

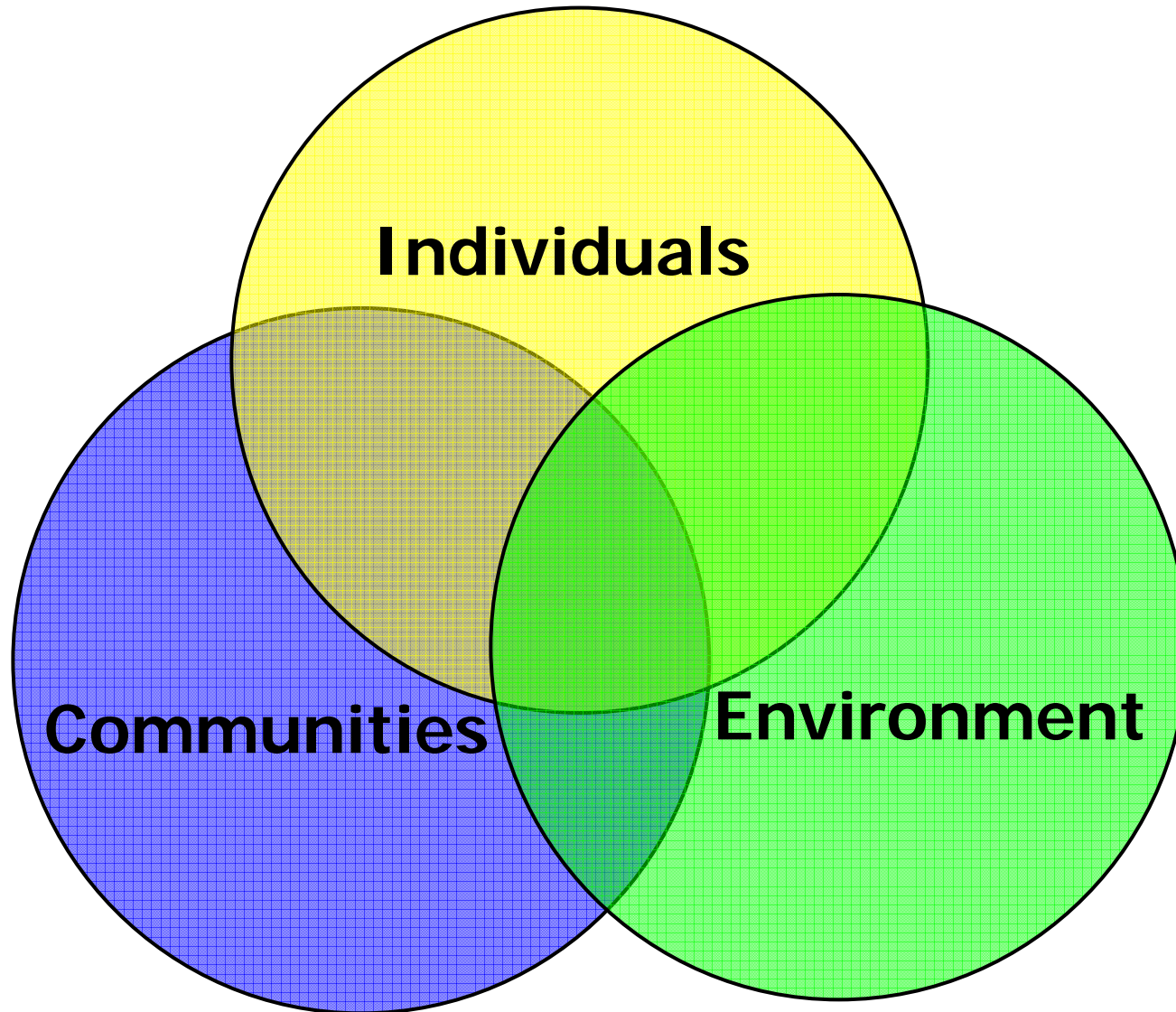
# Transport and health

Dr Harry Rutter

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Deputy Director, South East Public Health Observatory

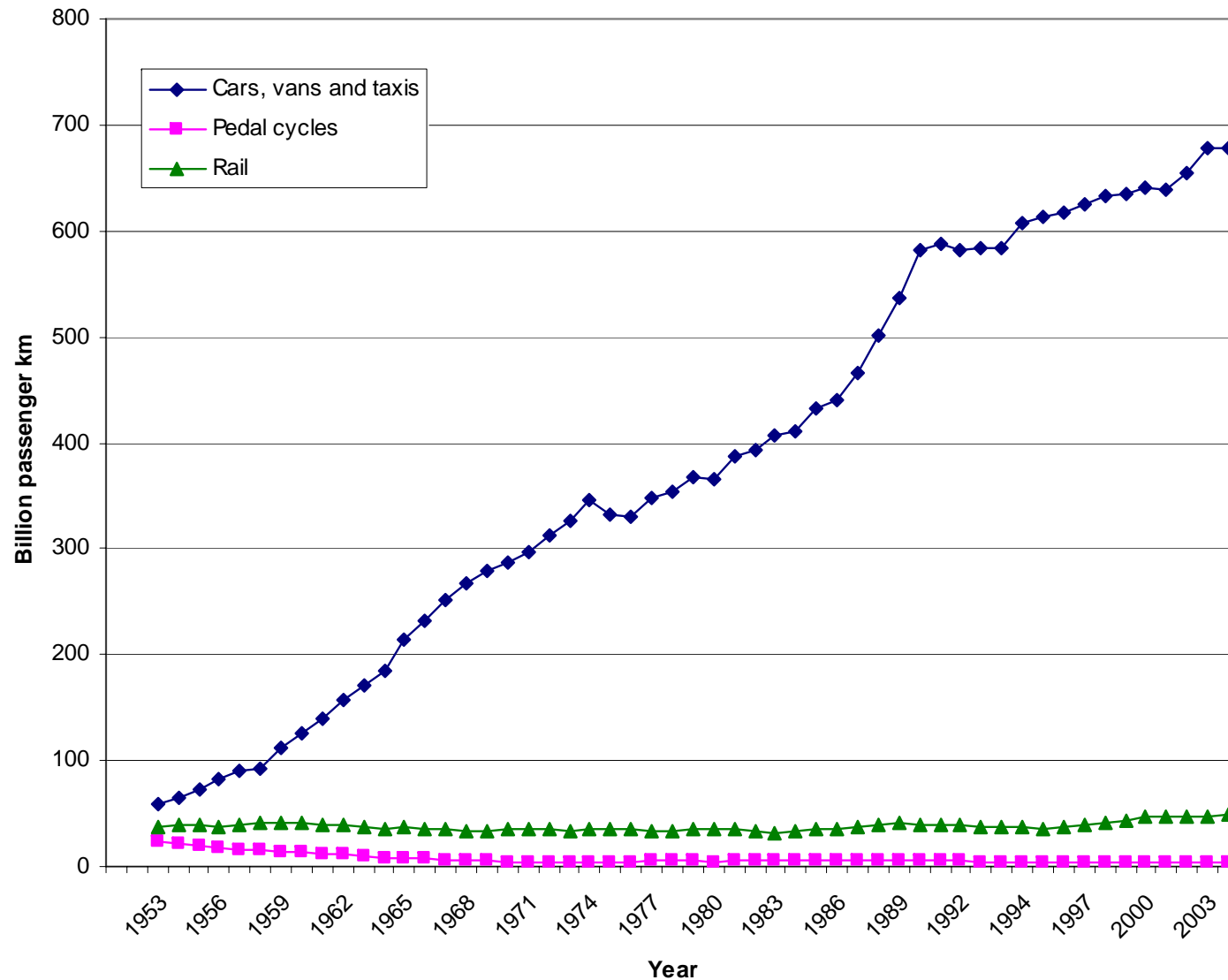
Transport has impacts on:



