

TRAFFIC ENGINEER 1-4

CLASS DESCRIPTION

General Responsibilities:

This is responsible professional traffic engineering work involving independent responsibility for major traffic engineering projects in an area of specialization. The work involves independent development and application of engineering methods and the production of traffic, traffic signal control, and/or electrical engineering designs for assigned projects and studies. The work involves the independent application of professional judgment to broad projects and problem solution. Assignments are received from higher level staff and limited supervision is required.

Progression to a Traffic Engineer 2 is not automatic, but rather is dependent upon the incumbent taking on additional duties and responsibilities. Progression to a level 3 and 4 is normally achieved through competition and based on the needs of the department.

Traffic Engineer 1

This is journey-level, professional traffic engineering work involving independent responsibility for major traffic engineering projects in an area of specialization. The work involves independent development and application of engineering methods and the production of traffic, traffic signal control, and/or electrical engineering designs for assigned projects and studies. The work involves the independent application of professional judgment to broad projects and problem solution. Assignments are received from higher level staff and limited supervision is required.

Traffic Engineer 2

This is advanced-level, professional traffic engineering and project supervision work performed in the office and/or field in connection with the planning, design, management and construction of a wide variety of public works projects. Assignments are received from a higher-level engineer or supervisor and the work involves the application of independent professional judgment to define the project; determine the best methods of addressing the situation(s), including the assignment of project components to lower-level staff, and professional certification of the results. The work is performed under the general direction and coordination of a higher-level professional engineer or supervisor and regularly involves the leadership of lower-level staff including professional engineers.

Traffic Engineer 3

This is advanced-level, responsible administrative and professional traffic engineering work within the Traffic Engineering Division. Incumbents have responsibility for: 1) the planning, design, and administration of public works projects and contracts; 2) field inspection, surveying, and construction administration of Traffic Engineering Division public works construction projects. 3.) Manage operation of the City of Madison's centralized signal system. 4.) Develop improvements for major transportation projects. The work is performed under the general supervision and direction of the City Traffic Engineer, Assistant City Traffic Engineer, and/or Traffic Engineer 4, is characterized by independent judgment

and major program and project responsibilities, and is reviewed through periodic conferences and reports.

Traffic Engineer 4

This is responsible supervisory, administrative, and professional traffic engineering work as the head of the Signal and Lighting, Operations and Safety, or other comparable unit within the Traffic Engineering Division. The work involves the planning, coordination, and performance of a wide variety of projects and activities within the area of specialization and typically involves the supervision of lower-level staff and professional traffic engineers. The work is characterized by the independence of action, the broad range of assignments and the responsibility for an identified area of specialization. General supervision and major assignments are received from the Assistant City Traffic Engineer and the City Traffic Engineer.

Examples of Duties and Responsibilities:

Traffic Engineer 1

Design traffic signal systems and installations. Determine traffic signal coordination and progression timing to produce optimum traffic movement. Prepare geometric design or redesign for traffic control at unusual or special intersections.

Design lighting systems for roadways, bikeways, walkways, and athletic facilities.

Prepare plans and specifications for traffic engineering public works projects.

Oversee professional and technical staff in the inspection of traffic engineering construction projects. Determine proper traffic control for street use during maintenance and construction activity by other City departments, public utilities, and contractors.

Supervise the collection and analysis of traffic data. Study and design intersection capacities. Prepare special project reports. prepare for and attend public meetings and hearings and committee meetings related to assigned projects. Make presentations and answer public inquiries.

Work with other City agencies to insure that the traffic engineering aspects are addressed in planning and engineering projects. Make recommendations relative to traffic engineering issues.

Develop or oversee traffic control plans and phasing for public works projects involving low level public impact.

Perform related work as required.

Traffic Engineer 2

All the work of the Traffic Engineer 1 with a higher degree of judgment, discretion and initiative.

Conduct and/or direct the conducting of investigations and engineering analysis for neighborhood, corridor, and intersection traffic safety studies. Prepare cost benefit analysis and development, installation, and evaluation of engineering countermeasures.

Provide traffic engineering planning and design services to the City Engineer in the preparation of capital improvement projects, budgets and contracts and to other City and non-City agencies in a wide variety of areas.

