

Making Cycling Irresistible: Lessons from Europe and North America

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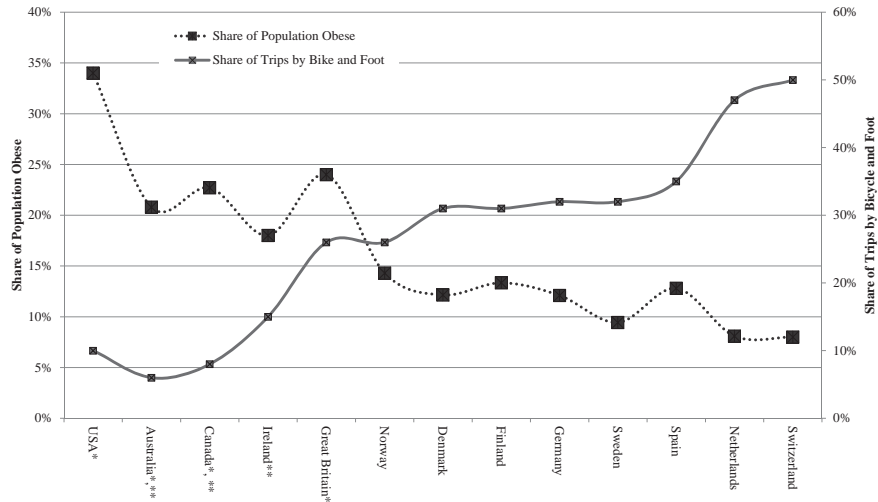
Photo: Susan Handy

Photo: SF Bicycle Coalition

Advantages of Walking and Cycling:

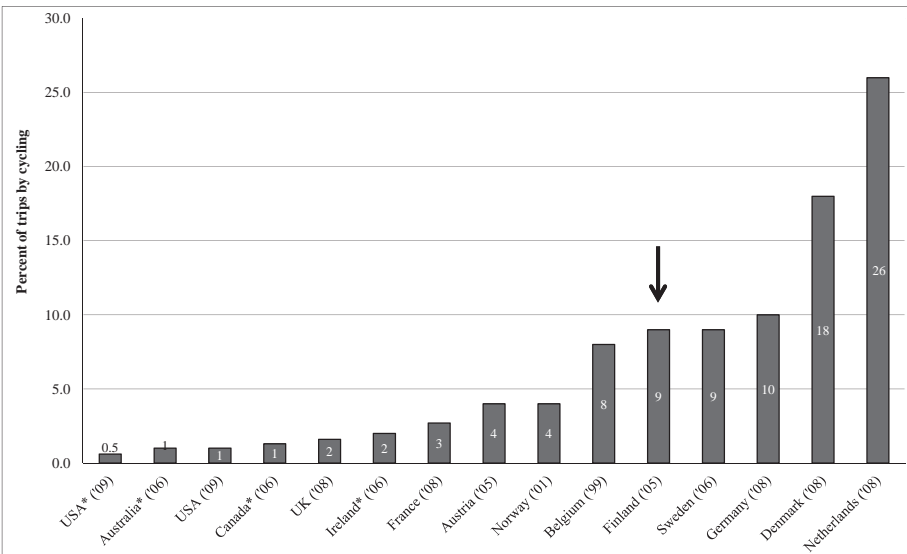
- ***Economical:*** Affordable by everyone, requiring minimal costs for individuals and governments
- ***Good for business:*** Generate retail sales and profits from tourism
- ***Environmentally friendly:*** Virtually no pollution
- ***Energy-efficient:*** Use up calories we need to burn off from eating too much
- ***Healthy:*** Many studies report on physical, social, mental health benefits
- ***Fun:*** Getting out into the fresh air with family and friends

Obesity Falls with Increased Walking and Cycling



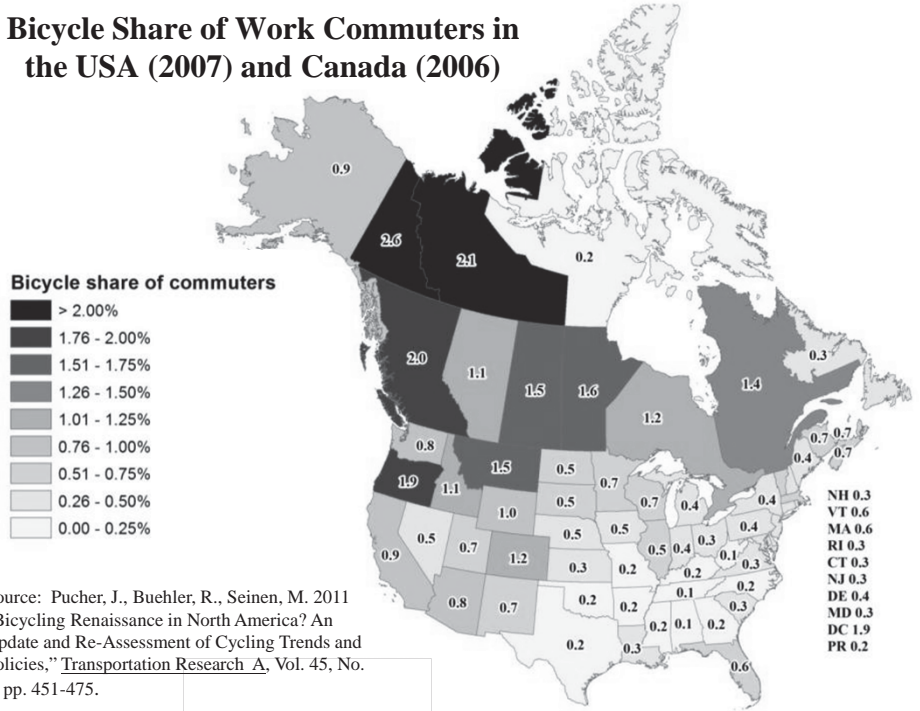
Pucher, J., Buehler, R., Bassett, D., Dannenberg, A. 2010. "Walking and Cycling to Health: Recent Evidence from City, State, and International Comparisons," *American Journal of Public Health*, Vol. 100, No. 10, pp. 1986-1992.

