Cycling Traffic Growth within a City
- First comes investment in infrastructure,
then comes social marketing

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Cycling Traffic Growth within a City
– First comes Investment in the Cycling Infrastructure, then comes Social Marketing
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• Data and Images Sources
  
  • Census Canada  
  • City of Vancouver, B.C., Canada  
  • Vancouver Area Cycling Coalition  
  • Cycling in Cities Study, Dr. Kay Teschke, University of British Columbia, School of Population and Public Health

• Photo credits
  • Jean Chong
  • Hans-Jurgen Becker
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Presentation

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Cycling Traffic Growth within a City
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• An attention grabber for the observer

• Explaining or expanding the attention grabber

• Involving the observer
Cycling Traffic Growth within a City
– First comes Investment in the Cycling Infrastructure, then comes Social Marketing

• An attention grabber for the observer
  – the infrastructure that drivers would observe as they motor along the streets of a city,

• Explaining or expanding the attention grabber
  – communications programs usually involving maps of the infrastructure, street name signs with cycling logo, signs designating streets as bike routes,

• Involving the observer
  – social programs designed to draw motorists to give cycling for transportation, including commuting, a try.
Policy Suggestions

“How public investment can contribute to sustainable mobility, can enhancing quality of life in cities.”

- Urban communities’ growth target and target customers for cycling should drive magnitude of infrastructure investment and cycling infrastructure design toolkit

- Infrastructure investment first, then followed by social marketing when significant network is in place
  - At the early stages of developing cycling infrastructure and commuting, social marketing program focused on general broadcasting techniques for purpose of creating awareness and understanding that cycling capacity within a community is need
  - During cycling infrastructure and network roll-out, then social marketing shifted to target marketing techniques along corridors where investment in cycling infrastructure is taking place
  - When network substantially complete, then marketing program broadening out into general marketing concepts
The presentation will focus on the premise that the public within a city will take on cycling for transportation if the design of the cycling infrastructure is to their liking and the network is extensive enough for their needs.

Social marketing undertaken too early will cause “Cyclist Turnover”. Some will try cycling, find it not to their liking, and then give up. Effort to bring these back to cycling when the conditions are right will be difficult, costly, and take many years.
Presentation Arguments

What do people want? What has been successful?

European designs

- **Separation**
- **Visibility** of cyclists
- Cyclist knows *where they are and where they should go* – Pavement markings, signage, and wayfinding
- **Trip time**
- Intersection **passage priority**
- Cycling culture **ingrained into daily lifestyle** - Social marketing
Sizing the Urban Cycling Market

Today's Travelling Patterns

Transportation Mode Share - percentage

Declining size of market available after accommodating other transportation modes of travel

Opportunities

Mode Share Shift
Opportunity - from Driving to Cycling, Transit and Cycling if greenest cities vehicle driver mode share are reached

Cycling Growth Potential up to

Available for cycling
Cycling mode share of 3.8%

Vehicle Drivers Mode Share - Vehicle Drivers
30% 26%

5% 15% 25%

Transportation Modes
Figure 1: Bicycle network development 1990 - 2009 in Vancouver
Tracking Infrastructure Investment and Cycling Traffic Growth – CoV

For people willing to cycle, their personal needs must be met

The First Wave  Market share potential  0.5% to 1.5%
– the skilled cyclists, the risk takers
  Vancouver – 1.3%, $200 k investment

The Second Wave  Market share potential  3% to 5%, maybe 6%
– the determined, the confident
  Vancouver – 3.7%, $12.6 m investment

The Third Wave  Market share potential 10% to 15%
– Hesitant, limited cycling skills, less motivated to cycle, the risk averters
  Vancouver – Early experimenter, first Euro designs (2007+), $17.6 m inc. 2011

The Fourth Wave – Social Marketing  Market share potential to 25% plus, then share retention
– Cycling, now social norm, a socially-acceptable form of transportation

The Fifth Wave
– Enhance the cycling design toolkit for the social followers

The 6th, 7th, 8th......Waves
– Reducing Cycling Turnover
First Wave of Cycling Facilities - City of Vancouver

