

POSITION DUTY STATEMENT

DOT PM-0924 (REV 08/2024)

CLASSIFICATION TITLE Senior Transportation Electrical Engineer, Supervisor	OFFICE/BRANCH/SECTION District 11/Traffic Safety & Ops-Transp Mgmt Center-TME & ITS	
WORKING TITLE Branch Chief, TME & ITS Maintenance Support	POSITION NUMBER 911-350-3164-006	REVISION DATE 10/22/2024

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 general direction of the Supervising Transportation Electrical Engineer (District Division Chief of the Traffic Safety & Operations-Transportation Management Center (TMC), the Senior Transportation Electrical Engineer, Supervisor serves as the Branch Chief of the Traffic Maintenance Engineering (TME) & Intelligence Transportation Systems (ITS) Maintenance Support responsible for overseeing and managing the operational efficiency and performance of Transportation Management System (TMS) and infrastructure. The incumbent plans, directs, and supervises a team of journey level engineers and other staff responsible for monitoring, maintaining, troubleshooting, and documenting the operational performance of TME & ITS field elements, manages the field elements for asset management planning and maintenance, oversees the Highway Maintenance-4 (HM-4) Program to secure funding for Minor Projects, works with various agencies and partners to address ITS operations, maintenance, and emergency response issues, and performs other related duties.

Possession of a valid certificate of registration as an electrical engineer issued by the California Board of Registration for Professional Engineers is required for this position.

Appointment to this position is contingent on passing the Department of Justice (DOJ) background check.

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 First, Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Advance Equity and Livability in all Communities - Engagement, Equity)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety First, Cultivate Excellence - Engagement)
- **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 First, Cultivate Excellence - Equity, Integrity)
- **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 First, Cultivate Excellence - Engagement, Equity, 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 First, Cultivate Excellence - Engagement, Equity, Integrity)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Safety First, Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Equity, Integrity)
- **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. (Safety First, Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Lead Climate Action, Advance Equity and Livability in all Communities - Engagement, Equity, Innovation, Integrity, Pride)
- **Workforce Management:** Hires and retains appropriate staff. Conducts workforce and succession planning. Provides feedback on performance. Addresses employee issues in a timely manner. (Safety First, Cultivate Excellence - Engagement, Innovation)

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- **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 First, Cultivate Excellence, Advance Equity and Livability in all Communities - Engagement, Equity, Innovation)

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M) ¹	Job Description
30%	E	Plans, directs, supervises, and provides leadership to a team of journey level engineers and other staff responsible for proper monitoring, maintaining, troubleshooting, documenting, and reporting the operational efficiency and performance of TME & ITS field elements including, but not limited to, communications and electrical infrastructure to optimize the TMS and operations for the Maintenance Program. Oversees and ensures all infrastructure supporting the TMS and operations of the State Highway System is functioning at peak performance levels. Manages staff involved in supporting and coordinating the District's radio communications systems (e.g., 800MHz mobile and base stations). Oversees the monitoring and documenting of the Traffic Operations Network (TOSNET), a fiber optic communication system, that includes Vehicle Detection Systems (VDS), Ramp Metering Systems (RMS), traffic signals, Changeable Message Signs (CMS), Closed Circuit TV (CCTV), Highway Advisory Radio (HAR), and various other essential highway sensing, control, and communication electrical elements. Ensures staff adheres to industry codes, standards, and best practices, and utilizes tools(e.g., Integrated Maintenance Management System (IMMS), TMS Inventory Database, Asset Management Tool, Advanced Traffic Management System (ATMS), Active ITS, and other diagnostic systems) to monitor, troubleshoot, maintain, and optimize critical ITS assets. Implements strategies and guides staff on troubleshooting, integrating, expanding, and maintaining the Border Wait Time and Wrong-Way detection systems Acts as a subject matter expert on ITS elements and electrical systems and assesses varying issues of the ITS infrastructure and facilities, analyzes effective solutions, and recommends appropriate strategies.
25%	E	Manages the 9-Core ITS field elements (traffic signals, freeway ramp meters, changeable message signs, extinguishable message signs, CCTVs, traffic monitoring detection stations, traffic census stations, roadway weather information systems, and highway advisory radios) by developing comprehensive asset management plans, transportation investments, system performance monitoring, and inventory tracking for ITS infrastructure assets including, but not limited to, asset location, type, installation dates, health status, replacement costs, and life-cycle analysis to determine anticipated replacement time frames. Prioritizes, reports, and recommends the timely replacement of critical assets and coordinates closely with Traffic Safety & Operations-TMC Program Managers, Field Maintenance, Electrical Design, and Headquarters (HQ) Program Advisors to ensure alignment with District capital and maintenance projects. Proposes and develops strategies for the integration of new ITS components and provides expert technical guidance in the identification and evaluation of recommended replacements for ITS elements and other traffic control, data collection, and processing systems.
20%	E	Oversees the HM-4 Program securing funding and initiating Minor Projects to meet District Senate Bill 1 (SB-1) targets with a focus on improving TMS asset condition from poor to good. Coordinates with District and HQ staff to address issues related to ITS performance, field-operation issues, and fiscal concerns. Supports the District's Emergency Operations Center (EOC) by actively collaborating with other agencies on ITS operations, maintenance efforts, and emergency operations. Provides support to the County of San Diego and other entities in delegated maintenance, special projects, and sensitive political matters. Participates in various task forces and partners with the District's Data Governance team to develop and enhance District 11's TMS database application to create a centralized platform for accessing all TMS element data across multiple hardware platform. Oversees contract development, processing, and management to ensure compliance with departmental policies, while promoting opportunities for disadvantaged and small business enterprises.
10%	E	Serves as the Asset Manager for various lighting installations including, but not limited to street, sign, and soffit lighting. Works closely with the Signal and Lighting Coordinator, the District Asset Manager, and Project Initiation Development (PID) developers to monitor, track, and schedule request replacements for lighting systems that have reached the end of their operational life. Collaborates with HQ to establish standardized practices and definitions for Lighting Asset Management to ensure consistency and best practices across statewide operations.

