

## PRIME Thematic Deep Dive on “Long-Distance Cross-Border Passenger Services”

### Study summary

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## Study Summary

This summary presents the main findings of a deep dive study on long-distance cross-border passenger services within PRIME, the Platform of Rail Infrastructure Managers in Europe. Commissioned by the European Commission DG MOVE, the study was to examine how long-distance cross-border passenger services can be promoted as a market segment. Long-distance cross-border passenger services of the infrastructure managers were compared and analysed with regards to the market segment they are allocated to and with regards to the elasticities and the ability to bear these services show. Next to existing services, the possibilities of international cooperation and coordination of charges for long-distance cross-border services were discussed as promotion measures. The study was conducted in the second half of 2022.

The study builds on predecessor deep dives on charging and on night trains and on a European Commission study by Steer consultancy on long-distance cross-border passenger services<sup>1</sup>. Based on a survey on charging of long-distance cross-border services and follow-up discussions with the participating infrastructure managers this study shows the following:

### **1. Infrastructure managers do not separate between national and international services as such, but consider other aspects in their approach for charging direct cost and mark-ups**

Charges are currently not designed and not intended as a promotion instrument to foster long-distance cross-border passenger services. Instead, the primary role of track access charges (TAC) as user funding is to contribute to cost recovery of the IM. This charging approach is guided by the economic principle that user charges based on marginal costs ensure the optimal usage of infrastructure capacity (see Directive 2012/34/EU). However, when setting mark-ups as part of track access charges, the Directive provides for the infrastructure user's economic situation to be taken into account (concept of the ability to bear of the market).

In the current charging frameworks of infrastructure managers long-distance cross-border passenger services are not fundamentally separated from national long-distance passenger services. It has not shown that track access charges

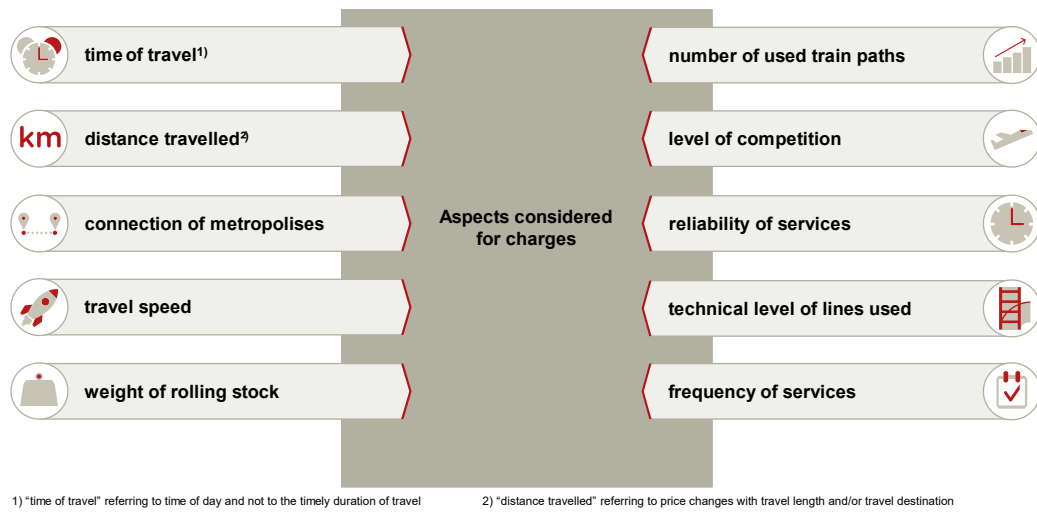
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<sup>1</sup> Long-distance cross-border passenger rail services - final report, European Commission, Directorate-General for Mobility and Transport, Brussels <https://op.europa.eu/de/publication-detail/-/publication/34244751-6ea3-11ec-9136-01aa75ed71a1>

are systematically higher for cross-border services. As they are mainly charged per km and cross-border services often result in longer distances travelled, the absolute charge naturally increases though. Based on the same charging principles, long-distance cross-border services are not charged lower than national services either. That is to say, promoting cross-border long-distance passenger rail services seems to have neither been defined as an aim nor a focus by the IMs when determining track access charges.

