

Analyse von Bewertungsverfahren für Radschnellwege am Beispiel einer Machbarkeitsstudie für einen Radschnellweg zwischen Frechen und Hürth

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Abstract

In recent years, there has been an increasing trend in the planning and construction of cycle highways in Germany and other countries. Various evaluation methods have been developed to compare different route variants and determine the economic viability of cycle highway construction. The objective of this thesis is to systematically analyse and evaluate two evaluation methods in a comparative manner. To achieve this objective, a feasibility study for a cycle highway was conducted, in which both evaluation methods were applied. The evaluation procedures encompass the benefit-cost analysis of the Federal Highway and Transport Research Institute and an internally developed evaluation procedure of the urban and transportation planning office Kaulen. The feasibility study considered the establishment of a cycle highway between the towns of Frechen and Hürth. The potential for a cycle highway on this link has already been identified in the plans of the Rhineland Cycling District (Rheinisches Radverkehrsrevier) and in the plans of the state of North Rhine-Westphalia for a state-wide cycle priority network.

In the period preceding the undertaking of a feasibility study and the analysis of evaluation procedures, the definition of a cycle highway and the various forms of guidance and requirements for cycle highways were examined. A further international comparison was also made, and the difference between cycle highways and cycle priority routes was determined in accordance with current regulations. The evaluation procedures to be compared were then presented. As a background for the feasibility study, the existing plans at various planning levels were first analysed. The design parameters were then defined, and various options for the route of the Hürth-Frechen cycle highway were developed. The different route variants were then compared using the evaluation procedures, which enabled a preferred route to be identified.

On this basis, the assessment methods were analysed comparatively, revealing that the two methods adopt divergent approaches to assessment and should therefore be employed for distinct purposes in cycle highway planning. Both methods identified aspects that could be improved, with the monetary evaluation of various benefit components in the benefit-cost analysis being a notable example. It was demonstrated that the monetisation approaches of the procedure do not correspond to the current state of research for various components. The evaluation procedure of the urban and transport planning office Kaulen does not ensure transparency in the weighting of the individual criteria. Furthermore, it was possible to identify additional criteria for both procedures that should be considered. The cost-benefit analysis is well suited to determining whether the construction of a cycle highway is economically viable, while the evaluation procedure of the urban and transport planning office Kaulen is well suited for comparing different routes and assessing which route is preferable. The assessment methods are therefore complementary and should both be used in cycle highway planning.