State of New Jersey
Department of Environmental Protection

CHRIS CHRISTIE
*Governor*

KIM GUADAGNO
*Lt. Governor*

BOB MARTIN
*Commissioner*

# PROJECT SOLICITATION

## OVERALL GOAL

The State of New Jersey, as a potential beneficiary of the Trust established pursuant to the national Volkswagen settlement, intends to use its allocation from the mitigation trust to efficiently implement projects that reduce oxides of nitrogen (NOx) emissions in a cost effective and technically feasible manner. The implemented projects must meet the criteria of the Consent Decree. New Jersey is issuing this solicitation for project ideas to ensure a broad range of project ideas are considered. Additional opportunities will be provided for public input during the upcoming months.

Submissions must be received by January 31, 2018 and must contain all the information outlined in the "Project Proposals" section of this document.

## ELIGIBLE PROJECTS

A general summary is below. Click here for comprehensive list and associated definitions.

| Source Category | Emission Reduction Strategy | Allowed Expenditure Amount |
|---|---|---|
| **1. Class 8 local freight trucks & port drayage trucks** | Repower and replacement | Up to 40% for repower with diesel or alternative fuel or up to 75% (up to 100% if government owned) for repower with electric. Electric charging infrastructure costs are eligible expense.<br><br>Up to 25% for replacement with diesel or alternative fuel or up to 75% (up to 100% if government owned) for electric replacement. Electric charging infrastructure costs are eligible expense. |
| **2. Class 4-8 school bus, shuttle bus or transit bus** | Repower and replacement | Same as row 1 |
| **3. Freight switching locomotives** | Repower and replacement | Same as row 1 |
| **4. Ferries/Tugs** | Repower | Same as row 1 |
| **5. Oceangoing vessels** | Shorepower | Up to 25% for shore side infrastructure if non-government owned (up to 100% if government owned) |

| | | |
|---|---|---|
| **6. Class 4-7 local freight trucks** | Repower and replacement | Same as row 1. |
| **7. Airport ground support equipment** | Repower and replacement | Up to 75% to repower or replace with electric (up to 100% if government owned). Electric charging infrastructure costs are eligible expense. |
| **8. Forklifts and Port Cargo Handling Equipment** | Repower and replacement | Up to 75% to repower or replace with electric (up to 100% if government owned). Electric charging infrastructure costs are eligible expense. |
| **9. Electric vehicle charging stations or hydrogen fueling stations for light duty vehicles only** | | Up to 100% to purchase, install and maintain infrastructure if available to public at *government owned* property.<br>Up to 80% to purchase, install and maintain infrastructure if available to public at *non-government owned* property.<br>Up to 60% to purchase, install and maintain infrastructure at a workplace or multi-unit dwelling that is not available to the general public.<br>Up to 33% to purchase, install and maintain infrastructure for publicly available hydrogen dispensing that is high volume or up to 25% for lower volume. |

**PROJECT PROPOSALS**

Proposals must be submitted by close of business on January 31, 2018. Electronic submittals are preferred and should be sent to VWComments@dep.nj.gov however paper submittals will also be accepted and should be sent to:

NJDEP
Division of Air Quality
Mail code 401-02E
Trenton, NJ 08625-0420
Attn: VW Settlement

All proposals must contain the following information; incomplete applications will not be considered. If your project is selected, you may be contacted for additional detailed information. Send questions to VWComments@dep.nj.gov

To enter information electronically use Adobe Reader

**CONTACT INFORMATION**

| | |
|---|---|
| Organization Name | Proterra |
| Organization Address | 1 Whitlee Court |
| City, State Zip Code | Greenville, SC 29607 |
| Contact Person | Eric McCarthy |
| Title/Position | SVP, Government Relations & Legal Affairs |
| Phone | (864) 214-2668 |
| E-mail | emccarthy@proterra.com |

| | |
|---|---|
| **PROJECT NAME** | Sustainable Mobility for New Jersey |

**PROJECT CATEGORY OR CATEGORIES** (choose from 1-9 in "Eligible Projects" section above)

**1** ☐ **2** ☑ **3** ☐ **4** ☐ **5** ☐ **6** ☐ **7** ☐ **8** ☐ **9** ☐

**PROJECT PRIORITY** Priority # of proposals

If submitting more than one proposal, what is the sponsor's priority of this proposal?