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10%	E	Provides constructive feedback on staff performance appraisals and addresses disciplinary matters promptly and appropriately. Prepares comprehensive Annual Performance Reviews and Individual Development Plans (IDP) and works directly with staff to identify training, equipment needs, and career development opportunities. Ensures staff is aware and adheres to the Director's Policies and Deputy Directives, including the Staff Expectations Memos. Leads regular staff meetings to foster a team-oriented, innovative work environment that upholds principles of diversity, equity, and inclusion, free from discrimination and harassment. Maintains an effective Injury and Illness Prevention Program (IIPP) by promoting a safe workplace. Attends training courses, provides formal and informal training, and actively participates in internal and external teams and committees. Ensures efficient resource management, approves time reporting, and provides clear communication channels between management and staff.
5%	M	Represents Caltrans at a variety of public meetings, conferences, and special events ensuring the District's interests are well-represented. Acts as backup to the Division Chief or other Branch Chiefs during their absences ensuring seamless operations. Performs other related responsibilities as required by adapting to evolving needs and contributing to the overall success of the team and the District.

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

The incumbent plans, directs, and supervises a team of up to twelve (12) engineering professionals (e.g., Transportation Electrical Engineers, Engineering Technicians, and Telecommunications Systems Analyst). This position provides support, guidance, and mentorship to staff ensuring that projects align with the District's goals and objectives. Through effective leadership, the incumbent ensures that all team members are equipped with the necessary skills and resources to successfully fulfill their responsibilities and contribute to the overall success of the District.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

This supervisory role requires knowledge of principles and techniques of personnel management including leading, planning, directing, and supervising the work of a diverse team. The incumbent must foster an inclusive work environment that promotes equal opportunities in employment, employee development, and promotion while ensuring a workplace free from discrimination and harassment. Effective leadership is essential to actively contribute to the District's strategic goals.

Due to the complexity of transportation facilities, the incumbent must possess in-depth knowledge of Caltrans asset management practices, project development procedures, standards, policies, and practices. A solid understanding of the Maintenance Program goals is crucial, particularly in areas related to the maintenance of ITS and electrical systems, as well as the management of maintenance budgets, project funding types, and contract documentation. The ability to analyze situations effectively, develop, and implement an effective course of action is essential, especially when responding to emergencies affecting transportation infrastructure. Collaboration with various District staff, HQ personnel, external agencies, and various partners is crucial to achieving program objectives.

