

FY 2022 Low or No Emission Grant Program and the Grants for Buses and Bus Facilities Competitive Program

Applicant and Proposal Profile

Is this a resubmission due to an invalid/error message from FTA? Yes No

Is this application for: Low-No (FTA-2022-001-TPM-LWNO)
(If applying to both programs, please check both boxes) Buses and Bus Facilities (FTA-2022-002-TPM-BUSC)

Note: If applying to both programs, applicants should enter information for both programs on this form but **Must** submit the application package including the Supplemental Form and attachments, to **Each** respective Opportunity ID on Grants.Gov for each program. That is, complete 1 form, but submit it to both programs in Grants.gov.

Section I. Applicant Information

Organization Legal Name:

FTA Recipient ID Number:

Organization Chief Executive Officer:

Applicant Eligibility: Direct or Designated Recipient
 State
 Local Governmental Authority
 A Federally-Recognized Indian Tribe

Project Location: Small Urbanized Area (50,000-199,999 people)
 Large Urbanized Area (200,000+ people)
 Rural (less than 50,000 people)

Description of services provided and areas served:

The City of Sandy is located in Clackamas County, Oregon, and named after the nearby Sandy River. The City is known as the "Gateway to Mount Hood," serving as the western gateway to the Mount Hood Corridor, 25 miles east of Portland. The City has a population of approximately 11,633 and owns and operates its own regional transit service known as Sandy Area Metro (SAM).

SAM's fixed route commuter services operate from the transit center located in the center of town at the Centennial Plaza. SAM is a critical regional connection for Clackamas County providing intercity service to the Portland Metro area via TriMet's bus and MAX light rail system, at the Gresham Transit Center. SAM is also a regional connection to eastern Clackamas County pulsing with Hood Express at the Sandy Transit Center.

Sandy Transit was once part of the TriMet service district. In 1999, the City of Sandy was granted a withdrawal from the TriMet District and began providing its own transit service in 2000. Initially, the City had one transit vehicle and provided fixed route service between Sandy and Gresham. Shortly thereafter, door-to-door demand response service (SAM rides, formerly known as STAR) was offered for all residents within a quarter mile of Sandy's city limits, ensuring that all residents would be able to connect to the fixed route system. By the ninth month of operation, peak-hour service was added and the SAM rides route was extended to serve more of Sandy's

neighborhoods. During its second year of service, Sandy Transit provided 125,000 rides.

In 2003, the City added commuter service between Sandy and Estacada to provide service to a relatively isolated neighboring community. The following year, the City assisted the mountain community in implementing fixed-route service between Sandy and the Villages at Mt. Hood. Sandy Transit service has grown from one fixed-route to three fixed routes, and two demand-response programs.

In late 2016, a third deviated route was added. A local circulatory community route, called the Shopper Shuttle, quickly rose in ridership, increasing by 89% from 2017 to 2018 and another 76% in 2019.

Between 2000 and 2008, the newly formed Sandy Transit Department provided increasing levels of service and also saw a steep increase in ridership. The dramatic increases in the ridership levels for 2006-2008 can be attributed to an increase in frequency on the Gresham route to half-hourly, rising gas prices, fareless rides, and an economic recession. In 2020, when the pandemic hit, and as with all transit agencies across the nation, SAM ridership declined. Unlike some agencies, though, SAM ridership remained between 50-70% during COVID and no service cuts were made.

Sandy Transit was a fareless system, supported by local business tax and grants until October 2013. Due to a loss of Federal funding and local support for charging a modest fare, the Sandy City Council passed a resolution to charge \$1.00 per trip. Fixed route service returned to fareless within city limits in 2016. Passes are also offered at a reduced rate for frequent riders and ADA riders enjoy free in-town dial-a-ride service.

As stated in the updated 2020 Master Plan (TMP), SAM's goals are: to provide safe, efficient, high-quality transit service that gives Sandy residents, workers, businesses and visitors more freedom to meet their needs within the city, the region and the state; and to create a transit system that offers an alternative to private automobile use, supports efficient use of roadways and reduces air pollution and energy use. In working towards those goals of connecting community we are advancing racial equity and creating and maintaining good-paying careers. The transit service operates out of its own operations facility, where it shares space and supports a partner transit agency owned and operated by Clackamas County, the Mount Hood Express and Villages Shuttle service.

