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How to check the sustainability of airport capacity planning in Europe

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Abstract

The demand for air transport has been growing, but in many European countries there is no sufficient airport capacity where it is needed. For that reason not only the hubs (e.g. London-Heathrow or Frankfurt) which are often overcrowded are trying to enlarge. The second level airports are also trying to attract more airlines and passengers by means of an upgraded infrastructure, but the main problem is that the number of third level airports outside the agglomerations has also been growing (New Airports-process). Some of them are completely new, others are enlarged airfields or converted airbases (especially in Germany). They are often pushed with subsidies and try to establish on a market with a growing number of competitors. Many of them are not sustainable, especially from the economic point of view. Therefore it would be useful to develop a scheme to check the sustainability of the airport capacity planning at the national level. The main goals should be the reduction of avoidable traffic, emissions, noise and land consumption. It should also be checked if the intermodality and the participation of the public are promoted. Another sustainability criterion is the long-term economic development. Therefore the reduction of market distortions in order to avoid high-cost but unused airport infrastructure is necessary.

Sustainability Impact Assessment of Transport Services Liberalization – A Case study from Chile

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Abstract

Efficient transport plays a central role in all economies. At a global scale it is estimated that the service sector represents 70% of production and employment in the industrially advanced countries. A key issue in the debate of sustainability assessment of transport services is the true cost of transport, reflecting and effectively internalizing all externalities. Today, transport itself is responsible for about one third of all energy consumption. Of this, freight transport makes up for about 30% and passenger transport for 70%. Other environmental issues relevant in the transport sector include land use, noise, water pollution from oil spills, and indirectly, the exploitation of natural resources facilitated by transport infrastructure. Social issues important in the transport sector include rise of unemployment after privatization, temporary employment, income discrepancies between skilled and unskilled labour, lack of gender balance, and labour safety.

In recent years sustainability impact assessments (SIAs) have become an important tool for estimating and/or determining the environmental and social effects of economic liberalization measures. SIAs can serve as a basis for developing policy measures that aim at the prevention of mitigation of negative social and environmental impacts of trade liberalization as well as at the enhancement of positive impacts. This study focuses on the liberalization and deregulation of the transport services sector in Chile.

The following questions are tackled in the study

- How can SIA be applied to liberalization in the transport sector?
- Which form does trade liberalization in the transport sector take?
- Which sustainability effects had transport liberalization in Chile so far?
- Which effects through further liberalization are likely?
- Which policy measures would have to be in place to mitigate negative and expand positive effects of transport liberalization?
- What lessons can be drawn from the experiences in Chile?

The study investigates how Chile reacted to the environmental and social effects of transport services liberalization in the context of regional and global economic integration.

Strategic Environmental Assessment (SEA) – A contribution to a sustainable transport planning

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Abstract

The European Directive on Strategic Environmental Assessment should be implemented into national law until July 2004. The obligation to integrate environmental aspects at an earlier stage of the planning processes will lead to significant changes in political decision-making.

Considering existing transport planning systems, up to now, there is more or less no consideration of synergetic and cumulative effects of network planning. Therefore, transport is one of the main sectors, where environmental effects could be reduced or even avoided by taking environmental aspects (land consumption, habitat fragmentation, Greenhouse gases) into account.

In the actual discourse on sustainability the role of the environment is discussed intensively. On the one hand side, it is argued, that environment is the basis and starting point for all human activities. On the other hand side, the social and economic aspects gain more and more attention.

Based on a brief presentation about of the instrument itself an overview about the current implementation of the European Directive in the transport sector in different countries will be given. The chances and threats of the instrument will be outlined. Finally, based on this analysis, it will be discussed, if the instrument should broaden its perspective to sustainability in future by also including social and economic aspects.

Key Words

SEA, planning process, transport planning, EU-Directive on SEA, sustainability

Logistics and freight transport policy in urban areas. A case study of Berlin-Brandenburg/Germany

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Abstract

The Berlin-Brandenburg Region has undergone profound transformations since 1990. Due to structural change, economic recovery and construction activity, urban and regional development here has been accompanied by a high volume of freight traffic. Policy-makers and planners have responded to this challenge through strategies that comprise the establishment of three suburban freight centres, local delivery improvements, and specified construction logistics. The case of Berlin-Brandenburg thus offers a specific set of implemented measures and appears to be one of the most advanced areas of regional freight policy at least in Germany. Yet, despite broad practical experience, concrete effects in terms of significant transport shifts or environmental benefits seem to be limited. In this context, the paper assesses the Berlin-Brandenburg freight approach. It also discusses general limitations for regional logistics strategies, and possible consequences for policy and planning. The main hypothesis is that the freight sector presents major obstacles for achieving a sustainable course in transport policy.

„Germany on the Move - Time Use for Mobility in Reunited Germany“

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Abstract

The topic of this paper is the time use for mobility in Germany after the reunion in the sense of a time geography which is enlarged theoretically. One central question is, which places are places where people (have to) spend much time or less time on their daily journeys (“places of short or long journeys”). One hypothesis of this project is, that time as a resource (in the sense of sustainability) is unevenly distributed not only socially but also on a regional level. This hypothesis raises the question, how time spent for journeys and the choice of means of transport vary according to the (constructed) context, understood as the spatial environment of the individual and/or according to the characteristics of the actor (stage in the life cycle, family status). The central databases of the empirical work are the two German time budget surveys conducted by the federal statistical office in 1991/92 and 2001/02.

