

**State of Michigan
Civil Service Commission**
Capitol Commons Center, P.O. Box 30002
Lansing, MI 48909

Position Code 1. TRAENGEE01R
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POSITION DESCRIPTION

This position description serves as the official classification document of record for this position. Please complete the information as accurately as you can as the position description is used to determine the proper classification of the position.	
2. Employee's Name (Last, First, M.I.)	8. Department/Agency TRANSPORTATION CENTRAL OFFICE
3. Employee Identification Number	9. Bureau (Institution, Board, or Commission) Bureau of Bridges and Structures
4. Civil Service Position Code Description Transportation Engineer-E	10. Division Structure Program Division
5. Working Title (What the agency calls the position) Assistant Bridge Management Systems Engineer	11. Section Structure Management Section
6. Name and Position Code Description of Direct Supervisor MCMUNN, CREIGHTYN; ENGINEER MANAGER LICENSED-4	12. Unit
7. Name and Position Code Description of Second Level Supervisor HALLORAN, MICHAEL; STATE DIVISION ADMINISTRATOR	13. Work Location (City and Address)/Hours of Work 425 W. Ottawa Street, Lansing, MI 48933 / M-F, 7:30am-4:30pm (hours may vary)
14. General Summary of Function/Purpose of Position This position assists in the administration of Michigan's Bridge Management Systems (BMS) to meet the requirements of the Transportation Asset Management Plan (TAMP) and the National Bridge Inspection Standards (NBIS). This position implements the strategies and policies created by the BMS engineer and in accordance with Federal Regulations (23 CFR 500A) and the TAMP, performs quality assurance and quality control of the Michigan Bridge Inventory to ensure compliance with the NBIS, and provides data and prepares reports on bridge data related items utilizing Oracle Structured Query Language (SQL) Developer. This position analyzes bridge data and prepares reports on bridge data related items, such as bridge condition trends, bridge risk characteristics, and bridge identification characteristics.	

15. Please describe the assigned duties, percent of time spent performing each duty, and what is done to complete each duty.

List the duties from most important to least important. The total percentage of all duties performed must equal 100 percent.

Duty 1

General Summary:

Percentage: 40

Implement the strategies and policies created by the BMS engineer and in accordance with Federal Regulations (23 CFR 500A) and the TAMP.

Individual tasks related to the duty:

- Evaluate different scenarios (e.g., funding, structure condition, deterioration rates, life cycle cost analysis) for structures (e.g., bridges, culverts) utilizing the BMS to meet TAMP requirements and present the impact to the BMS engineer or leadership for final decision making.
- Ensure the BMS data is accurate, up-to-date, and includes all required summaries for bridge assets, including summary descriptions of the condition to meet TAMP requirements. When information is not accurate, decisions made can impact long term funding scenarios and bridge network condition predictions.
- Maintain the BMS to provide a prioritized and optimized listing of potential bridge projects for the TAMP under multiple scenarios (e.g., funding, structure condition, deterioration rates, life cycle cost analysis).
- Determine depreciation values of structures utilizing valuation models within the BMS. Make recommendations and/or present to the BMS engineer or leadership for final decision making.
- Assist the BMS Engineer to develop the needed investment to ensure required value of bridge assets for the State of Good Repair within the TAMP. Present projections to leadership for final decision making.
- Assist the BMS Engineer in providing technical assistance to Local Agency Bridge Asset Management Programs.

Duty 2

General Summary:

Percentage: 20

Perform quality assurance and quality control of the Michigan Bridge Inventory to ensure compliance with the NBIS (23 CFR 650C).

Individual tasks related to the duty:

- Regularly evaluate the Michigan Bridge Inventory database to identify missing or incorrect data, potential data corruption, errors, or inconsistencies and inform the BMS engineer of all data anomalies identified.
- Assist the BMS engineer to implement corrective action plans to correct data anomalies identified in the Michigan Bridge Inventory database and to ensure quality of future data collection.
- Identify scenarios where assets aren't performing as predicted and evaluate risks or gaps in performance that can affect data quality of the Michigan BMS. Recommend strategies to address the risks or close the gaps in performance.
- Assist the BMS engineer to implement strategies to manage quality data input for the Michigan BMS. This may include making recommendations regarding how to collect better quality data, proposing new workflows, or identify training opportunities.
- Perform quality control on modifications or additions to the Michigan Bridge Inventory made by the BMS engineer.

Duty 3

General Summary:

Percentage: 20

Provide data and prepare reports on bridge data related items.

Individual tasks related to the duty:

- Compose queries of the bridge database to extract requested information (e.g., bridge condition, bridge type, bridge span length, etc.) for end users utilizing Oracle SQL Developer.
- Analyze and prepare reports on bridge data related items, such as bridge condition trends, bridge risk characteristics, and bridge identification characteristics utilizing Oracle SQL Developer. The reports may be for leadership, finance, planning, legislature, Governor's office, media, etc. Make recommendations based on the data.
- Compose reports from the bridge database to extract commonly requested information (e.g., bridge condition, bridge type, bridge span length, etc.) for end users utilizing Crystal Reports.
- Assist the BMS engineer in preparing technical reports and answering inquiries regarding bridge material and fix performance.
- Assist the BMS engineer in running queries and developing reports regarding local agency bridge condition as needed by the Local Bridge Advisory Board (LBAB).