# Impacts of transport

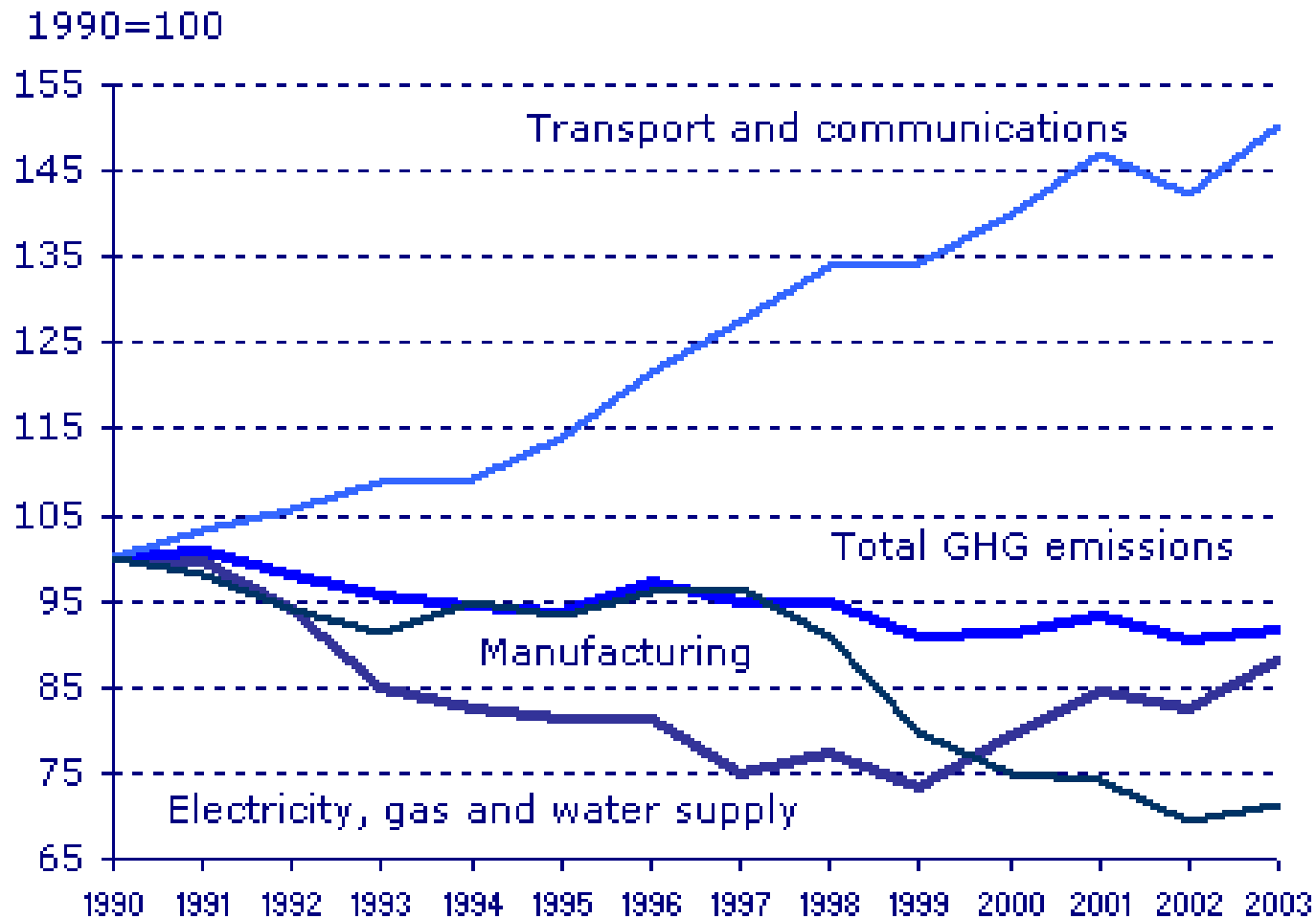
- Access
- Physical activity
- Injuries
- Air pollution
- Noise pollution
- Social and psychological effects
- Climate change

# Passenger transport by mode 1952-2003

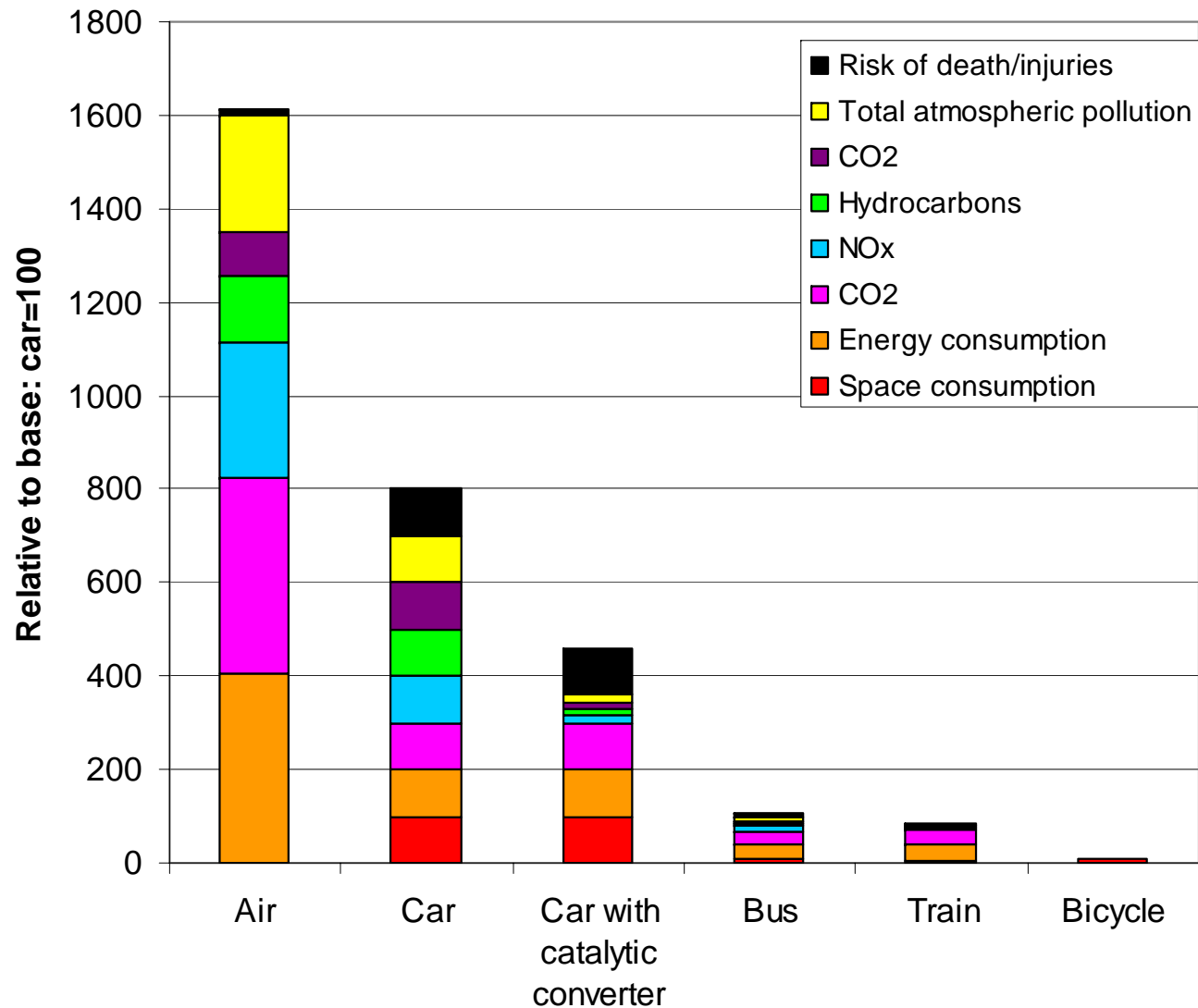


Source: [http://www.dft.gov.uk/stellent/groups/dft\\_transstats/documents/page/dft\\_transstats\\_031609.xls](http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/page/dft_transstats_031609.xls)

