



## **Module Specification**

# **Sustainable Transport: Technologies and Behaviour**

Version: 2022-23, v2.0, 08 Jun 2022

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## Part 1: Information

**Module title:** Sustainable Transport: Technologies and Behaviour

**Module code:** UBGLD1-30-3

**Level:** Level 6

**For implementation from:** 2022-23

**UWE credit rating:** 30

**ECTS credit rating:** 15

**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:** Managing the challenging environmental and social issues related to transport is one of the important tasks for authorities in the decades ahead, at all scales from local to global. There is an opportunity to build more sustainable transport systems for the future, and this module focuses effective approaches to achieving this.

The module is structured into two parts. The first part of the module is focussed on the technological context of current transport patterns/trends, and behaviour change in relation to this, exploring why we face present transport challenges, and approaches to addressing these. The aim of this part of the module is to introduce students to theories related to behaviour change and how those theories are used in practice in transport planning and demand management. It requires students to develop a knowledge and understanding of social-psychological theories, their uses and limitations.

The second part of the module is focussed on putting the learning in the first part into practice. This latter part will develop skills in planning for the future, culminating in the development of a sustainable transport plan. The aim of this part of the module is to introduce students to transport planning and its historical context, understand current transport patterns, explore future trajectories in relation to emerging transport and communication technologies, and methods for creating and delivering transport plans. It requires students to think about the role of transport planning in the wider context of planning and society, and to develop skills in relation to plan and transport assessment making processes.

**Features:** Not applicable

**Educational aims:** The aim of this module is to develop students' knowledge and skills in relation to transport and mobilities studies, and to provide a specific focus on sustainability issues related to modern transport systems. This module will provide students with both a conceptual understanding of these important sustainability issues, and also develop practical transport planning skills through teaching on transport planning processes. Through this approach students will gain in-depth knowledge of the subject areas, and also useful skills for addressing the challenging transport issues covered on the module.

This module puts a particular emphasis on understanding individual and collective behaviour, and people's travel choices; it considers current and future technological developments and the potential impacts of these on transport sustainability, and energy and resource use.

In taking this module students will be equipping themselves with knowledge and skills relevant to addressing important global issues we currently face, for example

greenhouse gas emissions and climate change, air quality, individual health and wellbeing, and community cohesion.

This module develops the broader programme themes related to sustainability and energy/resource use, with a specific focus on transport in relation to these. It has been designed as a part of a transport series that runs through the programmes, from individual sessions on modules in the first year which introduce transport issues, through the second year module 'Transport and Mobilities', to this final year module: Sustainable Transport: Technologies and Behaviour.

**Outline syllabus:** Indicative topics to be covered in Part 1 include:

#### Technology

- Nature of full range transport interventions and the different ways they may affect behaviour
- The social, political, and technological context of travel behaviour change
- Future transport trajectories including higher and lower mobility future

#### Behaviour change

- Theories of travel behaviour, and behaviour change including: rationality and bounded rationality, cognitive and social models
- The techniques of behaviour change in different contexts e.g. workplace, neighbourhood/settlement, new developments, as applied to route choice, mode choice and the decision to travel
- Examples of socio-technical diffusion of ideas within the professional transport planning community both within the UK and from outside the UK
- Examples of where and how modal shift has been achieved (or attempted with limited success) over the longer-term in the UK and internationally
- Evidence of the effectiveness of travel behaviour change and travel planning programmes in practice

#### Planning integrated solutions

- Effects of infrastructure change in traffic (induced traffic and disappearing traffic)
- Travel plans (workplace and residential)

Indicative topics to be covered in Part 2 include:

The context

- Past and current trends in transport use in the UK and internationally
- Social trajectories and transport
- Information technology and automation
- The evolution of UK and international transport policy
- Society and social inclusion (poverty, disability, gender, race and ageing)
- The policy process, including the roles of the state and private sector in transport provision
- The structure and finance of national and local transport

Creating transport plans

- The role of land use in shaping transport demand
- Transport plan making: a historical and international perspective
- Transport plan making principles and processes
- Local and structure plans
- National, regional and local policies relating to transport planning governance
- The role of evidence in transport plan making

Delivering transport plans

- Decision making processes and delivery mechanisms of the planning system
- Definition of development; the use classes order; planning permissions; planning enforcement
- Transport assessments for land use development
- Environmental impact statements
- Material considerations; the use of conditions; reasons for refusal; planning agreements

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

**Teaching and learning methods:** The module will be taught in class-based sessions that will involve instruction from a tutor, with a flexible format to the content

and structure of the taught sessions themselves. The students will be taught by several tutors all with expertise in transport and the topics covered.