Duty 4

General Summary:

Percentage: 10

Develop, coordinate, and maintain the Request for Action (RFA) data and tracking system.

Individual tasks related to the duty:

- Compose queries of the bridge database and prepare monthly reports of incomplete RFAs utilizing Oracle SQL Developer.
- Monitor progress of RFAs and follow up on RFA status as needed.
- Participate in the MDOT RFA Committee monthly meeting and annual RFA Call for Projects (CFP) meetings.

Duty 5

General Summary:

Percentage: 10

Perform miscellaneous duties as assigned.

Individual tasks related to the duty:

- Duties as requested by supervisor or related to the work area.

16. Describe the types of decisions made independently in this position and tell who or what is affected by those decisions.

Independent judgment is frequently used to make decisions regarding data quality and accuracy of an analysis. This position requires interaction with internal and external customers, MDOT management, regions, etc., and must maintain a positive business relationship with all customers and service partners. Personnel and policies throughout the department can be affected by decisions made, including compliance with Federal Regulations, implementation of asset management strategies, and selection of projects and studies.

17. Describe the types of decisions that require the supervisor's review.

- Prioritization of work.
- When deviating from accepted policies or procedures.
- When policies are unclear or not in place.
- When clarification of issues with significant department impact is necessary.

18. What kind of physical effort is used to perform this job? What environmental conditions in this position physically exposed to on the job? Indicate the amount of time and intensity of each activity and condition. Refer to instructions.

Required to operate a computer for extended periods of time. Ability to communicate effectively. Position may require availability outside normal working hours based on operational needs.

19. List the names and position code descriptions of each classified employee whom this position immediately supervises or oversees on a full-time, on-going basis.

Additional Subordinates

20. This position's responsibilities for the above-listed employees includes the following (check as many as apply):

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|---|------------------------------------|---|-----------------------------------|
| N | Complete and sign service ratings. | N | Assign work. |
| N | Provide formal written counseling. | N | Approve work. |
| N | Approve leave requests. | N | Review work. |
| N | Approve time and attendance. | N | Provide guidance on work methods. |
| N | Orally reprimand. | N | Train employees in the work. |

22. Do you agree with the responses for items 1 through 20? If not, which items do you disagree with and why?

Yes.

23. What are the essential functions of this position?

This position assists in the administration of Michigan's BMS to meet the requirements of the TAMP and the NBIS. This position implements the strategies and policies created by the BMS engineer and in accordance with Federal Regulations (23 CFR 500A) and the TAMP, performs quality assurance and quality control of the Michigan Bridge Inventory to ensure compliance with the NBIS, and provides data and prepares reports on bridge data related items utilizing Oracle SQL Developer. This position analyzes bridge data and prepares reports on bridge data related items, such as bridge condition trends, bridge risk characteristics, and bridge identification characteristics.

24. Indicate specifically how the position's duties and responsibilities have changed since the position was last reviewed.

25. What is the function of the work area and how does this position fit into that function?

The main functions of the Structure Management Section are:

- Updating, maintaining, and providing interpretation of the NBIS for MDOT, Local Agencies, and private NBI bridge owners.
- Updating bridge inventory data items as projects are completed or as related roadway data is updated, reporting inventory data to the Federal Highway Administration (FHWA) annually, and ensuring compliance with the NBIS.
- Performing or providing oversight for MDOT, Local Agency, and private NBI bridge owners for the requirements of the NBIS, including inventory, inspection, and load rating.
- Developing or providing software and decision support in the management of MDOT's bridge assets.
- Maintaining a history file of all past work performed on bridge structures.
- Providing technical support for the development and enhancement of software programs to enter and report bridge inventory, inspection, and load rating data.
- Providing engineering and technical support to local agencies and private NBI bridge owners related to coding inventory, inspection, and load rating data.

This position supports MDOT's asset management program by incorporating updated asset management strategies into the BMS, performing quality control of the Michigan Bridge Inventory to ensure compliance with the NBIS, and preparing reports on bridge data related items, such as bridge condition trends, bridge risk characteristics, and bridge identification characteristics, used in developing asset management strategies.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position.

EDUCATION:

Possession of a Bachelor of Science degree in engineering.

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 registered professional engineer license as required by the State of Michigan may be substituted for 6 months of experience at the Transportation Engineer 9-12 levels. This substitution may only be used once for any employee for qualification of appointment or early reclassification.

KNOWLEDGE, SKILLS, AND ABILITIES:

Ability to:

- Communicate effectively.
- Maintain favorable public relations.
- Work in a team environment.
- Utilize existing computer software and technology in the completion of assigned objectives.

Knowledge of:

- Oracle SQL Developer is preferred.

CERTIFICATES, LICENSES, REGISTRATIONS:

N/A

NOTE: Civil Service approval does not constitute agreement with or acceptance of the desired qualifications of this position.

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Supervisor

Date

TO BE FILLED OUT BY APPOINTING AUTHORITY

Indicate any exceptions or additions to the statements of employee or supervisors.

None

I certify that the entries on these pages are accurate and complete.

KELSEA COLE

Appointing Authority

6/21/2024

Date

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Employee

Date