

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Transportation Engineer (Elect)	OFFICE/BRANCH/SECTION D1 Mtce & Operations / Traffic / Electrical Systems	
WORKING TITLE Electrical Designer	POSITION NUMBER 901-350-3609-009	REVISION DATE 04/10/2024

As a valued member of the Caltrans leadership team, you make it possible for the Department to provide a safe and reliable transportation network that serves all people and respects the environment.

GENERAL STATEMENT:

Under the direction of the Electrical Systems Chief, incumbent will perform difficult transportation engineering work involved in the planning, design, and operation of Intelligent Transportation Systems. A valid driver's license is desirable.

CORE COMPETENCIES:

As a Transportation Engineer (Elect), the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Enhance and Connect the Multimodal Transportation Network - Innovation)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Strengthen Stewardship and Drive Efficiency - Integrity)
- **Continuous Professional Development:** Seeks to obtain knowledge and improve performance while supporting others in doing the same. (Cultivate Excellence - Innovation)
- **Problem-solving and Decision-making :** Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Enhance and Connect the Multimodal Transportation Network - Innovation)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Strengthen Stewardship and Drive Efficiency - Integrity)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Strengthen Stewardship and Drive Efficiency - Integrity)
- **Interpersonal Effectiveness :** Effectively and appropriately interacts and communicates with others to build positive, constructive, professional relationships. Tailors communication style based on the audience. Provides and is receptive to feedback. (Strengthen Stewardship and Drive Efficiency - Integrity)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Enhance and Connect the Multimodal Transportation Network - Innovation)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Enhance and Connect the Multimodal Transportation Network - Innovation)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
75% E	Designs, troubleshoots, and maintains ITS assets. This includes continuous monitoring of asset health, programming of assets in projects, and procurement and deployment of assets as part of both Traffic Operations and TMS Maintenance Engineering (TME). Creates, tests, and implements new and innovative technological solutions.
10% E	Performs field investigations, studies physical characteristics of project sites and collects engineering measurements and other data. This includes investigation of existing or potential sources of power and communication.

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10%	E	Attends project development team meetings. Provides assistance, consultation, and technical support to Construction, Maintenance, Permits, Legal, Project Development, Planning, and other Caltrans functional offices, local agencies, and the general public.
5%	M	Perform other duties as assigned. May be asked to act as office lead in absence of the Senior Transportation Engineer.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

May function as Leadworker to Engineers, Engineering Technicians, and students.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of professional-level transportation engineering principles, methods, and materials, especially as they relate to Intelligent Transportation Systems.

Knowledge of the Highway Design Manual, the Highway Capacity Manual, the California Manual on Uniform Traffic Control Devices, and the Caltrans Traffic Signal Operations Manual.

Knowledge of traffic modeling principles and modeling software, including Synchro and TranSync suites.

Knowledge of electronic communication principles using multiple media and protocols, including radio, serial, and tcp/ip networking.

Ability to prepare accurate engineering calculations and to prepare plans, specifications, and estimates.

Ability to gather and evaluate engineering data and to prepare correspondence and special reports.

Ability to research, compile, analyze, and summarize statistical data.

Ability to operate, maintain, and troubleshoot ITS equipment, including traffic signals and communication equipment.

Ability to inspect construction work for completeness and quality.

Ability to communicate effectively both orally and in writing.

Ability to analyze situations accurately and take effective action.

Ability to evaluate and check the work of others.

Ability to work with others in a team.

Ability to work independently.

Ability to interpret, apply, and adhere to Department policies and procedures.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The decisions from this position will provide for more efficient movement of multimodal traffic, both private and commercial on existing highways, where there are future improvements, and where adjacent development modifies traffic circulation on the highway. If this work is not properly pursued, congestion and delays to traffic may occur and other unsafe conditions may develop resulting in injuries or loss of life.

PUBLIC AND INTERNAL CONTACTS

The incumbent must be able to respond to the public by phone, with correspondence and in person. Contacts are necessary and desirable with city and county technical staff, consultant engineers, utility companies, Headquarters, Region and other District offices.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent will be required to sit for extended periods operating a personal computer and perform outdoor engineering fieldwork that will require driving long distances, standing for long periods of time, and walking on steep slopes.

WORK ENVIRONMENT

The incumbent will work in climate-controlled office under artificial lighting while at his/her base of operation. The incumbent will also be required to travel and work outdoors where exposure to noise, uneven terrain, precipitation, and extremes of weather will occur.

Work assignments will occasionally require overnight travel, after-hours availability, and/or overtime with other team members or alone.

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For alternate format information, contact the Forms Management Unit at (279) 234-2284, TTY 711, or write to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

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I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE (Signature)	DATE
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I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)	DATE
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