

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.



Engineering Concepts Transportation Engineer

Project Management Division – Engineering Concepts and Statewide Programs
Section
Nashville, TN
\$99,348 annually

Job Overview

The Engineering Concepts Transportation Engineer provides technical expertise in engineering concept development and evaluation for the Engineering Concepts and Statewide Programs Section. This position collaborates with TDOT Divisions, Project Teams, FHWA, and external stakeholders to develop and evaluate engineering concepts as early planning activities for projects ranging in complexity from simple to complex. The Transportation Engineer implements acquired knowledge of TDOT policy and standards, focusing on ensuring early discipline involvement and early resource identification, assisting in flagging potential risks, and coordinating the development of accurate cost estimates for the use in evaluating engineering concept projects.

The Engineering Concepts Transportation Engineer ensures Department policies, technical guidance, engineering concept standards, and procedures are incorporated into engineering concept deliverables and assists in implementing the TDOT Quality Management Guidelines. The Transportation Engineer must be able to assess the input and needs from stakeholders, exercise engineering judgment in the development of engineering concepts, and meet policy and design standards while balancing risks, impacts, cost, and the project need or purpose. This position must effectively articulate technical engineering concepts through training, mentoring, and collaborating as part of a matrix organization.

Essential Job Responsibilities

Contribute to Project Teams as part of a matrix organization by providing technical expertise in the development and evaluation of engineering concepts as early project activities in support of legislative projects, potential economic development projects, interstate connector projects, and TDOT and local government bridge replacement projects for projects that range in complexity and risk from simple to complex; coordinate with TDOT Regions, Divisions, and stakeholders to ensure early involvement in the development of engineering concepts; define critical goals and target outcomes for engineering concept projects; establish project design criteria, develop potential alternatives, prepare designs for applicable alternatives, apply context-sensitive design strategies; coordinate design review with TDOT Regions, Divisions, and stakeholders to ensure constructability, mitigate maintenance concerns, and confirm project needs are adequately addressed; revise and finalize engineering concepts designs; develop/coordinate project cost estimates; assist with

risk assessments; prepare concept reports documenting evaluation and recommendations; coordinate with TDOT Regions, Divisions, and stakeholders to finalize documentation; and as applicable, coordinate and develop all required analysis and documentation for interstate access requests in compliance with TDOT and FHWA requirements.

Verify compliance with TDOT Quality Management Guidelines with respect to all engineering concepts work products to ensure the accuracy of project controls/design criteria, designs, cost estimates, analysis, and documentation; to ensure consistency with TDOT standards and policy; to ensure consistency with FHWA requirements (as applicable); to proactively address constructability and maintenance concerns; and to mitigate potential risk.

Routinely collaborate with HQ disciplines, Asset Management, Regions, and Quality Teams to identify and document knowledge on industry best practices to avoid past errors and ensure TDOT project successes. Assist with modifications to all applicable policies, procedures, design standards, specifications, and special provisions.

Collaborate with the TDOT Technical Training Director and assist in the development of training that addresses acquired knowledge, including technical elements and emerging technologies related to engineering concepts for the purpose of improving team performance, creating a stronger understanding of transportation design and analyses elements as they relate to the transportation industry, inspiring new ideas, and developing skills.

Remain current and engaged on revisions to the Project Delivery Network (PDN), Federal and State regulations, standards, and guidelines related to transportation design and analysis elements; adopt new technologies and best practices that drive Tennessee's transportation projects forward; and assist in implementing policies and procedures related to transportation and engineering concepts. Collaborate on innovative strategies and maintain awareness of engineering concept-related industry trends and best practices.

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

Assist in the development of a Consultant Acquisition Plan (CAP) and assist in the oversight of external partners by serving on technical review committees, including assisting with RFP development, attending project-specific marketing meetings, assisting with determining scoring criteria, assisting with project information sessions when applicable, serving as a scorer as part of the consultant acquisition process, and attending de-briefs for consultants where usable feedback must be provided.

Assist in ensuring engineering concept deliverables are consistent, predictable, and repeatable to maintain consistently high levels of achievement, mitigate risk, and establish a track record of success through the implementation of policy, standards, and acquired knowledge. Utilize best practices and TDOT policy for the incorporation of transportation design and analyses elements, including access to acquired knowledge across the Regions.

Qualifications

- Bachelor's Degree in Civil Engineering
- Licensed Professional Engineer (PE)
- 4 years of demonstrated competency in transportation engineering

Ideal Candidate

The Engineering Concepts Transportation Engineer is a highly skilled problem solver who possesses exceptional communication abilities and technical expertise. The Transportation Engineer is experienced in working with the various TDOT disciplines and ensures their input occurs early and throughout the development and analyses of engineering concepts. They understand the importance of teamwork and are dedicated to working in a team to foster collective expertise to achieve goals, while maintaining good coordination and cooperation with stakeholders. With a wealth of technical expertise, the Transportation Engineer offers unique solutions that drive innovation and efficiency. The Engineering Concepts Transportation Engineer's analytical skills allow them to predict and prevent issues before they become problematic, ensuring efficient and reliable engineering concepts development and analyses.