Growth to 1.3% cycling mode share, approximately to 1990
Cycling infrastructure investment – minimal, $200 k

Streets
- Shared roads
- BC Parkway – Combination of cycling neighbourhood streets and off-road bike trail along the SkyTrain line
- First traffic-calmed streets in West End in the 1970’s

Bridges
- Shared sidewalks with pedestrians

Arterial Road Crossing
- Pedestrian-activated traffic signals installed along route

Transit Systems
- Slow introduction of bike racks on buses
- Bikes on ferries
Second Wave of Cycling Facilities - City of Vancouver

Growth from 1.3% to 3.3% and then to 3.7% cycling mode share, approximately 1990 to 2006
Cycling infrastructure investment from 1990 to 2006- $12.6 m

Streets
- Standard North American infrastructure designs
- Bike lanes on arterial streets
- Cycling neighbourhood streets with evolving traffic calming – traffic circles, corner bulges, speed humps, bus speed humps.

Intersections
- Cycling travel time improvements
- Cycling-activated traffic signals on cycling neighbourhood streets crossing arterial and collector roads
- Push buttons installed for cyclists at all traffic signals with pedestrian buttons
- Traffic circles roll-out

Off-Road
- The Seaside path rolled out attracting many less confident cyclists

Transit
- 100% bike racks on buses fleet
- Bikes on SkyTrain
Moving into the Third Wave of Cycling Facilities – CoV

Growth stalled at the 3.7% cycling mode share (1996 to 2006). Next census count in 2011.

- More aggressive infrastructure design and network approach now needed for spurring further cycling growth.
- Traffic counts up at new cycling facilities designed with using Third Wave design toolkit techniques.

The Network
- Increasing percentage of cyclists within catchment area of cycling infrastructure

Intersection Visibility
- Coloured street crossing
- Bike boxes
- Left turn bike boxes on intersecting streets
- CrossBike treatment
- Bike traffic signal head

Separation
- Separated bike lanes on arterial streets and bridges
- Off-streets bike paths – Seaside, Central Valley Greenway
Moving into the Third Wave of Cycling Facilities – CoV

Growth stalled at the 3.7% cycling mode share (1996 to 2006). Next census count in 2011.

Trip Efficiency
- Traffic circle roll-out

Cycling comfort
- 30 kph on neighbourhood cycling streets

Feeder network to transit
- Buses
- Rapid transit
- Ferris

Transit, Bike Parking, Cycling Traffic Monitoring Program
Fourth Wave – Social Marketing

Social Marketing should Follow **when Ideal infrastructure and Network In Place**

- Social marketing should be targeted to – Potential cyclists
- Why? Lack of retention of shift to cycling – 2001 transit strike, Winter Olympics traffic
- Two events - Two different levels of social marketing

**Two events created surge in cycling traffic and cycling mode share for Vancouver**

- Increases during events were not sustainable afterwards
- Why? Infrastructure not to the expectations of the Third Wave of Cyclists – the potential cyclists, drivers who are willing to shift modes to cycling. Result – “Cyclist Turnover”

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**2001 – TransLink 4-Month Strike**  
(March 31 to Aug 1, 2001)  
Cycling mode share gain – from 3.3% to 4.1% (cc)  
Post strike levels– mode share dropped back towards 3.7%, some cyclist retention (previous mode share – 3.3%)  
Cycling infrastructure – Approx. 200 km largely of traffic, calmed cycling neighbourhood streets  
Social marketing - Limited

**2010 Winter Olympic and Paralympic Games**  
(February 12-28, March 12-21) – Burrard Bridge example(BBD)  
Cycling traffic levels – Near summer level  
Post games levels – Cycling level growth not maintained into summer  
Cycling Infrastructure – Approx. 400 km, with bike lanes in downtown – 60 km, Seaside Path – 30 km  
Social Marketing – Significant by the city and TransLink, targeted, supported by VACC, BEST
Then Social Marketing, the Fourth Wave

