

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION Asset Management	
WORKING TITLE Transportation Asset Management Engineer	POSITION NUMBER 913-660-3135-918	REVISION DATE 09/15/2026

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 Asset Management Office Chief, a Supervising Transportation Engineer, the incumbent will perform transportation engineering duties related to the implementation of transportation asset management at Caltrans. Primary responsibilities include serving as a liaison to district and headquarters asset management programs, as well as carrying out analyses needed for preparing reports (e.g., State Highway System Management Plan (SHSMP), California Transportation Asset Management Plan (TAMP), 10-Year Project Book, and Performance Benchmarks), and related materials in evaluation of performance, prioritization, and investment decision-making for State Highway System (SHS) projects and State Highway Operations and Protection Program (SHOPP) project portfolios. Other duties include assisting the Supervising and Senior Transportation Engineers in the Asset Management office and working with interdisciplinary teams from headquarters and districts to facilitate development and implementation of evolving business processes and support tools associated with asset management requirements under Federal and State Law (eg. Federal MAP-21, State Senate Bill (SB) 486, SB 1, SB 695 and SB 960).

CORE COMPETENCIES:

As a Transportation Engineer (Civil), 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, Employee Excellence - Innovation)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Prosperity, Employee Excellence - Integrity)
- **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, Employee Excellence - Collaboration)
- **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, Employee Excellence - Integrity)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Prosperity, Employee Excellence - Equity, Pride)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Prosperity, Employee Excellence - Collaboration)
- **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. (Prosperity, Employee Excellence - Collaboration)
- **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. (Prosperity, Employee Excellence - Innovation, Integrity)
- **Thoroughness:** Ensures that work and information is complete and accurate. Ensures that assignment goals, objectives, and completion dates are met. Documents and reports on work progress. (Prosperity, Employee Excellence - Integrity)

TYPICAL DUTIES:

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

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35%	E	Apply civil engineering principles and knowledge of transportation asset behavior to develop, validate, and maintain the data, tools, and analytical methods that support statewide asset management decisions for pavement, bridges, drainage, Transportation Management Systems (TMS), and other State Highway System assets. Work with Caltrans subject matter experts, district engineers, information technology teams, contractors, vendors, and partners to ensure engineering data accurately reflects field conditions, asset deterioration, treatment effectiveness, and project performance. Stay current with transportation asset management, deterioration modeling, life-cycle planning, and project prioritization best practices, and recommend changes in engineering methodology and business processes as appropriate. Engineering data duties include: • Use engineering judgment to review asset inventory, condition, and project data and identify errors, gaps, and results inconsistent with expected asset performance (e.g., condition improvements with no recorded work, deterioration rates outside expected ranges). • Develops or assist in the development or maintenance of transportation-related state-of-the-art computer programs and procedures, develops and maintain automated data pipelines using Python and SQL that bring condition assessments, inspection results, project scope, and cost data from district and Headquarters sources into the AM Tool. • Apply engineering criteria to convert condition data into performance measures, such as good/fair/poor pavement and bridge condition under federal (23 CFR 490) and state (SB 1) performance targets. • Analyze condition trends to support the development and calibration of deterioration models, treatment decision rules, and life-cycle cost analyses. • Establish engineering business rules, validation checks, and QA/QC procedures so data used for SHOPP project selection and performance reporting is accurate and defensible. • Align datasets across systems using postmiles, linear referencing, and asset identifiers so project limits, asset locations, and quantities match field conditions. • Document data sources, engineering assumptions, and calculation methods to support the TAMP, audits, and federal and state compliance. • Plan, prioritize, and track engineering data and tool development tasks and deliverables.
30%	E	Communicate asset condition, performance, and investment outcomes to support engineering and management decisions for the SHOPP and Maintenance programs. Perform engineering performance reporting and decision support tasks, including: • Makes or revises maps, charts and diagrams, uses project management systems to budget personnel and milestones for transportation projects. Develop dashboards, maps, and reports that show asset condition, projected performance under funding scenarios, and progress toward state and federal targets. • Translate engineering and program questions from Senior Transportation Engineers, Maintenance leadership, and districts into analyses, such as identifying assets approaching poor condition or comparing expected and actual project performance outcomes. • Interpret results from an engineering perspective, explaining assumptions, limitations, and implications for project scope, timing, and treatment selection. • Report data quality issues that affect engineering decisions and coordinate with district engineers to resolve them. • Automate recurring performance reports that support the SHSMP, TAMP, 10-Year Project Book, and Performance Benchmarks. • Maintain data dictionaries that define engineering terms, units, condition thresholds, and performance calculations. • Publish curated asset datasets in compliance with data governance standards. • Present engineering findings clearly to technical and non-technical stakeholders.
15%	E	SHOPP and HM Project and Portfolio Analysis: Perform engineering, economic, and performance analyses of district and statewide project portfolios to assess outcomes and benefits across performance objectives, identify trends and data interdependencies, and support project prioritization. Prepare engineering reports, presentations, and other communications materials to document evaluations that may include performance outcome calculations, project risk assessments, project timing, or other relevant project considerations. Assist Senior Transportation Engineers in the development of the SHSMP, TAMP, 10-Year Project Book, and Performance Benchmarks.

