

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 Transportation Engineer – Concrete and Aggregate Engineer

Materials & Tests Division – Materials & Pavements Section

6601 Centennial Blvd, Nashville, TN

\$104,000 annually

Job Overview

The Concrete and Aggregate Engineer must use a risk-based, data-driven process to ensure optimal use of concrete materials – cast in place, pre-cast, and all component materials – to maximize the service life of TDOT's transportation infrastructure and develop statewide concrete-related technology advancements. This position will effectively manage research projects, coordinate concrete and aggregate policy, serve as the primary liaison with the Concrete and Aggregate producers, and ensure the exchange of information between Project Team members, contractors, material suppliers and producers, CEI, and other stakeholders involved with concrete and aggregate use on TDOT projects. This position will develop Department policies and provide technical guidance to deliver the Concrete and Aggregate Program as part of the Division's strategic plan.

This position serves as the Department's expert in specifications, mix design, testing, accepting, troubleshooting, and construction methods for concrete and aggregates mixes, component materials, and products. This position oversees all research conducted by or for the department and is responsible for developing implementable changes to the program. This position assists project teams with implementing new technologies and specifications for concrete materials. This position serves as a resource to Project Teams and industry in implementing and troubleshooting new technology/methods/specifications. This position leads statewide training for all concrete and aggregate related materials certifications.

Essential Job Responsibilities

Manage concrete and aggregate related research. Along with team lead for Materials Control continuously monitor approved concrete and aggregate materials to ensure quality materials are supplied to projects. Assist the Materials & Pavements Manager in maintaining open relations and encourage partnering with the Aggregate and Concrete Patterners.

Assist Project Managers 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.

Establish and ensure that there is a direct relationship between quality and work outcomes by developing and implementing concrete and concrete products related standards. Coordinate with the Quality Team Lead in assisting with quality control tasks as per the TDOT Quality Assurance Process with respect to concrete and aggregates materials.

Assist in the development of consultant acquisition plans 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.

Manage change, clarifying the vision, taking ownership of the change, communicating effectively, remaining transparent, and holding yourself and others accountable throughout the process.

Assist Project Teams as part of a matrix organization in developing the vision for projects using aggregate bases, cast-in-place concrete and/or pre-cast concrete components; assist Pavements Team in 5th stage appraisals of concrete pavements; define critical goals and intended outcomes for the scope, schedule, budget, and quality in coordination with the Project Manager related to concrete and aggregates materials; support Project Management staff by writing any cast-in-place and/or pre-cast concrete scope of work in collaboration with TDOT Environment, TDOT Maintenance, and TDOT Construction; develop concrete and aggregates related materials and construction specifications and mix design guidance; effectively coordinate with other units within TDOT to mitigate and troubleshoot constructability and maintenance issues; proactively assess risk factors; and, forecast the cause and effect of implementing Alternative Technical Concepts related to the RFPs, project cost, and construction timing.

Lead in providing 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 industry trends and national best practices by participating in multistate/national level organizations National Concrete Consortium (NC²), National Precast Concrete Association (NPCA), Precast/Prestressed Concrete (PCI), American Association of State Highway and Transportation Officials (AASHTO) Committee on Materials and Pavements (COMP), etc.) to bring back new ideas for implementation to the TDOT program.

Develop and implement a tracking mechanism that ensures the contractual agreements, scope, schedule, budget, and quality of all concrete and aggregates materials projects support the delivery of the Department's Work Program while also ensuring compliance with Federal and State specification and design guidance and regulations.

Assist in ensuring concrete and aggregates materials deliverables are consistent, predictable, and repeatable to provide consistently high levels of achievement, mitigation of risk, and an established track record of success.

Qualifications

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

Ideal Candidate

The Concrete and Aggregate Engineer is an expert in all things related to concrete materials, mixes, and products. They are sought out for their input to assist with everything from interpreting technical documentation and project delivery methods to the latest civil engineering research and innovations. Beyond technical expertise, the Concrete and Aggregate Engineer has a firm grasp of emerging technologies relating to concrete materials and is a well-respected teacher and mentor. They interact with individuals across the entire Department, and they are well-known internally and externally; their customer service and high-quality ability to apply technical concepts to transportation projects are recognized by all as critical to TDOT's success. They are inquisitive problem-solvers and strong communicators who can easily translate complex concepts to a wide range of audiences.