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Fast cycling routes: an investment in the future

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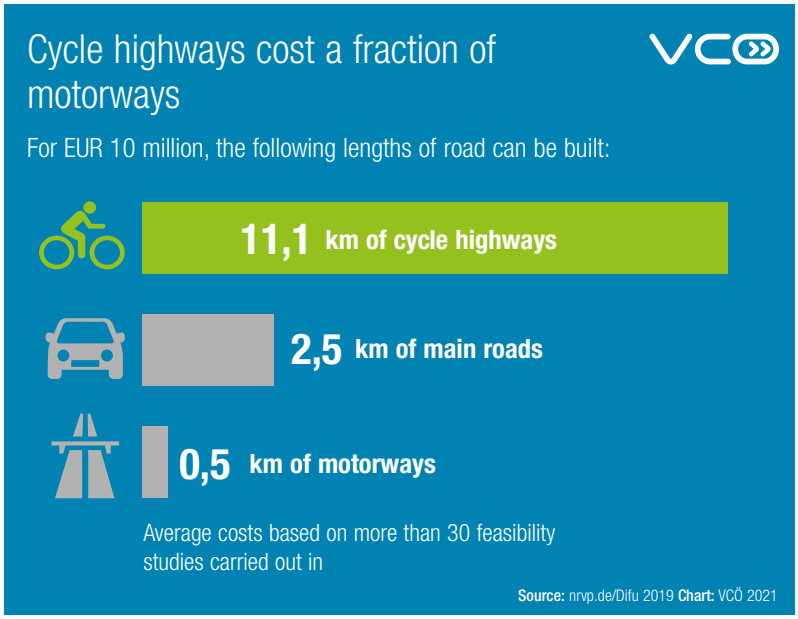
According to the objectives set out by the current Austrian Government Programme and the Cycling Master Plan, the share of cycling in Austria is to be doubled to 13 percent by 2025. A key measure for achieving this goal is the introduction of fast cycling routes.

Fast cycling routes are a new category in Austria's network hierarchy of the cycling infrastructure. In most cases, they establish the most direct connection between two or more municipalities and regions, with few intersections and minimal detours. Ideally, they should be routes separate from the existing road infrastructure. Unidirectional cycle paths should be more than two metres wide, bidirectional cycle paths should have a minimum width of 4 metres. A uniform logo helps cyclists find their way and serves as a guidance system. These standards apply in Germany and, to a large extent, in the Netherlands, as well as in the metropolitan areas of London and Copenhagen.[1,2]

High potential for reducing short-distance car trips

Six out of ten trips made by car in Austria on working days are shorter than ten kilometres, four out of ten car journeys are shorter than five kilometres.[3] Especially when it comes to commutes, there is a high potential for using bikes to replace short car journeys. To achieve this goal, it is necessary to provide an attractive infrastructure. In Austria, there are already more than one million electric bikes on the streets.[4] The trend towards e-bikes both creates more demand and increases the potential for fast cycling routes.



Infrastructure is a key factor in choice of transport. With the budget necessary for one kilometre of motorway, more than 20 kilometres of cycle highway can be built.

The concept of high-capacity, direct and safe fast cycling routes is not new. The Netherlands started building so-called "Snelfietsroutes" as early as the 1980s. In Denmark, these routes are referred to as "Supercykelstier", in Great Britain as "Cycleways", in Belgium as "Fiets-o-Strats", in Switzerland as "Velobahnen" and in Germany as "Radschnellwege". The most essential features are direct routes, grade-separated crossings where possible, sufficiently wide lanes and generally physical separation from car traffic and pedestrians. This helps achieve relatively high travel speeds over long distances, avoiding frequent stops.

Fast cycling routes in Austria

Since July 2020, Austrian municipalities have been eligible to apply for funding of fast cycling routes. Implementation of several projects has already started.

In early 2021, the province of Vorarlberg and the federal government signed a partnership agreement on the expansion of the cycle path infrastructure in the period between 2022 and 2027 with a volume of EUR 62 million. The aim is to establish, among other things, a 200-kilometre long network of fast cycling routes by 2027.[5] A first section linking the cities of Dornbirn and Hohenems was opened for cycling in spring 2021.