Cycling Share of Daily Trips in Europe, North America, and Australia, 1999-2008

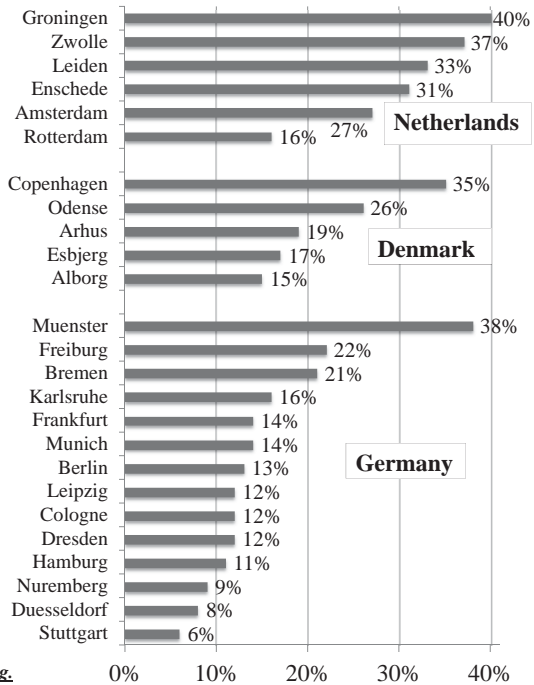


Source: Pucher, J., Buehler, R. (eds.) *City Cycling*, Cambridge, MA: MIT Press, 2012

Bicycle Share of Work Commuters in the USA (2007) and Canada (2006)

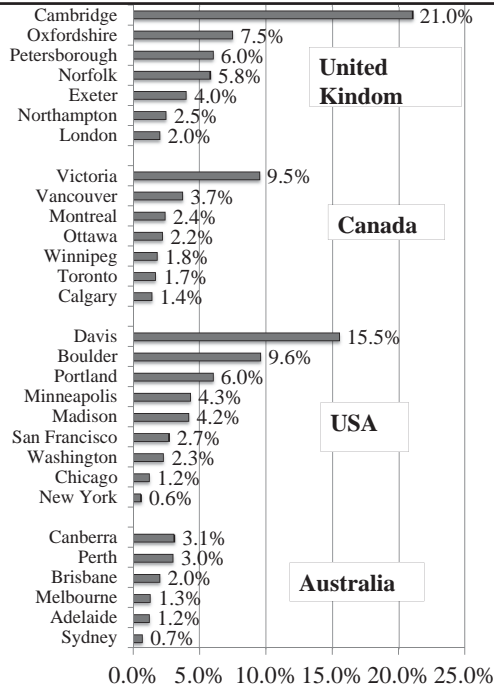


Bike Share of Trips in Selected Cities in the Netherlands, Denmark, and Germany (2000-2009)



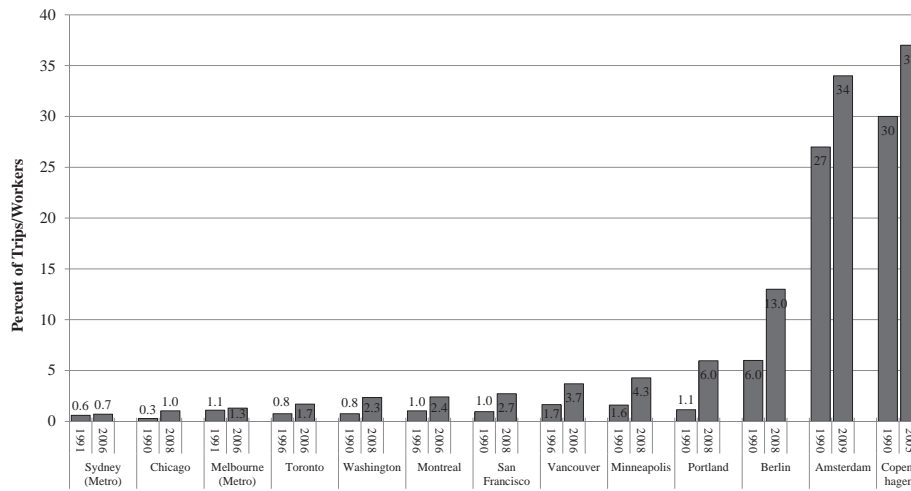
Source: Pucher, J., Buehler, R. (eds.) *City Cycling*. Cambridge, MA: MIT Press, 2012

Bike Share of Trips in Selected cities in UK, Canada, USA, and Australia (2000-2009)



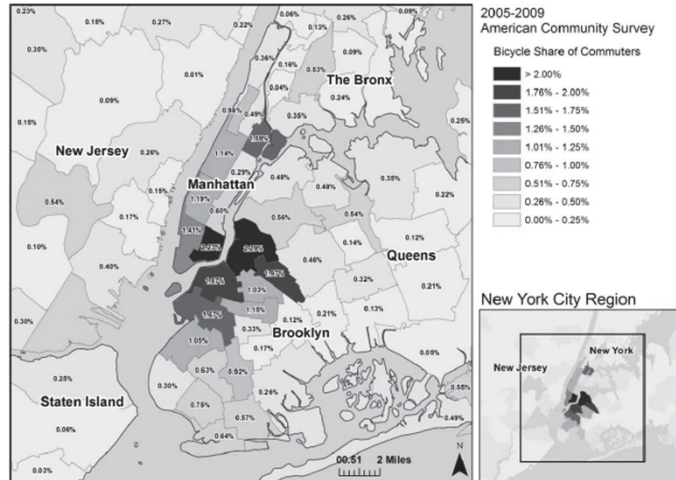
Source: Pucher, J., Buehler, R. (eds.) *City Cycling*. Cambridge, MA: MIT Press, 2012

