



Location costs in Germany and comparison with other European countries, and measures to strengthen Germany as an aviation hub

Report for the FEDERAL MINISTRY FOR DIGITAL AND TRANSPORT

Executive summary (English Translation)

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Report commissioned by the

Federal Ministry for Digital and Transport
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Published: Berlin, 20 March 2025

Background: Weak passenger air traffic in Germany and debate on high location costs

Since the end of the COVID-19 pandemic, passenger air traffic in Germany has seen a below-average recovery compared to the rest of Europe. 'Location costs' are frequently cited as a key factor for this trend. These include not only airport charges but also state-imposed costs, such as air traffic control fees, aviation security charges, and the aviation tax.

Objective: Analysis of the role of German location costs for traffic development and measures to improve the competitiveness of Germany as an aviation hub

The main objectives of this report commissioned by the Federal Ministry for Digital and Transport (BMDV), are to examine air traffic trends and location costs in Germany, comparing developments over time (2024 versus 2019) and geographically with airports of similar size in other European countries and to analyse the impact of these cost differences and other potential influencing factors on the development of air traffic. Based on these findings, the report proposes potential measures to enhance Germany's competitiveness as an aviation hub in both the European and global markets.

Traffic development

- In the 12-month period from October 2023 to September 2024, the number of passengers departing from German airports reached just under 100 million – around 80% of pre-pandemic levels (October 2018 to September 2019). Across the EU, this figure is nearly 100%, and even 104%, if Germany is excluded.
- Significant traffic losses are evident on routes to Western European core markets such as Switzerland, Austria, France, the United Kingdom and Italy, with declines of approximately 20-40%. With a decline of 51%, domestic air traffic in Germany is significantly below pre-COVID-19 levels – compared with a just 1% decline in domestic air traffic in other EU countries.
- Purely domestic German origin-destination (O&D) demand – i.e. excluding passengers transferring to and from other countries at German hubs or transferring from abroad to a domestic German flight – is down by 69% relative to the pre-pandemic period. However, this segment already showed stagnation from 2010 to 2019.
- With rising ticket prices and yields, not only passenger numbers, but also the number of departures from Germany remain well below pre-crisis levels.

Reasons for weak performance in the German aviation market

There are several reasons believed to explain the weak development of the German aviation market. Air travel demand is influenced by ticket prices and disposable income, as measured by gross domestic product (GDP). Rising location costs at airports can lead to higher ticket prices, potentially causing falling demand and reduced supply. Economic growth on the other hand, can boost income levels and air travel demand, thereby potentially increase supply.

On the demand side, Germany has recorded weak growth in real GDP, which in 2024 stands at only 0.1% above the pre-pandemic level. This lags behind the rest of the eurozone, where the GDP is 4.6% higher than in the fourth quarter of 2019. Germany is also characterised by a high savings rate and weak private consumption.

In the domestic market – traditionally driven by business travel – there has been a marked shift towards online meetings as an alternative to in-person gatherings. The phenomenon of 'flight shame', which has received public attention, and stricter corporate travel guidelines, may also have contributed to reduced demand. At the same time, rail travel has become more competitive for a number of reasons, potentially causing former air travellers to reorient themselves. For example, the VAT rate for long-distance rail journeys within Germany was reduced to 7% on 1 January 2020, financial support during the pandemic helped maintain long-distance services and new routes were introduced by Flixtrain. An analysis of the German transport market indicates that rail, particularly long-distance rail, has performed better than domestic air travel during and after the pandemic. In international air travel, services to Russia and Ukraine – two markets that were more important for Germany than for the rest of the EU – have ceased.

On the supply side, there has been market consolidation in domestic German traffic and the DACH region (Germany, Austria and Switzerland), following Air Berlin's exit from the market. Airspace closures in the wake of Russia's war of aggression against Ukraine have led to shifts in traffic flows and increased operating costs for European airlines due to detours to the Far East. Other internal industry developments have also played a key role, such as the closure of Berlin Tegel Airport, which has made rail connections on Berlin-bound routes more competitive. The sector is also affected by a shortage of skilled labour and delays in aircraft deliveries.

Location costs and other cost increases slow down supply and, due to higher ticket prices, also demand. The structure, allocation and level of state-imposed location costs vary considerably between countries and are subject to continuous changes. Our analysis shows that German airports rank in the upper range across all airport categories in terms of location costs when compared with their European counterparts—alongside other countries with high aviation taxes, such as the UK and the Netherlands.

In the year under review (2024), location costs for a typical intra-European round trip on an Airbus A320 at a hub airport ranged from €14,852 at London Heathrow (LHR) to €3,357 at Helsinki (HEL). Frankfurt Airport (FRA), Germany's largest airport, ranks third in this group at €9,613 and is the most expensive in Germany. Frankfurt-Hahn (HHN) has the lowest location costs in Germany at €4,897. Across 102 European airports¹, average location costs rose by 28% (weighted average) between 2019 and 2024. Excluding Germany, the increase was 26%. In Germany, however, the increase was 38%. While German airport charges rose at a below-average rate (13% compared vs. 21% elsewhere), government-imposed costs rose by 70%, compared with an increase of just 39% in the rest of Europe. In Germany, this is primarily due to government levies. In particular, aviation security fees in Germany have risen significantly above inflation and slightly exceed the European average. Bavaria is a special case: it is the only federal state where aviation security checks are conducted by state-run companies, and fee increases at Munich and Nuremberg airports have remained below the inflation trend.

