

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Research Data Specialist I	OFFICE/BRANCH/SECTION Division of Maintenance/District 8	
WORKING TITLE GIS Coordinator	POSITION NUMBER 908-608-5742-XXX	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 direction of a Senior Transportation Engineer, Civil, the incumbent will perform a wide variety of Geographic Information Systems (GIS) work, include: develop and maintain District Vegetation Management Program and other geospatial applications, geospatial analysis and geospatial database management, and helps fulfill the Branch's responsibility for providing analytical data, output, and mapping using GIS and Computer Aided Design and Drafting (CADD) applications for various Caltrans project development, planning, asset management, maintenance, and information delivery needs. The incumbent maintains working knowledge of GIS software and related technologies including desktop and on-line platforms. Incumbent will be assigned work based on Departmental needs. When using state owned vehicles, incumbents are required to have a valid driver's license. The incumbent will prepare mapping, displaying, and reporting the vegetation management work funded by Maintenance and providing geospatial information to the Headquarter Maintenance Office of Vegetation and Wildfire Management on monthly, quarterly, and annual basis. Vegetation Management Program work to be converted to GIS data includes Maintenance field activities reported in the Integrated Maintenance Management System (IMMS).

CORE COMPETENCIES:

As a Research Data Specialist I, 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. (Equity, Climate Action, Prosperity - Collaboration, Innovation, Integrity, Pride)
- Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Prosperity - Collaboration, 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. (Prosperity - Collaboration, 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. (Employee Excellence - Integrity, Pride)
- 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. (Prosperity, Employee Excellence - Collaboration)
- 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. (Prosperity - Collaboration, Integrity)
- 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 - 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 - Integrity)
- Technical Expertise:** Depth of knowledge and skill in a technical area. (Employee Excellence - Collaboration, Integrity)

TYPICAL DUTIES:

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

ADA Notice

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40%	E	Incumbent assists and/or leads in the development, validation, organization, and deployment of GIS services, databases, and products using GIS best practice methodologies and techniques. Incumbent assists or leads in the creation of intranet/internet-based GIS applications using ESRI ArcGIS platform (Enterprise Portal/ArcGIS Online), Google, and/or other proprietary or open-source software and web applications to enhance office, division, and departmental open data sharing. Identifies and evaluates structure and unstructured data to develop avenues of further research, creates workflow efficiencies, uncovers patterns, forecasts trends, and assess potential impacts associated with maintenance projects, Office of Vegetation and Wildfire Management (OVWM) activities, emergency incidents, and other Division/Department activities as needed. Compiles, integrates, and maintains data to conduct spatial, quantitative, and qualitative analysis on maintenance/department activities, planned and/or completed, regarding vegetation and wildfire management and additional variables as needed. Works with sensitive data. Develops database structure and schema for various corporate datasets within OVWM and the Division. Creates GIS web services, applications, and high-quality cartographic products using standard practices and conventions. Incumbent will prepare reports, presentations and correspondence based on conclusions of the research and analysis performed using spatial analysis from GIS.
30%	E	The position provides internal end-user technical guidance, as well as analytical and consultative services to Caltrans, other governmental agencies, and consultants on matters concerning GIS procedures, products, and other advanced mapping and database management techniques. The incumbent processes GIS data, maps, and reports to align with departmental operations, policies, and standards. Conducts research and documenting of department and division existing corporate datasets, establish and document best practice methods and techniques for managing and editing data that will ensure data integrity, quality, accuracy, and interoperability. Assists and collaborates in operating and configuring server, web-based, and desktop-based GIS products and applications in support of OVWM and Division of Maintenance GIS infrastructure. Develops and promotes data quality management plans, data governance best practices, metadata standards and conducts data literacy promotional efforts and guidance for OVWM and the Division.
10%	E	The incumbent serves as a Division representative on GIS User Steering Committees, Division GIS Data Stewards, technical working groups, and interagency working groups on matters relating to enterprise GIS data, data governance, data sharing, emergency response support, and/or other activities as needed. Participates in multidisciplinary teams involving technical projects. Assists with coordination activities with other technical and program area professionals in the implementation of solutions. Coordinates with the GIS team on the updating and management of GIS data, services, and application products. Establishes methods and techniques to create new GIS datasets from various non-spatial data sources. Assists in the maintenance and updating of geospatial datasets, databases, and web application for OVWM and the Division.
10%	E	Incumbent maintains and updates the District Internet and Intranet webpages using web development software (Dreamweaver; Drupal). Responsible for designing, coding and modifying websites for the various functional units in the District and ensuring that all websites follow Caltrans formatting and standards. Incumbent works closely with the various units within the District to ensure accuracy and timeliness of information.
10%	M	The incumbent attends meetings /meet with other parties/stakeholders. Participates in workshops discussing work conducted, workflow planning, attends trainings/conferences, and keep apprised of latest developments in GIS technology. Other duties as assigned within the specifications of the classification. Performs other job-related duties within the scope of the classification as assigned.