The track access charges analysed in this study are explained by various cost and service elements. Aspects considered in the charging frameworks of infrastructure managers are displayed in figure 1 below. The cost elements determine different direct cost and different mark-ups in track access charges, such as regular or high-speed lines used, weight of rolling stock, and reliability of services. Service elements refer to time of travel, frequency of service, and connection between metropolises.

These different cost and service elements lead to charges differing between routes and connections. A destination’s attractiveness, city size and population size influence the ability to bear on any route to such destination, regardless of the destination being located domestically or abroad.



**Figure 1: Aspects considered in the charging approach**

Frequent, fast metropolitan connections with a travel duration of less than 5 hours show common features in terms of cost structures and in terms of ability to bear, regardless of whether they are offered cross-border or as a national service. Costs tend to be higher due to higher speed, more attractive and frequent time slots which also raise ability to bear and ultimately track access charges for these services. With higher cost-bearing capacity, connections between

international metropolises on high-speed lines tend to be charged higher, applying mark-ups or additional levies. Exemplary connections are Frankfurt-Brussels and Amsterdam-Paris, see figure 2. Likewise there are commonalities for connections between less frequented and smaller cities on regular routes and with travel durations of more than 6 hours, again irrespective of a border crossing. Both, costs of service offering and the ability to bear of these services are lower which is again reflected in lower charges. Exemplary connections here are Munich - Prague, Graz-Trieste and Salzburg-Zagreb.

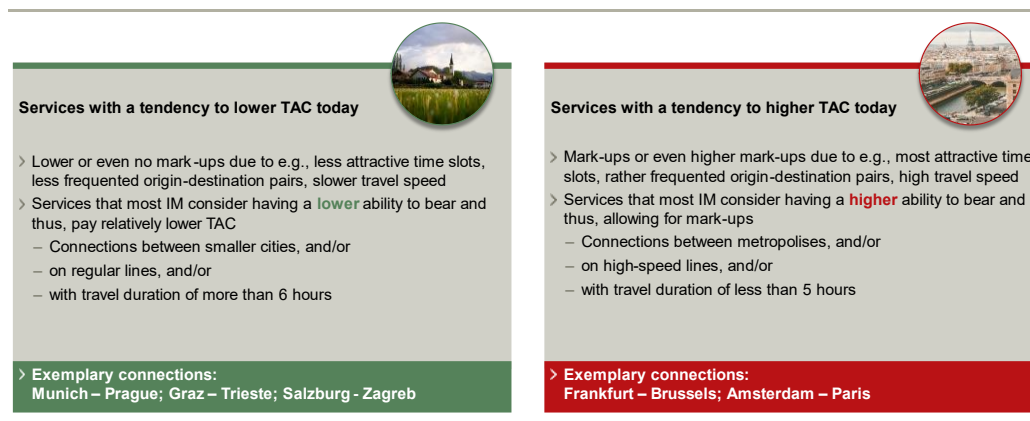


Figure 2: Comparison of cross-border passenger services in different charging categories

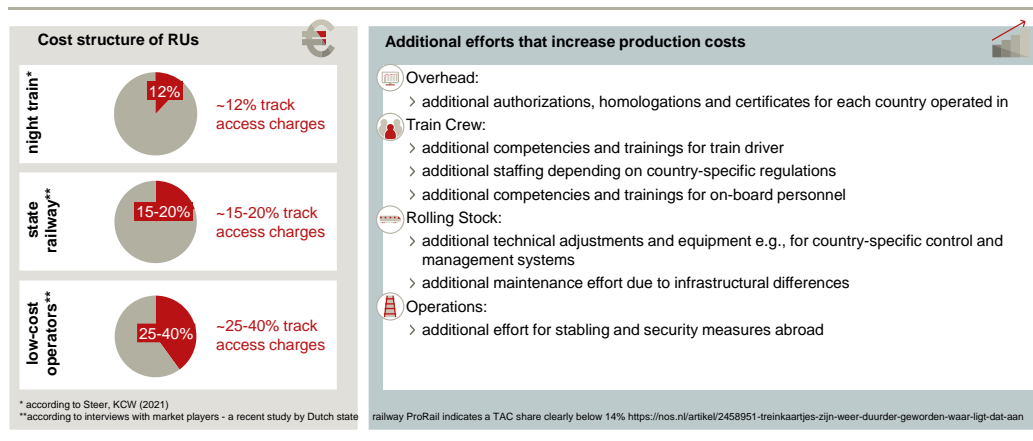
Relatively lower track access charges for connections mentioned above already provide a price indication to demand. However, promotion usually means a price below the original (TAC) price level. So, it remains a question, and ultimately a political decision, as to which services should be promoted with price measures.

