Position Summary

This summary describes the organization, duties, and requirements of a State of Michigan vacancy.

Position Code: TRAENGEB49R

Civil Service Class and Level: TRANSPORTATION ENGINEER-E

Working Title (What the agency calls the position): Traffic Engineer - Safety Programs

Name and Position Code Description of Direct Supervisor: MCQUISTON, CARISSA D; ENGINEER MANAGER LICENSED-3

Department/Agency: TRANSPORTATION CENTRAL OFFICE

Bureau (Institution, Board, or Commission): Bureau of Field Services (BFS)

Division: Transportation Systems Management & Operations (TSMO)

Section: Traffic and Safety

Unit: Safety Programs

Work Location (City and Address)/Hours of Work: 8885 Ricks Road, Lansing, MI 48917 / M-F 7:30am - 4:30pm (hours may vary)

General Summary of Function/Purpose of Position: This position functions as a Traffic Engineer for the Safety Programs Unit, completing or overseeing a variety of assignments in one or more specialized areas of traffic engineering involving actions taken to reduce highway crashes. This position uses data driven tools to assist in support of the various safety programs (e.g., the Strategic Highway Safety Plan, the Local Safety Initiative, Geographic Information Systems (GIS) mapping, Highway Safety Improvement Program, Road Safety Audit program etc.) at the regional and local level including, conducting safety analyses, assisting in field reviews and Road Safety Audits (RSA). This position supports Safety Programs staff by assisting with safety data and modeling and by providing support to the Regions and Transportation Service Centers (TSCs) in using the software associated with Michigan Department of Transportation's (MDOT) implementation of the American Association of State Highway and Transportation (AASHTO) Highway Safety Manual (HSM) and the supportive analytical tools (e.g., Roadsoft, AASHTOWare Safety, Numetrics, etc.) and HSM spreadsheets. This position requires possession of a valid driver's license to perform field visits, travel to meeting locations to meet with local agencies and for conferences/other work related meetings.

Assigned duties and tasks for each duty.

Duty 1: Conduct statewide safety analyses to surveil safety performance of both the state trunkline and local roadway system. Plan and develop treatments to improve highway safety.

- Perform safety performance data analysis on state trunkline and local roadway systems.
- Identify correctable crash patterns; make recommendations for countermeasures or operational improvements.
- Prepare safety surveillance reports on existing state trunkline and roadway conditions.
- Provide traffic engineering input to the process of issue identification, analysis, and development of safety improvement measures.
- Develop alternatives to improve safety and operations of state trunkline and local roadway systems.
- Perform time of return (TOR) and HSM analysis.

Duty 2: Support Safety Programs staff by assisting with safety data and modeling and by providing support to the Regions and TSCs in using the software associated with the department's implementation of the AASHTO HSM and the supportive analytical tools (e.g., Roadsoft, AASHTOWare Safety, Numetrics, etc.), and HSM spreadsheets.

- Assist Safety Programs staff focused safety data and modeling on engineering safety issues related to the HSM/safety analytic software and tools, including data calibration and distribution, accuracy and linkages.
- Identify opportunities to utilize HSM methodologies in project development.
- Assist in maintaining up-to-date crash modification factors for safety countermeasures.

Duty 3: Meet with road authority to discuss the results of road safety analyses, review countermeasure recommendations for improving roadway safety and provide safety expertise for the local intersections and segments evaluated in the safety analysis. This duty requires possession of a valid driver's license to perform field visits, travel to meeting locations to meet with local agencies and for conferences/other work-related meetings.

- Meet onsite, at local offices and/or in the field, with locals to provide background data on problem identification and treatment options.
- Report back on field review discussions and update countermeasure recommendations and follow up with additional analyses or information as needed.
- Coordinate project development with MDOT Local Agency Programs.
- Review requests for safety funding, including TOR justification, from local agencies or their consultants; prepare reports, and provide findings to MDOT management and local agencies.
- Provide input on suggestions to improve safety reviews for local agencies and reporting as required.

Duty 4: Provide support to the Regions and TSCs on Traffic and Safety Programs. This duty requires possession of a valid driver's license to perform field visits, travel to meeting locations to meet with local agencies and for conferences/other work-related meetings.

