Fiscal Year 2018-2019 Low Carbon Investments Grant Solicitation

Clean Mobility in Schools Pilot Project

List of Applications Received

November 6, 2019

The Clean Mobility in Schools Pilot Project grant solicitation was open for applications August 23, 2019 through October 21, 2019. Materials are available for reference online at https://ww2.arb.ca.gov/our-work/programs/low-carbon-transportation-investments-and-air-quality-improvement-program. CARB staff received 7 applications. Applicant information listed below is in alphabetical order.

Applicant Name	Location	Grant Request
El Monte Union High School District	El Monte	$9,847,660
Franklin-McKinley School District	San Jose	$2,263,782
Los Angeles Unified School District	Los Angeles	$9,263,523
Porterville Unified School District	Porterville and Strathmore	$9,938,861
San Diego Unified School District	San Diego	$9,775,349
Stockton Unified School District	Stockton	$7,309,777
Twin Rivers Unified School District	Sacramento	$7,440,788

Project Summaries are provided by applicants and are not reviewed, edited, or endorsed by the California Air Resources Board.

Applicant Name: El Monte Union High School District

Project Title: A Transformative Clean Mobility Pilot: Connecting Research, Education, and Community in a Disadvantaged School District

Requested CARB Grant: $9,847,660
Match Funding: 0
In-kind Funding: $36,100
Total Project Amount: $9,883,760

Summary:
El Monte Union High School District (EMUHSD) is in the heart of the San Gabriel Valley and services over 8,000 students in Grades 9-12 and over 11,000 students in our adult schools. EMUHSD is a severely disadvantaged community where every single school site stands in the top 25% in CalEnviroScreen 3.0 and some even in the top 10%. EMUHSD currently operates a bus deficit, restricting our ability to provide transportation for students in our community—thereby adding increased pressure on families, traffic congestion, and air quality challenges. The district's proposed project will transform mobility at the school sites by adding 10 new zero emission buses to the

fleet, allowing the district to serve more students; plan for more holistic active transportation to ensure safety and improved congestion from pedestrians, bike share, and car share; add new motor pool vehicles and maintenance vehicles that are battery electric to improve efficiency and reduce reliance on gasoline use; and, enable onsite energy storage that ties into district's existing solar system so operational demand costs can be reduced long-term.

This project has significant impacts on our disadvantaged community as it will replace diesel and gasoline vehicle usage with battery electric; converts our existing Level 2 workplace chargers to integrate with our solar system; adds new buses to service, reducing the pressure placed on families to find alternative ways for their children to get to school; and more holistically plans for multimodal travel into and out of the schools. The project also incorporates a large communications and training initiative, allowing us to spread the news of the project and its success within our community but throughout the world—motivating other projects to happen at other schools as well. The workforce training part of this project is significant as the district will be shaping the minds of our students as well as those who seek placement services in our community—building awareness of zero emission transportation and creating workforce pathways.

A project of this magnitude necessitates multiple project partners who can create a truly transformational experience for a school with such unique needs. To get this done, the district has brought together a world class team that includes: University of California, Riverside (data collection); Gladstein, Neandross & Associates (technical support); VMA (public relations); San Gabriel Valley Conservation Corps (community based organization (CBO) and workforce training); El Monte South El Monte Chamber of Commerce (CBO); Engie (energy storage); Greenlots (EV charging and storage integration); and A to Z Bus Sales (bus provider with Blue Bird and training partner).

EMUHSD is requesting $9,847,660 and contributing $36,100 for a total project cost of $9,883,760. The district expects that this project will generate 29,355 MTCO2e in emissions reductions.

Applicant Name: Franklin-McKinley Unified School District

Project Title: FMSD Fully Charged! - Replacement of Diesel-Powered School Buses with Electric School Buses

Requested CARB Grant: $2,263,782
Match Funding: 0
In-kind Funding: 0
Total Project Amount: $2,263,782

Summary:
FMSD Fully Charged! is a transportation electrification initiative of Franklin-McKinley School District. The project proposes to purchase five (5) zero-emission school buses and purchase and install five (5) Level 2, 80 amp Electric Vehicle Supply Equipment ("EVSE") at the Transportation Yard, located at 420 Tully Rd., San Jose, CA. The result and effect of the upgrades in the Transportation Yard will be experienced within the 20-mile radius district-wide.

Franklin-McKinley School District serves 18 locations daily, which includes 13 elementary schools, 3 middle schools, and 2 county programs. As per the Priority Population Map, 33% of our service locations are identified as a Disadvantaged Community and 83% of our schools are located in a low-income community.

The proposal to replace zero-emission school buses will greatly benefit the Disadvantaged and Low-Income Communities serviced by the District. The addition of these electric school buses will deliver cleaner, healthier air, reduce global warming pollution and bring financial benefits to the District via reduction of maintenance cost and utility cost.

The team of FMSD Fully Charged! fully collaborated with the planning, design, implementation and sustainability of the project. Each personnel that contributed to this grant are highly experienced in Facilities, Maintenance, Transportation, Purchasing, Risk & Safety, and Energy Management. Through the duration of submission of this application, the District have asked assistance and guidance from the following vendors - Sugimura Finney Architects (SFA), A-Z Bus Sales, and Nuvve. The vendors provided their time, knowledge, and expertise in providing cost estimates on infrastructure, technology and equipment.

The total project cost of FMSD Fully Charged! is $2,263,782.The District is hopeful that the full amount will be granted by CARB through the Clean Mobility in Schools Pilot grant.

FMSD Fully Charged! thrives to make the most of this opportunity to have a remarkable transformative impact to our students and community by September 2020.

Applicant Name: Los Angeles Unified School District

Project Title: Replacement of Gas-Powered Equipment, Vehicles, and Buses with Electric Battery-Operated Gardening Equipment, Plug-in Hybrid Electric Vehicles, and Electric School Buses

Requested CARB Grant: $9,263,523
Match Funding: 0
In-kind Funding: 0
Total Project Amount: $9,263,523

Summary:
Project Description: The project will reduce GHG emissions by: replacing 149 gas-powered riding mowers with battery operated, zero emission electric mowers; replacing gas-powered hedge shears, weed eaters, power pole saws, and chain saws with battery operated, zero emission tools; replacing sixteen gasoline-powered passenger vehicles with plug-in hybrid electric vehicles; and replacing eight diesel school buses with electric buses. This project will also include the installation of electric charging infrastructure for these vehicles and the modification and installation of infrastructure at each maintenance and operations location to charge the mowers. In addition, the District will undertake several initiatives to raise awareness and engage students, teachers, and the community regarding climate change and clean mobility concepts and resources, as well as train staff in the use and maintenance of the new equipment and infrastructure.

Amount of Funding Requested: $9,263,523

Cost for Electric Battery-Operated Gardening Equipment and Charging Infrastructure: $4,361,381

Cost for Electric School Buses, Plug-in Hybrid Vehicles, and Charging Infrastructure: $4,902,142

Total Project Cost: $9,263,523

Expected Emissions Reductions: GHG emissions reductions expected as a result of replacing fossil-fuel powered vehicles, buses and lawn and garden equipment are summarized as follows:

1. (149) Diesel-powered riding lawn mowers for zero-emissions riding lawn mowers and other (9) lawn and garden equipment: 3.72 MTCO2e (riding lawn mowers) + 0.22 MTCO2e (lawn and garden equipment) = 3.94 MTCO2e.
2. (16) Gasoline-powered fleet vehicles: 22.86 MTCO2e
3. (8) Diesel-powered school buses: 146.30 MTCO2e
4. Installation of EV chargers and infrastructure to serve above-mentioned