## 2. For railway undertakings (RU) charges for long-distance cross-border passenger services reflect a significant cost component, on top of other additional efforts that result from international services

Charges for long-distance cross-border services represent a relevant variable in the business case for RU. Information on the share of track access charges in total costs of RUs show a wide range from 12% for average night train connections to 40% for low-cost operators of long-distance cross-border services. The range of track access charges cost shares in total costs is shown in simplified form in figure 3 below. The different importance of the charges is explained by the different importance that especially train crew and rolling stock play in the business models of the RUs. A low-cost provider realises savings potentials especially with the latter, so that the importance of charges relatively increases. The lower weight of track access charges in the night train business model can

also be explained by the costs for rolling stock and train crew. They reach a considerably higher share of the total costs, essentially due to the inherent lower frequency of night trains and the lower degree of capacity utilization and higher night staff cost.

Irrespective of differences in the production cost structure of different RUs, which are to be expected in a competitive situation, track access charges remain a non-negligible cost item.



**Figure 3: Increased production costs for long-distance cross-border passenger operations**

Notwithstanding and beyond charging, cross-border services lead to higher production costs than national services due to increased administrative requirements, additional train crew requirements and special features for rolling stock. Figure 3 lists such additional efforts for a cross-border operation. From the RU's point of view, all cost components are significant in this production cost situation, including charging.

The market reactions infrastructure managers have identified in their market analysis and elasticity determinations, expert groups and modal choice modelling approaches indicate that a reduction of the track access charges can have a demand-increasing effect on long-distance cross-border services. Examples of price-induced demand increases include ADIF reducing track access charges on the Madrid-Valencia connection as a measure to promote the arrival of new entrants and to foster competition. RFI promoted expansion of high-speed services in Italy with cuts in track access charges on its high-speed lines. For international high-speed metropolitan connections similar price effects can also be expected. IMs see these services as broadly similar within one market segment, irrespective of border crossings. However, the level and structure of track access charges is not a sole infrastructure manager decision. Charging levels also depend on the

level of funding provided by the Member State and are controlled by the Regulatory Body<sup>2</sup>.

Considering the RUs' business model and the importance of charges within, seems to be worthwhile with a view to strengthening long-distance cross-border services. However, promotion considerations for long-distance cross-border services should take into account that, besides increased production costs applying for all cross-border services, also differences in the viability of cross-border services prevail. As highlighted above, frequent, fast metropolitan connections with relatively short travel duration tend to have a higher ability to bear than other cross-border connections. This reflects that the viability of RUs' business models for international services and their possible need for support is not uniform but connection-dependent.

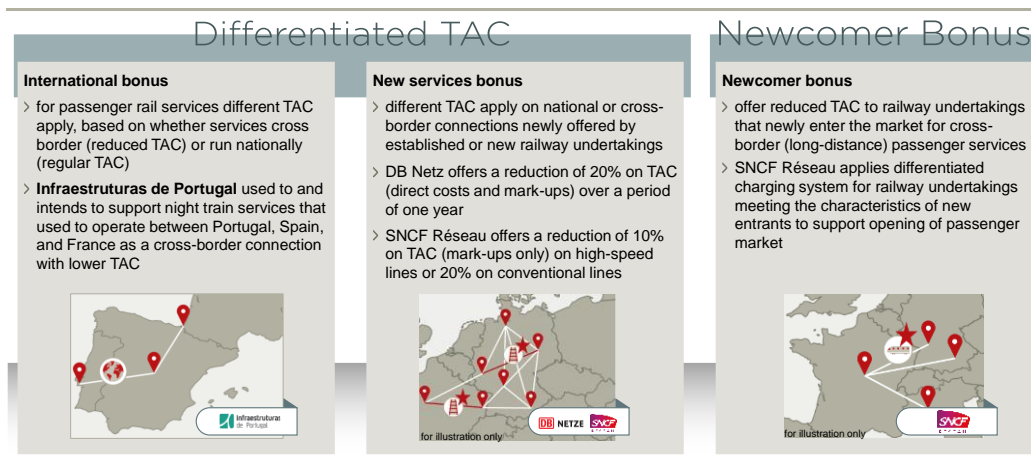
The dilemma that both RUs and IMs are dependent on covering their costs remains and subsequently calls for continuous discussion and creative ideas for solutions in regard to promotion measures.