# Greenhouse gas emissions UK 1990-2003

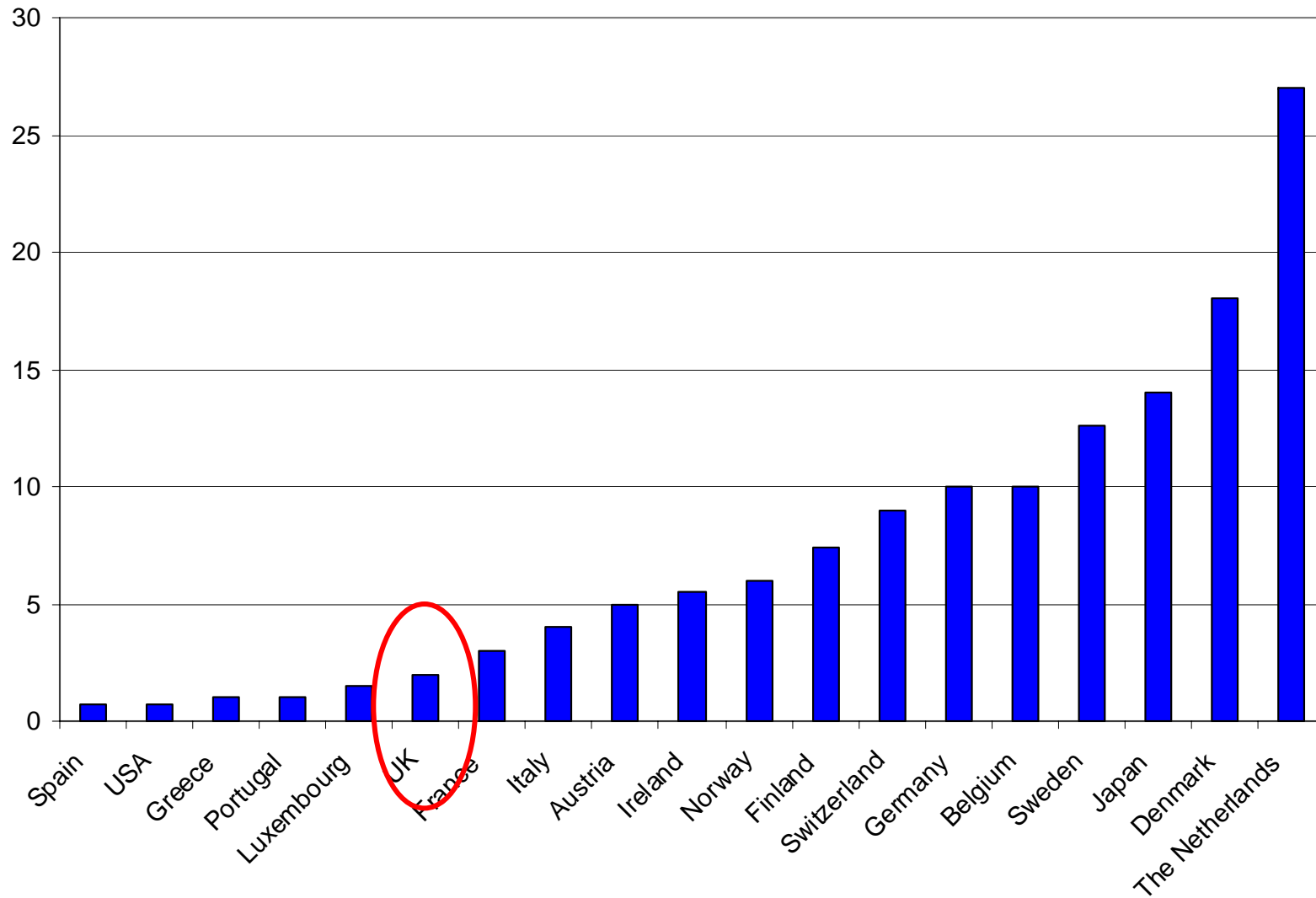


# Environmental impacts of transport modes



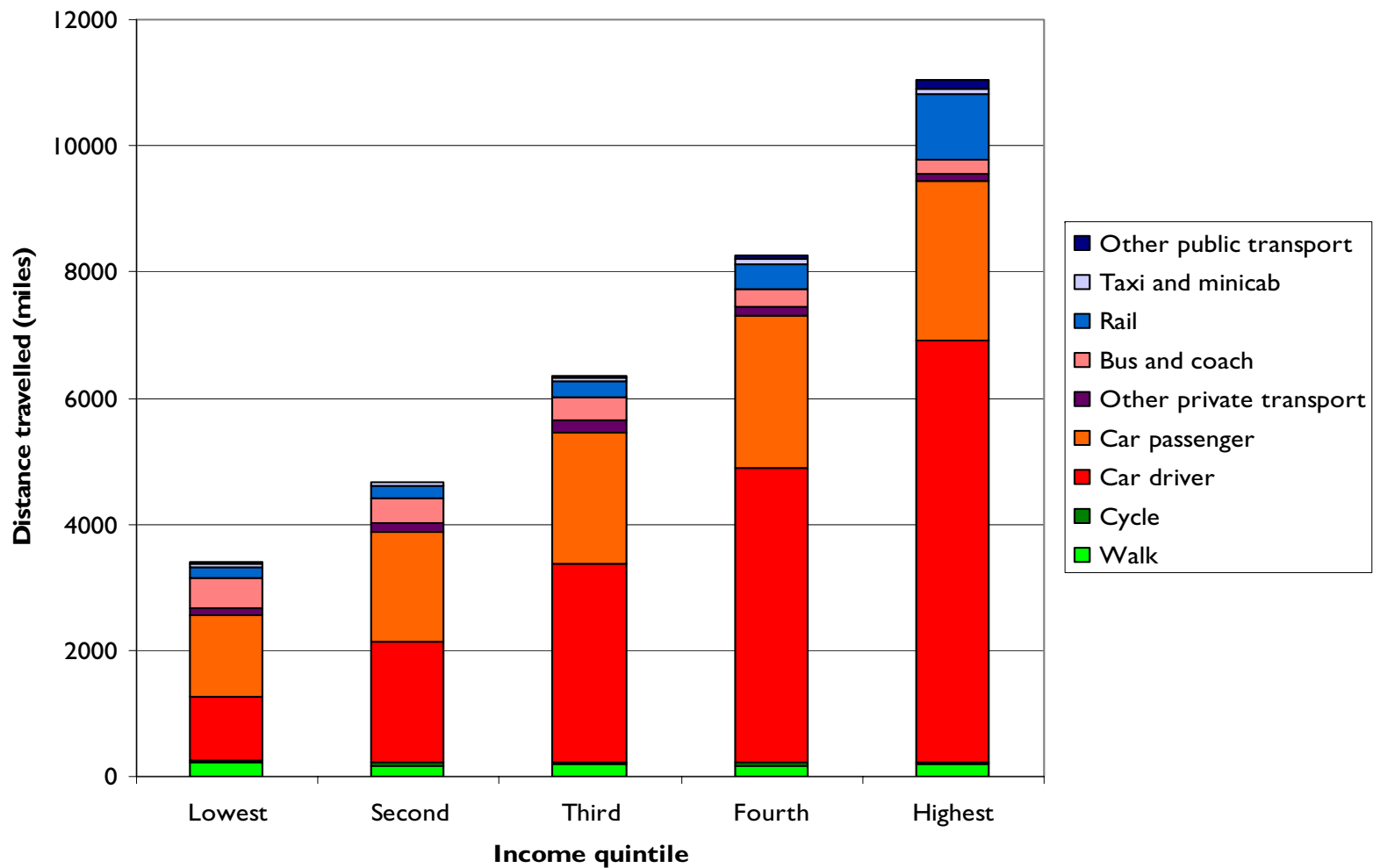
Source: UPI Report, Heidelberg, 1989, quoted by the German Ministry of Transport (quoted in CEMT/CS(2004)12, 2004)

