

Transport infrastructure in shrinking urban regions

Background

This research project aims to improve the understanding of the impact of a declining and ageing population/society on the urban transport infrastructure. It is a PhD project founded by the German National Academic Foundation (Studienstiftung des Deutschen Volkes).

In stagnating and shrinking urban regions the increasing infrastructure costs cause relevant problems. The basis of this project is the assumption that socio-economic processes in shrinking regions will not only affect the development of the urban form, but also the transport infrastructure demand in those regions. Though per capita traffic volumes will increase, total traffic volumes will decrease, leading to a reduced demand in public transport services and an increase in car ownership rates and car use.

Objectives

The project has *three* main goals:

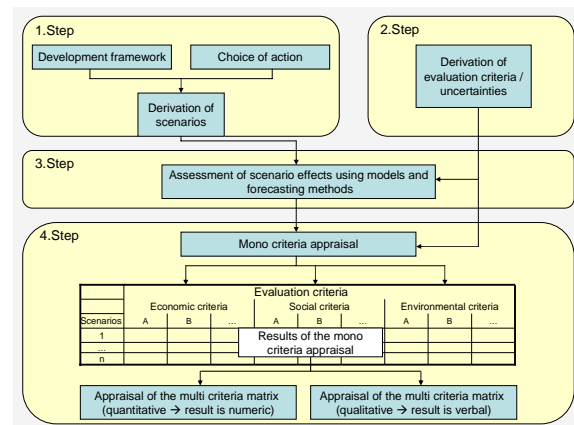
1. The first goal is to give a detailed description of the effects of socio-economic developments in shrinking regions on the transport infrastructure.
2. The second aim is to develop a method for the evaluation of urban transport infrastructures with respect to social, ecological and economic sustainability criteria.
3. The third objective is to apply the evaluation method in a shrinking case study region and to give advice to the respective municipal, regional and national authorities. Here, measures to counteract the ongoing unsustainable mobility trends shall be proposed.

Methodology

The project uses a scenario based approach in order to define possible scenarios of future infrastructure developments, given different transport policy priorities, and taking into consideration the expected demographic and socio-economic developmental trends.

With the help of a GIS analysis the future settlement development shall be modelled. Transport infrastructure, transport volume and modal split shall be estimated using data of travel behaviour surveys, such as MiD and SrV. Costs will be assessed using existing sets of costs in the respective domains.

Finally, a multi criteria analysis will be used in order to evaluate the generated holistic developmental scenarios by pre-defined sustainability criteria, and countermeasures will be discussed with experts.



Publications

Bähr, T.; Lanzendorf, M. (2007): *An economically driven method for the evaluation of transport infrastructure in shrinking urban regions*. Paper presented at the 11th European Transport Conference, Leeuwenhorst, October 2007

Bähr, T.; Lanzendorf, M. (2007): *An urban form approach for assessing the transport infrastructure costs in shrinking regions*. Transportation Research Record (submitted).

Contact Details

Torsten Bähr
Helmholtz Centre for Environmental
Research – UFZ
Department Urban Ecology, Environmental
Planning and Transport
Permoserstr. 15
04318 Leipzig
Germany

tel. +49 341 235 2784
torsten.baehr@ufz.de
www.ufz.de