Review of Plan Commission, Board of Appeals and Dane County Board of Adjustments submittals. Prepare written response from Traffic Engineering to the Plan Commission, Ped Bike Motor Vehicle Commission, Transit Commission, Parking Commission, or other boards or commissions after reviewing the materials and other department staff comments.

Meet, as required, with developers, alderpersons and citizens to resolve issues associated with development proposals. Review and approve traffic impact studies and transportation management plans prepared by developers or their consultants. Supervise the preparation of traffic impact studies to address special transportation issues.

Represent the division on the Street use committee and School Traffic Safety Committee.

Perform related work as required.

Traffic Engineer 3

All of the work of a Traffic Engineer 2 with a higher degree of judgment, discretion and initiative.

Determine project scope and, based on current workload and the nature of the project, assign to internal project engineers or use external consulting firms for project design. Coordinate project scheduling for Board of Public Works, Common Council, public input, construction, etc.

Prepare grant requests and administer grants for eligible City projects and functions in the area(s) of responsibility. Coordinate state and federally-funded projects. Oversee the preparation of environmental assessments and necessary reports and records.

Manage the division's intelligent transportation system components including CCTV cameras, Dynamic message signs and centralized traffic signal system. Plan locations for future deployments and oversee lower level staff in the daily operations of these systems. Research and develop recommendations to the Assistant City Traffic Engineer and the City traffic engineer on technology upgrades and future trends as they relate to intelligent transportation systems.

Perform related work as required.

Traffic Engineer 4

All of the work of a Traffic Engineer 3 with a higher degree of judgment, discretion and initiative.

Supervise the activities and staff and serve as the head of the Operations and Safety Unit including traffic studies, computer data analysis and recordkeeping, pedestrian-bike safety, and technical support staff functions for the Division.

Supervise the activities and staff of the Signal and Lighting Unit. Oversee the planning, design, and operation of traffic signals, interconnected signal systems, street lighting, and other City-owned electrical components on or near the public right of way (e.g., Monona Terrace exhaust fans, school flashers speed display boards, etc.).

Manage and oversee technical staff along with the development specialist in maintenance of division's mapping records, crash record database and associated reports, city wide count program, and the division's epoxy pavement marking program.

Perform related work as required.

QUALIFICATIONS

Knowledge, Skills and Abilities:

Traffic Engineer 1

Working knowledge of traffic engineering principles and practices. Working knowledge of civil and electrical engineering construction and design practices as they apply to the design, construction and operation of transportation and traffic control facilities. Working knowledge of the operation of traffic signal controllers and traffic signal networks. Working knowledge of and ability to use computer software applicable to the duties of the position, including computer assisted design processes and techniques. Knowledge of statistics and math necessary to analyze traffic data. Ability to compile, consolidate, and analyze statistical and other data and to make broad-based recommendations using that data. Ability to prepare and/or review construction plans and specifications. Ability to independently develop traffic engineering design projects. Ability to prepare technical reports. Ability to communicate effectively, both orally and in writing. Ability to establish and maintain effective work and public relationships. Ability to coordinate and review the work of lower-level professional, paraprofessional, and technical staff. Ability to make presentations and answer inquiries at public meetings. Ability to maintain adequate attendance.

Traffic Engineer 2

Thorough knowledge of traffic engineering principles and practices. Thorough knowledge of civil and electrical engineering construction and design practices as they apply to the transportation and traffic functions and the area(s) of specialization. Thorough knowledge of the operation of traffic signal controllers and traffic signal networks. Working knowledge of and ability to use computer applications for traffic engineering, including computer assisted design processes and techniques. Working knowledge of statistics and math necessary to analyze traffic data. Ability to independently develop traffic engineering design projects. Ability to compile, consolidate, analyze, and draw conclusions from statistics and other data. Ability to communicate effectively, both orally and in writing. Ability to communicate technical issues and data to citizens, other government employees, and elected officials by written and verbal means. Ability to prepare technical reports and act on study conclusions.

