

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Senior Transportation Electrical Engineer, Supervisor	OFFICE/BRANCH/SECTION District 3 /Maintenance Eng / TMS Field Maintenance
WORKING TITLE Senior TMS Maintenance Engineer (STME)	POSITION NUMBER 903-600-3164-
	REVISION DATE

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

GENERAL STATEMENT:

Under the general supervision of the Chief, Office of Maintenance Engineering (Supervising Transportation Engineer), the Senior Transportation Electrical Engineer (Supervisor) serves as the District Senior TMS Maintenance Engineer (STME). In this role, the incumbent supervises and directs a team of professional staff dedicated to maintaining and restoring critical communications, traffic management, and electrical systems within the Transportation Management System (TMS).

Aligned with Caltrans' vision of a thriving and connected California, the incumbent plays a pivotal role in fostering collaboration among district practitioners, divisions, local agencies, and external partners to ensure the TMS operates efficiently as an integrated, multimodal network. Through innovative approaches and strategic leadership, the incumbent supports Caltrans' mission of improving lives and communities by providing a safe, equitable, and reliable transportation system.

This position requires strong technical expertise and leadership skills to drive stewardship and uphold values of equity, people first, and innovation. The incumbent must possess a valid driver's license and pass a DOJ background check for building access.

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 - Innovation)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety - Collaboration)
- **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. (Employee Excellence - Pride)
- **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. (Equity - Collaboration, Equity)
- **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. (Equity, Employee Excellence - People First, Pride)
- **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, Employee Excellence - Stewardship)
- **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. (Equity, Prosperity - Collaboration, Innovation, Integrity)
- **Vision and Strategic Thinking:** Communicates the "big picture". Models the department's Vision and Mission to others. Influences others to translate vision into action. Future oriented, and creates competitive and break through strategies and plans. (Climate Action - Equity)
- **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. (Employee Excellence - Equity, People First)

TYPICAL DUTIES:

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

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40%	E	<p>Supervises and directs the work of staff responsible for the maintenance and restoration of Transportation Management System (TMS) field elements, ensuring reliability and responsiveness. Regularly monitors the operational health and performance of TMS units, reviewing reports to identify trends and potential issues. Collaborates with staff to develop and implement efficient, standardized troubleshooting and repair processes to minimize downtime.</p> <p>Ensures that all defective or non-operational TMS elements are documented through TMS TRAC tickets, tracking issues and repairs to maintain accountability and transparency. Oversees the performance, health, and restoration activities of TMS field elements, using insights from monitoring efforts to recommend solutions that address performance challenges.</p> <p>Works with staff and other units to uphold the district's level of service (LOS) for TMS preventative maintenance activities. Serves as the district's TMS Maintenance Functional Manager, providing strategic leadership to align maintenance efforts with departmental goals and operational excellence.</p>
30%	E	<p>Supervises and directs the work of staff responsible for Construction Outlay Support (COS) activities, ensuring the effective performance and integration of Transportation Management System (TMS) elements during the construction phase. Develops and implements efficient performance inspection processes for TMS elements, providing consistent oversight to verify compliance with standards and specifications. Collaborates on the development of standardized acceptance test procedures for TMS elements, which include but are not limited to Closed Circuit Television (CCTV) cameras, Changeable Message Signs (CMS), Traffic Monitoring and Vehicle Detection Stations (TMS/VDS), traffic signals, Ramp Metering (RM) systems, and Highway Advisory Radio (HAR) systems. Serves as the Subject Matter Expert (SME) for TMS elements, offering technical guidance and support to the Design and Construction teams. Represents the Division of Maintenance at Project Development Team (PDT) meetings, addressing concerns, ensuring alignment with operational needs, and advocating for the creation of safe and reliable TMS elements in the field.</p>
20%	E	<p>Hires, develops, trains, coaches, and mentors a team of engineering staff to successfully fulfill job responsibilities and meet performance goals. Ensures that staff fully understands the organization's mission, vision, strategic management plan, and the Division's strategic priorities, along with office and branch performance targets.</p> <p>Plans and schedules work assignments, establishes priorities, and monitors staff performance to ensure efficiency and alignment with objectives. Prepares timely probationary reports and conducts annual performance reviews to provide constructive feedback and encourage professional growth.</p> <p>Identifies and facilitates training opportunities within the unit, developing tailored plans and tools to enhance team strengths and address performance gaps. When necessary, takes corrective actions to address performance or disciplinary issues while fostering a supportive and equitable work environment.</p>
10%	M	<p>Ensures the implementation of processes to effectively measure the reliability, maintainability, performance, capacity, and expansion of the Transportation Management System (TMS). Prepares detailed expenditure reports and forecasts future maintenance budgetary needs to support the restoration and sustainability of the District's TMS infrastructure.</p> <p>Engages in regular communication and collaboration with district management, Regional Managers, and Traffic Operations personnel to address TMS policies, Memorandums of Understanding (MOUs), planning efforts, technical requirements, and administrative processes. Provides strategic input to align TMS operations with organizational goals and ensures seamless coordination across teams</p>

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 and student assistants, providing leadership, direction, and oversight to ensure successful execution of tasks and responsibilities. Additionally, the incumbent may provide project guidance to consultants and contractors, ensuring that all work aligns with departmental standards, project goals, and established timelines.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

The incumbent must possess a valid Professional Engineer's license from the State of California in Electrical Engineering.

