

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Senior Transportation Electrical Engineer, Supervisor	D07/Traffic Operations/ITS	
WORKING TITLE	POSITION NUMBER	REVISION DATE
ITS Development / New Technology / Functional Manager	907-353-3164-003	11/07/2025

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

GENERAL STATEMENT:

Under the general direction of the Supervising Transportation Electrical Engineer in the Office of Intelligent Transportation Systems (ITS), the Senior Transportation Electrical Engineer (Supervisor) serves as the District's ITS Development and New Technology incumbent. The incumbent supervises and provides technical guidance in the planning, scoping, development, and management of the District's Transportation Management System (TMS) and communication network. This position supports consultant-designed Architecture & Engineering (A&E) ITS projects and oversees TMC enhancement initiatives, including upgrades to video walls, TMC server rooms, and software systems that support TMC operations. The incumbent manages professional staff responsible for preparing and reviewing reports, plans, specifications, and estimates (PS&E) for the installation of TMS elements, communication systems, connected vehicle technologies, and other electrical systems. The role also includes researching and recommending emerging technologies to improve the district's ITS and TMS communications infrastructure. Additionally, the position is responsible for implementing continuous improvement strategies and designing resilient infrastructure to protect TMS, electrical systems and fiber optic communication infrastructure & communications backhaul. The incumbent ensures efficient, timely, and high-quality delivery of TMS and TMC projects from initiation through completion, including resource planning and scheduling.

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.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Prosperity - Collaboration, Innovation, Stewardship)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Employee Excellence - Collaboration, Innovation, Integrity, Stewardship)
- **Initiative:** Ability to identify what needs to be done and doing it before being asked or required by the situation. Seeks out others involved in a situation to learn their perspectives. (Prosperity - Innovation, Stewardship)
- **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. (Prosperity - Stewardship)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Employee Excellence - Collaboration, Pride, Stewardship)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Employee Excellence - Collaboration, Innovation, Pride, Stewardship)
- **Influencing Others:** The ability to gain the support of others for ideas, proposals, projects and solutions. (Prosperity - Integrity, People First, Stewardship)
- **Forward Thinking:** Anticipates the implications and consequences of situations and takes appropriate actions to be prepared for possible contingencies. Anticipates and prepares for future developments. (Prosperity - Collaboration, Innovation, Pride, Stewardship)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Employee Excellence - Stewardship)

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TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
50% E	Responsible for supporting the planning, development, and implementation of the District's Transportation Management Systems (TMS) and Intelligent Transportation Systems (ITS). This includes reviewing and updating plans, specifications, and estimates (PS&Es), Project Initiation Documents (PIDs), researching new ITS technologies to ensure advancement of the District's ITS infrastructure. The role involves evaluating consultant-prepared technical studies, managing consultant projects & service contracts, and coordinating with internal branches, other Caltrans districts, and external agencies to ensure regional integration and system performance. Duties also include overseeing the design and deployment of ITS projects for the Traffic Management Center (TMC) and TMS infrastructure, including fiber optic and wireless networks and hubs. The position supports real-time data exchange initiatives, such as RIITS, and contributes to congestion relief strategies through the implementation of Active Traffic Management (ATM) and Integrated Corridor Management (ICM) systems. Additionally, the role involves implementing protective design measures, materials and technologies for a more rugged ITS infrastructure, reducing theft and vandalism risks through strategic placement and relocation of TMS assets.
25% E	Provides technical oversight for managing COS A&E consultant contracts and task orders to ensure PS&E delivery needs and milestones are met. Oversees design-build, transportation authority, integrated corridor management (ICM), grant and academia projects throughout the design and construction phases. Supports design reviews for projects involving TMS assets, and reviews and responds to construction and consultant equipment submittals, plus Requests for Information (RFIs) related to TMS and TMC projects for all stakeholders. Coordinates with design & TMC support units. As the contract manager, delivers and administers engineering support services for the district. Provides technical support for project stakeholders.
15% E	Supports the delivery of federally and locally funded capital Intelligent Transportation Systems (ITS) projects within the district. Active participation in statewide functional management meetings related to ITS, Integrated Corridor Management (ICM), Connected and Automated Vehicles (CAV), and Transportation Management Center (TMC) stakeholders. The position assists in identifying and pursuing grant opportunities, project initiation proposals, and research collaborations with academic institutions and the Division of Research, Innovation and System Information (DRISI). Provides support for ITS Project Initiation Proposals (PIPs) and Public Interest Findings (PIFs) for district stakeholders. The individual also serves as the contract manager for TMS, TMC, and ITS consultant service contracts.
5% M	Prepares detailed reports and technical studies related to the administration, implementation, and evaluation of freeway management systems. Manages procurement processes for ITS and TMC equipment, including hardware, software, and licensing. Serves as the district's subject matter expert on the Middle Mile Broadband Network (MMBN), Connected and Automated Vehicles, and Integrated Corridor Management (ICM) projects—overseeing planning, design, and delivery. Ensures staff maintain up-to-date fiber optic wiring diagrams and fiber assignment tables for the district's infrastructure, including nodes and hub buildings, readily available upon request. Coordinates with the Office of TMS to verify fiber assignments.
5% M	The role involves preparing detailed reports and technical studies to support the administration, implementation, and evaluation of freeway management systems. It includes managing the procurement of ITS and TMC equipment, such as hardware, software, and licensing. The incumbent serves as the district's subject matter expert on the Middle Mile Broadband Network (MMBN), Connected and Automated Vehicles (CAV), and Integrated Corridor Management (ICM) projects, overseeing their planning, design, and delivery. Additionally, the position ensures that staff maintain current fiber optic wiring diagrams and fiber assignment tables for the district's infrastructure, including nodes and hub buildings, so they are readily available upon request. Coordination with the Office of TMS is also required to verify and update fiber assignments. Updates the district's ITS communications system Configuration Management Plan.