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10%	E	Business Process Development and District Support: Assist Senior Transportation Engineers in providing feedback to Districts regarding SHOPP and HM project proposals. Assist the Asset Management Office Chief in managing changes to business processes to facilitate a smooth transition to successful asset management statewide. Work on interdisciplinary teams from headquarters and districts to develop and implement new business processes. Provide technical engineering and strategic guidance to District representatives as needed to strengthen project proposals and identify information gaps.
10%	M	Perform other duties as required to provide support to the Office Chief including but not limited to: participation in workshops and training, responding to requests for information, evaluation of technical documents for application to asset management, reviewing other employees' products and providing feedback, participating in or leading internal work teams, attending meetings, and other miscellaneous tasks as directed.

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 position does not supervise. The position may act as lead for engineering volunteers, student assistants, interns, and contractors and may provide guidance to teams working in or with the Asset Management Program. This position may also act on behalf of an absent Senior Asset Management Engineer for a short duration.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

The position requires knowledge of asset management principles, transportation project development phases, techniques of engineering and project performance analysis, and asset life cycle and benefit-cost analysis. Must have experience with software tools necessary for analysis and presentation of complex transportation data, which may include use of advanced spreadsheet functions, numerical analysis software, database systems, geographic information systems, scripting/programming languages, or similar analytical tools. Ability to plan, organize and work effectively and efficiently with others as necessary to accomplish a common goal to achieve successful delivery and implementation of the Asset Management Plan. Ability to communicate effectively, make effective presentations and prepare clear, effective correspondence and reports. Ability to prepare technical engineering data for presentation to groups of varying technical experience and interests.

Ability to use good judgment and interpersonal skills working with others. Ability to grow in independent action and decision-making. Position requires mathematical skill and analytical ability to make critical recommendations documented by facts and figures. The incumbent must be innovative, willing to try new solutions, able to encourage an open-minded approach to change, and be customer oriented.
Must have writing and editing skills to assist in preparation of major reports. Must have good communication skills, both oral and written, for contacts with district staff, the public and coworkers. Must possess research skills and be open to change and innovation.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The Asset Management Engineer will perform engineering, economic, and project performance analysis of project investment or performance proposals at a district or statewide level that will be used to make decisions related to investments in transportation infrastructure within California. The performance assessment and analysis performed may affect billions of dollars of transportation investment decisions annually as well as local and regional partners. Advice and guidance provided to headquarters and district managers and SHOPP staff may affect positively or negatively the project proposals' competitiveness and ranking in overall statewide project prioritization.

PUBLIC AND INTERNAL CONTACTS

The incumbent has contact with headquarters and district project delivery staff, all levels of internal staff and occasional contact with external partners. Considerable time may be spent researching or answering questions by telephone or computer. Attendance, participation, and presentations at internal and external meetings, task forces and public meetings may also be required.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Must have the ability to work on a keyboard, manual dexterity, sitting for long periods, develop and maintain cooperative relationship and the ability to focus for long periods of time. Must be able to move laptop and related computer equipment between office and remote work sites. Be able to multi-task, adapt to changes in priorities, and complete tasks or projects with short notice. Must deal effectively with pressure, maintain focus, and remain optimistic and persistent under adversity. Must be considerate and respond appropriately to the needs, feelings and capabilities of different people in different situations, and be tactful and treat others with respect. Must remain alert in lengthy meetings to collect information.

WORK ENVIRONMENT

Employee will work in a climate-controlled office under artificial light. However, because of periodic problems with the heating and air conditioning, the building temperature may fluctuate. The incumbent may be asked to telework for extended periods of time based on state requirements. Infrequent statewide travel may be required to various districts statewide.

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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
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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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