**Module Specification**

# Transport Modelling and Scenario Planning

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# Part 1: Information

**Module title:** Transport Modelling and Scenario Planning

**Module code:** UBGM8N-15-M

**Level:** Level 7

**For implementation from:** 2022-23

**UWE credit rating:** 15

**ECTS credit rating:** 7.5

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Geography & Envrnmental Mgmt

**Partner institutions:** None

**Delivery locations:** Frenchay Campus

**Field:** Geography and Environmental Management

**Module type:** Standard

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

# Part 2: Description

**Overview:** Travel demand analysis involves the understanding and prediction of travel decisons that people make eg where, when and how to travel. It is used to measure, understand and forecast how people use the transport system. Transport models are often used in travel demand analysis. The module will introduce students to theories, assumptions and methods involved in assessing travel demand.

**Features:** Not applicable

**Educational aims:** The aims of the module are: to introduce travel demand analysis; to provide the opportunity to undertake travel demand analysis; and to encourage critical debate of different approaches to travel demand analysis.

**Outline syllabus:** The module will provide the opportunity to apply the methods introduced. Alternative approaches will be compared and their merits discussed. The module will include consideration of:

The role of travel demand analysis in transport planning

Data collection and travel surveys

Monitoring and evaluating change in travel demand

Factors underlying travel choices and travel demand

Mainstream transport modelling (four-stage, elasticity-based)

Disaggregate choice modelling

Traffic network models

Alternative transport modelling approaches (activity-based, land use-transport interaction, dynamic)

Application of transport models to forecast and appraise future scenarios

## Part 3: Teaching and learning methods

**Teaching and learning methods:** The module is delivered through a series of lectures, tutorials and workshops. During and between lectures students are expected to participate in solving example problems and discussing analysis approaches. Module tutors provide assistance and guidance on core mathematical skills as appropriate.

The workshops are linked to the project coursework (discussed under assessment strategy).

**Module Learning outcomes:** On successful completion of this module students will achieve the following learning outcomes.

**MO1** Plan and design effective travel surveys for collection of data required in travel demand analysis

**MO2** Critically analyse change in travel demand from travel data

**MO3** Explain the principles underlying transport models

**MO4** Use a transport model to forecast and appraise the impact of future scenarios

**MO5** Evaluate the shortcomings of transport models

**MO6** Compare the merits of using alternative types of transport model for specific applications

**Hours to be allocated:** 150

**Contact hours:**

Independent study/self-guided study = 113 hours

Face-to-face learning = 37 hours

Total = 150

**Reading list:** The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ubgm8n-15-m.html


# Part 4: Assessment

**Assessment strategy:** The module is assessed through a coursework project (individual, 50%) and an exam (online, 50%).

The coursework project requires students to apply the theoretical principles and analytical techniques introduced during lectures to a practice-oriented modelling exercise. The exercise requires students to use spreadsheet/statistical software to manage and analyse travel data and the use of transport modelling software to test alternative transport strategies.  The project is further developed in student-directed time between workshops.

The exam (online) tests students knowledge and analytical skills across all aspects of travel demand modelling , including their ability to perform manual calculations, to explain principles of transport modelling and to critically evaluate limitations and alternative approaches.

**Assessment components:**

**Examination (Online) - Component A** (First Sit)
Description: Online Exam (24 hours)
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6


**Report - Component B** (First Sit)
Description: Project Report (6 pages)
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6


**Examination (Online) - Component A** (Resit)
Description: Online Exam (24 hours)
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6


**Report - Component B** (Resit)
Description: Project Report (6 pages)
Weighting: 50 %
Final assessment: No
Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

## Part 5: Contributes towards

This module contributes towards the following programmes of study:

Transport Engineering and Planning [Sep][FT][Frenchay][1yr] MSc 2022-23

Transport [Sep][FT][Frenchay][1yr] MSc 2022-23

Transport Planning [Sep][PT][Frenchay][2yrs] MSc 2022-23

Transport Planning [Sep][FT][Frenchay][1yr] MSc 2022-23

Transport Engineering and Planning [Frenchay] MSc 2022-23

Transport [Frenchay] MSc 2022-23

Transport Engineering and Planning [Sep][PT][Frenchay][2yrs] MSc 2021-22