Section II. Project Information

About the Project

Project Title:
 (Descriptive title of this project)

Project Executive Summary:

Project Statement of Work (one sentence summarizing request):

- Propulsion Type: Battery electric
 CNG
 Diesel
 Diesel-electric hybrid
 Gasoline
 Hydrogen fuel cell
 Other

If Other, specify:

- Project Type: Bus Replacement

Number of buses to be replaced:

- Bus Rehabilitation

Number of buses to be rehabilitated:

- Bus Expansion

Number of buses for service expansion:

- Bus Facility Replacement
 Bus Facility Rehabilitation
 Bus Facility Expansion
 Bus Equipment
 Other

If Other, specify:

Climate Change

For Buses and Bus Facilities Projects, please describe the significant community benefits relating to the environment. See NOFO Section E.2 for additional guidance:

By deploying a battery electric Proterra ZX5+ bus in place of the existing diesel vehicle, Sandy Area Metro will reduce the energy consumption, emission of harmful particulates and emission of greenhouse gases associated with its fleet. Reduction of the emissions when traveling to Gresham is particularly important as they have been identified as disadvantaged, as noted in the Climate and Economic Justice tool. In addition, electrification aligns with the state goals of reducing pollutants.

Environmental Justice Populations

Is there an environmental justice population(s) located within the service area? Yes No

Describe the environmental justice population(s) and the anticipated benefits resulting from the project for those population(s) (see NOFO Section E.2):

The electric buses will be primarily assigned to serve vulnerable populations in the City of Sandy. Based on the 2020 American Community Survey data, 8.4% of residents live in poverty, 10.7% are Hispanic, 10.1% are disabled and 10.6% of the population are over the age of 65. Electric buses provide sustainable zero emission transportation that will improve job and school opportunities and improve mobility for vulnerable populations while eliminating carbon emissions and other harmful pollutants.

Racial Equity/Barriers to Opportunity

Does the project address racial equity or barriers to opportunity (see NOFO Section E.2)? Yes No

If yes, please describe:

The Hispanic and Latino community are 10.7% of Sandy's population and were identified as disadvantaged population during the Transit Master Plan process. Barriers to outreach of that population were mitigated such as multi language meetings and information and consideration of event location and outreach. The SAM Gresham serves as a regional connection to surrounding towns and the Portland Metro area. This provides access to better employment opportunities, education and healthcare.

Creating Good-Paying Jobs

Applicants for facility projects, please describe how the project will support creating good paying jobs (see NOFO Section E.2):

N/A

Zero-Emission Fleet Transition Plan - Workforce Involvement

For zero-emission projects, please explain how workforce representatives were included in the development of the workforce plan of the Zero-Emission Transition Plan and which of the three elements described in the NOFO Section E.2 were used to maintain job quality and avoid displacement of the existing workforce:

Bus operators, dispatchers, maintenance staff and the general manager were considered. Sandy will use element 3, reskilling workers as a strategy to retain, retrain and recruit employees into good paying jobs with the choice of a union and equitable access to training and support. Examples are: Vehicle Introduction, Operator Training, Technical Training 1, Plug-in Charger Maintenance, Technical Training 2, Advanced bus diagnostics, Composite Body Repair and Overhead Charger Maintenance.

Justice40

Does the project support the Justice40 Initiative? Yes No

Describe how the project supports the Justice40 Initiative and the benefits provided (see NOFO Section E.2):

Passengers served self report (FY22 annual on-board surveys) an inability to make the trip if public transit were unavailable (67%), low incomes (69% under \$19,999), higher % of Hispanic populations than the general population and higher % of those 60 years and over than the general population. These populations were identified in the public outreach of the Sandy Transit Master Plan when considering future services goals and objectives. Two public outreach events, two stakeholder meetings, on board surveys of passengers, on line surveys, two presentations to the City Planning Commission and 2 presentations to the City Council were conducted during the Master Plan with Hispanic speaking individuals and materials included.

Describe the methodology used to determine the project meets the Justice40 Initiative (see NOFO Section E.2):

SAM recently conducted annual on-board surveys. Those survey results were applied to FY22 estimated ridership, a conservative estimate due to decreases in ridership as compared to pre-COVID ridership levels. Census and ACS data were also used to understand passenger statistics in comparison to the general public. Finally, the Transit Master Plan, which was adopted in April 2020, was used. The Transit Master Plan conducted considerable outreach to the public, stakeholders and passengers over an 18 month period before adoption. The Hispanic population was identified as disadvantaged population during the Transit Master Plan process and barriers to outreach of that population were used such as multi language meetings and information and consideration of event location and outreach. The routes to which the battery electric buses which would be funded by this project will be primarily assigned to serve the identified vulnerable populations in the City of Sandy.

