

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.



Statewide Bridge Design Transportation Engineer

Engineering Division – Bridge Design Section

Nashville, TN

\$115,008 annually

Job Overview

The Statewide Bridge Design Engineer is a statewide transportation engineer position that will support all aspects of TDOT's Bridge design processes and systems as part of a Project Team directly responsible for delivering projects for all phases of the Project Delivery Network (PDN) in accordance with the project's scope, budget, and risk, and the TDOT Strategic Plan. These projects will range in complexity and risk from simple to highly complex. The role of this position requires collaboration with multiple TDOT Divisions, project team members, contractors, consultants, 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.

The Statewide Bridge Design Engineer ensures Department policies, technical guidance, procedures, software, and systems-related to structural design are current and accurate for incorporation into the project delivery process. Assists in implementing the Quality Assurance Program as part of the Engineering Division's activities to reduce errors, delays, and contractor claims. The Statewide Bridge Design Engineer assists with monitoring and managing the scope, permitting, schedule, and budgets of all bridge and ancillary design projects and working with the Project Management Division to make the required adjustments as necessary to ensure that the work completed is in alignment with the Department's Asset Management and Strategic goals.

Essential Job Responsibilities

Serve on Project Teams as part of a matrix organization as the Statewide Bridge Design Engineer Subject Matter Expert (SME) and liaison between the Bridge Design Section, Region Design Leads, and national organizations that supports transportation design elements; provide quality assurance review for design preliminary and final plans/specifications, purpose materials, and collaborate with region staff and contractors to ensure project delivery compliance according to contract documents; coordinate field issues with the region, design division, and contractor; ensure timely resolution(s) to all field issues. Develop the project vision in alignment with department Asset Management objectives and funding allocation; defining critical goals and intended outcomes for the scope, permitting, schedule, budget, and quality in coordination with the Project Manager; applying context-sensitive design strategies; implementing innovative concepts; proactively assessing risk factors; and, for Project Teams associated with Alternative Delivery Contracts, forecasting the

cause and effect of implementing Alternative Technical Concepts related to Request for Proposals (RFPs), project cost, and construction timing. Optimize the Project Team's ability to mitigate risk and address unanticipated challenges while meeting the project's scope, schedule, and budget.

Integrate Quality Management into all deliverables in compliance with Asset Management's business objectives, plans, specifications, standards, policies, procedures and alignment with the PDN with the purpose of reducing plan errors, right-of-way delays, construction delays, and contractor claims; assist Project Teams by providing reviews as part of TDOT's Quality Assurance Program.

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

Routinely identify, document, and effectively collaborate with HQ and Asset Management on acquired knowledge that includes maximizing project successes, acknowledging national best practices, and avoiding past errors. Partner with industry, FHWA, and internal staff to lead a structural and ancillary structures process improvement team. This team will be responsible for improving the delivery and critical issues of concern needed to ensure safety for the public, workers, and staff. The committee will develop program strategies, policy recommendations, resolve major field issues, and lead efforts that continually improve structural and ancillary structures program, procedures, guidance documents, specifications, standards, special provisions, project delivery mythologies, and techniques.

Assist in the development of Consultant Acquisition Plans (CAP) and oversight of external partners by serving on selection committees for professional engineering services as part of the Brooks Act. Provide support in the development of the Request for Proposal (RFP), attending project-specific marketing meetings, determining scoring criteria, participating in project information sessions, serving as a scorer as part of the consultant acquisition process, and attending de-briefs with consultants. Conduct independent reviews of the engineer's cost estimate at project milestones during pre-construction activities and provide the final cost estimate that encompasses relevant factors related to the scope of a project, the cost of resources, and national and global market trends.

Remain current and participate on national committees related to the placement of Bridge Design within TDOT's Structures Section as it relates to best practices, safety improvements and design recommendations; assist with the development of legislation and regulations that seek to increase safety, inspire innovation, and improve mobility for TDOT employees, contractors, and the traveling public; and integrate safety considerations and statutory and regulatory requirements into TDOT's guidance documents, processes, and procedures. Participate in regional/national working groups and training opportunities related to Bridge Design.

Provide exceptional customer service to internal and external customers, exercising effective listening skills, providing prompt responses, maintaining complete and accurate documentation, coordinating with other disciplines as part of a matrix organization, and communicating effectively. Assist in the development and delivery of Bridge Design training, mentoring, and technical guidance to TDOT and external stakeholders that addresses acquired knowledge, risk management, technical design elements, and emerging technologies related to Bridge Design for the purpose of improving team performance, creating a stronger understanding of the transportation industry, inspiring new ideas, and developing skills.

Coordinate and perform quality control reviews with the Design Team Leads and assist as needed on various tasks within the unit. Research information to stay up to date on design standards and computer applications. Attend training that is relevant to the position as requested by the supervisor. Assist in field inspection of assigned projects

to determine existing conditions and construction related issues. Provide recommendations for scope of work, construction methodologies, traffic problems, and specifications for materials and special equipment.

Assist in ensuring the Bridge Design Section is consistent, predictable, and repeatable to provide consistently high levels of achievement, mitigation of risk, and an established track record of success. Ensure alignment and compliance with Division and Section Metrics and Performance goals.

Work on special assignments as directed from Division leadership related to AASHTO, Industry, or Research projects.

Qualifications

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

Ideal Candidate

The Statewide Bridge Design Engineer is a technical expert who possesses an in-depth understanding of structural engineering principles and a wealth of experience in developing innovative, efficient, and safe solutions for bridge design structures. They are highly skilled in collaborating with project managers and project teams across the state, which results in a cooperative environment that enables efficient communication and seamless problem-solving.