Iowa Department of Administrative Services – Human Resources Enterprise
Job Classification Description

Transportation Engineer Senior

Definition
Performs advanced professional engineering and administrative work in a staff capacity for division director or designee; plans, monitors and coordinates the development of projects, programs, and activities on a regional, division-wide, or department-wide basis; performs related work as required.

The work examples and competencies listed below are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

Work Examples
Assists an administrator or an executive in maintaining continuity of operations; works with managers and staff in attaining performance objectives, engineering achievements and effectiveness; may serve as member of division management team.

Coordinates and directs project development activities having critical long-term impacts and involving highly complex engineering and extreme public/political sensitivity; communicates as the department’s representative, with counties, cities, and other state and federal agencies, general public, public officials, and news media.

Reviews and interprets project plans and specifications; writes specifications or design procedures; provides technical and administrative assistance in the specification development process; analyzes industry standards and assures department compliance in practices and procedures; serves as technical resource in the interpretation of engineering specification language, particularly for complex and unique structures.

Coordinates and administers federal and state assistance to cities and counties; works with department staff in the interpretation, application, and compliance with objectives and criteria for several diverse funding programs.

Performs research; plans and coordinates program development in engineering and technology transfer; manages research projects requiring specialized experience and skills; investigates, conducts, and coordinates technical analysis and evaluation of research by department staff and other organizations; provides training and orientation on research and results.

Competencies Required
Knowledge:

- Engineering and Technology – Practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
• Transportation – Principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.

• Building and Construction – Materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.

• Mathematics – Arithmetic, algebra, geometry, calculus, statistics, and applications.

• Customer Service – Principles and processes for providing customer services, including customer needs assessment, meeting quality standards for services, and evaluating customer satisfaction.

Abilities:

• Deductive Reasoning – Apply general rules to specific problems to produce answers that make sense.

• Information Ordering – Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

• Oral Comprehension – Listen to and understand information and ideas presented through spoken words and sentences.

• Problem Sensitivity – Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

• Written Comprehension – Read and understand information and ideas presented in writing.

• Mathematical Reasoning – Choose the right mathematical methods or formulas to solve a problem.

Skills:

• Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

• Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

• Speaking – Talking to others to convey information effectively.

• Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.

• Operations Analysis – Analyzing needs and product requirements to create a design.

• Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.

• Coordination – Adjusting actions in relation to others’ actions.

• Mathematics – Using mathematics to solve problems.

• Systems Analysis – Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Minimum Qualification Requirements

Applicants must meet at least one of the following minimum requirements to qualify for positions in this job classification:
Transportation Engineer Senior

Class Code: 04245

1) All of the following (a and b):
   a. Licensure as a professional engineer; and
   b. Four years of full-time professional work experience in transportation engineering or civil engineering.

2) All of the following (a, b, and c):
   a. Licensure as a professional engineer; and
   b. Three years of full-time professional work experience in transportation engineering or civil engineering; and
   c. Graduation from an accredited college or university with a master’s degree in chemical, civil, construction, environmental, materials, structural, or transportation engineering; engineering management; or a field closely related to transportation engineering.

3) Current, continuous experience in the state executive branch that includes 18 months of full-time work as a Transportation Engineer Specialist or Transportation Engineer Manager.

Notes

Prior to appointment, applicants must possess active licensure as a professional engineer by the Iowa Engineering & Land Surveying Examining Board.

Effective date: 09/20 SA