# Modal shares of cycling (% trips)



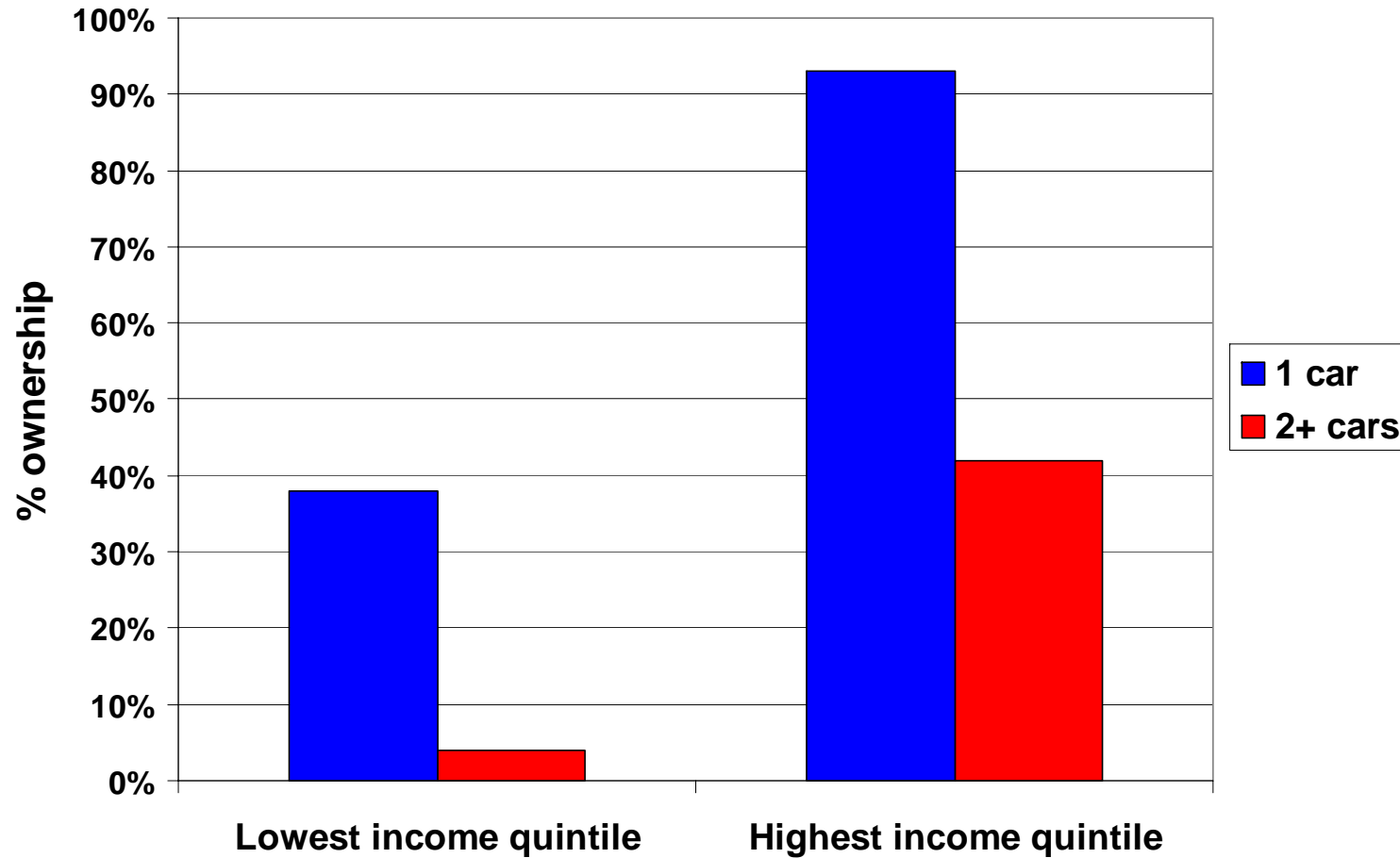
Source: ECMT Report On National Cycling Policies For Sustainable Urban Travel (CEMT/CS(2004)12, 2004)

# Distance travelled per person per year by household income quintile and mode

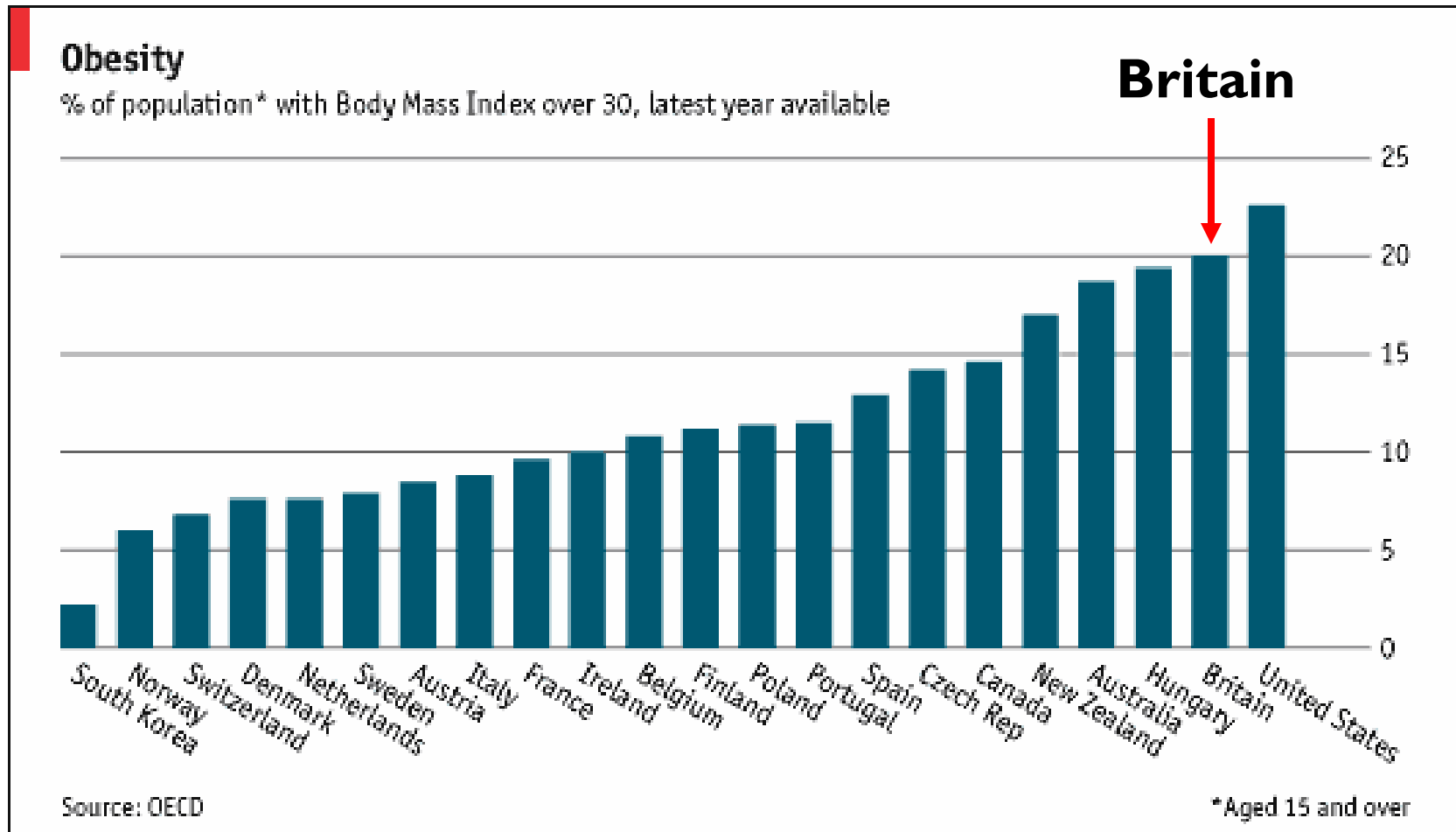


Source: 1999-2001 data - <http://www.transtat.dft.gov.uk/tables/2002/nts/pdf/section5.pdf>

