LION ELECTRIC

State of New Jersey
Department of Environmental Protection

Project Solicitation

LION

DURHAM®
SCHOOL SERVICES

To Whom It May Concern,

National Express LLC appreciates the opportunity to present our response for the grant funding opportunity with the New Jersey Volkswagen Environmental Mitigation Trust Program. We are looking forward to being selected for five (5) all-electric Type C school buses. National Express LLC is responding to this Project Solicitation with the hope to accelerate adoption and deployments of zero-emissions vehicles in New Jersey; thus improving the lives of our school children, clients and citizens in the State of New Jersey.

National Express LLC (NELLC) is the North American subsidiary of National Express Group, PLC, one of the premier transportation firms based in the United Kingdom. All of our organizations share a strong commitment to provide the highest level of safe and quality transportation, outstanding customer service, and positive employee relations. Together, NELLC's home-to-school companies operate more than 22,500 school buses and serve more than 1.3 million students on a daily basis. NELLC has decades of experience in virtually every aspect of transportation. Our highly trained drivers and support staff are committed to safely delivering passengers to their destinations across North America. Operating locally under Durham School Services in the State of New Jersey, NELLC is the second largest provider of outsourced student transportation services in North America. At NELLC, our Mission is providing the safest, highest-quality transportation services – on time, every time. Our vision is to deliver service excellence to earn the partnership, loyalty, and trust of our customers and employees with an operational focus on our five core values: Safety, Customer, People, Community, and Excellence.

As a responsible operator, we want to be seen as a trusted partner to deliver on two of the great environmental challenges of our time: climate change and local air quality. Therefore we have sought to reduce our carbon emissions and serve as part of the solution to the air quality challenge. Across our Group operations, National Express has delivered a significant reduction to the carbon intensity from our operations. We are also demonstrating leadership on the next generation of vehicles – zero local emission electric buses. In North America we currently operate five such vehicles in New York; we will likely be one of the few private school bus operators to be piloting these at New Jersey.

For the deployment of our all-electric school buses, National Express LLC will be partnering with The Lion Electric Co. (Lion), Lion's authorized dealer and Clipper Creek – charging infrastructure vendor, to support this projects' needs. To date, our equipment manufacturing partner, The Lion Electric Co. has over 300 electric school buses deployed in North America, with 6,000,000 proven and driven miles on its current batteries, electric components and heavy-duty chassis. All associated performance data has been traced and documented. Designing, building and delivering electric heavy-duty vehicles is Lion's daily mandate; their experience and success will reflect through measurable performance, real-life client references, 100% on-time deliveries and way beyond the "early adopter" experience.

NELLC strongly supports the Volkswagen Project Solicitation and thanks the Department of Environmental Protection, New Jersey for its work to date on zero-emission vehicle implementation. We hope that our response demonstrates that NELLC can help partially fulfill your goals by swiftly delivering and operating quality, zero-emission vehicles.

We look forward to working with the New Jersey Department of Environmental Protection to implement this project.

Sincerely,

Keshav Ragunathan

Keshav Ragunathan
Senior Director, Engineering and Asset Management
National Express LLC

State of New Jersey
Department of Environmental Protection

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

PROJECT PROPOSAL

OVERALL GOAL

The State of New Jersey, as a 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.

NJDEP anticipates primarily funding pilot electrification projects, including the replacement of heavy-duty vehicles/engines such as buses, trucks, and non-road equipment in urban areas disproportionately impacted by diesel emissions, as well as electric vehicle charging/fueling infrastructure installation in strategic locations across the state.

Submissions 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 an eligible expense. 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 an 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)

Source Category	Emission Reduction Strategy	Allowed Expenditure Amount
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 (100% if government owned). Electric charging infrastructure costs are an eligible expense.
8. Forklifts and Port Cargo Handling Equipment	Repower and replacement	Up to 75% to repower or replace with electric (100% if government owned). Electric charging infrastructure costs are an 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. Up to 80% to purchase, install and maintain infrastructure if available to public at *non-government owned* property. Up to 60% to purchase, install and maintain infrastructure at a workplace or multi-unit dwelling that is not available to the general public. Up to 33% to purchase, install and maintain infrastructure for publicly available hydrogen dispensing that is high volume or 25% for lower volume.

