

Who we are:

Transportation is so basic that many of us overlook its overwhelming importance in our daily lives. Practically everything used in our homes, offices, or schools across Tennessee – from furniture to food items to clothing – requires a large and complex transportation network. The Tennessee Department of Transportation provides citizens of Tennessee and travelers with one of the best transportation systems in the country. TDOT is a multimodal agency with responsibilities in building and maintaining roads, aviation, public transit, waterways, railroads, cycling and walking. Our involvement ranges from airport improvements to funding transit buses to planning for river ports. The Department of Transportation has approximately 3,500 employees with four statewide region facilities in Knoxville, Chattanooga, Nashville, and Jackson. TDOT Aeronautics is located near the John C. Tune Airport in Nashville, TN.



Roadway Data Analytics Technical Specialist

Planning Division – Roadway Data Section

\$61,812 - \$70,680 annually

Job Overview

The Roadway Data Analytics Technical Specialist plays a critical role in maintaining and improving Tennessee's roadway data network by supporting quality, accuracy, and completeness in systems applications and planning, enabling effective roadway asset management, supporting strategic planning and resource allocation, and complying with Federal Highway Administration (FHWA) reporting requirements. This position supports the Roadway Data Section by gathering, reviewing, coordinating, and analyzing roadway data needed for statewide reporting, system alignment, and compliance with Federal Highway Administration (FHWA) requirements.

The Roadway Data Analytics Technical Specialist collaborates closely with internal TDOT teams, Geographic Information Systems (GIS) staff, TDOT Regions, Local Public Agencies, the FHWA and consultants to ensure roadway data is accurate, consistent, and aligned across systems and workflows. Work is performed using GIS tools, photolog and imagery review platforms, and TDOT data management systems to support roadway data updates, spatial and tabular validation, documentation quality reviews, and process improvements. As part of the TDOT Technical Specialist career path, this position allows for advancement from entry-level to advanced technical roles based on demonstrated skill, analytical capability, and leadership. The Roadway Data Analytics Technical Specialist provides exceptional customer service to internal and external stakeholders, contributes to cross-functional coordination, and supports TDOT's commitment to reliable, data-driven roadway management and statewide decision making.

Essential Job duties of Technical Specialist I, II, and III include:

Assist with the inter-agency development of functional classification delineation of new and altered routes by preparing and following a structured format, including document preparation, agency agreements, and LRS network changes.

Support systems planning and functional classification activities by using GIS as a tool to assist with network boundary changes and other route enhancement or definition activities needed to accommodate updates to the LRS.

Support the alignment and integration of roadway data submissions from TDOT Regions, Local Public Agencies (LPAs), internal TDOT divisions, and consultants into Enhanced Tennessee Roadway Information Management System (E-TRIMS), Roads

and Highways and Geographic Information Systems (GIS) workflows to ensure consistency and accuracy.

Review roadway data using GIS, photolog, imagery platforms, and reference documentation to validate spatial and tabular accuracy, support updates to roadway data systems, and confirm alignment with statewide roadway mapping and reporting needs.

Verify photolog data quality through performing field reviews and ground truthing activities to facilitate data-driven decisions for maintaining and improving the network in a sustainable, efficient, and equitable manner.

Support the State-Aid program and State-Aid and Bridge Grant Section Team, including reviewing county requests for additions and deletions to the State Aid system to ensure the roadways meet State-Aid requirements, and process the request by changing the information in the LRS.

Coordinate data analysis, communication, and integration activities with the Roadway Inventory, Planning Data, Asset Management, and GIS teams to support accurate and aligned statewide roadway datasets.

Participate in the application of quality control procedures and support the development and refinement of quality assurance processes, ensuring roadway datasets meet internal and external standards.

Assist in researching, evaluating, and applying emerging technologies, data integration tools, system enhancements, and best practices to strengthen roadway data systems, support workflow modernization, and improve process efficiency.

Additional Job duties for Technical Specialist II and III include:

Work independently with intermittent supervision to coordinate and execute moderately complex roadway data tasks, including integrating datasets across Enhanced Tennessee Roadway Information Management System (E-TRIMS), Roads and Highways and Geographic Information Systems (GIS), validating data alignment, and resolving inconsistencies.

Coordinate with internal TDOT teams, Local Public Agencies (LPAs), Geographic Information Systems (GIS) staff, and consultants to resolve roadway data discrepancies, support communication of technical requirements, and ensure consistent information across systems.

Assist in the development and refinement of roadway data workflows, documentation, guidance materials, and process updates that support improved standardization, quality assurance, and staff development.

Participate in peer exchanges, training programs, and professional development activities to maintain proficiency and support continuous learning.

Support consultant coordination by reviewing roadway data deliverables, monitoring task progress, and contributing to quality control activities to ensure that consultant products align with TDOT standards and roadway data requirements.

Support updates to the roadway network, including functional classification changes, boundary edits, event modifications, and roadway additions or deletions processed through the Roadway Data Section.

Additional Job Duties for Technical Specialist III include:

Serve as a technical mentor to junior staff by supporting training efforts, sharing roadway data best practices, and contributing to cross-team knowledge-building that strengthens analytical capability and collaboration across the Roadway Data Section.

Guide the development and documentation of improvements to roadway data workflows, system processes, data integration methods, and quality assurance and quality control (QA/QC) enhancements that promote efficiency, accuracy, and consistency across statewide roadway data operations.

Collaborate with the Roadway Data Analytics Team Lead to prepare roadway data summaries, support project development activities, and ensure roadway data standards, reporting expectations, and statewide data governance practices are consistently applied in alignment with state and federal requirements while providing exceptional customer service to internal and external stakeholders.

Qualifications

TDOT Technical Specialist I

- Bachelor's Degree

TDOT Technical Specialist II

- Bachelor's Degree
- 1 year of demonstrated competency in State and Regional Transportation Planning, Geographic Information Systems, Data or Computer Science, or a related field.

TDOT Technical Specialist III

- Bachelor's Degree
- 2 years of demonstrated competency in State and Regional Transportation Planning, Geographic Information Systems, Data or Computer Science, or a related field.

The Tennessee Department of Transportation reserves the sole right in determining the level of position based on the applicant's work experience, education, skill level, and all other appropriate factors, including business needs. Within 6 months of hire, employees must demonstrate successful mastery of corresponding work competencies and skill blocks of the Technical Specialist Competency Program for the level of worker for which they were hired. If skills and competencies are not met during that period, the employee can be demoted to the level of worker for which he/she is qualified.

Ideal Candidate

This position is a career path series within TDOT. The Roadway Data Analytics Technical Specialist I, II, or III is detail oriented, organized, and technologically adept with a strong interest in geographic data, roadway information systems, and statewide transportation analytics. They are collaborative team players who are curious, adaptable, and committed to data quality. At higher levels, the ideal candidate demonstrates initiative, leadership, and innovation in analyzing roadway data, improving workflows, and mentoring others, while providing exceptional customer service to both internal and external stakeholders and supporting a culture of accountability and teamwork.