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	Borough of Madison, NJ
Applicant Address	50 King's Road
City, State, Zip Code	Madison, NJ 07940
Contact Person	James Burnet
Title/Position	Deputy Administrator and CFO
Phone	973-593-8496
E-mail	burnetj@rosenet.org
Owner Name	Borough of Madison, NJ
Owner Address	50 King's Road
City, State, Zip Code	Madison, NJ 07940
Contact Person	James Burnet
Title/Position	Deputy Administrator and CFO
Phone	973-593-8496
E-mail	burnetj@rosenet.org

PROJECT NAME	Senior Center EV Shuttle Bus

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:

Total Project: $ 240,000, from several quotes and a comparison study (see supplement pages). This application is for 100% of the project budget.All admin and installation costs will be absorbed by the Borough of Madison.

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

Geographic area where emissions reductions will occur? Morris County

Estimated size of population benefitting from the emission reductions? 16,000 (Madison popul

Estimated useful life of the project? 10 Years

Number of engines/vehicles/vessels/equipment included in the project? 1

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

Model Year We are replacing a 2013 Ford/Glaval 15-passenger bus with an EV bus

Horsepower 400 HP

Annual hours of use usage is 600-800 hours/year (11978 miles in 2019)

Annual amount of fuel used 2365 gallons

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

no

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

Two busses are under consideration. The dealer for the Greenpower bus is Creative Bus Sales in Murrysville, PA and the dealer for the Champion bus is Rohrer bus in Trenton, NJ.

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

At least one of these busses (the Greenpower) is listed as in-stock with 2 week delivery. The project timeline would then be just the installation of the charger, for which we allow 3 months, plenty of time for any necessary electrical wiring.

Demonstrated success in implementing similar projects?

In 2020, The Borough of Madison, with its own municipal electric utility has completed the installation of 10 public EV charging stations. No difficulties are expected in the installation of one more.

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

The funds being applied for here will include coverage for the $2,695 cost of a Level II charger, nominally a Clipper Creek CS-100 Level II charger.

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

No

Please provide any additional information that supports this project.

We seek to replace a 2013 gasoline-powered Glaval-Ford 15 passenger shuttle bus used by the Madison senior center, a part of the borough government. A senior center shuttle is an ideal application for an EV bus, since the daily route is quite predictable, and with a mileage well within the range of available shuttle busses.

On the next page we show a comparison of two leading candidate busses. The Greenpower unit is built from the ground up as an EV, while the Champion unit is a Ford E-450 chassis with the fosil-powered drivetrain removed and replaced with a Motiv electric drivetrain and built into a bus by Champion. Spec sheets are attached.

The application is for funds to cover either of the busses (and a charging station) because (a) a final down-select has not been made and (b) battery and motor technology is continuously improving, which will hopefully reduce the final quoted cost and improve the performance when funds are actually available. Also attached is the signed resolution (R 141-2020) by the Madison Borough Council in support of this project. Prices may also change due to purchasing through a government procurement contract.

	EV Shuttle Bus Comparison, Spring 2020 for Madison Senior Center	
	Greenpower EV Star	**Champion EPIC-450 Challenger**
Chassis Brand	**Greenpower**	**Ford**
Chassis model	**EV star**	**E-450**
Drivetrain provider	**Greenpower**	**Motiv**
Motor Technology	**Prestolite TM4 Permanent Magnet Synchronous**	
Bus builder	**Greenpower**	**Champion**
regenerative brakes	**no**	**standard**
Battery Technology	**Li Fe Phosphate**	**sodium Nickle**
Battery Capacity	**118 kWh**	**106 kWh**
Rated Power	**75 kW (peak 150 kW)**	**(peak 150 kW)**
quoted range	**up to 150 miles**	**85 miles**
passengers	**12**	**14**
wheelchairs	**1**	**2**
bus warranty	**1 year/unlimited miles**	
chassis warranty	**5 year/100,000 miles**	**3 year / 50,000 miles**
drivetrain warranty		**5 year / 60,000 miles**
charging	**Standard J1772 Plug-in charger (optional DC fast charge up to 50 kW)**	**Standard J1772 Plug-in charger**
price	**$206,000**	**$230,000**
in service	**100-150, mostly in CA**	**many in CA and CO; several on Long Island**
delivery	**2 weeks (in stock)**	