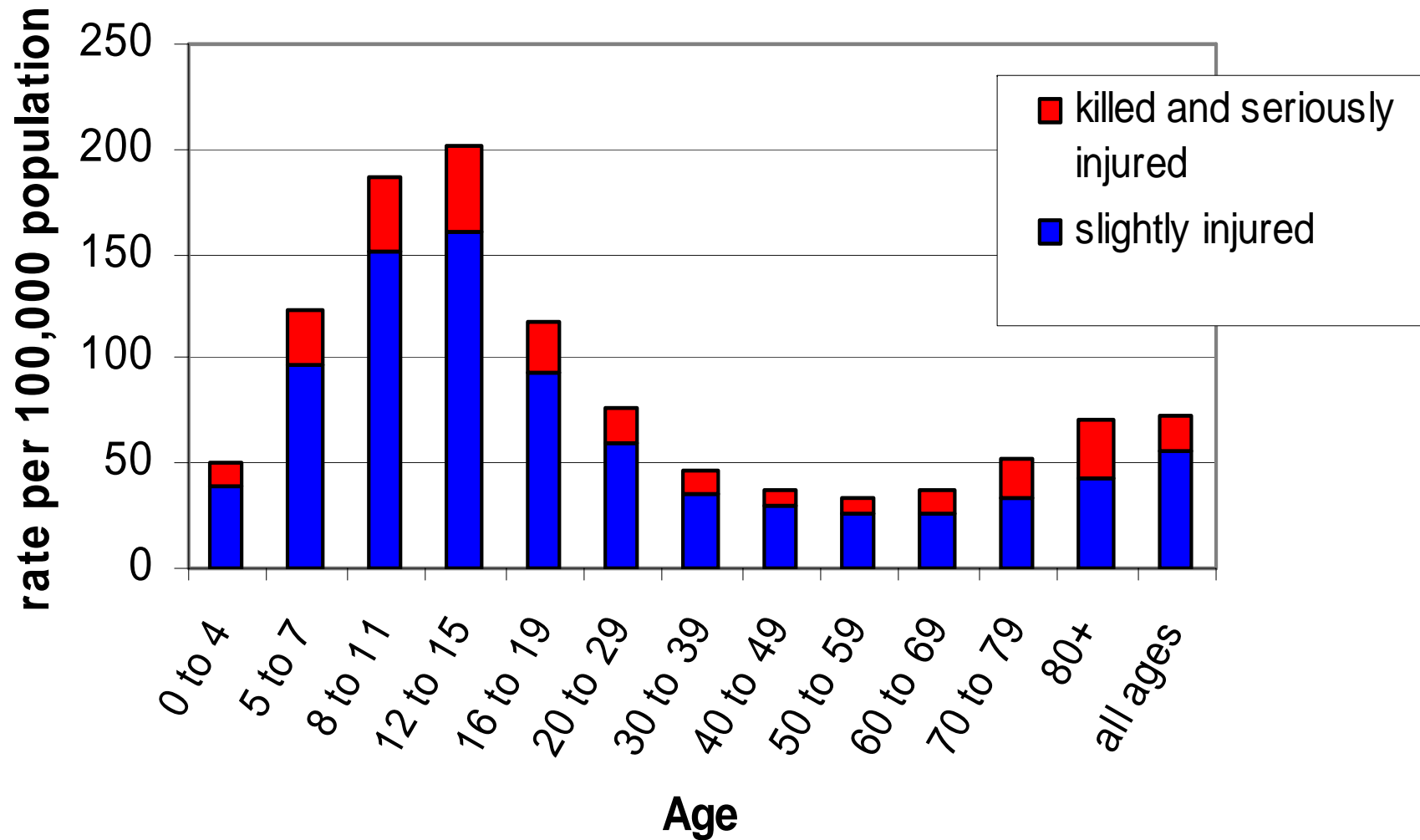
# Income and car ownership



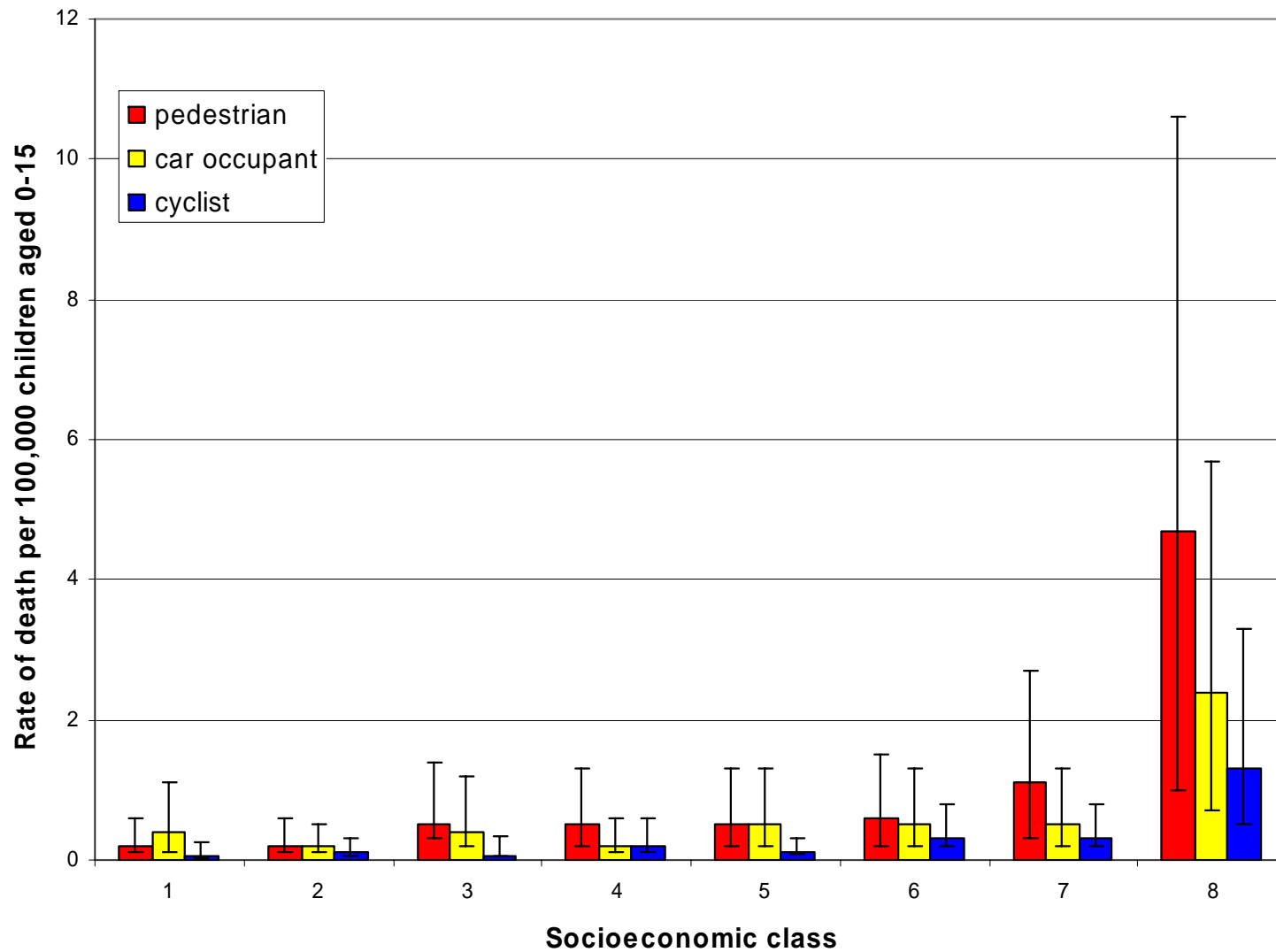
# Obesity



# Pedestrian casualty rates by age



# Child deaths by socioeconomic group



Source: Edwards et al, BMJ 2006;333:119-121

# Street crime

- 1 in 20 children die if hit by a car at 20mph<sup>1</sup>
- 17 in 20 children die if hit by a car at 40mph<sup>1</sup>
- Every 1mph increases risk of KSI by 5%<sup>2</sup>
- ~60% of drivers habitually break speed limit<sup>3</sup>
- 4x more children killed on roads than murdered<sup>4 5</sup>

