

Request for Proposals: Shasta Planning Data Dashboard

Solicitation Number: S-00028

Questions and Answers

1. Is there a designated section on SRTA's website where consultants can submit their details as interested sub-consultants for specific tasks related to this project?

No, there isn't a specific section on the SRTA's website where consultants can submit their details to express interest in becoming sub-consultants for particular project tasks. Consultants must independently seek out partners to ensure they can collectively address all aspects of the project and effectively respond to proposals.

2. Could you provide more details about your land use model?

We're in the process of developing our land use model in the CUBE Land software. Our land use model will operate within a "bid-choice" framework, which merges the "bid-rent" theory with discrete choice models. This model comprises three interconnected stages:

- a. The Demand model reflects consumer behavior, encompassing households and firms.
- b. The Supply model encapsulates the behavior of real estate developers.
- c. The Equilibrium model, or rent model, calculates rent values and ensures equilibrium conditions.

The equilibrium in the real estate market is established, considering various factors such as bounds, constraints, restrictions, and policy assumptions.

Our land use model employs a clear behavioral approach to determine equilibrium. Properties are occupied by households/firms willing to pay the highest price, while developers aim to maximize profits by deciding on building types.

Location externalities and economies of scale are factored in through feedback within the equilibrium loop, simulating the dynamic interaction between consumers and suppliers.

3. Could you provide more details about the land use and travel model integration?

The land use model can generate a balanced prediction by employing automatic feedback loops among land-use and transportation models. In this system, household and firm bid/rent functions take into account the quality of transportation services:

- Households evaluate "accessibility" based on their ability to reach desired destinations in the area actively.
- Firms assess "attractiveness" by considering how easily customers can access their place of business passively.

Both accessibility and attractiveness are specific to marked segments, depending on factors such as household characteristics (income and size) and firm industry categories.

The transport model provides measurements for accessibility and attractiveness. Our travel model, which is a DaySIM model, is constructed in the CUBE software and our land use model is currently being developed in the CUBE Land software.

4. Could you provide more details about necessary updates and calibration requirements for the land use and travel model?

Assessing the current integrated land use and travel model involves reviewing its performance, identifying discrepancies, and pinpointing areas for improvement (e.g., updated information for population, land use, public spaces, transit utilities, and more functionality such as telecommuting, transportation networking companies (TNC), micro-mobility, ...). Subsequently, a plan needs to be developed by the consultant to update and calibrate the model for enhanced accuracy and effectiveness.

5. Could you provide more details about the framework for automated data retrieval?

Creating an automated system to update the models involves deciding what data is needed, finding reliable sources for that data, building tools or frameworks to collect it, and checking the data for errors. The consultant must identify the optimal method for completing this task, which could involve accessing data through various means like GUIs, APIs, or web scraping, among others.

6. Is SRTA looking for a particular platform or tool to use in creating the dashboard?

There are several platforms and tools available for creating dashboards, each catering to different needs and preferences. Tableau, Microsoft Power BI, ArcGIS, and Google Data Studio are popular options, offering powerful data visualization capabilities and integration with various data sources. In the process of creating the dashboard, the consultant needs to carefully explore all available platforms to find the best fit for SRTA's needs. Any platform or tool should be able to be used by technical and non-technical individuals, including staff, partner agencies and organizations, the public, and elected officials. By assessing features, scalability, and compatibility, they can suggest the most suitable platform for the task. This ensures that the chosen platform aligns seamlessly with project objectives.