

EXHIBIT A

SCOPE OF WORK

Fresno Modeling Development and Support

6-2014

SCOPE OF WORK

The consultant will assist the Fresno Council of Governments staff with continued development of the Fresno MIP 4 step mode choice model and the MIP activity based model. The scope of work includes trouble shooting modeling problems, review of modeling assumptions and model refinements, improving model documentation and user guide.

Tasks – Enhance Mode Choice:

1. Improve transit validation and usability
2. Explore expanding the modes in the model and increasing its flexibility for modeling a wider range of accessibility scenarios.

Tasks – Subsequent re-calibration/re-validation of the MIP model:

1. Improve the method to estimate school enrollment.
2. Explore possibility of implementing the new Ds Analysis Modules within the Fresno COG MIP model to take advantage of the latest research.

Tasks – Improve Smart Growth Sensitivity

1. Test smart growth sensitivity.
2. Explore possibility of implementing the new Ds Analysis Modules within the Fresno COG MIP model to take advantage of the latest research.
3. Implement Ds analysis with ability to turn them on or off.

Tasks – GIS

1. Continue to integrate GIS usability into the MIP model.

Tasks – Create script files:

1. Assist COG staff with the development of new or refined model scripts.
2. Research and develop scripts that will help COG use the model more effectively.

Tasks – Trouble shooting modeling problems:

1. Assist COG staff with the development of new or refined methods of extracting data from the model;
2. Trouble shoot major and minor problems related to the model or model related data

Tasks – Review of Modeling data and assumptions:

1. Assist COG staff with the development and updating of land use data;
2. Provide recommendations for improvement in data development and calculation methods

Tasks – Model Refinements:

1. Assist COG staff with network identification and accuracy;
2. Assist staff with the recognition of network links as associated with speed characteristics, geometrics and special circumstances.
3. Assist COG staff with GIS operations in model refinement (such as TAZ updates) and other GIS modeling related tasks.

Tasks – Provide attend meetings when needed:

1. Attend the Fresno County Model Steering Committee to present the new model for adoption by the committee and at other times as needed.

Tasks – Activity Based Model development:

1. Continue incremental development of Fresno COG's Activity Based Model
2. Implement GIS functionality in the AB model so both model systems utilize the same GIS input data.
3. Integrate Envision Tomorrow output with the AB model population synthesis.

BILLING RATES

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Name	Classification	Hourly Rate
Jerry Walters	Principal	\$102.88
Mike Wallace	Senior Associate	\$60.10
Mackenzie Watten	Sr. Engineer/Planner	\$39.18
Kristen Carnarius	Engineer/Planner	\$31.73
Lorna Angeles	Administrative Assistant IV	\$31.73

Overhead	121.01%
Fringe	<u>26.11%</u>
Total Overhead & Fringe	177.12%
Fee	10%