Justice40 Population Impacted

Justice40 Disadvantaged Community Served as Identified in the NOFO Section E.2

Actual or Estimated Annual Ridership Count

Low Income	89,495
Hispanic and Latino	86,901
Elderly and Disabled	30,594

What is the percentage of Disadvantaged Communities within the project area? %

Was this estimate generated using the Justice40 online mapping tool? Yes No

Project Budget

Description	QTY	Federal Amount Requested	Local Match Amount	Other Federal Funds	Other	Total Cost
Sandy Area Metro Zero Emission Project	1	2,081,883	318,512	0	0	2,400,395
Total:		2,081,883	318,512	0	0	2,400,395

Does the project budget include funding for workforce development activities or training at the National Transit Institute (NTI)? Yes No

For zero emission projects, is 5% of the project budget for workforce development training as outlined in the applicant's Zero-Emission Transition Plan? Yes No

If no, please explain why the full 5% is not needed:

N/A

Matching Funds Information

Matching Funds Amount:

Source of Matching Funds:

Payroll Tax, available

Supporting Documentation of Local Match:

Monthly budget report, March. Beginning balance held as contingency and available.

Project Scalability

Is project scope scalable? Yes No

If Yes, specify minimum Federal Funds necessary:

Provide explanation of scalability with specific references to the budget line items above:

This project is scalable with the purchase of one bus rather than two.

Project Timeline (Please be as specific as possible)

Timeline Item Description

Timeline Item Date

FTA Award and & Sub-recipient Contract Execution	07/01/2022
Project Planning and Initiation	08/08/2022
Requirements Analysis	09/08/2022
Bus Procurement & Build	10/01/2022

Infrastructure, Procurement, Design & Build	03/01/2023
Bus & Infrastructure Deployment	02/01/2024
Deployment Validation	03/01/2024
Project Close-out	06/30/2024
Project Management, Administration, Reporting & Control	12/31/2024

Congressional Districts (Project Location)

Congressional District

OR-003

Partnership Provision

Note: the partnership provision is only applicable to low or no emission projects that are applying to the Low-No Program or both the Low-No and Bus Program. Projects applying only to the Bus program are not eligible to use the partnership provision. See NOFO Section C(1).

Is this application a partnership between an eligible applicant and one or more partners? Yes No

If yes, please list the partner(s) and describe their qualifications:

Proterra is a leader in the design and manufacture of zero-emission electric transit vehicles and EV technology solutions for commercial applications. Proterra's battery electric buses (BEBs) enable operators to eliminate the dependency on fossil fuels and to significantly reduce operating costs while delivering clean, quiet transportation to the community. Proterra has sold more than 1,000 BEBs to 135 communities across 43 U.S. States and Canadian provinces. Since 2004, Proterra's technology has been proven through more than 25 million service miles in zero-emission heavy-duty transit applications. Designed from the ground up to be electric, the Proterra ZX5+ has the most energy storage on board any battery-electric bus in its class for the longest range.

To provide operators with a comprehensive set of products to deploy and scale their EV fleets, Proterra also offers a turn-key approach to delivering the complete energy ecosystem for BEBs. In addition to high-power charging systems, Proterra Energy fleet solutions include charging infrastructure design, build, financing, operations, maintenance and energy optimization.

Proterra buses have prevented more than 140 million pounds of greenhouse gases from entering the atmosphere and avoided burning 8 million gallons of fuel. Their research and development lab and manufacturing facilities are located in Southern California and South Carolina. Proterra ZX5+ buses are designed and built in the USA by American workers. They are committed to providing 100% battery-electric fleets and delivering clean, quiet transportation. Proterra embraces the US Department of Transportation's vision for an infrastructure model that prioritizes domestic job growth and technological innovation, through a commitment to strengthening the US transit industry and creating jobs in the US through domestic manufacturing and partnering with transit agencies.

Section III . Evaluation Criteria

***** Address each of the evaluation criteria as described in the Notice of Funding Opportunity.*****

Demonstration of Need

Sandy Transit works to be a public role model in Oregon's effort to create zero emissions region. As residents are trending toward electric automobiles, Sandy Transit feels it is important to set the bar high, using taxpayer money wisely and do its part to reduce emissions in this environmentally sensitive area. Sandy Transit also seeks to be a leader in rural public transportation in partnership with the State demonstrating the ability for zero emission vehicles to be a valuable part of rural public transportation.