Ability to prepare and/or review construction plans and specifications. Ability to establish and maintain effective work and public relationships. Ability to make presentations and answer inquiries at public meetings. Ability to develop new techniques and approaches relative to the area of specialization and to provide professional leadership. Ability to coordinate and review the work of lower-level professional, paraprofessional, and technical staff. Ability to maintain adequate attendance.

Traffic Engineer 3

Thorough knowledge of traffic engineering principles and practices. Thorough knowledge of civil and electrical engineering construction and design practices as they apply to the design, construction and operation of transportation and traffic control facilities. Thorough knowledge of the operation of traffic signal controllers and traffic signal networks. Thorough knowledge of and ability to use computer applications for traffic engineering, including computer assisted design processes and techniques. Thorough knowledge of statistics and math necessary to analyze traffic data. Ability to compile, consolidate, and analyze statistical and other data and to make broad-based recommendations using that data. Ability to prepare and/or review construction plans and specifications. Ability to independently develop traffic engineering design projects. Ability to communicate technical issues and data to citizens, other government employees, and elected officials by written and verbal means. Ability to prepare technical reports and act on study conclusions. Ability to communicate effectively, both orally and in writing. Ability to establish and maintain effective work and public relationships. Ability to develop new techniques and approaches relative to the area of specialization and to provide professional leadership. Ability to coordinate and review the work of lower-level professional, paraprofessional, and technical staff. Ability to make presentations and answer inquiries at public meetings. Ability to maintain adequate attendance.

Traffic Engineer 4

Thorough knowledge of traffic engineering principles and practices. Thorough knowledge of civil and electrical engineering construction and design practices as they apply to the design, construction and operation of transportation and traffic control facilities. Thorough knowledge of the operation of traffic signal controllers and traffic signal networks. Thorough knowledge of and ability to use computer applications for traffic engineering, including computer assisted design processes and techniques. Thorough knowledge of statistics and math necessary to analyze traffic data. Ability to compile, consolidate, and analyze statistical and other data and to make broad-based recommendations using that data. Ability to prepare and/or review construction plans and specifications. Ability to independently develop traffic engineering design projects. Ability to communicate technical issues and data to citizens, other government employees, and elected officials by written and verbal means. Ability to prepare technical reports and act on study conclusions. Ability to communicate effectively, both orally and in writing. Ability to establish and maintain effective work and public relationships. Ability to supervise and review the work of lower-level professional, paraprofessional and technical staff. Ability to develop new techniques and approaches relative to the area of specialization and to provide professional leadership. Ability to make presentations and answer inquiries at public meetings. Ability to maintain adequate attendance.

Training and Experience:

Generally, positions in this classification will require:

Traffic Engineer 1

Three years of professional traffic engineering experience in the design and construction of public works projects. Such experience would normally be gained after graduation from an accredited college or university with a specialization in traffic, civil, transportation engineering, or a closely related field. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledge, skills and abilities necessary to perform the duties of this position will also be considered.

Traffic Engineer 2

Five years of advanced-level professional traffic engineering experience including at least two years equivalent to the Traffic Engineer 1 level in the City of Madison. Such experience would normally be gained after graduation from an accredited college or university with a specialization in traffic, civil, transportation engineering, or a closely related field. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledge, skills and abilities necessary to perform the duties of this position will also be considered.

Traffic Engineer 3

Six years of advanced-level professional traffic engineering experience including at least two years equivalent to the Traffic Engineer 2 level in the City of Madison. Such experience would normally be gained after graduation from an accredited college or university with a specialization in traffic, civil, transportation engineering, or a closely related field. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledge, skills and abilities necessary to perform the duties of this position will also be considered.

Traffic Engineer 4

Seven years of advanced-level professional traffic engineering experience including at least two years equivalent to the Traffic Engineer 2 level in the City of Madison. Such experience would normally be gained after graduation from an accredited college or university with a specialization in traffic, civil, transportation engineering, or a closely related field. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledge, skills and abilities necessary to perform the duties of this position will also be considered.

Specific training and experience requirements will be established at the time of recruitment.

Necessary Special Qualifications:

Possession of a valid Wisconsin driver's license or the ability to meet the transportation requirements of the position.

The incumbent may be expected to attend meetings and provide presentations outside the

