

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.



Geodetics Senior Technical Specialist Region Preconstruction - Geodetics \$75,204 annually

Job Overview

The Region Geodetics Senior Technical Specialist will provide support to Project Teams directly responsible for delivering projects in accordance with the project's scope, schedule, and budget. This position will collaborate with TDOT Divisions with geodetic-related concerns and questions. Geodetic issues will range in complexity and risk from simple to highly complex. This position requires subject matter expertise and critical thinking to problem solve and make well-informed decisions that increase the safety, performance, sustainability, and efficient delivery of TDOT's transportation system. The Region Geodetics Senior Technical Specialist role requires collaboration with TDOT divisions, Project Teams, consultants, contractors, and external stakeholders.

The Region Geodetics Senior Technical Specialist proactively identifies TDOT projects with a high level of risk and pursues opportunities to identify, avoid, and/or minimize those risks. This position assists in implementing the Quality Assurance Plan that focuses on ensuring quality, minimizing variability, and providing flexibility on a risk-based scale to maximize efficiency as part of the Department's Work Program. The Region Geodetics Senior Technical Specialist ensures relevant Department specifications, policies, and technical guidance are incorporated into the project delivery process. This position must effectively articulate technical concepts through training, mentoring, and collaborating as part of a matrix organization.

Essential Job Responsibilities

Assist the Geodetics Quality Team Lead and Project Managers as a geodetic Subject Matter Expert (SME) by providing quality assurance reviews of consultant-led project deliverables and Project Team geodetic products. Make geodetic recommendations for Project Teams preparing a project's scope, schedule, and budget.

Produce survey products at an expert level for all deliverables in OpenRoads Designer (ORD) supporting all survey activities in the Project Delivery Network (PDN). As a geodetic SME, be a Regional expert in production and quality assurance of common of survey products including but not limited to: ROW and property/easement boundaries of increased complexity and limited evidence; railroad title surveys; LiDAR data survey extraction; aerial structure from motion survey extraction; regional, corridor and project level control. Serve as the SME for the region's GIS-based technology including digital elevation models (DEM) and both aerial and mobile LiDAR with LAS and LAZ outputs.

Provide input to HQ for TDOT's geodetic-related specifications, requirements, and standards, including the TDOT Survey Standards Manual and standard operating procedures for drone data collection and processing.

Serve on Project Teams as part of a matrix organization by defining the scope of work related to geodetic tasks; provide recommendations to reduce geodetic-related project risks. Provide expertise, training, and mentoring to TDOT staff, consultants, and local agencies regarding geodetic-related issues and considerations. Routinely and proactively assess geodetic-related risk factors on projects and work with project teams to minimize potential impacts on project scope, schedule, and budget. Provide recommendations for data collection and geodetic-related processing procedures.

Oversee the quality assurance of all survey products, developed both internally and externally, with an emphasis on: ROW and property/easement boundaries of increased complexity and limited evidence; Railroad title surveys; LiDAR registration and control; Aerial/UAS survey registration and control; Regional, corridor and project level control surveys. Conduct quality assurance reviews of Legal Description geometry and calls to monuments/adjoiners.

Lead and verify the quality of geodetic data collection and data analysis for: horizontal, and vertical control using conventional survey equipment; drone-derived data sets; LiDAR data; and three-dimensional data analytic software outputs.

Manage and work with HQ to implement and seamlessly transition to new coordinate systems and be the regional expert managing all geodetic data across active coordinate systems and foot definition changes. Take the lead for geodetic control for the Region Quality Team assuring the precise development of regional, corridor and project level control monumentation.

Provide exceptional customer service to both internal and external customers by exercising effective listening skills and providing prompt responses. Participate in peer exchanges to foster collaboration both internally and with relevant partners to share ideas, skills, and insights relating to geodetics.

Assist in ensuring deliverables are aligned with TDOT's Quality Management procedures to ensure consistently high levels of quality and achievement, develop strategies to mitigate risk to the Department and establish a track record of success.

Remain current with applicable geodetic methods, standards, processing procedures, and guidelines related to geodetics; maintain collaboration with the transportation industry to enhance the work of preconstruction teams through the implementation of new technologies and national best practices; and assist with the implementation of policies and procedures related to geodetics.

Qualifications

- Bachelor's degree
- 3 years of demonstrated competency in geodetics.

OR

- Master's degree
- 2 years of demonstrated competency in geodetics.

Ideal Candidate

The Region Geodetics Senior Technical Specialist brings the team a blend of technical expertise and knowledge. They are exceptional project team members excelling at collaboration and communication and are proficient at seamlessly engaging with project teams, leadership, and stakeholders. The Region Geodetics Senior Technical Specialist is a natural

problem solver who overcomes obstacles with innovative solutions, which is required on TDOT projects involving complex geodetic issues. They understand that the best outcomes are achieved through collective effort and effective communication.