

# Missouri Department of Transportation

Code: R05776

Title: Highway Designer

Exemption Status: Non-Exempt

Grade: 12

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## Job Description

**Effective Date** 10-01-2017

**Replaces  
(Effective Date)** 08-20-2008

**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: Civil Engineering

**Supervisory  
Responsibilities** Lead Worker Only

**Location** Central and District Offices - Design

**Special Working  
Conditions/Job  
Characteristics** Job may require occasional, statewide, overnight travel.

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## 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 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.
- (11) Performs other responsibilities as required or assigned.

**The Missouri Department of Transportation promotes an equal opportunity workplace that includes reasonable accommodation of otherwise disabled applicants and employees. Please see your manager should you have any questions about this policy or these job duties.**