



Title: Intelligent Transportation Systems (ITS) Technician

FLSA Status: (Non-Exempt)

BRIEF DESCRIPTION:

The purpose of this position is to maintain, monitor and assist in developing the current and future intelligent transportation systems (ITS). This includes traffic signal timing and coordination, traffic signal studies, and computerized traffic signal programming and control. Assists traffic signal staff with the installation of ITS equipment. Other duties may include completing related tasks as assigned

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. Additionally, please be aware of the legend below when referring to the physical demands of each essential function.

(S) Sedentary	(L) Light	(M) Medium	(H) Heavy	(V) 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.	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.

#	Code	Essential Functions
1	S	Maintains, monitors and assists in developing current and future ITS infrastructures including the central computerized traffic signal control systems, adaptive and responsive control methodologies, traffic monitoring cameras, vehicle detection technologies, telephonic, fiber optic, wireless communication systems devices, networking devices, and video switching devices.
2	M	Troubleshoots, tests, replaces and repairs malfunctioning fiber optic, wireless communication system devices, networking devices, video devices, traffic signal controllers and other electronic equipment.
3	L	Maintains the City's ITS communications network. Configures network equipment such as routers, switches and other Ethernet equipment.
4	M	Assists Traffic Signal Technicians in installing ITS equipment.
5	S	Researches and responds to citizen inquiries and complaints on ITS equipment.
6	S	Proposes changes and improvements to the existing traffic signal systems.
7	L	Observes and manipulates multiple live video images to constantly evaluate traffic problems and maximize capacity of existing transportation systems.
8	L	Integrates new technologies with existing systems and resolves any compatibility problems.
9	L	Prepares Synchro models to establish signal timing parameters to be implemented in the field or through Maxview.
10	S	Attends meetings with other jurisdictions related to Traffic Management and signal systems and coordinates traffic signal issues throughout the region.



JOB REQUIREMENTS:

-Description of Minimum Job Requirements	
Experience	4-6 years' experience. The job requires an expert or journey level of theory, principles, practices, materials and equipment of traffic signal operations, telecommunications, fiber optics, closed circuit television cameras, and all other aspects of ITS.
Education	Two year college program or equivalent combinations resulting in accumulation of similar knowledge or skills and two years of relevant work experience in traffic signal systems such as Intelligent Transportation Systems performing maintenance and operations duties. Any equivalent combination of training and experience that provides the required knowledge, skills and abilities is qualifying.
Technical Skill	Advanced technical skills. Work requires advanced skills, specialized knowledge, and extensive expertise in approaches and systems.
Physical Demands	Work requires heavy physical exertion and effort. Forces exerted are equivalent to lifting between 25 and 50 pounds. The need for physical stamina and endurance is great. The degree of physical strain produced on the job is high. It results in fatigue, and requires periods of rest. Job requirements for manual dexterity and physical manipulation are high. Work could involve the coordination of body movements involving various body postures.
Contacts	Contacts are an integral part of the job as work involves internal and external contacts for the purpose of problem solving with respect to matters of considerable importance to the organization requiring tact, diplomacy and persuasiveness and/or where no guidelines exist. Improper handling could affect relationships between departments or functions. Contacts are frequently at the same or higher levels. Interactions may affect City business. Work involves regular contact with people who are upset, uncooperative or have difficulty communicating their requirements and/or a regular requirement to communicate information that people do not want to hear to find upsetting.
Responsibility	May show another employee how to perform a task or may have some lead authority over one or more people for a short period of time through the year. May train replacement and/or co-workers in own job functions.
Accountability	Decision/action situations have a significant impact on the organization. Errors are difficult to detect and result in immediate impact on resources and continuing influence on operational effectiveness. Revenue, productivity, service, quality, security of assets or external relationships may be adversely affected. Corrections may be more costly than original action.
Environment	Exposure to physical hazards, health and safety risks, adverse or otherwise undesirable characteristics in the environment such as laboratory or warehouse, machinery vibration, noise and hazardous chemicals. Personal risks require use of safety equipment or following precautions closely.
Safety	Responsible for personal performance as a source of serious safety risk. Work involves the use of hazardous tools, equipment and/or materials OR ensuring organizational compliance with rules, procedures and legislation for safe operation of facility, safety and development of safe work procedures.
Reading	Advanced - Ability to read literature, books, reviews, scientific or technical journals, abstracts, financial reports, and/or legal documents. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Math	Advanced – Ability to apply fundamental concepts of theories; work with advanced mathematical operations methods and functions of real and complex variables. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Writing	Advanced – Ability to write editorials, journals, speeches, manuals, or critiques. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.