**PROJECT BUDGET** $ 24,100,100.00

Provide total estimated project budget, include source and amount of cost share if applicable.

See page 9 of attached proposal

**PROJECT DESCRIPTION (**Briefly describe the project by completing the following questions)

Geographic area where emissions reductions will occur? See page 2 of attached proposal

Estimated size of population benefitting from the emission reductions? 894,000,000

Estimated useful life of the project? 12 years + (see pg 3 attached proposal)

Number of engines/vehicles/vessels/equipment included in the project? 30

Estimated emission benefits should be expressed in tons per year (TPY) of emission reduced for NOx and for PM 2.5 over the lifetime of the project. Identify methodology used.

Estimated NOx benefits? TPY

Methodology Used?

Particulate matter (PM 2.5) benefits? TPY

Methodology Used? see pages 2, 6, 7 of attached proposal

Will the project benefit one or more communities that are disproportionately impacted by air pollution? If so, please describe.

Yes. See pages 2 and 4 of attached proposal.

| |
|---|
| Project partners, if any?<br>n/a |
| Explain how the project will provide cost effective and technically feasible emission reductions. Cost effectiveness should be expressed in dollars per ton per year of emissions reduced for NOx and for PM 2.5.<br>See pages 2, 7, and 8 of attached proposal. |
| Estimated timeframe for implementation? Include a project timeline that identifies start and end dates, as well as the timeframe for key milestones.<br>See pages 4 and 5 of attached proposal. |
| Demonstrated success in implementing similar projects?<br>See page 3 of attached proposal. |
| If your proposed project involves alternative fuels, provide a demonstration of current or future plans to provide adequate refueling infrastructure.<br>See page 3 of attached proposal. |
| Has your organization been approved to receive and expend any other grant funds related to this project? If so, please provide details.<br>https://ngtnews.com/nj-transit-nets-grant-deploy-battery-electric-buses<br>Also see page 3 of attached proposal. |
| Please provide any additional information that supports this project.<br>Please see attached proposal. |

Two additional pages have been provided as supplemental space to answer any of the questions above.

Supplemental Page 1

Supplemental Page 2

# The Public Transit Electrification Project: Sustainable Mobility for New Jersey

## Project Application Information

Proterra Inc.

Eric J. McCarthy

Private Corporation (Non-Government)

1 Whitlee Court, Greenville, SC 29607

864-214-2668

emccarthy@proterra.com

## PROJECT SUMMARY

Zero-emission public transit buses are ripe for immediate scaling and investment from the Environmental Mitigation Trust to help carry out the goals of New Jersey's mitigation plan to achieve significant and sustained reductions in diesel emissions and expedite deployment and widespread adoption of zero-emission vehicles. *The Public Transit Electrification Project* will initially deploy 30 zero-emission, battery-electric transit buses and 30 multi-use depot charging stations at one or more New Jersey municipalities to provide electric mobility for all New Jersey residents and serve as a strong spark to accelerate the deployment of ZEVs, reduce diesel emissions and eliminate toxic air pollutants. The size of the project, however, can easily scale to accommodate other interested transit agencies, universities and/or airports.

Proterra, the leading U.S. provider of zero-emission, all-electric transit solutions, designs and manufactures the world's most fuel-efficient battery electric bus and features on-route, fast-charge technology that offers functionally unlimited range, as well as an extended range version that enables transit agencies to travel 350 miles on a single charge. Proterra's CATALYST™ bus achieves 22+ MPGe performance, 500%+ better than diesel and CNG buses, eliminating toxic diesel particulate matter and reducing carbon emissions by 70% or more compared to CNG or diesel buses. To date, Proterra's buses have logged 3+ million miles of service in cities across the United States. With over 38 transit customers and over 400 buses on order, Proterra has become the zero-emission technology provider of choice for transit agencies nationwide.

Proterra will manufacture and deploy the commercial zero-emission buses and depot charging stations and will work closely with the participating New Jersey municipality or municipalities to successfully implement *the Project*. *The Public Transit Electrification Project* will demonstrate the economic and environmental benefits of accelerating the transition to commercially available ZEV technology, increase ZEV access and education, and eliminate toxic diesel exposures – achieving the goals of New Jersey's mitigation plan to improve and protect ambient air quality.

