Evaluation of the rolling highway

Federal Office of Transport

Key facts

By adopting the Alpine initiative on 20 February 1994, Swiss voters obliged the Confederation to protect the Alpine region from the negative effects of transit traffic. According to the Goods Traffic Transfer Act 2008, since 2018 a maximum of 650,000 heavy goods vehicles (HGVs) are permitted to cross the Alps by road.

The main instruments of the Swiss Traffic Shift policy include the mileage-related heavy vehicle charge (LSVA), modernising railway infrastructure, the railway reform and the Overland Transport Agreement between Switzerland and the European Union. In addition to subsidising unaccompanied combined transport (UCT), the Confederation also supports the transportation of HGVs and articulated lorries by rail, i.e. the rolling highway. Subsidies in 2016 were CHF 35 million.

With the 2019 report on the transfer of traffic, the Federal Council will present Parliament with the basis for deciding whether or not the rolling highway should continue to be supported. In addition to compensation payments for a cost-covering operation from 2024, additional investments in new rolling stock and loading terminals must be also be agreed upon.

An analysis of the impact and consequences of ending the rolling highway service through Switzerland does not yet exist. With the present evaluation, the Swiss Federal Audit Office (SFAO), the Federal Council and Parliament provide a basis for decision-making and calls for additional information to be provided.

Important contribution towards achieving Traffic Shift target

Since 2002, rolling highway trains have be running on the Freiburg im Breisgau (Germany) – Novara (Italy) and Basel – Lugano routes. Between 2011 and 2016, an overall average of 105,000 HGVs were transported annually. The rolling highway share of total transalpine goods transport by road and combined traffic through Switzerland was just under 5%. The rolling highway reduced the number of HGVs crossing the Alps by road by almost 10%. When the quantity of goods is measured in terms of cargo weight, the rolling highway has reduced the burden on roads by 13%.

The rolling highway is an effective transfer instrument for all such transalpine road transport which, for logistical reasons, is rarely transferred to unaccompanied combined transport (UCT). Based on its analysis, the SFAO assumes that if the rolling highway were to be discontinued, around three quarters of its transport, i.e. 77,000 HGVs, would return to the road. As of 2016, this would increase the distance to the Traffic Shift target by over 400,000 HGV journeys. The transport of dangerous goods, which are banned from the Gotthard road tunnel, is not expected to be shifted directly back to the roads.

Significant potential for increased efficiency

In 2016, operating expenses per HGV on the rolling highway were CHF 837. The Confederation subsidy for the transport of an HGV stood at CHF 336, which corresponds to the mileage-related heavy vehicle charge for a 40-tonne Euro V HGV from Basel to Chiasso.

The opening of the four-metre corridor on the low-gradient route through the Gotthard base tunnel from 2021 will allow rolling highway operating costs to be greatly reduced. In addition to operational simplifications and cheaper traction, running longer trains can ideally increase capacity by nearly 50%. Furthermore, it is expected that the acquisition of modern rolling stock will result in further increases in train loading efficiency and lower maintenance costs. The service provided to customers can be made more attractive by improving the booking process and increasing comfort in the passenger carriages.

In addition to rent and rolling stock maintenance, the cost of purchasing traction, i.e. locomotives and drivers, account for by far the largest proportion of rolling highway operating costs. However, there is a lack of transparency as to whether the traction purchasing costs are appropriate. The SFAO recommends that the Federal Office of Transport (FOT) take measures which will provide more transparency in terms of transaction costs.

Remaining investment and operational risks

The reported shift contribution to the statutory Traffic Shift target indicates the need to continue the rolling highway service through Switzerland from 2024. The service faces economic risks, some of which, as things currently stand, cannot definitely be reduced to acceptable levels.

On the one hand, locations for future loading terminals which will become necessary for a rolling highway service via the Gotthard axis are lacking both in the German Upper Rhine Valley and the greater Milan area. On the other hand, there are uncertainties in the medium-term volume trends for transalpine good transport carriers. This has a direct impact on the rolling highway's service life and, in turn, the depreciation horizon of the rolling stock.

In view of these uncertainties, the SFAO cannot definitively determine whether it will be possible to run a cost-covering rolling highway in the future without state subsidies. When producing its 2019 basis for decision-making for the attention of Parliament, the SFAO recommends that the FOT clearly identifies the investment costs for new rolling stock and how these are to be financed. Further, the FOT should assess the risks linked to opening new terminals.

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