It is the intention of Sandy to begin this transition to zero emission through the deployment of battery electric transit vehicles on its SAM-Gresham route.

Sandy will reduce energy consumption by transitioning from 35' diesel fueled vehicles to 35' battery electric vehicles. Sandy currently uses 4 large diesel vehicles in rotation to provide regional service between two counties. Monday through Friday two buses operate daily, each running for 16 hours or a total of 32 revenue hours and 768 revenue miles daily. Saturday one bus runs for 16 hours and 384 revenue miles and Sunday one bus runs for 8 hours and 192 revenue miles. Due to the length of time the buses are out, two electric vehicles and the necessary charging infrastructure will be needed to replace one diesel bus, increasing the peak pullout calculation by taking the scheduled standby bus into consideration.

Sandy will reduce harmful emissions by Sandy is requesting one bus as a replacement bus and one as an expansion to the fleet to replace a 2017 Gillig which will have reached its useful life in mileage in 2024 as the new bus arrives (CIP attached). This bus will be kept as a contingency vehicle as the electric vehicles are introduced to the fleet. Installation of the chargers will begin in FY 2023 as phase one upon award of this project. Phase two will be the deployment of the vehicles which will occur at the end of FY 2024.

Sandy is currently working toward a Transit Master Plan goal of launching a new route to Happy Valley, Oregon. This is a very long commuter route that will serve Boring, Oregon its surrounding areas that currently has no service while also providing Sandy residents an available public transit route to goods and services, such as the Kaiser Health Center and the Clackamas Town Center. This route will connect to the Metro Region's TriMet Transit Service at the Town Center.

Without FTA funding, Sandy could not purchase these battery electric buses and charging stations due to the high incremental cost compared to diesel buses.

In 2017, Governor Brown issued Executive Order 17-21, directing state agencies to accelerate zero emission vehicle adoption to reduce greenhouse gases in Oregon. In turn, ODOT has encouraged public transit agencies to begin the process of vehicle electrification. ODOT's Group Transit Asset Management Plan emphasizes alternative fuels, with electric being the most environmentally friendly. The plan supports the 2010 Oregon Sustainable Transportation Initiative, ODOT's commitment to help Oregon reduce gas emissions by 75% below 1990 levels. Oregon's Public Transportation Advisory Committee is expecting public transit will move toward electrification and the Oregon Public Transportation Plan is focused on environmental sustainability and reducing greenhouse gas emission. Electrification is a a national, state, regional and local priority supported by the many agencies involved in public transit.

Demonstration of Benefits

Note: If applying to both programs, be sure to select "yes" and provide a response to both questions below.

Is this an application to the Low-No Program? Yes No

Please describe the benefits of the proposed project per the statutory requirements of the Low-No Program (see NOFO Section E(1)(b)(i)):

The proposed project will allow SAM to remove one 2017 model year diesel fueled bus from service and deploy 2 zero-emission battery electric Proterra ZX5+ buses in its place. The bus being replaced operates for approximately 2,096 hours and consumes 6,602 gallons of diesel fuel each year. By deploying the Proterra ZX5+ buses in place of the existing diesel vehicle, SAM will take the first step toward eliminating our dependency on fossil fuels. Electrification of our fleet buses will significantly reduce operating costs while reducing the emission of harmful particulates and greenhouse gases associated with its fleet.

Sandy Transit's Proterra Buses Will Reduce Energy Consumption

The battery electric buses that SAM is proposing to put into service consume less energy per mile driven than buses that use other common propulsion technologies, such as gasoline, diesel and natural gas engines. The Proterra ZX5+ battery electric bus is the most

energy efficient heavy-duty transit vehicle ever tested at Altoona, registering an overall average efficiency of 1.70 kWh/mile or over 22.14 MPG diesel equivalent. In comparison, the latest 35' low-floor diesel buses tested at Altoona registered an average of 4.26 mpg. The average fuel economy of the diesel bus that SAM will replace is 6.82 mpg. By deploying the Proterra ZX5+ and reducing the amount of energy required to move their bus, Sandy will reduce their overall energy consumption. In addition to the efficiency of the electric bus, the generation and transmission of electricity is more efficient than extracting, refining and distributing either diesel or compressed natural gas. A well-to-wheel energy analysis using AFLEET (a model developed by Argonne National Laboratory) shows that operating the battery electric bus instead of a comparable standard bus (model year 2017 diesel bus) will reduce the amount of energy that SAM uses each year by 0.7 terajoules (TJ).