There will be sessions in which the students discuss the theories and the ways in which they are used based on their reading and on evidence from practice about how they are used. Other sessions will have a focus on a particular case study or topic are of interest/relevance. Some of the sessions will aligned with the assessment tasks, and will have a practical tutorial element to support students in developing the skills taught on the module.

Teaching and learning on the module will consist of 72 hours of taught sessions and 228 hours of independent study, directed by tasks and materials introduced in the taught sessions.

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

**MO1** Critique different approaches to transport demand management, behaviour change, and travel planning

**MO2** Describe and justify a travel planning programme to effect behavioural change, using relevant theory

**MO3** Apply and comply with principles and processes of transport planning practice

**MO4** Demonstrate understanding and knowledge of transport plans, and apply the components and stages that should be followed in their development, approval, and implementation

**MO5** Use relevant national, regional and local policies relating to transport planning governance

**MO6** Demonstrate effective application of regulations related to transport, health and safety, environmental impact, legal, development and planning and equality and diversity requirements

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://rl.talis.com/3/uwe/lists/F0DB606C-0D22-820D-7859-B8570B8EE47E.html?draft=1&login=1) via the following link <https://rl.talis.com/3/uwe/lists/F0DB606C-0D22-820D-7859-B8570B8EE47E.html?draft=1&login=1>

## Part 4: Assessment

**Assessment strategy:** Component A (Learning Outcomes 1-3)

A sustainable transport promotional campaign portfolio in two parts:

1. A set of publicity materials to support the promotion of a local sustainable transport improvement scheme (three distinct publicity materials – e.g. leaflet, poster, and social media/blog article/advert).
2. A short recorded presentation (7 minutes plus 3 minutes question and answer). The presentation will require the students to record a presentation of their publicity materials that would support the promotion of a travel plan programme, and justify their focus and design choices.

Component B (Learning Outcomes 3-6)

Travel plan document (3,500 words plus appendices) that will require the student to describe and justify the use of a range of underlying theories that support a package of behaviour change programmes (travel plan), and to describe and explain the nature of that demand management strategy.

**Assessment components:**

**Portfolio - Component A (First Sit)**

Description: A sustainable transport promotional campaign portfolio in two parts:

1. A set of publicity materials to support the promotion of a local sustainable transport improvement scheme (three distinct publicity materials – e.g. leaflet, poster, and social media/blog article/advert).

2. A short recorded presentation (7 minutes plus 3 minutes question and answer). The presentation will require the students to record a presentation of their publicity materials that would support the promotion of a travel plan programme, and justify their focus and design choices.

(1,500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

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

Description: Travel plan document that will require the student to describe and justify the use of a range of underlying theories that support a package of behaviour change programmes (travel plan), and to describe and explain the nature of that demand management strategy. (3,500 words)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4, MO5, MO6

### **Portfolio - Component A (Resit)**

Description: A sustainable transport promotional campaign portfolio in two parts:

1. A set of publicity materials to support the promotion of a local sustainable transport improvement scheme (three distinct publicity materials – e.g. leaflet, poster, and social media/blog article/advert).

2. A short recorded presentation (7 minutes plus 3 minutes question and answer). The presentation will require the students to record a presentation of their publicity materials that would support the promotion of a travel plan programme, and justify their focus and design choices.

(1,500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3



**Report - Component B (Resit)**

Description: Travel plan document that will require the student to describe and justify the use of a range of underlying theories that support a package of behaviour change programmes (travel plan), and to describe and explain the nature of that demand management strategy.

(3,500 words)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4, MO5, MO6

**Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Urban and Regional Planning {Foundation} [Feb][FT][GCET][4yrs] BSc (Hons) 2019-20

Urban and Regional Planning {Foundation} [Oct][FT][GCET][4yrs] BSc (Hons) 2019-20

Geography and Planning [Sep][FT][Frenchay][3yrs] BA (Hons) 2020-21

Geography [Sep][FT][Frenchay][3yrs] BA (Hons) 2020-21

Urban Planning [Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21

Geography and Planning [Sep][SW][Frenchay][4yrs] BA (Hons) 2019-20

Geography {Foundation} [Sep][FT][Frenchay][4yrs] BA (Hons) 2019-20

Geography [Sep][SW][Frenchay][4yrs] BA (Hons) 2019-20

Geography and Planning {Foundation} [Sep][FT][Frenchay][4yrs] BA (Hons) 2019-20

Urban Planning {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2019-20

Geography {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2018-19

Geography and Planning {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2018-19