



TRANSPORTATION ENGINEER / TRAFFIC ENGINEER

DEFINITION

Under direction, performs professional complex office and field traffic engineering and transportation planning work; provides project coordination and lead direction to project teams or units of professional and technical staff to formulate, organize, and implement traffic engineering and planning related functions; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives direction from an assigned Sr. Traffic Engineer. Exercises no direct supervision over staff. May provide technical and functional direction and training to lower-level staff.

CLASS CHARACTERISTICS

Transportation Engineer: This is the fully qualified professional, unregistered level. Under direction, incumbents perform the full scope of general transportation and traffic engineering duties, which include transportation planning, travel demand modeling, and forecasting the effects of proposed projects on traffic and transportation. Positions at this level usually perform most of the duties required of the traffic engineer level, but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Incumbents are expected to work independently and exercise judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

Traffic Engineer: This is the fully qualified professional, registered level. Incumbents have the same duties and responsibilities as the Transportation Engineer, and are expected to advance to this level within one (1) year, upon receipt of a Traffic Engineer license issued by the State of California.

This class is distinguished from the Sr. Traffic Engineer in that the latter has responsibility for organizing, assigning, supervising, and reviewing the work of traffic staff.

Positions in the Transportation Engineer/Traffic Engineer class series are flexibly staffed. Movement from the Transportation Engineer level to the Traffic Engineer level is required and based solely upon receipt of the registered California Traffic Engineer license. Failure to obtain registration as a Traffic Engineer prior to the end of the probation period of the Transportation Engineer classification will result in immediate separation.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

- Provides lead direction and subject matter expertise to project teams and/or work units in the areas of traffic engineering and transportation planning; assists with the development of the County's transportation planning documents, which includes developing major modifications to the County's Capital Improvement Program and Traffic Impact Mitigation Fee Program; implements transportation planning and land use planning documents, general plans, specific plans, and environmental documents.

- Reviews proposed development, discretionary, and other projects; reviews Environmental Impact Reports and other California Environmental Quality Act documents related to projects; makes recommendations for conditions based on the impact to traffic conditions.
- Collects, tabulates, and analyzes traffic information; prepares standards, methods, techniques, analyses, recommendations, and solutions for complex traffic operational issues and problems.
- Prepares technical project and staff reports pertinent to traffic and transportation; reviews the technical analyses and reports prepared by consultants; presents study findings to the Board of Supervisors and at public meetings and hearings.
- Serves on project teams as a subject matter expert related to traffic and transportation; advises the Board of Supervisors, County management, and others on the impact of proposed projects and developments as well as amendments to County policy on traffic and transportation.
- Performs all technical aspects of travel demand modeling and traffic operations analyses for all types of roadway and freeway facilities.
- Forecasts the effects of road improvements, land use changes, policy changes, and public transport schemes.
- Serves on project teams as a subject matter expert for the development of short- and long-range transportation plans.
- Performs complex studies and analyses of traffic and transportation-related matters; analyzes proposed federal, state, and local legislation for impact on the County's traffic policies, procedures, and practices and advises on the same.
- Attends meetings, conferences, workshops, and training sessions; attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of traffic engineering and transportation planning and other types of public services as they relate to the area of assignment.
- Serves as the "engineer in responsible charge" on projects of a routine nature as assigned.
- Performs related duties as assigned.

QUALIFICATIONS

Some knowledge and abilities may be gained by employees at the entry (I) level while in a learning capacity.

Knowledge of:

- Modern principles and practices, and technical and legal issues of traffic engineering and transportation planning.
- Federal, state, and local laws, codes, rules, regulations, and standards pertinent to the assigned area of responsibility.
- Geographic, socioeconomic, transportation, political, and other elements related to traffic engineering and transportation planning.
- Operational characteristics, services, and activities of a comprehensive traffic engineering program.
- Engineering terminology and technical report writing requirements related to traffic and transportation.
- Mathematical and computer simulation models.
- Statistical analysis and mathematical concepts related to the planning process.
- Project management and contract administration principles and techniques.
- Researching and reporting methods, techniques, and procedures.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and County staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

- Modern equipment and communication tools used for business functions and program, project, and task coordination.
- The procedures and methodologies of traffic operations analysis as identified in the latest edition of the Transportation Research Board's Highway Capacity Manual.
- Computers and software programs (e.g., Microsoft software packages, Highway Capacity Software, Syncros/SimTraffic, Citilabs) to conduct, compile, and/or generate documentation and conduct traffic operations analysis.

Ability to:

- Analyze complex technical data and reports, evaluate alternative solutions, and recommend or adopt effective courses of action.
- Apply traffic engineering and transportation planning principles and techniques to the solution of highly complex problems.
- Collect, interpret, and analyze field and office traffic and transportation data accurately.
- Perform technical engineering operations and studies.
- Read plans and specifications, and make effective site visits.
- Assess, monitor, and report transportation impact on and of various County projects, plans, and policies.
- Maintain accurate records of work performed.
- Perform complex mathematical and engineering computations with precision.
- Prepare and present clear, concise, and logical written and oral reports, correspondence, policies, procedures, and other written material.
- Make sound, independent decisions within established policy and procedural guidelines.
- Coordinate assigned activities with other County departments and agencies as required.
- Direct and review the work of contract consultants.
- Interpret and explain assigned programs to the general public; identify and respond to issues and concerns of the public, Board of Supervisors, and other boards and commissions.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to the work performed.
- Effectively represent the department and the County in meetings with governmental agencies, community groups, various business, professional, and regulatory organizations, and in meetings with individuals.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Effectively use computer systems, software applications, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of the required experience, education, and training that would provide the essential knowledge, skills, and abilities is qualifying.

Transportation Engineer:

Equivalent to a bachelor's degree from an accredited four-year college or university with major coursework in traffic engineering, transportation planning, civil engineering, or a closely related field.

Traffic Engineer:

Equivalent to a bachelor's degree from an accredited four-year college or university with major coursework in traffic engineering, transportation planning, civil engineering, or a closely related field;

AND

One (1) year of professional traffic and transportation engineering experience at a level equivalent to the County's class of Transportation Engineer, and registration as a Traffic Engineer.

Licenses and Certifications:

Transportation Engineer:

- Possession of, or ability to obtain and maintain, a valid California or Nevada Driver's License and a satisfactory driving record.
- Ability to apply for and obtain certification as a registered Traffic Engineer issued by the California Board for Professional Engineers, Land Surveyors, and Geologists (BPELSG) within the one (1) year probationary period.

Traffic Engineer:

- Possession of, or ability to obtain and maintain, a valid California or Nevada Driver's License and a satisfactory driving record.
- Possess and maintain valid certification as a registered Traffic Engineer issued by the California BPELSG.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, to inspect development sites, including traversing uneven terrain, climbing stairs, and other temporary or construction access points; to operate a motor vehicle and to visit various County and meeting sites; vision to read printed material and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is primarily a sedentary office classification with frequent field work such as inspecting development sites. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 25 pounds. Reasonable accommodations will be made for individuals on a case-by-case basis.

ENVIRONMENTAL CONDITIONS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees also work in the field and are occasionally exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

WORKING CONDITIONS

Must be willing to attend meetings outside of normal working hours.