

**CITY OF OVERLAND PARK  
POSITION DESCRIPTION**

<b>TITLE:</b>	Traffic Signal Specialist	<b>GRADE:</b>	TEC IV
<b>DEPARTMENT:</b>	Public Works	<b>JOB NO:</b>	3860
<b>DIVISION:</b>	Public Works Maintenance	<b>DATE:</b>	3/22/16
<b>REPORTS TO:</b>	Supv, Public Works Maintenance	<b>FLSA STATUS:</b>	NE
<b>FULL-TIME: XX</b>	<b>PART-TIME:</b>	<b>TEMPORARY:</b>	<b>COST CENTER:</b> 321

**REPLACES:** Traffic Signal Specialist

**DATE:** 11/2010

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**JOB SUMMARY STATEMENT:**

Performs field and shop maintenance on City owned traffic signals, communications system, Intelligent Transportation System (ITS) devices, and computer controlled traffic signal system. Uses an advanced level of skill and training in electronics to diagnose corrective action, repair/replace system components and install computer software. Utilizes specialized tools and equipments such as electronic meter reading devices, personnel lifts and computerized diagnostic equipment. Responds to after-hour/weekend emergencies, as assigned. Participates in emergency operations, including snow removal, as required.

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**DUTIES AND RESPONSIBILITIES:**

1. Conducts routine field maintenance on City owned traffic signals. Travels to site and visually observes traffic signal. Tests, repairs, and assists in installation of traffic loop detectors. Tunes or replaces electronic signal equipment; reads blueprints and intersection drawings; tests "live" wires buried throughout the intersection; replaces signal lamps, poles, and other hardware. Investigates complaints and observed malfunctions. Troubleshoots signal hardware and software problems. Analyzes software problems by microprocessor keyboard entry and use of laptop computer.
2. Conducts shop maintenance on malfunctioning electronic signal equipment. Performs electronic and computer generated diagnostic tests to analyze and determine location of faulty printed circuit board. Locates defective components using meters, oscilloscope and schematic diagrams and replaces faulty components. Tests new components and returns faulty components to manufacturer for repair.
3. Assists in the training of other technicians in the maintenance of traffic signals, street lights and/or related electric/electronic devices.
4. Acts as a team leader for maintenance work assigned to temporary work teams.
5. Performs preventive maintenance on signalized intersections. Periodically inspects intersections by visually observing equipment operation; testing the active and passive electric and electronic devices; uploads all timing parameters from the intersection; notes any changes; downloads all current, corrects timing parameters using a lap-top computer; prints a hard-copy of timing parameters and performs diagnostic test on the conflict monitors lap-top computer and other diagnostic equipment.
6. Performs field maintenance of OPTCS wired and wireless data communication systems. Utilizes spectrum analyzer and field strength meter to diagnose and evaluate problems with television data cables. Corrects problem by adding or subtracting level pads from forward or reverse lines, replaces passive components, modem or 170 CPU board. Diagnoses and corrects problems with fiber optic communication lines within the control cabinet.
7. Performs maintenance of OPTCS data communication links. Conducts office location tests of R-F broadband modem and controller input/output circuits to component level using diagnostic test equipment, including, oscilloscope, soldering station, and schematic diagram. Repairs or replaces equipment as necessary.
8. Performs diagnostics on electronic cameras, CCTV observation cameras, pre-emption devices, dynamic message boards, audible pedestrian devices, and other electronic devices as part of the Intelligent Transportation System. Makes repairs and performs maintenance as required.

9. Monitors traffic detector status (both inductive loop and video detection) by reviewing computer logs, analyzing data, testing field equipment, and maintaining an intersection history file.
10. Assists in the inspection of new signal installations, as assigned. Reviews signal plans, signal equipment specifications, and applicable signal installation codes. Participates in the start up of new signal systems and confirms city maps are updated.
11. Assists in the installation of new or temporary signal systems, as assigned. Follows proper installation and start up procedures. Reviews and interprets plans/blue prints and specifications..
12. Inputs work activities into an automated work management system. Provides data input for asset management activities.
13. Responds to emergency call-outs involving traffic signal malfunctions and/or other traffic related emergencies, as assigned. Responds in accordance to established call-out procedures.
14. Responds in support of citywide emergencies such as flood, storm, major traffic accidents, and snow removal operations. Operates a plow truck during snow operations, as assigned.
15. The employee must work the days and hours necessary to perform all assigned responsibilities and tasks. Must be available (especially during regular business hours or shifts) to communicate with subordinates, supervisors, customers, vendors and any other persons or organization with whom interaction is required to accomplish work and employer goals.
16. The employee must be punctual and timely in meeting all requirements of performance, including, but not limited to, attendance standards and work deadlines; beginning and ending assignments on time; and scheduled work breaks, where applicable.

