Cycling Highways

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Cycling Highways (also known as Bicycle Highways or Super Cycleways) are high-standard and continuous paved bicycle routes designed to reduce travel times and thus facilitate medium distance (5–20 km) trips by bike. They connect communities and major destinations including residential areas, concentrations of jobs, schools and public transit.[1]

Features include:

- ➔ Separate, high standard paths, reserved for cycling and separated from pedestrians and motor vehicles
- ➔ Two-way cycleway, separate lanes, 3.0 to 4.0 m wide depending on volumes
- ➔ Designed for speeds of up to 40 km/h on flat sections, higher on downhill
- ➔ Requirements for maximum grades and minimum curve radii
- ➔ High operating and maintenance standards including frequent snow, ice and debris removal
- ➔ Grade-separated crossings of major roads and highways
- ➔ Few stops
- ➔ Lighting
- ➔ Green wave with traffic signals coordinated to average cycling speeds

Keys to success are cost-sharing funding from senior levels of government and a coordinating body that can help ensure that routes are of a consistent high quality across jurisdictions.

Transportation Cost

Cycling highways can help reduce car traffic, for example, on roads with congestion problems or avoiding the necessity for road-network expansion (for congestion avoidance). During rush hour, cycling highways can help reduce the burden on urban public transport. The growing trend toward electric-assist bikes, which can be used for longer commutes, supports the need for fast connections.

Safety

Especially when road crossings are grade separated, cycling highways will enable safer travel at higher speeds and accommodate electric-assist bikes. Cycling highways will help the Province to meet the zero fatality and serious injury goal of the BC Road Safety Strategy.

GHG Emissions Reductions

By increasing the cycling number of trips within reasonable cycling time and thus increasing the potential of cycling to replace motor vehicle trips, cycling highways can help the Province meet its GHG emissions reductions targets in the Climate Leadership Plan while providing multiple other benefits.

1

While even with cycling highways the mode share of longer trips by bicycle may be lower than that of shorter trips, the benefits of longer trips by bike are much greater both from a transportation and an environmental point of view. For example, one 15 km bike trip replacing a car trip has five times the GHG emissions reductions as a 3 km trip. Getting 1% of 15 km trips by bike will have the same benefits on emissions as 5% of 3 km trips by bike.

Cycling highways have been implemented or are being planned in several countries including:

- ➔ Netherlands: 15 implemented, 20 planned
- ➔ Germany: 3 implemented, over 20 planned or under construction[2]
- ➔ London, UK: 12 planned
- ➔ Norway: $1.25 billion investment planned[3]
- ➔ Australia: planned in Perth, Adelaide and Brisbane

Possible Cycling Highways for British Columbia

Possible Cycling Highway routes for British Columbia include:

- ➔ Highway 99 from the US Border to the north side of the Oak Street Bridge
- ➔ Highway 1, Mountain Highway to Ironworkers Memorial Bridge including extension to Lynn Valley
- ➔ Highway 1, Port Mann Bridge to Government Street
- ➔ Highway 1, Langley to Abbotsford
- ➔ BC Parkway
- ➔ Central Valley Greenway including extension to Port Mann Bridge
- ➔ Portside Greenway (Ironworkers Memorial Bridge to downtown Vancouver)
- ➔ North Shore Spirit Trail
- ➔ Lochside Trail
- ➔ Galloping Goose Trail
- ➔ E&N Rail Trail

Recommendations

A. Modify Section 19 of the BC Motor Vehicle Act (Div 19, clause 19.07) restricting uses on Schedule 1 Highways, so as to define protected cycling infrastructure on provincial highways
B. Develop guidelines and best practices for Cycling Highways
C. Work with regions and municipalities to plan and implement Cycling Highways
D. Provide regions and municipalities with assistance to design Cycling Highways
E. Provide cost-shared funding for Cycling Highways

[2] https://nationaler-radverkehrsplan.de/ (search for "Radschnellweg"), https://de.wikipedia.org/wiki/Radschnellweg

[3] http://www.citylab.com/cityfixer/2016/03/norway-bike-highways-billion-dollars/472059/

Cycling Highways Along Schedule 1 Highways

Schedule 1 Highway right-of-ways can provide excellent opportunities for safe, direct cycling highways to be implemented at relatively low costs especially if the construction is integrated into other highway projects.

In instances where access ramps slope down to the highway, the cycling highway can pass through access ramps underpasses protecting cyclists from the high speed traffic. As the cycling highway adjacent to the Schedule 1 Highway would be grade separated from crossing streets, it will be significantly safer than alternate routes along roads with at-grade intersections. According to ICBC, 84% of cycling crashes in the Lower Mainland involving motor vehicles happen at intersections. A route without intersections will dramatically reduce the chance of fatalities and serious injuries.

