

# STATE OF MONTANA

## JOB DESCRIPTION

*Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.*

**Job Title: Traffic Signal Timing Engineer**

**Position Number: 32011; 36029**

**Location: Helena**

**Department: Transportation**

**Division and Bureau: Engineering Division, Traffic & Safety Bureau**

**Section and Unit: Traffic Operations Section, Traffic Signal Operations Unit**

### **Job Overview:**

This position evaluates and develops traffic signal timing, phasing and coordination plans for signal networks (both existing and new installations) on the state highway system. Signal timing requires the careful consideration of all highway users' needs and the balancing of competing interests to provide for the most safe and efficient operation possible. This job requires an advanced understanding of traffic engineering and an innovative approach to problem solving.

This position oversees and manages ongoing statewide traffic signal performance goals as established in the statewide signal performance priority plan. The position covers locations throughout the state and requires thorough knowledge of urban and rural transportation issues. The position must assess and effectively manage the multi-modal transportation needs of motorists, bicyclists, pedestrians, truck drivers, emergency vehicle operators, and mass transit users. This position is MDT's subject matter expert for traffic signal timing matters.

### **Essential Functions (Major Duties or Responsibilities):**

#### **Traffic Signal Timing Operations - 100%**

- Maximizes traffic operational performance of signalized corridors and isolated traffic signals throughout the State.
- Uses traffic engineering expertise and engineering judgment to effectively balance the safety and efficiency needs of the traveling public at traffic signals.

- Determine optimal timing plans using an intensive process that involves collecting, processing, and analyzing a large quantity of data. Operational evaluations of traffic signals involve a multi-step process of prioritizing data collection efforts, performing operational and safety analysis, utilizing microsimulation tools, presenting the findings to both internal and external customers and providing follow up studies to validate the recommended traffic signal timing and phasing plan. This position also works with outside consultants to review traffic signal timings plans.
- Planning and implementing timing plans for both typical traffic conditions and non-typical conditions including creating special traffic signal plans for non-reoccurring congestion such as Black Friday shopping hours, University football games, and construction closures and detours.
- Deploys and performs multiple types of data collection strategies and techniques in the field.
- Works with traffic signal controllers, controller software and in traffic signal controller cabinets in house and in the field.
- Communicates the process and results effectively through written memos and reports as well as oral presentations to the districts, cities, and the public.
- Develops and maintains a traffic signal inventory and priority list to ensure regular periodic traffic signal checkups are completed in a timely manner and responsive to changing traffic conditions.
- Responds to complaints about traffic signal operations by determining appropriate action, forwarding the complaint to appropriate maintenance personnel if required, and following up to ensure resolution of the complaint.
- Manages term consultant traffic signal timing projects encompassing selection, negotiations and contract management including overseeing project budget and schedule.
- Researches, develops and implements new policies and procedures for traffic signal timing strategies and technologies.
- Provide traffic signal analysis training and guidance to internal and external personnel.

## **Supervision**

The number of employees supervised is: 0

The position number for each supervised employee is: N/A

## **Physical and Environmental Demands:**

- Ability to lift objects up to 50-lbs.
- Occasional travel throughout the State. Work may include occasional late night/overnight conditions.
- Exposure to extreme weather, high-speed traffic and high voltage equipment.
- Ability to walk over uneven terrain.

- Operate power tools and equipment.

### **Knowledge, Skills and Abilities (Behaviors):**

Preferred knowledge skills and abilities for this position are:

- Written and verbal communication with both technical and non-technical audiences.
- Attention to detail.
- Scheduling and prioritizing.
- Flexibility to adjust to changing priorities on short notice.
- Ability to problem solve.
- Accuracy under pressure

### **Minimum Qualifications (Education and Experience):**

The required knowledge and skills are typically acquired through a combination of education and experience equivalent to Bachelor's Degree in Civil Engineering or a related field.

This position requires a minimum of 4 years of experience in progressively responsible highway engineering experience. Experience in traffic engineering is preferred.

Certifications, licensure, or other credentials include: PE required

Alternative qualifications include: Any combination of additional related work experience and education equivalent to the minimum qualifications.

### **Special Requirements:**

- |  |   |
|--|---|
| <input type="checkbox"/> Fingerprint check | <input type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check  | <input type="checkbox"/> Other; Describe        |
| Union Code                                 | Safety Responsibilities                         |

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

### **Signatures**

My signature below indicates the statements in the job description are accurate and complete.

Immediate Supervisor	Title	Date
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Administrative Review	Title	Date
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My signature below indicates that I have read this job description.

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Employee	Title	Date
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**Human Resources Review**

**Job Code Title: Civil Engineering Specialist    Job Code Number: 172517    Pay Band: 7**

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt

☒ FLSA Non-Exempt

☒ Telework Available

☐ Telework Not Available

☒ Classification Complete

☐ Organizational Chart attached

**Human Resources:**

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**Signature**

**Title**

**Date**