Transport in transition – The challenge of sustainable transport in the new Länder in Germany after 1989

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Abstract

Given the compact urban form of the cities in the German Democratic Republic, planners and policymakers hoped by the beginning of the 1990ies that with the preservation of the urban structure a sustainable transport system could develop and become a best practice showcase for other Western regions. Unfortunately, reality quickly showed that both land use and travel patterns were developing in different directions: with the suburbanization of shopping and housing the car dependency and ownership increased and substituted former travel patterns.

The main objective of this paper is to ask why this development happened and what were the underlying driving forces. It will be argued that the spatial conditions in the “new Länder” were a prerequisite albeit not the only one for a more sustainable transport system. Theories will be presented that explaining missing factors both from an individual and a more structural perspective. Furthermore, looking at current developments like the shrinking urban population and an urban restructuring involving a re-urbanization, the potentials for a sustainable transport development nowadays are discussed. The paper concludes with some remarks about the role of geographical research on this topic.

"Assessment and opportunities of the future development of car sharing in Germany"

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Abstract

Car sharing is an important component to promote the use of sustainable modes of transport. Several studies demonstrate the positive ecological impact, as the majority of car sharing users reduce the number of car trips and start using public transport more frequently after becoming members of an organisation.

Even though car sharing has been a fast growing market in the past years in Germany, the number of customers is still low. Only 0.1 % of all persons having a driving licence in Germany have joined such an organisation. Therefore, the central goal of the present study is to find ways to promote these services. First, an investigation of the current situation in Germany was undertaken. For these purposes, a questionnaire addressing all German car sharing organisations (CSO) was conducted. Furthermore, a household survey was conducted to investigate the demand side of car sharing. This was augmented by analysis of the international development of car sharing through Internet research and standardised short questionnaires. On the basis of the results of these studies, recommendations for the further development of car sharing are given.

The virtualisation of the everyday-life: contribution to a sustainable development or extra incentive for activities and trips in the physical world.

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Abstract

Today for about half of the European citizens the World Wide Web is an important component of reality and so it is more or less integrated in the everyday-life structures and processes. And there are many speculations, hypothesis and prognosis about the consequences of individual activities in the virtual world on physical activity patterns, mobility and in an aggregated way on the geography of physical structures. Assumptions are made from a complete substitution of activities and trips inclusive socially cocooning phenomena to the statement that there are no measurable effects on activities and mobility patterns. The problem is that these approaches and prognoses normally either focus on a small part of activity patterns (like trips to work) or the empirical basis is rather bad. The latter is not really remarkable if we look at the complexity of the topic "interaction between the physical and the virtual world" - any how this contribution is the humbly attempt to bundle our existing findings to make some progress in respect of model-theory and empiricism of this issue.

INFORMATION AND COMMUNICATION TECHNOLOGIES AND ITS INFLUENCE ON THE USE OF SPACE AND TIME

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The rate of diffusion of new information and communication technologies (ICT) has rapidly increased in the last decade. To which extent the use of these media will affect the spatial-temporal behaviour of humans is a question of major interest for geographers and transportation researchers. The contribution presents a theoretical framework and an empirical study aiming to reveal the interaction between use of ICT and human travel behaviour. The theoretical concept is built around the basic idea that technological developments, both in the travel and especially in the communication sector, increase individual flexibility, thus enabling a fundamental reorganisation of activities. A major feature of the interplay between ICT and travel is the spatial-temporal fragmentation of activities, which can cause both quantitative and qualitative changes in traffic.

The empirical part of the contribution is based on the first wave of a panel-study carried out in 2003. The results confirm the hypothesis that people with high use of ICT show above-average mobility. This hypothesis can be seen as a major indication that a mutual relationship exists between ICT and mobility. Additionally, the examination of the data allows a detailed insight into the relationship of communication and mobility patterns and individual characteristics and attitudes of people. One particular focus is laid on people's varying affinities to ICT.

South American Freight transport – The Use of Cluster Variables in an Econometric Analysis of the Influencing Factors on International Transport Costs

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Abstract

All countries of South America are in the need for competitive efficiency, geographical accessibility and environmentally sustainable development.

The study identifies the current modal split in intra-regional freight transport in South America, and ascertains the influencing variables on transport costs in an econometric model. The data used is categorized in different data groups in relation to the freight moved, import and export country and the relation between these two, and different transport modes.

The data is of high variety and as it is, is not applicable to any regression model. Therefore the study identifies cluster variables of statistical significance by using principle component analysis (PCA). This leads to a construction of a variable pool, which is used for the econometric analysis of transport costs in order to identify the influencing variables on transport costs. The results are compared for four different transport modes.

The OLS regressions results using PCA variable cluster are consistent with the basic ideas about the underlying determinants of transport costs and bring up new insight on further variables in a geographic context (i.e. product structure, transport efficiency, network characteristics, spatial and economic variables).

It evaluates the influences of economic structure, trade blocs, physical geographical characteristics and the permeability of borders on international transport costs. The results underline the intentions and plans of the IIRSA, to focus in infrastructure investment and regulatory frameworks to be able to reach a certain level of transport integration. Moreover, the analyses show that effects of substitution can certainly be associated with lower transport costs due to the competition among transport modes. The results and analyses show that competition between modes potentially reduces transport costs, especially in the transportation of goods with equal affinities to certain modes. This leads to the conclusion that the improvements of fair competition between modes, should lead to the diversified modal participation, which the product structure of the region requires.

The importance of the nodes in transportation networks were especially underlined from the results on the effects of logistics in maritime transport. The results from privatisation and port performance revealed to have significant influences on transport costs.