

GEOG4102 Transportation Economics (6 credits)

Course Teacher: Dr P Y Zhu

Objectives

To provide students with an advanced level understanding of the nature of urban transportation problems from an economic perspective.

Course Synopsis

This course focuses on urban transportation as it is examined in the context of general economic, social and spatial trends in metropolitan settings. Particular attention is placed on the decision making process and how it affects policy choices. Students will develop an understanding of relevant theories and analytical techniques, through the exploration of various cases drawn from different parts of the world. This course covers a wide range of topics in transportation economics: the major forces of transportation demand; conceptual and analytical models of travel behavior; the costs of driving; the role of transportation infrastructure in land use and economic development; the concept of accessibility. It also covers other topics in transportation policy with a discussion of relevant institutions being involved, including transportation finance, public transportation, non-motorized transportation modes, energy consumption, environment, land use and social equity. Through these topics, students are able to critically evaluate policies aimed to influence various urban transportation issues.

Lecture Topics

- The Urban Context Review
- Demand for Transportation
- Costs of Driving
- Alternative Transportation Mode: Public Transit
- Non-motorized Transportation Modes
- Finance for Transportation Infrastructure
- Impact of Transportation Infrastructure on Land Use and Economic Development
- Environment: Air pollution, energy consumption, greenhouse gas emission, global climate change
- Suburbanization and Spatial Mismatch: Neighborhoods, mobility, and accessibility; job-housing balance; equity and social justice
- The Future of Cities and Regions: Information of Communication Technologies (ICT) as substitutes or complements for travel; Implications for future urban form

Assessment

Coursework 100% (consists of weekly journal, class presentations and discussions of weekly readings, term paper and class participation)

Learning Outcomes

Knowledge:

- Understand transportation-land use interaction theories, including issues related to travel demand, accessibility, and urban structure.
- Explore the way land use, growth patterns, and other built environment affect travel behavior.
- Understand the impact of transportation infrastructure on land development, economic development, and environment.

Skills:

- Critical thinking about transportation and land use and their role in urban sustainability as well as the menu of policy options available to decision makers.
- Integrate various relevant policy instruments, institutional settings, and analytical tools in the application of theories.
- Able to write clear, well-articulated and thoughtful articles related to urban transportation and land use issues and policies.

Recommended Reading List

1. Gomez-Ibanez, Tye, & Winston (1999) *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer*. The Brookings Institution.
2. Richard C. Porter (1999) *Economics at the Wheel: The Costs of Cars and Drivers*. The Academic Press.
3. Dunn, J. (1998) *Driving Forces: The Automobile, Its Enemies, and the Politics of Mobility*. Washington, DC: Brookings Institution.
4. Hanson, S. & G. Giuliano, eds. (2004) *The Geography of Urban Transportation*, 3rd edition. New York: Guilford Press.

In addition to above textbooks, students will be assigned lots of most recent articles as weekly readings. The full list of weekly readings will be provided in the full syllabus.