1 <http://www.hda-online.org.uk/html/about/press/30102003.html>

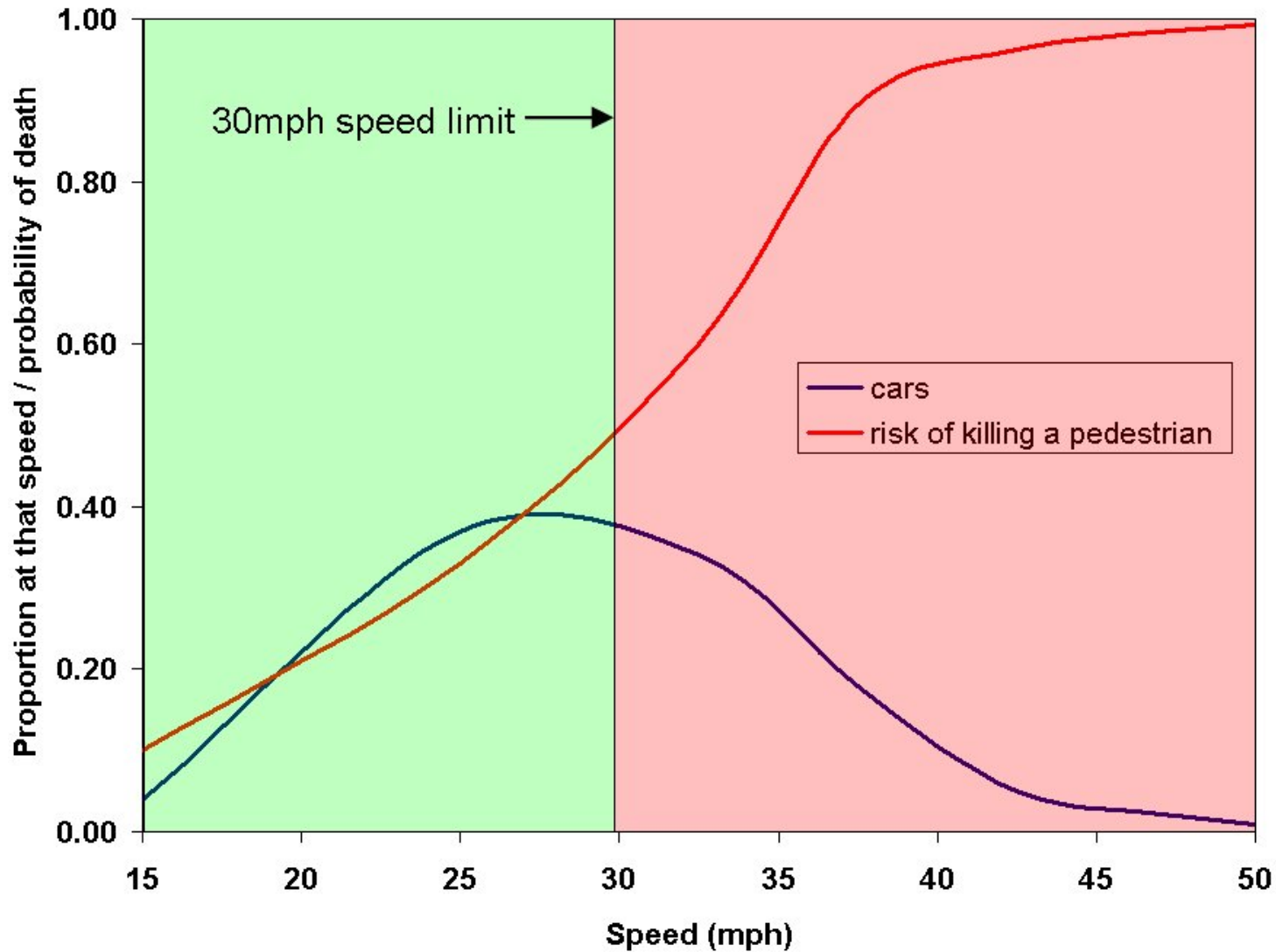
2 Finch D, Kompfner P, Maycock G. Speed limits and accidents. Transport Research Laboratory 1994

3 Vehicle speeds in GB: 2002 [http://www.dft.gov.uk/stellent/groups/dft\\_transstats/documents/page/dft\\_transstats\\_508345.hcsp](http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/page/dft_transstats_508345.hcsp)

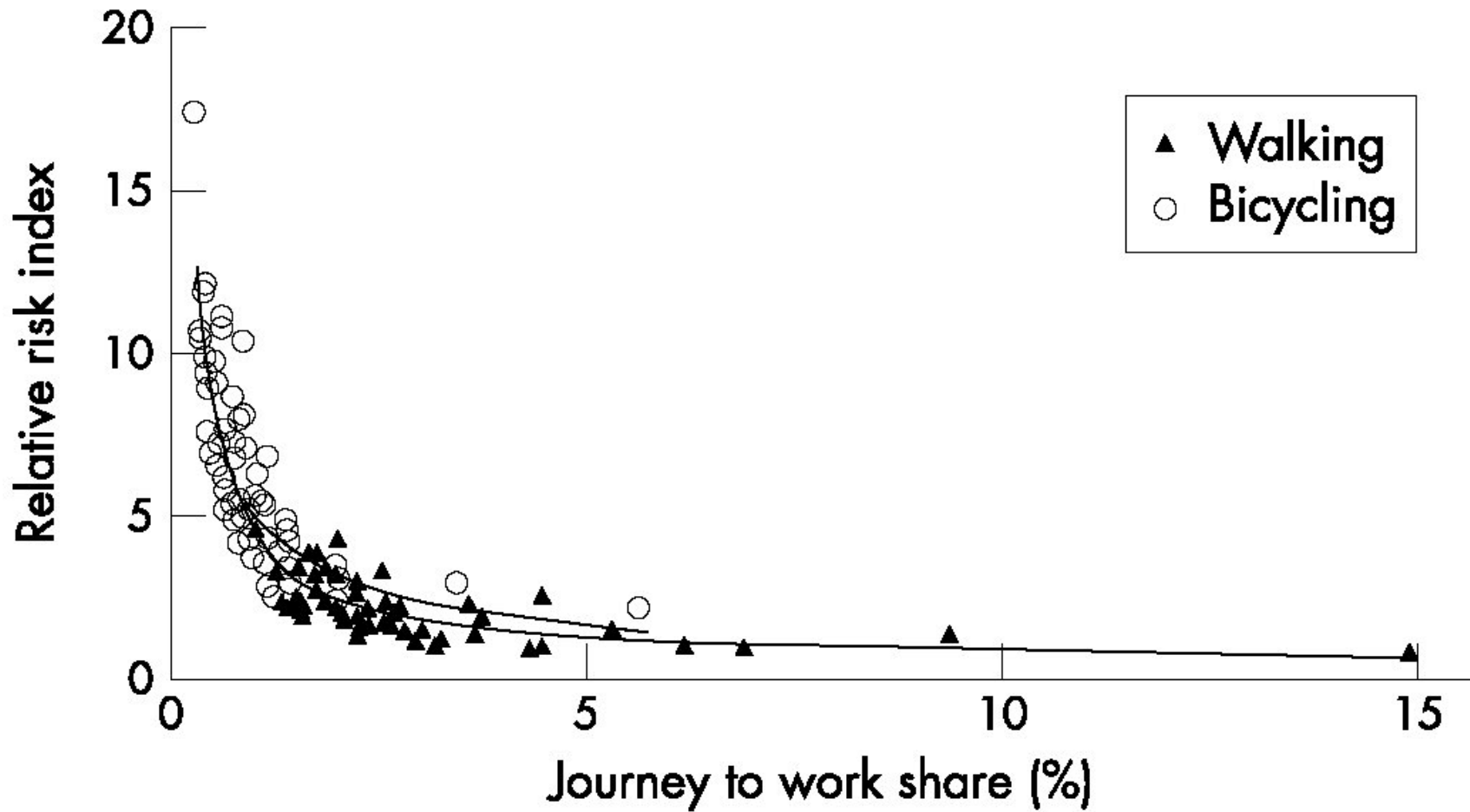
4 <http://www.guardian.co.uk/Archive/Article/0,4273,4051720,00.html>