# The Public Transit Electrification Project: Sustainable Mobility for New Jersey

The goals of this Project are to:

- Reduce NOx emissions to improve air quality and provide health benefits.
- Launch a zero-emission public transit bus pilot project to demonstrate concepts of sustainable mobility in one or more municipalities.
- Increase zero-emission vehicle awareness and access.
- Accelerate scaled zero-emission vehicle deployment.
- Demonstrate the economic and environmental benefits of accelerating the transition to commercially available zero-emission technology to a large cluster of transit routes.
- Provide zero-emission buses to benefit those areas and vulnerable communities that bear a disproportionate share of the State's air pollution burden, eliminating toxic emissions and providing zero-emission miles.
- Lead the transformation and technology transfer for a wide range of commercial fleets.
- Help drive down per-vehicle zero-emission bus costs with the Project's scale.

The objectives of this Project are to:

- Deploy 30 zero-emission, battery-electric transit buses and 30 multi-use depot charging stations to show that commercially available battery electric transit buses better serve communities' transit needs, substantially reduce greenhouse gas emissions, and provide substantial localized air quality benefits for disadvantaged communities.
- Reduce greenhouse gas emissions by up to ~ 3,336 metric tons $CO_2e$/year.
- Eliminate ~ 2.9 tons/year of weighted criteria pollutants and PM emissions.
- Provide scalable lessons learned to drive additional deployments of zero-emission heavy-duty technologies throughout New Jersey.
- Deploy Proterra buses that charge using the J 1772 CCS standard.

## PROJECT DETAIL

The *Public Transit Electrification Project* will deploy 30 zero-emission, battery-electric transit buses and 30 multi-use depot charging stations at the participating New Jersey municipality or municipalities. These municipalities would be located in areas that receive a disproportionate quantity of air pollution from diesel fleets and from highway diesel NOx.

The VW settlement provides a much-needed opportunity to further demonstrate that commercially available zero-emission technologies have the lowest cost of ownership, improved maintenance and performance, and better serve a diverse range of communities' public transit needs, including the reduction of diesel emissions and the elimination of criteria emissions.

# The Public Transit Electrification Project: Sustainable Mobility for New Jersey

### Proterra – Technology Manufacturer and Project Coordinator

Proterra's zero-emission, battery-electric technology is being deployed in revenue service throughout the nation. Transit agency early adopters, such as Foothill Transit and San Joaquin RTD in California, have demonstrated the technology readiness of Proterra's battery all-electric solutions on urban as well as mixed suburban routes – and now major metropolitan agencies such as SEPTA (Philadelphia) and King County Metro (Seattle) are placing larger orders - 25 and 73 buses respectively. Nevertheless, there is a need for more deployments to demonstrate the economic, performance and lasting environmental benefits of deploying commercially available, cost-saving, zero-emission battery electric buses. The *Public Transit Electrification Project* will accelerate the deployment and adoption of commercially viable, immediately scalable zero-emission public transit buses in similar fleets throughout New Jersey and beyond.


For the proposed project, Proterra will offer its extensive experience and expertise in manufacturing, deploying, operating, and maintaining commercial zero-emission buses and infrastructure – working closely with one or more participating transit agencies. To date, Proterra's buses have logged 3+ million miles of service in cities across the United States. Proterra has zero-emission buses operating in revenue-generating service in the following cities: San Joaquin RTD in Stockton, CA, Foothill Transit in Pomona, CA, VIA Metropolitan in San Antonio, TX, University of Montana in Missoula, MT, WRTA in Worcester, MA, TARC in Louisville, KY, LexTran in Lexington, KY, Nashville MTA in Nashville, TN, PVTA in Springfield, MA, Star Metro in Tallahassee, FL, King County Metro, WA, RTC in Reno, NV, Jones Lang LaSalle in Chicago, IL, CATBus in Seneca, SC, Park City Transit, Park City, UT, Sportran in Shreveport, LA, DDOT in Washington, DC and soon at MTA in New York, NY and SEPTA in Philadelphia, PA. Proterra will also be delivering to NJ Transit its first electric transit bus. https://ngtnews.com/nj-transit-nets-grant-deploy-battery-electric-buses.

The battery-electric buses and charging infrastructure for this project will be manufactured at Proterra's manufacturing facility in Greenville, SC. The close proximity to the transit agency partner will ensure collaboration and ease of maintenance for any needed repairs to the vehicles and charging infrastructure during the 12-year vehicle lifespan.

