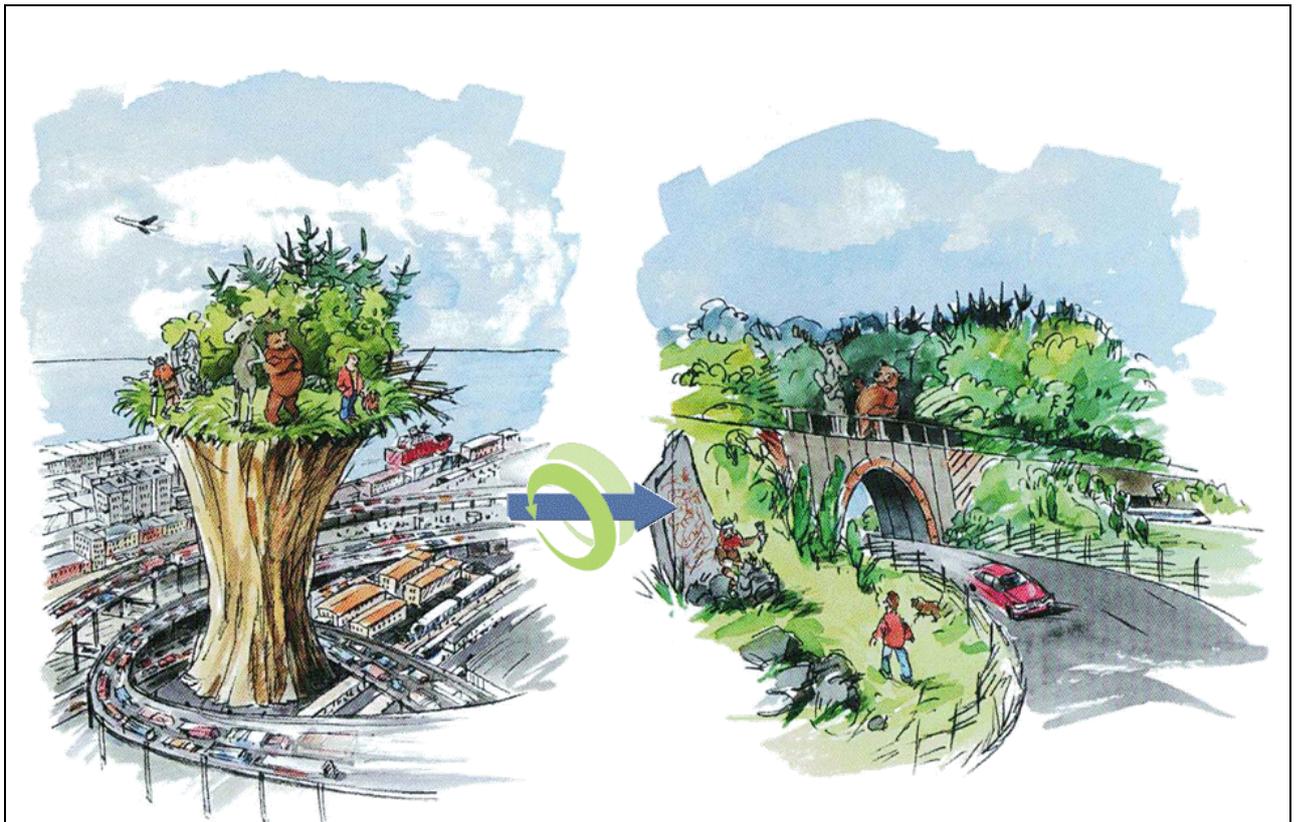


Integration of ecological and socio-cultural dimensions in transport infrastructure management

A research programme directed by CBM

Part of the new Mistra initiative on sustainable transport

2006-2008 (phase 1)



INCLUDE intends to support the development and implementation of a long-term strategy for achieving an environmentally sustainable transport system.

Decoupling today's transportation from its adverse environmental and social impacts requires not only a wise management of mobility and transport; it also needs an integrated management of landscapes and physical transport facilities and adapted planning processes concerning land use and infrastructure.

