



Best Practice: City-wide Bicycle Commuting Program

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CITY: COPENHAGEN

POLICY AREAS: TRANSPORTATION; ENVIRONMENT

BEST PRACTICE

The city of Copenhagen has established a bicycle program under the theme “**Copenhagen – City of Cyclists**” aimed at making cycling the top mode of transportation. The program includes constructing more cycle tracks, extending cycle routes along the city’s green thoroughfares, establishing safer and more cycle-friendly conditions at the most crowded intersections, as well as implementing many other improvements and ideas.

ISSUE

Like all cities, Copenhagen seeks to be a healthy and livable metropolis. One way to improve the quality of life in the city is to encourage more citizens to travel by bicycle. Besides providing a more livable city by reducing carbon emissions and air pollution, the shift from cars to bicycles also saves time and money. A comparison between the total cost of car and bicycle travel in terms of air pollution, accidents, traffic congestion, and noise and infrastructure decline reveals that society saves 1.19 Danish kroner (\$ 0.21 USD) for every extra kilometer travelled by bicycle instead of by car.

At the same time, car traffic in Copenhagen is projected to increase by 20% by 2030. Not only does Copenhagen’s traffic cause air and noise pollution, but the economic loss due to traffic congestion in the capital area has been calculated to be more than 800 million euros (\$1 billion USD) per year.

GOALS AND OBJECTIVES

Today, residents in Copenhagen cycle approximately 1.2 million kilometers per day. Of all commuters, 36% choose to cycle to their destination. Approximately 519,000 citizens in the city of Copenhagen (i.e. the central part of Greater Copenhagen) own more than an estimated 560,000 bikes. Over the past few years, Copenhagen has invested in a vast network of bicycle tracks, cycle routes, the redesign of intersections and other bike-related activities.

Building upon this progress, Copenhagen would like to become the world’s best city for cyclists. The city has defined three goals for 2015:

- A minimum of 50% of residents will commute daily by bicycle to their workplace or school
- A reduction of at least 50% in the number of cyclists seriously injured in Copenhagen traffic (as compared to 2005)
- At least 80% of Copenhagen cyclists will feel safe in traffic, as measured by a telephone survey conducted every other year as a part of the city’s report on cycling entitled the “Bicycle Account”

The overarching objectives are for residents to save time, improve their health, reduce the cost of transportation, emit less CO₂ and create more space for urban life. In order to fulfill these objectives, Copenhagen is focused on following areas:

- Cycle tracks and reinforced cycle lanes
- Improved cycling conditions in the City Centre
- Combining cycling and public transport
- Bicycle parking
- Improved signal intersections
- Better cycle track maintenance

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- Campaigns and information

IMPLEMENTATION

Since 1995, Copenhagen has published a report entitled the "Bicycle Account" which is an assessment of the city's cycling programs as measured to its goals, infrastructure improvements, and the reasons of why and when Copenhageners bicycle.

Information regarding Copenhageners' cycling habits contained in the Bicycle Account is based on telephone interviews with randomly selected citizens. Copenhagen residents cite the following main reasons for cycling:

- 50% say it's the fastest
- 50% say it's the easiest
- 47% say it's good exercise
- 26% say it's cheap
- 25% say it's comfortable

The most recent Bicycle Account also shows that the risk of injury for cyclists in Copenhagen traffic was reduced by 75% between 1996 and 2010.

Cycle Track Priority Plan 2006-2016

The Cycle Track Priority Plan covers the period of 2006-2016, and states the order in which almost 70 kilometers of new cycle tracks and cycle lanes will be established. Cycle tracks parallel to roads are the chief element of the Copenhagen bicycle traffic infrastructure. The current cost of implementing the Cycle Track Priority Plan is approximately 400 million Kroner (\$70.6 million USD).



Cycling through Copenhagen

The priorities set forth in the plan are based on the following principles:

- Reinforced cycle lanes shall be established whenever possible
- Cycle tracks shall be built as quickly as possible in the most difficult sections
- Short sections which can form a link-up to the network shall be given high priority
- Sections with heavy bicycle traffic shall be given higher priority than sections with little bicycle traffic, under equal conditions

Reinforced cycle lanes were used as a temporary measure following a pilot project involving six streets in the city center in which cycle lanes were indicated solely by road markings. The project was assessed favorably in cyclist ratings, behavioral studies and an external traffic safety inquiry. Reinforced cycle lanes are a combination of road marked cycle lanes, short sections of cycle track (e.g. at bus stops) and the use of traffic islands so as to physically separate cyclists from vehicle traffic.