### **3. To promote long-distance cross-border passenger services, new charging approaches can be taken into account that are partly already taken into practice**

The existing charging approaches tailored to support certain passenger services form two groups: differentiated track access charges and newcomer bonus. An illustration of these approaches and the IMs that apply them is shown in Figure 4 below.

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<sup>2</sup> Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area <http://data.europa.eu/eli/dir/2012/34/oj>



**Figure 4: Additional approaches for charging**

**Differentiated track access charges** distinguish between international and national connections, or between newly offered connections and connections already established in the timetable.

Infraestruturas de Portugal has an **international bonus** in its charging framework according to which cross-border passenger services pay a reduced TAC by not applying a mark-up and national services pay regular TAC, including mark-up. Infraestruturas de Portugal already used this to support a night train service that operated between Portugal, Spain and France. Following completion of the current investment in strengthening cross border capacity, this support is planned to be offered to further day and night train connections.

A **new services bonus** offers reduced track access charges for all connections newly offered, both international and national. Such reduced TAC apply for new and for established RUs in the networks of DB Netz and SNCF Réseau. DB Netz offers a reduction of 20% on the total TAC level, including the direct cost- and the mark-up-part of the charges. This reduction is granted over a period of one year. SNCF Réseau has a reduction of 10% on the mark-up-part of the TAC level on high-speed lines and 20% reduction on conventional lines, each for two to three years. While RFI, offers reduced charges for new services as well, these promotion measures are so far limited to national services.

With a **newcomer bonus** SNCF Réseau offers reduced TAC to RUs that newly enter the market. This promotion measure can be combined with certain paths, a minimum mileage and a minimum or maximum contractual period for which it is valid. The intention of this charging approach is to support competition in the passenger market. The above-mentioned promotion by ADIF to reduce the track

access charges on the Madrid-Valencia route for new entrants is comparable, albeit national.

Discussions within the study have shown that intensifying the cooperation with neighbouring IMs supports a holistic perspective on long-distance cross-border passenger services, enabling a more unified approach towards such services. In this respect, the experience of DB Netz, Infraestruturas de Portugal and SNCF Réseau, with TAC supporting cross-border services could be evaluated and discussed in more depth between IM, intensifying the existing inter-IM cooperation and alignment with a charging focus.

The study highlights that within IM charging frameworks not all services contribute equally to cost recovery via track access charges and mark-ups are not necessarily identical for all services. Different abilities to bear come into play here. Challenges and opportunities associated with such differentiated TAC become apparent when looking at how the cut in track access charges for high-speed connections was compensated in the case of RFI. The revenue loss for RFI due to the cut in charges was partly compensated by a growth in the number of high-speed services offered and partly covered by other service segments. An increase in track access charges for around 8.000 train services covered the decrease of high-speed charges, in such a way the conventional lines cross-subsidised high-speed rail. However, across all services, total cost must be covered. If this cannot be achieved via charges, higher state funding is required.



**To conclude: Charging systems of IM show TAC differentiation and graduation of cost recovery contributions that - amongst other factors - seem to leave air for promotion of cross-border services. Fact remains, however, that track access charges are part of the sustainable business model of infrastructure managers, and other funding sources need to balance the loss of income, in case charges are reduced and used as a promotion instrument. The balance of funding needs to be considered when charging measures are taken. Otherwise, IM risk indebtedness or a decline in network quality.**