

Climate Pollution Reduction Grant Budget Narrative

Expanding Transit Signal Priority for the Regional Transit Fleet

1. BUDGET

a. Budget Detail

This project budget was designed with a focus on seeking funds to expand the existing Better Bus Program, to build capacity for more agencies to install and maintain TSP on their signal systems, and to conduct the required hardware and software upgrades to implement the projects at a corridor-wide scale.

Table 1:

Budget Category	Expense detail	Total
Personnel and Fringe	TriMet staffing and fringe benefits are not included in this budget	\$0
Equipment	Controller upgrades for up to 125 signals	\$693,000
	Communications and/or fiber upgrades for up to 125 signals	\$2,428,641
Contractual	Consultant design and project management contract	\$800,000
	License, setup, testing, deployment and optimization of Next Generation TSP signals	\$3,037,990
Other: Sub-awards	Subawards to support for signal owners to cover the costs of training, testing and configuring controllers for Next Gen TSP implementation.	\$1,531,250
Other: Sub-awards to Metro	Sub award to Metro for Project Manager staff time (Senior Transportation Planner @ \$99,348/yr .15 FTE for 5 years with salary increases, fringe and overhead)	\$200,000
	Total Funding Request	\$8,690,881

Description of Project Expenditures:

Personnel and fringe: Funds to support existing staff at TriMet are not included the project budget described below in order to focus on the project costs that do not have funding from other grants or agency programs. Existing project staff are already working to expand the Next Generation TSP program and this grant would provide the additional funding to deliver more projects, with more resources, more quickly at a scale to make a more pronounced impact on greenhouse gas reduction.

Costs of signal infrastructure upgrades for Transit Signal Priority: The costs for upgrades to signal controllers and communications were developed based on a thorough inventory of signals on over 20 TriMet bus lines experiencing transit delay. All costs are based on the communications and controller needs for specific signals, with inputs from signal owners and operators.

The costs included in the project budget are for the four representative lines listed in the application, and involve a variety of types of signal infrastructure and different jurisdictional owners. In some cases, such as within the City of Gresham, many initial improvements to signal communication were recently

funded by other sources, which reduces the overall cost of the signal upgrades needed to implement Next Gen Transit Signal Priority in that jurisdiction.

Contracting costs:

Consultant contract for Design and Project Management: Procurement is planned summer of 2024 to begin work on the expansion of this program. This procurement will comply with all federal contracting laws and be through a competitive RFP process. This contract will include Project Management, design, training and coordination between multiple partners and the TSP vendor. The consultant selection process will allow for the scope of this project, if awarded, to be added to the existing contract when funds are awarded.

Licensing costs: The pricing for setup, deployment, testing, performance optimization and license was provided in January 2024 by LYT, TriMet's existing TSP vendor. The pricing is based on the number of signals where TSP is deployed. These costs are paid up front to cover 5 years of Operations and Maintenance in addition to the license, at up to 200 signals. Traffic signals already licensed do not require a setup fee when increasing the total number of licenses, and discounts may apply for large license quantities. Configuring new bus routes on existing intersections requires separate time and materials billing. This cost is a critical part of deployment of Next Generation TSP to ensure that the project can remain operational beyond the period of performance for the grant. The funding provided by this grant to cover these costs makes the entire implementation possible to scale up to more bus lines for further reduced emissions during the period of performance for this grant as well.

Sub-awards: Support for jurisdictional partner participation in process:

Through the Better Bus program, we have heard repeatedly that jurisdictional partners need to know that there will be resources to support the time intensive process of testing and configuring signals. Therefore this application includes budget for the signal owners and operators to receive training and for testing and configuring each signal that will be upgraded to implement TSP.

