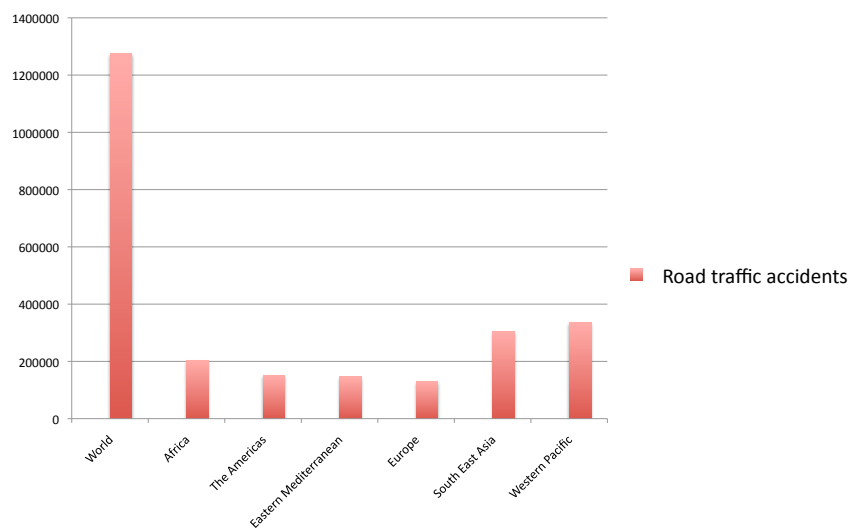


Risky behaviour?

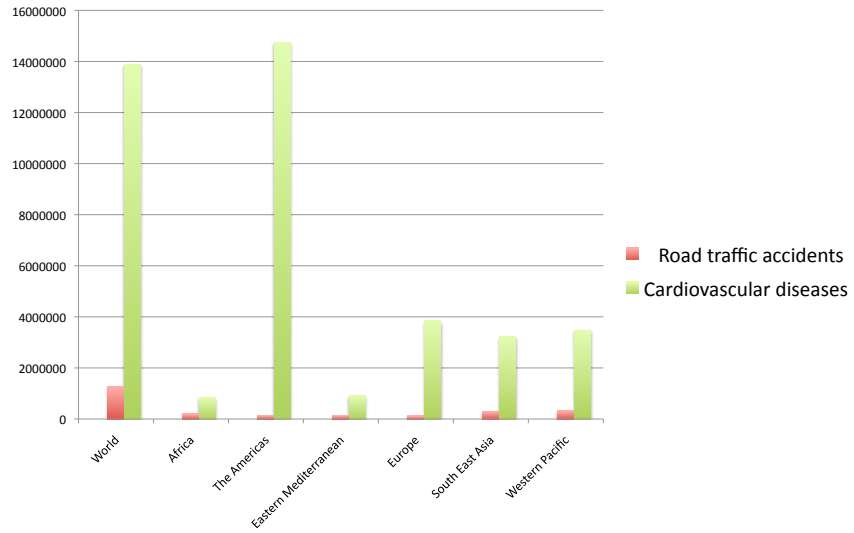
Dr Harry Rutter
Director, National Obesity Observatory

Global burden of disease



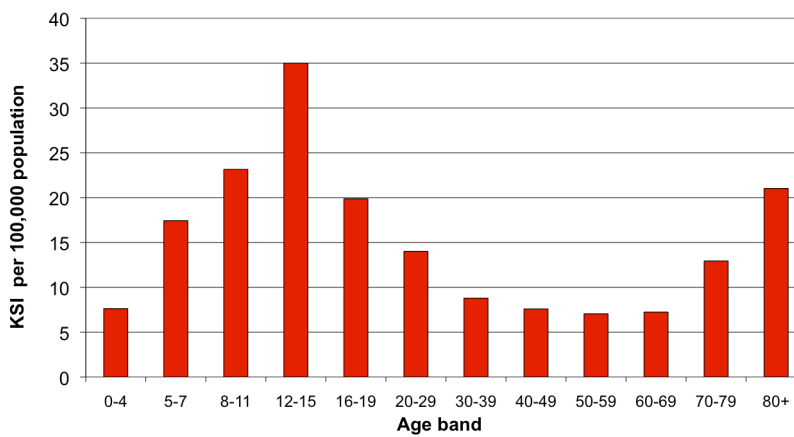
Source: WHO Global Burden of disease - http://www.who.int/healthinfo/global_burden_disease/

Global burden of disease



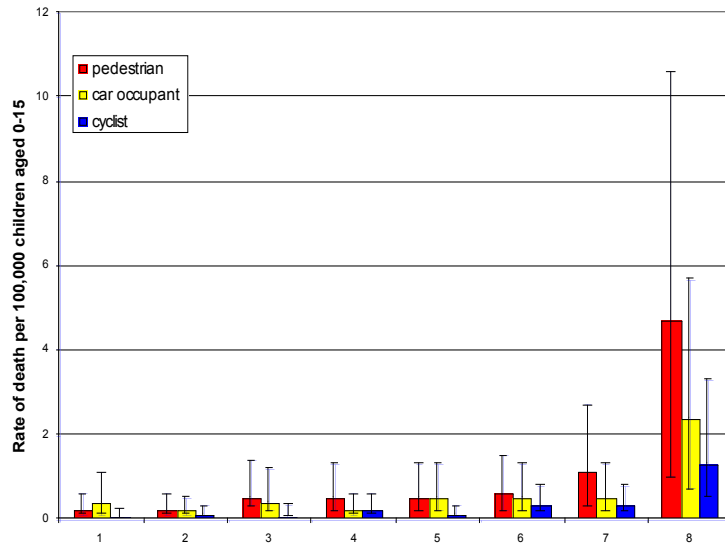
Source: WHO Global Burden of disease - http://www.who.int/healthinfo/global_burden_disease/

