

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Research Data Specialist I	OFFICE/BRANCH/SECTION D2/ Maint. & Op's/ Culvert roadside	
WORKING TITLE Culverts roadside/ GIS Coordinator	POSITION NUMBER 902-605-5742-	REVISION DATE

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

GENERAL STATEMENT:

Under general direction of the Maintenance Area Superintendent, the incumbent serves as the districts GIS analyst and performs Geographic Information System (GIS) work in the support of District 2 division of maintenance. Duties include culvert data collection, data analysis and quality control of spatial and attribute data collected from the field. The incumbent works in support of District 2 division of maintenance in support of all project initiation development (PID) and associated programs development as well as support subsequent project development work in various other programs. The incumbent understands and conforms with policies, standards, and guidance from Caltrans.

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.

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
50% E	Develop and maintain GIS mapping applications for use on intranet and Internet utilizing Arc GIS server and other web platforms. Provide advice and assistance to district GIS coordinators in development of GIS applications. Performs data downloading, post processing, quality control and analysis of GIS culvert inventory and assessment data. Develop and update GIS data layers that are supported by the Caltrans Linear reference System (LRS). Provides direct support to the PID program essential data, maps and analysis, as well as support the district CAT plan GIS data collection, analysis, quality assurance, updates, and training. Provides lead GIS coordination between all planning offices to support PID development. Manages and uploads processed data into an access database. Responsible for compilation of digital spatial data into our districts ARC GIS server website and continuously updating of District 2's GIS culvert mapping system. Update meta data for data layers and ensure that meta data is posted to D2 Internet site. Provides maps, data and hyperlinks to be uploaded into the districts GIS Web site and provides maps of surveyed culvert sites to customers. Work with Geo database and google earth mapping for post processing culvert data and advancing district 2's ARC GIS culvert database. Develop and maintain expertise and new GIS software and tools for map production. Incorporate new and emerging technologies in Office workflow.
30% E	Analyze data and produce maps for various departments. Update GIS data boundary layers including the county boundary, city boundary and urban boundary layers. Assists headquarters with development of statewide database. Acts as a leader in improving the database through training, service contracts, and consultations with headquarters staff. Assists customers utilizing culvert inventory data including Design, Hydraulics, Maintenance and construction. Provide guidance to other staff to resolve calibration errors in LRS. Analyzes GIS data to answer active transportation questions, develop projects, and develop visuals. Creates GIS web services, applications, and high quality cartographic products using standard practices. Products are used at departmental and public meetings, as well as in plans, projects, nomination forms, documents, briefings, and reports. Considers different audiences needs when communicating visual display of active transportation GIS data and create material that clearly communicates at the appropriate level of detail.
10% E	Develop data dictionaries using software that will facilitate data collection and database management systems, transfer data to and from handheld Trimble and I-pad GPS collection devices as well as post processing data corrections. Set up Trimble and I-pad devices for data collection in the field and navigation using way points or imported predefined spatial coordinates. Follow Caltrans GIS policies, standards, and guidance. Coordinate work with Enterprise Data and Geo spatial Governance group, district GIS Coordinators, and Geo spatial information systems

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

5%	M	Create and update Storm water facility pollution prevention plans (FPPP) and slope inspections along with stockpile sites, and vactor databases. Prepare presentations and represent maintenance division at meetings with internal and external partners. Assist and collaborate in operating and configuring server, web based, and desktop-based GIS products and applications in support of the division and district PID and associated programs.
5%	M	Attend GIS or planning related training and conferences to keep apprised of the latest in GIS technology and practices, asses new active transportation data. Documents and organizes findings for post processing purposes. Desirable and practical field experience in highway maintenance techniques. Assists in identifying culvert maintenance strategies and types of culvert defects that lead to structural failure. Assists in identifying the condition of the culverts on the state highway system, with regard to any failure of the roadbed itself that might damage adjacent property, property downstream or endanger life.

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 not a supervisory position, but may serve in a lead capacity to complete tasks related to the assignment. May serve as a delegate for the department superintendent when the regular superintendent is out of office.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Analysis techniques for geographic analysis and applications. Database design and management techniques. Concepts of and terms used in engineering and planning. Project management and application development methodologies and tools. Microsoft office suite including outlook. Understanding of relational database management systems such as oracle database or post GIS SQL. Ability to independently and successfully perform complex analysis involving various types of digital spatial data and techniques and methodologies associated with GIS; Use both commercial and open source off the shelf GIS tools. Environmental Systems Research institute inc. (ESRI) software for both desktop and server environments. Use office automation tools such as FME desktop server products. Prepare reports and present information publicly. Communicate effectively and establish and maintain friendly cooperative relationship with those contacted. Successfully follow direction and complete assignments. Keep office chief informed and involved. Incumbent must be able to determine preferred solution. Analyze project management and application design and solutions. Analyze alternate solutions to determine preferred solution. Analyze project management and application design and develop methodologies and tools to improve efficiency and cost effectiveness.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Decisions made by the incumbent directly affect Cal trans ability to satisfy federal and State planning and programing requirements. Additionally, this person's recommendations and decisions broadly affect and are affected by actions of Cal trans, California state transportation board, California transportation Commission, Legislation, Federal and State agency's, Metropolitan Planning organizations, regional transportation Agencies, Cities and counties, and the private sector related to transportation plans and programs and fund allocation. Errors in implementation, Coordination, and carrying out state and federal law, regulations and policies could have negative impacts on Cal trans ability to provide transformative, sustainable, active transportation options to the pubic. Errors also result in Cal trans loss of credibility with partners and advocates.

PUBLIC AND INTERNAL CONTACTS

Public- The incumbent has extensive contact with local,regional and state agency's as well as tribal governments, advocates and interested stakeholders.

Internal- The incumbent has extensive contact with all levels of Cal trans management and staff in headquarters and districts.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Employee may be required to sit for long periods of time using keyboard and video display terminal.

WORK ENVIRONMENT

Employee may work in an office environment, but may be required to travel in state and out of state to meet with customers or attend meetings or conferences. While in an office setting, the employee will be required to work in a climate-controlled setting under artificial light. Telework This position is in office at the assigned work location any telework request will be determined by the department based on the functions of the position.

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DOT PM-0924 (REV 01/2025)

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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