### Eligible Technologies to be Implemented

- Battery-Electric Bus: Proterra will replace Class 8, diesel heavy-duty transit buses at one or more transit agencies with 30 Proterra E2 battery-electric buses. Proterra is proposing its 40-foot Catalyst E2 battery-electric bus. The proposed Catalyst E2 bus has a total of 440kWh

of on-board energy storage; more than 25% more capacity than other 40' battery electric buses on the market. Importantly, the Catalyst was designed from the start exclusively as an electric vehicle. It delivers remarkable route flexibility and has a stellar track record in operational performance. The bus body is made with advanced carbon composites that are extremely light, durable, and resistant to corrosion. The bus body is then paired with an advanced, scalable energy storage system and the most efficient drivetrain on the market. With its durability and corrosion resistance, this platform is designed to safely and to quietly withstand nearly two decades of service. The curb weight of the vehicle is 29,849 lbs. and the Gross Vehicle Weight is 39,050 lbs. The maximum speed is 65 mph (6000 RPM).

- Plug-In Charging System: Proterra is proposing 30 62.5 kWh depot chargers that can be combined to charge a Catalyst E2 440kWh bus from 0% to 100% State of Charge (SOC) in ~ four (4) hours.

### Management/Implementation Capacities

Proterra will work directly and collaboratively with a municipality to ensure the successful planning, manufacturing, deployment, operation, and maintenance of the zero-emission public transit buses and charging infrastructure throughout the Project. Proterra will provide significant executive staff resources and a dedicated maintenance employee to ensure a successful deployment of zero-emission vehicles and charging infrastructure and proper training for all existing service and maintenance employees.

The Proterra team members have extensive backgrounds in project management, manufacturing, vehicle deployment, vehicle maintenance and operations, vehicle and infrastructure training, and permitting and other on-site operational needs. The Proterra team will ensure this project is on time and within budget.

### Project Objectives and Work Plan

The Project will demonstrate that zero-emission technologies can achieve significant and sustained reductions in diesel emissions in areas that receive a disproportionate quantity of air pollution from diesel fleets - perfectly capturing one of the primary goals of New Jersey's mitigation plan. The Project will also help accelerate the deployment and increase the awareness of electric vehicles, as well as provide the opportunity for all state residents to ride in an electric vehicle. It will serve as a major component of a citywide ecosystem that increases awareness of the many options for zero-emission mobility. In turn, this Project will significantly accelerate the adoption of zero-emission vehicles that will reduce greenhouse gas emissions, eliminate criteria pollutants, and provide the opportunity for all residents to go electric today and realize the many associated health benefits.

The Project tasks are divided into four major phases that are necessary to prepare for and conduct the proposed *Public Transit Electrification Project*: 1 – Project Kick-Off, 2 – Production and Delivery, 3 – Entry into Service, and 4 – Reporting and Feedback. Each phase is described below and in further detail, including identifying the entity is performing each task.

*Phase 1 – Project Kick-Off* [9 months]

Phase 1 lays the foundation for the success of the *Public Transit Electrification Project,* which includes finalizing all necessary documents and agreements and attending the kick-off meeting and pre-production meetings with end-users.

*Phase 2 – Production and Delivery* [up to 12 months]

In Phase 2 the zero-emission buses are manufactured and delivered and the charging infrastructure are ordered, delivered, and installed. This includes the site design, permitting, production and installation of each charging station, as well as the status report of the vehicle production and delivery.

*Phase 3 – Entry into Service* [3 months]

In Phase 3, Proterra will initiate the customer launch process that ensures that the buses are effectively and efficiently received, inspected, accepted and deployed with confidence. About 6 weeks before the delivery of the first bus, Proterra initiates the launch process, which includes providing an overview of the vehicle, the end-user training, and coordination to ensure the end-user to ready for delivery and deployment of the vehicles into service.

*Phase 4 – Reporting and Feedback* [ongoing]

Throughout the Project, Proterra will provide quarterly status reports to the state and the transit agency. Each vehicle is equipped with an on-board data logger that provides data on bus performance and Proterra will ensure that all necessary data is compiled and reported to both entities.

