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.

<table>
<thead>
<tr>
<th>2. Employee's Name (Last, First, M.I.)</th>
<th>8. Department/Agency</th>
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<tbody>
<tr>
<td></td>
<td>TRANSPORTATION CENTRAL OFFICE</td>
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<thead>
<tr>
<th>3. Employee Identification Number</th>
<th>9. Bureau (Institution, Board, or Commission)</th>
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<tr>
<td></td>
<td>TRANSPORTATION PLANNING</td>
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<tr>
<th>4. Civil Service Position Code Description</th>
<th>10. Division</th>
</tr>
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<tbody>
<tr>
<td>Departmental Specialist-2</td>
<td>DATA INVENTORY AND INTEGRATION</td>
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<tr>
<th>5. Working Title (What the agency calls the position)</th>
<th>11. Section</th>
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<tbody>
<tr>
<td>Linear Referencing System (LRS) Specialist</td>
<td>DATA OVERSIGHT AND GEOSPATIAL MANAGEMENT</td>
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<tr>
<td>JOHNSON, CORY G; TRANSPORTATION PLANNING MGR-4</td>
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<tr>
<th>7. Name and Position Code Description of Second Level Supervisor</th>
<th>13. Work Location (City and Address)/Hours of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>BURTON, WENDI L; STATE DIVISION ADMINISTRATOR 17</td>
<td>425 W OTTAWA ST. LANSING / 8/5P M-F</td>
</tr>
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</table>

**14. General Summary of Function/Purpose of Position**

This position serves as the Linear Referencing System (LRS) Specialist and sole lead for ESRI's Roads and Highways technology deployment and operation. This LRS Specialist is responsible for leading and delivering the LRS for the State of Michigan, for use by all departments and levels of government. The position serves as a central integrating authority for state trunkline highway feature geometry and attributes in the Roads and Highways Advanced Linear Referencing System (ALRS). This position corresponds and acquires updated information from various sources within MDOT in Lansing, the Regions, and Transportation Service Center (TSC) offices to integrate the latest geometry and attribute information into the MDOT Roads and Highways ALRS and business event data in order to support a wide range of business areas to allow them to meet federal data and reporting requirements. Some of these systems include: Transportation Asset Management System (TAMS), Transportation Project Database (TPD), Highway Performance Monitoring System (HPMS), Traffic Data Management System (TDMS), and traffic and safety. This position holds final authority over the state trunkline highways in the ALRS and is responsible to partner across all state agencies to facilitate the management of local road centerline and LRS data. This position is also responsible for the management of the Interchange LRS updates and the Michigan Accident Location Index (MALI) RampID assignment.
<table>
<thead>
<tr>
<th>Duty 1</th>
<th>General Summary:</th>
<th>Percentage:</th>
<th>50</th>
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<tbody>
<tr>
<td>Lead the implementation and operation of ESRI’s Roads and Highways software technology to manage the linear referencing system (LRS) for the State of Michigan. Function as the lead Linear Referencing System editor and Roads and Highways expert.</td>
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Individual tasks related to the duty:

- Lead efforts to establish and organize LRS data governance and regular communications; chair the Roads and Highways Committee and participate on the GIS Committee (GISC).
- Input state highway centerline updates and associated linear referencing system (LRS) updates including route changes, jurisdictional transfers and realignments into MDOT Roads and Highways. Maintain compliance with the federal mandate of All Road Network of Linear Referenced Data (ARNOLD).
- Partner with the Center for Shared Solutions (CSS) to achieve the goals for the LRS program and to ensure all LRS updates and related boundary changes are captured.
- Authorize and coordinate with DTMB to ensure all MDOT business systems are receiving current LRS information as needed.
- Final authority on all state highway linear referencing updates and related changes for roads and highways.
- Lead the deployment of ERSI’s Roads and Highways technology to modernize the business systems across MDOT. This includes leading technical linear referencing discussions that result in strategic decisions for the department.
- Make recommendations to MDOT leadership regarding critical needs as it relates to the LRS and Roads and Highways and work to communicate final decisions across all state departments.
- Instruct consultants as needed as it relates to Roads and Highways related needs and associates LRS enhancements.
- Ensure the integration of Roads and Highways with the Vueworks software and the Transcend Productivity Suite.
- Work to establish efficient workflow orchestration via ESRI’s Workflow Manager Technology and QA/QC methods via ESRI Data Reviewer technology.
- Correspond with MDOT staff in Lansing, the Regions, and TSC offices to acquire the latest information on state trunkline highway geometry changes.
- Maintain the Control Section (CS) linear referencing method (LRM). Instruct staff and work with the Regions and TSC staff to assign and/or reassign Control Sections to new state trunkline highway alignments or realignments.
- Acquire and process information needed to update the state trunkline highway features in the MDOT LRS. Sources may include aerial photographs, design plans, GIS files, and other sources.
- Work with the GIS staff to collect global positioning system (GPS) centerlines for new alignments as needed.
- Correspond with local officials as necessary to confirm local roadway changes that occur near the state trunkline.
- Research the ability to extend LRS data management and event editing into the field.
- Conduct knowledge transfer and LRS mentoring sessions to staff.

