



INTELLIGENT TRANSPORTATION SYSTEM (ITS) SIGNAL TECHNICIAN I/II

Purpose:

To actively support and uphold the City's stated mission and values. To perform highly technical work in the installation, operation and maintenance of electrical, electronic and digital controlled traffic signal control devices and lighting systems.

Supervision Received and Exercised:

ITS Signal Technician I

Receives supervision from higher level supervisory and management staff. Receives functional and technical direction from crew lead.

ITS Signal Technician II

Receives general supervision from higher level supervisory and management staff. Receives functional and technical direction from crew lead.

May exercise functional and technical supervision over lower level signal maintenance staff.

Distinguishing Characteristics:

ITS Signal Technician I

This is the entry level class in the ITS Signal Technician series. This class is distinguished from the ITS Signal Technician II by the performance of the more routine tasks and duties assigned to positions within the series.

ITS Signal Technician II

This is the full journey level class within the ITS Signal Technician series. Employees within this class are distinguished from the ITS Signal Technician I by the performance of the full range of duties as assigned; including the design of electronic circuits, the development of preventive maintenance programs and the coordination of the installation, operation, maintenance, and repair of traffic signal control devices and lighting systems. Employees 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

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the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the I-level or when filled from the outside require previous signal maintenance experience.

Essential Functions:

Duties may include, but are not limited to, the following:

- Troubleshoot, repair and maintain traffic signal control devices, ITS/Communication systems and auxiliary equipment including analog, digital, wireless, electronic, and microprocessors.
- Repair or replace damaged signal equipment such as signal poles, signal and pedestrian heads, and push buttons.
- Perform a variety of preventive maintenance duties including changing signal bulbs, cleaning reflectors and refractors, painting poles, and cleaning signal control cabinets.
- Install, maintain and repair pre-timed, semi-automatic, fully automatic, electro-mechanical, electronic and digital controllers, auxiliary equipment, and similar devices.
- Assist in wiring new intersections according to wiring specifications.
- Install and test solid state digital electronic devices in cabinets according to system schematics.
- Repair roadway lighting systems at signal intersections and various other locations.
- Coordinate signal related repairs and installations with other City divisions and departments as well as outside agencies and contractors; work with Fire Department in installing and testing new and existing fire preemption circuits; work with phone company to troubleshoot central system communication circuits.
- Design, build, test and install electronic auxiliary timing circuits and auxiliary circuits.
- Develop, implement and document preventive maintenance programs to minimize future problems and to keep the traffic signal system in optimum operating condition.
- Test, recertify and/or replace ITS and traffic signal components to industry standards including MMU's, BIU'S, signal controllers, and light rail components.
- Participate in the scheduling of traffic signal and lighting construction projects by coordinating personnel, materials and equipment.

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- Perform aerial work and repair malfunctioning traffic signals, CCTV, wireless radio, and street lights.
- Receive and respond to trouble calls during normal work schedule, evenings, weekends and special events.
- Create and close electronic work orders.
- Install traffic cones and barricades; direct and control traffic during normal work schedule, evenings, weekends and special events.
- Maintain computerized time, material and equipment use records.
- Blue stake traffic signal systems, including fiber optic cable, traffic signal cable, and communication system cables.
- Maintain, troubleshoot, and repair current and future ITS infrastructures such as CCTV cameras, fiber optics, vehicle detection, and microwave communications systems and devices.
- Maintain light rail transportation systems including Pier to Pier communication, LRT priority pre-emption, and train operator signals.
- Perform related duties as assigned.

Minimum Qualifications:

Experience:

ITS Signal Technician I

Minimum two years of experience in the installation, maintenance and repair of electronic control devices preferably including traffic signal systems.

ITS Signal Technician II

Two years of experience in the installation, maintenance and repair of electronic control devices preferably including traffic signal systems and Two years of experience as a ITS Signal Technician Level I or equivalent.

Education:

ITS Signal Technician I

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Equivalent to the completion of the twelfth grade supplemented by specialized training in electronics or degree related to the core functions of this position. An Associate of Applied Science in Electronics degree is highly desirable.

ITS Signal Technician II

Equivalent to the completion of the twelfth grade supplemented by specialized training in electronics or degree related to the core functions of this position. An Associate of Applied Science degree is highly desirable.

Licenses/Certifications:

Must possess and maintain a valid driver's license.

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Possession of, or required to obtain within twelve (12) months of hire, a Work Zone Safety Certificate, Electronic or Electrical Technician Certificate and a Level I International Municipal Signal Association (IMSA) Certification.

ITS Signal Technician II

Possession of, a Work Zone Safety Certificate, Electronic or Electrical Technician Certificate and a Level II International Municipal Signal Association (IMSA) Certification.

Examples of Physical and/or Mental Activities:

- Lift heavy objects (less than 50 lbs);
- Move heavy objects with forklift, dolly, etc.;
- Operate city vehicles (i.e. pick-up truck);
- Use power tools (i.e. jackhammers, drills, vacuums, cut off saws, circular saw, etc.);
- Use tools (i.e. screwdrivers, wrenches, shovels, picks, DVOM meters, handset phones, socket and ratchets, smack wrenches, sledge hammers etc.);
- Climb stairways, ladders, and work on elevated structures;
- Traverse uneven surfaces;
- Traverse long distances during workday with or without an accommodation;
- Other physical labor essential to the classification (i.e. move equipment, set up traffic control, push disabled cars out of road, replace and repair damaged equipment);
- Work in a stationary position for considerable periods of time;
- Operates computers, calculators and other office machines;
- Extensive reading and close vision work;
- Work in confined areas;
- Work out-of-doors in inclement weather;
- Exposure to heat, cold, dampness, dust, pollen, odors, fumes, etc.;

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- Exposure to hazards of electrical shock, falls, noise, equipment operation, etc.;
- Exposure to blood and airborne pathogens; bodily fluids; etc.;
- Exposure to chemicals, petroleum products, cleaning agents, fumes, etc.;
- May require working extended hours;
- May work **alone** for extended periods of time;

Competencies:

<http://www.tempe.gov/home/showdocument?id=26274>

Job Code: 188/215

Status: Non-Exempt / Classified

*Effective November 1988
Reviewed October 1995
Revised August 2003 (revised duties)
Revised December 2005
Revised April 2017 (revised job title, job duties, & min quals)
Revised May 2017 (added physical/mental activities)*