Trend in Bike Commuting in Large North American, Australian, and European Cities, 1990-2009



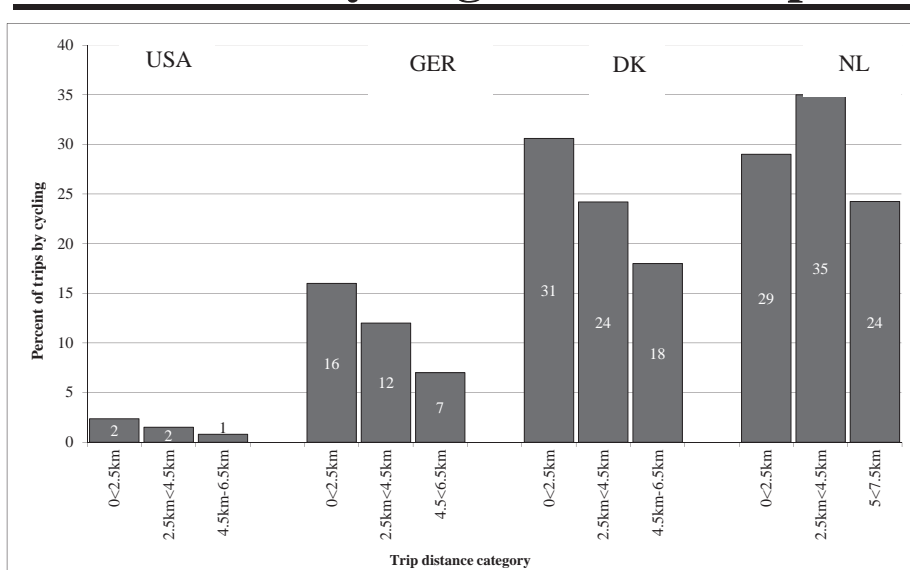
Source: Pucher, J., Buehler, R. (eds.) *City Cycling*. Cambridge, MA: MIT Press, 2012

Spatial Variation in Bicycle Share of Work Commuters in New York City Area, 2005-2009



Pucher, J., Buehler, R., Seinen, M. 2011 "Bicycling Renaissance in North America? An Update and Re-Assessment of Cycling Trends and Policies," *Transportation Research A*, Vol. 45, No. 6, pp. 451-475.

Share of Cycling for Short Trips

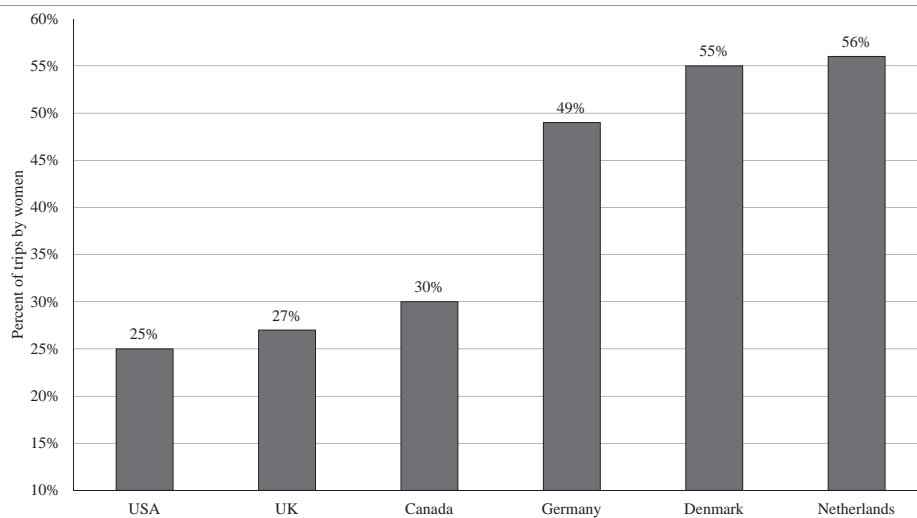


Source: Pucher, J., Buehler, R. (eds.) *City Cycling*, Cambridge, MA: MIT Press, 2012