5 [http://www.dft.gov.uk/stellent/groups/dft\\_transstats/documents/page/dft\\_transstats\\_024441.pdf](http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/page/dft_transstats_024441.pdf)

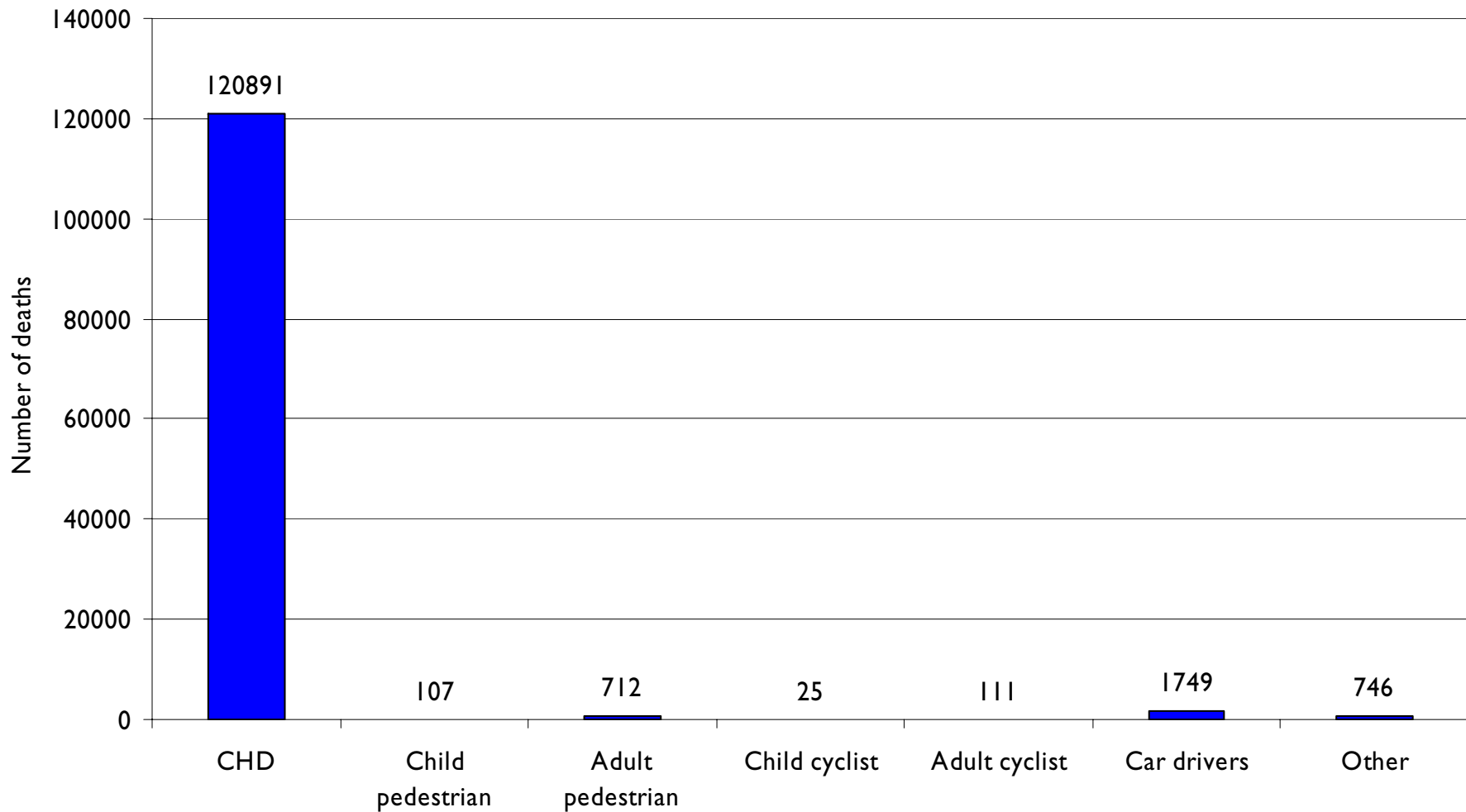
# Speed and risk of killing



# Safety in numbers



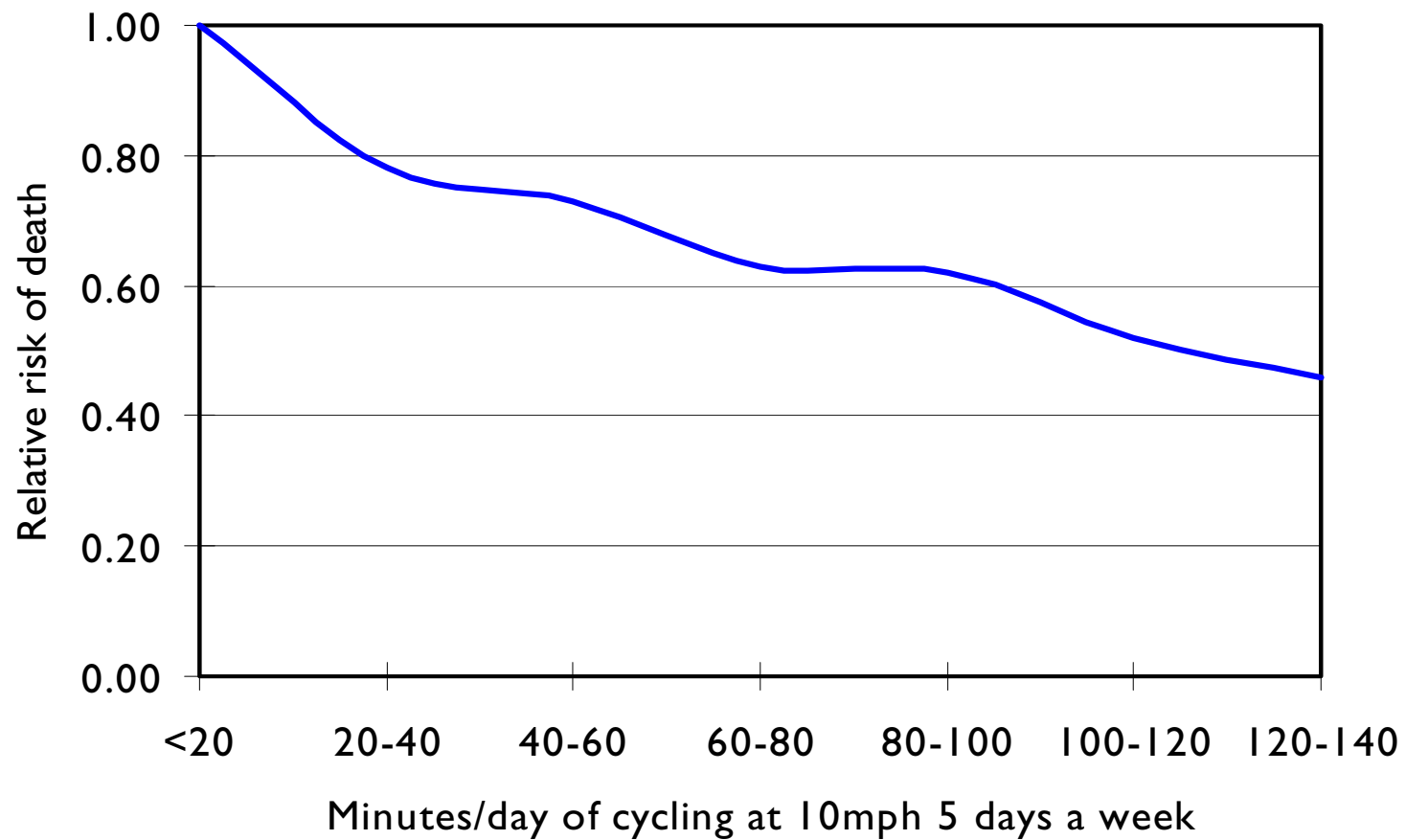
# Mortality from injuries and from CHD



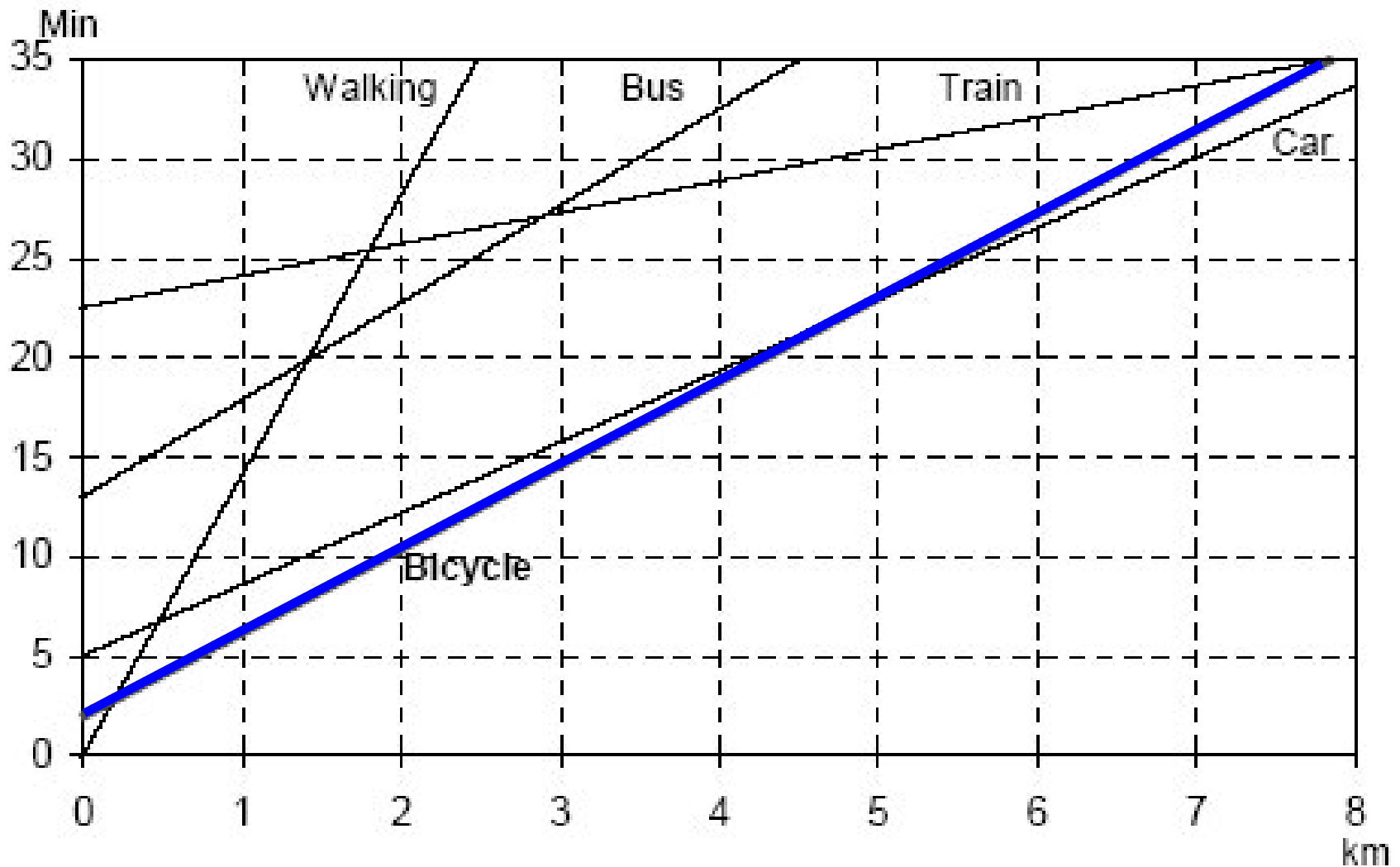
# Vision zero: Claes Tingvall

- The long term goal that no-one will be killed or seriously injured within the Swedish road transport system
- Swedish Road Traffic Safety Act based on Vision Zero passed in 1999
- Takes a whole system approach
- *The main design factor is the injury tolerance of the human body*

# Reduction in relative risk of death for regular cyclists



# Comparative journey speeds in towns

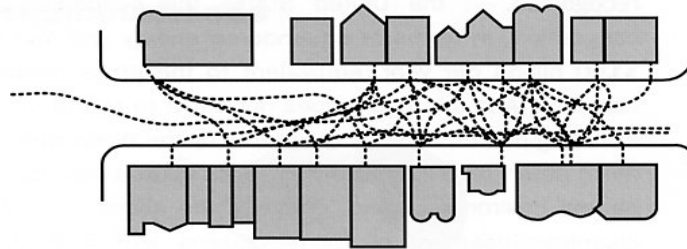