The incumbent must have knowledge of:

- General principles and techniques for managing technology programs and projects in large organizations.
- Principles and techniques of personnel management and supervision.
- Systems engineering methodologies and concepts for developing and operating traffic control systems.
- Relevant national ITS standards, including the National Transportation Communications for ITS Protocol (NTCIP) and the ITS National Architecture.

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- Project management, contract management, and contract administration processes and techniques.
- Design and preparation of plans, specifications, and estimates for traffic control systems.
- Electrical and electronic theory as applied to traffic control systems.
- Principles and practices of traffic engineering as they apply to traffic control.
- Codes, safety orders, and field practices governing the design and installation of traffic control equipment.
- Basic occupational safety and health regulations, including Title 8 Industrial Relations and Electrical Safety Orders.
- Materials and construction costs for traffic control systems, including digital electronics and microprocessors.
- Development of strategies for traffic control and the use of computer-based traffic management equipment.
- Caltrans mission, vision, goals, and strategic management plan.
- Safety and health policies outlined in the Department's Injury and Illness Prevention Program and the supervisor's role in maintaining an effective program.
- Responsibilities for promoting equal opportunity in hiring, employee development, and maintaining a work environment free from discrimination and harassment.

The incumbent must possess the ability to:

- Plan, lead, organize, direct, and supervise the work of others.
- Establish and maintain cooperative relations with those contacted in the course of work.
- Promote equal opportunity in employment and maintain a discrimination-free work environment.
- Prepare correspondence and reports.
- Administer engineering programs effectively and work as part of an interdisciplinary team.
- Express ideas clearly, both orally and in writing, and participate in public presentations.
- Analyze situations accurately, adopt effective courses of action, and meet strategic management, safety, health, and labor relations objectives.

The employee must also have current knowledge of:

- Electrical design practices.
- Traffic engineering, traffic management, and traffic operations.
- Electrical and electronic theory related to traffic control systems, components, circuits, and troubleshooting.
- Department and Division functions, policies, procedures, standards, and operations.
- Codes, safety orders, regulations, and field practices governing the design and installation of traffic control systems.
- Contract standards, design and construction practices, and the State Contract Act.
- Methods, tools, and equipment used in electrical and electronic construction work.

The employee must have the ability to:

- Understand and communicate technical engineering information effectively both verbally and in writing.
- Review and address technical inaccuracies in the work performed by others.
- Manage multiple and conflicting demands efficiently.
- Accurately interpret engineering drawings, circuit diagrams, and specifications.
- Establish and maintain productive working relationships with colleagues and stakeholders.
- Analyze roadway electrical and electronic systems and apply design concepts appropriately.
- Apply Department policies and standards related to program and project development.
- Serve as a consultant to other divisions and districts, and build cooperative relationships with individuals and organizations.
- Work effectively both independently and as part of an interdisciplinary team, in person or remotely.
- Produce high-quality documentation and flow diagrams.
- Apply critical thinking and job experience to develop proposals, identify solutions, and evaluate technical work for accuracy and effectiveness.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent is responsible for ensuring the reliability and accuracy of all actions, decisions, and recommendations made in their capacity. This includes effective communication, proper use of equipment, accurate methods analysis, and the timely completion of all assigned tasks and deadlines.

Errors in judgment or execution may result in significant consequences, including delays in project schedules, increased costs for resolving critical problems, and diminished returns on the efforts of team members. Such issues can hinder the Department's ability to make California roadways safe and efficient.

Additionally, poor decision-making may lead to the use of defective equipment, delays in contract and project completion, lawsuits for damages, late or unauthorized payments, and costly complaints. A failure to make sound decisions could also result in the loss of funding opportunities for essential products and services, further compromising the Department's objectives and

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operations.

PUBLIC AND INTERNAL CONTACTS

The incumbent frequently interacts with various District units and Headquarters (HQ) personnel to coordinate activities, exchange information, and ensure alignment with organizational goals and standards. Regular contact with consultants and public agencies is also required to facilitate project development, address technical issues, and collaborate on solutions that enhance transportation systems and services.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent may be required to sit for extended periods while using a keyboard, mouse, and video display terminal. Physical demands include the ability to maintain focus during prolonged desk work and occasional work beyond normal hours during emergencies. Safe work practices, such as proper operation of vehicle amber lights, must be consistently followed to ensure safety and compliance.

Mental requirements include the ability to sustain focused mental activity for tasks such as report writing, problem-solving, analysis, and reasoning—particularly in situations involving public safety, emergencies, and traffic safety. The incumbent must have the capacity to manage multiple tasks simultaneously, adapt to shifting priorities, and complete projects within deadlines. Additionally, they must quickly grasp new information and master technical and business knowledge as needed.

Emotional requirements involve the ability to develop new insights and apply innovative solutions to drive organizational improvement. The incumbent must handle emotionally charged situations with diplomacy and reason, maintaining a fair and ethical approach toward others. Building and maintaining cooperative working relationships is essential, as is demonstrating responsibility, integrity, and a strong commitment to public service.

WORK ENVIRONMENT

While at their base of operation, the incumbent will primarily work in a climate-controlled office under artificial lighting. However, occasional travel to the field will be required to provide technical direction to staff on the configuration or troubleshooting of various Transportation Management System (TMS) and Intelligent Transportation System (ITS) elements. Fieldwork may involve exposure to varied terrain and diverse climate conditions. The incumbent must possess a valid Driver's License and maintain it in good standing at all times to meet job-related travel requirements.

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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