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<tr>
<th>Duty 2</th>
<th>General Summary:</th>
<th>Percentage:</th>
<th>20</th>
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<tr>
<td>Local Road centerline and LRS program development and deployment.</td>
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Individual tasks related to the duty:
Partner with the Act51 team to manage the local road centerline and ALRS program to decide where to focus resources on items prioritized early on in the rollout of the MDOT Roads and Highways solution.

Partner with DTMB Center for Shared Solutions to manage the local road program centerline, LRS, and related attribution.

Final authority for all local road LRS information and related centerline.

Ensure Roads and Highways technology is positioned to support the Transportation Asset Management System (TAMS) deployment of software programs that depend on and are integrated with the ALRS.

Lead the deployment of Event Editor to support the management of the core data elements from the Michigan Geographic Framework. Work with the GIS Unit to set up a model solution within the DIID to manage this data via event editor and workflow manager that can be replicated elsewhere across MDOT.

Represent MDOT while providing guidance to CSS staff when making changes to the road network in the MDOT Roads and Highways ALRS in order to meet MDOT business needs such as Traffic and Safety, Act 51, and Asset Management.

Work with CSS and Act51 staff to modernize the management of boundary data impacted by road changes.

Correspond and partner with local officials as necessary to confirm local roadway changes. Research longer term solutions such as redlining.

**Duty 3**

**General Summary:**

MDOT State Trunkline Highway Interchanges LRS updates and Michigan Accident Location Index (MALI) Ramp ID Assignment.

Lead the annual update of the state trunkline highway interchange geometry and assign the official MALI Ramp IDs. The MALI Ramp IDs are used to uniquely identify ramps within a county. The Ramp IDs assigned by MDOT in Lansing are posted in the field by the Regions and TSC offices and are used for crash location and other MDOT processes that need to reference ramps. Have final responsibility for all non-mainline trunkline changes in the Advanced Linear Referencing System (ALRS).

**Individual tasks related to the duty:**

- Work with MDOT Traffic and Safety and Region and TSC staff to incorporate the latest interchange geometry changes into the MDOT Roads and Highways.
- Assign the official MALI Ramp IDs.
- Correspond with MDOT Region and TSC staff to obtain design plans or other source material to update the MDOT Roads and Highways with the new interchange and ramp configurations.
- Correspond with Traffic and Safety, Region, and TSC staff to ensure that the official Ramp IDs assigned by MDOT in Lansing are used to post the correct signs in the field.

**Duty 4**

**General Summary:**

Provide oversight of legacy system migrations within and from the roads and highways environment.

Assist DTMB & CSS MGF staff with the annual preparation of the linear referencing migration databases for delivery to MDOT.

**Individual tasks related to the duty:**
Work to replicate the services that were stood up to support the Roads and Highways integration with the Traffic Data Management System.

Partner with DTMB CSS staff with running a variety of quality control programs each year to validate the accuracy and integrity of the ALRS roadway features and attributes as well as transaction information.

Partner with DTMB to facilitate the successful deployment of the Transitional Workflows solutions to output the FASTTRANS transaction file(s) from the Roads and Highways environment.

Ensure the timely delivery to end users such as Roadsoft, Michigan State Police, SEMCOG.

**Duty 5**

**General Summary:**

State and Federal data management and reporting requirements support.

**Individual tasks related to the duty:**

- Partner with the System Monitoring and Reporting Unit to create a central reporting area of critical business data summaries, roadway mileage summaries from the Roads and Highways environment via the Roadway Reporter software.
- Facilitate the environment and workflows to support the numerous MDOT business systems depending on LRS based data that allows for the reporting out to meet FHWA mandates or to support ongoing MDOT business such as Transportation Project Database (TPD), Highway Performance Monitoring System (HPMS), ARNOLD, FMIS, JobNet, TDMS, Act 51.
- Work to establish a public facing customer service portal to support data and report accessibility to allow for further analysis, awareness, and transparency.
- The LRS is how MDOT programs its road projects and what over 50 business applications depend on in order to maintain business data for Michigan’s roads; work to create a dynamic environment that provides user friendly access to a massive audience to support statewide business needs.

**Duty 6**

**General Summary:**

Other Duties as assigned.

**Individual tasks related to the duty:**

Assist MDOT, the Bureau of Transportation Planning, and the Data Inventory and Integration Division staff with other work assignments as necessary.

