

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Information Technology Specialist II	HQ IT/ADSD/Custom Applications/Client Server Section	
WORKING TITLE	POSITION NUMBER	REVISION DATE
Senior Extract Transform Load (ETL) & Report Developer	900-170-1414-072	10/02/2025

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 an Information Technology Manager I (ITM I), Custom Applications/Client Server Support Section Chief, the Senior ETL & Report Developer, an Information Technology Specialist II (ITS II), acts as a senior technical lead. This role is primarily responsible for design, development, implementation, and maintenance of data pipelines and reporting solutions to meet complex data sharing, integration, and reporting needs for the Transportation System Network Replacement (TSNR) system. The incumbent develops and delivers innovative data solutions that align with enterprise business goals and supports leadership on formulating IT strategy, policy, and governance for Caltrans's current and emerging technology portfolio.

MAJOR FUNCTIONS:

The Senior ETL & Report Developer is responsible for performing activities at the senior technical level, in design, development, integration, quality assurance, delivery, and maintenance of ETL and reporting solutions. As a subject matter expert with in-depth technical expertise, the Senior ETL & Report Developer provides strategic direction and technical leadership across projects. They actively collaborate with peers, management, and cross-functional teams, guide, and mentor other technical staff, and advise executive leadership on best practices, standards, and technology strategies for data-related initiatives.

Key responsibilities, including, but not limited to:

Design, implement, and maintain robust data models, applying best practices in normalization and denormalization to support scalable and efficient data storage and retrieval. Develop and manage ETL/ELT pipelines to ingest, transform, and validate structured data, ensuring high data quality and system reliability. Lead efforts to integrate data feeds/ real time data into statewide systems, supporting transportation planning, operations, and public-facing applications. Apply rigorous data testing and validation protocols to ensure data integrity, accuracy, and compliance with state and federal standards. Utilize version control systems and collaborative development workflows to manage code bases, track changes, and coordinate with cross-functional teams. Configure and operate tools to support development, deployment, and automation tasks in a modern data engineering environment.

Domain(s):

Software Engineering

Information Technology Project Management

CORE COMPETENCIES:

As an Information Technology 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.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)

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- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)

TYPICAL DUTIES:

Percentage		Job Description
Essential (E)/Marginal (M) ¹		
35%	E	ETL Design and Data Integration Perform advanced ETL design, and implementation tasks for the TSNR system. Develop and maintain high-quality SQL queries, stored procedures, and scripts to support safety analysis and reporting. Integrate data from diverse internal and external sources, ensuring compatibility and accuracy. Support geospatial data linking using Linear Referencing System (LRS) in collaboration with Geospatial Information Systems (GIS) specialists. Lead support and provide comprehensive technical guidance with planning, analysis, design, development, implementation, and operation of the organization's most complex systems and technologies. Support the development and maintenance of robust data models, ensuring data quality and security. Research innovative technologies and methodologies to harness the full potential of data resources. Integrate data from diverse sources, ensuring seamless compatibility and interoperability. Collaborate with cross-functional teams to align data initiatives with business objectives, participate in data governance, and drive transformative projects aimed at optimizing data utilization.
35%	E	Reporting Development and Data Analysis Responsible for the design, development and maintenance of data visualizations, dashboards, and extracts using business intelligence (BI) and data analytics (DA) tools to support key transportation safety programs, including the Strategic Highway Safety Plan (SHSP) and Highway Safety Improvement Program (HSIP). Support both routine and ad-hoc requests for data visualizations, dashboards, and extracts to assist with cost-benefit analysis related to safety countermeasures. Provide informed recommendations to management regarding the direction and use of various BI and DA tools, and best practices, for application development to help shape IT strategy, policy, and governance to align with enterprise architectural goals and technology modernization efforts.
15%	E	Technical Support Maintain integrity and performance of reports and data pipelines that support TSNR. Monitor and optimize system performance, resolving data-related issues, and ensuring change management protocols are for updates. Troubleshoot and resolve issues in coordination with IT and business teams. Translate business data requirements into effective data infrastructure including design of data pipelines and reporting solutions, define how the data will be integrated, consumed, and shared by different data entities, systems, and applications. As a subject matter expert, perform data modeling, data mapping, data migration related tasks/assignments across various projects. Implement changes based upon the defined future state enterprise architecture through governance processes to align business needs with Information Technology. Participate in technology and data change management efforts. Provide data solution architecture support, including analyzing program needs, schema and ETL design, and development.