Disadvantaged Community Benefits: All our maintenance and operations areas include gardening staff serving schools in disadvantaged communities. By replacing existing fossil fuel-powered equipment with electric and battery powered equipment and vehicles, LAUSD will reduce GHG emissions produced in the learning communities where children and staff spend significant time. By replacing gas-powered equipment with clean, battery powered lawn equipment the air in and around the schools we service will be cleaner and healthier, improving the learning environment. The passenger vehicles will serve multiple locations across the District within disadvantaged communities. Additionally, the area being served by the buses, and the

garage for these clean air vehicles, is in proximity to the South Los Angeles Promise Zone, an area designated by the U.S Department of Housing and Urban Development (HUD) to have a high poverty rate and where residents need assistance in attaining resources.

Applicant Name: Porterville Unified School District

Project Title: Pathways to Clean Mobility for Porterville Schools: Creating Opportunities, Changing Lives

Requested CARB Grant: $9,938,861
Match Funding: $1,743,680
In-kind Funding: 7,668,628
Total Project Amount: 19,351,169

Summary:
The Pathways to Clean Mobility for Porterville Schools (PCMPS) provides every student in the District an opportunity to get to and from school with zero-pollution and zero-GHG emissions transportation. Here are the key elements of our program:

- **Zero-Emission School Bus Fleet.** PUSD has one of the oldest diesel school bus fleets in California, including 24 buses with an average age of 14.5 years, and average mileage of 181,300. Through PCMPS we will convert this all diesel fleet to zero-emission, electric school buses. This will not only eliminate GHG emissions, but also reduces our students' exposure to diesel related pollutants. With 30.1% of our students eligible for bussing, this impacts approximately 4,400 of our students.
- **Solar Powered EV Charging Canopies** (for Transit Center & Six Schools).
- **Student Pass Program with Porterville Transit.** The City of Porterville is converting its bus fleet to electric buses. Porterville Transit is also rolling out a micro-transit service, with zero-emissions electric vans beginning in 2020. In collaboration with the City of Porterville, PCMOS will provide access to every student in the district enrollment in Porterville Transit's Student Pass Program. This will provide unlimited free use of Porterville Transit & free (but limited) access to the micro-transit point-to-point service. This will support 29.6%, or approximately 4,300 of our students.
- **Micro-transit for PUSD Students & School Faculty Car Sharing Program.** The program will support the micro-transit program offered by Porterville Transit, with a dedicated electric van to service PUSD students. To expand the impact or our program to faculty, we will provide vouchers for faculty for an EV car sharing program.
- **Safe Routes to Schools.** We will advance active transportation in all of our schools with a dedicated position, "Safe Routes to Schools Coordinator', whose

job it will be to drive the actions to increasing walking and biking to schools. We will leverage the extensive active transportation program underway in Tulare County and the City of Porterville, including a 'rails to trails' investment to increase walking and biking in our school communities. With 40.4% of our students within walking distance of their school, this impacts approximately 5,800 students.

- **Integration of Clean Mobility with our Educational Pathways.** The goals and deployment of our Program will be tightly integrated with our educational program, aiming to help students increase environmental literacy, while preparing students for college and careers in clean technology.

Inclusion of 'Pathways' in our program name symbolically connects clean mobility to our nationally recognized Pathways Program. This qualification is critical because:

- Porterville Pathways are the platform to bring the clean mobility program to our schools, students, teachers, and faculty.
- The Pathways programs are tightly linked in our community, with great support from business and local government leaders.
- With 10-years of sustained success with our Pathways Program, we provide CARB clear evidence of PUSD's ability to develop and sustain a national model.

Applicant Name: San Diego Unified School District

Project Title: Lincoln High School Clean Mobility in Schools Pilot Project

Requested CARB Grant: $9,775,349

Match Funding: $176,600
In-kind Funding: 0
Total Project Amount: $9,951,949

Summary:
San Diego Unified School District's Lincoln High School Clean Mobility in Schools Pilot Project will reduce greenhouse gas emissions from schools in disadvantaged communities is critical to California meeting its ambitious goals to reduce greenhouse gas emissions. The Lincoln High School Clean Mobility in Schools Pilot Project is an opportunity to increase mobility, support adoption of clean transportation and increase air quality in a disadvantaged community.

