Scrapped shall also include the disabling of the chassis by cutting the vehicle's frame rails completely in half.

"Tier 0, 1, 2, 3, 4" shall refer to corresponding EPA engine emission classifications for nonroad, locomotive, and marine engines.

"Tugs" shall mean dedicated vessels that push or pull other vessels in ports, harbors, and

inland waterways (e.g., tugboats and towboats).

"Zero Emission Vehicle (ZEV)" shall mean a vehicle that produces no emissions from the on- board source of power (e.g., All-Electric or hydrogen fuel cell vehicles).

# Appendix E

Draft Beneficiary Mitigation Plan

Public Comment Period Summary

## Appendix E

Appendix E provides a summary of the prevalent comments from the draft Beneficiary Mitigation Plan public comment period and a full list of material changes made to the finalized Beneficiary Mitigation Plan after considering the public comments.

As stated in the body of the Mitigation Plan, the Department received 1,414 comments during the public comment period. The breakdown of these comments and the common themes of public comments are as follows:

Electric Vehicle Proponents	Electric Bus Proponents	EV Infrastructure Proponents	Other
<u>71</u>	<u>1307</u>	<u>47</u>	<u>47</u>

## **Common Themes of Public Comments**

- Many commenters discouraged the use of funding to purchase new diesel-powered units.
- The majority of commenters supported the use of funds for electric buses.
- The maximum allowable 15 percent funding for electric vehicle charging infrastructure was widely supported.
- Many comments included a request for the Department to provide specific information about how the funds will be administered, including cost-share amounts, requirements, eligibility, timelines for funding, and how to apply for funds.
- Respondents asked the Department to assure that funding is available for areas not included in the five Air Quality Priority Areas.
- Respondents asked for clarification about which project types are eligible under DERA.

## Mitigation Plan Summary of Edits (in order of appearance)

The following list includes all changes made to the Beneficiary Mitigation Plan after the public comment period. The Department has included the reasoning behind making the changes in an effort to provide context and address the common themes from the public comment period.

## 1. Executive Summary and Overall Goal of Florida's Mitigation Plan

Through public comments, the Department identified a need to clarify the factors the Department will consider in attaining the primary goal. The changes are to number the bullets and reword the third bullet to further delineate the three factors in order. The Department has made these changes to clarify the initial intent of the bullets: to show that the Department will identify mitigation projects that achieve the most emissions reductions per trust fund dollar invested, through the lens of the Department would like to reiterate that specifics about how the funds will be administered, including cost-share amounts, requirements, eligibility, timelines for funding, and how to apply for funds, are not required to be included in the Beneficiary Mitigation Plan. The Department would also like to reiterate that areas of the state not included in Air Quality Priority Areas are and will be eligible to receive project-specific funding. Programmatic decisions will be made after the

Request for Information (RFI) process has concluded. The RFI process commenced at the same time as the publishing and submittal of the finalized Beneficiary Mitigation Plan. Links to the RFIs can be found on the Department's Diesel Emissions Mitigation Program (DEMP) webpage.

See below for the strike-through and underline edits.

## Primary goal stays the same:

"The primary goal of Florida's Mitigation Plan is to reduce emissions of NO<sub>x</sub>, particulate matter, and hazardous air pollutants in areas where people live, work, and visit. To achieve this goal, Florida's Mitigation Plan will balance the following factors:"

## Draft Mitigation Plan:

- Prioritizing projects that replace eligible units with electric-powered and/or alternative fueled units;
- Identifying the areas in Florida where the largest number of people are impacted by higher levels of emissions from diesel-powered vehicles and equipment; and
- Identifying mitigation projects that achieve the lowest cost per ton of pollutants reduced.

## Finalized Mitigation Plan:

- 1. Prioritizing projects that replace eligible units with electric-powered and/or alternative fueled units;
- 2. Identifying the areas in Florida where the largest number of people are impacted by higher levels of emissions from diesel-powered vehicles and equipment; and
- 3. Identifying cost-effective mitigation projects, <u>factoring in the prioritized fuel-types</u>.

