Job Description: Transportation Safety Engineer

Alternative Job Titles

Traffic Safety Engineer, Highway Safety Engineer, Roadway Design Engineer, Transportation Engineer

Job Description

A Transportation Safety Engineer is committed to obtaining safety goals through continuous improvement of transportation planning, design, operations, and safety investment strategies. Transportation Safety Engineers utilize multiple strategies to integrate safety data and analysis into transportation decision-making processes. They apply their knowledge of systemic safety principles to analyze, assess, and present safety data, and to plan, implement, and evaluate road safety programs and processes. Other duties include:

- Provide direction on development of safety-focused policies and guidelines through collaboration with law enforcement agencies, safety organizations, and other public stakeholders.
- Analyze, synthesize, and present road safety data to relevant stakeholders to aid safety-focused decision-making and investments, including through the development of models and simulations.
- Ensure that transportation plans, roadway designs, and traffic operations and management strategies comply with established safety guidelines and reflect current best practices related to safety performance measures.
- Apply analytical, modeling, and simulation skills as well as qualitative and quantitative research methodologies to develop safety solutions.

Knowledge Requirements

- Analysis/Research/Report Methods
- Regulation/Legislation/Organizational Policies and Goals related to Area
- Principles of Road Safety
- Safety Program Management Practices
- Safety Performance and Mitigation Measures
- Statistical Theory/Methods
- Data Analysis Techniques and Tools
- Principles of Transportation Engineering, Traffic Management, Roadway/Highway Design
- Program Evaluation and Performance Assessment Techniques

Required Skills & Abilities

- Analyze and present data
- Prepare Reports
- Review road designs and planning documents
- Written and Oral Communication
- Project Design
- Project Management/Supervision
- Strategic Mindset
- Complex Problem Solving
- Leadership

Technical Skills Requirements

- Roadway Design Software
- Highway Safety Manual
- Microsoft Office Applications

Education & Work Experience

- Bachelor's degree accepted for most positions. An advanced graduate degree is preferred for some senior positions.
- Professional Engineer licensure is required for many mid-level to senior positions.
- Engineer-in-Training (EIT) status is required for many entry-level positions.