



## **Module Specification**

### **Transport Economics and Appraisal**

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## Part 1: Information

**Module title:** Transport Economics and Appraisal

**Module code:** UBGM8M-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:** The module will begin with the basic economic concepts, focussing on how these underpin cost benefit analysis (CBA) and other forms of transport appraisal. The latter part of the module will focus on transport appraisal principles, enabling the students to apply those principles following current UK practice. Although there will be some overlap, the understanding of economic concepts will be

assessed mainly through the exam and the application of appraisal techniques mainly through the coursework.

**Features:** Not applicable

**Educational aims:** The purpose of the module is to develop an understanding of economic concepts as applied to transport and competence in applying appraisal techniques as they are used in the transport sector in the UK.

The module will enable students to recognise the neoclassical assumptions underlying mainstream economics and current appraisal practice, to reflect on their implications and critique them. It will also enable them to critically evaluate alternative concepts of sustainability and their application to transport economics.

**Outline syllabus:** As no prior knowledge of economics is required, the module will begin by introducing students to the basic concepts of economics, such as supply and demand, market structures and elasticities, applying them to transport markets, travel behaviour and investment decisions. The particularities of economics as applied to transport (e.g. the importance of the 'consumption' of time) will be stressed at each stage.

The principles underlying 'mainstream' neoclassical economics will be introduced, analysing the assumptions on which these are based and pointing out where and how these have been challenged. Three key principles are the constructs of utility, 'rational economic man' and the 'as if' assumption, which will be introduced with key texts and critically analysed along with alternatives such as bounded rationality and behavioural economics, as applied to transport contexts.

The economics of sustainability will be introduced, starting with the contested definitions of sustainability and the debate over the limits to growth and potential for decoupling of growth in GDP, traffic volumes and environmental impacts.

The relationships between transport and the macro economy will be considered and the claim that transport investment can boost economic growth will be critically analysed, reviewing the evidence with an awareness of vested interests and the problem of establishing causality.

The concepts of externalities will be introduced and their implications for transport market failure and the rationale for public sector intervention. The principle of monetisation will be introduced and different methods for estimating externalities will be contrasted.

These sessions serve as an introduction to the technical aspects of appraisal, which are the main focus of the latter part of the module. These cover the overall philosophy of appraisal, and concepts such as social costs, value of time, generalised cost, discounting and net present value. These are used to build-up an understanding of the process of CBA.

Alternatives and supplements to CBA will be considered and the particular form of appraisal currently used in the UK will be explained and illustrated with practical examples, drawing on external contributors where appropriate.

The students will be enabled to apply these principles to real-life situations. This will require some mathematical competence, which the students will be helped to develop, with some additional support also available outside the module.

At all stages the students will be encouraged to critically reflect on the underlying philosophy and practical implications of the appraisal processes they are using.

The module will introduce concepts that will be developed in Transport Policy and Finance (particularly related to sustainability, net present value and intervention in transport markets) and Changing Travel Behaviour (particularly rationality and behavioural economics).

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** The module will be delivered through a series of lectures and workshops. These will be mainly delivered and led by the core programme staff, supplemented by external specialists where appropriate.

The interactive lectures will seek to explain the economic and appraisal concepts; these being supported by practical exercise in the workshops and private study.

The lectures will prepare students for the examination. Additionally, the sessions will enable the student to write a summative report critiquing a particular and contemporary appraisal case (Component B).

Contact with students may be in one of two forms: a) weekly or bi-weekly basis across a single semester; b) two blocks of three days each. The learning will be made up of the following number of hours:

Directed contact learning: 36 hours

Independent Study: 36 hours

Assessment, including preparation: 78 hours

Total: 150 hours

**Module Learning outcomes:**

**MO1** Use economic principles to analyse transport markets, travel behaviour and investment decisions

**MO2** Explain and critique the principles of welfare economics that underpin CBA and economic appraisal of transport investment

**MO3** Critically evaluate different concepts of sustainability and methods for addressing positive and negative externalities of travel and transport investment

**MO4** Apply the principles of the UK system of transport appraisal to solve practical problems, and reflect on the process and outcomes

**Hours to be allocated:** 150

**Contact hours:**

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 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/ubgm8m-15-m.html) via the following link

<https://uwe.rl.talis.com/modules/ubgm8m-15-m.html>

## **Part 4: Assessment**

**Assessment strategy:** The strategy of the assessments is to ensure that students have critical understanding of economic theory and understanding and ability to use the UK transport appraisal system. Hence, the assessment is divided into two parts, an examination and a report.

The examination will mainly assess the depth of the students' understanding of key economic concepts, whereas the coursework will assess their ability to use the current techniques of transport appraisal – and to reflect on that process.

### **Assessment components:**

#### **Examination (Online) - Component A (First Sit)**

Description: Online exam

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

#### **Report - Component B (First Sit)**

Description: Report (2000 words plus appendices)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO3, MO4

#### **Examination (Online) - Component A (Resit)**

Description: Online exam

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

**Report - Component B (Resit)**

Description: Report (2000 words plus appendices)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO3, MO4

**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