## 2. Public Input Section D: Draft Mitigation Plan Public Comment Period

The Department reserved this space to provide a summary of the draft Mitigation Plan public comment period. The addition to the finalized Mitigation Plan are as follows:

"A draft of this Mitigation Plan was made publicly available <u>via Florida Administrative Register</u> (FAR) notice for comment for a period of thirty (30) days, <u>which started on July 17, 2019 and</u> ended August 16, 2019, at 5:00 PM, ET. The Department compiled and reviewed all public comments and finalized the Mitigation Plan for submittal to the Trustee.

The Department received a total of 1,414 public comments. A general table describing the types of comments received are as follows (some submitted comments provided multiple suggestions, making the count greater than the number of submissions):

Electric Vehicle Proponents	Electric Bus Proponents	EV Infrastructure Proponents	Other
<u>71</u>	<u>1307</u>	<u>47</u>	<u>47</u>

The Department has considered all comments submitted and revised the Mitigation Plan, primarily to clarify the Department's initial intent. The Department has also provided a list of common themes from the public comment period. A full list of revisions to the finalized Mitigation Plan and responses to common themes from the public comment period are included in Appendix E."

## 3. Diesel Emissions Reduction Act

The Department found a need to provide a list of units which are eligible under the Diesel Emissions Reduction Act (DERA). This addition clarifies the many unit types that are eligible under DERA, as some commenters mis-interpreted the inclusion of only tug boat and switcher locomotive projects in Figure 14 as an indication that these would be the only projects eligible under DERA. The strike-throughs and underlines after the first paragraph of the DERA section are as follows:

"<u>As stated in EPA's DERA 2019 Program Guide: "Projects may include, but are not limited to, diesel emission reduction solutions from the following heavy-duty diesel emission source types:</u>

- 1. Buses;
- 2. <u>Medium-duty or heavy-duty trucks;</u>
- 3. Marine Engines;
- 4. Locomotives; and
- 5. Nonroad engines, equipment or vehicles used in:
  - a) Construction;
  - b) Handling of cargo (including at a port or airport);
  - c) <u>Agriculture;</u>
  - d) <u>Mining; or</u>
  - e) Energy production (including stationary generators and pumps).

The Department's decision to use Mitigation Trust funds in conjunction with the DERA program will allow for funding project types that were not selected <u>above</u> <u>as individual Eligible Mitigation</u> <u>Actions</u>. Participating in DERA provides versatility for project types with the highest mitigation value based on the factor of cost per ton. The Department encourages those interested to visit the Department's DERA program webpage."

## 4. Figure 13. Emissions Benefits Estimated Based on Selected Eligible Mitigation Actions

The Department has responded to many comments regarding Figure 13 by making clarifying revisions. The purpose of Figure 13 is to illustrate the need for a cost-share to purchase school and transit buses for both government and nongovernment entities. While the draft and finalized Mitigation Plan both state the prioritization of electric and alternate fueled units as a factor to meet the primary goal of the mitigation trust funds, the feedback the Department received was that Figure 13 could be misinterpreted as the Department favoring diesel based on the upfront cost disparity.

Therefore, the Department has revised the third factor to be clear that projects will be identified, based, in part, on the "emissions reductions per dollar of trust funds invested, factoring in the prioritized fuel types." Furthermore, the Department has removed the diesel emissions calculation from Figure 13 to make sure the purpose of the table is made clear and cannot be misunderstood to mean the favoring of diesel.

Additionally, the Department changed the unit of measurement from "cost, per ton, per year", to "cost, per pound, per year." This revision was deemed necessary because for bus projects, this is more in line with the scale of emissions from individual buses.

