Puget Sound Regional Council

Request for Quote for
Project Level Emissions Estimation Tool Updates

Submissions Due: 4:00 pm, May 22, 2023

REQUEST

The Puget Sound Regional Council (PSRC) is requesting quotes from firms to update and enhance a spreadsheet-based tool that estimates emissions impacts from a variety of transportation projects.

The available budget for this project is up to $40,000. Submittals must be received at PSRC's office by 4:00 pm, May 22, 2023.

This project includes assistance with the following components (discussed in greater detail in the Proposed Scope of Work):

1. Review of Existing Tool and Alternatives
2. Develop Draft Version of Tools
3. Refine Data and Features
4. Prepare Final Working Version of Tool
5. Report and Documentation

Price quotes should include the following items:

- Budget per task
- Summary description of the firm's interest and approach to the project tasks.
- Brief description of the firm's experience, background, and qualifications related to the project tasks and including key project staff.

BACKGROUND

PSRC is the regional transportation, land use and economic development planning agency for King, Kitsap, Pierce, and Snohomish Counties. Its mission is to advance solutions to achieve a thriving, racially equitable, and sustainable central Puget Sound region through leadership, visionary planning, and collaboration. PSRC's members include cities, towns, counties, ports, and state agencies. It is the designated Metropolitan Planning Organization (MPO) and Economic Development District for the region under federal laws and the Regional Transportation Planning Organization under Washington State law.

As the region's MPO, PSRC is responsible for programming and maintaining the four-year Regional Transportation Improvement Program (TIP), and for selecting projects to receive funds from the Federal Highway Administration and the Federal Transit Administration. As part of this project selection process, PSRC prioritizes the reduction of air emissions for every project evaluated.

In addition to the evaluation conducted during the project selection process, every year PSRC is required under federal regulations to estimate emissions benefits from projects funded through the Congestion Mitigation and Air Quality Improvement Program (CMAQ). PSRC uses a spreadsheet tool that incorporates current regional baseline data and addresses a variety of project types that are commonly awarded funds at PSRC. The objective of this project is to update the data and background calculations in this tool, or to develop a new tool that meets current needs and allows for future updates by PSRC staff.

PROPOSED SCOPE OF WORK

A. PURPOSE

The consultant will produce an updated emissions calculator to be used by PSRC staff for conducting project level emissions estimation. The tool must translate project details into estimates of changes in carbon monoxide, particulate matter, nitrogen oxides, volatile organic compounds, and carbon dioxide. This tool must be able to estimate changes in travel activity from distinct project types, including but not limited to new or expanded transit service, intersection improvements, signal synchronization, alternative fuels, managed lanes, travel demand management strategies, and bicycle and pedestrian investments.

The consultant may update PSRC's existing spreadsheet tool with new data, assumptions, and additional features, or propose a new framework based on tools used by peer agencies. PSRC will provide the existing tool, emission factors from the EPA Motor Vehicle Emissions Simulator (MOVES) model and any relevant data from household travel surveys and the regional travel demand model. The consultant will research and update appropriate assumptions and calculations to represent changes in travel activity due to the project types and incorporate the information into the tool.

Primary goals of this update include updating baseline data to reflect the latest model base year where available and providing more default assumptions when project details are unavailable from project sponsors. Roadway and intersection projects are often lacking details from sponsors on travel time or speed changes and are a key area identified for improved analysis. PSRC would like for this tool to include more rigorous

default data and features to evaluate the emissions impacts of these and all types of projects where available. Similar types of updates are also required for vehicle replacement and technology updates that help capture a variety of electrification and other fleet replacement programs. In general, PSRC is seeking updated regional data and more sensitivity based on before-after studies and other research where available.

Consultant selection will be based on the ability to demonstrate the following qualifications:

- Knowledge of localized studies of project impacts on activity, within the Puget Sound region or comparable metropolitan areas
- Experience developing lightweight tools that evaluate project-level impacts of transportation projects
- Experience studying relationships between travel behavior and emissions produced from on-road mobile source vehicles

B. TASK DETAILS

Task 1: Review of Existing Tool and Alternatives

PSRC and the consultant will evaluate how the existing tool compares with those being used by other MPOs. The team will decide whether to incorporate additional features into the existing tool or adopt another platform depending on what is most efficient for consultants to provide. At the end of this task, there should be a clear set of improvements defined for development in the following tasks.

Task 2: Develop Draft Version of Tool

This task includes providing a basic working version of the tool, whether it be a new tool or an updated version of PSRC's current tool with additional or improved features. This version should demonstrate more refined capabilities to represent projects using either user-provided details or default assumptions (specific to the region where possible).

Task 3: Refine Data and Features

After demonstrating basic functionality and features, this task will focus on providing the most current data from models, surveys, before-after studies, and other research. This task should leverage available local data available and use the latest research to evaluate air quality impacts of specific types of projects.

Task 4: Prepare Final Working Version of Tool

The final deliverable will be provided to PSRC at the conclusion of this task. PSRC staff will test the version produced in Task 3 and recommend additional usability changes, technical improvements, or any final additions. In addition, this task should demonstrate how the tool can be updated with new data as needed in the future.

Task 5: Report and Documentation

The consultant will prepare a final report in the form of a user manual for the tool. The report will include a description of all values, calculations, and assumptions, as well as the source of each item. The report will include a description of quality assurance procedures and validation of results. The consultant may also need to be available to answer questions from PSRC staff regarding potential maintenance or future updates of the tool.

Budget and Contract

The project has a budget for costs not to exceed $40,000. Firms should submit a price proposal indicating proposed amounts for individual tasks. PSRC expects the duration of the contract to be up March 2024, although workload may be distributed unevenly throughout the timeframe.

C. CONSULTANT SELECTION SCHEDULE:

All submissions due.....May 22nd, 2023
Consultant selected & notified.....June 5th, 2023
Refine scope of work and sign contract with PSRC ..... June 19th, 2023
Begin Work.....June 20th, 2023

D. SUBMISSION REQUIREMENTS:

Please include the following:

1. Budget per task.

2. A cover letter and summary description of the firm's interest and approach to the project tasks. (Max 5 pages)

3. Information of the firm's experience, background, and qualifications related to the project tasks and including key project staff. (Max 10 pages)