

Cycling innovations - Best Practice by EIT Climate-KIC

Cycle superhighways

The Cycle Superhighways are a coherent network of high quality cycle routes in Greater Copenhagen. The cycle superhighways are based on principles about accessibility, availability, comfort and safety. The ambition is to create better conditions for cyclists and thus make cycling more attractive and competitive compared to driving a car on trips over 5 km.

The goal is to make commuting by bicycle a serious alternative to commuting by public transport or car. 23 municipalities work with the capital region to increase the number of commuters on two wheels across municipal boundaries.

A cycle superhighway is a route where commuters' needs have the highest priority. The routes offer fast, comfortable and safe service, and connect residential areas with places where people work or study. Transit areas for public transport are also part of the routes. The highways are as direct as possible, cutting down on the number of times cyclists must stop. For instance, cyclists will have a green wave of traffic lights during rush hour. Long-distant commuting has also been made easier by the implementation of count-down signals for green light for the cyclists, which are in fact dynamic and that can prolong and extend time until green light is shown.

Implementation

In 2009 Copenhagen contacted the surrounding municipalities regarding cooperating in the creation of a network of cycle superhighways. A secretariat was formed to take care of communication, application for funding, overall management and evaluation. Since 2009, a couple of municipalities joined the network, which means that 23 municipalities are part of the cooperation (in 2017). The secretariat is funded 75% by the Capital Region and 25% by the municipalities. At present it employs 5 people. The funding from the municipalities is determined based on the number of inhabitants in each municipality.

In 2014, the first Cycle superhighway Albertslundruten was opened. 8 new routes have opened (in 2017) and the network will consist of 28 routes when it is completed in 2025. The total investments for the first 206 km of the network were 400 million Danish crowns (54 million EUR). The state has financed 44% of the routes by the end of 2016. Of the total socio-economic gains on the expanded routes, 80% of the profits accrue to the state, while 20% accrue to the municipalities.

The involved personnel consist of a steering committee, an office and a project group. The steering committee make the strategic decisions for the project, while the office facilitates and coordinates the involvement of the municipalities, as well as evaluating and campaigning. The project group work on the implementation of the routes.

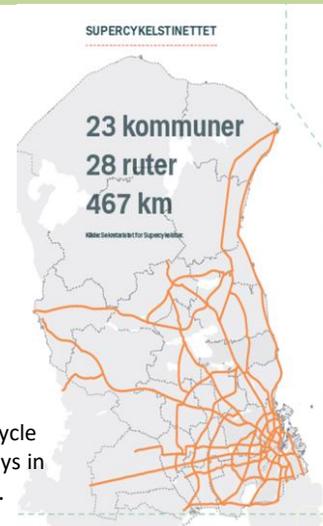


Foto: The network of cycle superhighways in Copenhagen.

Context

Copenhagen's plan for achieving a greater modal share for bicycles includes increasing the capacity of the cycle tracks to the city centre. Since most of these trips start outside of city centre, standards on the cycle routes need be high in the whole region. Before the plans for the cycle superhighways were in place, most of the network wasn't coherent which made it difficult being a long-distance commuter.

One of four trips in the Capital Region are made by bicycle and about one third of inhabitants commutes by bicycle. However, there is a clear connection between distance and modal share for cycling. On trips over 5 kilometres, the car still has a great share of trips. On distances between 5-20 kilometres, the potential for cycling is high but remains largely untapped.

Driving forces

Both the municipalities and the region have the goal of increasing the share of cyclists, and want to decrease car usage. Having these kinds of goals in place supported the initial process of establishing the cycle superhighways concept, and has continued to be a driving force in the implementation.

Even though there is a high usage of bicycles in the region, there is also a high level of car usage, resulting in congestion problems on the roads. Congestion is an important driver in supporting the mode shift to cycling. There is a need to get people to commute in other ways than by car, and to get more people to use the bicycle for trips over municipal borders.

Foto (down): Sign indicating the lane is part of a super cycle highway.



The ambition is for a high-quality recognisable standard to be seen across all of the municipalities. This common standard includes route identity, communication and evaluation. Infrastructure has been divided between 'basic' and 'ideal'. External consultants screened each existing cycle route and made suggestions on ways to turn them into cycle superhighways.

Jointly with the work on upgrading the cycle paths, work is also done on upgrading other elements of the network. This includes lighting in the countryside and through tunnels, placement of bus stops near the cycle paths and service functions for cyclists.

Work is currently being undertaken to improve the communication of traffic information to cycle commuters. This includes identification of what kind of information might be relevant for commuters and what ways are most suitable for communicating it.



Foto: Intersection with four different solutions for bikes, in the crossing between Tagensvej/Norre Alle.

Success factors

Since the beginning there has been a solid long-term financing and a success factor for investments has been the common view of the quality of the infrastructure, the mapping of bottlenecks and a common ambition level for the communities within the secretariat.

A lot of work has gone into marketing campaigns in combination with the improvement of the infrastructure. These marketing campaigns have so far been considered as successful, with about a quarter of new cyclists using the routes shifting mode from car.

The funds made available by the Danish state, earmarked for cycling investments, have been important. When the concept was presented to both national and local politicians, emphasis was put on the relatively low cost compared to building a vehicle highway or subway system, as well as the benefits in terms of reducing traffic congestion and the improvements possible in terms of individual and environmental health. Studies now show that 80% of the profits accrue to the state, while 20% accrue to the municipalities.



Foto: Bikebridge (Bryggebroen) connecting Vesterbro and Islands brygge.

Barriers

Having the involvement of 23 municipalities has worked both as a strength and a challenge. Good communication between everyone is both important and not always easy.

Ensuring the same quality of infrastructure across all municipalities is also a barrier, since the conditions and priorities differ between municipalities.

It has also been problematic to value the benefits of the network. The cost-benefit analysis framework for cycling is not mature and data on cyclists is lacking.

Scaling potential

The cycle superhighway investments focus primarily on upgrading existing infrastructure into a coherent and high-quality network, rather than building new infrastructure. This is both cheaper and easier to build along existing roads, and this model can be copied elsewhere – although it requires some kind of existing network for which cyclists can use / which can easily be upgraded. A project at this scale also requires a strong support from public authorities for financing. This could be achieved by communicating the high socio-economic benefits in relation to cost. The cost-benefit ratio of a cycle superhighway infrastructure is much greater compared to other transport modes such as car traffic or metro construction .

Using orange arrows in the asphalt on the cycle paths can make it easier to brand the network and make it easier to navigate. The office has developed several types of signs and markings and are trying to get them into the national sign legislation. It can now be put on signs, but not as markings in the asphalt. The use of the markings needs to be further evaluated, to make sure that they don't pose a threat to traffic safety in order to be approved by the national government. The logo also recently got integrated into driver's license course material, so now new car drivers must know the meaning of the logo.

An evaluation carried out with the involved municipalities showed that they considered having an independent secretariat taking care of communication, application for funding and overall management to be extremely important. A lot of cities around the world are embarking on similar concepts where one single actor cannot carry though the project alone. In this perspective, the cooperation model in Greater Copenhagen can be a role model.

Find out more?

Trivector Traffic AB

Caroline Ljungberg Toulson, Anna Clark & Malin Mårtensson

Caroline.ljungberg-toulson@trivector.se

Anna.clark@trivector.se

malin.martensson@trivector.se

Find us at: <https://www.trivector.se/>

Cycle superhighway secretary

Sidsel Birk Hjuler

Program manager

hy6p@tmf.kk.dk

www.supercykelstier.dk



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