Policy Brief 2:11

Excerpt from the Swedish report Konsumtionens gränser. (The Limits of Consumption)

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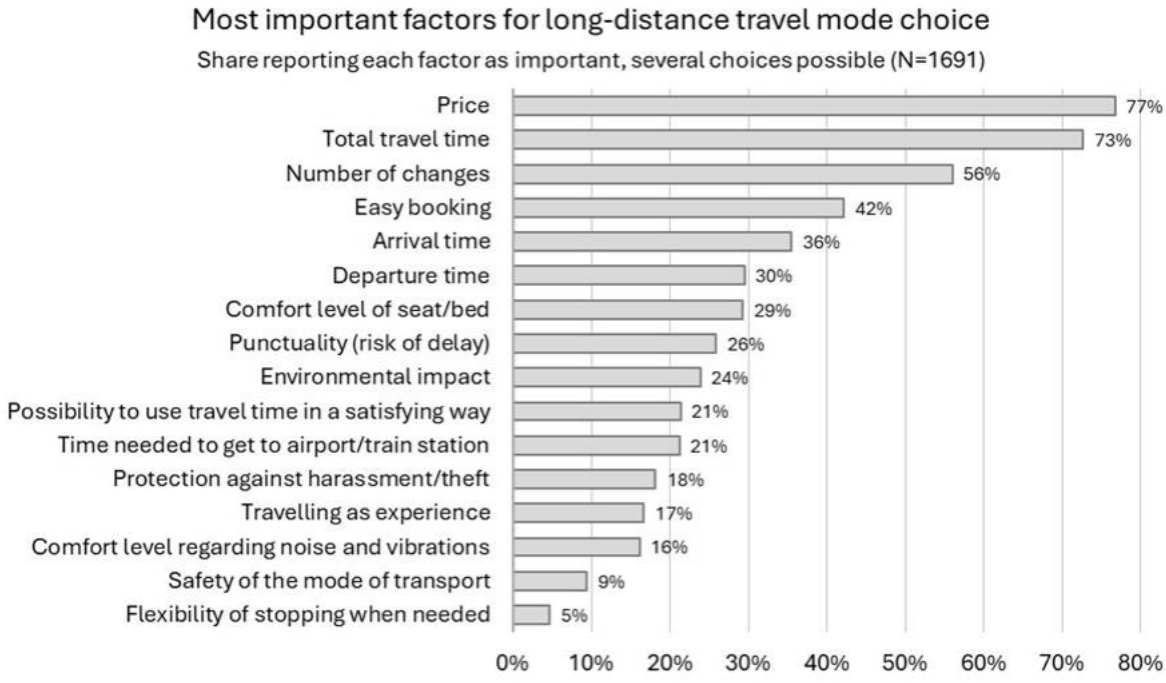
Night Trains Instead of Flights: What Is Needed, and How Large Are the Climate Benefits?

Night trains were introduced as early as the 1830s but have lost market shares for several decades. Growing climate awareness has revived interest, and several new routes have opened across Europe. Our studies show that night trains have a strong potential as an alternative to flying. If services become more attractive through easier booking, shorter travel times, higher comfort, and more direct connections, a substantial share of today's air travelers would choose the train from Sweden to Central Europe.



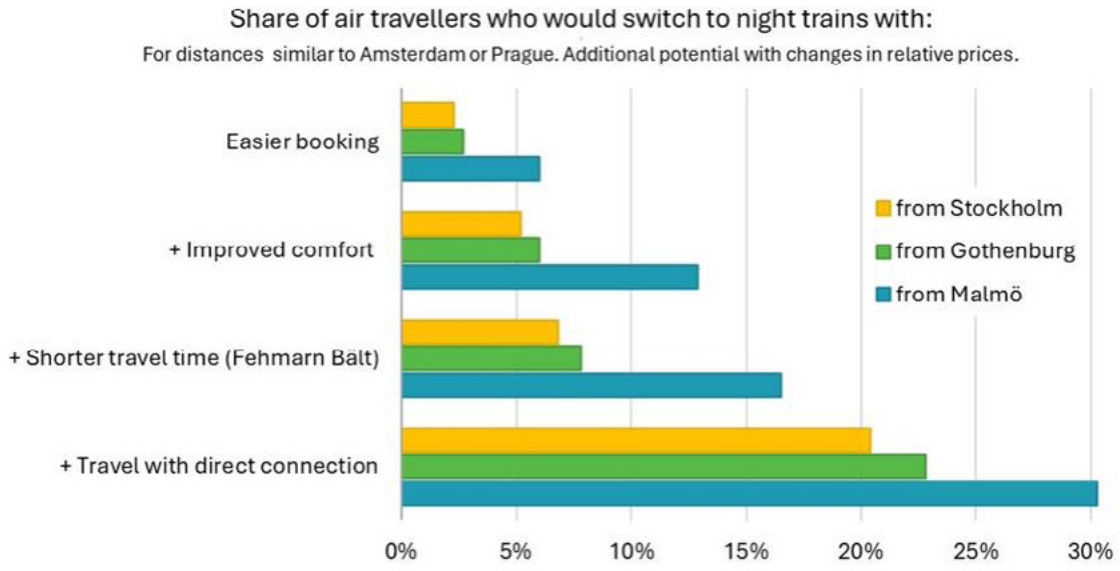
Easier booking systems, more comfortable trains, and shorter travel times could make 20 to 30 percent of today's air travelers to choose night trains.

