

SANDAG Job Announcement: Data Scientist, Transportation Modeling

The Transportation Data Scientist/Modeler (Developer) will develop, maintain, and improve existing transportation models including the activity-based model (ABM) and a rapid strategic model (RSM) for transportation analysis in regional planning. The Data Scientist/modeler will participate in adding features related to emerging technology, transformative mode, and shared mobility in travel modeling tools utilizing passive big data and innovative travel modeling methodologies.

Overview of Data and Modeling

As a premier multi-modal planning and project implementation agency, SANDAG relies on the quality and capacity of our Transportation Modeling programs. A team of highly skilled professionals support a variety of projects including long-range coordinated transportation, economic, and land use plans, corridor studies, major transit investment studies, infrastructure development studies, and air quality plans.

As regional planning needs, travel behaviors, and socioeconomic conditions change, the demands and expectations of our modeling program has increased. To meet these challenges, SANDAG has committed the resources necessary to develop and maintain a robust, agile, and integrated modeling infrastructure to support policy development and decision making.

SANDAG has developed a nationally recognized and highly sophisticated activity-based model (ABM). As the transportation systems are transforming, SANDAG is updating its ABM to respond to the impact of emerging transportation technologies, transformative travel modes, and shared mobilities used for regional planning. Additionally, SANDAG will add a rapid strategic model (RSM) for strategic level policy and risk analysis.

Job Responsibilities

- Perform various duties related to the development and maintenance of a rapid strategic model (RSM) for strategic policy and risk analysis.
- Perform various duties related to the maintenance and improvement of SANDAG models such as the activity-based model (ABM).
- Perform research and participate in the development of modeling features related to emerging transportation technologies, transformative modes, and shared mobilities utilizing passive big data and innovative travel modeling methodologies.
- Develop and maintain custom software applications to streamline and improve travel forecast modeling.
- Ensure transportation modeling tools and analytical capabilities are credible and effective for policy analysis; participate in quality assurance and quality control processes.
- Support transportation modeling and analysis required for long-range regional plans and highway and transit investment studies.
- Support the integration of transportation and land use models; coordinate with economic and demographic research staff to determine data interactions.
- Support the maintenance of transportation databases, including ABM and RSM databases.
- Prepare and present written, oral, and visual reports to policy and stakeholder committees, member agencies, community groups, private organizations, and members of the public.
- Assist in the maintenance of data used in modeling including traffic and transit counts and travel surveys. Perform custom analysis of travel data.

Experience and Qualifications

- Knowledge of mathematical and statistical methods in representation, reasoning and proof, communication, problem solving, and connections.
- Experience with programming in languages such as Python, Java, R, and SQL; experience developing and maintaining custom software applications to support modeling functions.
- Experience with relational databases such as SQL Server, including writing queries that pull, combine and summarize data.
- Research and/or experience in the development of algorithms, machine learning and artificial intelligence is desirable.
- Experience with data acquisition, compilation, and quality assurance/quality control methods.
- Experience with data visualization systems like Tableau, Power BI, Plotly, etc. is a plus.
- Experience with big/passive data and applications in travel demand modeling is preferable;
- Knowledge of the principles and practices of travel demand modeling and forecasting; experience in the Activity-Based Model (ABM) is desirable.
- Experience using GIS software, preferably ESRI software, including feature creation, scripting, mapping, and spatial analytics; knowledge of transportation network coding principals is desirable.
- Ability to communicate highly technical information effectively both verbally and written.
- Ability to work both within team settings and independently. Experience managing your own projects is a plus.

Benefits and Salary

Our benefits include health, dental, and vision insurance as well as employee assistance, wellness, and work/life balance programs. Retirement and financial security benefits are provided through a pension plan and deferred compensation program. SANDAG offers flexible work schedules and employees are provided with paid time off and paid holidays. This position can be filled at Data Scientist I, II, or Associate depending on qualification.

Salary Range:

Data Scientist I: \$65,435 to \$101,424 per year

Data Scientist II: \$72,142 to \$111,820 per year

Associate Data Scientist: \$83,513 to \$129,446 per year

Careers at SANDAG

A job at SANDAG is guaranteed to engage your mind, expand your skills, and enhance your professional development. We are committed to hiring talented individuals who are dedicated to working on important issues and enthusiastic about making significant contributions that improve the lives of people in the San Diego region.

How to Apply

- We encourage interested candidates to apply for this position by sending resumes and cover letters to **Wu Sun, Principal Researcher and Modeler**, wu.sun@sandag.org. Interviews will be arranged after initial evaluation.
- **Close Date: open until filled**