



Module Specification

Travel Demand: Models and Scenarios

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Part 1: Information

Module title: Travel Demand: Models and Scenarios

Module code: UBGM8N-15-M

Level: Level 7

For implementation from: 2021-22

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Environmental 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 decisions 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:

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](https://uwe.rl.talis.com/modules/ubgm8n-15-m.html) 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 [Sep][FT][Frenchay][1yr] MSc 2021-22

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

Transport Planning [Sep][FT][Frenchay][1yr] MSc 2021-22

Transport Engineering and Planning [Sep][FT][Frenchay][1yr] MSc 2021-22