

Engineering and Data Intern/Part-Time Analyst

Job Description

The *Engineering and Data Intern/Analyst* is responsible for assisting in the process of data collection, data analysis, and data maintenance that supports transportation planning. Maintains data for transportation planning, typically, demographic and socioeconomic data, multi-modal transportation infrastructure data, safety data, traffic data, congestion monitoring data, and transportation performance management (TPM) related data. Perform data maintenance through Geographical Information Systems (GIS) databases, programming scripts in Python, ArcGIS, TransCAD software. Prepares data inputs for travel demand forecasting models. Analyze data, and prepare maps displaying geographic data for the WAMPO area. Assists team members in the development of MTP, TIP, studies, planning activities, as well as public participation. This position also assists in the development, maintenance, and enhancement of WAMPO's regional travel models, and supports model applications for various projects undertaken by the agency. Assignments may include programming to support model development and data analysis, conducting and analyzing travel surveys; preparing travel model inputs such as land use, transportation network characteristics, and demographic and employment data; estimating future transportation system demand for long-range plans and the design of individual highway and transit facilities; and calculating operational statistics such as travel time, delay, and level-of-service.

Duties: Typical tasks and duties of an Engineering and Data Intern/Analyst may include, but are not limited to the following:

- Assist in maintaining data for transportation planning, typically, demographic and socioeconomic data, multi-modal transportation infrastructure data, safety data, traffic data, congestion monitoring data, and transportation performance management (TPM) related data.
- Assist in performing data maintenance through Geographical Information Systems (GIS) databases, programming scripts in Python, ArcGIS, TransCAD software.
- Prepare data inputs for travel demand forecasting models.
- Analyze data, and prepare maps displaying geographic data for the WAMPO area.
- Assist in the development of the Metropolitan Transportation Plan (MTP), Transportation Improvement Program (TIP), studies, planning activities, as well as public participation.
- Assist in the development, calibration, validation, and documentation of transportation and land use forecasting models. Write computer programs and scripts needed for travel simulations and data analysis.
- Assist in designing and conducting various types of travel surveys and data collection for model updates and individual highway and transit studies.
- Support model applications, analyze and summarize model outputs, and present findings and recommendations to technical committees and the public.
- Provide other technical assistance, as required.
- Other tasks as assigned by the supervisor
- Perform data maintenance through Geographical Information Systems (GIS) databases, programming scripts in Python, ArcGIS, TransCAD software.

Knowledge, Skills and Abilities Developed through this position:

- Knowledge of the principles of traffic engineering, econometrics, statistics, or computer science that is applicable to transportation system modeling and analysis. Knowledge of Microsoft

Access, SQL, or other database programs is desired. Knowledge of geographic information systems (GIS) is desired. Knowledge of major travel demand modeling software, such as TransCAD, or knowledge of microscopic or mesoscopic simulation software, such as VISSIM.

- Solid analytical and quantitative skills. Programming language skills, Python, or other.
- Ability to effectively present results of research and technical analyses in oral, written and graphic form. Ability to write clear and concise reports. Ability to make coherent oral presentations at public meetings.
- Ability to establish and maintain effective working relationships with associates, planning officials, and the general public. Ability to maintain integrity, credibility, and dedication to the mission of WAMPO.

Education and Experience Required:

This entry-level opportunity requires either a bachelor's degree or currently pursuing a bachelor's degree. This position would be ideal for students studying engineering in software/mechanical/electrical/transportation, or, transportation planning, civil engineering, GIS, computer science, or similar programs.