

A Study for High Speed Transport in Paneuropean Corridor IV

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ABSTRACT: The connection between Hamburg – Berlin – Dresden – Prague – Brno (Brünn) – Bratislava – Budapest is historically a meaningful axis for trade and traffic in the Eastern Central Europe linking four metropolises, five capital cities and two provincial capitals on a segment of the pan-European corridor of 1000 km length. Due to the enlargement of the EU a revitalisation of this axis is anticipated in the medium-term or in the long-term. Western European experiences show that guided transport as part of a fully developed traffic system and thus being in competition with motorways and air traffic may only acquire a noteworthy share in passenger transportation if it may provide competitive commercial speeds of at least approximately 180 km/h. Only high speed transport with a minimum top speed of 250 to 300 km/h can provide this objective to stop distances of nearly 100 km. However, the current European Rail Network 2020 assigns this axis to a maximum line speed of only 160 to 200 km/h. The possibilities of technical realisation and the effects of a guided transport high speed line between Berlin and Budapest in the gradient of the pan-European corridor IV on transport and regional economics is subject to a pilot study supported by the Freestate of Saxony in context to the EU Interreg IIIb project ‘SIC! (Sustrain Implement Corridor)’. An important aspect of this study is to compare the realisation of this link in conventional high speed railway technology to the realisation as maglev Transrapid line. The paper points out the methodological approach of the study, deals with the choice of stop stations and presents alternative line layouts on which travelling times have been calculated. Furthermore some different tracing parameters and their consequences are discussed. In addition the results of the traffic prognosis are presented for both systems.

1 INITIAL POSITION

This presentation reports on the results of a preliminary feasibility study on a ground-based high-speed connection in the Northern part of the pan-European corridor IV between Berlin and Budapest.

This preliminary feasibility study was awarded by the Saxonian Ministry of Interior and is associated with an Interreg IIIB project of the European Union which addresses the development of economics as well as the development of traffic and transport in the Eastern Central Europe.

The special quality of this preliminary feasibility study is given by a comparison of two techniques that should be worked out: firstly the realisation of this link in classic railway high-speed technique and secondly in magnetic levitation technique in terms of the Transrapid.

The objectives of this investigation were:

- to assess whether the installation of a ground-based high-speed link between Berlin and Bu-

dapest may be reasonable in terms of micro economic, macro economic and spatial aspects on the one hand and

- when the answer is positive, to give a statement which of both techniques should be preferred for realisation.

2 DESIGN OF THE FEASIBILITY STUDY

In order to achieve the objectives it was necessary to assess the expected costs of line construction, vehicles, operations and maintenance as well as the expected revenues by the sale of tickets. This was requiring a prognosis on the volume of traffic on the one hand and a complete planning of operations including vehicle circulation on the other hand. The appropriate study design results from the mentioned aspects and is outlined in figure 1. The work packages ‘feedback’ and ‘refining’ are reserved for further investigations.

