

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Senior Transportation Engineer, CT	Pavement Program/Pavement Management	
WORKING TITLE	POSITION NUMBER	REVISION DATE
Branch Chief, Pavement Management Systems	913-601-3161-013	06/02/2025

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

GENERAL STATEMENT:

Under the direction of the Office Chief, a Supervising Transportation Engineer, the Senior Transportation Engineer Supervisor will manage and direct staff responsible for developing, improving, and maintaining the Department's pavement management systems (PMS). The incumbent is responsible for overseeing, analyzing, and maintaining the data input and engineering configurations that aid the Division of Maintenance Pavement Program and Districts in identifying and optimizing cost-effective potential pavement project locations on the State Highway System for programming consideration. The incumbent must be able to manage pavement management data flow by coordinating with internal and external stakeholders from other headquarters units, districts, consultants, and academia. The incumbent will develop and implement sound quality control procedures, data management and governance practices, and supporting tools to provide users with quality data to aid pavement management decisions, including pavement project and strategy selection. Develop engineering data, analysis, reports, and documents to support special studies and completion of the annual State Of the Pavement (SOP) report, the Highway Maintenance work plan, the 10-year SHOPP plan, Crumb Rubber report, and the State Highway System Management Plan (SHSMP). The incumbent must be able to administer and keep computer systems running, provide training to the districts, develop pavement management scenario analyses, generate reports for management, and support accurate data input and output.

The Senior Transportation Engineer Supervisor must be able to develop and manage contracts, coordinate with internal and external partners, write task orders, manage task orders, and process invoices and contract documents through EFIS and AMS Advantage for timely payment. The incumbent will perform, coordinate, and/or monitor technical studies and prepare and review reports on complex problems/issues relating to pavements and oversee teams, prepare work plans and monitor progress to assure timely delivery of office projects, products, and other assignments. Possession of a valid certificate of registration as a civil engineer issued by the California state board of Registration for Professional Engineers is required. Incumbent must possess and maintain a valid California Driver's License.

CORE COMPETENCIES:

As a Senior Transportation Engineer, CT, 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.

- **Flexibility and Managing Uncertainty** : Adjusts thinking and behavior in order to adapt to changes in the job and work environment. (Employee Excellence - Equity, Innovation, Integrity, Pride)
- **Decision Making**: Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Employee Excellence - Equity, Innovation, Integrity, Pride)
- **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 - Equity, Innovation, Integrity, 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. (Employee Excellence - Equity, Innovation, Pride)
- **Teamwork/Partnership**: Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Equity, Employee Excellence - Equity, Innovation, Integrity, Pride)
- **Customer Focus**: Considers, prioritizes, and takes action on the needs of both internal and external customers. (Employee Excellence - Equity, Innovation, Integrity, Pride)
- **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 - Equity, Innovation, Integrity, Pride)
- **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. (Employee Excellence - Equity, Innovation, Integrity, Pride)

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- Commitment/Results Oriented:** Dedicated to public service and strives for excellence and customer satisfaction. Ensures results in their organization. (Equity, Prosperity - Equity, Innovation, Integrity, Pride)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
20% E	Under the general direction of the Office Chief, supervises a staff of transportation professionals maintaining and supporting APCS and pavement management system activities, system engineering configurations, and Geographic Information System (GIS) development and analysis; performing engineering analyses and reviews for the development and update of Departmental guidance, practices, procedures related to pavement management and other pavement engineering issues. May also serve as a lead worker on assignments involving coordination with other engineers and staff. Prepares and updates work plans including scope, resource, and schedule estimates. Engages and communicates with staff to monitor progress and ensure timely delivery of projects, products, and tasks. Using quality management principles, implements and maintains continuous quality improvement processes for all assigned duties and responsibilities under management.
20% E	Serves as Principal Investigator to develop special studies and complex engineering analyses to recommend and implement quality improvements and innovations to advance APCS and pavement management systems performance, policy, practices, and decision making throughout project planning and development. Coordinates and meets with stakeholders to identify areas of improvement and ensure recommended changes to pavement engineering, policies, and procedures are practical and cost effective.
20% E	Manages the daily operation of Department pavement management systems. Uploads data files, conducts analyses, creates reports, supports questions from the districts and headquarters, and responds management inquiries regarding California highways and planned projects. Develops and advises on pavement management system engineering configuration and data requirements. Analyzes results and adjusts the system to respond to changes in the performance models, decision trees, unit costs, or other parts of the configuration. Responsible to develop and maintain supporting guidance, training, and documentation with timely updates. Develop and coordinate updates to information, data, and software applications on the PaveM Portal and other websites.
15% E	Promotes uniformity in interpretation and implementation of standards, policies and procedures for pavement engineering, preservation, and management. Performs complex engineering analyses and reviews to evaluate and update established pavement policies and procedures detailed in the Department manuals, bulletins, directives, specifications, plans, guides, and other documentation. Develops and supports implementation of updated policies, standards, and best practices. Coordinates with other Headquarters functional units, Districts, industry, national organizations, and other stakeholders. Responds and assists with inquiries and interpretations of pavement standards and their application. Develop and update Departmental guidance, practices, procedures, and training related to pavement engineering issues. Develop and deliver training presentations to support communication and implementation activities.
15% E	Supports contract development and administration. Serves as the Contract Manager responsible for developing and administering pavement management system contracts, including coordination with internal and external stakeholders. Supports and coordinates with the Office Chief, Subject Matter Experts (SMEs), and other functional and resource managers. Manages work plans and projects to ensure conformance of the project scope, cost, schedule, and deliverables with the established contract. Engages and communicates with staff to monitor progress and ensure timely delivery.
5% E	Coordinates team meetings among pavement management system users. Tracks and document updates. Assists in governing pavement management data quality. Leads or participates in task groups or subtask groups; coordinates with the Pavement Program, other Headquarters functional units, district representatives, and other stakeholders.
5% M	Review proposed legislation affecting the Department. Attends conferences and represents the Department on national committees. Prepares technical papers for presentation and publication.