The Department of Traffic investment plan defines the annual framework for cycle path construction, etc. Work cannot be initiated until the Building and Construction Administration has also allocated earmarked capital on the basis of a recommendation including a detailed description of the project and its consequences.

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COST

Since 2006, funding for cycling programs has been allocated in large sums to speed up the development of more sustainable mobility in Copenhagen and a new budget was approved in 2012. In 2012, more than 100 million kroner (\$17.6 million USD) was allocated for projects to improve conditions for cyclists. In 2010, the amount was around 150 million kroner (\$26.4 million USD).

RESULTS AND EVALUATION

Today Copenhagen offers an extensive network of bicycle paths which allow cyclists to commute throughout the city without feeling marginalized or insecure. Copenhagen has around 350 kilometers of cycle tracks and lanes and more than 40 kilometers of green cycle routes separated from the transportation infrastructure.

Overall, Copenhagen's cycling program has proven that the bicycle is a practical mode of transport within an urban setting. The majority of residents use their bicycles because it is the easiest, most comfortable, most efficient and fastest way to commute. The fact that commuting by bicycle provides physical exercise is a secondary motivation for residents. CO₂ reduction achieved by cycling is an excellent example of the external benefit to society produced by increasing cycling. Presently, bicycle traffic in Copenhagen annually saves the atmosphere 90,000 tons of CO₂ pollution as compared to driving the same distance.

Copenhagen has released a study to estimate the return from the 2009 investment in bicycle infrastructure projects from a socioeconomic perspective. For example, a bicycle bridge across the harbor has proved to be better investment than current road construction projects in Denmark. Based on Danish Ministry of Transport's methodology for calculating cost-benefits - investment in bicycle projects is sound and equivalent or better when compared to other traffic investments.

TIMELINE

- 1995** First Bicycle Account published
- 2006** Cycle Track Priority Plan published; "Brygge Bridge" Bicycle Bridge inaugurated
- 2008** "Åbuen Bridge" bicycle bridge across one of Copenhagen's busiest roads inaugurated
Danish Cyclists' Federation voted Copenhagen "Best City for Cycling"
- 2009** Copenhagen voted "World's Best City for Cyclists" by TreeHugger
Copenhagen launches international design competition to launch new bike share system in 2013
- 2010** Copenhagen hosted Velo-city Global 2010, the first global conference on cycling
Copenhagen voted "World's Best City for Cyclists" by TreeHugger
- 2011** Two cyclist super highways were inaugurated; highways aimed at widening congested cycle tracks
- 2012** Third cyclist super highway was inaugurated; Bicycle Bridge across harbor was inaugurated
- 2013** Expected opening of new fourth generation bike share scheme

LEGISLATION

According to Danish law regulating traffic, cyclists are on an equal footing with car drivers. However, Copenhagen is constantly seeking dialogue with relevant authorities to ensure optimal conditions for cyclists. One priority is in advocating for cyclist contra-flow lanes on specific streets where only one-way traffic for cars and bikes now exists.

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LESSONS LEARNED

Copenhagen has learned the following lessons through its implementation of initiatives under the City of Cyclists theme:

- Conditions for cyclists are to be given priority when designing public space, particularly in areas with many cyclists.
- The increasing numbers of cyclists are creating congestion on cycle tracks. Hence the city is considering making the cycle paths wider in areas with maximum congestion.

TRANSFERABILITY

Based on Copenhagen's experience the following factors are critical to success:

- Understanding what makes people cycle and especially what their reasons are for not cycling, including the safety concerns of residents.
- Underlying each program is the premise that a city shall have the conditions to make cyclists feel as safe and comfortable as possible.
- Understanding that the success of bicycle programs is related to an overall efficient transportation program, focused on reducing car usage by advocating alternative methods of transportation such as S-trains, metro and buses combined with bicycles.
- Cyclists should be able to park at stations and continue their commute by train, metro or bus.
- In planning new urban areas, transportation infrastructure highlighting bicycle usage should be emphasized.

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