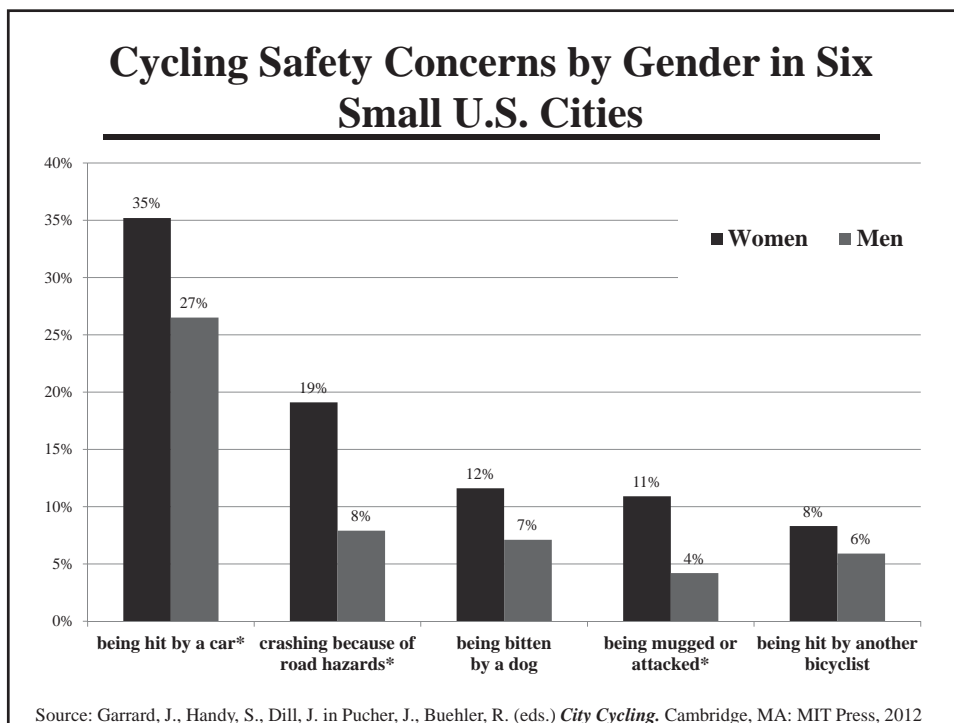
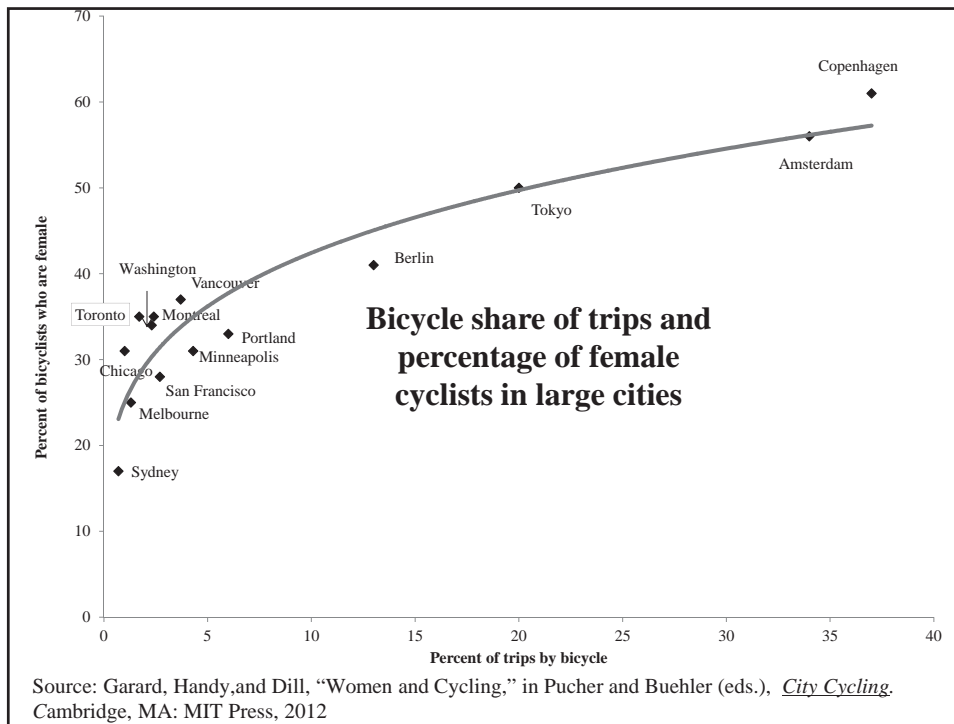
Europeans cycle for many trip purposes

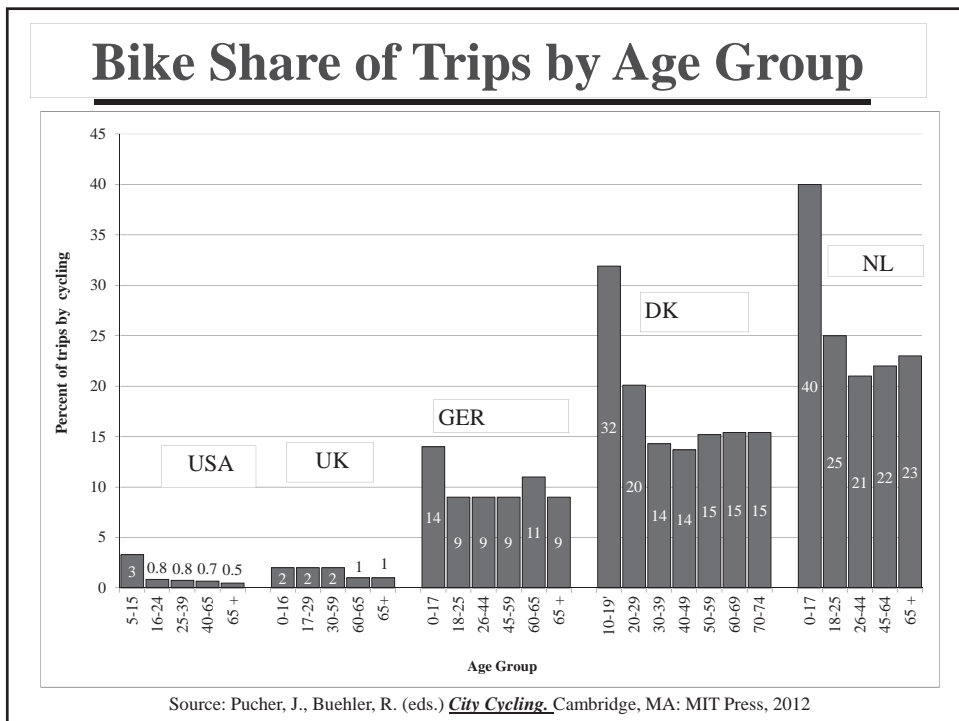


Women's Share of Bike Trips in Europe and North America



Source: Pucher, J., Buehler, R. (eds.) *City Cycling*, Cambridge, MA: MIT Press, 2012