## **GENERAL QUALIFICATIONS**

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### **EDUCATION & SPECIAL LICENSE(S)/CERTIFICATIONS:**

Associate's degree in Electronic Technology, Computer Wiring/Repair, or related field of study, or an equivalent combination of education and experience. Possession of an appropriate, valid driver's license. Must have and maintain a Class A commercial driver's license with air brake and tanker endorsements within 12 months of hire. Must maintain an insurable driving record.

Must have the following certifications within 12 months of employment with the City:

- Certification in bucket truck and digger derrick operation.
- International Municipal Signal Association (IMSA) Traffic Signal II (re-certification ISMA Traffic Signal III every 5 years thereafter).

### **EXPERIENCE:**

Three to four years of bench and field experience, or an equivalent level of experience, in the maintenance and repair of microprocessors based electronic traffic system controllers and other field hardware. General knowledge of CCTV operations and components, computer based diagnostic equipment, controls, fiber optic data lines, and wireless communication systems.

### **SKILLS:**

1. Good written and oral communication skills
2. Computer and microprocessor skills
3. Analytical skills
4. Attention to detail
5. Basic mathematic skills
6. Computer software skills such as database, spreadsheet, word-processing, and traffic controller programs
7. Electronic skills at circuitry level
8. Basic electrical skills
9. Electronic troubleshooting

10. Project management skills
11. Time management skills
12. Tact and diplomacy
13. Organizational skills
14. Work zone and electrical safety skills
15. Teamwork skills
16. Leadership skills

**MENTAL REQUIREMENTS:**

1. Ability to read and comprehend city, state and federal regulations
2. Ability to prioritize work and work independently
3. Ability to analyze complex problems and recommend possible solutions
4. Ability to assess situation and use judgement in responding
5. Ability to meet deadlines
6. Ability to carry out assignments through oral and written instructions
7. Ability to learn and understand PC software applications
8. Ability to read and understand signal schematics and plans
9. Ability to work under distracting conditions, including heavy traffic and inclement weather
10. Abstract and logical reasoning
11. Alpha and numeric recognition
12. Mechanical aptitude
13. Concentration
14. Ability to analyze safety situations
15. Ability to train and guide others

**PHYSICAL REQUIREMENTS:**

1. Hand and eye coordination adequate to input keyboard and operate various technical components
2. Ability to drive City vehicles
3. Ability to receive and transmit messages by radio and phone.
4. Ability to travel to and tour work sites
5. Exposure to chemicals, dust, smoke, gases and vapors
6. Exposure to exhaust fumes and vehicle noise
7. Exposure to extreme environmental conditions
8. Exposure to high voltage
9. Ability to work at heights up to 50 feet.
10. Ability to operate/drive heavy equipment
11. Hand-eye coordination to examine small parts and equipment
12. Ability to use hand and power tools (soldering iron, screwdrivers, cable strippers, knives, drills, saws, spectrum analyzer and microcomputer controllers)
13. Ability to identify and distinguish colors
14. Ability to distinguish smells

**SEE ESSENTIAL FUNCTIONS BELOW FOR ADDITIONAL PHYSICAL REQUIREMENTS**

**SUPERVISORY RESPONSIBILITY (Direct & Indirect):**

None

**The preceding job description has been designed to indicate the general nature and level of work performed by employees within this classification. It is not designed to contain or be interpreted as a comprehensive inventory of all duties, responsibilities, and qualifications required of employees assigned to this job.**