PROJECT PROPOSALS (Open with Adobe Reader)

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

Applicant Name	Durham School Services LP
Applicant Address	109 Aldene Rd
City, State, Zip Code	Roselle, NJ, 07203
Contact Person	Jeffrey Reiss
Title/Position	General Manager
Phone	(908) 298-0045
E-mail	jreiss@durhamschoolservices.com
Owner Name	National Express LLC (NELLC) / Durham School Services LP
Owner Address	2601 Navistar Drive
City, State, Zip Code	Lisle, Illinois, 60532
Contact Person	Keshav Ragunathan
Title/Position	Senior Director, Engineering and Asset Management
Phone	(630) 596-7543
E-mail	keshav.ragunathan@nellc.com

PROJECT NAME	Durham School Services LP - Electric School Bus Project

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 # 1 of 1 proposals
If submitting more than one proposal, what is the sponsor's priority of this proposal?

NOTE FOR CATEGORY 9 PROPOSALS

If your proposal is for Category 9 (Light Duty Zero Emission Vehicle Supply Equipment), follow these instructions:

Electric Vehicle stations: Do not complete this form. Instead, go to *It Pay$ to Plug In* – NJDEP's Electric Vehicle Charging Grants Program, and apply for a Charging Grant. Volkswagen funds for charging stations will be administered through *It Pay$ to Plug In*.

Hydrogen fuel cell vehicle supply equipment: Complete all of the questions on this form.

PROJECT BUDGET

Provide total estimated project budget, include source, amount of cost share, and administrative costs if applicable:

The amount of grant request is 100%.
The total estimated project budget will be $1,921,510 for the purchase of five (5) all-electric school buses and five (5) charging stations, and the cost of the charging infrastructure installation.

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

Durham School Services LP will see five (5) diesel school buses, from our current fleet, scrapped and rendered inoperable. These school buses will then be replaced with five (5) all-electric, zero-emission, Type C school buses from The Lion Electric Co. For the purposes of this application we have included the necessary information for each vehicle that we will be scrapping on a separate PDF page further down in our application. Below you will find the information for 1/5 buses that we will be scrapping.

Geographic area where emissions reductions will occur? Union County

Estimated size of population benefitting from the emission reductions? 556,341

Estimated useful life of the project? Maximum of 15 years

Number of engines/vehicles/vessels/equipment included in the project? Five (5) all-electric school buses

DEP will be modeling emission benefits for all projects. Please provide the necessary information below:

Model Year 2006

Horsepower 190

Annual hours of use 900

Annual amount of fuel used 2,100

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

The project will benefit the city of Elizabeth, located in Union County, New Jersey. Although the air quality in the State of New Jersey has gotten better, it still ranks among the worst in the nation because of high concentrations of ground-level ozone pollution, according to the American Lung Association (ALA). In the 2017 State of the Air report from the ALA, Union County received a "C" grade (A being the highest and F being the lowest). Since this report, the ALA has listed Union County as DNC (no monitoring collecting data in the county). Though based on the previous report, we will assume that the "C" still stands and that the county did in fact have a couple of "orange alert days", those in which the air quality is considered unhealthy for children, active adults and anyone with asthma or other respiratory ailments. Whether a county is listed as an "A", "F" or "DNC", the groups largely at risk of air pollution remain the same, which includes children under 18, adults 65 & older, people with low incomes, minority populations, children and adults suffering from pediatric asthma. In Union County alone there are 336,018 people who identify as a minority, 130,522 children under the age of 18, 9,458 of these children live with asthma, and 36,144 adults in the county are living with asthma. In addition, the Environmental Protection Agency has listed Union County as a non-attainment area, as per the National Ambient Air Quality Standards.

Only shovel ready projects will be considered. Please list project partners.

The following project partners will be involved in this project: National Express LLC subsidiary/brand Durham School Services LP, The Lion Electric Co. – original equipment manufacturer, Clipper Creek – electric vehicle charging infrastructure vendor, and The Lion. Electric Co. licensed dealer – H.K. Truck Center.

Estimated timeframe for implementation? Include a project timeline that identifies start and end dates, as well as the timeline for key milestones.

Project Period // We will take possession of our vehicles 180 days after a purchase order has been emitted to The Lion Electric Co. licensed dealer for the purchase of five (5) Lion C all-electric school buses. Lion is committed to deliver quality products as quickly as possible based on the grant response. The purchase and installation of the charging infrastructure will coincide with the vehicle deliveries, to ensure that the project is complete in a timely manner.

Demonstrated success in implementing similar projects?

