

## 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.



### **TSMO Transportation Engineer** Region Operations – Traffic Operations Section \$99,348 annually

#### **Job Overview**

The Transportation Systems Management and Operations (TSMO) Transportation Engineer in the Region implements integrated strategies into TDOT's transportation network that leverage technology, restore performance, and increase travel time reliability. This position partners with the Traffic Design Division, Asset Management, Region TMCs, Highway Response, and Project Teams to implement a proactive and predictive approach for addressing congestion and increasing safety.

The TSMO Transportation Engineer optimizes the technological and operational integration of TDOT's infrastructure and dynamically manages congestion based on predictive traffic conditions. This position supports the Region through the deployment of Active Traffic Management strategies, Integrated Corridor Management, and Choice Lanes to improve a corridor's level of service. This position must effectively articulate technical engineering concepts through training, mentoring, and collaborating as part of a matrix organization.

#### **Essential Job Responsibilities**

Strengthen Region Operations teams by providing technical expertise and support for traffic operations-related challenges, including traffic and safety studies that address roadway deficiencies, traffic volume, crash patterns, and safety enhancements; operating and supporting ITS technologies; deploying emergency management strategies to reduce primary and secondary crashes; implementing Active Traffic Management strategies that result in concerted performance gains across TDOT's transportation network; assisting with complex work zone scenarios to optimize safety; addressing legislative requests related to operational concerns; coordinating with local jurisdictions on corridor management to integrate the efficiency of all transportation modes; providing local expertise to the Traffic Operations Division related to agreement mechanisms; assisting TMCs with special event management; performing an analysis of developer-driven traffic signals and possible countermeasures; reviewing median opening requests; maintaining corridor performance metrics and aggregated traffic signals that identify real-time congestion locations; and assisting in the operations of managed lanes to ensure reliability.

Verify compliance with the Quality Management Guidelines regarding Traffic Operations elements, including safeguarding the performance of the transportation network; identifying operational and maintenance concerns that should be considered once the strategy is deployed; and mitigating construction delays and contractor claims. Assist the Quality Teams by providing reviews in alignment with the Project Delivery Network (PDN) and TDOT's Quality Assurance Guidelines. Identify potential

constructability and maintenance concerns in proposed designs and make recommendations for proactive solutions with other technical disciplines to ensure the needs of the project are met.

Assist with routinely identifying, documenting, and effectively collaborating with Region Traffic Design, Region Traffic Operations, and HQ Traffic Operations on acquired knowledge that includes analyzing improvements to determine effectiveness, maximizing project successes, acknowledging national best practices, and avoiding past errors. Assist with modifications to all applicable policies, procedures, standards, specifications, and special provisions.

Contribute to Project Teams as part of a matrix organization by providing traffic operations expertise related to TSMO elements, defining expectations for how the Project Team manages operational risk; assisting in developing the project vision in alignment with Project Management and Asset Management; assisting in defining critical goals and intended outcomes for the scope, schedule, budget, and quality in coordination with the Project Manager related to TSMO elements. Participate in Risk Management Assessments providing input at all applicable project milestones per the PDN; assist in support of Project Management staff with respect to the Traffic Operations Scope of Work in collaboration with TDOT Environment, TDOT Maintenance, and TDOT Construction; apply context-sensitive traffic operations methodologies; attend public meetings as a Department representative to assist with addressing stakeholder concerns; and effectively coordinate with other disciplines within TDOT to address all potential traffic operations elements as part of the Functional Design Plans development per the PDN. Provide approvals on traffic operations-related products and deliverables, when applicable and proactively assess risk factors related to legal aspects, public relations, and safety for traffic operations elements.

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

Remain current and engaged on revisions to design codes, standards, and guidelines related to traffic operations elements, adopt new technologies and best practices that increase throughput and safety for TDOT's transportation network; and assist in implementing policies and procedures related to traffic operations. Collaborate on innovative strategies used as best practices for mitigating travel time delays, coordinating the management of corridors, and ensuring the interoperability of TSMO technologies. Assist in implementing a tracking mechanism that ensures the traffic operations program, software, and systems are evolving to meet TDOT's operational needs. Promote the integration of advanced technologies such as connected and autonomous vehicles, smart traffic signals, and real-time data analytics tools into the Region's transportation network.

Collaborate with the Region Traffic Operations Manager to assist the TDOT Technical Training Director in the development of training related to TSMO elements that address acquired knowledge, including technical elements and emerging technologies related to Traffic Operations, for the purpose of improving team performance, creating a stronger understanding of traffic operations elements as they relate to the transportation industry, inspiring new ideas, and developing skills. Foster a culture of continuous improvement by promoting knowledge sharing and collaboration among team members and external partners.

Assist in the development of a Consultant Acquisition Plan (CAP) for Region Traffic Operations services 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 TSMO deliverables are consistent, predictable, and repeatable to maintain consistently high levels of achievement, mitigate risk, and establish a track record of success by implementing statewide policy, data collection,

specifications, and direction. Utilize best practices and TDOT policy for the incorporation of maintenance and operation of TSMO elements, including access to acquired knowledge across the Regions.

### **Qualifications**

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

### **Ideal Candidate**

The TSMO Transportation Engineer has a proven traffic engineering and TSMO track record. They foster collaboration and ensure the successful execution of simple and complex projects. The TSMO Transportation Engineer is committed to public safety in every aspect of their work. They are strong communicators who can assist with bridging the gap between technical experts and stakeholders. The TSMO Transportation Engineer is an effective collaborator committed to working with other team members in their growth and development. They readily share their expertise and passion with their team and keep an eye on the future from a transportation system and workforce perspective. As a mobility leader, they are passionate about ensuring the agency's projects increase safety and reduce congestion.