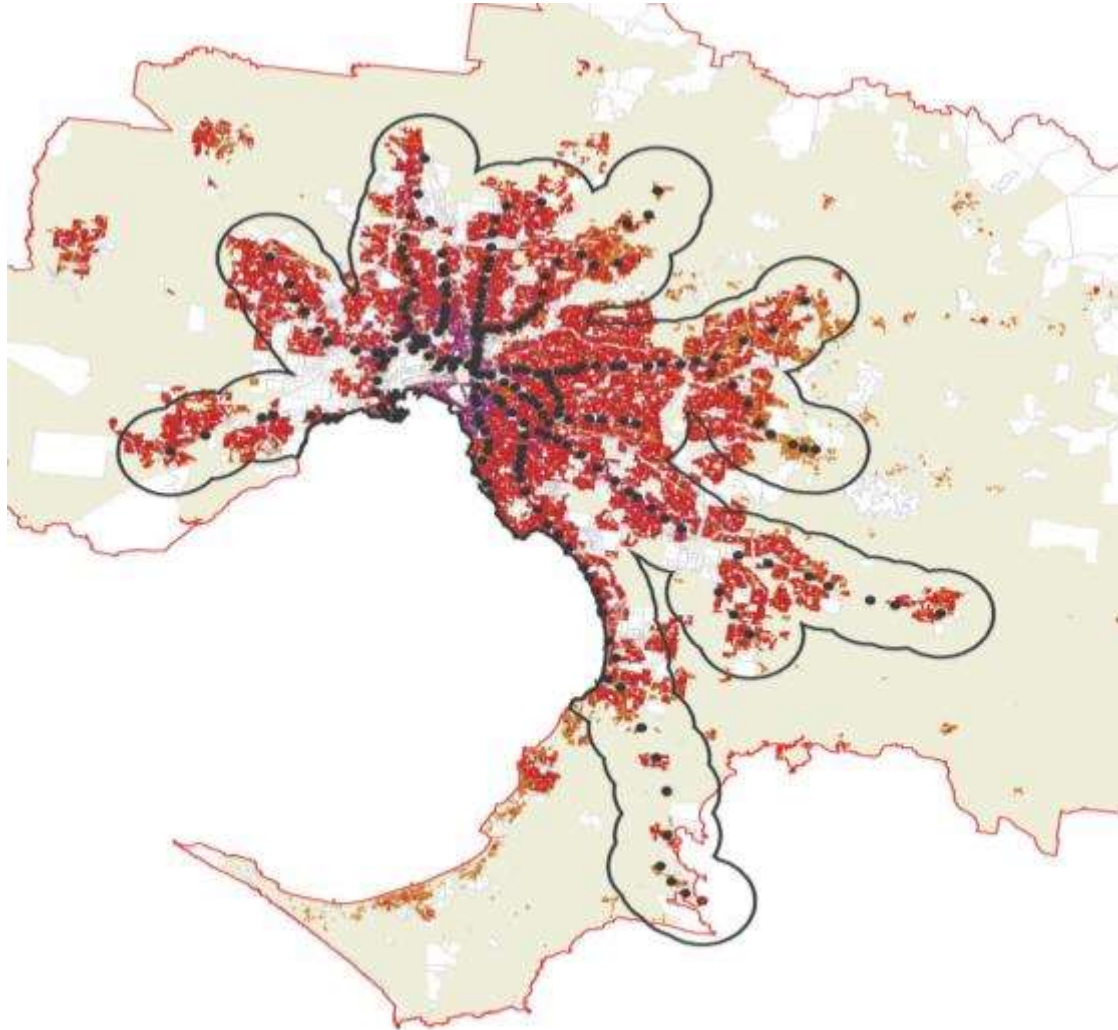


OPPORTUNITY - INTEGRATED BIKE BASED TRANSPORT



Right hand turn lanes

Source of slide: Jens Troelsen,
University of Southern Denmark



Examples of short cuts

Bike Infrastructure

Linked traffic light system



Bike Infrastructure

Adjusting speed

Source of slide: Jens Troelsen,
University of Southern Denmark

Bike Infrastructure



Safety at crossroads