Travel time is one of the most significant barriers to cycling. By eliminating signalized intersections, cycling highways along Schedule 1 Highways can dramatically increase the distance people are willing to cycle and thus increase the number of trips that are within reasonable cycling distance.

Examples of Cycling Highways

Norway

Norway will spend $1.25 billion creating ten wide two-lane, cross-country cycling highways in and near Norway's nine largest cities, allowing longer-distance cyclists to travel with a speed and safety hitherto impossible.[4] These new paths will create bike commuter links between inner cities and outer suburbs, extending the protected cycle network out from urban cores through the commuter belt and into the countryside. They will allow people to cycle faster safely, riding at up to 40 kilometers per hour making longer commutes feasible. If they succeed, they should take pressure off roads and public transit and help to cut Norway's fossil fuel use.

In Norway, the cycling mode share was just 5 percent in 2014. The Norwegian government wants to increase this share of journeys to between 10 and 20 percent by 2030. The government is also aiming to have zero growth in car use between now and 2030. Herein lies one of their more surprising plans. Norway already has the highest market share in the world for zero-emissions cars, partly induced by far lower taxes for green vehicles. This is good news, but as the government notes, even zero emissions cars create noise, traffic, and some pollution, be it from brake pads or by swirling up dust. Taxes for green vehicles taxes will thus now be raised, though costs will still be lower than for a conventional car.

Copenhagen[5]

A total of 28 routes with 467 km of cycle paths are planned in the Copenhagen region. Eleven of these will be ready by the end of 2018. It's a remarkable story of regional cooperation, forged by one big city and 21 of its smaller suburban neighbors, who came together around a common vision for moving commuters from using their cars to riding their bicycles.

[4] Ibid.

[5] http://www.citylab.com/commute/2014/11/how-the-danish-cooperated-to-build-a-bicycle-superhighway/382982/

Ironically, this regional success started with a failure. Back in 2007, city leaders in Copenhagen began looking for a way to reduce automobile congestion in the city center. They aimed to do what London and Stockholm did around the same time: create a "congestion charge" on cars entering the city.

Protests kicked up from the municipalities around Copenhagen. Their citizens would be particularly burdened by the extra cost to go to work or do other errands in the city. The project was dumped. With no congestion toll in sight, Copenhagen decided to tackle the problem from a completely different angle. Instead of deterring driving, why not encourage biking?

In some ways, the bike plan benefitted from the failed attempt at the congestion charge. For one thing, it was more of a "carrot" than a "stick" so the suburban communities were more open to it. One result of all this participation is that the cycling network includes a number of suburb-to-suburb routes. It's not all hub-and-spoke routes radiating out from Copenhagen.

If inclusiveness was one goal, another was to dream big. This freed the planners to develop innovative ideas like timing stop lights at road crossings to favor bikes rather than cars. Another idea was to include "conversation lanes" wide enough for two people to ride side-by-side and talk.

To encourage municipal participation, a cost-sharing structure was set up. Municipalities only pay half of the construction costs. Most of the other half is covered by a subsidy from a national fund for supporting bicycling.

A six-person secretariat was also set up as a neutral body to administer the project. Policy is set by a steering committee made up of executive-level civil servants from all participating municipalities. A project group consisting of traffic planners and other more technical people meets four times a year.

Germany[6]

The metropolitan region of Hanover-Braunschweig-Göttingen-Wolfsburg (HBGW) was the first in Germany to implement cycling highways. The region's city-linking bike network connects local cycle networks, important tourist destinations and train stations for a smooth transition to the regional public transport system. There are three cycling highways: a path connecting neighbouring towns (Wolfenbüttel–Braunschweig), another from the outskirts of a city to the centre (Hanover) and a route leading from the outskirts through the city centre and out again to the other side (Göttingen). These routes are designed with sufficient width for fast cycling and for cycling side by side. In public green spaces, the routes must either be separate from pedestrian walkways or wide enough to accommodate pedestrians and cyclists.

The longest cycling highway is under construction in the densely populated Ruhr region. When Radschnellweg Ruhr or RS1 is completed, it will be 100 km long and connect 10 cities. It could take 52,000 cars off the road per day and help ease traffic congestion in the Ruhr area. In November 2015 the first 11 km section was completed between the cities of Essen and Mülheim. RS1 will allow safe

[6] German Institute of Urban Affairs (Difu). *Cycle Highways*. Cycling Expertise –Infrastructure I-12/2012
http://www.fastcoexist.com/3055053/germanys-62-mile-bike-autobahn-connects-10-cities

transport by bike over long distances, also opening the doors to the use of electric bikes as a way to replace trips by car. A study by the federal government estimated that savings due to the health benefits of cycling could be as much as five times the cost of building the cycling highway.