- Assist in performing data analysis on MDOT Safety Programs, provide recommendations.
- Provide traffic engineering input to the regional and local MDOT offices on projects and project development.
- Assist in the Road Safety Audit program and follow up on safety recommendations.
- Assist in developing alternatives to improve safety and operations under the guidance of the Traffic Safety unit.
- Utilizing trends from safety reviews, assist in creating guidance, and training as necessary to improve Department processes.
- Assist in the review and development of regional safety plans.
- Support Traffic and Safety (T&S) staff in their duties to reduce fatalities and serious injuries on Michigan roadways.
- Aid in the analysis of yearly crashes and report findings. Engage other work areas to encourage a culture Toward Zero Deaths.
- Maintain positive relationships with customers both internal and external to MDOT.
- Assist T&S staff with researching, compiling and reviewing crash data and incorporate into training for MDOT use.
- Other duties as assigned.

Types of decisions made independently and whom or what those decisions affect: Analytical and evaluation study methodology.
Scheduling on-site reviews or meetings.
Geometric/safety alternative development.

Types of decisions that require the supervisor's review: Decisions impacting statewide programs.
Annual work plans and schedules.
Establishment of program objectives.

Physical effort used to perform this job and environmental conditions of this position: Position requires operating a computer for extended periods of time and performing on-site reviews which requires traversing various types of terrain, working in heavy traffic conditions, and in various types of weather conditions. Position requires traveling to field locations statewide which requires possession of a valid driver's license. Position may require availability outside normal working hours based on operational needs.

Names and classes and levels of employees whom this position immediately supervises:

The essential functions of this position: This position functions as a Traffic Engineer for the Safety Programs Unit,, completing or overseeing a variety of assignments in one or more specialized areas of traffic engineering involving actions taken to reduce highway crashes. This position uses data driven tools to assist in support of the various safety programs (e.g., the Strategic Highway Safety Plan, the Local Safety Initiative, Geographic Information Systems (GIS) mapping, Highway Safety Improvement Program, Road Safety Audit program etc.) at the regional and local level including, conducting safety analyses, assisting in field reviews and Road Safety Audits (RSA). This position supports Safety Programs staff by assisting with safety data and modeling and by providing support to the Regions and Transportation Service Centers (TSCs) in using the software associated with Michigan Department of Transportation's (MDOT) implementation of the American Association of State Highway and Transportation (AASHTO) Highway Safety Manual (HSM) and the supportive analytical tools (e.g., Roadsoft, AASHTOWare Safety, Numetrics, etc.)and HSM spreadsheets This position requires possession of a valid driver's license to perform field visits, travel to meeting locations to meet with local agencies and for conferences/other work related meetings.

The function of the position's work area and how it fits into that function: To serve the public's transportation needs by applying comprehensive highway traffic and safety engineering technology; participating in all phases of the department's effort to reduce traffic crashes and injuries; and reduce vehicle delay related fuel consumption, pollution, and operating costs by increasing safety, efficiency, and capacity on the state highway system.

Minimum education, experience, and credentials typically needed to perform the position's essential functions:

EDUCATION:

Possession of a bachelor's degree in a field of engineering.

Possession of a bachelor of science degree in civil engineering or in civil and environmental engineering, preferred.

EXPERIENCE:

Transportation Engineer 9
No specific type or amount is required.

Transportation Engineer 10
One year of professional engineering experience involved in transportation systems and programs equivalent to a Transportation Engineer 9.

Transportation Engineer P11
Two years of professional engineering experience involved in transportation systems and programs equivalent to a Transportation Engineer, including one year equivalent to a Transportation Engineer 10.

Alternate Education and Experience

Transportation Engineer 9 - 12
Possession of a Michigan Professional Engineer License may be substituted for 6 months of Transportation Engineer experience. This substitution may only be used once for any employee for qualification of appointment or early reclassification.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- traffic engineering principles and practices applied to operations, geometrics, sign and signal design, and crash analysis
- use and applications of computer and statistical models
- large data base statistical analysis

Ability to:

- organize and analyze data consisting of many variables which may lead to a decision based on experience and judgement
- write clear and concise letters and reports
- effective verbal communication skills are necessary

CERTIFICATES, LICENSES, REGISTRATIONS:
Possession of a valid driver's license is required and must be maintained throughout employment in the position.