Position Summary

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

Position Code: TRAENGA

Civil Service Class and Level: Transportation Engineer-A

Working Title (What the agency calls the position): Senior Safety Engineer

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 serves as the senior engineer, completing and overseeing a variety of assignments in one or more specialized areas of traffic engineering involving actions taken to reduce highway crashes. This position is responsible for conducting safety analyses for the Michigan Department of Transportation (MDOT) areas or Local Agencies statewide, conducting field reviews, reviewing new safety tools/resources/guides, facilitating and coordinating road safety audits, participating on research projects, advising the department/local agencies on the safety program and safety guidance, and attending safety related meetings on behalf of the department.

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 safety analyses for MDOT areas or local agencies statewide utilizing methods of one's own determination including focus on areas integral to the Michigan Strategic Highway Safety Plan (e.g., intersection, lane departure, pedestrian, bicycle, etc.) and programs related to the Highway Safety Improvement Plan (HSIP) and High-Risk Rural Roads (HRRR) program. Also includes utilizing the Highway Safety Manual and time of return spreadsheet analyses to further refine locations of interest.

- Develop methods to analyze crash and other safety data on the locally owned network as part of the MDOT Local Safety Initiative (LSI) Program.
- Determine specific Strategic Highway Safety Plan (SHSP) focus areas to further analyze based on agency-wide trends utilizing crash and other safety data and make recommendations for countermeasures if applicable.
- Determine appropriate funding category based on funding availability or federal grant information, to make suggestions to local agencies as part of the MDOT LSI.
- Develop charts, reports, and other related documents for use by local agencies when applying for MDOT administered safety funds.
- Train and mentor journey level staff on potential methods of analysis related to the LSI.

Duty 2: Conduct field reviews independently with MDOT areas or local agencies to make suggestions for improvements based on data analyzed as part of the MDOT LSI and/or the HSIP/Transparency Report. Accompany journey level staff on field reviews to respond or explain sensitive issues or clarify the department's position regarding suggestions for safety improvements.

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.

- Coordinate and schedule field reviews with local agency staff. Coordinate with other disciplines when needed, including maintenance staff and enforcement agencies.
- Develop a list of specific countermeasures that can be used to improve the safety of an intersection or segment for local agencies to consider.
- Accompany journey-level staff on field reviews to respond or explain sensitive issues or clarify the department's position regarding suggestions for safety improvements.

Duty 3: Review new safety tools/resources/guides for appropriateness and distribute to MDOT traffic and safety engineers or local agencies. Recommend changes to existing department guides and resources where appropriate, based on new safety tools/resources/guides. Determine appropriate method of distribution of materials (e.g., placement on public website, distributed in hard copy, placed in ProjectWise, etc.). Respond to requests from other states on safety related practices in Michigan.

- Identify new resources and determine appropriateness of distribution to state and local partners as they are developed by federal, state, and local agencies and private partners including Federal Highway Administration (FHWA), state Department of Transportations (DOTs), local agencies nation-wide, American Traffic Safety Services Association, American Association of State and Highway Transportation Officials, etc.
- Review new resources and guides and determine if MDOT standards and guides require modification. Advise supervisor and MDOT management of suggested modifications.
- Respond to requests from other states on safety related practices in Michigan.
- Respond to requests from national partners on requests for information regarding department activities related to safety.

Duty 4: Facilitate and coordinate an internal road safety audit (RSA) (e.g., mini-RSA per the RSA Guidance Document) for a requesting region. Coordinate and run "kick off" meeting, participate in field reviews, and develop presentations on audit findings.

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.

- Facilitate mini-RSAs internally which includes guiding a team, ensuring the conversations/discussions remain on topic, and taking notes/summarizing data.
- Coordinate and run "kick off" meeting.
- Participate in related meetings and field reviews.
- Develop presentations on audit findings and present findings to project owners.

Duty 5: Participate as a Project/Research Manager on a safety related research projects. Develop research statements and requests for proposals and select research team for safety related projects or conduct internal research on topics of interest to the department.

- Develop research statements and requests for proposals and select research team for safety related projects.
- Coordinate topics and speakers for other internal and external conferences and meetings including the annual Safety Summit, Traffic & Safety Conference, etc.
- Manage internal research projects related to safety through Research Administration. Coordinate research topic ideas through focus area manager.
- Conduct internal research and analysis on select topics.

Duty 6: Advise the department/local agencies on the safety program and safety guidance. Prepare documentation and presentations and provide assistance with citizen complaints to management, local agencies, Regions, or Transportation Service Center (TSCs) as needed/ requested.

- Review statewide and national best practices in order to understand safety topics and research to advise on improvements to the LSI program.
- Contact local agencies when the review is entered into the queue and when the review process begins to determine additional areas of focus for safety analysis based on local experience and citizen concerns.
- Coordinate with region and/or TSC staff to understand local safety concerns and include MDOT staff in the LSI process. Maintain relationships with staff in order to better facilitate safety discussions.
- Collaborate with the MDOT video and graphics unit to develop LSI marketing and informational tools such as handouts and video highlights to promote the program and safety.
- Develop in-house training videos for internal staff.

Duty 7: Attend safety-related meetings independently on behalf of the department. Respond to and explain sensitive issues or clarify the department's position and commit the unit to work items.

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.

- Coordinate project development with MDOT Local Agency Programs.
- Participate in traffic and safety related committees, work groups, and research panels.
- Other duties 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 serves as the senior engineer, completing and overseeing a variety of assignments in one or more specialized areas of traffic engineering involving actions taken to reduce highway crashes. This position is responsible for conducting safety analyses for the Michigan Department of Transportation (MDOT) areas or Local Agencies statewide, conducting field reviews, reviewing new safety tools/resources/guides, facilitating and coordinating road safety audits, participating on research projects, advising the department/local agencies on the safety program and safety guidance, and attending safety related meetings on behalf of the department.

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: The function of the work area is to serve the public's transportation needs by applying comprehensive highway traffic 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.

This position serves as the senior engineer, completing and overseeing a variety of assignments in one or more specialized areas of traffic engineering involving actions taken to reduce highway crashes.

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's degree in civil engineering or in civil and environmental engineering is preferred.

EXPERIENCE:
Transportation Engineer 12
Three years of professional engineering experience involved in transportation systems and programs equivalent to a Transportation Engineer, including one year equivalent to a Transportation Engineer P11.

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:

Ability to:

- Organize and analyze data consisting of many variables which may lead to a decision based on experience and judgment.
- Write clear and concise letters and reports.
- Communicate effectively.

Knowledge of:

- Traffic engineering principles and practices applied to operations, geometrics, sign and signal design, and crash analysis.
- The use and applications of computer and statistical models.
- Large database statistical analysis.

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