¹ Airports in the EU/EEA, Switzerland, Serbia and the United Kingdom with 5 million passengers or more in 2019, as well as the hub airports in Istanbul. For Germany and its neighbouring countries, tertiary airports with 1 million passengers or more were also included.

A comparative analysis of the factors influencing the development of air traffic at European country and airport level shows a positive correlation between passenger numbers and national GDP growth.

Conversely, higher location costs increase ticket prices, which has a negative effect on passenger volumes, though this effect is generally weaker than the positive influence of GDP.

In addition, this report includes a multiple regression analysis for intra-European air transport volumes between 2018 and 2024. From this, it can be concluded that statistically, higher location costs have significantly reduced passenger numbers in Germany. Low economic growth in Germany has also played a key role. However, each of these factors explains only around 9% of the relatively weak passenger growth in Germany. Combined, they account for around 3.6 million of the 20 million 'missing' intra-European passengers.

Other factors, some of which have already been discussed – such as structural changes in travel behaviour or price increases unrelated to location costs – appear to be, altogether, of greater overall significance. Abolishing the aviation tax, which currently stands at €15.53 for short-haul flights, could increase the number of passengers travelling within Europe from Germany by between 2.55 and 5.09 million.

Proposed measures to strengthen Germany as an aviation hub

Proposals to strengthen Germany as an aviation hub target various stakeholders along the aviation value chain and focus on three strategic approaches:

- Traffic growth through reduced location costs, for example at the level of airports, air traffic control and aviation security.
- Traffic growth through greater competition in the airline market, leading to increased supply and more competitive pricing.
- Traffic growth through customer- and transport system-oriented measures aimed at improving service offerings.

Airport-related measures

At the airport level, a reform of airport charges, regulation and the possibility of greater flexibility in night-time operations, as well as the removal of other artificial capacity restrictions, could help generate additional traffic.

A shift from cost-based to incentive-based airport charge regulation, possibly transitioning from a dual till to a single till system, and the creation of an independent regulatory authority – such as within the Federal Network Agency – could drive efficiency and lower charges.

Research activities, pilot projects and targeted funding could support more efficient airport processes and contribute to the sustainable transformation of airports (including progress towards net zero).

Air traffic control-related measures

The current regulatory framework for air navigation services at aerodromes offers limited incentives for operators and service providers to reduce costs. In practice, no economic regulation exists that would

incentivise cost reduction while maintaining high operational efficiency and a high level of safety. A new regulatory framework could, on the one hand, include a more causal cost allocation for arrival and departure fees by regrouping airports into fee categories based on traffic and economic criteria. On the other hand, cost reductions could be achieved through the following measures, also monitored by an independent regulatory authority:

- Increased competition in approach and departure control at airports through tenders for air navigation services, also supported by economic regulation of ownership of, and access to, air traffic control infrastructure.
- Linking government subsidies to efficiency incentives, such as requiring financial contributions from aerodrome operators
- Redefining the scope of air navigation services at German airports based on safety, operational and economic criteria
- Use of benchmarking to compare costs and identify best practices

Aviation security and other performance-based measures

Each airport should assess whether contracts with aviation security providers could include stronger performance and cost-efficiency incentives. Maintaining or reducing caps on charges for sovereign security functions and shifting responsibility for other non-economic tasks to the state, could lead to direct cost savings.

Measures to stimulate competition within industry and reduce competitive distortions

The more effective use of slots at capacity-constrained airports – such as allocating slots based on aircraft size or adapting the 'use-it-or-lose-it' rule at European level – could strengthen competition within the industry and generate new traffic. Additionally, the air traffic tax (if retained) could be redesigned to reflect environmental impact and passengers' willingness to pay. This would reduce its dampening effect on price-sensitive demand. Germany could also advocate for a harmonised Europe-wide aviation tax to replace the current patchwork of national schemes.

In regard to frequent flyer booking behaviour, consideration should be given to whether a stronger presence of a second airline alliance (especially in domestic air traffic) could increase competition and expand travel options for frequent flyers. Revenue from the aviation tax could be strategically invested in the commercial rollout of sustainable aviation fuels (SAF), while a mechanism to prevent carbon leakage could protect intra-European feeder flights in a global context. At the European level, improving coordination between SAF blending quotas and the Emissions Trading System (EU ETS) should be considered. National and EU blending quota adjustments may be needed to reduce competitive distortions. Finally, more liberalised aviation agreements could also improve access to secondary markets in Germany, helping to increase traffic, strengthen connectivity and support tourism.

Strategy development and customer and transport system perspective

Measures to improve Germany's competitiveness as an aviation hub, particularly those focused on supply and the passenger experience, may be driven by the private sector but can be supported by public initiatives. These include improving intermodal connections and processes, backed by research, pilot projects and regulatory changes. Examples include further reducing airport waiting times, expanding intermodal services and ensuring liberal data policies for transport and demand data to support innovation.

We recommend that the Federal Government develop a national aviation strategy, embedded within broader, integrated transport, economic and tourism strategies. This strategy should provide a clear framework for developing air transport as part of a sustainable transport system that leverages the strengths of each mode of transport.

Such a forward-looking strategy, culminating in concrete policy guidelines, should include elements like market and route development (possibly through renewed use of public service obligations), and integration of air transport into multimodal, door-to-door transport concepts, including innovative and environmentally compatible regional air travel, such as electric aircraft.