STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Senior Transportation Electrical Engineer, Supervisor	D7/Transportation Safety & Operations/Office of Traffic Design	
WORKING TITLE	POSITION NUMBER	REVISION DATE
Electrical Design/Functional Manager	907-352-3164-006	

As a valued member of the Caltrans team, you make it possible to improve lives and communities through transportation.

GENERAL STATEMENT:

Under general direction of a Supervising Transportation Engineer, the Senior Transportation Electrical Engineer (Supervisor) supervises staff and oversees processes to ensure efficient, timely and quality production of: engineering designs, technical specifications; cost calculations and financial documents; project studies and reports; and related field investigation/inspection activities pertaining to planning, design, construction, and operation of electrical systems that encompass lighting, traffic control, and signalization of state highway systems. Oversees activities that support the installation, maintenance, and operation of the traffic data collection and dissemination infrastructure to implement the District's Traffic Census and Weigh-in-Motion (WIM) programs. The incumbent utilizes, develops and implements general policies, procedures, operating standards, guidelines in setting performance objectives and priorities that fulfill various Division, District and Departmental goals. Possession of a valid certificate of registration as an Electrical Engineer issued by the California Board of Registration for Professional Engineers is required.

CORE COMPETENCIES:

As a Senior Transportation Electrical Engineer, Supervisor, 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.

- **Change Leadership:** Develops new and innovative approaches needed to improve effectiveness and efficiency of work products. Encourages others to value change. Considers impact and recommends changes. (Safety, Employee Excellence - Equity, Innovation, Stewardship)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety, Employee Excellence - Equity, Innovation, Integrity, Stewardship)
- **Ethics and Integrity:** Demonstrated concern to be perceived as responsible, reliable, and trustworthy. Respects the confidentiality of information or concern shared by others. Honest and forthright. Conforms to accepted standards of conduct. (Safety, Equity, Employee Excellence - Collaboration, Equity, Stewardship)
- **Conflict Management:** Recognizes differences in opinions and encourages open discussion. Uses appropriate interpersonal styles. Finds agreement on issues as appropriate. Deals effectively with others in conflict situation. (Safety, Employee Excellence - Collaboration, Integrity)
- **Teamwork and Collaboration:** Sets team structure. Organizes, leads, and facilitates team activities. Promotes team cooperation and encourages participation. Capable of cross functionality and working well with others on a team to achieve personal goals, team goals, and organizational goals. Takes responsibility for individual actions in order to achieve consistent results. (Safety, Equity, Employee Excellence - Collaboration, Equity, Integrity, People First)
- **Organizational Awareness:** Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Safety, Equity, Employee Excellence - Collaboration, Innovation, Pride, Stewardship)
- **Communication:** Expresses oneself clearly in all forms of communication. Gives feedback and is receptive to feedback received. Knows that listening is essential. Keeps others in the Division and other functional units informed as appropriate. (Employee Excellence - Collaboration, Equity, Pride, Stewardship)
- **Planning and Results Oriented:** Organizes and executes work to meet organizational goals and objectives while meeting quality standards, following organizational processes, and demonstrating continuous commitment. (Safety, Equity, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Stewardship)
- **Managing Performance:** Responsible for employee performance, setting clear goals and expectations, tracking progress against departmental and unit goals, providing feedback, and addressing performance issues promptly. (Safety, Employee Excellence - Collaboration, People First, Stewardship)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M)[1]	Job Description

