

Climate Change PBL #3: Promoting Biking in Vancouver

Problem:

According to a Translink study published in February 2007, vehicles in the GVRD produce 5.3 million tons of CO₂ each year.¹ Considering the reduction in GHG emission that can come about with an increase in bike traffic, what could the city of Vancouver do to facilitate biking?

Background:

Vancouver prides itself with being a bike-friendly city, publicizing its 400 lane-kilometers of bike routes². Nonetheless, it is estimated that the total vehicle kilometers traveled in the GVRD has increased by 50 percent.³ Nowadays, motor vehicles account for 35 percent of all GHGs emissions in the GVRD and have become the greatest contributor to GHGs in the region. Part of this trend could be explained by Vancouver's geography. Unlike the Netherlands, which has been praised for its bike culture, Vancouver is mountainous, rainy and dispersed which can discourage many from using their bikes daily.

That being said, cycling is the fastest growing form of transportation in Vancouver. Four percent of commuting trips are made by bicycle and in some neighborhoods this figure is ten percent⁴. The city of Vancouver started encouraging biking on a daily in 1988 when it adopted the *Comprehensive Bicycle Plan*. Two years later, the Seaside Bike route, the first of its kind in Vancouver was opened connecting the shoreline of Stanley Park, False Creek and the UBC endowment lands. However, this route remained recreational rather than practical for daily commuting. In 1992, the Bicycle Network Study favored the creation of a network of bicycle routes along local streets to encourage more people to bike to work by providing them with a safe and pleasant route and avoiding vehicle and bike conflicts. Although this recommendation was followed shortly thereafter by the opening of the 10th and 8th Ave bike routes (which diverts bike traffic from Broadway to adjacent avenues) In 2009, the Burrard Bridge trial lane was built to allow cyclists and pedestrians their own safe and protected lane to enter the downtown core. Moreover, as part of the cities Greenest Action plan, separated bike lanes in downtown have been built on existing bike routes on Hornby and Dunsmuir streets. As of July 13, 2012, city council approved a recommendation to make these lanes permanent.

¹ Rock Clive (February 15, 2007). *Greenhouse Gases Generated by Private Vehicles in Greater Vancouver*. Retrieved July 25, 2007 from:

http://www.translink.bc.ca/files/board_files/meet_agenda_min/2007/03_05_07/4.6greenhouse.pdf

² [City Of Vancouver. 2010. Cycling Statistics.](http://vancouver.ca/engsvcs/transport/cycling/stats.htm)

<http://vancouver.ca/engsvcs/transport/cycling/stats.htm>

³ Environment Canada. "Fraser Valley Smog: an indicator of potential air quality health risk". *Environmental Indicators*. Retrieved July 25, 2007 from

http://www.ecoinfo.ec.gc.ca/env_ind/region/smog/smog_e.cfm

⁴ [City Of Vancouver. 2010. Cycling Statistics.](http://vancouver.ca/engsvcs/transport/cycling/stats.htm)

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Although the city and downtown in particular has experienced an exceptional development in its cycling infrastructure, there are still many neighborhoods that are lacking bike lanes and routes. Cyclists complain about safety issues, lack of routes in certain areas and lack of bike facilities in the work place. These concerns are often seen as deterrents for more people taking their bikes to work. Moreover, many of the existing bike routes are on high traffic roads and lack separated bike lanes, which deter commuters who are concerned about riding so close to traffic. Tragically, in the summer of 2013, two cyclists were killed in collisions with motorists after falling into passing traffic

As the majority of Vancouver's growth is concentrated in the metro Vancouver area, much opportunity exists to expand the city's cycling network into its periphery to accommodate and encourage cycling. Furthermore, in 2009, Vancouver launched the Greenest City Initiative, which includes a target of having 50 percent of trips taken in the city conducted on foot, bicycle, or public transit by the year 2020.⁵ What specific actions can be taken by the city to encourage cycling and reach this goal?

Example

In the Netherlands, the latest statistics show that there are more bikes than inhabitants. A small flat country, the Netherlands is populated by 16.4 million people and over 17 million bikes.⁶ Those 17 million bikes do not stay parked in the garage. The Netherlands Statistic Institute estimates that over 1.4 billion kilometers were traveled by bike in 2005, an average of 2.5 km per person, per day.⁷ This trend is due partly to the government's initiatives that encouraged the growth of a bike culture. The Netherlands administration has conducted several studies, which determine under which circumstances people are more likely to use their bikes as a mean of transportation. Unsurprisingly, the closer the destination is, the more likely people are to ride their bike. Accordingly, the Netherlands urban planning takes into account this finding and rather than build residential areas in the outskirts of commercial centers, they integrate them. The Dutch government has also placed a strong emphasis on building and improving cycling infrastructures, from cycle paths, but also junctions systems, circles, traffic lights, cohabitation with vehicle traffic and parking facilities. For instance, traffic lights at intersections have separate indicators for bicycles that detect cyclist at a distance and are simultaneous in all direction, allowing cyclists to turn left directly.⁸ The strength of the Netherlands policy is its integrated approach that considers all the factors that can motivate someone to ride their bike such

⁵ *Vancouver 2020: A Bright Green Future*. Retrieved December 29, 2009 from:

<http://vancouver.ca/greencity/index.htm>

⁶ Ministry van Veerker en Waterstaat. *Cycling in the Netherlands*. Retrieved July 30, 2007 from :

<http://www.fietsberaad.nl/library/repository/bestanden/Cycling%20in%20the%20Netherlands%20VenW.p df>

⁷ Statistics Netherlands (July 10, 2007). *Cycling More Popular*. Retrieved July 30, 2007 from:

<http://www.cbs.nl/en-GB/menu/themas/bedrijven/publicaties/artikelen/archief/2007/2007-2211-wm.htm>

⁸ Ministry van Veerker en Waterstaat. *Cycling in the Netherlands*. Retrieved July 30, 2007 from :

<http://www.fietsberaad.nl/library/repository/bestanden/Cycling%20in%20the%20Netherlands%20VenW.p df>

as geography, road infrastructure, security, efficiency, purpose of trip, parking facilities and others.

Guiding Questions

- What deters Vancouver residents from using their bike on a daily basis?
- How do the topography, urban planning and the climate of Vancouver affect the appeal of biking in the city?
- What are the current cycling infrastructures in place in Vancouver?
- How do the cycling facilities in the workplace influence the appeal of biking to work?
- How can the workplace be made more bike-friendly and how can the government encourage businesses to adopt those practices?
- How many biking accidents occur in Vancouver on a monthly basis, what are the main causes and how could they be prevented?
- What more could the GVRD administration or the BC government do to improve the biking infrastructures?
- What would be the cost of additional infrastructures? Would that be money well spent?
- Is road sharing (a lane for cars and a lane for bikes) the best way to create a cycling network?
- Is the public transport network well adapted for bikers? How could it be improved to accommodate cyclists commuting from metro-Vancouver?
- How can new urban developments be made more bike-friendly?

Resources (Do NOT directly contact individuals in these organizations).

Environment Canada - <http://www.ec.gc.ca/climate/>

Environment BC - <http://www.env.gov.bc.ca/air/>

City of Vancouver downtown transportation plan - <http://www.city.vancouver.bc.ca/dtp/>

City of Vancouver engineering services –

<http://city.vancouver.bc.ca/engsvcs/transport/cycling/index.htm>

City of Vancouver Transportation 2040 plan <http://vancouver.ca/streets-transportation/transportation-2040.aspx>

City of Richmond bicycle planning-

<http://www.richmond.ca/services/tp/cycling/planning.htm>

Influences of Built Environments on Biking and Cycling: Lessons from Bogota

<http://www.tandfonline.com/doi/abs/10.1080/15568310802178314#.UgqZSJXfAts>

Ministry van Veerker en Waterstaat. *Cycling in the Netherlands*. -

<http://www.fietsberaad.nl/library/repository/bestanden/Cycling%20in%20the%20Netherlands%20VenW.pdf>

Greenest City Initiative- <http://vancouver.ca/greenestcity/index.htm>

Talk Vancouver 2040-Draft Directions- <http://talkvancouver.com/transportation>

AMS Bike Coop - <http://www.ams.ubc.ca/clubs/bikecoop/news.htm>

Better Environmentally Sound Transportation - <http://www.best.bc.ca/>