

# Missouri Department of Transportation Job Description

**Job Title:** Intermediate Highway Designer

**Title Code:** R05629

**Salary Grade:** 8

**Exemption Status:** Non-Exempt

**Supervisory Responsibilities:** Lead Worker

**District/Division:** Central and District Offices – Design

**Effective Date:** 04-01-2026

**Replaces (Effective Date):** 07-01-2022

## **General Summary**

The intermediate highway designer prepares detailed highway construction plans for a portion or complete highway project. Responsibilities are performed under moderate supervision.

## **Minimum/Required Qualifications**

- Bachelor's degree in engineering from an ABET-accredited college or university curriculum.
- Two years of experience in highway or transportation engineering.

## **Special Working Conditions/Job Characteristics**

- Job may require occasional, statewide, overnight travel.
- A postsecondary degree is the best measure to ensure candidates possess required knowledge in applied physics and mathematics, drafting, engineering processes and procedures, project management, industry ethical standards, and analyzing and modeling data.

## **Examples of Work**

1. Establishes horizontal and vertical alignment, balances earthwork, hydrologic and hydraulic designs using engineering principles; makes design notes, sketches, and layouts for detailing personnel.
2. Determines highway design features including geometrics, standards for highway functional classification, profile grades, typical sections, earthwork quantities, signals, signing and lighting, construction staging, traffic control, drainage, construction limits, exceptions to design standards, and safety improvements; uses computer aided drafting and design (CADD) system and other engineering software for computations and plan preparation.

3. In conjunction with a Professional Land Surveyor prepares bridge surveys to determine approximate bridge length, location, and type of structure; determines the location, type, and size of drainage structures and erosion control measures.
4. In conjunction with a Professional Land Surveyor determines right of way to be acquired; computes areas; locates land and property lines; determines size and locations of easements.
5. Determines items and prices to be used for tabulation of quantities, summaries, and estimates; prepares preliminary to final plan cost estimates for projects.
6. Reviews plans for conformance with standards and policy; reviews plans for errors or omissions; writes special provisions.
7. Addresses public concerns directly and/or indirectly, including, but not limited to, written correspondence, telephone, e-mail, public hearings and personal meetings.
8. Prepares relocation plans for utility adjustments; prepares highway capacity studies, and warrants and plans for traffic signals and highway lighting.
9. Designs, codes, develops, supports, and configures engineering software applications to be used by the department's engineers and designers.
10. Develops and trains material for end users on department's engineering software applications and assists end users with software problem/issues.
11. Performs lead worker responsibilities, which may include providing general instruction, assigning and reviewing work, coaching and training, providing guidance and instruction in the proper and most efficient methods of accomplishing tasks, and providing input to the direct supervisor on staffing decisions and performance management.
12. Performs other responsibilities as required or assigned.