

## 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.



### **Region Geodetics Engineering Specialist**

Region Preconstruction – Geodetics

\$80,784 - \$88,860 annually

#### **Job Overview**

The Region Geodetics Transportation Engineering Specialist 3 and 4 assist in providing geodetic technical expertise to the Region's Geodetic Teams. This position produces survey products for all deliverables in Open Roads Designer (ORD) supporting all survey activities in the Project Delivery network (PDN). This position collaborates with Project Teams by identifying potential data collection or design challenges, coordinating, and confirming data collection for items completed by the Region, and implementing data collection, processing, and design concepts that integrate with all disciplines.

The Region Geodetics Transportation Engineering Specialist 3 and 4 are responsible for collaborating with both internal and external stakeholders, including Project Teams, TDOT Divisions, and Regions to ensure contractual requirements are met.

This position will help evaluate performance indicators to implement acquired knowledge into policies and procedures that mitigate the Department's risk and increase performance as part of fulfilling TDOT's strategic vision. This position must effectively produce and articulate data and technical concepts through training and collaborating as part of a matrix organization.

#### **Essential Job Duties of the TDOT Transportation Engineering Specialist 3 and 4 include:**

Assist in the strengthening of Region Preconstruction teams by providing technical expertise and support in matters related to geodetics, including management, production and coordination of data for those items completed by the Region, to allow preconstruction staff to perform their roles effectively and efficiently, optimizing the Team's ability to successfully address unanticipated challenges.

Integrate Quality Management into all deliverables, including policies, procedures, and manuals in support of geodetic resources; produce and analyze data by monitoring trends that could require updates to the Geodetic Section procedures with the purpose of reducing errors, delays, and increasing consistency.

Assist in the development of Subsurface Utility Design and Analysis (SUDA) models with consultant and in-house utility and survey data in 3D. Lead the Department in pre-survey utility owner coordination.

Produce drainage, hydraulic and utility system details, and drainage areas with insight into norms and engineering design standards for each. Produce preliminary alignments as needed and calculations of traffic tapers and sight distance to assess additional survey scope and risk.

Provide exceptional customer service to both internal and external customers, by providing technical guidance related to geodetics, coordinating with other disciplines as part of a matrix organization, exercising effective listening skills, providing prompt responses, maintaining complete and accurate documentation, and communicating effectively.

Assist in ensuring Geodetics deliverables are consistent, predictable, and repeatable to ensure consistently high levels of achievement, mitigation of risk, and an established track record of success by implementing statewide policy, data collection and processing standards, specifications, and direction. Utilize best practices and TDOT policy for the management of survey data, including access to existing data across the Regions.

**Additional Job Duties for the TDOT Transportation Engineering Specialist 4 include:**

Coordinate with the TDOT Technical Training Director and assist in the development and presentation of training that addresses the geodetics training program, acquired knowledge, risk management, TDOT performance metrics, governing rules and processes, reporting procedures, and emerging technologies related to transportation for the purpose of improving team performance, creating a stronger understanding of the transportation industry, inspiring new ideas, and developing skills.

Remain current on revisions to design codes, standards, and guidelines related to geodetics components, including trends and technologies; understand and follow the specifications for data collection used in the Regions, and assist in implementing policies and procedures related to geodetics. Collaborate on innovative strategies used as best practices for statewide quality assurance needs. Assist the State Geodetics Engineer, assist in the development, implementation, and maintenance of all State Specifications, Special Provisions, Circular Letters, and applicable standard guidance.

Perform quality assurance reviews of all survey products including ROW and property boundaries of increased complexity and limited evidence, Railroad title surveys, LIDAR registration and control, Aerial photogrammetric data extraction and Regional, corridor and project level control.

Perform quality assurance of Legal Description geometry and calls to monuments/adjoiners.

Support Preconstruction by attending public engagement events as a subject matter expert.

Produce survey products at an expert level for all deliverables in ORD supporting all survey activities in the PDN.

**Qualifications**

*The Transportation Engineering Specialist 1 and 2 are part of the Graduate Transportation Engineer (GTE) Program.*

**Transportation Engineering Specialist 3:**

- Bachelor's Degree
- 2 years of demonstrated competency in geodetics or related field.

**OR**

- Master's Degree
- 1 year of demonstrated competency in geodetics or related field.

**Transportation Engineering Specialist 4:**

- Bachelor's Degree
- 3 years of demonstrated competency in geodetics or related field.

**OR**

- Master's Degree
- 2 years of demonstrated competency in geodetics or related field.

**Ideal Candidate**

This position is a part of the career path series at TDOT. The Region Geodetics Transportation Engineering Specialist 3 and 4 possesses exceptional problem-solving and communication skills, which enables them to effectively articulate geotechnical data and technical concepts to stakeholders. They have an analytical mindset and great attention to detail, which helps them identify inefficiencies and opportunities for improvement that contribute to the success of geodetic projects. The Region Geodetics Transportation Engineering Specialist 3 and 4 understand that the best results are achieved through collective effort and effective communication.