## ESSENTIAL FUNCTIONS

ACTIVITY	DURATION	DESCRIPTION
Standing	Freq. - Const.	even and uneven surfaces
Walking	Freq. - Const.	even and uneven surfaces
Sitting	Freq. - Const.	motor vehicle operation / office environment
Driving	Freq. - Const.	motor vehicle operation
Bending	Freq. - Const.	required to complete requirements
Stooping	Freq. - Const.	required to complete requirements
Twisting	Freq. - Const.	required to complete requirements
Kneeling	Freq. - Const.	required to complete requirements
Squatting	Freq. - Const.	required to complete requirements
Crawling	Occasional	required to complete requirements
Stairs	Occasional	enter / exit vehicle - cab and truck bed
Ladders	Occasional	enter / exit various surfaces on vehicles

LIFTING	WEIGHT	HEIGHT	FREQUENCY	DURATION	DESCRIPTION
Sand bag	50 lbs.	floor to waist	variable	occasional	two hand lift
Controller	20 lbs.	floor to chest	variable	occasional	two hand lift
Miscellaneous tools	0- 10 lbs.	0- 60 inches	variable	frequent	one or two hand lift
commercial light head	40 lbs.	floor to overhead	variable	occasional	two hand lift
residential light head	25 lbs.	floor to overhead	variable	occasional	two hand lift
signal head	35 lbs.	floor to chest	variable	occasional	two hand lift
Cable spool	56 lbs.	floor to waist	variable	occasional	two hand lift
Battery	60 lbs.	floor to chest	variable	occasional	two hand lift

**\* This is a list of observed essential functions on one date only that provides a sample range of occupational requirements; there are other items that are required to be lifted as a requirement of this position. Frequencies will be variable and dependent on type of work that is required at given time.**

CARRY	WEIGHT	DISTANCE	FREQUENCY	DURATION	DESCRIPTION
Sand bag	50 lbs.	0- 50 feet	variable	occasional	two hand carry
Controller	20 lbs.	0- 50 feet	variable	occasional	two hand carry
Miscellaneous tools	0- 10 lbs.	0- 50 feet	variable	occasional	two hand carry
commercial light head	40 lbs.	0- 50 feet	variable	occasional	two hand carry
residential light head	25 lbs.	0- 50 feet	variable	occasional	two hand carry
signal head	35 lbs.	0- 50 feet	variable	occasional	two hand carry
Cable spool	56 lbs.	0- 50 feet	variable	occasional	two hand carry
Battery	60 lbs.	0- 50 feet	variable	occasional	two hand carry

**\* This is a list of observed essential functions on one date only that provides a sample range of occupational requirements; there are other items that are required to be lifted as a requirement of this position. Frequencies will be variable and dependent on type of work that is required at given time.**

PUSHING	FORCE	FRQUNCY/DUR	DESCRIPTION
component cabinet	30 lbs.	occasional	horizontal force; two hand push
cable / wire	TBD	occasional	horizontal force; two hand push

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PULLING	FORCE	FRQUENCY/DUR	DESCRIPTION
component cabinet	30 lbs.	occasional	horizontal force; two hand pull
cable / wire	TBD	occasional	horizontal force; two hand pull

*\* This is a list of observed essential functions on one date only that provides a sample range of occupational requirements; there are other items that are required to be lifted as a requirement of this position. Frequencies will be variable and dependent on type of work that is required at given time.*

REACHING	DURATION	DESCRIPTION
Below Knee Height	freq. to const.	type of job dependent
Below Waist Height	freq. to const.	type of job dependent
Forward > 2 Feet	freq. to const.	type of job dependent; motor vehicle operation
Above Shoulder Height	freq. to const.	type of job dependent
Lateral Reach	freq. to const.	type of job dependent; motor vehicle operation

*\* Duration is rated on highest observed required level of performance; certain requirements may be at a lesser level.*

FINE MOTOR	DURATION	DESCRIPTION
Gripping	frequent	type of job dependent; motor vehicle operation; 1-2 hand controls
Pinching	frequent	type of job dependent; motor vehicle operation; 1-2 hand controls
Wrist Flexion & Extension	frequent	type of job dependent; motor vehicle operation; 1-2 hand controls
Wrist Lateral Deviations	frequent	type of job dependent; motor vehicle operation; 1-2 hand controls
Pronation & Supination	frequent	type of job dependent; motor vehicle operation; 1-2 hand controls

*\* Duration is rated on highest observed required level of performance; certain requirements may be at a lesser level.*

**Proprioception Requirements:** maintenance are required to be able to identify / assemble / disassemble items (nuts, bolts, washers, etc.) with bilateral hands / fingers without having a direct line of site to the item.

**Color Vision** - Required