

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Research Data Specialist II	OFFICE/BRANCH/SECTION Office of System Metrics and Automation	
WORKING TITLE GIS and Data Visualization Services	POSITION NUMBER 913-350-5758-917	REVISION DATE 11/27/2024

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 general direction of the Branch Chief of System Metrics and Automation, a Senior Transportation Engineer (Supervisor), the incumbent, a Research Data Specialist II, serves as the Geographic Information System (GIS) and Data Visualization Services specialist in the Business Intelligence and Automation Branch.

The incumbent is responsible for research and independent analysis relative to the day-to-day operations of the Business Intelligence and Automation Branch. The general concentration of duties involve traffic data and spatial database management, spatial analysis, and cartographic design. Also serves as the GIS point of contact for the division.

CORE COMPETENCIES:

As a Research Data Specialist II, 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.

- **Learning on the Fly:** Learns quickly, is open to change, experiments, and is flexible. (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)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (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)
- **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. (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)
- **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. (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)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (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)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (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)
- **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. (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)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (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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- **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)

TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	
25% E	Develops, tests, and implements complex cad-astral and GIS data maintenance, manipulation, analysis, extraction and plotting for all of Traffic Operations. This establishes standards that ensure consistency, reliability, and usability of spatial data that is expected to design, test, and implement standard traffic and relative features within spatial databases utilizing database management techniques and spatial data principles (e.g., projection, topology) for use in research projects or in response to policy questions. Performs complex spatial analysis and modeling using various types of geospatial data and techniques to address important policy, program evaluation, and other research questions. Develops procedures to facilitate standardization of map products using cartographic tools (e.g., map templates, symbology representations or layer files, basemaps) to provide accurate map products for display in research projects. Creates and modifies maps using ArcGIS software and related technology and the principles of cartography to display research results or to respond to policy questions. Condenses and summarizes the results of GIS analysis using software (e.g. spreadsheet, database) to effectively display important findings in appropriate formats (e.g., statistical graphs, charts, tables). Configures ArcGIS software packages to generate GIS data input web and mobile applications.
25% E	Serves as the point of contact and liaison of Traffic Operations for GIS related tasks and communications. Reports task summaries to the supervisor and provides recommendations. Develops, implements, and monitors procedures to obtain and validate data from existing sources (e.g., Caltrans, local, state and federal agencies, non-governmental groups) and ensures data is accessible within the organization through the division's intranet website and/or external GIS Data Library. Develops web-based Geographic Information Systems to provide access to spatial data for use by various internal and potential external users. Creates documentation of geospatial datasets (metadata), including abstract, purpose, citations, process steps, and data quality assessment to ensure appropriate use and promote continuity of temporal data. Collaborates with Division of Research, Innovation & System Information in publishing data. Identifies circumstances requiring complex spatial models and appropriate spatial modeling techniques (e.g., network analysis, cost surfaces, 3D analysis) and designs the appropriate spatial model to address important policy, program evaluation, and other research questions. Assists with ad-hoc requests for data, maps, and/or analysis from internal and external requesters, and makes recommendations to management to resolve issues related to GIS. Provides consultation within the division and organization as requested on geospatial issues (e.g., data collection, spatial analysis, sampling methods, cartographic approach) to ensure effective use of geospatial technology. Meets with the various branches of Traffic Operations prior to map production to review data-gathering procedures to ensure proper implementation.
25% E	Performs data exploration, analysis and design to develop, publish, and maintain interactive and visually appealing dashboards using Tableau and Power BI. Translates data-driven insights into visual stories and summaries for various stakeholders. Provides training on how to interpret and interact with dashboards effectively. Offers ongoing support to dashboard users, addresses questions, and troubleshoots issues relating to Tableau and Power BI. Continuously optimizes and enhances existing dashboards for better performance, interactivity, and user experience. Conducts technical presentations about data visualization related tasks for Caltrans internal and external audiences with varying technical backgrounds.
20% E	Prepares training material and conducts training and support for other Traffic Operations staff in GIS related skills and tasks. Conducts quality control and assurance for the GIS tasks performed by other staff in training. Conducts technical presentations about GIS related tasks for Caltrans internal and external audiences with varying technical backgrounds. Attends meetings and reports meeting minutes as related to GIS assignments. Reviews manuals and technical documents used across Caltrans. Provides assistance and back up for other Division of Traffic Operations GIS databases.

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5%	M	Completes a variety of special projects and assignments as needed by the Division Chief, Deputy Division Chief, Office Chief, and Branch Chief. Performs other work commensurate with the Research Data II Specialist classification.
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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

None.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Requires knowledge of: Data analysis methods and procedures required of the Research Data Analyst series. Principles and concepts applied in research and statistical settings; principles and concepts appropriate to data and research techniques and methodologies; operations research methods; current data analytics processes, including the utilization of business intelligence software programs; broad principles of algorithms, data structures, and data management; application of computerized models to research data, statistical and other methods used in the analysis; survey methods and analytical techniques; organizational analysis including data presentation and interpretation; principles and procedures of forecasting, and of research planning, design, methodology; problem solving techniques and processes to facilitate the identification and resolution of issues related to the completion of work assignments.