### Project Vehicles, Equipment and Service

Proterra will work directly with a transit agency to ensure a successful execution and completion of the project – including vehicle operation, charging, vehicle maintenance and repair, and data collection. Proterra has worked with multiple transit agencies across the United States. This vast experience will ensure successful implementation.

Proterra will install on-board data loggers in each vehicle to provide performance data on a quarterly basis. Data will include, but not be limited to: fuel/electricity consumption, fueling/charging times, state of charge, battery and odometer readings, relevant telematics, GPS data, hours of operation, temperatures, etc.

Proterra has developed extensive driver and maintenance technician training to ensure successful execution and completion of the proposed pilot project – including, but not limited to, training for vehicle operation, charging, vehicle maintenance and repair, and data collection. The training for both drivers and maintenance technicians includes classroom instruction and hands-on/in-the-seat training. The training will be performed at each end-user location with the appropriate materials available to the participants. The training includes tests that are administered after each classroom session and a certificate of completion after the participants have successfully finished the course. All drivers, maintenance technicians, and transit managers for this proposed project will receive classroom instruction and hands-on training. In addition, Proterra has created a series of “YouTube” style videos that provide an easy reference tool and more background on procedures – such as

docking the bus successfully, towing the bus safely, using the diagnostic tool, and high-voltage safety.

The Proterra battery-electric bus and charging infrastructure that will be used in the *Public Transit Electrification Project* is the Catalyst E2 extended-range, battery electric vehicle for use on all routes. The Catalyst E2 vehicle, which offers energy capacity of 440 kWh and a nominal range of ~ 250 miles per charge, uses a 62.5 kWh Plug-in Depot Charger that is commercially available with dual charging connectors. Proterra is the only EV bus manufacturer to invest in the standard SAE J1772 CCS for depot charging. This unique offering allows transit agencies to charge their fleet of light duty electric vehicles or offer public charging when the transit buses are not utilizing the chargers.

Using a sophisticated computer model, Proterra can analyze each transit route to ensure that the infrastructure and vehicles are designed and engineered to match the specific minimum charging needs of the 30-bus fleet. The inputs to the route simulation tool include: route distance, speed, stops, layovers, duration, and grade, as well as passenger loading, ambient temperature/HVAC loads, and other accessory devices that use power for the safe and efficient operation of the vehicles. This simulation provides information on charging station needs and location planning, route performance, gradeability and feasibility, fuel savings/cost of operation evaluation, route schedule, and harmful emission reduction calculations.

Proterra has extensive experience installing depot chargers, securing necessary permits with local entities, and addressing electrical needs and grid impacts throughout the country. Proterra will work directly with the end-user in the *Public Transit Electrification Project* and associated utility to ensure that the patriating municipality obtains all permits and approvals necessary for the infrastructure, as well as address any grid impacts or electrical needs at the charging location.

### Potential Emission Reduction Benefits/Expected Proposed Project Benefits

At Proterra, we're continually refining designs and looking for innovative ways to reduce impact on the environment. Proterra buses produce zero tailpipe emissions and decrease dependency on fossil fuels. Emissions are reduced by an astounding ~ 200,000 lbs. of CO2 annually each time a dirty diesel vehicle is replaced by a zero-emission bus. Particulate matter from traditional transit buses contains numerous harmful gases and upwards of 40 cancer-causing substances.

A typical diesel bus emits ~ 200,000 lbs. of greenhouse gases annually, while a CNG bus emits ~ 175,000 lbs./year and a diesel hybrid emits ~140,000 lbs./year. A switch to zero-emission buses, which emit no tailpipe pollution, presents a critical opportunity to cut pollution, reduce oil dependence and make Earth a better place.

# The Public Transit Electrification Project: Sustainable Mobility for New Jersey

Annual Tailpipe Emissions

| Emission (lbs/bus/yr) | Proterra | CNG | Hybrid | Diesel |
|---|---|---|---|---|
| CO | 0 | 1,822 | 20.59 | 41.18 |
| CH4 | 0 | 792 | 4.11 | 4.03 |
| $CO_2$ | 0 | 169,488 | 140,976 | 198,000 |
| GHG ($CO_2e$) | 0 | 190,080 | 141,083 | 198,105 |
| NOx | 0 | 46.73 | 92.66 | 92.66 |
| VOC | 0 | 3.82 | 3.82 | 3.82 |
| PM (2.5+10) | 0 | 3.52 | 3.52 | 3.52 |
| BC | 0 | 0.15 | 0.15 | 0.15 |

https://greet.es.anl.gov/
Assumes 36k miles driven per bus per year.

