

## Who Should Participate

Individuals who participate in all aspects of Traffic Signal specialties should participate in these seminars. That includes everyone from Traffic Signal operations people to Traffic Signal Design and management. The materials and seminars are a valuable resource for people seeking training to expand their knowledge in design, installation, and maintenance of traffic signal systems.

## Benefits of These Programs

These seminars will take the student through all levels and facets of Traffic Signal maintenance and operations. Each level will enhance the students knowledge and understanding of the Traffic Signal Technician field.

*IMSA also offers certification in Fiber Optics for ITS, Traffic, Fire Alarm, and Communication Systems.*

**Visit IMSA's website for information on certification renewal and continuing education credits.**

**Special Note:** The procedures of specific state and local agencies may vary from those presented in these programs. It is highly recommended that each participant become familiar with the practices of their own applicable agency which has jurisdiction over his or her area of operation.

**Dedicated to providing quality certification programs for the safe installation, operation and maintenance of public safety systems; delivering value for members by providing the latest information and education in the industry.**

### Certification

IMSA's internationally recognized Certification programs identify individuals who have demonstrated required knowledge, skills and experience to perform specific technical tasks in one or more of the following fields:

**Fiber Optics**

**Fire Alarm Monitoring**

**Interior Fire Alarm**

**Public Reporting Systems**

**Public Safety Telecommunicator**

**Roadway Lighting**

**Signs and Pavement Markings**

**Traffic Signal Inspection**

**Traffic Signals**

**Transportation Center System Specialist**

**Work Zone Temporary Traffic Control**

IMSA Certification reflects an individual's accomplishment and professional advancement while demonstrating achievement to the general public, coworkers, employers and others.

### IMSA

597 Haverty Court, Suite 100  
Rockledge, FL 32955-3613  
[www.IMSAafety.org](http://www.IMSAafety.org)

**IMSA** is the oldest established association of its kind in the world. Although it dates back to 1896, its hardworking staff and volunteers are continuously developing and updating its many programs to ensure they are current and technically correct.

The driving purpose of the organization is to keep its members and others in the profession up-to-date on proper procedures in the industry. Through our publication, *The IMSA Journal*, and our website, we keep our members informed about new products and developments.

Since its origin, IMSA has grown in size, stature, and prestige. Today, the Association has members throughout the United States, Canada, and the world. Through its continuing dedication to public safety, IMSA has gained recognition and influence with local, state, provincial and national governments, as well as other professional organizations.

**Visit the IMSA website at:**

[www.IMSAafety.org](http://www.IMSAafety.org)  
or Call Toll Free: (800) 723-4672  
or Fax to: (321) 806-1400  
or E-mail to: [info@IMSAafety.org](mailto:info@IMSAafety.org)

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Your Partner in PUBLIC SAFETY

## Traffic Signal Technician Certification Programs

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# Traffic Signal Technician Certification Programs

## Traffic Signal Technician Level I

Traffic Signal Level I certification indicates the holder is familiar with the concepts and terminology associated with signalized traffic control devices and systems. The content is designed for the entry-level technician who has had some prior training or experience in electrical technology. Worksite safety is a primary skill area, having been covered in Work Zone Temporary Traffic Control and in this seminar. Principals of operation and primary electrical details of cabinet wiring and components will be introduced. Equipment, methods, and materials for signal system construction will be reviewed, as well as the basics of traffic signal design, maintenance, and legal issues. With proper supervision, this certification holder will be prepared to make a contribution on any traffic signal crew, whether involved in construction, maintenance or design preparation. This certification will also provide the required background information, allowing the technician to learn the material taught in the four Level II certification seminars.

### Prerequisites:

- *Work Zone Temporary Traffic Control Certification*

## Traffic Signal Field Technician Level II

The Traffic Signal Field Technician Level II certification signifies the holder has a balanced background in the traffic signal technology from seminar work and experience. The Level II Field certification gives the technician additional training in traffic signal control system troubleshooting, on-site repairs and maintenance methods, and equipment. Areas of training will include worksite safety, maintenance of traffic, traffic signal system equipment standards and operation, installation inspection, troubleshooting, equipment repair, replacement and programming, test equipment, signal phasing and timing, detection, system communications, preventive maintenance, and documentation. The certification holder will be prepared to make a substantial contribution to the maintenance and repair of signalized intersections, whether employed by a private firm or a public agency.