The province of Lower Austria also plans to build a network of 200 kilometres of cycle highways on eleven routes by 2030.[6] Vienna has been working on urban "long-distance cycling connections" since 2012. A target network, the required quality criteria, as well as detailed plans for individual routes, have been formulated, parts of which have already been implemented, for example the bike lane on Getreidemarkt.[7]

A cycle network study was also prepared for Graz, the capital city of Styria, and its surrounding area. Based on a GPS data analysis and a traffic model, the study recommends the establishment of a network of fast cycling routes.[8] To enhance the supra-regional cycling infrastructure in the province of Carinthia, the first fast cycling routes for commuters are expected to have an impact on traffic by 2030.[9] The overall transport policy of the greater Linz area, Upper Austria, defines nine main cycle routes with a total length of 40 kilometres, which are arranged in a radial pattern around the city centre of Linz.[10] The first sections were built in the municipalities of Steyregg and Puchenau in 2018 and 2019.

Fast cycling routes encourage commuters to switch from car to bicycle

In 2006, a call for ideas to reduce congestion on motorways was launched in the Netherlands. One of the aims was to shift commute trips of less than 15 kilometres from the car to the bicycle, giving the concept of cycle highways in the Netherlands a further boost. In 2019, the network in the Netherlands spanned some 300 kilometres; this length is to be tripled by 2030.[11] The potential is especially high for commuters. 61 percent of the Dutch population lives within a distance of no more than 15 kilometres of their workplace, which is an ideal distance for commuting by (electric) bike.[12]

In the Arnhem Nijmegen City Region, in the east of the Netherlands, the last decade has seen a rise in the number of car trips. To reverse this trend, it was decided to invest in cycle highways. In 2017, three fast cycling routes were already implemented and six others were under construction.[13]

The fast cycling route from Leiden to The Hague was opened in 2013, raising bike traffic by 25 percent. About 15 percent of the bike trips

made on this route are longer than 15 kilometres. On the route from Breda to Etten-Leur, the number of cyclists tripled to almost 900 a day in 2011, after a cycle highway had been built.

In the subsequent two years, the number increased by another 54 percent.[2]

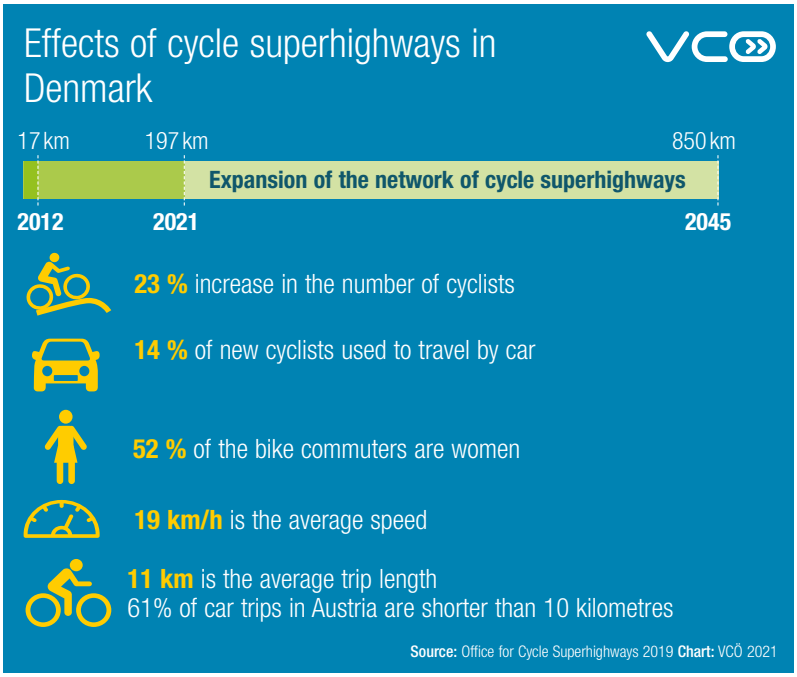
Copenhagen and London also planning expansion

London also planning expansion In Copenhagen, bicycle trips outnumbered car trips for the first time in 2016.[14] With the cycling infrastructure to the surrounding municipalities often inadequate and car traffic from the surrounding region to the city causing major problems, Copenhagen and the 30 surrounding municipalities joined forces to build twelve cycle superhighways with a total length of 197 kilometres in the Capital Region of Denmark from 2009 to 2021.[15] In 2020, an average of 40 percent more cyclists were on the road compared to the preceding years. Each municipality is responsible for planning and building its routes, while the federal government provides funding for the projects. For coordination purposes, the "Office for Cycle Superhighways" was established. The plan is to expand the network of cycling superhighways to 850 kilometres by 2045.[14,15]

London, too, already offers cycle superhighways. There are plans to build a 450-kilometre network on 12 routes by 2024.[16]

