



Energy efficiency by optimizing passenger-changeover in the station

Bernhard Rüger

TU-Vienna,

Institute for Railway Engineering

Co-authors:

Martin Turk, ÖBB,

Jürgen Zajicek, arsenal research,

Andreas Schöbel, TU-Wien

Both in local and in long distance passenger transportation the passenger-changeover in the station needs a certain time. E.g. in local traffic the time need for enter and exit a train amounts at an average 11% of the whole travel time. To that effect the total time need of a train stop in the station is even larger.

By reducing the actual time need of the passenger-change over in a station the gained time can be used for slower running among the stations. The effect is lower energy consumption without extending the travel time.

An ongoing project by the partners TU-Wien (Vienna University of Technology), ÖBB-Traktion GmbH (Austrian Federal Railways - Traction) and Arsenal Research works out the potential capacity of energy efficient train running by optimizing the time need of train stops and passenger-changeovers. First calculations shows

up to a 20% possible energy reduce. Furthermore another investigation of TU-Wien deals with the topic of optimizing passenger coaches in order to minimize the time need for passenger changeover in general. In this project case studies analyse the actual behaviour of passengers when entering the train or moving along in the train in order to search for a free place and for space to store luggage.

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a suboptimal designed coach need double or triple the time compared to a well designed interior. This fact leads to partly large delays on main travel days and causes an inefficient energetic train run. Some simple operational improvements help trains

Railway interiors influences strongly the time need for passenger changeover. Passengers who enter

Bernhard Rüger works as University Assistant at the Institute for Railway Engineering at the Vienna University of Technology since 2001. He covers special topics like Analyses of passenger behaviour, efficient railway design, passengers needs and expectations, passenger change over time analyses and barrier free designing.

running on time on the one hand and on the other hand improved entrance situations and railway interiors will help reducing the time need in the station clearly.

The presentation will point out the main influences of time need for passenger changeover in the station and it will show solutions to reduce it clearly. The performance will be a noticeable energy reduced train run.