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 supervises a team of engineers. May occasionally supervise other engineering classifications, temporary help and student assistants as business needs necessitate. Provides electrical design training to subordinates.

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KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of functions and activities required for project delivery in the project initiation and development process, mainly as it relates to the Transportation Management System (TMS) and Intelligent Transportation Systems (ITS).

First hand working knowledge of various codes and field practices governing the design and installation of ITS components, communication systems and applications.

Knowledge of and experience with preparation of plans, specifications, and estimates for TMS and electrical systems.

Ability to effectively plan and supervise the work of others; manage the preparation of plans, specifications, and estimates for the electrical systems of ITS components and applications; 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.

Knowledge of national ITS standards, and field practices governing the design and installation of TMS equipment, subsystems and components.

Knowledge of contract administration procedures and requirements; the ability to effectively communicate both orally and in writing, and coordinate with all levels of management and employees in Headquarters, in the Districts, and outside the organization.

The incumbent must analyze and evaluate recommendations made by staff, personnel from other branches within Caltrans, consultant designers, RIITS and contractors; deal tactfully on sensitive and controversial matters.

Incumbent must have knowledge of the Department's supervisory practices and procedures.

Requires the ability to communicate effectively (both orally and in writing) with multiple audiences; establish and maintain cooperative relationships with individuals and organizations contacted in the course of work; participate in public contact and represent Caltrans; serve in a consulting capacity to other divisions and districts; and respond appropriately to difficult situations. Must be able to apply sound judgment in problem solving; work productively in a busy and often changing environment; perform multiple tasks simultaneously; maintain a project schedule; accurately and timely follow-up on issues; and effectively interact with many levels of people in a cooperative manner. Must be decisive, take appropriate actions, and complete tasks or projects with a short notice.

Processes timely probation reports, annual performance reviews, and annual training plans. Establishes and upholds employee expectations and telework agreements (if appropriate) and develops plans and tools to build employee strengths and close performance gaps.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent is responsible for the reliability and accuracy of all actions, decisions, and recommendations in his/her capacity. Effective communication, proper use of equipment, correct methods analysis, and timely meeting of all deadlines are the responsibility of the incumbent. Errors may lead to the delay in schedules which may adversely affect the outcome of project delivery and increase in cost of solutions to critical problems as well as adversely affect the payback for expended efforts of team members and the loss of opportunities to make California roadways safe and efficient. Lack of sensible decisions could lead to project completion delays, and failure to secure funding.

PUBLIC AND INTERNAL CONTACTS

The Senior Transportation Electrical Engineer (Supervisor) has extensive contact with all levels of District personnel, office management and consultants on a day-to-day basis. Frequent contact will also be made with personnel from other Caltrans Districts and Headquarters involved in the development of standardized TMC electrical systems. Minimal contact will be made with the general public.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Physical Requirements: Employee may be required to stand and sit for long periods of time using a keyboard and video display terminal.

Mental Requirements: Sustained mental activity needed for report writing, problem solving, analysis and reasoning when it comes to judgment that relates to public safety. Must grasp the essence of new information and master new technical and business knowledge. Must have the ability to multi-task, adapt to changes in priorities, and complete tasks or projects with short notice.

Emotional Requirements: Most of the jobs in the Division require interaction with many people. It is important that employees work with others in a cooperative manner. May be subject to and have the ability to handle irate public in a calm manner.

ADA Notice

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Considering and-responding appropriately to the needs, feelings and capabilities of different people in different situations; is tactful and treats others with respect.

WORK ENVIRONMENT

The incumbent works in a climate-controlled office setting under artificial and natural lighting for the majority of the time. On occasion, the incumbent will be required to travel and be exposed to traffic conditions in the field.

This position may be eligible for telework. The amount of telework is at the discretion of the department and based on Caltrans' 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 incumbent will be required to commute to the headquarterd location as needed to meet operational needs. Business travel may be required and reimbursement considers an employee's designated headquarterd location, primary residence, and may be subject to CalHR regulations or applicable bargaining unit contract provisions. All commute expenses to the headquarterd location will be the responsibility of the incumbent.

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
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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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