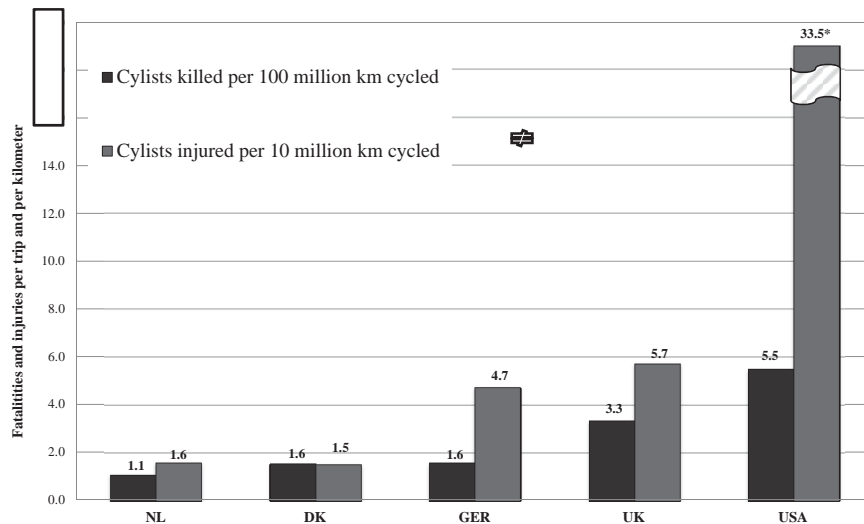




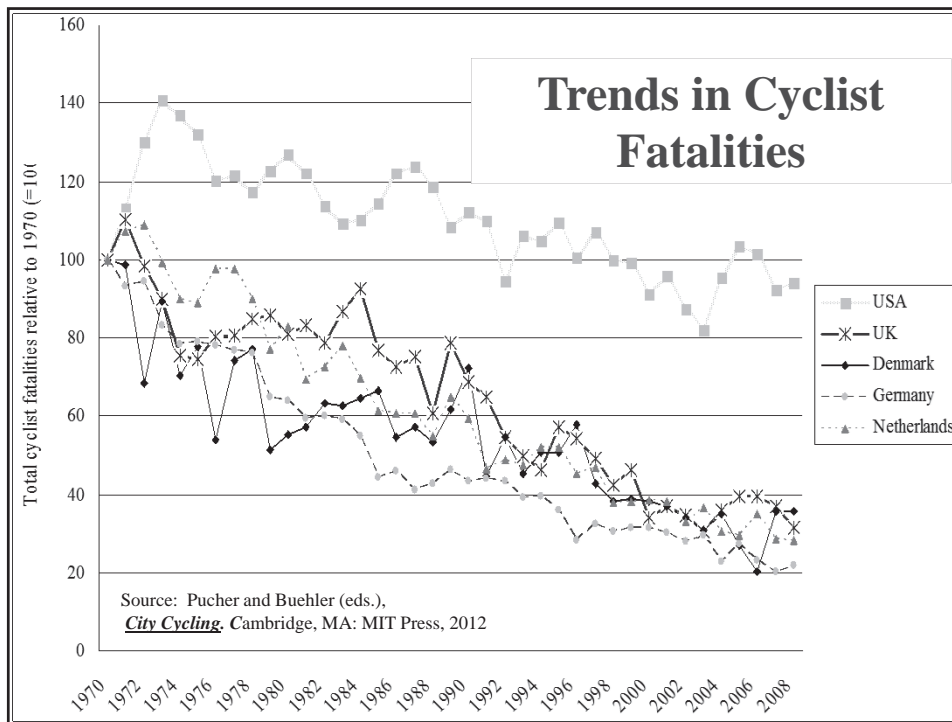
Make Walking and Cycling Safe for Everyone !

- Especially important for the young, the old, for anyone with disabilities, for the timid or risk-averse
- Women more sensitive to safety than men
- Safety of walking and cycling in the Netherlands, Denmark, and Germany helps explain high levels of walking and cycling there

