

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Senior Transportation Engineer, CT	OFFICE/BRANCH/SECTION DRISI/Planning, Policy, and Program Development	
WORKING TITLE Research Manager, Civil and Process Engineering	POSITION NUMBER 913-155-3161-913	REVISION DATE 08/08/2024

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 Planner (Chief), Office of Planning, Policy, and Program Development, the Senior Transportation Engineer will play a leading role in the delivery of transportation research and innovation through civil and process engineering techniques at Caltrans. The incumbent will perform transportation engineering research evaluation, develop and apply decision support methodologies, and provide technical and strategic consultation to Division leadership. The incumbent will represent the Division on technical committees and other research-related meetings. The Senior Transportation Engineer will perform complex work on specialized research studies and develop special reports, investigations, and internal process tools. The incumbent will perform in-house research in process engineering, transportation operations, data strategy and management, and emerging issues in artificial intelligence. The scope of this work may include proposal development, work plan development, project performance and management, technology development and evaluation, report preparation and review, training, technology transfer, and implementation. The work to be performed is complex and requires a carefully orchestrated effort to ensure the efficient use of both the intellectual and financial resources provided by Caltrans and partner organizations. Conduct research to improve transportation within California; share research results with, and contribute to, a body of research and implementation activities worldwide.

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.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Innovation, Integrity)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, 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. (Cultivate Excellence - Innovation, Pride)
- **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. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - 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. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Integrity, Pride)
- **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. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Cultivate Excellence - Innovation)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (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)

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TYPICAL DUTIES:

Percentage		Job Description
Essential (E)/Marginal (M) ¹		
30%	E	Works closely with internal and external research partners to deliver a program of research producing practical and innovative solutions that advance the California transportation network through the lens of process engineering. Identify research gaps and determine and evaluate research needs and priorities. Assess the merits of proposed research and make recommendations regarding future transportation research investments, including the identification of new questions for future research. As a project manager, ensure assigned projects are completed within scope, cost, schedule, budgeted resources, and departmental standards and practices. Identifies and resolves or mitigates barriers to project implementation. Acts as a subject matter expert for the Division on complex engineering process aspects of transportation research and facilitates collaboration among multidisciplinary team members on research projects.
30%	E	Conducts original research on behalf of Caltrans and research partners, including responding to research requests by the Caltrans Executive Board in a timely fashion. Builds research and innovation intelligence to shape the future of California's transportation network. Scouts activities for research, conducts literature reviews, attends conferences, develops project scopes and analysis plans, and conducts research as the lead investigator. Reviews problem statements and proposals from Federal Highway Administration, Federal Transit Administration, National Cooperative Highway Research Program, University Transportation Centers, and external research agencies to inform and assist others in Division of Research, Innovation, and System Information through knowledge sharing and subject matter expertise. Works with Division leadership to develop research ideas and plans beyond existing research vehicles to expand the Division's portfolio of projects and to establish Caltrans as a leader in transportation planning and operations research through the lens of process and prompt engineering.
20%	E	Maintains certification as a Prompt Engineer. Serves as a subject matter expert for GenAI efforts across Caltrans and contributes to national and international research on the use of AI in transportation. Uses AI and emerging technology tools and techniques to improve internal processes to promote efficiency and innovation and deploy novel research methods in transportation planning and operations research.
10%	E	Prepares reports, issue papers, project status documents, e-mails, and other types of correspondence as required by and for management. Develops and delivers presentations to internal and external management partners. Attends and/or conducts meetings related to Caltrans research program processes.
10%	M	Performs special assignments beyond the scope of research program development and original research methods as directed by Division leadership. Acts as the Office Chief during absences and assists Division leadership with workload planning for junior staff. The incumbent may be assigned special projects for Division and Executive management.

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

This is a specialist position and does not directly supervise staff. The incumbent will act as a project manager and will be responsible for assigning tasks to Associate Transportation Planners, Transportation Planners, and Associate Governmental Program Analysts across the Office, and will report on progress to the Office Chief.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Must possess registration as a professional civil engineer in the State of California. Must possess or obtain within three months of appointment Prompt Engineering Certification. Must have extensive experience in planning, designing, and configuring systems architecture and process engineering. Advanced knowledge, training, and/or experience are required in the areas of civil and systems engineering, statistics, computer science, modeling and simulation, artificial intelligence, systems theory, operations research, and engineering management.

The incumbent must have an in-depth understanding of advanced research methodologies and management experience involving complex research projects. The ability to understand Caltrans's policies and federal and state regulations which apply to

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the Division. Must be capable of developing and facilitating complex processes, involving a diverse and interdisciplinary technical staff, serving in a consulting capacity to Division management and leading staff in other Caltrans Divisions/Programs, representing the Department in State, regional, and national meetings and/or conferences related to transportation research, and establishing and maintaining cooperative relationships with the public, individuals, and organizations engaged in the course of work. In addition to the required technical and process skills, the incumbent must be able to communicate effectively, both orally and in writing; this includes the ability to translate complex and highly technical information into terms easily understood by a non-technical audience. Must have the ability to effectively use personal computers and standard software to accelerate the production and quality of work products.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent is responsible for leading and coordinating complex activities across Caltrans. These activities include programs that often have multi-million-dollar budgets, are extremely complex, involve numerous external public agencies, and the private sector, and must be managed properly to ensure that both Caltrans and the public receive maximum benefits. Failure to carry out these responsibilities in the prescribed fashion may result in the loss of State and federal funds, degradation of research products and services, project delays, and a diminished ability to address and solve the urgent, complex transportation problems facing the State of California.

PUBLIC AND INTERNAL CONTACTS

The incumbent will interact closely with Executive staff and external partners, including formal communications, making presentations, and leading project management meetings. Examples of contacts include Deputy Directors, Division Chiefs, and lead staff at Caltrans, as well as the California State Transportation Agency, the Governor's Office, the Legislature, and local transportation organizations and agencies.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent sits for long periods using a keyboard and webcam. The incumbent will interact with many people and must develop and maintain cooperative working relationships. Be open to change and new information. Develops new insights into situations and apply innovative solutions. Considers and responds appropriately to the needs, feelings, and capabilities of different people in different situations, is tactful, and treats others with respect. Behaves fairly and ethically toward others and demonstrates a sense of responsibility and commitment to public service. Motivates others toward a spirit of service and meaningful contribution to mission accomplished. Values cultural diversity and other individual differences in the workforce.

WORK ENVIRONMENT

While in the office the incumbent will work in a climate-controlled office under artificial lighting. The incumbent will be expected to travel to meetings at other Caltrans offices and across the State. Additional in-state and out-of-state travel may be required.

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. 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, and 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 candidates.

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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.)

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