Charger	**Clipper Creek CS-100 Level II Charger**	
charge time	**8 hours**	**8 hours**
Price	**$2,695**	

R 141-2020

RESOLUTION OF THE BOROUGH OF MADISON AUTHORIZING THE SUSTAINABLE MADISON ADVISORY COMMITTEE TO SUBMIT A GRANT APPLICATION TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION ENVIRONMENTAL SERVICES MATCHING GRANTS PROGRAM

WHEREAS, the Sustainable Madison Advisory Committee has requested authorization to apply for a New Jersey Department of Environmental Protection grant for an all electric Senior Citizen Van; and

WHEREAS, the Borough Council approves the submission of a grant application.

NOW, THEREFORE, BE IT RESOLVED by the Council of the Borough of Madison, in the County of Morris, State of New Jersey, that the Sustainable Madison Advisory Committee is authorized to submit a grant to the New Jersey Department of Environmental Protection for the purpose of purchasing a new all electric Senior Van.

BE IT FURTHER RESOLVED that the Borough of Madison expresses support and urges the funding of this Environmental Services Program grant request of the Sustainable Madison Advisory Committee.

ADOPTED AND APPROVED
May 11, 2020

ROBERT H. CONLEY, Mayor

Attest:

ELIZABETH OSBORNE, Borough Clerk

I, Elizabeth Osborne, Clerk of the Borough of Madison, hereby certify the foregoing to be a true and exact copy of a resolution adopted by the Council at a duly convened meeting

held May 11, 2020

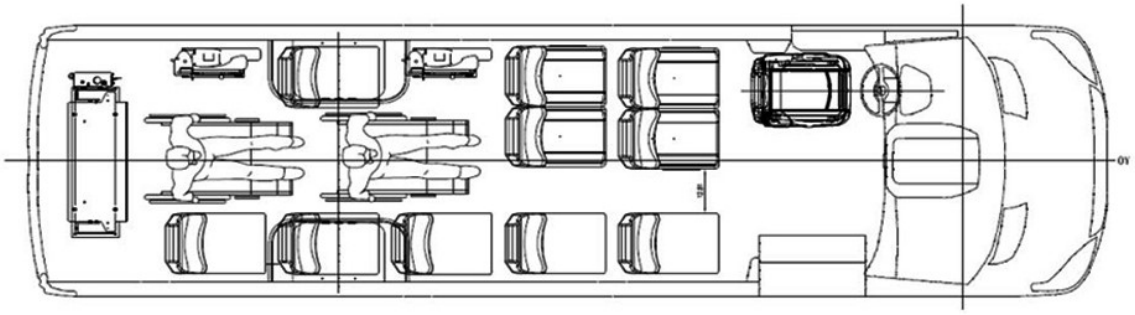
Elizabeth Osborne, Borough Clerk

Creative Bus Sales
THE NATION'S LARGEST BUS DEALER SINCE 1980

2019 Greenpower EV Star

EV Star Accessibility Package

Rear lift, 2 ADA positions,14 Seats (Freedmen seating with Creative Bus Sales Fabric)



Specifications

General Specifications	• TM4 Permanent Magnet Synchronous Motor (PMSM) • Rated Power : 75 kW @ 1200 rpm • Rated Torque : 580 N.m @ 1200 rpm • Peak Power: 150 kW @ 4000 rpm • Peak Torque: 1200 N.m @ 1200 rpm • Energy Storage System: 118 kWh Lithium Iron Phosphate • Bake System: ABS – Front disc/rear drum break • Suspension System – Front: McPherson Independent Suspension – Rear: Variable Cross Section, Transverse Leaf Suspension • Tires: 215/75R17.5 • Wheels: Aluminum • Length: 24.5” • Width: 80.3’ • Height: 106’
Exterior	• Exterior Color: White • Wheelbase: 170” • Front Door: Electric plug door • Rear Door: 270° split in middle rear doors • Electric turn signal integrated sideview mirrors • Interior rearview mirror • Driver side electric window • Fixed side windows (one emergency exit window each side) • Emergency escapes tempered glass window/moon roof
Interior	• Flooring: Vinyl flooring in passenger compartment
A/C and Heat	• A/C System: High-Power Front and Rear Electric Air Conditioning
Lighting	• LED daytime driving lights • Delay off headlights • Front fog lights • LED interior lights
Electrical	• Parking sensors
Audio/Visual	• MP3 and radio – Hi-Fidelity speaker system – USB or 12 V cigarette adaptor in driver area
Wheelchair Accessibility	• Rear lift
Accessories	• Drivers Handbook (1 Manual/1 Electronic Copy) • Service Manual (1 Manual/1 Electronic Copy) • Parts Manual (1 Manual/1 Electronic Copy) • Electrical Schematics (1 Manual/1 Electronic Copy)
Safety	• 5 lb fire extinguisher • First aid kit • Safety triangle kit • Driver’s airbag • Seat belt alarm system
Passenger Seating Options	• 14 Passenger, 0 Wheelchair • 12 Passenger, 1 Wheelchair

CHAMPION®
REV GROUP

ALL-ELECTRIC SHUTTLE BUS

POWERED BY MOTIV

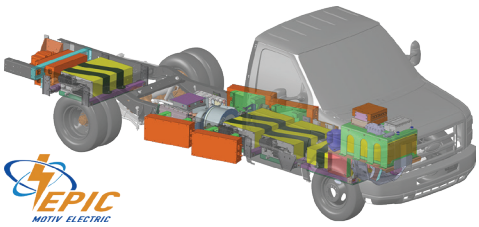
EPIC E-450 CHASSIS SPECIFICATIONS

OEM PLATFORM	Ford E-450
MAX GVWR	14,500 lbs
BATTERY TECHNOLOGY	Sodium Nickel
BATTERY CAPACITY	106 kWh
RANGE	85 miles
PEAK MOTOR POWER RATING	150 kW / 201 hp
PEAK MOTOR TORQUE RATING	1,060 Nm / 780 ft-lbs
GRADEABILITY	17%
MAX SPEED	65 mph
REGENERATIVE BRAKING	Standard
CHARGING TYPE	J1772 / 15 kW Meltric / 3ϕ 208 VAC / 16.8 kW
50% CHARGE TIME	~2.5 hours
75% CHARGE TIME	~4 hours
100% CHARGE TIME	~8 hours

FEATURES AND BENEFITS

- 85% reduction in operating costs and 66% reduction in maintenance costs
- Utilizes industry-proven EV batteries validated through millions of real world miles to ensure long life and inexpensive replacement costs
- Independent battery control improves reliability and performance
- No range degradation -40° to 120°F
- Acceleration and hill climbing performance comparable to combustion-powered vehicles
- Over-the-air software updates for new features and functionality
- Various seating configurations with ADA options available

MOTIV-POWERED SHUTTLE BUS



ALL-ELECTRIC EPIC E-450

ABOUT MOTIV POWER SYSTEMS

Founded in 2009, and headquartered in the San Francisco Bay Area, Motiv Power Systems is committed to freeing fleets from their dependence on fossil fuels. EPIC (Electric Powered Intelligent Chassis) are CARB certified, GSA approved, and available for configurations including step vans, box trucks, school buses, shuttle buses, work trucks, trolleys, and specialty vehicles.

An EPIC all-electric chassis offers uncompromised performance and functionality without the pollution, noise, heat, and vibration of gasoline or diesel power.

Motiv is the only Ford eQVM approved provider of all-electric chassis for commercial trucks and buses and benefits from engineering insights and support from Ford to ensure safety and reliability.

With hundreds of thousands of miles logged among several of the largest fleet operators in the United States, the EPIC family eliminates 100% of vehicle emissions, dramatically reduces operating and maintenance costs, and creates a healthier environment for riders and communities while also reducing driver fatigue

PROUDLY ENGINEERED AND ASSEMBLED IN THE USA

MOTIV POWER SYSTEMS
330 Hatch Drive | Foster City, CA 94404
sales@motivps.com | motivps.com
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Two additional pages have been provided as supplemental space to answer any of the questions above.

Supplemental Page 1

Supplemental Page 2