Cyclist Fatality and Injury Rates, 2007-2010

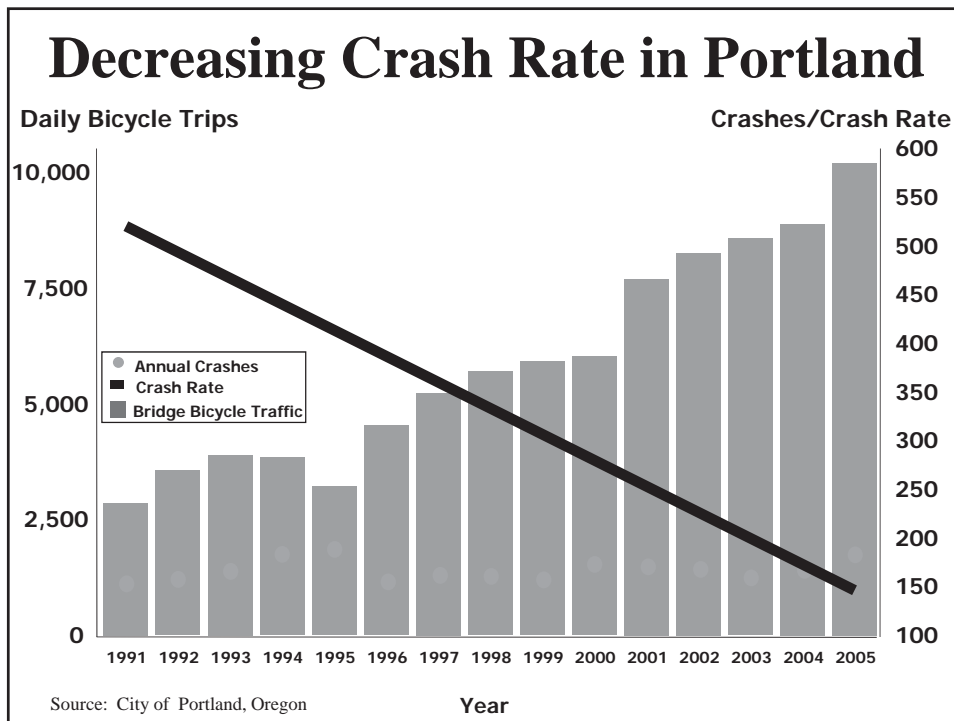
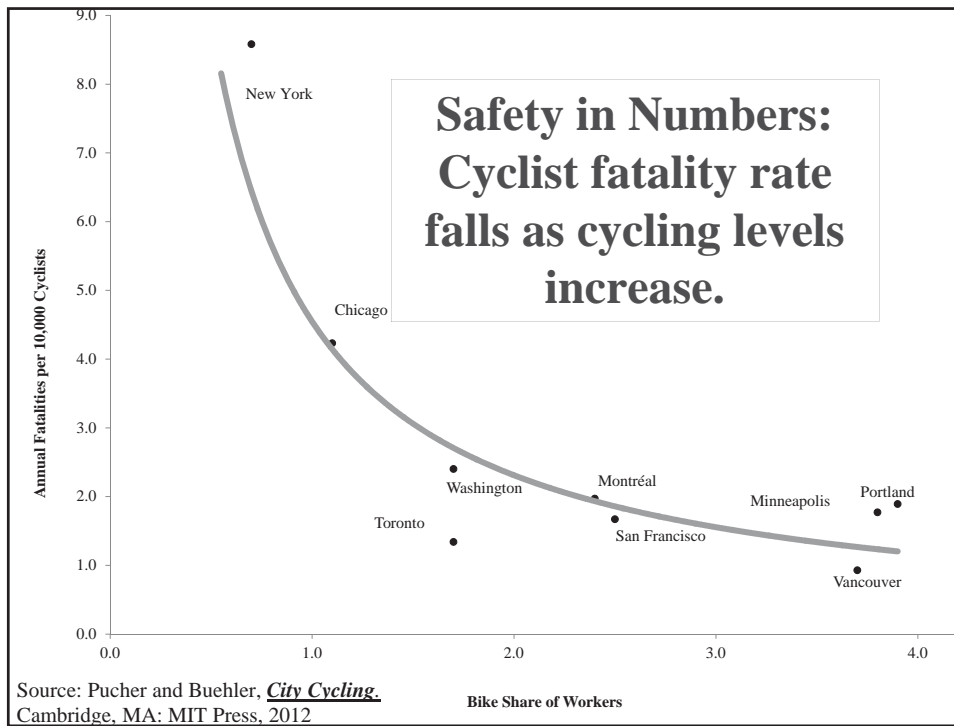


Source: Pucher, J., Buehler, R. (eds.) *City Cycling*, Cambridge, MA: MIT Press, 2012

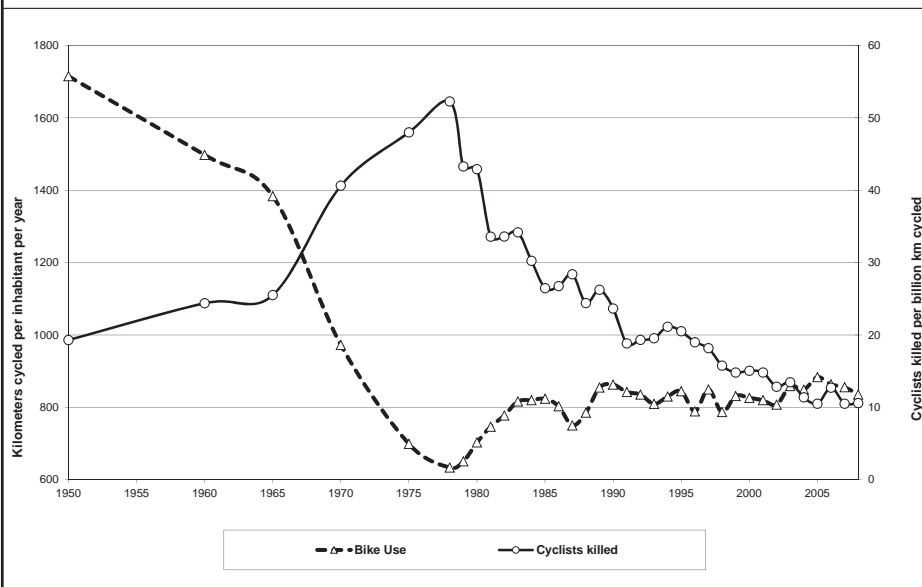


SAFETY IN NUMBERS

- *As levels of cycling increase, injury and fatality rates per trip and per km traveled fall dramatically*
- *Thus, if we can increase cycling, it will almost inevitably be safer*



Safety in Numbers Over Time

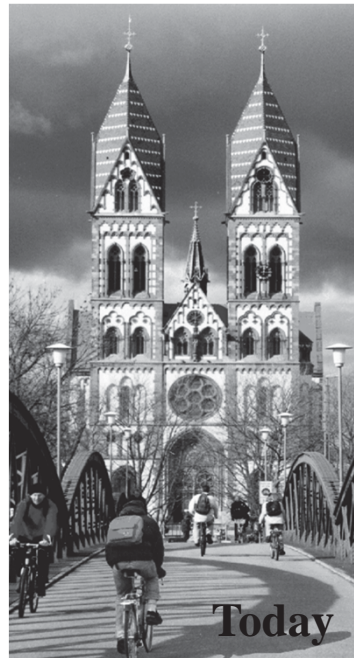


Pucher, J., Buchler, R. 2008. "Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany." *Transport Reviews*, Vol. 28, No. 4, 2008, pp. 495-528.

Public Policies Crucial to Walking and Cycling

- **Pro-car policies in European cities in 1950s and 1960s caused huge decline in walking and cycling**
- **Dramatic policy turn-around since 1970s to limit car use and promote cycling, walking, and public transport in Dutch, Danish, and German cities**

Bridge in Freiburg BEFORE and AFTER reforms



Typical residential street in Freiburg BEFORE traffic calming reforms

Typical residential street in Freiburg AFTER traffic calming reforms





Cathedral Square in Freiburg BEFORE transport and urban planning reforms

Cathedral Square in Freiburg AFTER transport and urban planning reforms



Lörrach, Turmstrasse 1953

Source: Archives, City of Lörrach



How to Encourage More Cycling and Walking while Improving Safety

- **Better cycling and walking facilities**
- **Integration of walk/bike with public transport**
- **Traffic calming of residential neighborhoods**
- **Mixed-use zoning and improved urban design**
- **Restrictions on motor vehicle use**
- **Traffic education and Safe Routes to School**
- **Traffic regulations and enforcement**

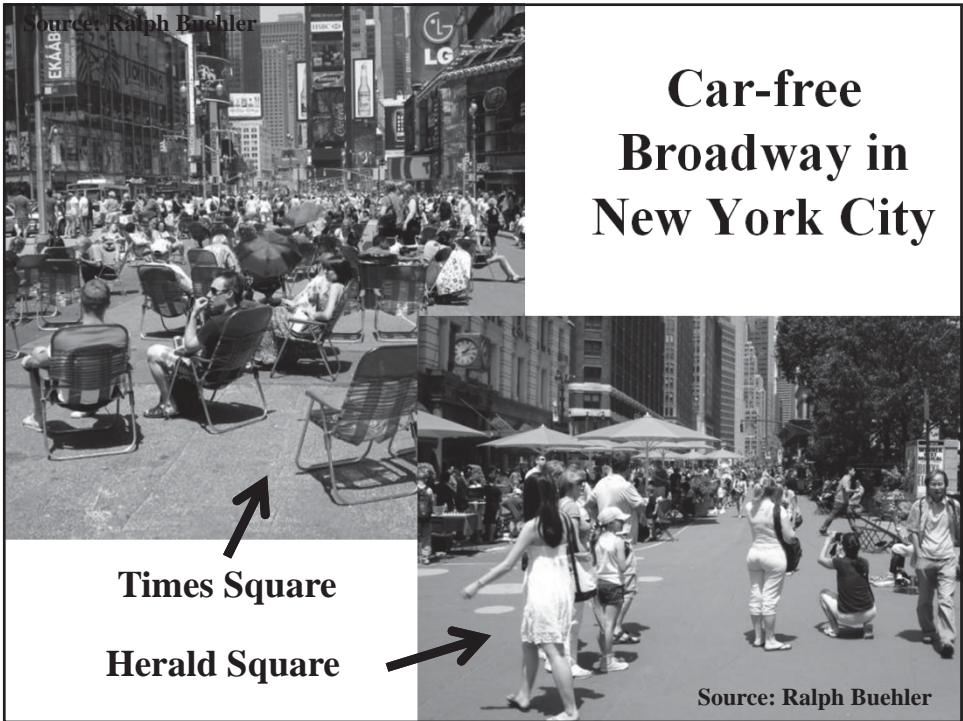
National Level Policies

- Goals of increasing cycling levels and safety
- Improved data collection and benchmarking
- Bike infrastructure along federal/national roadways
- Cyclist and motorist training
- Traffic laws, signage, roadway and bikeway design guidelines
- Matching funds for approved state and local projects
- Funding for ‘showcase’ projects

➔ **State and local governments ultimately responsible** for implementing specific cycling infrastructure and programs.



Most European cities have extensive car-free districts ideal for walking and cycling



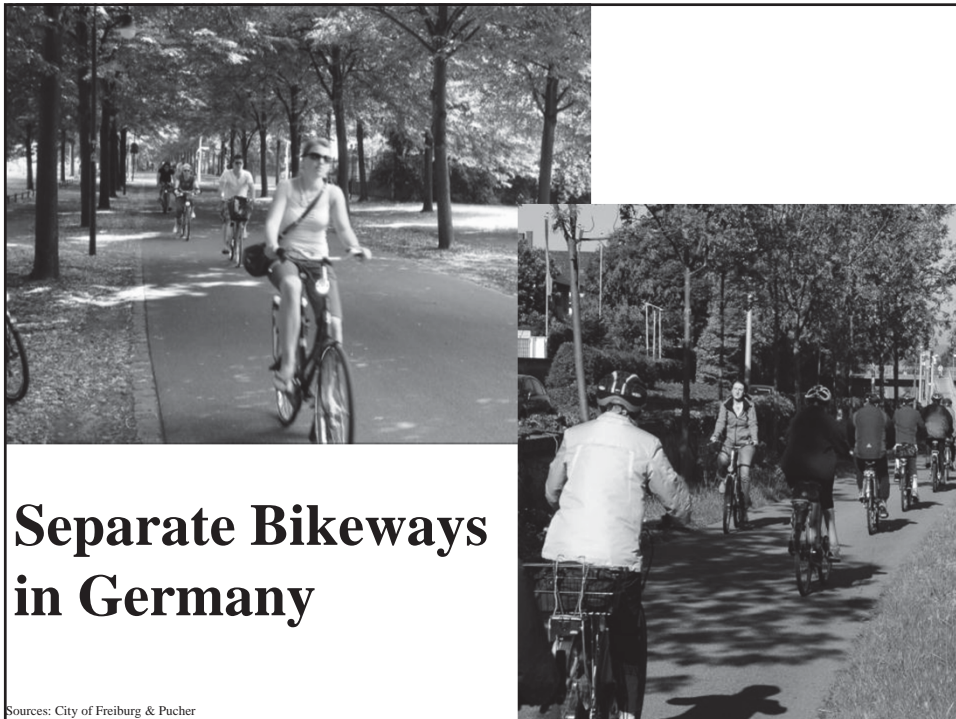
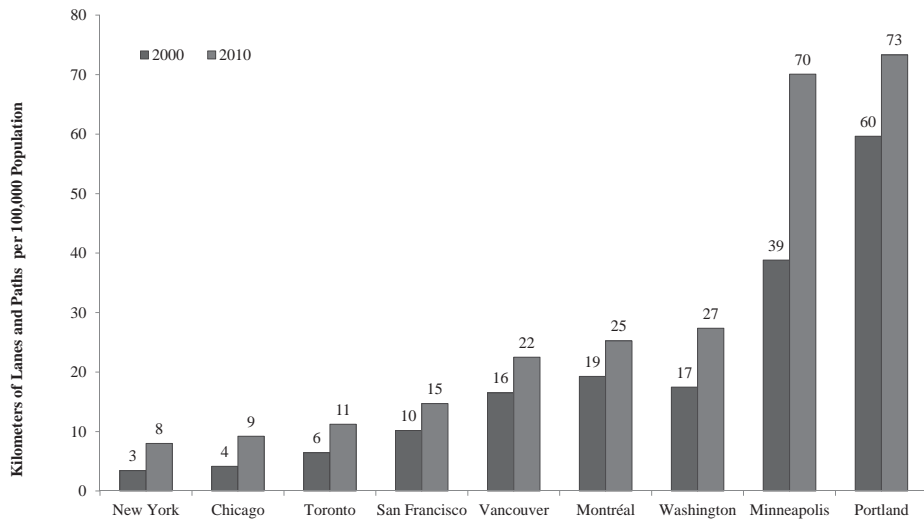
Car-free Broadway in New York City

Times Square

Herald Square

Source: Ralph Buehler

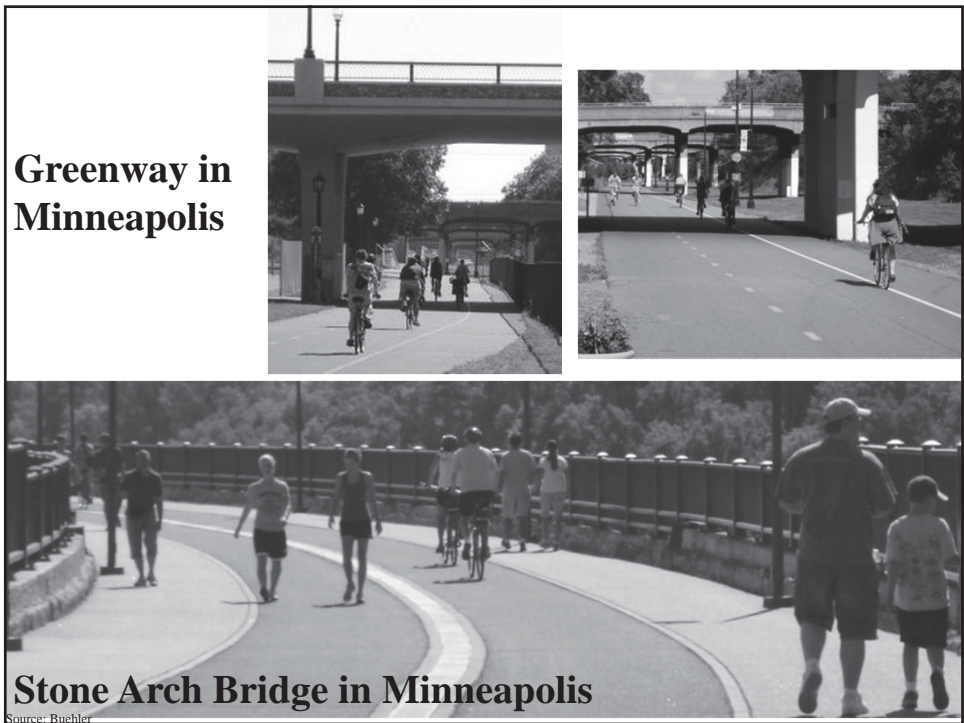
Trend in Bike Paths and Lanes per 100,000 Population in Nine Large North American Cities, 2000-2010





**Bike paths in Dutch cities
make it safe and
comfortable for all to bike:
including women, children,
and seniors**

Source: Warren Salomon



**Greenway in
Minneapolis**

Stone Arch Bridge in Minneapolis

Source: Buehler



Almost 100km of 2-way cycle tracks in Montreal





Bike Lanes in New York



Source: Buehler

Connects the White House with U.S. Capitol

Cycle Track on Pennsylvania Avenue in Washington, DC