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 will not act in a lead capacity. May provide technical direction and guidance to maintenance staff involved in maintenance project studies. Serves as a staff GIS specialist working with counterparts in the Districts and other Headquarters units.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Requires knowledge of GIS including principles and procedures of digital spatial data entry, storage, analysis and output, programming techniques for geographic analysis, design and management techniques, cartographic design, and production techniques. Requires knowledge of research methods and techniques including planning studies and investigations, statistical procedures, general principles, concepts, and technology used in research. Requires an in-depth knowledge of the principles and concepts of computer mapping, techniques of spatial analysis that involve map overlays and proximity analysis, and with map

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projections and coordinate systems. The incumbent must be knowledgeable of the Department's major work activity areas and its internal organization structure, especially as the maintenance program pertains to planning, designing, constructing, operating, and maintaining transportation infrastructure. Based on experience and expertise, the incumbent must have the ability to identify spatial data needs for complex analyses and assess adequacy of existing data to meet these needs; develop procedures for collection and integration of disparate digital and non-digital data sources, design and test complex data base structures for storage and manipulation of spatial data, perform complex spatial analyses as required for pavement management, roadway rehabilitation, emergency operations, roadside management, storm water, major maintenance, and telecommunications. Must have the ability to independently analyze and interpret data and prepare research and statistical reports. Must be able to adapt and perform spatial analysis techniques and methods to complex maintenance problems involving geographic information. Experience with Python programming language recommended. Must be able to establish and maintain cooperative working relationships, dealing with tact and persuasion and be able to communicate both orally and in writing.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent is responsible for independent action and initiative in carrying out assigned duties. This action is in direct support of maintenance program in Caltrans. Decisions based on the information provided by incumbent are directly related to effectiveness of the Office and Division in meeting their goals, objectives, and fiscal responsibilities. Lack of knowledge, understanding, good judgment, and adequate analyses could result in misleading information being given to Caltrans decision-makers. The results could be inappropriate Caltrans decisions or misleading perceptions of California transportation effort. Failure to follow through on duties and assignments may result in missing mission critical maintenance activities, schedule delays, inaccurate reporting and over expenditure or loss of federal and/or state funds.

PUBLIC AND INTERNAL CONTACTS

The incumbent must establish and maintain working relationships with personnel in the Division of maintenance, other Headquarters and District maintenance staff, as well as engineers, planners, surveyors, environmental scientists, and other GIS users in various Divisions within the Department. There will be frequent contact with GIS users from public agencies and the private sector to coordinate statewide efforts and share experience and knowledge.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent must be able to sustain mental acumen needed to conduct necessary research, analysis, and synthesis of issues, and make well-reasoned recommendations. The workload is subject to frequent and unexpected changes that could affect scheduling or completion of assignments. As a result, incumbent must be able to handle multiple tasks, adapt to changes in priorities, complete tasks or projects with short notice, and work with others in a cooperative manner. The incumbent may be required to sit for long periods of time using a keyboard and video display terminal. The incumbent must behave in a fair and ethical manner towards others and demonstrate a sense of responsibility and commitment to public service. The incumbent also values cultural diversity and other individual differences in the workforce.

WORK ENVIRONMENT

The work environment is fast-paced and requires considerable flexibility in managing time, priorities, and assignments. It can be demanding and/or stressful. Incumbent will be required to travel to District Offices, other meeting facilities, and/or to the Offices of other State or Federal agencies across the State. The incumbent will work in an office building in downtown San Bernardino. While at their base of operation, the incumbent will work in a climate-controlled office under artificial lighting.

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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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