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

**HIGHWAY REFERENCING**

The MGF and the official MDOT LRS (PR LRM and CS LRM) are utilized by many business areas at MDOT; the state trunkline highways are a primary focus at MDOT. Some of the MDOT business areas that utilize the MGF and linear referencing include the Transportation Asset Management System (TAMS) database, the Transportation Management System (TMS), Traffic and Safety crash databases, the HPMS database, Transportation Project Database, and the Transportation Asset Management Council (TAMC). All of these MDOT business areas depend upon accurate state trunkline highway referencing in order to collect and report information. This position decides how to acquire necessary source information to update the MDOT LRS and must evaluate various and sometimes conflicting sources information. This position must decide how to best incorporate the road geometry and attribute changes into the ALRS in order to satisfy a wide-range of MDOT customer needs. This position updates the state trunkline highway referencing in the MDOT Roads and Highways system and the corresponding MALI transactions file. The road referencing transaction will affect all of the above mentioned databases as the MDOT corporate data is migrated to the next referencing version using the statewide transaction file. This position also will be leading the implementation of Roads and Highways technology to modernize these processes.

This LRS Specialist is the sole resource for leading and delivering the LRS for the State of Michigan, for use by all departments and levels of government. The LRS is the backbone of how MDOT meets federal mandates (HPMS, FMIS, ARNOLD). It is how MDOT programs its road projects and what over 50 MDOT business applications depend on in order to track/maintain business data for Michigan’s roads.
17. Describe the types of decisions that require the supervisor’s review.
When established procedures do not produce satisfactory results, when controversy arises, when newly developed procedures impact others, when conflict in priorities occur, or when established schedules can’t be met. When a significant shift in program area direction is being considered or needed.

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.
Must be able to read, research, interpret paper and computer maps, and respond to memos, reports and other written materials. Must be able to travel independently, by commercial transportation or automobile, to attend meetings, project locations, or other work related activities. Must be able to represent MDOT and make presentations in meetings with local officials, transportation agencies, or other organizations.

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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<tr>
<td>N</td>
<td>Complete and sign service ratings.</td>
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<td>N</td>
<td>Provide formal written counseling.</td>
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<td>N</td>
<td>Approve leave requests.</td>
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<td>N</td>
<td>Approve time and attendance.</td>
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<td>N</td>
<td>Orally reprimand.</td>
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<td>N</td>
<td>Assign work.</td>
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<td>N</td>
<td>Approve work.</td>
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<td>N</td>
<td>Review work.</td>
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<td>N</td>
<td>Provide guidance on work methods.</td>
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<tr>
<td>N</td>
<td>Train employees in the work.</td>
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</table>

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?
The position serves as the central MDOT contact for all state trunkline highways as represented in the State of Michigan’s linear referencing system (LRS). This position is in charge of acquiring source information and incorporating all state trunkline highway geometry and attribute changes into the MDOT Roads and Highways system. This includes corresponding with MDOT staff in Lansing, the Regions, and the TSC offices. This position lead the annual update of the MDOT state trunkline highway LRS. This position exercises final authority over the state trunkline highway work in the MDOT LRS. This position is the final authority in charge of assigning the official MDOT MALI RampIDs and has authority to correspond with the Region and TSC staff to request corrections to RAMPID signing in the field.

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

25. What is the function of the work area and how does this position fit into that function?
This unit has the full responsibility of maintaining the official MDOT state trunkline highway GIS and MDOT LRS systems in coordination with DTMB CSS as a part of the MGF. The unit is responsible for providing a current MALI index for use in crash location from the MDOT LRS, for coordination of Roads and Highways with TMS, Act 51, as well as assisting MDOT staff in coordinating other transportation data sets with the MDOT LRS. This unit is fully responsible for the annual submission to FHWA or certified miles, HPMS data and HPMS-LRS. The unit also provides a monitoring function to assure that each year’s selection of transportation projects help MDOT meet established goals/objectives in a cost-effective way. This position is responsible for maintaining the state trunkline highways and incorporating the latest geometry, referencing, and attribute changes into the MDOT Roads and Highways ALRS and LRSE business event data and ensuring the MDOT business needs are met by the changes.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position.
EDUCATION:
Possession of a bachelor’s degree in any major.

Preferred: bachelor’s degree with a major in urban or regional planning, resource development, engineering, statistics, mathematics, geography, economics or a related field. Other combinations of experience, education or training that may provide essential knowledge or skills such as GIS degrees or certifications will be considered.

EXPERIENCE:

Departmental Specialist 13 - 15
Four years of professional experience, including two years equivalent to the experienced (P11) level or one year equivalent to the advanced (12) level.

KNOWLEDGE, SKILLS, AND ABILITIES:

This individual must be able to effectively communicate both orally and in writing. Must possess good interpersonal skills. Must be proficient in the use of PC’s and related applications software. In particular, must understand GIS concepts, and be proficient in the use of GIS software. Knowledge of the principles and practices of research and analysis. Ability to analyze, synthesize, and evaluate a variety of data for use in program development and analysis. Ability to organize, evaluate, and present information effectively. Ability to formulate plans, procedures, and controls in a program or service area. Ability to learn and utilize computer processes. Ability to maintain favorable public relations.

CERTIFICATES, LICENSES, REGISTRATIONS:

Valid driver’s license.

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.

KELLEY SCHMITT  3/9/2018

Appointing Authority                                            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