



## TOKODAI Lecture outline:

### ***Indicators and performance measures of sustainability in transportation***

July 7<sup>th</sup>, 2011.

**Henrik Gudmundsson**, Senior Researcher, Department of Transport, Technical University of Denmark, *Currently guest researcher at the Tokyo Institute of Technology; Department of Civil and Environmental Engineering, FUKUDA Lab.* Email: [hgu@transport.dtu.dk](mailto:hgu@transport.dtu.dk) or [hgu@plan.cv.titech.ac.jp](mailto:hgu@plan.cv.titech.ac.jp)

*Sustainability* has become an overarching concern for transportation policy and planning around the world. The notion of sustainability for transportation however remains poorly specified which allows many policies and practices to be identified as 'sustainable' whilst business as usual approaches are pursued. There is a strong need to make the notion operational for application in transportation and related fields.

The lecture will focus on the use of *indicators* and *performance measures* as key tools to make sustainability operational within the field of transportation planning and management. An indicator can be defined as a variable, or a combination of variables, being selected to represent a certain wider phenomenon or problem of interest, to support observation, communication, or intervention. A performance measure is an indicator that is connected to organizational objectives, goals, targets, and/or practices.

The lecture will:

- Introduce the topic of sustainability in general, and in transportation (concept of present and future needs, the three dimensions, the impacts that transport has on sustainability, key principles and goals, challenges involved in defining sustainability for a subsystem such as transport)
- Introduce and define various types of indicators and performance measures, and their functions and roles for different transport planning, management and decision making applications. (definitions, types of criteria for good indicators, applications of indicators)

The lecture will shift between PowerPoint presentation, small group work sessions, and interactive plenary sessions, where results of group discussions are reported and discussed. Total duration would be around 3,5 hours. Tentatively, the schedule could be:

- One hour lecture on the first topic, followed by 20 minutes of group discussions and 20 minutes of interactive feedback, with breaks in between, as appropriate
- One hour lecture on the second topic, followed by 20 minutes of group discussions and 20 minutes of interactive feedback, with breaks in between as appropriate

The emphasis will be on introducing concepts and typologies; no mathematics or calculation exercises will be involved. The lecture will be based on draft chapters of a textbook currently in preparation called "***Sustainability in Transportation: Making it Count***". The book is scheduled to be completed in **2012**, and published by **Springer**. It is intended as teaching material for transportation classes at higher education institutions, as well as for practitioners in transport planning around the world. The lecture could provide valuable feed-back to improve the drafting of the textbook.

Date: July 7<sup>th</sup> (Thu.), 2011. The lecture starts at 15:00.

Venue: Meeting Room, 1<sup>st</sup> floor, Research Center for Urban Infrastructure (Midorigaoka Bldg. No. 5),  
Tokyo Institute of Technology, Ookayama Campus  
[2-12-1 Ookayama, Meguro-ku, Tokyo, 152-8550]  
(東京工業大学創造プロジェクト館 1F 会議室)

Lecture Schedule:

15:00-16:00 (1) Lecture on the topic of sustainability in general, and in transportation  
16:00-16:20 (1) Group Discussion  
16:20-16:40 (1) Interactive Feedback  
(Short break)  
16:50-17:50 (2) Lecture on indicators and performance measures, and their functions and roles for different transport planning, management and decision making applications  
17:50-18:10 (2) Group Discussion  
18:10-18:30 (2) Interactive Feedback  
18:30 Concluding Remarks

Short BIO of the Lecturer:

Henrik Gudmundsson is a Senior Researcher in Sustainable Transport Policy Analysis at the Technical University of Denmark. He is educated as an Environmental planner and has a PhD in Business Economics from Copenhagen Business School. His main area of research is sustainable transport policy analysis, including the use of knowledge and indicators in the design, implementation and monitoring of transport policy and planning. He is a recognized expert in sustainable transport indicators, an area where he has extensive international networks. Henrik is currently involved in five major research projects, two funded by the 7th Framework Program of research of the European Union (POINT and OPTIC), two by Danish sources (REBECA and Driver&Limits), and one by the US National Cooperative Highway Research Program. In three of the projects he is a work package leader.

Henrik is the Principle Contact Point (PCP) on transport indicators in Denmark for the European Environment Agency (EEA), and he has been involved in advisory tasks on sustainable transport for the European Commission and the European Parliament. He is a member the Committees ABC30 'Performance Measurement' and ADD40 'Transportation and Sustainability' of the US Transportation Research Board. He is also a member of the evaluation panel for the 'European Green Capital Award'. Henrik has 10 years of past experience with State-of-the-Environment Reporting at the National Environmental Research Institute of Denmark (NERI). Before working as a researcher he was Head of Section in the Transport Office of the Danish Environmental Protection Agency and the Danish Planning Agency.

Registration and Inquiry:

If you join this lecture, please register to the following contact person by **June 30<sup>th</sup>**.

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Map to the venue:

