

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 Characteristics Inventory Technical Specialist

Planning Division – Roadway Data Section

\$60,600 - \$70,680 annually

Job Overview

The Roadway Characteristics Inventory Technical Specialist plays a critical role in maintaining and enhancing Tennessee's roadway data infrastructure through technical support of the Linear Referencing System (LRS), Highway Performance Monitoring System (HPMS) reporting, and Model Inventory of Roadway Elements (MIRE) compliance. This position supports the Road Inventory Team by collecting, validating, processing, and analyzing roadway data for the statewide transportation system.

The Roadway Characteristics Inventory Technical Specialist collaborates closely with internal TDOT teams, local governments, and consultants to ensure road inventory data is accurate, consistent, and aligned with state and federal reporting requirements. Work is performed using Geographic Information System (GIS) software, imagery platforms, and custom TDOT tools to manage and update the Enhanced Tennessee Roadway Information Management System (E-TRIMS) and other related databases. 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, responsibility, and leadership. Technical Specialists provide exceptional customer service to internal and external stakeholders, contribute to cross-functional teamwork, and support TDOT's commitment to strategic, data-driven transportation planning and operational reliability.

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

Assist with the maintenance and update of Tennessee's Linear Referencing System (LRS), ensuring that roadway data meets federal MIRE and HPMS reporting requirements.

Support the validation and integration of data submissions from counties, cities, metropolitan planning organizations (MPOs), rural planning organizations (RPOs), and internal TDOT teams into E-TRIMS and related inventory systems, ensuring consistency and accuracy.

Perform field verification (ground-truthing) of roadway inventory data, including functional classification, system ownership, route geometry, and event attributes, collaborating with cross-functional teams as needed.

Utilize GIS software, imagery platforms (e.g., photolog), and custom TDOT tools to process roadway network edits and event updates and manage spatial data to maintain an accurate statewide inventory.

Contribute to the preparation and quality review of data submissions for the HPMS and annual roadway inventory reporting cycles, ensuring compliance with state and federal requirements.

Participate in traffic and asset data coordination with the Traffic Data Collection and Planning Data teams, supporting integrated statewide planning and analysis.

Respond to data requests from internal stakeholders, consultants, and the public by extracting, packaging, and providing accurate roadway inventory data in a timely and professional manner.

Support the application of quality control procedures and contribute to the development and implementation of quality assurance measures.

Assist in researching and applying emerging technologies and best practices to improve roadway inventory operations. Participate in peer exchanges, training programs, and ongoing professional development activities to remain current on industry standards and maintain subject matter expertise.

Additional Job duties for Technical Specialist II and III include:

Work more independently with intermittent supervision to execute moderately complex GIS and data tasks, including event layer creation, attribute assignment, and alignment corrections.

Coordinate with external stakeholders and local governments to resolve route inventory discrepancies, manage updates across systems, and provide exceptional customer service to partners.

Assist in the development of roadway inventory workflows, documentation, and training materials that support process improvement, standardization, and staff development.

Support consultant coordination by reviewing deliverables, assisting with contract task monitoring, and contributing to quality control processes.

Additional Job Duties for Technical Specialist III include:

Serve as a technical mentor to junior staff and assist in cross-team training initiatives that foster professional development, teamwork, and knowledge sharing.

Guide the development and documentation of improvements to data management processes, software tool enhancements, and the automation of quality assurance and quality control (QA/QC) procedures to drive efficiency, accuracy, and consistency.

Collaborate with the Road Inventory Team Lead and Roadway Data Section leadership on preparing reports, advancing project development, and ensuring statewide roadway inventory policies are consistently applied and compliant 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 Characteristics Inventory Technical Specialist I, II, or III is detail-oriented, organized, and technologically adept with a strong interest in geographic data, transportation systems, and public infrastructure. 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 managing roadway data and mentoring others, while providing exceptional customer service to both internal and external partners and supporting a culture of accountability and teamwork.