San Diego Unified School District's Lincoln High School is located within a disadvantaged community near the Port of San Diego – an area with San Diego County's worst air quality. The minority student population is 99 percent – 76 percent higher than the state average.

The objective of the Lincoln High School Clean Mobility in Schools Pilot Project is to support transformative, synergistic emissions reduction strategies for the school's transportation options and positively impact the air quality of this disadvantaged community. The goal is to increase the visibility of and access to zero-emission transportation options by placing commercially available zero-emissions technologies and supporting charging/fueling infrastructure in the school. Methods to be employed

Elements implemented through the project include:

- Development of an electric food delivery program
- Robust public education effort to support behavior change for students, parents and staff
- Electric Bicycle Pilot Program for senior students and teachers
- Zero-emission commercial grade landscape and custodial equipment
- Two battery storage units
- Passenger vehicles for car sharing and van pooling for school purposes
- School buses with managed charging and vehicle-to-grid
- Transportation system upgrades for efficient routing of buses and service vehicles
- A replicable template for other districts

San Diego Unified School District, along with the Lincoln High School community of elementary and middle schools' staff, parents and students, will lead the project along with its partners:

- CALSTART
- Center for Sustainable Energy will work with Groundworks San Diego
- Circulate San Diego
- Cleantech San Diego
- Environmental Health Coalition
- S Curve Strategies
- San Diego Gas & Electric
- Black & Veatch
- Nuvve

Expected emission reductions from this project is 5,946.63. The amount of funding requested is $9,951,949, there are $176,600 amount in matching funds, and the total cost of the project is $9,775,349.

San Diego Unified School District's Lincoln High School is located within a disadvantaged community near the Port of San Diego – an area with San Diego County's worst air quality. The minority student population is 99 percent – 76 percent higher than the state average.

Applicant Name: Stockton Unified School District

Project Title: Getting Stockton Schools to Zero Emissions: Clean Air for our Community

Requested CARB Grant: $7,309,777
Match Funding: 0
In-kind Funding: 0
Total Project Amount: $ 7,309,777

Summary:

The Stockton Unified School District (SUSD) is proud to present its plan to become California's first zero emission school district under its plan "Getting Stockton Schools to Zero Emissions: Clean Air for our Community". Funding through this California Air Resources Board (CARB) award will enable significant positive community health impacts, dramatically reduce the use of fossil fuels while communicating these results with the community and our students. SUSD requests $7,309,777 to create a Zero Emission Pilot School District in Stockton, CA. This project plans to leverage other state and local funding sources if awarded. The project will reduce emissions by approximately 3,596 MTCO2e when fully implemented. Major participants in the project include Schneider Electric, the Center for Transportation and the Environment, Sage Energy Consulting, and The Mobility House. SUSD will use these funds in a phased approach to make the most significant changes as soon as possible, while creating a master plan detailing the most effective way to achieve a fully zero emission school district.

The project will begin with the deployment of 12 battery electric buses and charging infrastructure, including two buses provided through other funding. This design is already 90% complete, and just requires funding to implement. The charging will be controlled by advanced, grid-aware charge management software to decrease electricity costs and peak utility demands. SUSD will also acquire zero emission commercial mowers, grounds maintenance equipment and fleet maintenance vehicles. The emissions reductions will be tracked according to the grant requirements, and will be accompanied by reporting to provide a roadmap for other school districts to learn from.

In parallel with the shovel-ready charging, the team will build a master plan to quickly move the school district towards fully zero emissions. The project will include a detailed carbon emissions analysis of both baseline and future pathways. It will also include an energy provision analysis, which will examine the most cost-effective options to provide zero emission energy. These may include additional on-site solar, power purchase agreements (PPAs), and other innovative methods of energy production. The project team will examine the costs and benefits of providing

charging infrastructure for district staff, as well as vehicle to grid (V2G) capabilities to support total system resiliency.

