Cities’ and regions’ adaptation to public transport – basic data, analyses and steering instruments in planning (course code FAG3007) (Ph.D. course, 3cr)

This course is developed in collaboration between the division of Urban and Regional Studies (within the Department of Urban Planning and Environment) and the division for Transport and Location Analysis as well as the division for Transport and Logistics (both divisions within Department of Transport Science) and the KTH Transport Platform. It is coordinated from Urban and Regional Planning by adj. prof. Inga-Maj Eriksson, 0702-867720.

The course is directed towards PhD students at the school of Architecture and the Built Environment, primarily from the Department of Urban Planning and Environment, the Department of Transport Science and the Department of Architecture. The number of participants is limited to XX. The course will be taught in English.

AIM
The objective of this course is to provide knowledge necessary for assessing potential effects of planning options (spatial and infrastructure changes as well as policy measures) on accessibility to target points and modal split. The topic cover adaptation of the existing and future built environment characteristics which are concerned by short term and long term planning actions. The course should also facilitate the initiation of demonstration and evaluation of planning measures in collaboration between KTH research and local and/or regional planning authorities in terms of contributions to society´s goals on increased use of public transport, walking and biking as well as the reduction of energy use and CO2 emissions under the wider goals of sustainable development and efficient transport system.

After the course students should:
- have an understanding of the relations between urban and regional structures and public transport systems and related research,
- understand common impacts for different groups of users of the transport system,
- have the knowledge of principles for analysing quantitatively and qualitatively the impacts of built environment characteristics for the traveller´s choice of mode and trip patterns.
Schedule 2013

Five half day seminars:

13 Nov 13.00 – 15.30
Introductory lecture 1, Inga-Maj Eriksson
Introductory lecture 2, Göran Cars
Introductory lecture 3, Björn Hasselgren

20 Nov 09.00 – 09.45
Introductory lecture 4, Lars-Göran Mattsson
10.00 – 12.00
International view, lecture 1, Robert Cervero
13.00 – 14.30
International view, lecture 2, YusakSusilo

4 Dec 13.00 – 16.00
City level, local level, lecture 1, Carl-Johan Engström
City level, local level, lecture 2, Oded Cats

5 Dec 13.00 – 16.00
Regional level, lecture 1, Carl-Johan Engström
Regional level, lecture 2, Bo Lennart Nelldal

11 Dec 13.00 – 16.00
Presentations of essays and discussions, by each student

Rooms will be announced later.

REGISTRATION
Separate information on registration and course fee.

EXAMINATION REQUIREMENTS
Students are to write an essay, related to the literature or other course content. In the final seminar participants are to present their essays. The essay could be a draft part of their own research or discussing a future research topic. Before seminar 2, 3 and 4 students are to submit written questions reflecting on the literature read, as a preparation for the seminar. Attendance of seminars is compulsory. Absence from a seminar will result in compensation tasks covering the content of both the seminar and the literature.

COURSE PROGRAMME (preliminary)

Seminar 1
An introduction to a scientific approach to the problems and possibilities of adaptation of cities and regions to public transport systems, “transport and society”. Development trends (short and long) on mobility and accessibility, scenario building – mobility needs for different groups, problems and challenges. Preconditions in terms of different policy levels (incl. EU), responsibilities and funding systems in a transformation period.

Inga-Maj Eriksson, Göran Cars, Björn Hasselgren, Lars-Göran Mattsson, with introductory presentations.
The perspectives of planners and experts versus the users and the decision makers. The visions versus actual trends, and the realism of European/international, national, regional and local goal setting and links to todays actions, and as base for strategic decisions. Earlier public transport strategies, funding and pricing systems. New regional planning approaches in Sweden, of importance in this context. What factors and driving forces affect the modal split and accessibility – how can we assess and measure? Follow up from society at various levels e.g. national and European (EEA),(Jonas Åkerman´s thesis). Transformation potentials of cities and regions in short term and long term in the light of society´s goals on changing modal split and the actual preconditions in Sweden. General description of availability of basic data, methods and steering instruments for society, planners and experts.

Seminar 2
International view: Adaptation and development of use of public transport in other countries, especially European countries – and compared to Sweden. Conditions and preconditions in successful cities and regions. The role of knowledge and measuring of progress.

Professor Robert Cervero, University of California (Berkeley), Institute of Urban and Regional Development + Transportation Center
Adaptive Transit and adaptive Cities: Making the Transit/Land-Use connection, with examples from USA, Scandinavia and other parts of the world, including Asia and Latin America.

Ass. Professor YusakSusilo, division of TLA, dep of Transport science, KTH.
International evidences: adaptive transit, adaptive behaviours in continuously changing cities and regions. The interaction between individual travel behavior and land use characteristics. Evidences from the United Kingdom, the Netherlands, Switzerland and Japan will be used to demonstrate how the individual travel choices are influenced by land use factors and other external characteristics in short and longer terms. The importance of behavior changes and accommodating individual learning process, perceived accessibilities and spatial recognitions in analysis are also discussed. Transport and land use interaction. Transport policy and evaluation. The use of built environment, factors influencing behaviour.

Literature:

Seminar 3
City-level and local level. Coordination of urban planning and public-transport planning.

Professor Carl-Johan Engström, division of Urban and Regional Studies, dep. of Urban planning and Environment.
Integration between transport and spatial planning – with focus on sustainable urban development.
- Current trends in urban development.
- The need to approach sustainability - impacts on urban development.
- Effects on planning procedures - a new discourse.
- Examples from Swedish municipalities.
- Conclusions

Researcher Oded Cats, division of Transport and Logistics, dep of Transport Science (planning from transport perspective).
Urban structure impacts on public transport operations, network design and performance (Oded Cats):
- Hierarchy in public transport networks
- Main factors of cost effectiveness and cost efficiency of public transport systems
- Measures of performance of public transport systems: accessibility, coverage, reliability, capacity
- The relationships between stop spacing, travel speed, frequency and fleet size
- Common forms of public transport service design in various urban forms and the corresponding network structures

Contribution from Ph.D. student Todor Stojanovski: Transit Oriented Development in Swedish medium size cities

Literature:
This is how we get The Livable City, Engström & Ingelström, Trafikverket/Den Goda Staden, 2010.

Seminar 4
Regional level. Coordination of regional development planning and public transport planning.

Professor Carl-Johan Engström
Integration between transport and spatial planning – with focus on sustainable regional development.
- Current trends in regional development.
- The need to approach sustainability - impacts on regional development.
- Effects on planning procedures - a new discourse.
- Examples from Swedish regions.
- Conclusions.

Professor Bo Lennart Nelldal
Rail transport system development and how it will affect the regional planning and development
- Current trends in rail transport development
- Experience of rail and regional development in Sweden
- Metro and trams in town planning
- How can track systems contribute to a sustainable society?
- Scenarios for 2030-2050

Literature:

Seminar 5
Presentation of essays and discussions