Source of slide: Jens Troelsen,
University of Southern Denmark

Bike Infrastructure



One-way except cyclists



High priority of bicycle lanes

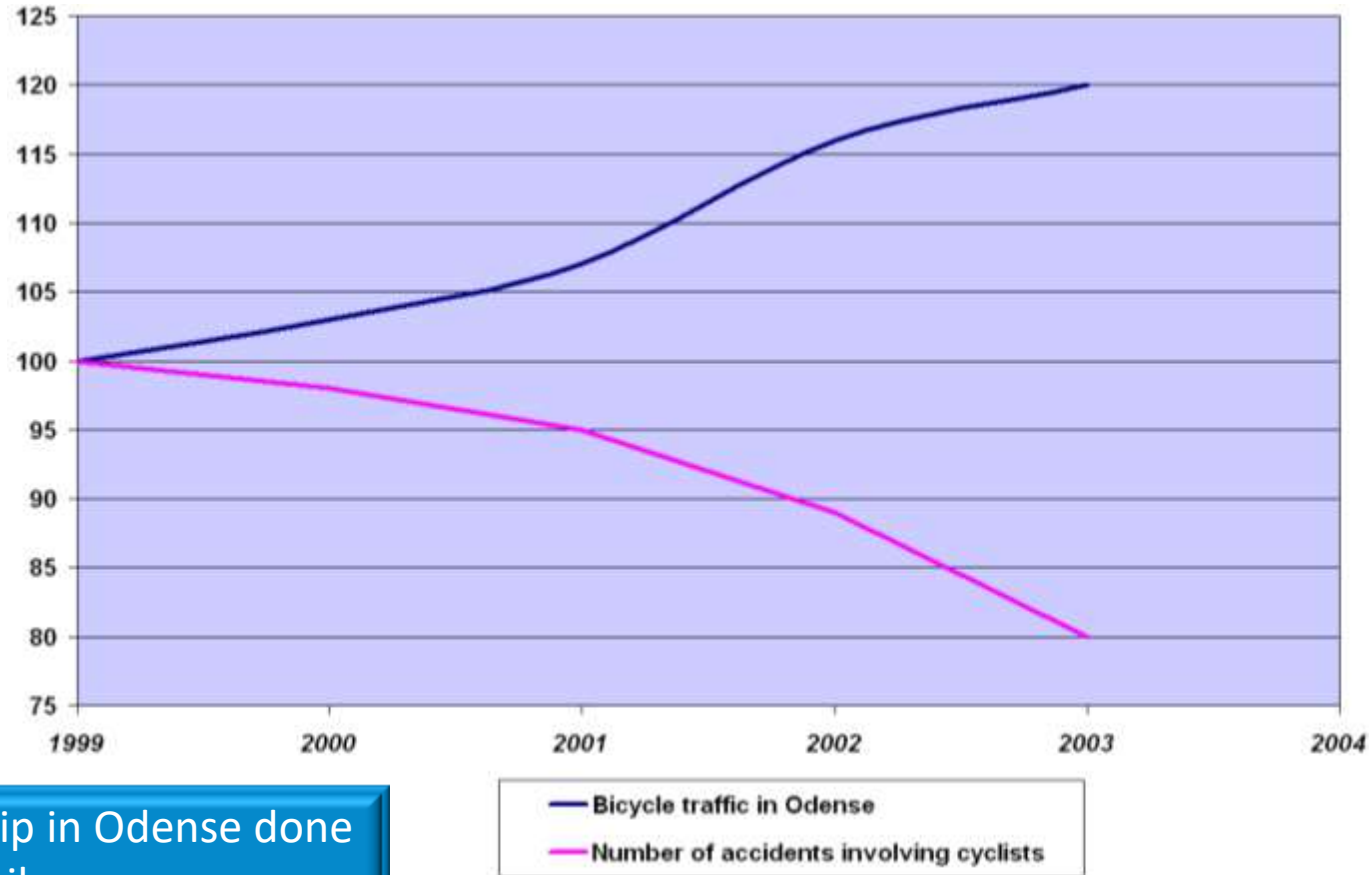


Odense – The National Cycle City of Denmark

Source of slide: Jens Troelsen

1999-2003

n > 50 sub-projects
n Bicycle traffic
increase by 20 pct.
n Accidents involving
cyclists decrease by
20 pct.



