Bicycle Transportation in the US, Canada and Europe: Assessing Policies that will Create Change

A presentation by Lisa Aultman-Hall

Bicycles in the Urban Landscape

1. What will it look like?
2. What programs will create this?
Acknowledgements

Dr. John Pucher, Professor
Rutgers University
http://policy.rutgers.edu/faculty/pucher/

His co-authors: Ralph Buehler, Susan Handy, and Jennifer Dill
The excellent papers in John’s extensive reference lists!

Figure 1 from Pucher, John and Ralph Buehler (2007) Cycling for Everyone: Lessons from Europe
Figure 2 from Pucher, John and Ralph Buehler (2007) Cycling for Everyone: Lessons from Europe

Figure 4 from Pucher, John and Ralph Buehler (2006) Why Canadians Cycle more than Americans: A Comparative Analysis of Bicycling Trends and Policies
What's missing?
Infrastructure and Programs

- On-route Facilities (lanes, paths, tracks, pavement markings, traffic calming)
- Destination Facilities (parking, lockers, showers)
- Integration with Transit (parking, racks, bikes on board)
- Shared/rental bicycle programs
- Training
- Laws (helmets, traffic, speed limits)
What does the data say?

• Lanes and paths
  – 40 studies reviewed by Pucher, Dill and Handy “International Review of Cycling Interventions” 2010
  – Mixed results
  – 1 mile of lane per square mile increase bike to work by 1%
  – Paths more likely to ride once per week

What does the data say?

• Provision of parking and integration with transit increases bicycling up to 1%
• Limited evidence suggest only some promotional programs have a modest impact
• City bike programs (of late) are increasing bicycling
• Helmet laws reduce cycling
Comprehensive Programs

• Berlin, Germany (3.4M)
  – Extensive facilities built
  – Traffic calming
  – Bike parking
  – Shared bikes
  – Bicycle education and other events

1. Case studies by Pucher, Dill and Handy (2010)

Comprehensive Programs

• London, UK (7.6M)
  – 2X 2000-2008
  – Network built and intersection improvements
  – Traffic calming
  – Bike parking
  – Congestion charging
  – Bicycle education, maps and other events

1. Case studies by Pucher, Dill and Handy (2010)
Comprehensive Programs

- Paris, France (2.2M)
  - 1% to 2.5% 2001-2007
  - Tripled their bike lanes and intersection improvements
  - Bike share program
  - Traffic calming
  - Eliminated of free parking
  - Bicycle education, trip planning services and other events

1. Case studies by Pucher, Dill and Handy (2010)

Comprehensive Programs

- Barcelona Spain (1.6M)
  - 0.75% to 1.8% 2005-2007
  - Bike lane expansion
  - Bike share program
  - Education programs
  - Bicycle parking
  - Marketing and events

1. Case studies by Pucher, Dill and Handy (2010)
Comprehensive Programs

- Amsterdam (735,000)
  - 25% to 37% 1970-2005
  - Double separate bikeways and intersection improvements
  - Bike share program
  - Education programs
  - Bicycle parking and decreased car parking

- Portland OR (576,000)
  - Bike commuting 1.1% to 3.9% 1990-2007
  - More than doubled bikeways, pavement coloring and intersection improvements
  - Bike share program
  - Education and marketing programs
  - Bicycle parking and bikes on transit

1. Case studies by Pucher, Dill and Handy (2010)
Comprehensive Programs¹

- Copenhagen Denmark (500,000)
  - Bike trips up 70% 1970-2006
  - Expansion of facilities and intersection improvements
  - Bike share program
  - Education programs
  - Bicycle parking and car free zones

1. Case studies by Pucher, Dill and Handy (2010)

Comprehensive Programs¹

- Muenster Germany (278,000)
  - Bike share 29% - 35% 1982 - 2001
  - Doubled path network and intersection improvements
  - Education programs
  - Bicycle parking
  - Car free zone
  - Promotional events

1. Case studies by Pucher, Dill and Handy (2010)
Comprehensive Programs\textsuperscript{1}

• Freiburg Germany (228,000)
  – Bike share 15% - 27% 1982 - 2007
  – Extensive bicycle network built and intersection improvements
  – Education programs
  – Bicycle parking and restricted car parking
  – Car free zone

\textsuperscript{1} Case studies by Pucher, Dill and Handy (2010)

Comprehensive Programs\textsuperscript{1}

• Davis CA (63,000)
  – Bike commutes 28% - 15% 1980 – 2000
  – Gradual decrease in bicycle programs in mid 1980s
  – Land use development changes

\textsuperscript{1} Case studies by Pucher, Dill and Handy (2010)
Take home message

- There is not some historic cultural difference between Europe and the US
- City size does not matter
- Comprehensive city-wide programs are required
- It takes time
  - Note the education programs are mandatory in the European examples

What about Canada?

Figure 1 from Pucher, John and Ralph Buehler (2006) Why Canadians Cycle more than Americans: A Comparative Analysis of Bicycling Trends and Policies
Canada is not doing as well as Europe
But they are doing better than the US
(on safety too)!

from Pucher, John and Ralph Buehler (2006)
Why Canadians Cycle more than Americans:
A Comparative Analysis of Bicycling Trends and Policies

Canada / US Differences

• Federal, state versus city role
  – virtually federal involvement
  – beyond Quebec little provincial involvement
  – it is all local!

• Lots of bike parking
  – Toronto 15,000 and Ottawa 10,000 racks
  – Chicago 9,200; Seattle 2,300; & New York 1,800

• 3 times the bike paths and lanes per capita

from Pucher, John and Ralph Buehler (2006)
Canada / US Differences

• US minimum parking requirements are 3X that of Canada (for cars 😊)
• Canada has 2/3rd the car parking/job
• Canada has 41% fewer cars per capita
  – Lower income and cost of owning is higher
  – Gasoline 50% higher
  – Car costs = 29.1% of income in Canada and 18.6% in US

from Pucher, John and Ralph Buehler (2006)

Canada / US Differences

• Density
  – 127% more dense in city cores
  – 152% in inner city
  – 111% in suburbs
• Aside: weather not a factor!

from Pucher, John and Ralph Buehler (2006)
Bicycles in the Urban Landscape

- More Bicycles
  - many types (more than 1 per person)
- More Bicyclists
  - almost everyone
- More Bicycle Trips
  - +20-30% trips by bike
- More Safety
  - -80% fatalities – zero would be ideal

Policies that will Create Change

- More Infrastructure alone is not enough
  - Triple our bikepaths and lanes just to get to Canadian level of infrastructure
- Moving to 20+% mode share
  - We have to use the stick policies not just the carrot policies
  - We have to use the land use / car policies not just the bicycle policies