The exact allocations for these sub-awards will depend on which projects are ultimately selected and the needs of the signal owners. The estimate is based on TriMet, the City of Gresham, the City of Portland and Oregon Department of Transportation's experience testing and configuring signals for the Division Transit Project in 2022, with updated staff overhead rates. The costs for sub-awards assume: 30 hours testing per signal, 40 hours to configure a controller at the overhead rate of \$175 per hour, for 125 total signals.

b. Expenditure of Awarded Funds

The Better Bus program, managed in part by TriMet Major Projects, is an established partnership between TriMet, Metro and local jurisdictions to plan, design, and construct relatively low-cost and quickly implementable transit capital projects to improve transit travel time, reliability and capacity, and pedestrian and bicyclist safety. The program has developed a toolkit of transit priority treatments including priority tools in the following categories: transit lanes, bus stops and operations, street infrastructure, and traffic control. Transit Signal Priority (TSP) is a core treatment type in the Better Bus traffic control category and the program is currently developing several TSP projects with various local jurisdictions. The Better Bus program with key support from TriMet's Intelligent Transportation Systems

(ITS) group and the TriMet Program Management group within TriMet Engineering & Construction (E&C) division is the primary program within TriMet for the delivery of TSP projects on TriMet's fixed-route bus system. The program also has the management structure in place to manage all stages of the project lifecycle.

The Better Bus program with support from TriMet's Program Management group will adhere to TriMet established processes employed to manage cost and schedule goals for the project. This set of processes or "project control" will provide accurate and timely project cost and schedule information for management, as well as regular analyses and review of projections and variances. Project control also develops and employs procedures to uniformly document changes made during the Design and Construction Phases of the Project. This information facilitates on-going review of individual contract performance as well as analyses of overall project trends. The goal is to assure that all scope, schedule and cost goals are met.

With the Better Bus program as a base for this expanded program, there are the structures in place to ensure that there is a clear process for any changes to the proposed budget. There are also the project controls in place at TriMet to ensure that funds are used for the intended purpose.

Using multiple procedures and established internal controls, TriMet has developed a robust system to track expenses of large and complex capital and operating projects using various federal, state and local funding sources. This system, includes multiple approval processes imbedded in the accounting system, so TriMet can ensure only allowable costs are charged to the grant, expenses are complete, accurate and reported on a timely basis. Other controls have also been implemented to ensure other Federal requirements are being met, such as match, period of performance and procurement. These systems have been tested regularly through our annual, external Financial Statement and Single audits, which have resulted in clean audit opinions with no financial statement or federal audit findings, as well as withstand a rigorous FTA Triennial Review over many different sections addressing accountability, effective policies and procedures, compliance and project performance.

For example, when TriMet is awarded a grant, a specific 5-digit grant tracking number is assigned to the expense account string. This allows Project Managers to code grant related third party invoices appropriately as well as charge direct labor and benefits, supported by timesheets, for actual hours incurred on that project. Budgets are also established for the various projects to ensure that costs do not exceed appropriations or the total grant award, especially if the project expands over multiple fiscal years.

Because most of TriMet's grants are managed on a reimbursement method, the use of monthly expense and revenue reports by individual grant award, ensures that reimbursements are only for actual expenses incurred. If match is required, only the Federal share of the total expense is requested. This process ensures the match requirement is being met at all times and that the match is also an allowable expense. Grant reports are managed and monitored on a monthly basis to identify any errors and to ensure that revenues are reported timely for financial reporting.

c. Reasonableness of Costs

Many jurisdictions have made signal and communications infrastructure improvements to facilitate NextGen TSP, so costs to implement this technology are lower than on corridors less ready for these investments. The costs of this application will also provide critical funding for the the infrastructure costs

to make the projects happen, as well as to build the capacity of this program, and local jurisdictions to make these investments on more corridors. The costs are minimal to expand upon a successful program to build this regional capacity to deliver even more TSP corridors with more significant and cost-effective greenhouse gas reductions.

TriMet and Metro have the systems in place to effectively deliver these projects and measure the environmental outcomes, which is why the personnel costs as part of the project request are minimal so that focus is on the work to expand the program and cost-effectively delivering projects.