



**Maria Börjesson**

Professor of Economics

Swedish National Road and Transport Research Institute, Sweden

Transportation Cost-Benefit Analysis: Valuations and Decision Making

The lecture sets out from a brief history of and relevance of the transport Cost-Benefit Analysis (CBA). I review the key components of a transport CBA, and how the CBA should be used in the decision-making context of a government: Selecting projects under a budget constraint (applying the knapsack problem). I continue to explore to what extent the CBA really matter for decisions and the robustness of the CBA with respect to input data and model assumptions.

The second part of the lecture focuses on the consumer surplus, deriving the rule-of-a-half, and discussing its advantages in applied CBA. I interpret the consumer surplus as an accessibility measure and show that it equals the logsum, under the assumption that the demand function is linear (Small and Rosen, 1981).

The third part of the lecture focuses on valuations in the CBA, and the underlying assumptions of the preferences. I also derive the value of travel time savings (VTTS), and draw some key lessons from the estimation of the VTTS distribution. The lecture ends with the contentious issue of to what extent the VTTS should be differentiated (for instance across modes, regions or travel distances) in applied transport CBA. The scientific literature and appraisal practice are divided on this issue. I summarize and discuss some theories forming the basis for arguments for and against differentiation of VTTS in transport CBA.