The school buses will operate almost exclusively in Disadvantaged Communities as identified through the CalEnviroScreen. Removing old, polluting diesel buses from the road will improve local air quality and eliminate the GHG emissions they produce. The school buses will also provide an opportunity for students to interact directly with a technology that will be instrumental in moving SUSD towards zero emission operations. SUSD will leverage electric school buses and other zero-emission technologies into peer-led educational programs and materials for students, faculty, staff, and community members.

Applicant Name: Twin Rivers Unified School District

Project Title: California Capitol Pilot Project: Showcasing Zero-Emission Mobility in Schools

Requested CARB Grant: $7,440,788
Match Funding: $1,925,000
In-kind Funding: $ 708,121
Total Project Amount: $10,073,909

Summary:
California Capitol Pilot Project: Showcasing Zero-Emission Mobility in Schools (Project) will support transformative emission reduction strategies with the Twin Rivers Unified School District (TRUSD), located in disadvantaged communities (DACs), and will showcase a comprehensive array of zero-emission mobility solution for schools throughout California. Scaled demonstration of a suite of zero-emission technologies includes 8 zero-emission school buses, 7 zero-emission trucks and maintenance vehicles, 2 zero-emission delivery vans, 16 pieces of zero-emission lawn and garden equipment, and 8 zero-emission vehicles for carsharing, and 4 zero-emission shuttles for vanpooling will show that zero-emission technologies better serve the school districts' needs—reducing operating costs and greenhouse gas (GHG) emissions and eliminating mobile emissions. The Project will include critically needed charging infrastructure – 48 Level 2 chargers and 2 Level 3 chargers and 214 kW of solar PV to directly serve the Project's vehicle and equipment energy needs onsite. In addition, the Project will increase the community's familiarity and interest in zero-emission mobility options, which will help drive acceptance and enthusiasm of family and friends to help accelerate the deployment of zero-emission technologies, as well as create a successful model to inspire the next generation to fully embrace zero-emission mobility. In partnership with American River College's (ARC) Diesel Clean Diesel Technology Department, TRUSD will provide public education and outreach, workforce development opportunities, and share lessons learned to help create a

model for communities to deploy large-scale zero-emission projects throughout the state.

TRUSD is the Project Applicant and Project Partners include: Sacramento Air Quality Management District (Project Administrator), Lion Electric Co., Green Commuter, Tropos Technologies Inc./Fairway EV, Hilmar Rentals LLC (Mean Green Mowers and Husqvana), In-Charge Energy, Electriphi, Climatec, Adomani, Inc. and ARC.

The Project will be deployed at four school sites in TRUSD, providing direct emission reduction and education benefits for DACs: (1) Woodlake Elementary School (DAC 90-95%); (2) Vista Nueva High School (DAC 90-95%); (3) TRUSD facility offices, (DAC 90-95%); Grant Union High School, (DAC 7075%). In addition to the project sites, the bus and truck routes will provide direct emission reduction benefits to multiple DAC census tracts in the Sacramento region. The Project will support the transformative emission reduction strategies in TRUSD, providing environmental and economic benefits, as well as increased zero-emission mobility options for the surrounding DACs, including the students, facility, and maintenance staff – as well as the surrounding communities.

The Project will avoid 19,473 MT CO2e, based on the methodology in Appendix D. 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 PM10 emissions associated with the project. The criteria pollutant emission reduction for the Project is 22,341 lbs. of NOx, 2184 lbs. of PM 2.5, and 11,066 lbs. of ROG emissions.

The Project will include a 26% match - $1,925,000 cash and leveraged match and $708,121 in-kind match from eligible private and local funding to compliment the requested $7,440,788 California Air Resources Board investment, for a total project budget of $10,073,909.