



## **Title:** Intelligent Transportation Systems Engineer

**FLSA STATUS:** Exempt from overtime under FLSA.

### **SUPERVISION RECEIVED AND EXERCISED:**

Receives direction from Assistant City Traffic Engineer.  
This is a non-supervisory job classification

### **MINIMUM QUALIFICATIONS**

- **Education:** Bachelor's degree in any field or equivalent
- **Experience:** Minimum of three years related experience. Requires a working knowledge of specialized practices, equipment and procedures.
- **Licenses/Certifications/Special Requirements:** Valid AZ Drivers License upon hire.

### **PREFERRED/DESIRABLE QUALIFICATION(s):**

- Experience in a municipal or government setting.

### **JOB SUMMARY**

The purpose of this position is to perform highly specialized and complex professional traffic engineering work, or perform professional engineering work in the capacity of an Intelligent Transportation System (ITS) Engineer. Manages signal timing and coordination, traffic signal studies, troubleshooting communication network and ITS equipment, and computerized traffic signal programming and control. Applies knowledge and experience to perform assigned tasks; uses computers and software to manage the equipment, data collection, and input to time and coordinate signals; works closely with other jurisdictions and the City's Signal Maintenance crews to receive their timing and have them match signal timing; performs field visits to review traffic and communication problems; handles complaints and inquiries from public on any phase of traffic signal operations; prepares traffic signal equipment specifications, written traffic engineering reports, and traffic signal design research projects; determines need for new or upgraded traffic signals; plans and designs new traffic signals; assists in decisions regarding unplanned equipment relocation; makes independent investigations of traffic engineering problems; manages the Traffic Signal Network Equipment.



## ESSENTIAL FUNCTIONS

Note: This information is intended to be descriptive of the key responsibilities of the position. The list of essential functions below does not identify all duties performed by any single incumbent in this position.

#	Essential Functions
1	Programs and operates the City Computerized Traffic Signal Control System. Prepares signal timing and coordination at new and existing signal locations and oversees implementation; handles complaints and inquiries from public on any phase of traffic signal operations, such as placement, warrants, or timing; communicates with customers, clients, and the public using telephone, one-on-one, or in group setting; expresses technical matters in terms that are meaningful to non-professional people; operates the Traffic Management software to monitor signals, implement timing plans, and adjusts timing plans for optimum performance of the traffic flow; operates the Camera Chameleon System to observe traffic, monitor backups, and implement messages on DMS signs to provide real time information to motorists; communicates with other jurisdictions related to incidents that may impact traffic flows across jurisdictional lines; customizes set-up and operation manuals on the software used in the TMC and on the Traffic Network; represents City at the TMC Operators Workgroup meetings; trains staff on software installation and operation; works with vendors to ensure software is up-to-date and working properly.
2	Traffic Signal Timing and Coordination. Makes and analyzes traffic engineering studies; prepares the signal timing and coordination at new and existing signal locations; oversees implementation; handles complaints and inquiries from public on any phase of traffic signal operations, such as placement, warrants, or timing; acquires and analyzes data on traffic flow, enters data into software and analyzes data to ensure timing is appropriate for corridor; performs field reviews, observes, and adjusts timing on signals to ensure coordination; meets with jurisdictions to discuss timing changes that affect corridors across city boundaries; develops coordination timing acceptable to other jurisdictions, including timing for their intersections; ensures timing is implemented properly and adjusted regularly; provides decision makers with information to decide policy on timing and coordination of signals.



# City of Peoria

## HUMAN RESOURCES

3	<p>Troubleshoots and assists with repair of City's hybrid fiber optic to wireless radio communication infrastructure. Prepares traffic signal equipment specifications, written traffic engineering reports, and traffic signal design research projects; troubleshoots fiber communication problems, switch problems, repair switches, and equipment; develops and assigns IP addresses, fiber assignments, and troubleshoots communications failures; coordinates with various contractors and consultants to ensure correct fiber, IP addresses, and configurations are used in new installations; provides slice diagrams for projects attaching to City fiber; backs-up all devices on Traffic Network, other than servers; ensures virus protection, firmware, and software versions are consistent throughout Traffic Network; provides in-house training to staff on the use and care of network equipment and fiber; manages Traffic Signal System Software servers and clients; coordinates with vendors with new products to integrate the products and ensure City's Traffic Network integrity is maintained; works with Network Security Officer to ensure the security of Traffic Network is maintained; works with other jurisdictions to maintain regional communications.</p>
4	<p>Determines need for new or upgraded traffic signals; plans and designs new traffic signals and ITS installations. Prepares traffic signal and ITS equipment specifications, written engineering reports, and traffic signal design research projects; determines need for new or upgraded traffic signals and ITS; plans and design new traffic signals and ITS, involving recommendation of signal controller type and type / location of all signal equipment and any geometric roadway design of the intersection and approaches to ensure safest possible driving conditions; updates City's ITS Strategic Plan for where City should deploy ITS equipment on the street system; evaluates needs for signal control; develops GIS maps of locations for current and future ITS applications.</p>
5	<p>Regional functions and projects. Attends meetings representing City with other jurisdictions related to Traffic Management and signal systems; provides input into statewide contracts and projects that affect City's TMS System (AZTECH, MAG, ADOT); meets with surrounding jurisdictions to discuss and decide on coordination issues throughout the region.</p>



**PHYSICAL DEMANDS AND WORK ENVIRONMENT:**

<p align="center"><b>Physical strength for this position is indicated below with “X”</b></p> <p align="center">The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.</p>					
Sedentary	Light	X	Medium	Heavy	Very Heavy
Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	Exerting up to 20 lbs. occasionally, 10 lbs. frequently, or negligible amounts constantly OR requires walking or standing to a significant degree.	X	Exerting 20-50 lbs. occasionally, 10-25 lbs. frequently, or up to 10 lbs. constantly.	Exerting 50-100 lbs. occasionally, 10-25 lbs. frequently, or up to 10-20 lbs. constantly.	Exerting over 100 lbs. occasionally, 50-100 lbs. frequently, or up to 20-50 lbs. constantly.

<p align="center"><b>Work Environment for this position is indicated below with “X”</b></p> <p align="center">The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.</p>				
Office	X	Outdoors	Vehicle	Office and Field/ Plant/ Warehouse
Position is typically office or administrative work and is not substantially exposed to adverse environmental conditions.	X	Incumbents may be subjected to extreme temperatures, wetness/humidity, respiratory hazards and noise and vibration.	Incumbents may be subjected to moving mechanical parts, vibrations, fumes, odors, dusts, poor ventilation, chemicals, oils, extreme temperatures, inadequate lighting, work space restrictions, intense noises and travel.	The work will occur in an office and field environment. While performing the duties and responsibilities the employee maybe exposed to loud noise, noxious odors, unsanitary conditions, chemicals, electricity, moving mechanical parts, varying weather conditions, and other related conditions and situations. Position is subject to atmospheric conditions: Fumes, odors, dust, mists, gases or poor ventilation

**MACHINES, TOOLS, EQUIPMENT, SOFTWARE, AND HARDWARE:**

Computers, printers, scanner, copy / fax machine, and related software, telephone, switches, OTDR, power meter, light meter.

**PROTECTIVE EQUIPMENT REQUIRED:**

Protective clothing, safety vest, safety footwear, protective eyewear, hard hat.