### Prerequisites:

- *Work Zone Temporary Traffic Control Certification*
- *Traffic Signal Technician Level I*
- *Two years experience in the traffic signal field*

## Traffic Signal Bench Technician Level II

The Traffic Signal Bench Technician Level II certification indicates the holder has a well-rounded background in traffic signal technology from seminar work and experience. The Bench Level II certification technician will have additional training on traffic signal control cabinet equipment. This training includes the programming, application and maintenance of controllers, conflict monitors, vehicle and pedestrian detection systems, and communication and power wiring of the cabinet. The technician will also be trained in electronic circuit operation and fault diagnosis, and the use of test equipment for diagnosis and certification of control cabinet equipment. The certification holder will be prepared to make a substantial contribution to the signal maintenance operation of either a private firm or a public agency by preparing signal cabinets for deployment and/or troubleshooting and repairing cabinet components in the field.

### Prerequisites:

- *Work Zone Temporary Traffic Control Certification*
- *Traffic Signal Technician Level I*
- *Two years experience in the traffic signal field*



## Traffic Signal Construction Technician Level II

The Traffic Signal Construction Technician Level II certification designates the holder as having a well-rounded background in traffic signal technology from seminar work and experience. The Level II Construction certification indicates the technician has additional training on traffic signal control system construction, safety, materials, methods and equipment. Activities covered include: safe operation of construction equipment (from concrete saws to cranes), planning activities, documentation and installation of conduits, poles, mast arms, signal heads, cabinet and inductive loops. Setup and testing of a new signal installation will also be reviewed. The certification holder will be prepared to make a substantial contribution to the traffic signal construction group of a private firm or a public agency where new or replacement traffic signal construction is the focus.

### Prerequisites:

- *Work Zone Temporary Traffic Control Certification*
- *Traffic Signal Technician Level I*
- *Two years experience in the traffic signal field*

## Traffic Signal Design/Engineering Technician Level II

The Traffic Signal Design/Engineering Technician Level II certification indicates the holder has a thorough background in traffic signal technology from seminar work and experience. The Design/Engineering Level II certification indicates the technician has additional training on traffic signal control systems planning, design, theory of operation and legal/regulatory issues. Areas of training include industry standards, liability and regulatory considerations, traffic data collection, site inspections (prior to signal design), detection design, intersection phasing and timing plans, volume density and coordination timing, equipment selection and project management. The certification holder will be prepared to make a substantial contribution to the design of signalized intersections, whether employed by a private firm or a public agency, where new or replacement traffic signal planning and design is the focus.

### Prerequisites:

- *Work Zone Temporary Traffic Control Certification*
- *Traffic Signal Technician Level I*
- *Two years experience in the traffic signal field*

## Traffic Signal Senior Field Technician Level III

The 100-question exam associated with this certification has been prepared to test the candidate on a wide range of topics relating to field expertise and general knowledge of the applied traffic signal technologies in the field. The following lists some of the reference materials that the potential IMSA Traffic Signals Senior Field Technician Level III must be familiar with: NEMA Standards (TS1 & TS2); 170/2070 standards; various traffic detection methods setup and configuration manuals; video detection manufacturers setup manuals; lighting protection devices; FHWA and ITE vehicle detection manuals; communications methods; MUTCD; signal head types specifications and installation methods; IMSA Wire and Cable Specifications; ITE-Traffic Engineering Manual; ITE-Traffic Control Devices Handbook; Traffic Signal preemption devices; understanding of basic electronics and electrical; US National Electrical Code and/or Canadian Electrical Code.

### Prerequisites:

- *Work Zone Temporary Traffic Control certification*
- *Traffic Signal Field Technician Level II certification*
- *Five years experience in the traffic signal field*

## Traffic Signal Senior Bench Technician Level III

This refresher/review seminar and Bench Technician exam is designed for the experienced Traffic Signal Bench Technician. Topics covered include: The role of today's bench technician, test equipment, NEMA TS1 and TS2, 170, 2070 and ATC/ITS controllers and cabinets, as well as standard and optional equipment and components. The IMSA Microprocessors in Traffic Signals is a requirement of this certification, the electronics requirement for this certification is included in 100-question exam. This refresher/review seminar does not cover any of the fundamental or applied electronics portions of the Senior Bench Technician Level III requirement or any part of the microprocessor requirement.

### Prerequisites:

- *Work Zone Temporary Traffic Control certification*
- *Traffic Signal Bench Technician Level II certification*
- *Five years experience in the traffic signal field*