Finally, the Department has revised the potential range of illustrative cost-share amounts. In the interest of government and nongovernment entities, the Department has provided a more realistic range of cost-share percentages for the Department's use of mitigation trust funds. The purpose of the Mitigation Plan is to provide the Trustee an outline of Florida's use of mitigation trust funds; therefore, the Department's analysis of projects is based on the use of mitigation trust funds to purchase the unit. Public comments regarding the cost of ownership over the lifetime of the unit are valid; however, the Department is not including those considerations at this time, as these are not directly related to the use of Florida's share of mitigation trust funds. Certainly, an entity should consider the lifetime cost of ownership when deciding what type of unit to purchase. Here are the two figures to show the revisions made to Figure 13:

NO <sub>x</sub> Emissions Benefit in Tons Per Year (TPY) Based on Possible Cost-Share Amounts							
Unit Type	100% Cost-Share (Public)			50% Split Share (Public)			
(Assuming 100% Funding Within Each Category)	Unit Cost	Number of New Units	тру	Cost/Ton/ Year	Number of New Units	ТРҮ	Cost/Ton/ Year
School Bus							
Electric Replacement	\$350,000	332	41	\$2,874,000	665	81	\$1,434,674
(70% or \$116.4M)							
School Bus							
Diesel Replacement	\$100,000	1163	142	\$820,000	2327	284	\$409,995
(70% or \$116.4M)							
Transit Bus							
Electric Replacement	\$900,000	129	114	\$1,023,000	258	228	\$511,501
(70% or \$116.4M)							
Transit Bus							
Diesel Replacement	\$400,000	290	241	\$482,000	581	483	\$240,788
(70% or \$116.4M)							

## Draft Mitigation Plan – Figure 13

## Finalized Mitigation Plan – Figure 13

NO <sub>x</sub> Emissions Benefits Based on Possible Cost-Share Amounts								
Unit Type	Estimated	80% Cost	(From State)	60% Cost	-Share	(From State)		
\$116.4M each)	Unit Cost	New Units	New Units TPY Cost/lb./Year			TPY	Cost/lb./Year	
Electric School Bus	\$350,000	415	51	\$1,136	553	68	\$856	
Electric Transit Bus	\$900,000	161	142	\$410	215	190	\$306	

## 5. Figure 14. Emissions Benefits Estimate Based Under DERA Option

The Department made conforming edits to make Figure 14 based on the revisions to Figure 13. Additionally, the Department added information to clarify that Figure 14 does not represent the only project types which will be funded through the DERA program. A full list of eligible projects is available on the Department's webpage by downloading EPA's 2019 DERA Program Guide, as well as the added information under the DERA section of the finalized Mitigation Plan. Here are the edits to Figure 14:

## **Draft Mitigation Plan – Figure 14**

Potential DERA NO <sub>x</sub> Emissions Benefit in Tons Per Year (TPY)							
Unit Type (Assuming 100% Funding Within the	Estimated Unit Cost	40% Maximum Cost-Share (60% Owner Contribution)					
<b>DERA</b> Category)		Number of New Units	TPY	Cost/Ton/Year			
<b>Tug Boat (Propulsion)</b> <b>Engine Replacement</b> (15% or \$24.9M)	\$1,000,000	62	865	\$28,783			
Switcher Locomotive Engine Replacement (15% or \$24.9M)	\$1,000,000	62	197	\$126,532			

Finalized Mitigation Plan – Figure 14

<b>DERA NO<sub>x</sub> Emissions Benefit in Tons Per Year (TPY)</b>							
Unit Type (15% or \$24.9M each)	Estimated Unit Cost	40% Maximum State Cost-Share (60% Unit-Owner Contribution)					
		Number of New Units	TPY	Cost/lb./Year			
Tug Boat (Propulsion) Engine Replacement	\$1,000,000	62	865	\$14			
Switcher Locomotive Engine Replacement	\$1,000,000	62	197	\$63			

\*These are two examples of emissions benefits from eligible unit-types. For a full list of eligibility requirements, including all eligible unit-types, please visit the Department's DERA webpage and download EPA's DERA 2019 Program Guide.

## 6. Appendix E – Replaced

The Department decided to remove the two graphs in the draft Mitigation Plan's Appendix E, as the graphs provided limited value in illustrating emissions benefit calculations. This summary of revisions and public comment period summary document is the replacement Appendix E.