A broad knowledge of all phases of transportation electrical engineering and departmental operations and their inter-relationship with maintenance operations is required. A high degree of expertise in electrical engineering, electronic theory and practices, ITS, electrical systems, and communication technology is vital. The incumbent must be proficient in direct and alternating current circuits as well as methods, materials, tools, and techniques used in electrical construction and operation. An understanding of safety regulations, including Title 8 Industrial Relations, the National Electrical Code, and Occupational Safety and Health Administration (OSHA) Electrical Safety Orders is essential, along with knowledge of the Department's IIPP and occupational safety protocols. This role requires strong proficiency in project and asset management, planning processes, system planning, economics, financing, environmental considerations, design, construction, and maintenance procedures. The incumbent must be capable of developing clear correspondence, preparing detailed reports, and delivering effective presentations. The incumbent must apply sound engineering judgment and a cost-effective approach to solving unusual and extraordinary challenges to the management of highway maintenance activities.

Proficiency in digital electronics, personal computers, engineering and design workstations and programs, and various computer applications (e.g., word processing, spreadsheets, PowerPoint, databases, project/asset management, and communications software) is necessary. The incumbent must also have strong interpersonal skills, with the ability to motivate others, make compelling presentations, negotiate, resolve conflicts, and communicate effectively both verbally and in writing.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent holds significant responsibility for decisions, actions, and outcomes related to the planning, direction, and oversight of the TME & ITS Maintenance Support Branch. Failure to effectively execute these responsibilities could have serious repercussions, including compromising public safety, increasing tort liability for Caltrans, and escalating costs due to disruptions in the operational efficiency of the TMS and operations of the State Highway System. In addition, an inability to meet the position's objectives could hinder the District's ability to quantify performance against strategic goals such as safety and mobility commitments, resulting in financial loss of key transportation infrastructure assets across California. This may lead to millions of

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dollars in lost transportation investments and Federal funding and loss of credibility and public trust in Caltrans as a reliable and competent public agency.

PUBLIC AND INTERNAL CONTACTS

Contacts will be made daily with internal Caltrans District Divisions, maintenance field employees, other Caltrans districts, and HQ. External contacts include other State and local entities, material vendors, and contractors. The incumbent also contacts with the public, community groups, engineering consultants, system integrators, and governmental agencies (Federal, State, and local) as needed through formal and informal meetings. The incumbent represents the District as a subject-matter expert, makes public appearances as needed, and must maintain cordial working relationships with all.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent may be required to stay stationary for extended periods while working at a computer using a keyboard and video display terminal, engineering workstations, and other office equipment. Travel is an essential part of the job that involves driving to various Caltrans facilities, field sites, vendor locations, and other Caltrans Districts, including areas adjacent to or near roadways and freeways that have high traffic volumes. Sites may require the incumbent to move on uneven terrain, including steep slopes or through dense vegetation. This position demands adherence to strict deadlines and the ability to manage multiple tasks efficiently within time constraints. The incumbent must also develop and maintain positive cooperative working relationships while recognizing and effectively managing emotionally charged or challenging situations, and responding appropriately, tactfully, and professionally. Occasionally, the incumbent may be required to work beyond regular work hours including nights and weekends due to unforeseen emergencies.

Possession of a valid driver's license is required when operating a State owned or leased vehicle.

WORK ENVIRONMENT

This position involves both office and fieldwork. While working in an office environment, the incumbent works in a climate-controlled office under artificial lighting. Multi-floor buildings are equipped with elevators and stairs for accessibility. The incumbent travels occasionally to conduct field reviews outdoors and may be exposed to traffic conditions, dirt, dust, chemicals, loud noise, uneven surfaces, and severe weather conditions. The incumbent must remain vigilant and adhere to established field safety procedures to mitigate risks when working in the field. Furthermore, it is the incumbent's responsibility to communicate and enforce proper safety precautions among staff to ensure a safe working environment for all team members.

This position may be eligible for telework. The amount of telework is at the discretion of the Department and is based on Caltrans's evolving telework policy. Caltrans supports telework, recognizing that in-person attendance may be required based on operational needs. The incumbent is expected to be able to report to their worksites with minimum notification if an urgent need arises. The incumbent is required to commute to the headquartered location as needed to meet operational needs. Business travel may be required, and reimbursement considers an incumbent's designated headquartered location or primary residence and may be subject to CalHR regulations or applicable bargaining unit contract provisions. All commute expenses to the headquartered location are the responsibility of the incumbent.

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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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