

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT**

CLASSIFICATION TITLE
Transportation Engineer, Civil

DIVISION/OFFICE/BRANCH/
Division of Transportation Planning
Office of Multimodal System Planning
Statewide Modeling Branch

WORKING TITLE
Transportation Engineer, Civil

POSITION NUMBER **EFFECTIVE DATE**
900-074-3135-XXX

As a valued member of the Caltrans team, you make it possible for the Department to improve the mobility across California by being innovative and flexible, working cooperatively with team members and others, and treating others fairly, honestly and with respect. Your efforts are important to each member of the team as well as those we serve.

General Statement

Under the general supervision of the Chief, Statewide Modeling Branch, the incumbent will be responsible for the updates and maintenance of the California Statewide Freight Forecasting Model (CSFFM) and the California Statewide Travel Demand Model (CSTDM), developing scripts and run various alternative scenarios, and responding to internal and external requests for CSTDM and CSFFM outputs. Incumbent will research and evaluate transportation modeling advances and data requirements to keep up the Department modeling capabilities and qualities. Incumbent will work with various software programs such as ArcGIS, Access, TransCad, Cube, EMFAC along with emissions software packages specific to various transportation modes.

Typical Duties

30% E	Responsible for performing advanced technical analysis, both economic, environmental and system performance, for different scenarios relevant to the California Transportation Plan (CTP), Freight Mobility Plan (FMP), Greenhouse Gas Emission and climate impact analysis, and other systems planning efforts. The technical analysis will include looking at various alternative strategies proposed in CTP or FMP and how proposed improvements impact the multi-modal state highway and freight systems as well as developing new strategies, performance metrics and policies.
30% E	Work with a multi-disciplinary team on developing, maintaining, upgrading and running the California Freight Model and the California Travel Demand Model. This will include working with technical staff from other programs and the local and state partner agencies. Work with various technical engineering experts to incorporate both emissions modeling and fuel forecasting models from both CARB and CEC into the freight model framework.
25% E	Responsible for responding to modeling output requests from local and regional agencies and other internal and external agencies. Maintain files on all requests received by the modeling branch and maintain web link to post and share files and promote modeling services.
10% E	Work with academic and research institutions, Division of Research, Innovation and System Information and other appropriate entities in developing applicable advanced research to look at technical issues impacting the movement of various modes of transportation and freight within California, its impacts on the transportation network and their interrelationship with emissions modeling. Responsible for developing research statements, taking the lead for in-house or consultant run transportation modeling. Perform literature searches regarding technical topics related to transportation modeling and advances in transportation modeling practices, and summarize findings.
5% E	Work with the Branch Chief and the Office Chief to support modeling events and training sessions sponsored by the Division of Transportation Planning and help develop and organize the Office strategic model improvement plan.

Supervision Exercised

This position does not supervise other employees.

Knowledge, Abilities and Analytical Requirements

- Ability to apply knowledge of engineering methods, computers and advanced computer modeling software programs (i.e. ArcMap, Access, TransCad, Cube, EMFAC, MOVES, DynusT, Dyanmeq).
- In-depth engineering knowledge of how various analytical tools are applied to complex traffic engineering studies as they relate to freeway, highway, rail, seaport and airport operations. The incumbent needs a wide breadth of engineering experience as it relates to these complex traffic and freight logistics engineering studies.
- In-depth knowledge of the technical engineering aspects of freight logistics and multi-modal analysis of the transportation system as applied to our various planning and engineering efforts.
- Ability to use spreadsheet, database and graphics software to evaluate engineering data.
- Ability to use complex freight, transportation and emissions modeling software.
- Ability to work with planners and engineers.
- Ability to establish and maintain friendly and cooperative relations with those contacted in the course of the work, and to communicate effectively.
- Ability to conduct and evaluate relevant research in the field of multi-modal transportation analysis.
- Knowledge of forecasting and statistical methodology used in transportation modeling.

Responsibility for Decisions/ Actions and Consequence of Errors

The Transportation Engineer is responsible for the technical engineering and analytical work in the Modeling Branch related to multi-modal freight and commodity flow analysis and the statewide travel demand modeling. Incomplete staff work could result in the Branch being unable to carry out some of its functional and management responsibilities. Inaccurate modeling may result in incorrect project selection (alternatives analysis) to be brought forward to the planning and programming process.

Public and Internal Contacts

The employee will routinely contact other Caltrans engineering and planning personnel, regional transportation planning staff, federal and state agencies, academic researchers and consultant contractors. These contacts will be verbal or written as needed to perform assignments.

Physical, Mental, and Emotional Requirements

Employee must be able to focus for long periods of time, multi-task, adapt to changes in priorities, and complete tasks or projects with short notice. Incumbent will be required to use a computer, mouse, and video display terminal and will be required to sit for long periods of time at a computer screen. Employee must develop and maintain cooperative working relationships and display respect for others in all contact opportunities.

Work Environment

Employee will work in an office work environment. Occasional travel will be necessary to meet with customers and to attend meetings.

I have read, understand and can perform the duties listed above. If you believe you may require accommodation, please discuss this with the hiring supervisor.

EMPLOYEE

DATE

I have discussed with and provided a copy of this duty statement to the employee named above.

SUPERVISOR

DATE

Rev. 6/30/11