TN TDOT
Department of Transportation

Ancillary Infrastructure Senior Transportation Engineer
Asset Management Division – Ancillary Infrastructure Section
Nashville, TN
$104,292 annually

Job Overview

The Ancillary Infrastructure Senior Transportation Engineer will manage TDOT's ancillary infrastructure asset management program and software and provide support to Project Teams directly responsible for delivering projects for all phases of the Project Delivery Network (PDN) according to the project's scope, budget, and risk. This position will create work plans that align with the strategic vision of the Ancillary Infrastructure Section and ensure the necessary resources are available to support its success. These projects will range in complexity and risk from simple to highly complex. The Senior Transportation Engineer role requires collaboration with multiple TDOT divisions, project team members, FHWA, contractors, and other external stakeholders. This position requires critical thinking and engineering judgment to solve problems and make well-informed decisions that increase asset safety, performance, sustainability, and life cycle efficiency that maintain TDOT's critical infrastructure. This position provides integration and alignment with specialized information and data in ancillary infrastructure to assess asset management needs. This position will also be responsible for compiling the data and producing the reports in collaboration with other department sections that manage ancillary infrastructure assets not related to bridges, tunnels, or culverts in compliance with the Federal Highway Administration (FHWA) requirements for the Transportation Asset Management Plan (TAMP).

The Ancillary Infrastructure Senior Transportation Engineer ensures Department policies, technical guidance, procedures, software, and systems are current and accurate for incorporation into the asset management delivery process. This position implements the Ancillary Infrastructure Asset Management program as part of the Asset Management Division's activities. This position must effectively articulate quality concepts through training, mentoring, and collaborating as part of a matrix organization. The Senior Transportation Engineer will support and assist the other department sections and each Region with asset information and data sharing, ensuring a state of good repair and level of service are consistently managed for the transportation network. This position assists with 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.

Essential Job Responsibilities

Serve on Project Teams as part of a matrix organization by providing technical expertise related to ancillary infrastructure asset management elements; preserve the

project vision in alignment with Asset Management Division objectives and quality program requirements; define critical asset goals and intended outcomes for quality in coordination with other department sections and technical disciplines; confirm strategies; evaluate innovative concepts; proactively assess risk factors and assign Performance/Quality Management team members; and, for Project Teams associated with Alternative Delivery Contracts, evaluate the cause and effect of implementing Alternative Technical Concepts related to the Request for Proposal (RFPs), project quality, and life-cycle implications. Support Project Teams directly responsible for delivering projects for all phases of the Project Delivery Network (PDN) according to the project's scope, budget, and risk. Optimize a Project Team's ability to mitigate risk and address unanticipated challenges while meeting TDOT's asset management requirements and needs. Optimize a Project Team's ability to mitigate risk and address unanticipated challenges while meeting TDOT's asset management requirements and needs.

Coordinate with the other department sections to establish policies and objectives related to ancillary infrastructure asset management governance; implement policies and objectives through a strategic roadmap; measure progress and monitor implementation over time. Contribute to the development of policies, standards, and guidelines related to asset management and lifecycle planning that consistently align with organizational strategic objectives. Assist with establishing protocols for risk management, resilience planning, and emergency response for critical infrastructure assets. Assist in preparing budgets and funding requests for asset management programs, justifying expenditures with detailed condition assessments and lifecycle cost analysis. Track program costs and optimize spending based on asset priority, level of service, and risk. Determine asset management ancillary infrastructure goals and how they will be achieved in alignment and commitment with the TDOT/FHWA Stewardship Agreement and TDOT strategic goals.

Establish cross-functional teams with defined accountability and present to leadership the case for sufficient resources to support the growth and enhancement of asset management. Collaborate with multiple disciplines, including finance, decision-makers, planning, and operations of each relevant service area. Create and sustain communication connections across teams to build a top-down, bottom-up culture that supports asset management. Guide the implementation of standardizing TDOT's asset management priorities, conduct capital, operations and maintenance planning, and budget needs while integrating with and competing with larger capital and preservation needs. Develop long-term maintenance and rehabilitation plans based on ancillary infrastructure asset condition state, risk assessments, and budget constraints.

Collect and use asset data, performance data, and financial information to support effective asset management planning and decision-making for ancillary infrastructure needs. Manage data collection, records, dashboard metrics, and analysis to track the health and performance of ancillary infrastructure assets. Enhance data management practices to define the requirements for historical and current-year data. Ensure asset information, including inspection reports, maintenance records, and health condition data, remains accurate and up to date within asset management systems. Generate outputs and reports that align with existing departmental programs and stakeholder needs.

Use advanced data analysis techniques to identify trends, forecast deterioration, and prioritize assets requiring intervention. Conduct an asset risk assessment to identify the level of service and potential vulnerabilities; develop mitigation strategies for high-risk assets, especially in response to environmental emergencies caused by structural damage, flooding, hurricanes, and earthquakes. Recommend improvements to asset management processes, incorporating innovative technology and best practices to enhance efficiency and accuracy. Routinely identify, document, and effectively collaborate with other department sections on acquired knowledge that will maximize project successes and avoid past errors. Brief leadership with metrics associated with asset program reviews. Remain current on revisions to FHWA, AASHTO, and national best practices related to ancillary infrastructure asset management components.

Integrate and collaborate with Performance/Quality Management to ensure deliverables follow the Asset Management Division's business needs and department strategic objectives. Assist Project Teams by providing reviews as part of TDOT's Quality Assurance Program. Ensure asset management products, processes, and procedures are implemented consistently across the department.

Serve on selection committees for professional engineering services as part of the Brooks Act; assist with quality 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 quality feedback must be provided.

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 in the development of training according to the TDOT Technical Training Director requirements that address asset management objectives, benefits, risk management, technical asset management elements, and emerging technologies related to asset management in transportation to improve team performance, create a stronger understanding of the transportation industry, inspire new ideas, and develop skills. Conduct training sessions on new asset management software, data collection techniques, and regulatory changes. Ensure that internal stakeholders are well-informed and stay current with and contribute to leading practices, training, and education. Ensure 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 Ancillary Infrastructure Senior Transportation Engineer demonstrates a deep understanding of engineering principles, standards, and regulations related to transportation asset management infrastructure. They possess strong analytical skills, attention to detail, and the ability to assess complex design documents and identify potential issues or deficiencies. The 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. This position is crucial, in partnership with other department sections, for ensuring that ancillary infrastructure assets remain safe, functional, and resilient while optimizing resources and adhering to state and federal guidelines. The Ancillary Infrastructure 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.