

## Advanced Traffic Signal Systems

20 – 24 September 2027  
Paris (France)

UK Traininig

# PARTNER



## Advanced Traffic Signal Systems

**Ref:** 3256069\_360176 **Date:** 20 – 24 September 2027 **Location:** Paris (France) **Fees:** 5900 GBP

### Introduction

This intermediate-to-advanced course provides a practical understanding of modern traffic signal systems and their role in traffic management and road safety.

The course covers signalized intersections, traffic-flow analysis, signal planning and control, Intelligent Transportation Systems ITS, real-time traffic information, data analysis, simulation and evaluation of signal-control scenarios. Participants will apply the concepts through computer-based practical exercises and an integrated case study.

### Course Objectives

By the end of this course, participants will be able to:

- Understand modern traffic signal systems and their applications.
- Analyse traffic conditions at signalized intersections.
- Understand signal planning, control and operational considerations.
- Evaluate traffic-flow conditions at signalized intersections.
- Compare alternative signal-control scenarios.
- Understand ITS integration with traffic signal systems.
- Use traffic data to support signal-management decisions.
- Apply simulation and analytical approaches to signal performance.
- Evaluate traffic safety and operational implications of signal strategies.

### Course Outlines:

#### Day 1 - Fundamentals of Modern Traffic Signal Systems

- Principles and functions of traffic signal systems.
- Signalized intersections and traffic control.
- Traffic signals within integrated traffic management.
- Signal-related road safety considerations.
- Modern traffic control and signal technologies.

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A graphic of a chessboard with several chess pieces. A large gold king piece is in the foreground, with a silver pawn and a silver knight behind it. The board is checkered, and there are concentric circles in the background.

## **Day 2 - Traffic Signal Planning and Control - Practical Application**

- Traffic flow at signalized intersections.
- Signal timing and operational considerations.
- Traffic demand and intersection assessment.
- Signal-control alternatives.
- Practical Exercise: Analyse an existing signalized intersection, identify operational problems and evaluate alternative signal-control approaches.

## **Day 3 - Intelligent Traffic Signal Systems - Practical Application**

- Intelligent Transportation Systems and traffic signals.
- Sensors and real-time traffic information.
- Technology-supported traffic management.
- Adaptive traffic-management concepts.
- Practical Exercise: Develop an improved signal-control scenario using traffic-demand and real-time traffic information.

## **Day 4 - Traffic Data, Simulation and Signal Performance - Practical Application**

- Traffic data collection for signal management.
- Signal performance indicators.
- Traffic simulation and modelling.
- Evaluation of alternative signal scenarios.
- Practical Exercise: Compare existing and proposed signal scenarios using traffic data and simulation-based results.

## **Day 5 - Integrated Advanced Signal Management Case Study**

- Developing an integrated traffic signal improvement strategy.
- Evaluating signalized intersection scenarios.
- Integrating traffic signals with traffic-management systems.
- Assessing traffic-flow, safety and operational implications.
- Integrated Case Study: Evaluate an existing signalized intersection and develop a technology-supported improvement scenario.

## Why Attend This Course? Wins & Losses!

### Wins:

- Improved understanding of modern traffic signal systems.
- Stronger signal planning and evaluation skills.
- Practical experience with signalized intersection scenarios.
- Better understanding of ITS and technology integration.
- Improved use of traffic data and simulation.
- Enhanced ability to evaluate signal-management alternatives.

### Losses if Not Attended:

- Limited understanding of modern traffic signal technologies.
- Reduced ability to evaluate signal-control alternatives.
- Limited use of traffic data for signal management.
- Reduced understanding of ITS integration.
- Less effective assessment of signalized traffic operations.

## Conclusion:

This course combines theoretical knowledge with practical application to develop participants' understanding of modern traffic signal systems, traffic-flow analysis, signal control, ITS, data analysis and simulation. It enables participants to evaluate signalized traffic scenarios and support safer and more efficient traffic management.

## Frequently Asked Questions FAQ

### 1. Who should attend this course?

Traffic engineers, transportation engineers, traffic planners, road safety professionals and traffic-management specialists.

### 2. Is the course suitable for intermediate-level participants?

Yes. It begins with fundamental signal-system concepts and progresses toward advanced control, ITS, data analysis and simulation applications.

### 3. Does the course include practical exercises?

Yes. Days 2, 3 and 4 include computer-based practical exercises, followed by an integrated case study on Day 5.

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#### **4. Does the course cover Intelligent Transportation Systems ITS?**

Yes. ITS and its integration with modern traffic signal systems are covered.

#### **5. Does the course require a specific traffic signal software package?**

No. The course focuses on signal-system concepts, analytical methods, simulation-based evaluation and technology-supported applications rather than a specific software vendor.

A graphic of a chessboard with several chess pieces (a king, a queen, and a pawn) on it, set against a background of concentric circles.

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