Job Description

TECHNOLOGY, DATA, AND ANALYSIS DIVISION
Senior Transportation Modeler

The San Francisco County Transportation Authority is the sub-regional transportation planning and programming agency for San Francisco County. Our mission is to make travel safer, healthier, and easier for all. We plan, fund, and deliver local and regional projects to improve travel choices for residents, commuters, and visitors throughout the city.

SUMMARY

The Transportation Modeler Series in the Technology, Data & Analysis Division includes three levels of professional Transportation Modelers who prepare complex travel demand forecasting model applications for planning studies; maintain the model; and manage the Geographic Information Systems (GIS) database. The Senior Transportation Modeler has full responsibility for mid-size to larger projects.

Reports to: Deputy Director for Technology, Data & Analysis
Exemption Status: Full-Time, Exempt

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Enhances and maintains Transportation Authority's activity-based travel demand forecast model and Enhances and maintains Transportation Authority's activity-based travel demand forecast model and traffic microsimulation model. Manages enhancement and maintenance activities by Trans-portation Modelers, consultants and interns. Performs data analysis to enhance model capabili-ties including estimation and calibration of model components, developing and applying ad-vanced statistical methods, scripting to automate model system data pipelines, and managing networks, land use, and other input and output data.
- Applies the Transportation Authority's activity-based travel demand forecast model and traffic mi-crosimulation model to support development of the Transportation Authority's efforts such as the Countywide Transportation Plan, as well as to support other studies and activities for ex-ternal agencies and clients. Manages application of the models by Transportation Modelers, consultants and interns.
- Leads research on key transportation issues including travel behavior choices and demand manage-ment, transportation network modeling, and emerging mobility technologies and services.
- Maintains Transportation Authority's data warehouse, including identifying data (including geospa-tial data) required to fulfill Transportation Authority responsibilities, developing protocols for data acquisition and management, collecting and acquiring data, coordinating with other agen-cies to facilitate data exchanges, incorporating data, analyzing data using advanced statistical methods, implementing back end technologies and optimizing data warehouse for performance and ease of use.
- Maintains, develops and applies Transportation Authority's web-based open-source data visualiza-tion platform to support both Transportation Authority staff requirements as well as the needs of external agencies and the public, including developing and applying new data visualization techniques and tools and establishing linkages with the Transportation Authority's data ware-house.
- Provides general modeling and geographic information system (GIS) assistance and input to other Transportation Authority divisions, external agencies and the public. Provides GIS and map-ping services, and model results for various planning studies and strategic analysis reports.

- Develops and tracks project budgets, scope and performance measures for mid-size planning stud-ies; selects and manages consultants and contracts; facilitates technical and project meetings; re-views and reports on progress and deliverables; and corresponds with partnering agencies. Pro-vides oversight of all project management activities assigned to staff.
- Prepares board memoranda and official Transportation Authority correspondence; makes presenta-tions to the Transportation Authority Board and may represent the Transportation Authority before state, federal and regional agencies, boards, and commissions; and before local citizens in public meetings and hearings.

SUPERVISORY RESPONSIBILITIES:

May supervise interns and external consultant teams.

MINIMUM QUALIFICATIONS:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily.

Training and Experience: Completion of a graduate degree in an appropriate discipline such as transportation planning, data science, computer science, information systems, civil engineering, geography or related field and three (3) year of experience in transportation planning, travel demand forecasting or GIS analysis for transportation planning purposes. Applicants may substitute completion of a graduate degree with two (2) years of additional qualifying experience.

Knowledge: Knowledge of the principles, techniques and methods of transportation planning. Good understanding of the process of transportation data collection and travel behavior analysis to estimate and apply statistical models for travel demand forecasting purposes. Knowledge of activity-based travel model concepts and/or agent-based micro-simulation; computer system administration and maintenance; environmental impact assessment process per California Environmental Quality Act guidelines. Understanding of data analysis techniques and data management principles. Knowledge of program and project management principles and techniques used in leading and supporting multiple information technology programs and projects. Proficiency with standard computer spreadsheet, word processing, database management, and presentation software.

Skills and Abilities: Skilled in use of travel forecasting software packages such as Citilabs TP+, EMME, etc. Proficiency with computer programming languages such as Python, R, and C#; SQL for database management; ArcGIS and open GIS platforms. Basic skills for developing and maintaining web-based data visualization tools using Javascript, leaflet, D3, etc. Ability to not only learn new computer programming languages as needed but also to learn new statistical and machine learning techniques to wrangle with emerging big data sources. Ability to collect, analyze and interpret data pertaining to planning issues using appropriate methods, statistical techniques and data science tools such as Python Pandas library and R; summarize and present technical data and prepare written reports and recommendations; speak effectively and write clearly and concisely.

Physical Demands and Work Environment: The physical demands and work environment are characteristic of modern office work and include moderate noise (examples: business office with computers and printers, light traffic), and are representative of those an employee encounters while performing the essential functions of this job. Ability to travel on occasion.

The above is intended to describe the general content of and requirements for the performance of this job. It is not to be construed as an exhaustive statement of duties, responsibilities or physical requirements. Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Annual Compensation Range: $111,662 – $154,092 .... Adopted July 26, 2022
Resolution 23-06