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10%	E	Stakeholder Collaboration and Communication	Maintain effective communications and working relationship with team members, business customers, multiple management levels, executive leadership, vendors, and external stakeholders. Proficiently communicate intricate technological concepts and issues to stakeholders using easily understandable language. Collaborate with cross-functional teams, including technical and non-technical team members. Actively participate in planning, code reviews, and technical meetings. Provide status reports and contribute to documentation and knowledge sharing.
5%	M	Professional Development and Other Duties	Perform other duties as required within the specifications of the classification, including but not limited to training, research, consulting, unplanned projects and initiatives, provides leadership and expertise for establishing and maintaining standards, processes and procedures (e.g., IT hardware and software standards, system build and configuration documents, incident management, configuration management, change management, user guides, etc.) for IT operations; leverages established documentation to provide training to IT professionals and users.

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 is the technical expert and may guide or lead others and/or multi-functional, highly complex teams.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of: Emerging technologies and their applications to business processes; business or systems process analysis, design, testing, and implementation techniques; techniques for assessing skills and education needs to support training, planning and development; business continuity and technology recovery principles and processes; principles and practices related to the design and implementation of information technology systems; information technology systems and data auditing; the department's security and risk management policies, requirements, and acceptable level or risk; application and implementation of information systems to meet organizational requirements; project management life-cycle including the State of California project management standards, methodologies, tools, and processes; software quality assurance and quality control principles, methods, tools, and techniques; research and information technology best practice methods and processes to identify current and emerging trends in technology and risk management processes; and state and federal privacy laws, policies, and standards.

Ability to: Recognize and apply technology trends and industry best practices; assess training needs related to the application of technology; interpret audit findings and results; implement information assurance principles and organizational requirements to protect confidentiality, integrity, availability, authenticity, and non-repudiation of information and data; apply principles and methods for planning or managing the implementation, update, or integration of information systems components; apply the principles, methods, techniques, and tools for developing scheduling, coordinating, and managing projects and resources, including integration, scope, time, cost, quality, human resources, communications, and risk and procurement management; monitor and evaluate the effectiveness of the applied change management activities; keep informed on technology trends and industry best practices and recommend appropriate solutions; foster a team environment through leadership and conflict management; effectively negotiate with project stakeholders, suppliers, or sponsors to achieve project objectives; and analyze the effectiveness of the backup and recovery of data, programs, and services.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent must exercise good judgment, analyze problems, and take appropriate action. Poor decisions or recommendations could result in significant losses or departmental efficiencies through unnecessary delays, loss of data, equipment damage, loss of employee productivity, and user dissatisfaction.

PUBLIC AND INTERNAL CONTACTS

The incumbent will have frequent contacts with managers and staff in Caltrans, IT leaders throughout the state, private consultants, and vendor representatives concerning the needs and development of IT systems. The incumbent may initiate contacts with other departments, governmental agencies, or private companies concerning IT technology related to the performance of this position.

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PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent may be required to sit for long periods of time using a keyboard, video display terminal and telephone and may be required to lift and move supplies and equipment from one location to another. The incumbent must be able to walk between multiple State buildings and have a thorough knowledge of Caltrans building locations. This is a fast-paced job with a lot of deadlines. Thus, the incumbent in this position will be required to multi-task, be open to change, adapt to changes in priorities and policies, and to complete tasks or projects with short notice. The incumbent must be able to sustain mental activity needed for problem solving which includes reading, writing, analyzing, understanding, interpreting, consulting, developing alternatives, drawing sound conclusions, and recommending, implementing and evaluating solutions. The incumbent must be able to exercise sufficient control over emotions to gain and maintain the confidence and respect of others, recognizing and acknowledging emotionally charged issues or problems and responding appropriately to them. Employee must value cultural diversity and other individual differences in the workforce; adjust rapidly to new situations warranting attention and resolution; be open to change and new information; adapt behavior and work methods in response to new information, changing conditions, or unexpected obstacles; consider and respond appropriately to the needs, feelings, and capabilities of others; be tactful and treat others with respect. In addition, the employee must have the ability to multi-task, adapt quickly to changing priorities, and perform completed staff work or tasks and projects with short notice.

WORK ENVIRONMENT

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.

If not working remotely, the employee will work in a climate-controlled office under artificial lighting using a personal computer.

The employee may be required to travel. When available, a State vehicle will be provided. Possession of a valid driver's license is required when operating a State owned or leased vehicle. If the employee utilizes their own personal vehicle, they may be reimbursed for travel expenses.

Some weekend or after-hours work may be required. The employee must carry a cell phone and respond to calls after hours.

Core Work Hours: Monday - Friday 8:00am-5:00pm.

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

I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE