

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.



Pavements Engineering Specialist

Materials and Tests Division – Materials and Pavements Section

Nashville, TN

\$80,784 annually

Job Overview

The Pavements Transportation Engineering Specialist 3 & 4 supports Project Teams, Materials and Tests Field Services Teams and Regional Operations by providing pavement design, construction, and maintenance recommendations. This position serves as the liaison between the Districts and Materials & Tests in the development and delivery of the Pavement Program recommendations. This position will evaluate existing pavements to determine new treatments that incorporate acquired knowledge. This position employs Department specifications, policies, technical guidance, and procedures related to pavement design and construction to support the project delivery process.

The Pavements Engineering Specialist 3 & 4 are responsible for collaborating with both internal and external stakeholders, including Project Teams, TDOT Divisions, Regions, and contractors to ensure contractual requirements are met.

This position will apply acquired knowledge to improve TDOT specifications, policies, and procedures that mitigate the Department's risk and increase performance as part of fulfilling TDOT's strategic vision. This position must effectively articulate pavement concepts through training, mentoring, and collaborating as part of a matrix organization.

Essential Job Responsibilities

Essential Job Duties of TDOT Transportation Engineering Specialist 3 and 4 include:

Serve as a resource for TDOT Operations and Project Teams in the Region as part of a matrix organization by applying the Project Delivery Network to developing asphalt and concrete pavement design standards for generating an initial pavement design; ensuring all pay items and associated costs are accurately accounted for in the project estimate with respect to pavement requirements; assessing current pavement conditions, developing alternative design options, pavement treatment forecasts, and preliminary cost estimates associated with each option; mitigating risk by identifying and mitigating potential conflicts during construction; meeting the timelines established by the project schedule, and providing Materials and Pavements Standard Operating Procedure (SOP) guidance and recommendations for material-related concerns for all aspects of a pavement's lifecycle from initial design to end-of-service preservation methods.

Integrate Quality Management into all deliverables, including the development and maintenance of pavement specifications, pavement designs, technical documents, policies, procedures, and manuals for the purpose of reducing errors and extending the life of existing pavements.

Determine project-specific overlays, pavement preservation and rehabilitation options based on existing pavement type, pavement structure, pavement condition, and available budget. Make recommendations based on engineering judgment to determine technical feasibility and engineering requirements for each recommended pavement treatment to assist in the development of the Pavement Program Resurfacing and Preservation list for Region projects.

Perform asphalt and concrete pavement smoothness evaluations by conducting pavement smoothness testing as required, applying smoothness specifications to create grinding plans for concrete projects, and processing data in ProVal using resulting outputs to make recommendations.

Perform pavement crack evaluation assessments by collecting, processing, and reporting on Laser Crack Measuring System data.

Coordinate with Asset Management, Maintenance and Materials and Tests Senior Engineers in tracking pavement data to predict and prevent future concerns. Address potential areas of risk with Project Teams by determining pavement management strategies that are tailored to the complexity of the project. Assist in establishing minimum requirements for hot mix asphalt mixes and component materials.

Assist Project Teams and Materials & Pavements with pavements related construction contract and dispute resolution issues with contractors, producers, and/or suppliers.

Remain current and engaged on pavement specifications, pavement design, and construction trends. Conduct pavement research to optimize designs, methodologies, and preservation techniques. Adapt new technologies and best practices that drive TDOT's projects forward.

Provide exceptional customer service to project stakeholders by facilitating the sharing of acquired knowledge with Project Teams, providing prompt assistance for pavement concerns, exercising effective listening skills, and communicating effectively. Serve as TDOT's liaison in teaming with industry for pavements.

Additional Job Duties for the TDOT Transportation Engineering Specialist 4 include:

Serve as a mentor and resource to less experienced staff by assisting in the development and presentation of training that addresses pavement elements, including governing rules and processes, lessons learned, and emerging technologies.

Assist Project Teams by providing data-driven, engineering judgment for complex issues, anticipating and acting on potential issues, and meeting associated deadlines and timelines.

Provide innovative recommendations for pavement methods that utilize existing pavements.

Perform quality assurance reviews of pavement designs and recommendations, ensure the pavement evaluation accurately reflects the pavement data, and verify the quality of the pavement data.

In coordination with the State Construction Engineer, assist in the development, implementation, and maintenance of all State Specifications, Special Provisions, Circular Letters, and applicable standard guidance that relates to pavements.

Participate in constructability reviews.

Qualifications

The Transportation Engineering Specialist 1 and 2 are part of the Graduate Transportation Engineer (GTE) Program.

Transportation Engineering Specialist 3:

- Bachelor's Degree in Civil Engineering
- 2 years of demonstrated competency in Materials Engineering/Testing or a Highway Construction related field

OR

- Master's Degree in Civil Engineering
- 1 year of demonstrated competency in Materials Engineering/Testing or a Highway Construction related field

Transportation Engineering Specialist 4:

- Bachelor's Degree in Civil Engineering
- 3 years of demonstrated competency in Materials Engineering/Testing or a Highway Construction related field

OR

- Master's Degree in Civil Engineering
- 2 years of demonstrated competency in Materials Engineering/Testing or a Highway Construction related field

Ideal Candidate

This position is a part of the career path series at TDOT. The Pavements Engineering Specialist 3 & 4 possess exceptional problem-solving and communication skills, which enable them to effectively articulate pavement data and technical concepts to stakeholders. They have an analytical mindset and great attention to detail, which helps them identify inefficiencies and opportunities for improvement that contribute to the success of pavement preservation strategies. The Pavements Engineering Specialist 3 & 4 understand that the best results are achieved through collective effort and effective communication.