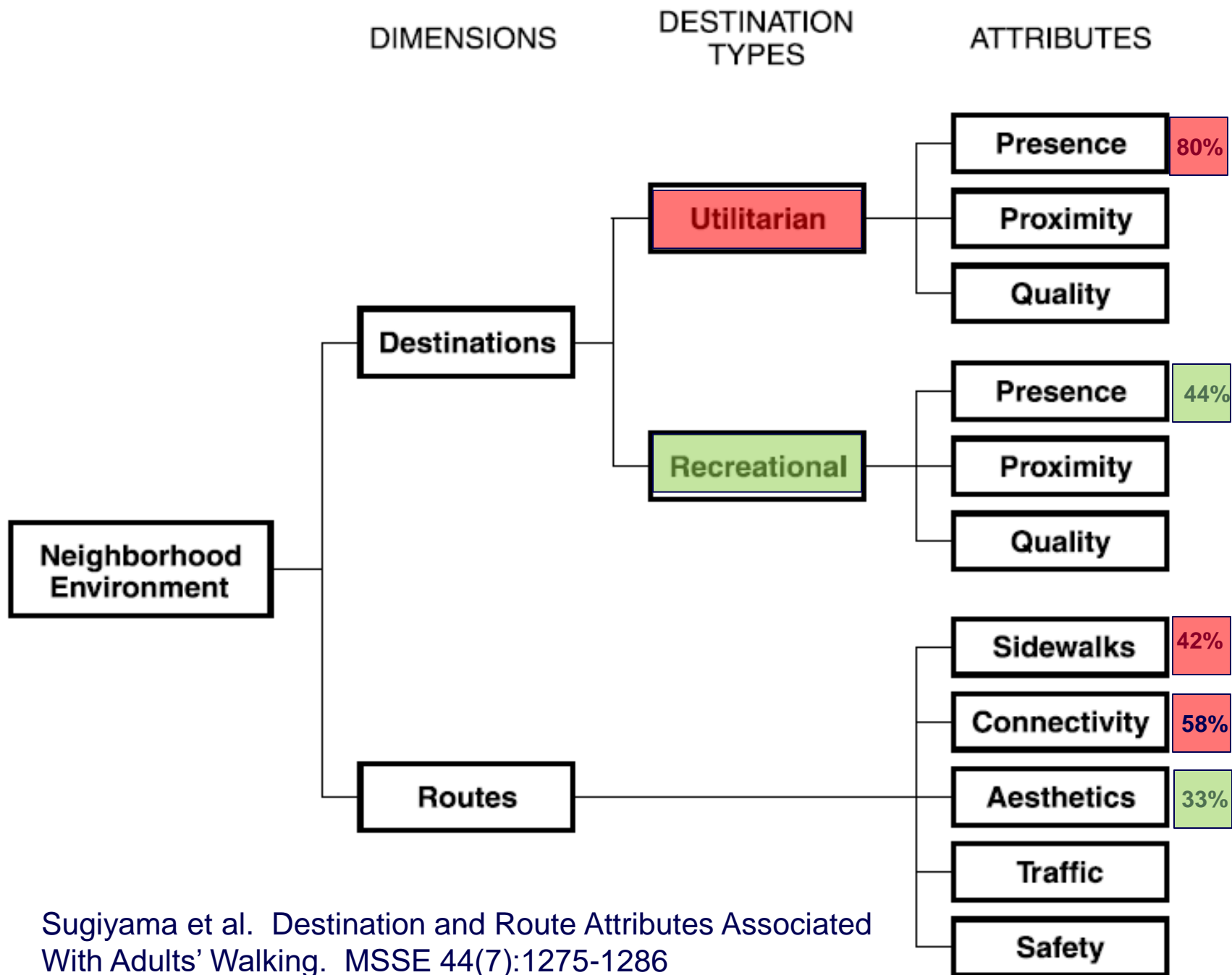
2007: every fourth trip in Odense done on a bike

Roads design and treatment enhance or limit the pedestrian or cyclists experience



The road network provides routes that determine how convivial the experience





Sugiyama et al. Destination and Route Attributes Associated With Adults' Walking. MSSE 44(7):1275-1286

RESEARCH ARTICLE

Open Access

The association between neighborhood greenness and cardiovascular disease: an observational study

Gavin Pereira^{1,2*}, Sarah Foster², Karen Martin², Hayley Christian², Bryan J Boruff³, Matthew Knuiman^{2,4} and Billie Giles-Corti⁵

