

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.



TSMO Senior Transportation Engineer Traffic Operations Division – TSMO Section Nashville, TN \$104,292 annually

Job Overview

The Transportation Systems Management and Operations (TSMO) Senior Transportation Engineer will manage all aspects of TDOT's TSMO processes and systems as part of a Project Team and is directly responsible for delivering projects for all phases of the Project Delivery Network (PDN) according to the project's scope, schedule, budget, and risk. These projects will range in complexity and risk from simple to highly complex. The TSMO Senior Transportation Engineer will provide innovation, leadership, guidance, and support to produce quality deliverables for all sections in the Traffic Operations Division, including the development and application of manuals, training, Intelligent Transportation Systems (ITS), communications, permits, and freeway operations. This role 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 the Department's transportation system.

The TSMO Senior Transportation Engineer ensures Department policies, technical guidance, procedures, software, and systems are current and accurate for incorporation into the project delivery process. This position implements the Quality Assurance Program as part of the Headquarters Traffic Operations Division's activities. This position must effectively articulate quality concepts through training, mentoring, and collaborating as part of a matrix organization. The TSMO Senior Transportation Engineer will support and assist the TSMO Section and Region Traffic Operations Team with the review of complex traffic engineering studies. This position will assist and participate in the development and implementation of an ITS Strategic Plan and ensure alignment with the organizational TDOT Strategic Plan, Statewide TIM Strategic Plan, and the TSMO Program Plan, including the application of emerging technologies that support TSMO safety-related improvements and coordinator travel reliability. The TSMO Senior Transportation Engineer will research national best practices to drive innovation and efficiency within each section and technical unit as part of the Traffic Operations Division.

Essential Job Responsibilities

Serve on Project Teams within a matrix organization by providing technical expertise in TSMO elements, aligning project vision with Asset Management objectives and TDOT's quality requirements. Define quality goals with the Project Manager, confirm traffic operations strategies, assess risks, evaluate innovative concepts, and assist quality team members accordingly. For Alternative Delivery Contracts, analyze the

impacts of Alternative Technical Concepts on Request for Proposals (RFPs), project quality, and life-cycle outcomes. Ensure integration of Quality Management across all deliverables in compliance with Asset Management objectives and the PDN, focusing on reducing plan errors, delays, and contractor claims. Support the Quality Assurance Program through targeted reviews, promote consistency in Traffic Operations products, processes, and procedures across projects and Regions, and ensure early development of cost estimates and schedules based on actual project context rather than solely on historical factors.

Support and assist the TSMO Section, Region Traffic Operations and Permits, Transportation Management Centers (TMCs), and Highway Response Teams with review of complex traffic engineering studies and analyses, safety studies, congestion mitigation modeling, and other engineering and technical studies/analyses to identify operational mitigation needs. Provide traffic operations data-driven decisions that improve corridor safety, reduce congestion, and improve travel time reliability.

Assist in developing the TSMO aspects of a Consultant Acquisition Plan (CAP) and help oversee external partners. Serve on selection committees for professional engineering services as part of the Brooks Act; assist with TSMO provisions during RFP development, attend project-specific marketing meetings, assist with determining scoring criteria, assist with project information sessions, when applicable, serve as a scorer as part of the consultant acquisition process, and attend de-briefs for consultants where usable TSMO feedback must be provided.

Assist with tracking, monitoring and managing the scope, schedule, and budgets 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. Routinely collaborate with the TSMO Section, HQ and Asset Management to identify and document knowledge on industry best practices to avoid past errors and ensure TDOT project successes. Brief leadership with metrics associated with TSMO program reviews. Assist with modifications to applicable policies, procedures, standards, specifications, and special provisions.

Stay current on revisions to design codes, standards, and guidelines including AASHTO and other national best practices related to TSMO, with a focus on emerging trends and technologies that improve safety, reliability, and operational efficiency. Regularly review applicable guidance from FHWA, ITS America, TRB, National Cooperative Highway Research Program (NCHRP), NOCoE, and other relevant sources to keep stakeholders informed of updated best practices, operational efficiencies, and analytical approaches that enhance complex project delivery and support effective risk assessment.

Guide efforts to evaluate, recommend, and integrate innovative solutions that reduce congestion and enhance system performance. Serve as a departmental representative on TSMO-related committees and workgroups and provide expert guidance in traffic operations and reliability modeling through the development and application of software programs, methodologies, specifications, procedures, and policies. Ensure compliance with applicable statutory and regulatory requirements by embedding them into TDOT's TSMO guidance documents, processes, policies and procedures.

Provide exceptional customer service to both internal and external customers; mentor and provide technical guidance; coordinate with other disciplines as part of a matrix organization, exercise effective listening skills, provide prompt responses, maintain complete and accurate documentation, and communicate effectively.

Assist and support the development of training that addresses asset management objectives, risk management, technical TSMO elements, and emerging technologies related to safety and travel reliability in transportation for the purpose of improving team performance, creating a stronger understanding of the transportation industry, inspiring new ideas, and developing skills.

Assist in ensuring TSMO Section 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 TSMO Senior Transportation Engineer demonstrates a deep understanding of engineering principles, standards, and regulations related to transportation infrastructure. They possess strong analytical skills, attention to detail, and the ability to assess complex design documents and identify potential issues or deficiencies. The TSMO Senior Transportation Engineer is committed to quality, has excellent communication and interpersonal skills, and can effectively explain complex concepts to and collaborate with cross-functional teams and stakeholders. The TSMO Senior Transportation Engineer is passionate about maintaining the highest standards of quality and innovation. They are a detail-oriented problem solver with initiative and tenacity, skillfully navigating challenges and providing innovative solutions that contribute to the overall success of TDOT.