The well-to-wheel GHG emissions avoided for 30 zero-emission transit buses is approximately 3,336 metric tons $CO_2e$/year. Based on a conservative 12-year lifespan of the zero-emission, battery-electric buses – the project's lifetime well-to-wheel GHG emissions avoided is up to 40,035 metric tons $CO_2e$ (for a 30-bus deployment).

All the vehicles in the proposed project are zero-emission battery-electric vehicles that do not have any tailpipe emissions; therefore, there are no additional NOx, ROG or $PM_{10}$ emissions associated with the project. The total tailpipe emission reduction for 30 zero-emission transit buses is 1.26 tons NOx/year, 0.0519 tons of ROG/year and .0479 of $PM_{10}$/year. Combined tailpipe weight emission reductions for criteria pollutants is 1.36 tons/year and 16.33 tons over the lifetime of the project. That reduction more than doubles when well-to-wheel criteria pollutants are considered, reducing ~ 3.0 tons/ year and 34.76 tons over the lifetime of the project.

The estimated cost-effectiveness of the total project dollars per ton of combined criteria pollutant and weighted PM emissions reduced, and dollars per ton of GHF emissions reduced during a 12-year operation for all 30 vehicles are the following:

- Total Cost Effectiveness of GHG Emission Reductions
  - (Capital Recovery Factor x Project Cost)/Annual GHG Emission reductions
  - (.095 x $24,100,000.00)/3,336 metric tons of CO2e = $686.30/metric tons of CO2e
- Total Cost Effectiveness of Criteria Pollutants[1]
  - (Capital Recovery Factor x Project Cost)/Annual criteria pollutant emissions reductions
  - (.095 x $24,100,000.00/1.26 metric tons weighted criteria pollutants = $1,817,063.49/metric tons of weighted criteria pollutants

Proterra used the Carl Moyer Program Guidelines for the cost calculations. https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm.

### Economic and Environmental Benefits

The *Public Transit Electrification Project* is both located within and provides direct economic and environmental benefits to one or more municipalities. The proposed project addresses common economic needs of communities, including increasing job readiness and career opportunities, improving transit service, and creating further quality jobs. Proterra will provide on-the-job training and certifications for driver and maintenance technicians to operate, maintain and repair zero-emission heavy-duty vehicles. This will increase job readiness and career opportunities in the growing electric vehicle market and further career opportunities. In addition, Proterra's state-of-the-art zero-emission public transit vehicles will eliminate toxic diesel and other criteria pollutant exposures to passengers – improving transit service within communities. The *Project* will increase quality jobs – including a dedicated Proterra employee to oversee the project, construction jobs to deploy the electric charging stations and other indirect jobs from vehicle component suppliers.

By combining performance, efficiency and design, Proterra's zero-emission, battery-electric transit buses offer the lowest total cost of ownership as compared to conventional diesel transit buses. Proterra's zero-emission transit buses operate with fewer moving parts – reducing maintenance costs associated with oils, filters, fluids, particulate filters, and brakes. In addition, electricity is much less expensive and less volatile than traditional diesel or other petroleum fuel – helping to reduce costs and provide more certainty for operating costs. Proterra's buses have significantly higher fuel efficiency, an average of 1.7 kWh/mile or 23.4 mpg equivalency, which also helps provide significant economic benefits for the participating municipality.

These operational advantages yield at least $135,000 savings in maintenance costs and $290,000 in fuel savings as compared to diesel fuel. Therefore, the economic benefits are over $400,000/bus in savings during the 12-year Federal Transit Agency (FTA) mandated lifetime of the vehicle for the transit agency or agencies participating in the *Public Transit Electrification Project*.

[1] NOx is included in the criteria pollutants and comprises the majority of those pollutants.

Lastly, we estimate that, over 12 years of operation, the 30 Proterra buses will reduce ~ 3 million gallons of diesel fuel. On a per bus basis this equates to 100,000 gallons of diesel saved each year in typical transit operation (e.g., ~36,000 miles per year).

