CITIES AND SUSTAINABLE TRANSPORT

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Rationale and aims

Urban transport is increasingly unsustainable as travel patterns become more dependent on the car. Levels of urban mobility have risen substantially, but the capacity of the city transport systems have not kept pace, with the resultant increases in traffic congestion and environmental degradation. The underlying argument is that in all cities, the levels of car dependence must decrease in both the short and the long term. Solutions should not only be sought within the transport sector, but in other related sectors, particularly land use planning and development. Sustainable transport must be seen as part of the process of urban renaissance. Technology has an important role to play but is not the solution. Attention should also be directed to transport as a social and cultural phenomenon – something that is done sensed and understood in particular ways by citizens, researchers and practitioners and imbued with certain values and norms.

The aim of “Cities and Sustainable Transport” course is to introduce a variety of ways in which passenger transport can be made more sustainable and to identify some of the barriers and challenges in increasing its sustainability. The course is based around the book with Robin Hickman (2014) Transport, Climate Change and the City, http://www.routledge.com/books/details/9780415660020/ In the course, we will:

- Discuss the potential contribution of land use development, technology and various forms of policy-making in increasing transport’s sustainability;
- Explore how different understandings of transport contribute to attempts to make passenger transport more sustainable; and
- Examine existing barriers to the implementation of initiatives to reduce unsustainable transport.

Teaching approach

The course consists of 5 sessions, each about 90 minutes duration. Each session will focus on different aspects of sustainable cities and transport. A detailed outline of each session is given below.

Sessions will be interactive: the tutor(s) will introduce the topic and students are expected to deliver active inputs throughout the session. This means that students have to prepare themselves before the session by reading some literature and identifying topics for discussion. Below two types of reading suggestions are given: pieces that provide key building blocks to the tutors’ introductions, and publications that provide further information on topics discussed in the introductions. Students should aim to read at least the two key references before the session.

Sessions

1. Cities, mobility and climate change

Contents:

What are the challenges and opportunities for cities, and what has been the role of transport in its metamorphosis from the small scale to the mega scale? Cities have grown and will continue to grow at a much faster rate than the provision of new infrastructure and housing, and this situation is having a
deleterious impact on the quality of life through sprawl, congestion and pollution, through poor quality housing and poverty, and through the need for more reliable energy supply, clean water and sanitation. The potential global risk is of increasing poverty and social inequality, which may in turn lead to social unrest and higher rates of disease and crime. The role of good governance and urban planning is of central importance, so that development can be seen as investment in the future of the city. The enhancement of the quality of the built environment is the key to determining which cities emerge as the new centres of innovation and affluence. Although it has been acknowledged that all cities are different, the narrative given in this session is more generic and it traces some of the commonalities between cities from all parts of the World, looking backwards and forwards, and trying to identify different futures.

To read:
http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3503

Suggestions for further reading:

2. Cities, urban form and transport

Contents:
The role of the planning and development system is important, and this session will discuss the issues related to density, settlement size, location, mixed use and other socio economic factors in determining levels of car use and mobility. It is argued that the role of development and land use has been an undervalued part of the quest for sustainable development. Decisions that are now being taken on the location of new development and the retrofitting of existing development will have a major impact on the numbers of trips made and the distance travelled, which in turn influences the mode chosen. This session will also explore the problems of implementation, the barriers to effective action, the necessity for involvement, the roles of the different actors, and the differences between expected and actual outcomes.

To read:
3. Transport and land use planning to achieve sustainability.

Contents:
Over the recent past there has been a dramatic increase in travel, mainly driven by the desire to move faster and over ever greater distances. This growth is unsustainable, and the continued growth in levels of mobility needs to be reassessed through substantially reducing the levels of consumption (energy and carbon) in transport. This means that travel activities should be based on shorter distances and slower speeds, with a more flexible interpretation of time constraints. Transport geographers should have a strong and instrumental role to play in this debate. This session outlines the changing patterns of movement, before concentrating on urban areas where most daily travel takes place, and it examines the trilogy of distance, speed and time. The focus is on distance, and the role that land use planning and development, and technology can play in encouraging new forms of travel in cities, but there are strong implications on the ways in which speed and time are conceptualised. The conventional transport paradigm is heavily embedded in the belief that travel time needs to be minimised and consequently speeds need to be increased. The resulting impacts on travel distances have not been part of that debate, but reducing travel distances is central to sustainable transport.

To read:


Suggestions for further reading:


4. Transport Futures: Thinking the Unthinkable

Contents:
It is becoming increasingly important to think about longer term possibilities and directions that are trend breaking and can help anticipate the unexpected. The future is perhaps becoming less certain, or at least uncertainty is a central feature of future trajectories. This session discusses the role that different types of scenarios can play in helping derive potential transport futures – including issues of possibility, plausibility and desirability – giving examples of each. It then contextualises the scenarios, emphasising the need for the longer view, the importance of decarbonising the economy, and in engaging decisions makers at all levels in a fully participatory process to confront the need for strong action on mitigation and adaptation. This is illustrated with an example from Delhi to demonstrate some of the recent developments and applications of these principles. Finally, some comments are made on the issues relating to improving our understanding of sustainability, and the difficulty of making radical changes to individual and societal values, and to travel behaviours, often requiring immediate and large scale actions.

To read:


Suggestions for further reading:


5. Building a Sustainable Transport strategy: London

Contents:

Transport is a major user of carbon-based fuels, and it is increasingly being highlighted as the sector which contributes least to CO$_2$ emission reduction targets. This session outlines the methodological approach and the findings of the VIBAT London study (www.vibat.org) which considers the role of the transport sector in reducing CO$_2$ emissions in London. The analysis develops a transport and carbon simulation model (TC-SIM) for London. Within this, users are able to consider the implementation of a series of potential policy packages – low emission vehicles, alternative fuels, pricing regimes, public transport, walking and cycling, strategic and local urban planning, information and communication technologies, smarter choices, ecological driving and slower speeds, long distance travel substitution, freight transport, and international air. They can select variable levels of application to help achieve headline CO$_2$ emission reduction targets. The roles of carbon rationing and oil prices are also considered. TC-SIM can be played in different user modes: as ‘free riders’, ‘techno-optimists’, ‘enviro-optimists’, ‘complacent car addicts’ and other typical travel market segments, including a ‘free role’. Game playing or scenario testing such as this helps to highlight perceived levels of homogeneity of views within certain cohorts, the development of entrenched positions and the likely success in achieving objectives.

Various policy packages, scenarios and pathways are developed for reducing transport CO$_2$ emissions. It argues that strategic CO$_2$ emission reduction targets are very ambitious relative to current progress, and that we need to act more effectively across a wide range of policy mechanisms, with a ‘high intensity application’ of many of the options, to get near to achieving these targets. A critical issue here will be in communicating and gaining greater ‘ownership’ of future lifestyle choices with stakeholders and the public, and participation tools such as TC-SIM could become increasingly important in this area.

To read:


Suggestions for further reading:
