

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Research Analyst II (GIS)	OFFICE/BRANCH/SECTION North Region Division of Engineering - Office of Surveys	
WORKING TITLE Surveys - GIS	POSITION NUMBER 928-201-7417-XXX	EFFECTIVE DATE

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT:

Under the supervision of a Senior Transportation Surveyor in the Survey Data Center, Office of Right of Way Engineering or Office Surveys, the Incumbent serves as a principal District staff person possessing expert knowledge in the techniques and methodologies utilized in Geographic Information Systems. In an expert capacity, the incumbent will perform complex research involving geospatial analysis and geospatial database management in support of the Right of Way Records & GIS Branch's responsibilities to provide analytical data and mapping using GIS and CADD applications for various Caltrans project development, asset management, and information delivery needs. The incumbent will design and test complex spatial databases to provide data for District project delivery and Departmental program operation, policy analysis, and will work cooperatively with and instruct other professionals concerned with Geographic Information Systems and other advanced digital mapping and database management techniques.

TYPICAL DUTIES:

Percentage		Job Description
Essential (E)/Marginal (M) ¹		
40%	E	Incumbent performs expert level GIS-based analysis and research to support the North Region Division of Engineering Services, capital project development and asset management activities. Work includes the development and use of geospatial data, imagery, applications, tools, and models for complex analysis, project delivery and asset management needs. Incumbent identifies spatial data and application needs for complex analyses, assesses the adequacy of existing data and applications to meet these needs, and investigates innovative data/technology based solutions. Incumbent designs, develops and maintains geospatial databases and services from Department geospatial, project management and asset management databases and other sources.
35%	E	Incumbent designs and develops intranet/internet-based mapping applications using ArcGIS for Server and various standard development tools including Python, JavaScript, HTML5, ArcGIS.com and/or other open source web mapping applications to enhance the Division's information sharing and interactive mapping capabilities.
15%	E	Incumbent mentors branch staff by providing coaching and end-user technical support on GIS principles, software applications, procedures, and advanced digital mapping and database management techniques. Incumbent provides ArcGIS desktop and GIS tool training specific to Caltrans data and participates in outreach to identify user needs. The incumbent engages in partnership activities with other Caltrans North Region Divisions, Caltrans HQ, local government agencies and other partners related to the development of geospatial data and products.
5%	E	Prepare reports and correspondence; attends and participates in communications with staff and supervisors as needed at a level required for successful job performance in a timely manner.
5%	M	Assists in other duties as required.

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 works under the general supervision of a Senior Transportation Surveyor (Branch Chief). The incumbent may also serve in a lead capacity. This position does not supervise other employees.

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KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

The position requires the ability to independently and successfully perform complex research and analysis projects involving various types of digital spatial data, techniques, and methodologies associated with Geographic Information Systems. The position also requires the ability to work cooperatively and effectively with others. The position requires general understanding of basic research and statistical methods, and the ability to synthesize data from a variety of disciplines. The work is complex, frequently requiring initiative, flexibility, and organizational skills.

A RA II (GIS) must have a good knowledge of GIS techniques and methodologies to develop data, tools, and models. The RA II (GIS) must also have a good understanding of cartographic principles as applied to GIS products and delivery. The following are the knowledge, abilities, and analytical requirements necessary for this position:

- Experience with Environmental Systems Research Institute, Inc. (ESRI) enterprise and desktop GIS software products;
- Communicate effectively at a level required for successful job performance;
- Interact in a professional manner with all levels of department staff;
- Compiles, makes, or revises geospatial products, maps, charts, and diagrams;
- Uses project management systems to assist the unit supervisor in budgeting and setting delivery milestones for projects;
- Exercises good judgment in providing assistance, consultation, and communication with all levels of departmental staff and management, including external entities such as consultants or vendors;
- Assists in mentoring other staff who may be less knowledgeable or less experienced in GIS technology;
- Advanced knowledge of GIS software and strong familiarity with relational database design as it applies to GIS software;
- In-depth knowledge of cartographic principles, spatial analysis, and databases;
- Proven experience in data modeling;
- Analyze situations accurately and take effective action;
- Demonstrated ability to train team members and end users on GIS data and applications;
- Ability to conduct research into GIS issues and products as required;
- Prepare reports;
- Understand and practice current Safety procedures as described in the Code of Safe Surveying Practices and the Caltrans Illness and Injury Prevention Program;
- Recognize and immediately report any possible hazards or safety violation that may adversely affect property, employees, or the general public.
- Ability to work independently and without direct supervision.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The RA II (GIS) is responsible for assisting the supervisor in an office setting. Errors in judgment or decisions could result in project delays, rework or the production of unnecessary work. Inaccurate or incomplete work may result in added costs, or litigation, and reflect negatively on the Survey Program, North Region Office of Surveyors, and the Department. The effects of poor decisions relating to any of these items could translate into additional delays, costs, or claims against the State of California.

PUBLIC AND INTERNAL CONTACTS

The employee will routinely contact other Caltrans personnel, surveying/engineering consultants, personnel from other Federal, State, and local agencies, and the public.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Employee may be required to sit for long periods of time using a keyboard and video display terminal. He or she may also be required to move large or cumbersome plans and diagrams from one location or another. He or she may be required to stand for periods of time operating survey instruments or office devices such as optical scanners. May be required to drive long distances.

WORK ENVIRONMENT

While at their base of operation, employees will work in a climate-controlled office under artificial lighting. Incumbent will be required to travel and work outdoors and can expect to be exposed to traffic, dirt, noise, uneven surfaces, and extreme heat or cold.

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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