### Estimated Project Cost

The estimated total project cost for 30 zero-emission, battery-electric transit buses and 30 multi-use depot charging stations is **$24,100,000.**[2] Funding is needed now to further demonstrate that commercially available zero-emission technologies have the lowest cost of ownership, improved maintenance and performance, and better serve a diverse range of communities' public transit needs, including the reduction of GHG and the elimination of criteria emissions.

| Item | Cost | Quantity | Subtotal | Taxes 0% | Total |
|---|---|---|---|---|---|
| Proterra Bus | $749,000.00 | 30 | $22,470,000.00 | 0.00 | $22,470,000.00 |
| Depot Charger | $50,000.00 | 30 | $1,500,000.00 | 0.00 | $1,500,000.00 |
| Regional Service Representative and fringe benefits | $130,000.00 | 1 | $130,000.00 | | $130,000.00 |

The recipient of the VW funds would largely be the municipalities. Therefore, Proterra anticipates that 100% of the cost of the vehicles and chargers would be covered by the state, subject to whatever local match funds the municipalities could contribute.

### Increase ZEV Awareness and Education

To increase the exposure of the vehicles in the *Public Transit Electrification Project*, Proterra will develop project-specific webpages that will provide information on emission savings, vehicles deployed and funding sources to showcase the environmental and air quality benefits of the *Project* as a model deployment for other regions throughout New Jersey and across the nation. Additionally, Proterra will work with the transit agency or agencies to customize bus wraps to include messages that highlight the zero-emission technology and acknowledging the funding sources for the successful deployment.

In addition, Proterra will work directly with any participating municipality and its transit agency to implement an outreach strategy to the community to help raise awareness and education about the health, air quality and other benefits of zero-emission technology. In conjunction with the end-users, Proterra will launch a direct mail and email marketing campaign to generate awareness about the

[2] This cost may vary slightly depending on the applicable tax rate, if any, and how the buses are configured and optioned by the participating transit agency. Finally, installation costs for the depot chargers are not included as they vary widely.

zero-emission transit bus technology in their communities. In addition, Proterra will provide a demonstration bus to circulate prior to the project deployment to help raise awareness and provide education about the vehicle technology. At the launch of service, Proterra will work with the local transit partner to execute a local public relations strategy – including press releases, media outreach and a launch event. Proterra will also offer an option to publicly display emissions savings and environmental benefits information on the transit agency's website.

### Other

In addition to the above, Proterra strongly recommends that New Jersey direct ~30% of the VW settlement funds to incentivize the deployment of zero emission, battery electric transit buses and medium duty vehicles to help reduce NOx and GHG emissions and vehicle miles traveled, as well as provide other health and associated benefits throughout New Jersey. We also recommend that New Jersey dedicate 15% towards EV charging infrastructure.

Beyond this specific project, we propose that New Jersey adopt two specific funding programs that have significantly accelerated the adoption of heavy duty EVs and, as a direct result, helped reduce NOx and GHG emissions. First, we urge New Jersey to adopt the competitive funding programs in place in CA and at the federal level. The CA Zero-Emission Truck and Bus Program is a competitive funding program that allows all manufacturers of zero-emission technology to partner with transit agencies and compete for project funding. It is very much modeled after the highly competitive Federal Transit Administration's Low or No Emission Program, which has helped fund the purchase of zero-emission transit buses across the US. The CA program is important in that it allows newcomers to receive funding for not only buses, but also chargers. Second, California's Hybrid & Zero-Emission Truck and Bus Voucher Incentive Program (HVIP) is a pool of money that is used by transit agencies on a first come, first served basis to bridge the gap between purchasing a fossil fuel vehicle and a zero-emission vehicle. For example, the transit bus OEM can receive a voucher for up to $160,000 per EV vehicle, which amount is then deducted from the cost of the bus. New York City (New York Truck Voucher Incentive Program) and Chicago (Drive Clean Truck Voucher Program) have implemented similar programs. These programs have proven valuable in allowing agencies (and commercial properties) to grow their fleets of zero-emission buses.

### Conclusion

The *Public Transit Electrification Project* will deploy 30 zero-emission, battery-electric transit buses and 30 multi-use depot charging stations at one or more municipalities to provide electric mobility and serve as a successful pilot project to accelerate the deployment of electric vehicles, reduce NOx emissions, improve air quality and provide health benefits. Proterra is excited to increase zero-emission vehicle awareness and eliminate toxic diesel exposures to both transit riders and non-transit riders throughout New Jersey and beyond.