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

Supervises a staff of Transportation Engineers and other professionals. Serves as a lead worker or project manager directing

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activities for pavement management related issues and studies as assigned by the Office Chief. Serves as coordinator and project manager for developing pavement related projects and products with the other staff, units, and specialists throughout Headquarters, Districts, external agencies, academia, industry representatives, and other stakeholders including the general public.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

- Knowledge of Caltrans' organization and Departmental policies; pavement policies (design, maintenance, management, etc ...), procedures, standards, and other factors that need to be considered in the engineering, construction, maintenance, and rehabilitation of the pavement.
- Knowledge of computer programming, database management and the ability to write SQL procedures and groovy scripts.
- Knowledge of pavement management techniques and how to evaluate pavement distresses such that a proper repair strategy can be applied.
- Knowledge and experience with Caltrans project development procedures both for capital outlay and maintenance projects, as well as, engineering experience related to design, construction, and maintenance operations with a particular emphasis on pavements.
- Knowledge of organizational relationships, both within and outside of Caltrans that pertain to the design, construction, operation maintenance, and pavement management of California highways.
- Knowledge of legal truck weights, size, and methods of data gathering and analysis to determine the impact of truck loading and volume on costs to the State highway system.
- Knowledge of climate and how it effects pavement.
- Knowledge of the basic principles of physics; chemistry and mathematics as applied to civil engineering; stress analysis; mechanics; strength of materials; properties and uses of engineering construction materials; methods and equipment of engineering construction.
- Knowledge of the basic principles of engineering economics, such as life cycle cost analysis and benefit/cost analysis, as applied to pavement type selection, planning, preservation, and management.
- Ability to, based on engineering experience and expertise, to act independently and exercise good judgment on matters relating to the planning and engineering of pavement structures for transportation facilities.
- Ability to effectively communicate and coordinate both orally and in written form with management and employees of the Division of Pavement Management, in the Department Headquarters, Districts, industry, and other personnel outside the organization.
- An ability to sort important information from large data files for the development of annual Caltrans reports.
- Ability to write technical reports and be able to interpret results from technical studies.
- Ability to assimilate technical and procedural input from various sources on a given subject, to evaluate that input, to develop alternative courses of action, and to make objective recommendations and to follow-up with implementation through written and oral communications.
- Ability to use engineering software to analyze pavement performance.
- Ability to comprehend and analyze specification requirements, survey procedures, and test methods, as they relate to pavement engineering, preservation, and management; capable of developing workable, effective specifications; and, capable of analyzing survey/test results and understand the significance and application of said methods.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Based on engineering experience and expertise, this position is responsible for providing accurate and thorough guidance on pavement engineering, preservation, and management standards, policies and procedures. Before decisions are made and actions are taken to implement new products, materials and/or procedures, historical and research data is gathered from all pertinent functional areas in the Division of Maintenance, Department Headquarters, Districts, as well as from the Federal Highway Administration (FHWA), the industry, and other concerned Local, State, and Federal agencies. Caltrans' input is especially pertinent from the areas of engineering, materials testing, research, construction, operations, preservation, and management. The consequences of not considering all pertinent factors and input in decisions and actions taken could result in significant economic loss to the State, inconvenience and economic loss to highway users, and loss of credibility with public agencies and the general public.

PUBLIC AND INTERNAL CONTACTS

Incumbent must work well, and communicate with other personnel in the Division of Maintenance, other Department Headquarters functional units, Districts/Regions, other state agencies, FHWA, and other Federal Agencies, Local Agencies, representatives of industry, academia, consultants, and the general public to provide the necessary analysis and recommendations on pavement structural sections for transportation projects.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent may be required to sit for long periods of time, at their desk, using a keyboard, and video display terminal. Manual dexterity, and sustained periods of mental activity are needed for report reviewing, and writing; plus, for problem solving, analysis and reasoning. The incumbent may also be required to travel via airplanes, use rental cars, vans, and buses; stay overnight in motel/hotel accommodations; and, may be required to drive a motor vehicle. Employee may occasionally be required to move materials weighing up to 50 lbs, move large and/or cumbersome plans, and diagrams from one office location to another. The

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incumbent will need to establish and maintain friendly, and cooperative working relationships with those contacted in the course of the work, and communicate effectively by recognizing emotionally charged issues or problems, acknowledging the various responses, and responding appropriately and professionally to difficult situations.

WORK ENVIRONMENT

While at base of operation, the incumbent will work in a climate-controlled office under artificial lighting. Occasionally, the employee will be required to travel intrastate and interstate to attend meetings, construction projects, and material production plants. The incumbent will also be required to occasionally work outdoors which may cause exposure to dirt, dust, noise, uneven ground surfaces, allergens in the air and/or hot or cold temperature extremes.

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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