

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Code No. 004116
Grade 22**

TRANSPORTATION SYSTEMS TECHNICIAN LEADER II

DEFINITION OF CLASS:

This is advanced skilled technical and lead level work involving the construction, modification, installation, testing, maintenance, and field and bench repair of all traffic control, traffic monitoring and traveler information equipment, devices, and sub-systems supporting the County's Advanced Transportation Management System (ATMS) to include supporting equipment and devices of Fibernet. The work also includes continuing research, testing and implementation of equipment and devices supporting new technologies related to the voice, data and video transmission needs of the County's ATMS and FiberNet projects. Employees in this class have contacts to include subordinate technicians to provide work assignments and direction; and, engineers, engineer technicians, contractors and equipment manufacturers and suppliers, for the purpose of resolving problems related to development, installation, repair and/or maintenance of specialized equipment. This class of work may entail some public service/assistance, but it is incidental to the primary focus of the work performed.

An employee in this class is responsible for leading and participating in the work of a crew assigned to the safe installation, repair and maintenance of the Montgomery County transportation management system, including traffic signal devices, fiber optic cable plant and related components including base and broad band video equipment, video traffic surveillance cameras, traveler advisory radio system, variable message signs, lane control and channelization devices, and related telephone and data communication equipment. The work includes responsibility for researching and planning the implementation of new technologies in support of expanding ATMS capabilities. This class of work is distinguished from the Transportation Systems Technician Leader I class by the grasp of the overall/total technical transportation system field of work which the employee in this class must possess and the complexity involved in researching, testing and implementing equipment and devices which support new technologies. The crew leaders normally receive work assignments with general priorities and time requirements identified; even so, the employees must plan and coordinate their daily work with each other and their crew members. Work is occasionally checked upon completion for compliance with requirements as specified. Guidelines include technical manuals, equipment manufacturers' instructions, and national and state codes, standards and requirements; from these sources the employees select how best to accomplish their tasks. The work is made complex by the sophistication of the traffic control, monitoring and traveler information equipment and devices implemented in the County's ATMS system and the potential for increased technological development and expanded communication capabilities. Impact of the work is significant in that the employee is involved in planning, coordinating and scheduling the installation, repair and maintenance of all traffic control, monitoring and traveler information equipment and sub-systems supporting the ATMS. Lead work related to the advanced level installation, maintenance and repair of traffic control, monitoring and other communication equipment involves regular outdoor work. There are occasional circumstances when the employee must apply particularly stringent safety precautions and procedures due to the considerable risk of working from

extended heights or around high level electrical voltage. Employees in this class must possess good strength and agility in order to occasionally lift objects weighing fifty (50) to one hundred (100) pounds.

EXAMPLES OF DUTIES: (Illustrative Only)

- Leads crew in the installation, maintenance, and repair of all traffic control, traffic monitoring, and traveler information equipment, systems and devices supporting the County's Advanced Transportation Management System (ATMS).
- Oversees and/or monitors the termination, testing and repair of fiber optic cable at remote locations.
- Leads crew in the installation, maintenance, testing and repair of interfaces between ATMS component equipment and the fiber optic communication system.
- Leads crew in the construction, modification, installation, testing, overhaul, preventive maintenance and field and bench repair of a variety of complex computer-based solid state, digital, electronic, electromechanical and microprocessor-based traffic control equipment involving computer logic, solid state modular circuitry and related telephone and data communication.
- Leads crew in the installation, maintenance and repair of the County's Traffic Advisory Radio System for AM broadcast.
- Leads crew in the installation, maintenance and repair of all video traffic surveillance cameras that are part of the video system associated with the county-wide ATMS.
- Designs and customizes equipment, circuits, logic packages, software, and computer programs to solve identified problems and needs, many of which evolve out of the need to support new technologies.
- Provides electrical and electronic technical expertise needed to resolve systems and equipment problems.
- Coordinates the work of assigned crew with that of contractual employees performing installation, maintenance and repair of various aspects of the County's communication systems supporting ATMS; participates in preparation of specifications and review of proposals received in response to Requests for Proposals (RFPs); monitors tasks performed by contractors and vendors; and represents the unit on various technical matters.
- Researches and coordinates new technologies, hardware and equipment to support ATMS; works with manufacturer representatives or technicians in other County organizations to assure equipment/devices will provide required support to ATMS over the FiberNet system; makes recommendation for purchase.
- Provides technical training for staff.
- Troubleshoots equipment failures; analyses hardware and software to determine cause of problem and takes corrective action which includes necessary field and/or bench repairs.
- Performs related duties as required.

KNOWLEDGE, SKILLS AND ABILITIES:

- Thorough knowledge of the principles and practices of electronics and data communications as applied to the installation, maintenance and repair of a variety of advanced transportation systems equipment and related devices (e.g., traffic signals, video cameras, AM radio transmitters, microwave equipment, fiber optic cable).
- Thorough knowledge of the National Electrical Code (NEC) and the electrical aspects of traffic signal control devices, high speed data and digital devices and video cameras.

- Thorough knowledge of the functions and theory of telemetry equipment as applied to the interconnection of traffic control systems.
- Thorough knowledge of fiber optic principles including loss budget analysis and wave division multiplexing techniques.
- Thorough knowledge of data communication principles including interfacing, protocols, high speed applications and networking.
- Thorough knowledge of broadband and baseband video principles.
- Thorough knowledge of microwave and AM transmission principles.
- Thorough knowledge of audio communication transmission principles.
- Ability to plan, modify, and implement various combinations of equipment, systems, and communication pathways in order to meet the equipment support and data transmission needs of a technologically advanced transportation management system.
- Ability to select, to test, and to install equipment, devices and sub-systems supporting new technological advances within an advanced transportation management system.
- Ability to independently solve difficult technical problems related to an advanced transportation management system.
- Ability to read and interpret complex manufacturer's specifications related to use and installation of equipment and devices.
- Ability to lead and train other technical personnel.
- Ability to communicate clearly and concisely, both orally and in writing.
- Ability to understand and follow oral and written instructions.
- Must be free from color blindness.
- Ability to attend meetings and/or perform assignments at locations outside the office.

MINIMUM QUALIFICATIONS:

Experience: Considerable (four (4) years) journey level experience involving the construction, modification, installation, testing, maintenance, and field and bench repair of electronic/communications equipment and systems including: electromechanical and electronic traffic control equipment, fiber optic and data communication equipment, video and audio equipment.

Education: Possession of an Associate of Arts Degree from an accredited college or university in electronics or related field.

Equivalency: An equivalent combination of education and experience may be substituted.

Physical Ability: Ability to independently lift, push and pull heavy pieces of communication equipment and tools occasionally weighing up to one hundred (100) pounds.

LICENSE:

- Possession and maintenance at all times of a valid Commercial Driver's License appropriate to the equipment operated by an employee in this class.

PROBATIONARY PERIOD:

Individuals appointed to a position in this class will be required to serve a probationary period of twelve (12) months and, if promoted to a position in this class, will be required to serve a probationary period of six (6) months. Performance will be carefully evaluated during the probationary period.

Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL EXAM PROTOCOL: Core II Exam with a Drug/Alcohol Screen.

Class Established: June, 1998 (M)

Revised: August, 2013