Certifications & Other Requirements	Required upon hire: Valid Arizona Class "D" Driver's License upon hire. IMSA Traffic Signal Design/Engineering Tech Level II IMSA Traffic Signal Senior Field/Bench Technician Level III/II Desired Certifications: IMSA Transportation Center System Specialist Level I & II IMSA Traffic Signal Inspector
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OVERALL PHYSICAL STRENGTH DEMANDS:

-Physical strength for this position is indicated below with “M”-				
Sedentary	Light	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.	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.

PHYSICAL DEMANDS:

C Continuously <small>2/3 or more of the time.</small>	F Frequently <small>From 1/3 to 2/3 of the time.</small>	O Occasionally <small>Up to 1/3 of the time.</small>	R Rarely <small>Less than 1 hour per week.</small>	N Never <small>Never occurs.</small>
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Note: This is intended as a description of the way the job is currently performed. It does not address the potential for accommodation.

-Physical Demand-	-Frequency-	-Brief Description-
Standing	C	Observing work site, observing work duties, communicating with co-workers
Sitting	O	Desk work, meetings, driving
Walking	F	To other departments/offices, around work site
Lifting	O	Supplies, files
Carrying	O	Supplies, files
Pushing/Pulling	O	File drawers, tables and chairs
Reaching	O	For supplies, for files
Handling	C	Paperwork
Fine Dexterity	C	Computer keyboard, telephone keypad, calculator
Kneeling	F	Filing in lower drawers, retrieving items from lower shelves/ground
Crouching	O	Filing in lower drawers, retrieving items from lower shelves/ground
Crawling	F	Under equipment
Bending	F	Filing in lower drawers, retrieving items from lower shelves/ground
Twisting	F	From computer to telephone
Climbing	O	Stairs, step stools
Balancing	O	On step stools
Vision	C	Reading, computer screen, driving
Hearing	C	Communicating via telephone/radio, to co-workers/public
Talking	F	Communicating via telephone/radio, to co-workers/public
Foot Controls	O	Driving
Other (specified if applicable)		



MACHINES, TOOLS, EQUIPMENT, SOFTWARE, AND HARDWARE:Standard office equipment, Microsoft, Internet, related software: Photo Editor, Paint, MaxView, Camera Cameleon, Telnet, Hyper Terminal, Ruggedcom, ExacqVision, Econlite Autoscope Network Browser, Visio, OTDR, Power Meter, Light Meter

ENVIRONMENTAL FACTORS:

C Continuously	F Frequently	O Occasionally	R Rarely	N Never		D Daily	W Several Times per Week	M Several Times per Month	S Seasonally	N Never
-Health and Safety Factors-						-Environmental Factors-				
Mechanical Hazards			C			Respiratory Hazards			D	
Chemical Hazards			O			Extreme Temperatures			S	
Electrical Hazards			C			Noise and Vibration			D	
Fire Hazards			R			Wetness/Humidity			S	
Explosives			R			Physical Hazards			D	
Communicable Diseases			R							
Physical Danger or Abuse			F							
Other										

PROTECTIVE EQUIPMENT REQUIRED:

Hard hat, safety footwear and safety vest

NON-PHYSICAL DEMANDS:

F Frequently From 1/3 to 2/3 of the time	O Occasionally Up to 1/3 of the time	R Rarely Less than 1 hour per week	N Never Never occurs
-Description of Non-Physical Demands-			-Frequency-
Time Pressure			F
Emergency Situation			R
Frequent Change of Tasks			F
Irregular Work Schedule/Overtime			R
Performing Multiple Tasks Simultaneously			F
Working Closely with Others as Part of a Team			F
Tedious or Exacting Work			O
Noisy/Distracting Environment			R
Other			

PRIMARY WORK LOCATION:

Office Environment	X	Vehicle	
Warehouse		Outdoors	
Shop		Other	
Recreation/Neighborhood Center			