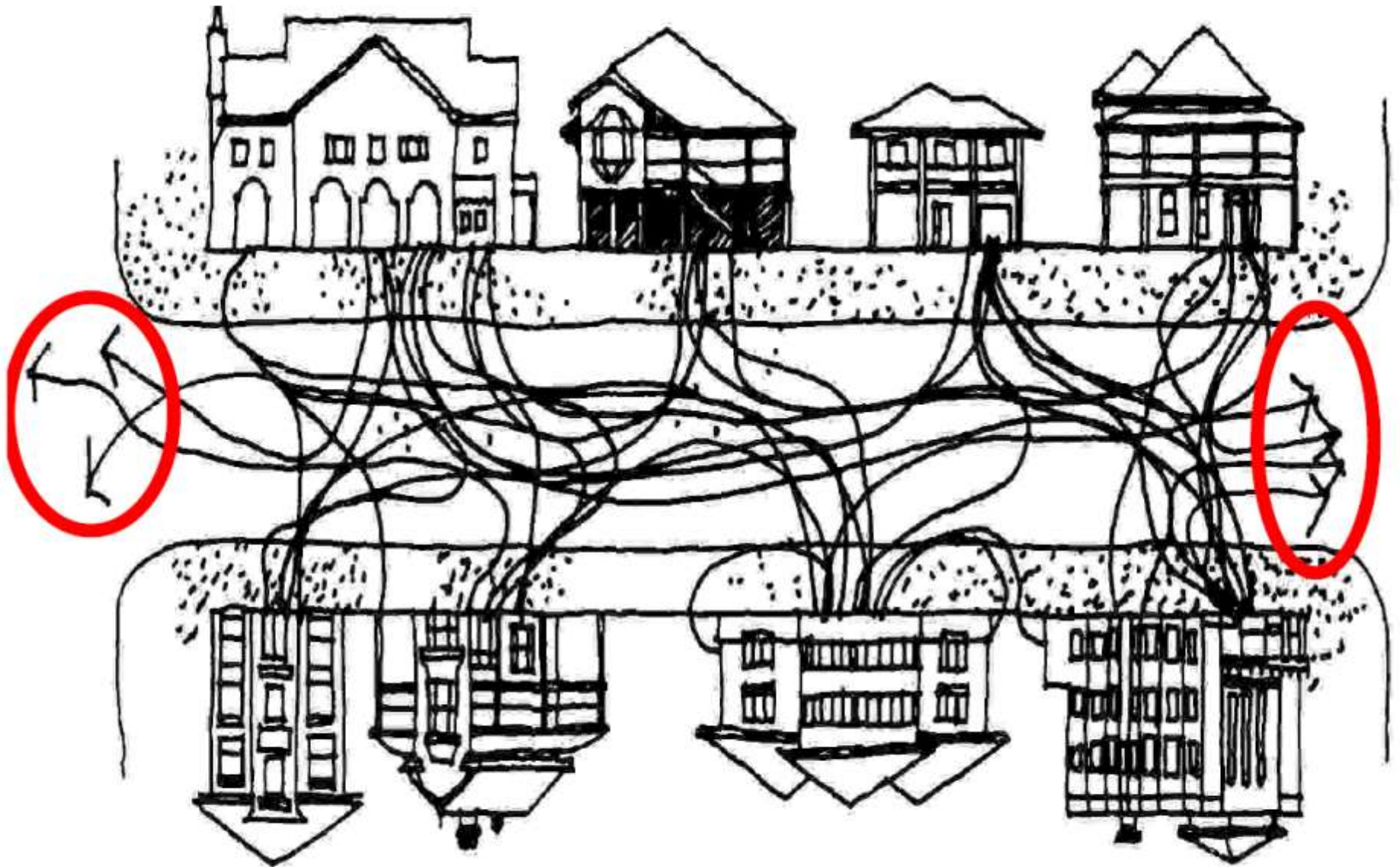
Neighbourhood greenness and Coronary Heart Disease and Stroke

- Odds of hospital admission for CHD or stroke **37% lower** in neighbourhoods with high levels of variation in greenness (NDVI)

Provides places to meet



Friends & Acquaintances - Light traffic



Appleyard – Source: Mark Fenton

EXPOSURES

Building Factors

Construction – insulation, thermal control, ambient light, ventilation

Design – balconies, defensible space, interactive space

Building height – floor level

Governance and maintenance



Social Environment

Crime, vandalism, disorder

Socioeconomic status

Cultural context



Neighbourhood Environment

Geographic location

Access to recreational services
– community facilities, POS

Neighbourhood quality

Access to utilitarian services – public transport, shops, services, schools, health

Roads and higher density housing - What factors are important?



