TN TDOT
Department of Transportation

Data Visualization Technical Specialist
Planning Division – Forecasting and Visualization Section
$60,600 - $70,680 annually

Job Overview

The Data Visualization Technical Specialist supports the Planning Division's Forecasting and Visualization Section by transforming complex transportation datasets into interactive, intuitive visual content that enhances planning decisions, supports stakeholder understanding, and promotes data transparency. This position reports to the Data Visualization Team Lead.

This position collaborates with internal teams, including data analysts, Geographic Information System (GIS) professionals, modelers, and planners, as well as external partners such as Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), Transportation Planning Organization (TPOs), consultants, and local governments to interpret technical outputs and present actionable insights through dashboards, maps, and reports.

The Data Visualization Technical Specialist contributes to the development and maintenance of visualization tools and analytics used in performance reporting, policy communication, stakeholder engagement, and internal analysis. The role also supports consistency and statewide uniformity through the use of templates, documentation, and visualization standards, and supports quality control and quality assurance processes. The Specialist enhances internal capabilities through training and technical advice for Headquarters and Regions.

The position requires technical proficiency in data visualization tools (e.g., Power BI, ESRI ArcGIS Online, ESRI ArcGIS Pro) and programming languages (e.g., Python, Arcade), along with the ability to communicate complex data findings to both technical and non-technical audiences in the form of presentations or written documentation. Knowledge of usability principles and stakeholder-focused design is essential, applying usability principles and stakeholder-focused design.

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

Develop and maintain accurate, high-quality, and actionable dashboards, maps, and reports using data visualization software (e.g., Power BI, ESRI ArcGIS Online, ESRI ArcGIS Pro) and programming languages (e.g., Python, Arcade) to visualize transportation data and forecasting model outputs.

Ensure visualizations meet data governance, state and federal accessibility standards, and TDOT design standards to support internal and external communication.

Collaborate with Planning, GIS, and Information Technology (IT) teams and external stakeholders such as MPOs, RPOs, TPOs, consultants, and local governments to define visualization needs, integrate data sources, and implement effective visual solutions. Maintain and document a centralized repository of visualizations to ensure accessibility and version control.

Provide technical support to TDOT Headquarters and Region staff on visualization tools and practices.

Gather and apply user feedback to improve the clarity, layout, and functionality of visualization products, ensuring they remain intuitive and stakeholder-focused.

Research and apply emerging tools, methods, and industry practices to support innovation, efficiency, effectiveness, and continuous improvement in data visualization.

Additional Job duties for the Technical Specialist II and III include:

Develop accurate, actionable, and advanced visualizations that integrate multiple data sources to support strategic planning, grant applications, executive reporting, and informed decision making.

Support the development of reusable templates and metadata documentation to promote consistency, statewide uniformity, and accessibility across all visualization products.

Recommend visualization methods that align with audience needs, project goals, and data characteristics.

Additional Job Duties for the Technical Specialist III include:

Develop and provide internal training resources, mentor junior staff, and conduct peer reviews to support visualization quality, build team capacity, and support succession planning and continuous learning.

Coordinate the development and maintenance of style guides, visualization standards, and performance protocols to ensure alignment with TDOT policies, procedures, and national best practices.

Participate and present in external workgroups, peer exchanges, and professional forums to represent TDOT and evaluate emerging visualization tools and methods for potential applications.

Qualifications

TDOT Technical Specialist I

- Bachelor's Degree

TDOT Technical Specialist II

- Bachelor's Degree

- 1 year of demonstrated competency in data visualization, data analytics, transportation data and systems, visualization tools, data preparation and analysis, GIS, geospatial concepts, usability and accessibility, and collaborative development of data products.

TDOT Technical Specialist III
- Bachelor's Degree
- 2 years of demonstrated competency in data visualization, data analytics, transportation data and systems, visualization tools, data preparation and analysis, GIS, geospatial concepts, usability and accessibility, and collaborative development of data products.

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

The Data Visualization Technical Specialist is a detail-oriented and solutions-focused professional who enjoys translating complex information into clear, intuitive formats. They possess strong analytical thinking skills, an aptitude for creative problem-solving, and a commitment to continuous learning. This individual thrives in collaborative environments, communicates effectively with diverse audiences, and brings a thoughtful, user-centered perspective to their work. Adaptable and curious, the Data Visualization Technical Specialist is motivated by opportunities to improve processes, support team goals, and contribute to data-informed decision-making that benefits TDOT and Tennessee.