

Missouri Department of Transportation Job Description

Job Title: Highway Designer

Title Code: R05776

Salary Grade: 7

Exemption Status: Non-Exempt

Supervisory Responsibilities: None

District/Division: Central and District Offices – Design

Effective Date: 08-01-2026

Replaces (Effective Date): 04-01-2026

General Summary

The highway designer is responsible for the determination of highway design features and performs computations for preparation of detailed construction plans for a portion of, or a 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.

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. Designs projects, including but not limited to, bridge replacements and resurfacing utilizing engineering software; prepares reconnaissance and conceptual reports and other project correspondence, including but not limited to, environmental impact statements.
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. Assists in the development and review of detailed preliminary plans, right of way plans, and final plans for complex projects, including but not limited to, interchanges, urban, or major bridge projects; ensures plans are in accordance with current design standards, policies, specifications and practices.
4. Computes quantities from standards and estimates costs for projects in all stages (preliminary to final) for the purpose of developing both short-term and long-term plans for construction.
5. In conjunction with a Professional Land Surveyor, obtains and plots land and property lines on plans for survey notes and abstracts; computes areas; ties right of way points to centerlines; determines size and location easements.
6. Addresses public concerns directly and/or indirectly, including, but not limited to, written correspondence, telephone, e-mail, public hearings and personal meetings.
7. Determines highway design features such as highway grades, typical roadway sections, earthwork quantities, elevations, profiles, horizontal and vertical alignment, bridges, and functional classes in accordance to design standards.
8. Designs, codes, develops, supports, and configures engineering software applications to be used by the department's engineers and designers.
9. Develops material for end users on department's engineering software applications and assists end users with software problems/issues.
10. Performs other responsibilities as required or assigned.