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Value of Time estimations in Cost Benefit Analysis: the French experience

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Abstract

A recent study has been commissioned by the French Government in the framework of a general review of CBA practices. Among the various outputs of this study is an update of the value of time and the related parameters such as comfort or reliability. The communication first achieves a short presentation of the above-mentioned report and the recommended VOTs. It discusses the differentiation issue and gives comparative elements with a few other national guidelines. Then, it presents the main issues of consistency between traffic modelling and surplus calculation through practical examples, and finally makes recommendations on how to deal with mandatory VOT and how to combine those mandatory values and traffic modeling results.

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1. Introduction

Value of time is a major parameter in transport economics, and many studies have been devoted both to its theoretical foundation and empirical estimation, and to its use in traffic modeling and Cost Benefit Analysis. Among many other studies on this subject, a recent one has been commissioned by the French Government in the framework of a general review of CBA practices. This report addressed many topics, and among them the value of time (VoT) and the related parameters such as comfort and reliability and their use. A first output is a set of reference values of

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these parameters. Another output is related to the use of these values in traffic modeling and CBA and more generally to the links between traffic modeling and CBA

The aim of this text is to present and discuss the recommendations of this report concerning value of time: what are these values, how are they estimated, what is the relative pertinence of mandatory values of time, a procedure which is commonly in use in most countries, and surplus calculations founded on the demand functions drawn from the traffic models?

The second section gives a short presentation of the above mentioned report and the recommended VOTs. The third section discusses debated issues such as the degree and nature of differentiation of VoT, and gives comparative elements with a few other national guidelines. The fourth section presents the main issues of consistency between traffic modeling and surplus calculation, and makes recommendations on how to deal with mandatory VOT and how to combine those mandatory values and traffic modeling results, and the last section concludes.

2. Value(s) of time for cost-benefit analysis of transport projects in France

Cost benefit assessment of investments is an ongoing preoccupation for public authorities. Long enshrined in the legislation concerning certain sectors, this requirement has been quite recently extended to all public investment in civil investments by the French *Loi de programmation pluriannuelle des finances publiques* (LPPFP, multi-year public finance planning act) of 31 December 2012. In this framework, assessment directives and traffic models are compulsory for investment funded at the national level, which happens essentially for intercity investments, as most urban investments are decided freely by the local public authorities without state funding. Only a very few major urban projects are decided at the national level, and for them specific methods can be designed (a good example is the mass transit *Grand Paris*, a ring project the investment cost of which amounts to around 30 G€, see for instance Quinet 2014 for a description of its assessment methods).

France has a long tradition in CBA. After the first directives issued by the road directorate in the 60's, on several occasions, under the aegis of the Commissariat général du Plan (CGP), then the *Centre d'analyse stratégique* (CAS) and, today, the *Commissariat général à la stratégie et à la prospective* (CGSP), commissions met to define and improve evaluation procedures. Their findings are then converted into instructions and directives issued by the competent authorities.

Only looking back over the past twenty years, a commission chaired by Marcel Boiteux in 1994 (Boiteux 1994) set down the doctrine that makes project evaluation an integral part of the doctrine of economic calculation, including the statement, still topical today, that "economic calculation, despite its shortcomings, remains the best way to evaluate investment projects." Another Commission (Boiteux 2001) updated the previous recommendations.

This report is therefore the continuation of a series of studies based on the use of economic calculation, which have gradually adapted and enhanced it. Its proposals deal with many topics (see Box 1 for a presentation of the scope of the report), among which value of time.

Box 1: Presentation of the CGSP report (Quinet 2013)

According to the mission statement which established the Commission, the report focuses on revising the recommendations of previous reports, seeking to enhance the evaluation, leveraging advances in economics concerning domains like spatial analysis, the problems of governing evaluations and the extension of cost benefit assessments beyond their traditional sectors of application, transport and energy.

The commission addressed several topics: first, revising unit values as the official guidelines for carrying out cost benefit assessments stipulate numerous such unit values. Second, enhancing CBA, in view of the changing world of economics to which they apply and advances in our knowledge in positive economics. Four directions are explored. They are designed to overcome the limits of the standard economic calculation, and pertain to spatial economics, imperfect competition, macro-economic effects such as employment and growth, and distribution effects. Third, improving the rules for projects ranking, especially introducing systematic risk. Fourth, proposing rules for governance of projects CBA. In the present paper we concentrate on value of time and related parameters such as value of reliability and value of comfort, and more precisely for passengers transport.

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