Cycling Mode Share - City of Vancouver
City Residents - Commuting to Work

Shotgun-Style Marketing
Target Marketing - Public

Bike Route Catchment Area Marketing
Social Marketing - List Serve - The Dedicated
Social Marketing - Bloggers - The Interested
Media Marketing - Storytelling
Target Marketing - The Potential Cyclists - the Drivers

Bike Month, Tables at Community Events, Cycling Route Maps
Bike Rodeo, Streetwise Courses, Bike at School, Bike Valet Parking

Bike Stations on New Routes
VACC, BEST, and other List Serves
Bike Vancouver and 21 Other Cycling Blogging Sites
Media Articles - Press, Radio, TV - Frequency Weekly
Street Cases in Vancouver
- Cycling Traffic Growth through Investment

• Vancouver seems to be transitioning with a new surge of cycling traffic growth since the last plateau (census data – 1996 to 2006) as more-advanced, European-style designs are rolled out
  • As evidence by Vancouver’s cycling network cycling traffic monitoring program
• Upgrading bike lanes on streets and replacing multi-use pedestrian and cycling facilities on bridges with separated bike lanes has increased cycling traffic by 100% plus on these facilities
• Cycling neighbourhood streets are in growth mode of cycling traffic, coinciding with rollout of year-round social marketing programs (2005 onward)
• “Cycling is In” right now in Vancouver. Becoming cool, hip, trendy, awesome, chic in vogue in Vancouver, socially acceptable. Public seems to be ripe for social marketing programs
  • Cycling is a popular topics for page one in newspapers and the media
  • People are involved in lively discussions on blogs, list serves, and newspaper opinion pages
• Olympics caused many to cycle in winter, locals may have realized that it is doable
  • Cycling traffic on Burrard Bridge during winter period is at level of summer traffic of pre-2005.

Burrard Bridge  With separated bike lanes -  
Now 3,600 in summer, was 1,200 to 1,600 pre-2005
Now 1,700 in winter, was 1,200 to 1,600 in summer pre-2005

Dunsmuir With separated bike lanes -  
Now 1,500 in summer and fall, was 500 before separated bike lanes opened

Adanac Route Local Neighbourhood Cycling Street  
Now 2,000 to 3,000 in summer, was 1,000 in 2003
Fourth Wave – Social Marketing

Social Marketing should Follow Installation of Ideal infrastructure and Network - Success stories

VACC Bike to Work Program Shows Promise in Overcoming Obstacles to Cycling Growth - 2010

BTW - Participation by Gender

- Male 55%
- Female 45%

Rain Cycling Intend - Post BTW

- Always 42%
- Regularly 38%
- Occasionally 13%
- Never 1%
- No Response 6%

Vancouver Area Cycling Coalition Data - BTW Website Survey 2010 Growth - 312 rain cyclists
Observations

European designs in North America do have positive results on cycling traffic growth – separation, visibility of cyclists

- Cycling traffic growth results from installation of separation of cyclists from motorists – Burrard Bridge, Dunsmuir Viaduct and street. Early Hornby St results are also positive.

The further away from the downtown peninsula, the university, and the False Creek business corridor, the greater the potential for cycling traffic growth

- The farther away from European-style cycling facilities, the less cycling traffic.

Vancouver is ripe for significant cycling traffic growth

- The infrastructure
- The urban community cycling spirit
- Cycling is considered as the “in thing” to do

Growth potential needs to focus on motorist as target customers.

Social marketing can increase cycling usage year round and with female cyclises

Shotgun-style marketing is becoming more focused on target markets with good results – cycling traffic growth
Observations - Other Influences on Cycling Traffic Growth

Positive
- Television, advertising, and media popularization of cycling
- Supportive municipal environment

Negative
- Roll-out of transit system U-Pass for students

Could be Positive or Negative
- Contribution of dense, urban community planning -
  - Compact, dense, urban communities within walking distance to downtown – ex. West end, False Creek North – low cycling rate
- Retailers, developers, and land owners negative reaction to change in streetscape with separated bike lanes
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