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 statewide with four region facilities in Knoxville, Chattanooga, Nashville, and Jackson. TDOT Aeronautics is located near the John C. Tune Airport in Nashville, TN.

Rail Engineering Transportation Engineer
Freight and Rail Safety & Engineering – Rail Engineering Team
$99,348 annually

Job Overview

The Rail Engineering Transportation Engineer provides discipline-specific technical expertise on rail projects within the Tennessee Department of Transportation (TDOT). Working in a matrixed project-delivery environment, the incumbent plans, designs, and helps deliver rail-related infrastructure and safety improvements, ensuring projects meet scope, schedule, budget, and quality goals while complying with state and federal rail requirements.

Within TDOT's matrix project-delivery structure, the Rail Engineering Transportation Engineer supplies discipline-specific guidance to highway, freight, and passenger-rail projects, resolving unique technical challenges so each assignment meets its scope, schedule, and budget commitments. Core knowledge spans MUTCD requirements, and state/federal project-delivery rules. The Rail Engineering Transportation Engineer is also required to apply soft skills: critical thinking, clear communication with railroads and local agencies, and the ability to lead teams through change while championing new technologies such as predictive-risk analytics or new traffic control devices and techniques.

Essential Job Responsibilities

Assist in administering the FHWA Section 130 Program and secure federal funds for projects. Keep the Federal Rail Administration (FRA) National & State crossing inventories updated. Run data-driven risk rankings and publish an annual upgrade schedule for high-risk crossings. Lead diagnostic team reviews to recommend warning and regulatory devices per MUTCD Parts 2, 3, 4, 6, and 8.

Investigate crashes and compile crash files that support safety project development and enforcement under Tenn. Code §65-11-113.

Evaluate highway projects near railroad crossings to ensure adequate warning devices are installed for compliance with 23 CFR 646.214.

Serve as discipline point of contact (POC), providing rail-engineering expertise and defending design criteria in the Project Development Network (PDN) documents. Coordinate with the Project Manager and matrix team on scope, schedule, or budget-risk items. Execute rail-specific design activities in line with PDN checklists and deliverables. Carry out risk assessments and embed mitigations to keep projects on track.

Participate in multidisciplinary plan reviews as part of TDOT's QA process. Maintain formal QA/QC procedures and checklists linking quality to outcomes. Create and track performance metrics (e.g., first-cycle approval rate, unit-cost trends). Integrate risk-mitigation actions identified during reviews into project records.

Update and submit FRA National & State crossing records to keep asset data accurate. Compile crash files with reports, photos, videos, and legal documents for each incident. Apply Records Disposition Authorization (RDA) policies to all program documents. Log stakeholder communications and project documentation for audit readiness.

Represent TDOT at public meetings and hearings, addressing stakeholder concerns. Provide prompt, courteous responses to internal and external inquiries. Maintain complete, accurate correspondence logs for transparency and follow-up. Coordinate routinely with federal and state partner agencies when developing processes or systems.

Draft acquisition plans and RFP scopes for professional engineering services. Set scoring criteria, participate in selection committees, and document evaluations under the Brooks Act. Negotiate fees, schedules, and deliverables to protect TDOT interests. Administer contract task orders, invoice approvals, performance grading, and close-out debriefs.

Participate in peer exchanges and workshops to share knowledge and gain new insights. Research national best practices and update TDOT guidance accordingly. Champion pilot projects and deployments of emerging technologies that boost efficiency and safety. Monitor results and roll successful innovations into standard workflows for statewide consistency

Qualifications

- Bachelor's Degree in Engineering
- Licensed Professional Engineer (PE)
- 4 Years of Demonstrated Competency in rail or freight management or related field.

Ideal Candidate

The Rail Engineering Transportation Engineer is an expert in all aspects of rail design. They possess strong attention to detail and are committed to improving safety and performance. With a wealth of technical expertise, they offer unique solutions to roadway design challenges. The Rail Engineering Transportation Engineer's analytical skills allow them to predict and prevent issues before they become problematic, ensuring efficient and reliable transportation designs. They possess excellent communication and collaboration skills, which enable them to effectively communicate complex technical information with stakeholders at all levels.