
Summary:

The role of Wider Economic Impacts in official transport appraisal guidelines in 22 countries

TØI Report 1382/2014

*Authors: Paal Brevik Wangsness, Kenneth Løvold Rødseth and Wiljar Hansen
Oslo 2014, 80 pages Norwegian language*

Wider Economic Impacts (WEI) of transport investments are defined as economic impacts that are additional to the economic impacts treated in a conventional cost-benefit analysis. WEI may arise if a project is of such a magnitude that the equilibrium in secondary markets (e.g. labour, product and real estate market) is significantly altered, subject to the condition that these secondary markets are characterized by significant market failures. We have investigated how 22 developed countries treat WEI in transport appraisals. 15 of these countries acknowledge at least one of the 12 types of WEI we cover, but only 10 of them provide methodical recommendations for their assessment. With few exceptions, the recommended methods differ across the countries. The assessment of Wider Economic Impacts is a discipline that has matured considerably over the last ten years, but our study shows that it still has a long way to go before reaching international consensus. Hence, both government agencies and academia are advised to follow and contribute to the research on Wider Economic Impacts.

The Norwegian Public Roads Administration is currently revising its Impact Analysis Manual (V712 Konsekvensanalyser), and has therefore commissioned the Institute of Transport Economics to conduct a literature review on how Wider Economic Impacts (WEI) are assessed in transport appraisal in other countries. The assignment consists of making a report containing:

1. A clear definition of Wider Economic Impacts.
2. A brief theoretical and pedagogical description of when and how WEI might occur.
3. An overview of countries that treat WEI in transport appraisal
4. A review on how WEI are assessed, including whether they are integrated in the the cost-benefit analysis or presented separately.
5. An overview of methods used by foreign countries to estimate WEI.

We have reviewed the guidelines for transport appraisal in 22 countries that are comparable to Norway, namely the Nordic countries, the other EU15 countries, USA, Canada, Switzerland, Australia, New Zealand and Japan.

Types of Wider Economic Impacts identified in the literature review

Based on the 22 countries' guidelines, we have identified 12 types of WEI (see Table 1), that in principle should be considered separable. These types of WEI are acknowledged in at least one of the countries' appraisal guidelines, but that does not necessarily mean that their theoretical and methodical foundations are sound.

Table 1: Typology of Wider Economic Impacts

Main Category	Sub-category	Sub-sub-category
WEI1: Agglomeration impacts		
WEI2: Impacts in markets with imperfect competition	WEI2a: Output change in imperfectly competitive markets	
	WEI2b: Increased competition as a result of better transport	
WEI3: Labour market impacts	WEI3a: Increased labour supply as a result of a change in commuting costs	WEI3aa: Changes in the number of people choosing to work
		WEI3ab: Changes in the number of hours worked
	WEI3b: Move to more or less productive jobs	
	WEI3c: Excess labour supply effects	WEI3ca: Employment impacts from building transport infrastructure
		WEI3cb: Employment impacts from operating transport infrastructure
		WEI3cc: Impacts from improved links to and from seaports and airports
WEI3d: Thin labour market effects		
WEI4: Impacts from improved international connection	WEI4a: Increased Foreign Direct Investments	
	WEI4b: Contributions to promoting international relationships	
WEI5: Other types of Wider Economic Impacts	WEI5a: Interaction impacts with inefficient land use regulation	
	WEI5b: Re-organisation impacts	
	WEI5c: Innovation impacts in the construction and transport sector	

Assessing Wider Economic Impacts – differences among countries' practices

We have in total identified 54 references to WEI in the 22 countries' appraisal guidelines. In addition, we have identified which countries do not acknowledge WEIs and which countries do not have official guidelines for transport appraisal.

Figure 1 plots the distribution of the 54 observations according to the type of WEI being recognized by the countries' guidelines. The agglomeration impact is the WEI that is most widely recognized, i.e., by 14 of 22 countries. In second place is Output Change in Imperfectly Competitive Markets. 6 of the 12 types of WEI are only included once in our entire literature review, and thus cannot be called "mainstream."

The figure also shows whether the appraisal guidelines allow the various types of WEI to be monetized and included in the CBA, whether they can be quantified or monetized in some form of multi-criteria analysis (separate from CBA), or whether they are exclusively limited to qualitative assessment or the guidelines advise against assessment. There seems to be a positive relationship between how widely acknowledged a WEI is and how many countries allow monetization and inclusion of the WEI in the cost-benefit analyses.

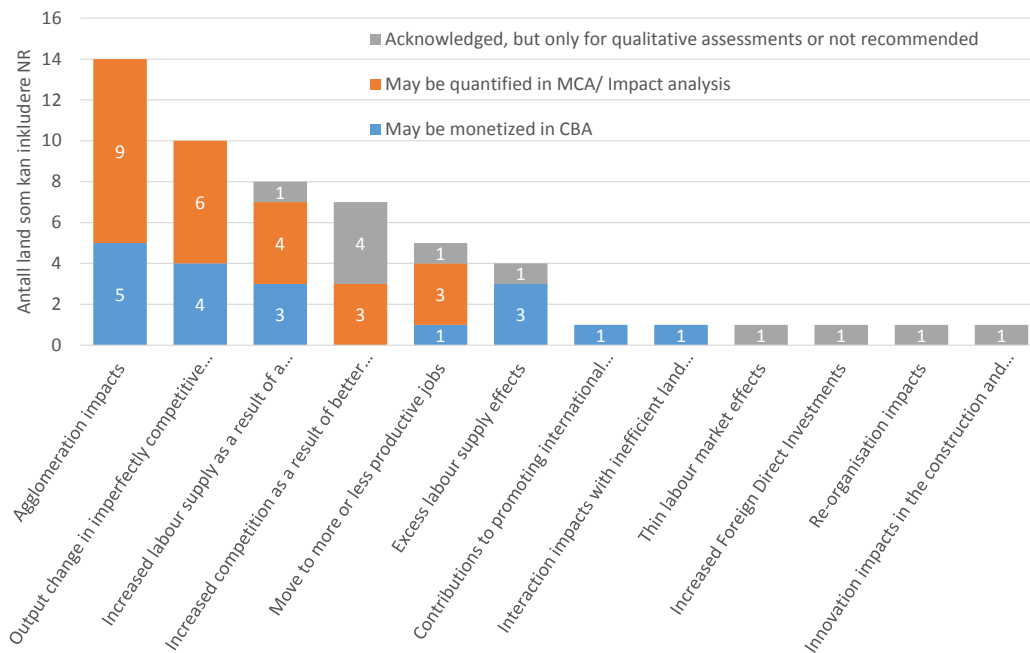


Figure 1: Overview of which types of WEI are being recognized by official guidelines

10 of the 22 countries recognize at least one WEI and recommend specific methods for calculating them. 5 of the countries recognize WEI, but do not refer to any method. 7 countries do not recognize WEIs in their official guidelines, or there exists no official guideline. Of the 54 observations of WEI in official guidelines, there are recommended methods for the evaluation of 25 of them. For the 6 "mainstream" WEI-types (which are described in four or more official guidelines), there is a positive correlation between the number of countries recognizing them and the number of countries having methods for calculating them. However, very few countries apply the same or similar methods, even for the same type of WEI. The exception is the methodological framework from the British Department for Transport. This framework is referred to in 9 official country guidelines, and partly used in New Zealand, Ireland, France and Belgium.

Concluding remarks

Our findings show that there is great variation in whether and what type of WEI the 22 countries acknowledge. Among the countries that acknowledge WEI, there is great variation in recommendations of methods. Several countries also provide provisos or criteria that must be met before WEI can be assessed.

There is also a relatively small degree of international consensus about which methods to recommend. With a minor exception of the UK method, no countries recommend the same or similar methods. Our findings thus supplement and reinforce the conclusions of the Hagen Committee (NOU 16, 2012) that there is currently no established consensus on the magnitude and relevance of WEI, and on how these impacts should be taken into account in transport appraisals.

There are several issues which should be considered by the Norwegian transport agencies in their future work on WEI. First, there is still a potential for improving conventional cost-benefit analysis. A review of the Norwegian transport agencies' methodology for cost-benefit analysis (Rødseth and Killi, 2014) revealed that they vary with respect to which costs and benefits are considered, and with respect to the underlying methods and parameters. If the agencies' approaches to cost-benefit analysis should be extended to take WEI into account the complexity will increase, which might exacerbate the already existing differences between the agencies. Second, "correct" consideration of WEIs will involve assessing complex impacts that are responsive to other changes in the economy besides the transport investment. A WEI is a symptom of existing inefficiencies in the economy. Hence, the size of the WEI will be affected by direct actions to correct market failures (e.g. adjustments of the tax and benefits system in order to induce more labour supply). It is also important to consider how competing transport projects affect WEI. Under different circumstances WEI from competing projects could either enhance or neutralize each other. The latter issue is also valid for conventional cost-benefit analysis.

This document can be read as a status report on how WEI are treated in official guidelines in countries that are comparable to Norway. Although practices vary between countries, it is evident that the concept Wider Economic Impacts has matured considerably over the past ten years, greatly helped by the work of the Department for Transport in the UK. Regardless of how Norwegian transport agencies choose to take Wider Economic Impacts into account, it is strongly recommended that they continue to keep an eye on the theoretical, methodological and practical developments internationally, and follow the advances in research on the subject in Norway and abroad.