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.

Rail Engineering Transportation Engineering Specialist 3 & 4
Freight and Rail Safety & Engineering – Rail Engineering Team
$80,784 - $88,860 annually

Job Overview

The Rail Engineering Transportation Engineering Specialist 3 & 4 is responsible for applying engineering principles to support the planning, development, analysis, and review of rail infrastructure projects and programs in Tennessee. The Rail Engineering Transportation Engineering Specialist 3 & 4 contributes to the safety, design, and maintenance of public rail-highway crossings and rail systems, while ensuring compliance with federal and state engineering standards and safety regulations. The position requires effective collaboration, critical thinking, and independent problem-solving in a team-oriented environment.

The Rail Engineering Transportation Engineering Specialist series will independently lead and execute engineering work related to Tennessee's rail infrastructure. This position is responsible for overseeing complex and high-risk rail projects, identifying and resolving technical issues, and guiding the development and implementation of rail safety solutions.

The Rail Engineering Transportation Engineering Specialist works closely with internal and external stakeholders to ensure that rail projects align with department objectives, comply with federal and state standards, and promote public safety. The Rail Engineering Transportation Engineering Specialist will participate in strategic initiatives to innovate and optimize rail engineering practices within the Freight and Rail Safety & Engineering Section.

Essential Job Responsibilities of Transportation Engineering Specialists 3 and 4 include:

Support the Rail-Highway Crossing (Section 130) Program by conducting safety assessments at public grade crossings using FRA and TRIMS data. Participate in identifying locations requiring crossing separation, relocation, or protective devices. Support the preparation of annual reports for FHWA. Assist in maintaining state and federal rail crossing inventories.

Conduct field reviews of railroad crossings and apply Part 8 of the MUTCD for warning device adequacy. Prepare recommendations for rail safety improvement projects on federal-aid routes. Analyze crash data to support enforcement and safety enhancement activities.

Assist project teams with engineering input at milestone phases in accordance with the Project Delivery Network (PDN). Review plans for constructability, maintainability, and compliance with engineering standards. Coordinate with other disciplines, project

teams, and consultants.

Maintain accurate records of inspections, project documentation, and crash reports. Assist in updating engineering databases and inventories. Ensure data is collected and reported in accordance with TDOT, FHWA, and FRA standards.

Support the implementation of quality assurance/control processes. Ensure engineering work aligns with state and federal code requirements. Collaborate in reviewing and updating policies and procedures.

Attend technical training programs and apply learned knowledge. Participate in peer exchange programs and research efforts. Stay current on engineering standards and best practices in rail safety.

Contribute to developing scopes of work for consultant acquisition. Participate in consultant evaluations and reviews of deliverables. Monitor consultant performance under supervision.

Additional Job Responsibilities for the Transportation Engineering Specialist 4 include:

Using crash history and risk data, identify, evaluate, and prioritize hazardous rail crossings. Develop the scope, cost estimates, and schedules for rail crossing safety improvements. Coordinate and develop contracts for crossing improvements with railroads and local governments. Review and approve railroad and local government invoices. Submit annual program reports to FHWA.

Independently review engineering plans and specifications for rail infrastructure projects. Evaluate compliance with the MUTCD, FHWA, and FRA regulations, and TDOT rules and design standards. Identify constructability and maintainability issues; recommend engineering solutions. Approve final plans for project implementation in coordination with the Team Lead.

Implement QA/QC measures for all engineering work produced or reviewed. Ensure that all deliverables meet TDOT's policies and the FRA's regulatory framework. Audit internal processes and recommend improvements.

Contribute to the development of rail engineering policies, manuals, and technical guidance. Identify and implement best practices and emerging technologies in rail safety. Participate in peer exchanges and national committees as TDOT's subject matter expert.

Collaborate with Project Teams across disciplines to align engineering deliverables. Serve as the primary engineering contact and participate in freight and safety planning efforts with FHWA, FRA, RPOs, MPOs, railroad companies, railroad authorities, and state and local agencies.

Assist in the development of RFPs and serve on consultant selection committees. Oversee consultant performance and ensure deliverables meet scope and standards. Manage tasks, review and approve invoices, and conduct performance evaluations of consultants.

Provide technical guidance and on-the-job training for junior team members and new hires. Review and provide feedback on their work products. Support succession planning efforts within the Rail Engineering Team.

Qualifications

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

Transportation Engineering Specialist 3:

- Bachelor's Degree in Engineering

- 2 Years of demonstrated competency in rail or freight management or related field.

OR

- Master's Degree in Engineering
- 1 year of demonstrated competency in rail or freight management or related field.

Transportation Engineering Specialist 4:

- Bachelor's Degree in Engineering
- 3 years of demonstrated competency in rail or freight management or related field.

OR

- Master's Degree in Engineering
- 2 years of demonstrated competency in rail or freight management or related field.

Ideal Candidate

The Rail Engineering Transportation Engineering Specialist 3 & 4 is a driven and detail-oriented professional with a solid foundation in transportation engineering and a strong commitment to public safety and infrastructure integrity. They possess sound problem-solving skills, a working knowledge of federal and state regulations, and a collaborative mindset. They exhibit advanced technical acumen, strong project management capabilities, and the ability to develop innovative solutions to complex rail engineering challenges. Across both roles, candidates must excel in communication, demonstrate a proactive approach to learning and improvement, and uphold TDOT's mission of delivering a safe and efficient transportation system.