

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Research Data Analyst II	OFFICE/BRANCH/SECTION Data Science Branch - HQ Division of Data and Digital Services	
WORKING TITLE Data and Digital Services Data Analyst	POSITION NUMBER 913-350-5731-917	REVISION DATE 11/05/2024

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 supervision of the Data Science Branch Manager (Research Data Supervisor II), the Data and Digital Services Data Analyst (DDS) Research Data Analyst (RDA) II will independently perform a variety of tasks including data management, complex research, data analysis, and data visualization. As a Data Analyst, the incumbent will work collaboratively with a variety of teams and staff at Caltrans to develop data reports and stories, create data visualizations/maps and dashboards, identify data trends and patterns, and perform various related tasks. The DDS RDA II will be expected to seek and incorporate user feedback, develop and update their products in an iterative and agile manner using version control and statistical/data science programming tools (mainly Python). The DDS RDA II will assist in the development of performance metrics and data products for use across Caltrans, including working on operational improvements and analytics for operations. The DDS RDA II will develop public-facing transportation analytics products, including data hosted on the Caltrans Open Data Geoportal or web-hosted visualizations/dashboards supporting the California Integrated Mobility Program.

CORE COMPETENCIES:

As a Research Data Analyst 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. (Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency - Innovation, Integrity)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **Reliability:** Ability to demonstrate dependability in meeting commitments, and providing a consistent work product. Takes responsibility for individual actions in order to meet deadline demands. (Cultivate Excellence - Engagement, Integrity)
- **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. (Strengthen Stewardship and Drive Efficiency - Innovation, Integrity)
- **Relationship Building:** The ability to develop and maintain internal and external trust and professional relationships, which includes listening and understanding to build rapport. (Cultivate Excellence, Advance Equity and Livability in all Communities - Engagement, Equity)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence, Advance Equity and Livability in all Communities - Engagement, Equity)
- **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. (Cultivate Excellence, Advance Equity and Livability in all Communities - Engagement, Equity)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency - Innovation)
- **Diagnostic Information Gathering:** Identify information needed to clarify a situation, seeking that information from appropriate sources. (Enhance and Connect the Multimodal Transportation Network, Lead Climate Action - Engagement, Innovation)

TYPICAL DUTIES:

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

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45%	E	Establish work plans and monitor the progress of research activities to ensure timely completion of defined objectives. Gather raw or intermediate data from open data, cloud databases, or on-premises databases and systems within an enterprise environment while following data governance and security guidelines. Use software programs or languages, such as Python, SQL, ArcGIS, and Microsoft Excel, to import, prepare and analyze data. With guidance, research, identify, analyze, predict, and interpret trends or patterns in complex data sets to support internal Caltrans and external partner stakeholders. Perform statistical analyses to test research hypotheses and use outcomes to formulate conclusions and recommendations. Internally document in-progress and completed analyses using appropriate version control tools. Iterate upon data cleaning and analytics workflows to parameterize, automate, and support reproducibility.
35%	E	Collaborate with data users and Caltrans team members to create data visualizations, maps, dashboards, and reports for internal and external clients. Visualize and summarize quantitative and qualitative data to effectively communicate key insights that help client departments effectively understand and interact with mobility data. Document and present analysis results to management and customer stakeholders verbally and in writing. Write reports in a professional, well-organized and accessible format. Customize presentations and reports depending on the technical expertise of the audience to explain the data analysis, trends and results; use outcomes to substantiate conclusions, program and policy strategy and recommendations. Iterate upon reporting/presentation workflows to parameterize, automate, and support reproducibility.
15%	E	Consult with other Caltrans divisions, including Traffic Ops, Safety, Asset Management, and those in Planning and Modal Programs, to identify needs, develop analyses supporting research/business questions, and adjust analyses in response to stakeholder feedback. Design, develop and administer data collection instruments. Work with team to identify audience, outreach strategies, form fields and domains, database design and compilation workflow. Organize, analyze and interpret results based on submitted form data. Facilitate and present findings at meetings on analytical topics, consult with Caltrans or California Integrated Mobility Program teams, and serve as a subject matter expert on multidisciplinary teams.
5%	M	Perform 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

None.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of: Data analysis methods and techniques including gathering and collection of structured and unstructured data, as well as general principles, concepts and terminology used in research; trend analysis procedures; practices required to ensure and maintain data security; problem-solving techniques and processes to identify and resolve issues related to the completion of work assignments; exploratory data analysis; advanced mathematical techniques and descriptive statistical analysis techniques and methods; time management techniques to provide for efficient prioritization and completion of projects and assignments; software such as R, Python, SQL and Microsoft Excel to prepare spreadsheet summaries, reports, charts, and tables; version control tools or techniques; and departmental policies and procedures. Prior knowledge in using Python, R, and version control (mainly Github) not required, but the selected candidate will be expect to use the tools on a regular basis after training.

Ability to: Query, mine, compile, analyze, and manipulate data; prepare research and statistical reports; analyze written and numerical data regarding general governmental business needs; manage revisions/iterations of ongoing analyses; communicate effectively both orally and in writing to individuals and groups related to the area of research; present ideas and information effectively; design and validate studies and analyze the accuracy of data collected; analyze quantitative and qualitative data to reach sound conclusions and/or make recommendations; identify improvements and originate new solutions to problems; identify required data, information, materials, and resources needed to complete/perform a project; reason logically and creatively and use a variety of analytical techniques to resolve or provide information regarding complex research and data problems; consult with and advise administrators or other interested parties on a wide variety of subject-matter areas; recognize when issues, activities, and/or decisions need to be elevated to management, and communicate information effectively to others; manage a workload consisting of multiple projects and assignments; complete work under critical timelines to meet project objectives and deadlines; and be objective and flexible to adapt to changes in priorities and work assignments.

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RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The selected candidate will implement assigned tasks based on guidelines furnished by their supervisor. The incumbent has responsibility for validating raw data and checking the accuracy and timeliness of their analytical work product. The incumbent is also responsible for determining the most effective or efficient way to clean and analyze data. The consequences of error could result in invalid departmental decisions based on erroneous analyses or conclusions. Continuing to publish or use data of poor quality has downstream effects on internal/external customers and stakeholders. Additionally, improper analysis of data could result in unnecessary work or inefficiency, which is a cost to the Division and Department.

PUBLIC AND INTERNAL CONTACTS

The DDS RDA II will work with a team of other Data Analysts and Specialists. The Data Science Branch is part of the Office of Data in the HQ Division of Data & Digital Services. The selected candidate will work with Caltrans HQ staff including those in Traffic Operations, Safety, or other Divisions in Planning and Modal Programs. The selected candidate may be in contact with a variety of people outside Caltrans (including DDS contractors, transit agencies, local DOTs, MPO staff, etc.) via email, phone and videoconference. At times, attendance of conferences may be required as well.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

- Have the ability to work on a keyboard; function with manual dexterity; sit/stand for long periods; focus for long periods of time;
 - Be able to bend, stoop and kneel;
 - Be able to develop and maintain cooperative relationships;
 - Be able to perform tasks utilizing a personal computer;
 - Have the ability to multi-task, adapt to changes in priorities, and complete tasks or projects in short notice;
 - Be able to concentrate for long periods in order to review and create documents;
 - Be open to change and new information; adapt behavior and work methods in response to new information, changing conditions, or unexpected obstacles.
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WORK ENVIRONMENT

The incumbent works in front of a dual-monitor computer system under artificial light in an office setting with long periods of working in a sitting or standing position.

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. Reimbursement considers an employee's designated headquartered location and 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

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