As mentioned in the cover letter, we are the only private school bus operator piloting five zero local emission electric buses in one of our locations at New York, North America. Such vehicles would be our first zero-emission options in our New Jersey fleet. In addition, we have experience to draw upon across our business at National Express Group level to deliver this project along with decades of experience in the busing business, diverse back-office systems and industry leading safety programs to name a few.

We are also confident in our preferred equipment manufacturer, The Lion Electric Co. capabilities and proven success in implementing and demonstrating success with this project. Lion has deployed over 300 electric school buses, with more than six million miles of service and counting, including leading the world's largest deployment of zero-emission school buses in the US. They are global leaders in commercializing zero-emission heavy-duty vehicles and the only manufacturer to have proven capable of Vehicle-to-Grid. Lion is in a unique position to have operating data and a history of advancing technology as other OEM's are just beginning their zero-emission journey. Students across America ride Lion buses safely to-and-from school when it is in session. Lion is the most experienced in the deployment of heavy-duty electric vehicles field starting with on-time delivery, to customer service, and infrastructure support.

If your proposed project involves alternative fuels, provide a demonstration of current or future plans to provide adequate refueling infrastructure.

Currently we are only operating diesel and gasoline school buses in New Jersey, and so these vehicles will be our first zero-emission options. We do not currently have adequate charging infrastructure to power our new all-electric buses and will therefore request funding support from the Department of Environmental Protection to purchase and install these units. As per the project requirement, we will scrap five (5) diesel school buses and replace them with all-electric school buses, we also have plans to install the same number of charging infrastructure stations so that each bus has the required access to the electricity it needs. In preparation for these all-electric vehicles we will work closely with our utility provider so that the site is ready to receive our Lion school buses. During these preparations we will also discuss and plan for any future all-electric vehicles that we would like to add to our fleet.

To note, the project budget presented in this proposal includes the following estimated costs: charging station unit, as well as the costs to install the charging station infrastructure. With the assistance of our project partners, they have provided us with these estimations for the purposes of this application. However, we are aware that based on our utility and the site we would choose for the placement of the charging station, these numbers could vary. Should the New Jersey Department of Environmental Protection award a grant to us for this project we would like to include all costs in the funds allocated to us.

Has your organization been approved to receive and expend any other grant funds related to this project? If so, please provide details.

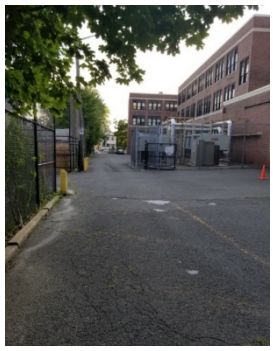
We will solely apply for this funding opportunity to replace our diesel vehicles with all-electric school buses.

Please provide any additional information that supports this project.

As a private school bus contractor, working with public school districts in New Jersey, our plan for these all-electric school buses will be to use them to service Elizabeth Public Schools. More specifically, these school buses will transport students to and from Terence C. Reilly # 7 School, based in the city of Elizabeth, in Union County, New Jersey as long as possible to meet customer contractual obligations. Our buses will be used for daily route service; where possible, and battery range permitting we will use the buses for support activities like field trips and/or athletic trips. The approach to the school involves a single lane entry point with buses backing up to drop-off kids. Eliminating tail pipe emissions on this campus would appear to be a significant improvement to this community, as well as around the school.

These zero-emission school buses will fit perfectly into our daily routes because they will mimic what our scrapped diesel buses would have accomplished but without the extra fumes and incurred costs. The buses will charge overnight during non-peak hours and may be charged mid-day if needed, therefore reducing our operational costs.

The utilization of these new school buses will also reduce our maintenance costs by about 60% and energy costs up to 80% based on our preliminary evaluation. This is since the buses have no fuel, no transmission and very few moving parts. With the help of the New Jersey Department of Environmental Protection, our return on investment will occur in a minimal time frame, allowing us to significantly reduce greenhouse gas emissions while providing economic and environmental benefits to our community. In fact, one bus will reduce the amount of CO2 in the air by approximately 25 tons per year and will also reduce the noise pollution in the area.



Here is a picture showing the approach road for school buses at the proposed school above. School district contracts permitting, we plan to use these buses at this location or other locations we provide services from our Roselle, NJ bus yard.