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50%	E	Supervises, leads and facilitates planning, development, design and delivery of traffic electrical systems for state-owned traffic carrying facilities encompassing detection, surveillance and traffic control devices; highway lighting and illumination; innovative traffic management technologies; digital electronics microprocessors applications; computer-based corridor traffic system management equipment and strategies. Plans, organizes, assigns, monitors and checks completed staff work; provides instructions and assistance; evaluates performance; coordinates the work of engineers and contractors; makes business and technical decisions in connection with supervision of the work of a group of electrical engineers and technicians engaged in the design and preparation of Plans, Specifications, and Estimates (PS&E) for improving surface transportation facilities. Work assignments typically include electric current protection, generators, lighting, power and control systems, roadside rests and highway maintenance stations. Occasionally may work on vehicular tunnels, truck weigh and inspection stations and toll plazas. Ensures that assigned projects are completed within scope, cost, schedule, budgeted resources, and departmental standards and practices. Ensures efficient, timely and quality production of: engineering designs, technical specifications; cost calculations and financial documents; project studies and reports; and related field investigation/inspection activities pertaining to planning, design, construction, and operation of electrical systems that encompass lighting, traffic control, and signalization of state highway system. As needed, oversees activities that support the installation, maintenance, and operation of the traffic data collection and dissemination infrastructure to implement the District's Traffic Census and Weigh-in-Motion (WIM) programs. Prepares project reports/studies, technical reports and specifications; reviews and supervises the checking of plans, designs, and quantities; participates in field tests for acceptance of electrical systems and equipment; performs walk-through inspections prior to facility handover to construction or maintenance forces; reviews surveys covering installation, repair and recommended improvements to highway electrical systems; confers with the manufacturers' agents and contractors regarding acceptability of equipment or bid acceptance. Leads and facilitates the planning, design, development and operation of electrical and electronic traffic monitoring subsystems and components encompassing traffic sensors, vehicle detection and surveillance equipment together with associated traffic control and reporting devices.
20%	E	Develops personnel and fiscal resource requirements; monitors use of personnel and expenditures in meeting engineering projects and operations schedules; coordinates with Divisions of Planning, Project Management, Design, Construction, Maintenance and with other internal and external staff in developing Capital Outlay project work-plans, resource allocation needs and expenditure plans; assesses risks and formulates alternatives/mitigation paths; and presents information to the management and other stakeholders as needed.
15%	E	Provides technical oversight of consultants or local agency staff performing engineering work related to the development of State transportation projects funded by Caltrans, local agencies or private entities; manages engineering contracts with public/private entities; reviews permit and consultant work proposed to be performed on State right-of-way and/ or facilities.
10%	E	Performs literature search, conducts data gathering and data analysis; prepares studies, reports, plans and agreements necessary to design and supports implement electrical traffic systems and Intelligent Transportation System (ITS) components. Makes original investigations in connection with the preparation of unusual or complicated designs, initiates correspondence and prepares project reports. Participates in safety related exercises and contributes to safety practice.
5%	M	Participates in developing studies and processes related to improving efficiency and quality of projects. Prepares and presents Lessons-Learned information to staff periodically.

[1]ESSENTIAL 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

The Senior Transportation Electrical Engineer (Supervisor) typically supervises a group of eight to twelve Transportation Engineers (Electrical), Transportation Engineering Technicians and Delineators. The workforce includes Registered Professional Engineers. May occasionally supervise other engineering classifications, temporary help and student assistants as business needs necessitate.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of principles of effective supervision, employee disciplinary techniques, a supervisor's responsibility for promoting equal opportunity in hiring, retention, development, promotion and succession planning. Must have specialized knowledge in

