
ITS and Smart Mobility Strategy for Transport Authority Leaders Training Course

25 – 29 April 2027
Kuala Lumpur





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Programme Summary

ITS and smart mobility strategy is a five-day training course for directors and senior leaders of transport authorities, culminating in an ITS strategy and deployment roadmap for their own network. Authorities invest heavily in traffic management centres, connected vehicles and data platforms, yet many systems are bought piecemeal and never deliver their expected benefits. The approach links architecture, operations, procurement, cybersecurity and evaluation into one governed portfolio. Mars Training Centre UK delivers this programme in ITS and smart mobility strategy.

The Business Case

Intelligent transport systems absorb large budgets, and poorly integrated investments leave authorities with incompatible field devices, locked-in suppliers and data that nobody uses. Leaders who set a clear architecture, procure against open interfaces and measure benefits from the outset obtain more value from each deployment.

- Network Reliability and Journey Times: Improve as incidents, signals and traveller information are coordinated from one centre.
- Lifecycle Cost and Supplier Risk: Fall as procurement uses open standards and reference architectures rather than proprietary platforms.
- Road Safety and Service Resilience: Strengthen as cooperative services, cybersecurity controls and continuity plans are built into each deployment.

Principles and Evidence Base

- ISO 14813-1 ITS Reference Model Architecture: Structures the mapping of ITS service domains and service groups in Session 1.
- ARC-IT Reference Architecture: Guides the definition of stakeholders, physical objects and information flows for a regional ITS architecture in Session 2.
- NTCIP and DATEX II: Frame centre-to-field and centre-to-centre data exchange choices discussed in Sessions 2 and 3.
- C-ITS Architecture Harmonisation: Informs the planning of cooperative vehicle-to-infrastructure services in Session 3.



Intended Participants

- Leaders accountable for the strategy, budget and performance of a road or urban transport network.
- Directors who sponsor traffic management centre, tolling or public transport technology programmes.
- Senior managers who approve ITS procurement, supplier contracts and data-sharing agreements.
- Executives leading smart city and mobility portfolios.

The programme serves transport and road authorities, municipalities, toll and motorway concessionaires, and public transport operators.

Learning Outcomes

1. Participants will be able to diagnose the maturity of an existing ITS estate against reference architecture domains.
2. Participants will be able to construct a regional ITS architecture that sets interfaces and data flows between centres and field systems.
3. Participants will be able to prioritise traffic management centre, cooperative and public transport services against network objectives.
4. Participants will be able to evaluate procurement and contracting models that limit supplier lock-in.
5. Participants will be able to justify cybersecurity and data governance controls for connected mobility services.
6. Participants will be able to construct a benefits evaluation plan that links ITS investment to measurable network outcomes.

Programme Structure

Day 1: ITS and Smart Mobility Strategy Foundations

What should an authority's ITS estate achieve, and how mature is it today?

- Smart Mobility Policy Objectives and Network Problems
- ISO 14813-1 Service Domains and Service Groups
- ITS Maturity Assessment of Field and Centre Systems
- Stakeholder Mapping Across Agencies and Operators
- Governance Boards and Decision Rights for ITS

Day 2: Architecture, Standards and Traffic Management Centres

How are centres, field devices and partners connected into one coherent system?

- Regional ITS Architecture Using ARC-IT Concepts
- NTCIP Centre-to-Field Communication
- DATEX II and Centre-to-Centre Data Exchange
- Traffic Management Centre Operating Models and Staffing
- Incident Management and Traveller Information Workflows



Day 3: Connected Vehicles, Tolling and Public Transport ITS

Which cooperative and multimodal services deliver most value for the network?

- C-ITS Vehicle-to-Infrastructure Use Cases
- Connected and Automated Mobility Readiness Planning
- Electronic Tolling and Road User Charging Systems
- Public Transport Priority, Fleet Management and Real-Time Information
- Mobility Data Platforms and Open Data Policies

Day 4: Procurement, Cybersecurity and Benefits Evaluation

How are ITS investments bought, protected and proven over their lifecycle?

- ITS Procurement Strategies and Open Interface Requirements
- Performance-Based Contracts and Supplier Lock-In Risks
- Cybersecurity Risk Assessment for Connected Infrastructure
- Data Protection and Data-Sharing Agreements
- Benefit-Cost Analysis and Key Performance Indicators for ITS

Day 5: Applying ITS and Smart Mobility Strategy

How are architecture, services, procurement and evaluation combined into one roadmap?

- Maturity Review of a Participant Network
- Service Prioritisation Against Network Objectives
- Procurement and Cybersecurity Plan Alignment
- Peer Challenge of Deployment Roadmaps
- ITS Strategy and Deployment Roadmap Presentation

Methodology

The programme is built around case analysis of ITS deployments on motorways, urban networks and public transport systems. Participants compare architectures, contracts and evaluation choices and apply each tool to their own network, so every session adds a section to the roadmap.

- Suggested activity: Mapping an existing ITS estate against reference architecture service domains.
- Suggested activity: Responding to a simulated motorway incident from a traffic management centre.
- Suggested activity: Scoring rival procurement options for a connected corridor against lock-in and lifecycle cost.



Capstone Output

Each participant completes an ITS strategy and deployment roadmap for their authority or network. It contains a maturity baseline, a target architecture, prioritised services, a procurement and cybersecurity approach and a benefits evaluation plan with indicators, ready to present to a board or investment committee.

Frequently Asked Questions

Is ITS and smart mobility strategy suitable for leaders without an engineering background?

Yes. It suits directors and senior managers who sponsor or govern transport technology. It assumes management experience but no traffic engineering knowledge.

Which standards underpin ITS and smart mobility strategy in this course?

It draws on the ISO 14813-1 ITS reference model architecture, the ARC-IT reference architecture, NTCIP and DATEX II data exchange standards, and harmonised C-ITS architecture work.

How is the ITS and smart mobility strategy roadmap used at work?

You take back a roadmap that a board or investment committee can approve with a target architecture, service priorities and evaluation indicators.

How does ITS and smart mobility strategy differ from general smart city programmes?

It concentrates on road and public transport networks and their technology, rather than the full range of city services.