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

Supplemental Page 1

Investing in a Lion vehicle will allow us to track our progress by calculating our average consumption through the smart charging system, and collect data through the onboard telematic touchscreen, which is unique to zero emission vehicles. The operator will simply select their charging preferences through the screen to maximize charging efficiency. The onboard touch screen will serve many purposes to our operators: it registers power usage, driving efficiency through the driving interface, maintenance interface, battery state, charging interface, parameters, smart charge, and preheat. All information on the onboard touchscreen is recorded and can be extracted as a report on a regular basis to perform multiple analyses and to understand the efficiency and cost of each electric bus.

Zero emission vehicles in general are also equipped with electronic modules that monitor and record data from various systems, including the motor, batteries, braking, and electrical systems. The electronic modules record information about various driving and vehicle conditions, including braking, acceleration, trip distance and other related information regarding the vehicle. These modules record information about the vehicle's features such as charging events and status, the enabling/disabling of various systems, diagnostic trouble codes, VIN, speed, direction, and location. Generally, such operating data points are able to be monitored via remote systems that communicate vehicle status to aid in ensuring optimal operation.

The success of the project will be enhanced by the number of miles driven per year on the all-electric buses. The more we will use the buses, the more we will save and the better it will be for our environment and community. We will be the grantee of this grant and will operate the buses daily while analyzing the reports generated by the vehicles.

In our case, electric school buses are new to many in the industry and we will work with the vendor partners for providing the necessary training to help bridge our knowledge gap from conventional fuel to electric. To ensure that our operators are comfortable using the new all-electric school buses, they will take part in the Lion Academy Training Program. The training program will be available to a wide range of stakeholders, and most importantly our transportation professionals. The training curriculum will be extremely detailed and can last up to six hours to ensure that all parties are comfortable working on the buses once they are delivered and operational. The interactive classes cover various topics such as safety, troubleshooting, electric chargers, EV components, maintenance, repairs, warranty work, driver tips, accessories, etc.

Conclusion//

As leaders in manufacturing and deploying zero-emission school buses and charging infrastructure equipment, The Lion Electric Co., their licensed dealer, and Clipper Creek are poised to immediately support Durham School Services LP. It is our strong desire to scrap five high pollutant diesel buses and replace them with zero-emission vehicles and the necessary charging infrastructure.

Having a shared goal of improving air quality is what best aligns us and our project partners. Not only do our partners value safety and reliability, but also the health of the children in the communities that we operate in. We have invested in alternate fuel technologies for a number of years across the country and are committed to supporting the communities in which we serve and live through the next generation zero emission school buses.

With help from the Department of Environmental Protection this program will help us to permanently remove the previously mentioned high pollutant diesel vehicles that are currently operating in our fleet, which our clients and members of the community are presently exposed to. Additionally, it will give us the opportunity to pave the way for other private contractors to join the electrification movement.

We would like to thank the Department of Environmental Protection in the State of New Jersey for allowing us to submit a project proposal for the Volkswagen settlement funds. We look forward to working with this Department so that we may be able to provide a healthy breathing environment to all of the communities that we serve.

Fleet Spreadsheet

See attached

Durham School Services LP/ National Express LLC (NELLC)
New Jersey Department of Environmental Protection - Volkswagen Mitigation Application
Fleet Spreadsheet

Existing Vehicle							Replacement Vehicle				
Vehicle Number	Make/Model	Serial Number	Model Year	Horsepower	Annual Hours	Annual Fuel (gallons)	Replacement Model Year	Replacement Fuel Type	Replacement Cost	Charging Infrastructure	Funding Request
1	Thomas/FS65	4UZAAWDD16CU61521	2006	190	900	2,100	2021	All-electric	$ 374,302.00	$ 10,000.00	$ 384,302.00
2	Thomas/FS65	4UZAAWDD65CM97011	2005	210	720	2,100	2021	All-electric	$ 374,302.00	$ 10,000.00	$ 384,302.00
3	Thomas/FS65	4UZAAWDD56CU61523	2006	190	720	2,100	2021	All-electric	$ 374,302.00	$ 10,000.00	$ 384,302.00
4	Thomas/FS65	4UZAAWDD85CM97012	2005	210	720	2,100	2021	All-electric	$ 374,302.00	$ 10,000.00	$ 384,302.00
5	Thomas/FS65	4UZAAWDD55CM98196	2005	210	720	2,100	2021	All-electric	$ 374,302.00	$ 10,000.00	$ 384,302.00
								Totals:	**$ 1,871,510.00**	**$ 50,000.00**	**$ 1,921,510.00**