Transport Modelling for Non-Modellers

Overview

The modelling of junctions, road networks and public transport systems provides fundamental information to support decisions taken on future land uses, investment in the transport system and other policy interventions. With modelling tools ranging from "simple" equations through to highly complex mathematical, algorithm based systems, many people responsible for commissioning modelling activities find modelling a daunting area of responsibility. This course provides an introduction to the modelling tools commonly used, providing delegates with an understanding of the applicability of different models to various situations, and equips practitioners with simple techniques for checking model outputs.

Learning outcomes

On completion of the course, delegates will:

- be acquainted with the different types of modelling packages available, their applicability to different scenarios and the guidance informing model development
- be aware of the main stages in building (and maintaining) models and the time and cost implications of these
- have an understanding of the basic characteristics of traffic flow and how junction geometry, link characteristics and traffic signals influence capacity and queues
- be capable of sense-checking modelling outputs
- have greater confidence in choosing the right modelling method for a particular task

Who should attend

The course is designed for people with limited or no experience of transport modelling activities who are responsible for requesting or commissioning models, such as those working in the fields of strategic transport planning, strategic land use planning, development management and economic growth/regeneration. It is also suitable for those with managerial responsibility for modelling teams, who are looking for a broad overview of techniques and issues.

Topics Covered

- Reasons for using models
- Main components of models
- Guidance Data requirements
- Forecasting
- Option testing and scheme appraisal
- Different types of model and their advantages, disadvantages and limitations: Operational/Traffic engineering models (ARCADY,PICADY, LINSIG, TRANSYT), strategic multi-modal models, micro-simulation models, pedestrian models

Illustrated throughout by case studies and group work

Day 1

Introduction

Course Objectives

Overview of Modelling
- Reasons for models
- Applications and relevance

Break

Introduction to Strategic Modelling

Future Growth, Forecasting and Option Testing
- Overview of forecasting and growth
- Scenario testing and input parameters

Strategic Models – Demand
- Overview of strategic and multi-modal models
- Four stages modelling, network and demand building

Lunch

Strategic Models – Highway
- Overview – models, interpretation and outputs, limitations
- Network, demand, calibration, validation

Strategic Models – Public Transport
- Overview – models, interpretation and outputs, limitations
- Network, demand, calibration, validation

Break

Scheme Appraisal
- Business cases
- Economic evaluation and benefits
- Guidance and tools

Strategic Models – Interactive Workshop

Day 2

Welcome and Recap

Introduction to Local Modelling

Local Models – Junctions
- Overview of common packages, limitations and issues
- Network, demand, calibration, validation

Local Models – Microsimulation
- Overview – of common packages, limitations and issues
- Network, demand, calibration, validation

Break

Local Models – Interactive Workshop

Pedestrian Modelling
- Overview – models, interpretation and outputs, limitations
- Network, demand, calibration, validation

Lunch

Active Modes - Walking and Cycling

Commissioning Models
- Client role and contractual considerations
- Implications of model development
- Guidance and best practice

Break

Emerging Data Techniques
- Mobile phone and Big data

Emerging Modelling Techniques
- Overview – real time, activity based, lifestyle, autonomous, landuse

Close

* Please note that this is a preliminary programme and is subject to change

Transport Modelling for Non-Modellers

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Title | First Name | Surname

Position

Organisation | Department

Email

Telephone

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