Requires the ability to: Research, gather, compile, and analyze data as required of the Research Data Analyst series and the Research Data Specialist I classification. Translate legislatively mandated program evaluation requirements into methodically rigorous study designs; translate departmental policy into action programs and/or test the impact of policy changes; evaluate the adequacy and merit of proposed research and evaluation study designs and techniques; provide expert consultation on the feasibility impact or potential of a variety of operations, projects or proposals to the department and to other organizations; analyze and evaluate the impact of changes to existing programs, procedures, business processes, and/or policies; use creativity when independently designing research projects; and write clear and concise studies and reports; design and develop research methodologies required to ensure the collection and analysis of appropriate, meaningful, and unbiased data; conduct and interpret descriptive and/or inferential statistical analyses using appropriate software to test research hypotheses and to formulate conclusions and recommendations; analyze situations accurately and take effective action at the appropriate time; and provide mentoring to staff.

Requires the ability to collaborate with multi-disciplinary, technical staff; communicate effectively (both orally and in writing) with multiple audiences; establish and maintain cooperative relationships with individuals and organizations contacted in the course of work; participate in public contact and represent Caltrans; serve in a consulting capacity to other divisions and districts; and respond appropriately to difficult situations.

Must be able to apply sound judgment in problem solving; work productively in a busy and often changing environment; perform multiple tasks simultaneously; maintain a project schedule; accurately and timely follow-up on issues; and effectively interact with many levels of people in a cooperative manner. Must be decisive, take appropriate actions, and complete tasks or projects with a short notice. Requires proficiency with surveying equipment and software, Microsoft (MS) Office programs (including MS Word, MS Excel, MS Outlook, and MS Teams), Adobe Acrobat, Cisco WebEx, and using the Internet.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

This position is responsible for making independent action and taking initiative to carry out assigned duties. The incumbent's decisions and actions have a direct impact on the Traffic Operations Program and the Department. Inability to carry out this position's responsibilities could result in: adversely affecting public safety and/or result in tort liability for Caltrans; increased expenses resulting from lost Transportation System productivity; litigation that could delay and/or add substantial cost to essential projects or activities; inability to quantify performance in meeting the Department's strategic goals and safety and mobility commitments; loss of credibility and public confidence in Caltrans as a responsible public agency.

PUBLIC AND INTERNAL CONTACTS

The incumbent must maintain the highest level of professionalism and integrity, exhibit tact and diplomacy, and effectively communicate with all internal/external contacts.

Internal contacts include various Caltrans districts and divisions (including Design, Construction, Maintenance, External Affairs,

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and Engineering Services). External contacts include the Legislature, Governor's Office, CHP, FHWA, construction industry representatives, local agencies, other states, national experts, academia, the private sector, and the general public.

The incumbent must communicate effectively orally and in writing, by telephone, via email, and by web conferencing. The incumbent may be required to facilitate, participate in, and host meetings.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent must: quickly adapt behavior and work methods in response to new information/priorities and unexpected obstacles; multi-task; effectively interact with many levels of people in a cooperative manner; be decisive; take appropriate actions; and complete tasks or projects with a short notice. Must be able to maintain focus and intensity, yet remain optimistic and persistent, even under adversity. The incumbent shall act in a fair and ethical manner toward others; value cultural diversity and other individual differences in the workforce; and demonstrate a sense of responsibility and commitment to public services. The incumbent must be able to develop new insights into situations and apply innovative solutions to make organizational improvements; grasp the essence of new information and master new technical and business knowledge.

Must have manual dexterity and the ability to work with precision surveying instruments/tools/equipment and testing materials. Must have the ability to work with a computer and may be required to sit for long periods of time using a computer, monitors, phone, and other office equipment. The incumbent must be able to occasionally lift up to 25 pounds without assistance. Bending, stooping, and pulling may be required within the normal course of performing some of the responsibilities associated with this position. May be required to speak in front of large groups.

WORK ENVIRONMENT

This position's headquartered location is Sacramento, CA. While at the base of operation, the incumbent works in a climate-controlled office under natural and artificial lighting. Due to periodic issues with heating and air conditioning, building temperatures may fluctuate. Multi-floor buildings are equipped with elevators and stairs.

The incumbent may be required to travel periodically to other office buildings (federal and state offices, district offices, local agencies, etc.) and indoor/outdoor field locations. While at field locations, the incumbent may be exposed to uneven surfaces, noise, and varying climate conditions. The incumbent may be required to travel within the state and may be required to travel out-of-state for business operations. Possession of a valid driver's license is required to operate a State owned, leased, and/or personal vehicle. The environment is fast-paced, demanding, and busy; and requires considerable flexibility in managing time, priorities and assignments. Vacations may be restricted during peak times.

This position may be eligible for telework. The amount of telework is at the discretion of the Department and 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, 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 candidate.

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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