

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.



Senior Bridge Design Transportation Engineer

Engineering Division – Bridge Design Section

Nashville, TN

\$104,292 annually

Job Overview

The Senior Bridge Design Engineer will provide support to Project Teams directly responsible for delivering projects for all phases of the Project Delivery Network (PDN) in accordance with the project's scope, budget, and risk. These projects will range in complexity and risk from simple to highly complex. The Bridge Design role requires collaboration with multiple TDOT divisions, project team members, Federal Highway Administration (FHWA), contractors, and other external stakeholders. It requires critical thinking and engineering judgment to problem solve and make well-informed decisions that increase the safety, performance, sustainability, and efficient delivery of TDOT's transportation system. This position provides engineering functions in the specialized area of bridge design and is responsible for designing and preparing preliminary and final plans, propose materials, and cost estimating for bridge construction projects or miscellaneous facilities utilizing standard design practices and computerized programs.

The Senior Bridge Design Engineer ensures Department policies, technical guidance, and procedures related to TDOT's Bridge Design program administers and manages software and websites to ensure they are current and accurate for incorporation into the project delivery process. This position assists in implementing the Quality Assurance Program as part of the construction division's activities. This position must effectively articulate technical engineering concepts through training, mentoring, and collaborating as part of a matrix organization. The Senior Bridge Design Engineer will assist with ensuring all applicable documentation and data is collected and stored to assist with timely and accurate invoicing and project close-outs.

Essential Job Responsibilities

Coordinate resources and assist Project Managers as the Bridge Design Subject Matter Expert (SME) in the management of external partners together with the Professional Services Division, including the negotiation of contracts, review of consultant invoicing, development of scopes, management of contract tasks, compliance monitoring, and completion of consultant grading. Integrate Quality Management into all Bridge Design products, systems, and deliverables.

Routinely design and prepare preliminary and final plans for the bridges, culverts, and miscellaneous highway facilities using TDOT's current software bridge programs. Design and prepare contract documents utilizing inspection reports, existing plans, field reviews, and electronic survey data for bridge and miscellaneous highway facility construction projects according to American Association of State Highway and

Transportation Officials (AASHTO) and TDOT's current manuals and guides for design. Compute quantities and estimate preliminary and final bridge costs. Design bridge elements utilizing TDOT bridge design computer programs. Participate in project meetings and field inspections to facilitate troubleshooting of existing design and construction concerns/conditions. Provide recommendations for scope of work, construction methodologies, traffic problems, and recommendations for materials and special equipment.

Assist in the development and delivery of Bridge Design training and mentoring to TDOT and external engineering staff. Assist in the development of training and technical guidance that addresses acquired knowledge, risk management, technical design elements, 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. Administer and manage TDOT's Bridge Design program and software.

Assist in the development of a consultant acquisition plan and assist in the oversight of external partners by serving on selection committees for professional engineering services as part of the Brooks Act, 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 at de-briefs for consultants where usable feedback must be provided.

Manage and take ownership of change, clarify your vision of TDOT's Bridge Design efforts, communicate effectively, remain transparent, and hold yourself accountable to develop, maintain, and grow TDOT's construction estimating capabilities, data, software, and systems.

Serve on Project Teams as part of a matrix organization by providing Bridge Design expertise and reviews, assisting in developing proposal contract documents for project lettings, and contributing to bid reviews and bid analysis for alternative delivery projects. Ensure alignment and compliance with Division and Section Metrics and Performance goals.

Provide exceptional customer service to both internal and external customers, exercising effective listening skills, providing prompt responses, maintaining complete and accurate documentation, and communicating effectively. Remain current on Bridge Design related industry trends and national best practices by participating in AASHTO, industry associations, and other appropriate committees.

Assist in ensuring Bridge Design deliverables are consistent, predictable, and repeatable to provide consistently high levels of achievement, mitigation of risk, and an established track record of success. Research information to stay up to date on design standards, drafting standards, and computer applications and software programs. Assist with modifications to all applicable policies, procedures, design standards, specifications, and special provisions.

Develop and implement a tracking mechanism that ensures the bridge design program, software, and systems are evolving and meet all TDOT needs.

Qualifications

- Bachelor's degree in civil engineering with an emphasis in structural engineering preferred
- Licensed Professional Engineer (PE)
- 6 years of demonstrated competency in developing and/or constructing transportation projects

Ideal Candidate

The Senior Bridge Design Engineer brings the team a remarkable blend of technical expertise and knowledge. They are exceptional communicators, proficient at seamlessly engaging with project teams and leadership. They take a meticulous approach with each project, ensuring that every aspect of bridge design meets the highest quality and safety standards. The Senior Transportation Engineer for Bridge Design is a natural problem solver who overcomes obstacles with innovative solutions. They understand that the best outcomes are achieved through collective effort and effective communication.