Cycle highway in North Rhine-Westphalia

While tourism and leisure cycling are already well developed in the Ruhr metropolitan region, there is a lack of high-quality routes for everyday cycling. In 2010, the Ruhr Regional Association (Regionalverband Ruhr) launched the idea of a project promoting a cycle highway. In 2015, the first six kilometres of the cycle highway RS1 were opened. Thanks to a direct route, it is possible to reduce the travel time for cycling on the various inter-municipal connections in this region by about one third. Once fully completed, RS1 will connect the cities of Hamm in the east and Duisburg in the west of the Ruhr area over a length of 101 kilometres. In addition to a significant reduction in traffic accidents, CO_2 emissions are expected to be reduced by 16,600 tonnes annually. In the Ruhr area, additional routes with a total length of about 170 kilometres are currently being planned.[17]



High-quality fast cycling routes encourage more cycling and motivate people to swap cars for bikes.

Planning and implementation in four steps

The European Interreg CHIPS project has developed a four-phase model for planning and implementing fast cycling routes. First, a potential analysis is carried out and suitable corridors are determined, followed by a design and building phase. In a third phase, campaigns and awareness-raising measures are initiated. Then, finally, the overall process is evaluated.[18] An analysis conducted within the scope of this project shows that the potential for cycle highways in Austria is particularly high around larger cities and conurbations.[19] In Lower Austria, a network of regions with a potential for fast cycling routes was developed as part of the EU project.[6]

Fast cycling routes generate added value

Studies have proven the impact of fast cycling routes on choice of transport and the positive added value for society as a whole. Cycling can contribute to achieving 11 of the UN's 17 Sustainable Development Goals (SDGs).20 Apart from replacing car kilometres with cycle kilometres, cycling can also help reduce pressure on public transport and create space for long-distance commuters.

Cycling infrastructure needs to catch up

It pays to invest in cycle highways

In Copenhagen, the number of bike commuters along cycle superhighways has risen by 23 percent on working days since 2012.[15]

14 percent of the new cyclists previously used the car for the same route. The socio-economic benefits of the cycle superhighways planned in Copenhagen are estimated to be EUR 765 million, at a total investment of EUR 295 million.14 Cyclists in the Capital Region of Denmark will have 40,000 fewer days of sick leave annually. If there were no bike commuters in the Copenhagen region, 30 percent more people would travel by car.[14]

Cycling and e-bikes are increasingly popular

496,000 bikes were sold in Austria in 2020, which is an increase of 13 percent over the year before. 41 percent of these bikes are electrically-assisted bicycles.[4] The total number of electric bikes in circulation in Austria has already exceeded the one-million mark. Data from Vorarlberg has shown that the average distance travelled by e-bike is 49 percent longer than that by conventional bikes.[21] While only 15 percent of the routes cycled on conventional bikes exceed five kilometres, the figure for e-bikes is 27 percent. It requires a high-quality infrastructure to fully tap into the potential of this trend. Fast cycling routes offer the best conditions for this purpose.

List of references included in the online version:
www.vcoe.at/publikationen/vcoe-factsheets

VCÖ recommendations

Fast cycling routes are paramount for mobility transition and should be expanded rapidly

- Many car trips in Austria are short. The Covid-19 pandemic has highlighted the importance of daily physical activity for mental and physical well-being. Cycling is on the upswing.
- The concept of cycle highways is well known, the practical benefits for promoting bicycle use in everyday life are well documented. Investments in high-quality cycle route infrastructure will pay off in multiple ways.
- The rise of e-bikes clearly shows that high-quality infrastructure must be expanded rapidly. Only in this way can the emerging potential of shifting daily journeys to the bike be fully exploited.
- In Austria, especially in the outskirts of metropolitan areas, there is great potential for fast cycling routes. By expanding such routes quickly, many commute trips could be made by bike and car congestion avoided.
- Austria aims to increase the share of cycling to 13 percent by 2025. Efforts should be made to develop coordinated expansion plans for high-ranking cycle route infrastructure with all federal provinces.
- For every 100 million euros invested, the construction of cycling infrastructures will create around 50 percent more jobs than the construction of motorways.

Michael Schwendinger, VCÖ – Mobility with a future:
"The e-bike boom is a potential game changer for mobility transition. Even commute trips of ten kilometres and more can easily be made by e-bike.
The catchment area of public transportation stops also increases. This is the most important prerequisite: a high-quality cycle route infrastructure."

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