

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Transportation Engineer, Electrical	08/Traffic Operations/Branch of Electrical Operations	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
Transportation Engineer	908-392-3609-XXX	

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT:

Under the direction of the Branch Chief of Electrical Operations, (a Senior Transportation Electrical Engineer), the incumbent is to perform Traffic Electrical Engineering work involving lighting and traffic signal system operations. A class C driver license is required.

TYPICAL DUTIES:

Percentage		Job Description
Essential (E)/Marginal (M) ¹		
50%	E	Field Work: Assist Construction, Encroachment Permits and Maintenance crews when activating new and modified traffic signals and highway lighting. Study physical characteristics of intersections, channelization and other traffic movement areas, collect engineering and count data for evaluations. Attend project meetings. Investigate traffic signals regarding public complaints, timing parameters and high accident activities. Coordinate state traffic signals with traffic signals of local agencies when needed.
30%	E	Office Work: Perform Traffic Engineering work involved in setting up coordinated and isolated traffic signal systems and on-going surveillance and timing of such systems. Responsible for record keeping of current and superseded timing parameters of all traffic signals in the District. Develop time-space diagrams and place them in operation. Monitor and perform timing adjustments to traffic signals when needed.
15%	E	Review design plans for Encroachment Permits, Planning, PS&E, and Minor Projects for operational/design characteristics, and make comments as required for inclusion in plans and cost estimates. Train Rotational Engineers.
5%	M	Perform traffic signal software testing and debugging in conjunction with software development efforts. Review and recommend new software and hardware for use on State Highway Traffic Signal Systems. Perform testing and evaluation of new hardware equipment.

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

In absence of supervisor, incumbent may act as lead worker to Transportation Engineers (Electrical) and student assistants from time to time in the performance of traffic signal operation tasks, or may work as an independent specialist, does not perform duties reserved to designated supervisors.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

- Knowledge of the theory and practice of traffic engineering as applied to traffic signal system operation.
- Ability to understand and apply traffic signal operational control strategies. Will be required to be familiar with traffic signal control software development, testing and implementation.
- Knowledge of current State hardware and software available and under development. Ability to work with traffic signal system software development personnel in development of new and updated software.

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- Must be able to address groups in public and be able to testify in a court of law when required.
 - Knowledge of the functional and organizational characteristics of the Division.
 - Proficient knowledge of computer theory, operations and the Department's standard software.
 - Knowledge of mathematics related to electrical engineering; electrical and electronic theory and practices; modern electrical apparatus, instrumentation; direct and alternating current circuits; fiber optic, wireless and telecommunication networks, materials, tools and equipment used in electrical and electronic construction work; National Electrical Code and Electrical Safety Orders of the Division of Occupational Safety and Health.
 - The ability to work independently, learn quickly, analyze situations, and communicate tactfully and effectively with a variety of people with different backgrounds, experiences and attitudes.
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RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Incumbent will be responsible for proper operation of traffic signal systems to minimize delay and tort liability; will be responsible for the technical correctness of decisions and actions.

PUBLIC AND INTERNAL CONTACTS

Must be able to respond to inquiries from inside and outside of the Department. Must be articulate in explaining traffic signal system functions to the layman, must be prepared to initiate any design modifications, if necessary.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Physical requirements for this position include sitting for long periods of time using a keyboard and video display terminal and may occasionally require bending, stooping and kneeling.

Mental requirements for this position include the ability to multi-task, adapt to changes in priorities, and complete tasks or projects with short notice; ability to organize and prioritize large volumes of varied documents; and the ability to concentrate in order to review and create documents and meet strict deadlines.

Emotional requirements for this position include: interaction with many people and the ability for employees to work together in a cooperative manner; ability to resolve emotionally charged issues reasonably and diplomatically; deal effectively with pressure, maintain focus, and intensity yet remain optimistic and persistent, even under adversity; consider and respond appropriately to the needs, feelings, and capabilities of different people in different situations; is tactful and treats others with respect; open to change and new information; and adapts behavior and work methods in response to new information, changing conditions, or unexpected obstacles.

WORK ENVIRONMENT

While at their base of operation, employee will work in a climate-controlled office under artificial lighting. Employee is required to travel and work outdoors, exposed to traffic, dirt, noise, uneven surfaces, elevation changes, and/or extreme heat or cold temperatures.

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)

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EMPLOYEE (Signature)

DATE

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

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE