

International comparison of guidelines for transport appraisal: 7 countries and 21 topics

TØI Report 1930/2022 • Authors: Paal Brevik Wangsness, Rasmus Bøgh Holmen, Wiljar Hansen • Oslo 2022
• 77 pages

This report is a literature review of guidelines for transport appraisal. It is based on guidelines for transport appraisal/cost-benefit analysis in 7 countries in the Western world that have comparable traditions in the use of cost-benefit analysis their transport sectors as Norway. We review and compare their recommendations on 21 important topics in such analyses. In this respect, this report will serve as a reference work for a systematic overview of different countries' practices on specific issues within cost-benefit analysis in the transport sector. The intention is that it will contribute to Norway's (and other countries') future work on the development of guidelines for such analyses, where one can learn from what is recommended practice in other countries. Above all, with this report's descriptions, explanations and clear source references, those working on the development of guidelines for cost-benefit analysis in the transport sector will have a good starting point for assessing potential improvements in the light of international recommended practice.

A good strategy for finding new ways to improve transport appraisal in the Norwegian road sector is to investigate what is considered good practice in other comparable countries. With this report, those who work with further development of guidance for transport appraisal in Norway (not only in the road sector) will have a sizable documentation and systemization of practices in several countries. That is the main motivation for this literature review.

The project addresses a number of topics and issues that are relevant to the work of the Norwegian Public Roads Administration and the other transport agencies on improving the guidance and practice of transport appraisal in general and cost-benefit analysis in particular. We will therefore review guidelines and documentation of transport models and tools of analysis for the following topics and questions



1. What costs and benefits (monetized and non-monetized) are included in the analyses?
2. What types of measures/instruments can the models/tools of analysis calculate?
3. What is the interaction between the most important transport models and cost-benefit analysis (CBA) tools?
4. Are there different models and tools of analysis at different maturity levels of a project?

What is the practice on core assumptions such as

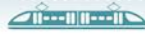
5. Appraisal period
6. Discount rate and risk premium
7. Tax distortion factor (marginal cost of public funds)

8. What are the expected life spans for road projects and what is the practice (if any) on residual value of such projects?
9. How is the baseline alternative defined?
10. What Cost-benefit Analysis metrics are presented in high-level result tables?
11. How is uncertainty handled in the analyses?
12. How do the analyses treat social equality/distributional effects?
13. In what specified situations are additional analyzes performed?
14. What is the underlying pricing method for values of travel time?
15. What are the assumptions about the development of fuel tax rates and fuel efficiency (and thus government revenues) over time?
16. How do the models handle parking?
17. Can the models/tools of analysis handle road pricing – and in what way?
18. How is land use handled as a topic in the cost-benefit analysis/transport analyses?
19. How is freight transport handled in the cost-benefit analysis/transport analyses?
20. How do the tools of analysis treat technological development?
21. How do the analyses treat wider economic impacts in urban areas?

Given the scope of topics and questions, this report is limited to reviewing the guidelines in the following seven countries:

1. Australia
2. Denmark
3. Ireland
4. The Netherlands
5. New Zealand
6. United Kingdom
7. Sweden

We find answers to all the topics and questions in the guidelines for transport appraisal in the seven selected countries. For each of the topics we find several



commonalities between most of the countries, but there is also variation. Whether countries handle the different topics in a common way or in a different way, depends on the topic. For comparison, Norwegian guidelines recommends a practice that often seems to be close to the dominating recommendations among the seven reviewed countries (e.g., the magnitude of included types of costs and benefits) and/or somewhere in the middle where there is a large divergence between the different countries' guidelines (e.g., regarding the marginal cost of public funds and appraisal period). Some topics, e.g., the how the Dutch recommend handling uncertainty, and how the Swedes analyze distributional impacts has been given some extra discussion.

This report will largely serve as an encyclopedia for how different countries provide guidance to 21 selected questions. In this way, future work on improving guidelines and practice for transport appraisal is enabled to quickly gain an overview of different countries' practices on specific issues. From there, transport agencies can assess whether there is a need to go deeper into some of the countries' guidelines in order to obtain ideas and further knowledge.