Sandy Transit's Proterra Buses Will Reduce Harmful Emissions

By deploying the Proterra ZX5+ buses in place of the existing diesel vehicle, SAM will reduce the energy consumption, emission of harmful particulates and emission of greenhouse gases associated with its fleet. Deploying the zero-emission bus in place of the existing diesel vehicle will reduce the emissions associated with SAM's fleet by approximately 18 short tons of greenhouse gases, 256 lbs. carbon monoxide (CO), 719 lbs. nitrogen oxides (NOx), and 67 lbs. volatile organic compounds (VOC) annually. In addition, the project will prevent the release of 56 lbs. particulate matter under 10 micrometers (PM10) annually, 52 lbs. of which is fine particulate matter (PM2.5) that has a considerable health impact on the local community.

Sandy Transit's Proterra Buses Will Reduce Direct Carbon Emissions

The Proterra ZX5+ produces zero tailpipe emissions. In comparison, a single diesel bus running 36,000 miles per year (national average) produces an astonishing 201,000 pounds of CO2 every year. Thus, over the 12-year life of a typical transit vehicle, replacing a diesel bus results in 2,412,000 pounds of carbon emissions during the battery electric bus's 12-year useful life.

Is this an application to the Buses and Bus Facilities Program? Yes No

Please describe the benefits of the proposed project per the statutory requirements of the Buses and Bus Facilities Program (see NOFO Section E(1)(b)(ii)):

The proposed project will allow SAM to remove one 2017 model year diesel fueled bus from service and deploy 2 zero-emission battery electric Proterra ZX5+ buses in their place. The one bus being replaced operates for approximately 2,096 hours and consumes 6,602 gallons of diesel fuel each year. By deploying the Proterra ZX5+ buses in place of the existing diesel vehicle, SAM will eliminate dependency on fossil fuels which will significantly reduce operating costs while reducing the emission of harmful particulates and greenhouse gases associated with its fleet.

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diesel bus results in 2,412,000 pounds of carbon emissions during the battery electric bus's 12-year useful life.

Planning and Local/Regional Prioritization

The updated 2020 TMP states (Pg. 8) Sandy's goals of providing safe, efficient, high-quality transit service and providing alternative transportation that reduces air pollution and energy use also lines with the goals of the Oregon Public Transportation Plan. The TMP was created with input from riders, stakeholders and decision-makers in Sandy.

The Transit Master Plan identifies the addition of zero emission vehicles on page 30 and identifies it as a future agency goal. On page 55, the Plan states:

"Policy #7 - Reduce air pollution and energy use through strategies such as conservation, improved technology, and alternative vehicle propulsion. Action 7.1 Evaluate the costs, benefits and savings of using electric vehicles to provide service. Invest in electric vehicles, charging stations, maintenance equipment and maintenance staff training when and as appropriate. Action 7.2 Evaluate the use of alternative fuels to reduce greenhouse gas emissions."

Local Financial Commitment

Sandy Transit collects a local payroll tax from Sandy businesses. This tax is readily available for use as match for this project. As illustrated in the attached Sandy Budget, Sandy Transit has \$1.5 million available in the beginning balance. Additionally, Sandy has partnered with PGE through an application to the Fleet Partner Program. This program assists agencies as they transfer their fleet both in the planning and development of infrastructure and through awarded funds and incentives.

Project Implementation Strategy

Can this project be obligated within 12 months? Yes No

If this project is chosen, the funds can be obligated upon contract. The project will take approximately two years to complete. Phase one would be the necessary infrastructure and training, phase two would be the bus deployment and continued training. Proterra has stated it currently takes approximately 14-16 months to design, build and deliver the vehicles, setting the project completion date at late FY 2024.

Technical, Legal, and Financial Capacity

Sandy is highly experienced in contract administration and possesses more than adequate infrastructure to ensure compliance. Transit staff are provided support from City resources such as Finance, Administration and Legal Counsel to ensure compliance with

all required rules and regulations associated with a broad variety of funding sources. The City completed an annual audit, including an audit of federal awards. Internal controls are maintained through clear policy and procedures requiring multiple levels of review, including Transit Director review for eligibility of expenses. Tyler is the accounting system of record and allows for regular financial review, including budget to actual. The Finance Department shares monthly financial reports to monitor spending and reporting.