What could make more Swedes choose night trains?

To increase night train travel, we need to understand which factors matter most when travelers choose transport for long distance journeys. We studied this using an experiment where participants repeatedly chose the most attractive option depending on factors such as travel time, number of transfers, comfort, and more. The analysis confirms earlier research showing that price and travel time are the most important factors. The number of transfers also has a clear negative effect, especially the first transfer, which highlights the importance of direct connections. The possibility of sleeping and arriving in the morning increases willingness to choose night trains. A simple integrated booking system would remove a major barrier in today's system. Strong environmental engagement, earlier positive experiences with night trains, and fear of flying also increase the likelihood of choosing the train. Families with children, however, more often prefer cars or flights.

Night trains can contribute, but they do not solve the climate challenge of long-distance travel

How much flying can shift to night trains? Our results suggest that a combination of easier booking, more comfortable trains, shorter travel times enabled by the future Fehmarn Belt connection, and more direct services could lead to around 20 to 30 percent of today's air travelers to destinations in Central Europe choosing night trains instead. These results apply to medium-length trips such as Amsterdam or Prague. With economic policy instruments such as subsidized tickets or higher taxes on aviation, the potential could be even larger. For longer journeys to Southern Europe, around 6 to 10 percent might shift to night trains, and this share could also increase with financial incentives.



Our climate analyses show that choosing night trains instead of flying can significantly reduce emissions. The magnitude of the benefit depends on developments in other transport modes, including whether and how quickly aviation can transition to fossil free fuels. In a scenario with lower train prices and fewer transfers, total emissions from flights within Europe could fall by around nine percent by 2050. The transition needed for long distance travel cannot be achieved through mode shift alone and will likely require both lower total travel volumes and major technological change in aviation.

Policy measures to increase night train travel

Travel time matters, but train travelers are often less sensitive to time than air travelers, partly because time on board can be used differently. Up to a point, longer travel time can even be an advantage for night trains since trips ideally need to be at least eight hours to replace a hotel night. Beyond that point, however, shorter travel times would make more European destinations available to train travelers. The Fehmarn Belt connection, expected to reduce train travel time between Copenhagen and Hamburg by up to two hours, could in itself increase demand. Additional investment in infrastructure, including high speed rail within Sweden, could further increase the potential.

New trains are also needed. Much of today's rolling stock is ageing, but higher comfort can increase night train use. The Austrian operator ÖBB, which has introduced a new generation of modern night trains, is a leading example. Expanding night train travel would therefore require investment in new trains, while older carriages could still serve more price sensitive travelers. Political action may be needed, for example through state subsidies, a model used successfully in Switzerland and now discussed for new links to Sweden.
Relative prices are crucial. Market shares between rail and air are strongly shaped by price differences. An effective policy package could include reinstating an aviation tax, with revenues used indirectly to make rail more competitive. Similar measures have shown high acceptability among the Swedish public.

Direct lines have a strong effect. A clear conclusion is that direct connections to the continent significantly shape travel demand. Even if direct services to every destination are unlikely, investing in a limited number of attractive routes could be an effective first step to build a new market. Our research also shows that earlier positive experiences with night trains also increase the likelihood of choosing them again, including among those who usually fly.

Further reading

- Curtale, R., Larsson, J., and Nässén, J. (2023). Understanding preferences for night trains and their potential to replace flights in Europe. The case of Sweden. Tourism Management Perspectives
- Morfeldt, J., Curtale, R., Kamb, A., Larsson, J., and Nässén, J. (2023). Carbon footprint effects of shifting from flights to night trains for Swedish tourism. Journal of Cleaner Production

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For further information, see:
www.sustainableconsumption.se/en

Reference to this text

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