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traffic flow theory, traffic control devices and their applications, materials and maintenance of electrical installations, highway lighting and sign illumination; background in designing and supervising the preparation of PS&Es for electrical systems of transportation-related facilities; understanding of electrical theory and practice, electrical equipment, power distribution and control systems; familiarity with ITS components and applications. First hand working knowledge of: various codes and field practices governing the design and installation of electrical equipment; American with Disabilities Act (ADA) compliance; basic occupational safety and health regulations contained in the Title 8 Industrial Relations, Electrical Safety Orders, safety and health policies and procedures as contained in the Caltrans Injury and Illness Prevention Program; and the supervisor's role in maintaining an effective injury and illness prevention program. Knowledge and ability to occasionally work on design of aids to navigation, heating, ventilating and air conditioning, drainage pumping plants, water supply systems, sewage lift stations, and movable bridges. Ability to effectively plan and supervise the work of others; manage the preparation of plans, specifications, and estimates for the electrical systems of transportation-related facilities; direct or make construction and maintenance inspections; check drawings and specifications; establish and maintain cooperative relations with those contacted in the work; analyze situations and adopt an effective course of action; dictate correct correspondence; prepare clear and concise reports; and maintain a work environment that is free of discrimination and harassment. Ability to act quickly in response to emergencies, such as earthquakes, fires and floods is essential. Ability and willingness to prepare plans to restore traffic signals, safety lighting and other electrical systems in an expeditious manner to protect the public safety and welfare is necessary. Must have strong problem solving skills and the ability to analyze and develop solutions quickly.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The Senior Transportation Electrical Engineer (Supervisor) must make independent, timely, and sound decisions regarding the work under his/her control. Decisions affecting traffic control devices, design, and/or operations directly impact safety and could be challenged in court. Inability or lapses in decision making to adequately and effectively deliver the assigned projects and commitments would negatively impact other functions and the District Contract for Delivery. Such deficiencies could also compromise credibility and confidence in view of external partners/stakeholders; subject the District, the Program and Caltrans to possible loss of resources and funds; delay the delivery of projects and products that potentially jeopardize the safety of traveling public, highway users and workers.

PUBLIC AND INTERNAL CONTACTS

The Senior Transportation Electrical Engineer (Supv.) has frequent contact and close coordination with the assigned staff, District counterparts, functional and project managers, Office Engineer, and with various Headquarters Divisions and Offices within the Division of Operations, Maintenance, Design and Construction. He/she represents the Department in presentations, court appearances, and meetings with public, with local/regional transportation entities and with private engineering and planning groups. As such, the incumbent is expected to conduct business and act in a tactful, courteous, professional and ethical manner at all times.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Physical requirements include the ability to travel to work sites away from the office, perform field work on uneven surfaces in rugged areas that are near freeways and highways. Will be required to wear field safety equipment to fieldwork, including eye protection (safety glasses), earplugs, safety vest, and hardhat.

Mental Requirements include ability to sustain mental activity necessary for report writing, problem solving, analysis and reasoning when it comes to judgment that relates to public safety, emergencies and traffic safety. Must have the ability to multitask, adapt to changes in priorities, and complete tasks or projects on time. Ability to sit for prolonged periods of time and may be required to work beyond normal work hours to complete assigned responsibilities and/or during emergencies. Must grasp the essence of new information and master new technical and business knowledge.

Emotional requirements include ability to develop new insights into situations and apply innovative solutions to make organizational improvement. Creates and sustains an organizational culture which encourages other to provide the quality of service essential to high performance. Ability to resolve emotionally charged issues reasonably and diplomatically. Must be able to develop and maintain cooperative working relationships. Behaves in a fair and ethical manner toward self and others and demonstrates a sense of responsibility and commitment to public service.

WORK ENVIRONMENT

While at the base of operation, the incumbent will work in a climate-controlled office under artificial lighting. She/he may also be required to travel and work outdoors and may be exposed to dirt, noise, uneven surfaces, and/or extreme heat or cold. The employee may be required to work outside normal office working hours· and may occasionally remain in field· locations in rural areas without facilities. This position may be eligible for telework. The amount of telework is at the discretion of the Department and based on Caltrans’s evolving telework policy. Caltrans supports telework, recognizing that in-person attendance may be required based on operational needs. Employees are expected to be able to report to their worksites with minimum notification if an urgent need arises. The selected candidate will be required to commute to the headquartered location as needed to meet operational needs. Business travel may be required and reimbursement considers an employee’s designated headquartered location, primary residence, and may be subject to CalHR regulations or applicable bargaining unit contract provisions. All commute expenses to the headquartered location will be the responsibility of the selected candidate.

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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.)

I agree that by providing my electronic signature for this form, I agree to conduct business transactions by electronic means and that my electronic signature is the legal binding equivalent to my handwritten signature. I hereby agree that my electronic signature represents my execution or authentication of this form, and my intent to be bound by it.

EMPLOYEE (Print)	
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

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