Home and work access and public transport use



Co-benefits of investing in active transportation

The co-benefits for health of investing in active transportation

Billie Giles-Corti^{A,D}, Sarah Foster^A, Trevor Shilton^B and Ryan Falconer^C

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Abstract: Amid growing concerns about the impact of rising obesity and physical inactivity levels, climate change, population growth, increasing traffic congestion and declining oil

Active transportation includes travel by foot, bicycle and other non-motorised means (e.g. foot-powered scooters)² and it often forms part of a trip chain for public transport users.³ A number of reviews emphasise the importance of active transportation from health, economic, social, environmental and traffic management perspectives.⁴⁻¹¹ They highlight environmental interventions that would facilitate a shift from motor vehicle-dependent suburbs to communities accessible by active modes, supported by high quality public transport (Box 1).

Despite this evidence, there remains some distance between theory and practice. This paper seeks to contribute to the debate by discussing the health benefits and co-benefits of investing in policies and interventions to

Quantifying health co-benefits



Health and Climate Change 2

Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport

James Woodcock, Phil Edwards, Cathryn Tonne, Ben G Armstrong, Olu Ashiru, David Banister, Sean Beevers, Zaid Chalabi, Zohir Chowdhury, Aaron Cohen, Oscar H Franco, Andy Haines, Robin Hickman, Graeme Lindsay, Ishaan Mittal, Dinesh Mohan, Geetam Tiwari, Alistair Woodward, Ian Roberts

Lancet 2009; 374: 1930–43

Published Online

November 25, 2009

DOI:10.1016/S0140-

6736(09)61714-1

See [Comment](#) pages 1869
and 1870

See [Series](#) page 1917

This is the second in a [Series](#) of
six papers about health and
climate change

Department of Epidemiology
and Population Health

(J Woodcock MSc, P Edwards PhD,
Prof I Roberts PhD) and

We used Comparative Risk Assessment methods to estimate the health effects of alternative urban land transport scenarios for two settings—London, UK, and Delhi, India. For each setting, we compared a business-as-usual 2030 projection (without policies for reduction of greenhouse gases) with alternative scenarios—lower-carbon-emission motor vehicles, increased active travel, and a combination of the two. We developed separate models that linked transport scenarios with physical activity, air pollution, and risk of road traffic injury. In both cities, we noted that reduction in carbon dioxide emissions through an increase in active travel and less use of motor vehicles had larger health benefits per million population (7332 disability-adjusted life-years [DALYs] in London, and 12 516 in Delhi in 1 year) than from the increased use of lower-emission motor vehicles (160 DALYs in London, and 1696 in Delhi). However, combination of active travel and lower-emission motor vehicles would give the largest benefits (7439 DALYs in London, 12 995 in Delhi), notably from a reduction in the number of years of life lost from ischaemic heart disease (10–19% in London, 11–25% in Delhi). Although uncertainties remain, climate change mitigation in transport should benefit public health substantially. Policies to increase the acceptability, appeal, and safety of active urban travel, and discourage travel in private motor vehicles would provide larger health benefits than would policies that focus solely on lower-emission motor vehicles.

HEALTH BENEFITS OF ACTIVE TRANSPORTION

- Participation in 2.5 hours/week moderate PA
i.e, 30 minutes x 5 days/week
 - 19% reduced mortality risk (1 hour daily – 24% reduced risk)
- Walking 2.5 hours/week
 - 11% reduced mortality
- Cycling 2.5 hours/week
 - 19% reduced mortality (or 24% 1 hour daily)

Final word - public health perspective on roads...

- Roads facilitate mobility and access to jobs
 - both are social determinants of health
- Provide the network that facilitate transportation choices
 - directly impacts walking and cycling
- Provide the routes that contribute to journey conviviality
 - Mental and community health benefits

Acknowledgements

Thank you!



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