Source: Cycling: the way ahead for towns and cities, 2000, EC, Directorate-General for the Environment

# Environmental quality of city streets

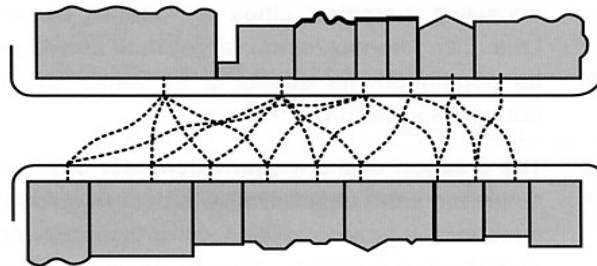
## Light Traffic

3.0 friends per person  
6.3 acquaintances



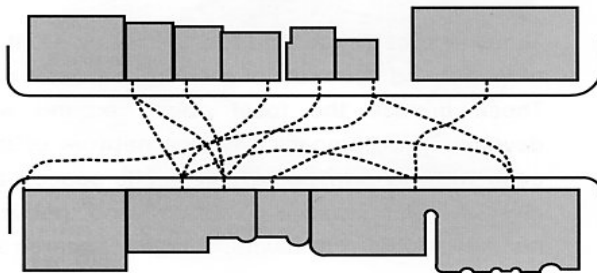
## Moderate Traffic

1.3 friends per person  
4.1 acquaintances



## Heavy Traffic

0.9 friends per person  
3.1 acquaintances



# Health costs of transport interventions

	Deaths and injuries	Air pollution	Noise pollution	Physical activity	Social impacts	Climate change
Improved fuel quality	-	+	-	-	-	-
Increased vehicle efficiency	-	+	-	-	-	+
Reduced travel demand	+	+	+	-	-	+
More public transport, walking and cycling	+	+	+	+	+	+

# Getting the balance right...