We envision a future infrastructure that is well adapted to the natural, social and cultural conditions of the embedding landscape and provides opportunities for creating new values and qualities that match national and international environmental quality objectives.

Contact: www.includemistra.org

Andreas Seiler (program director)

Swedish Biodiversity Centre, S-75651 Uppsala, Sweden

tel. +46 (0)581 69 73 28, e-mail: andreas.seiler@nvb.slu.se

INCLUDE is a research programme within the Mistra initiative on sustainable transport (“Transport-Mistra”). INCLUDE focuses on how ecological and socio-cultural landscape qualities can be integrated at different levels in infrastructure management and planning processes.

The programme is directed by the Swedish Biodiversity Centre and involves cooperation between several universities, research institutes, and governmental authorities in Sweden and abroad, most notably SLU, KTH, VTI, Stockholm University, and Kalmar University. The programme is being developed in close cooperation with the Swedish Road Administration and the Swedish National Rail Administration, which also took the initiative together with landscape ecologists, physical- and human geographers, and civil-engineers from a range of relevant institutions. The programme’s results shall be endorsed continuously in Swedish spatial planning and infrastructure management through close collaboration with the related governmental authorities, non-governmental organisations and the private sector.

The main goal of INCLUDE is to support the development of a long-term strategy for achieving an environmentally sustainable transport system. Decoupling today’s transportation from its adverse environmental and social impacts requires not only a wise management of mobility and transports; it also needs a broad-scale adaptation of physical transport facilities and associated planning processes concerning land use and infrastructure. We envision a future infrastructure that is well adapted to the natural, social and cultural conditions of the embedding landscape and even provides opportunities for creating new values and qualities that match national and international environmental quality objectives.

Approaches to accomplish this high ambition must integrate environmental policy with best knowledge about dose-response relationships in the environmental cumulative impact. They must be based on present decision making processes, and yet prepare for a methodological and conceptual change in infrastructure management. Landscape systems and hence the impacts on landscapes are highly complex, involving a multitude of interests that interfere with and depend on spatio-temporal dynamics. In order to support understanding and implementation of our work by the various stakeholders and end-users, we will develop simple but elegant, illustrative but robust means of communicating concepts and methods.

In INCLUDE, we seek to demonstrate, for a selected set of problems, how solutions can be found and implemented.

Our approach is concentrated around four guiding questions:

1. What is a sustainable landscape in the face of concurrent and anticipated landscape changes? Which criteria relate to sustainable development of landscapes, which indicators can be used to measure and evaluate sustainability for biodiversity and cultural heritage?
2. How does infrastructure and traffic interact with and affect ecological, social, cultural, and recreational values in landscapes? What is the critical impact on environmental qualities, functions and processes that relate to sustainability? Where are limits and thresholds in dose-response relationships of this impact?
3. How can the impact and its consequences be assessed, predicted, evaluated, and communicated to stake holders, planners and decision makers. What tools are needed to integrate this knowledge in planning processes as well as in the mind of people?
4. What options do we have to improve the situation? What remedying measures can be implemented and how can we affect the planning process itself to provide for a greater consideration of landscape and sustainability values?

We will focus our efforts on the two most characteristic and yet least understood direct effects of infrastructure and traffic, i.e., barrier and disturbance effects. They relate to accessibility, connectivity, landscape perception, value and suitability for humans as well as for animals and plants. We will develop an interdisciplinary approach in joining tangible geographic information with intangible landscape values in a “toolbox” for use in spatial and infrastructure planning.

Our work will be organised in international workshops, five component research projects, and a number of synthesis projects. During 2006-2008, the first phase of the programme, we will establish and develop knowledge and approaches that shall be combined and improved in a “toolbox” during the second phase in 2009-2012. We will work at local, regional and (inter-) national spatial scales and use different case studies and study areas along a gradient from natural over rural to urban landscapes and equally, from East Europe to West Europe.

Since the need to tackle the cumulative impact of transportation infrastructure on landscapes is ubiquitous, we believe that INCLUDE can also make an internationally significant contribution.