Pedestrian casualties by age



Source: Road Casualties Great Britain, 2004, DfT, URL: http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/page/dft_transstats_041303.hcsp

Child deaths by socioeconomic group



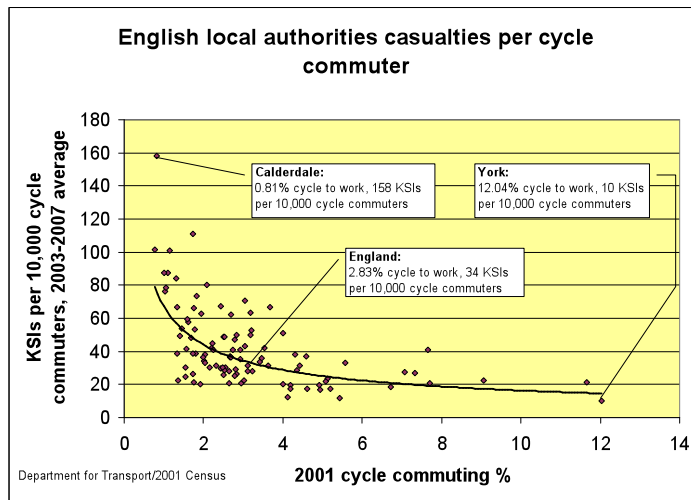
Source: Edwards et al, BMJ 2006;333:119-121

Safety in numbers

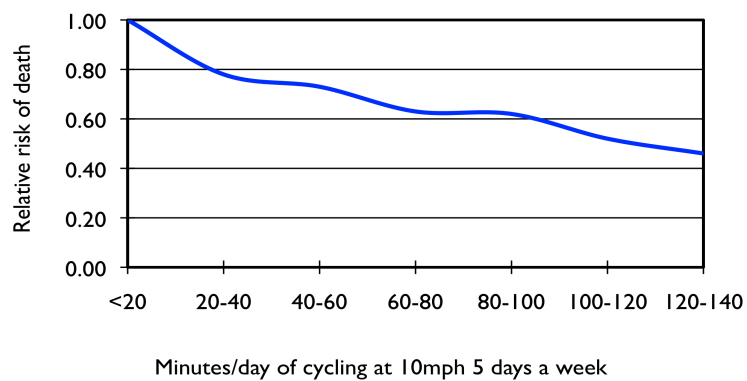


Jacobsen PL. Injury Prevention 2003;9:205-209

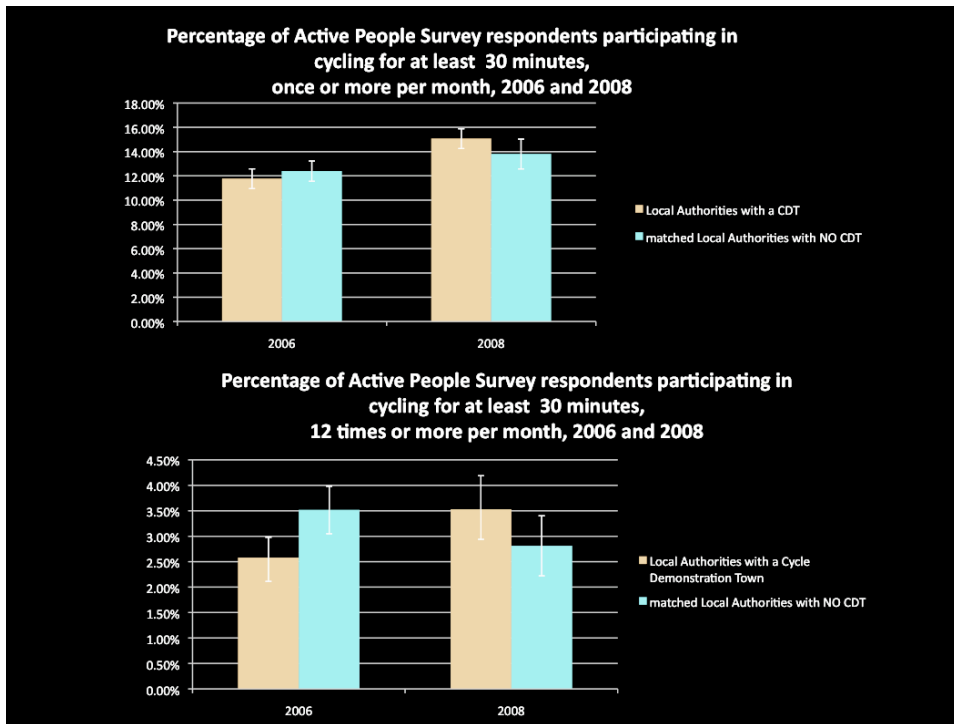
Safety in (English) numbers





Reduction in relative risk of death for regular cyclists



Adapted from: Paffenbarger et al. Physical activity, all-cause mortality, and longevity of college alumni. *NEJM* 1986;314:605-13



Health Economic Assessment Tool for Cycling

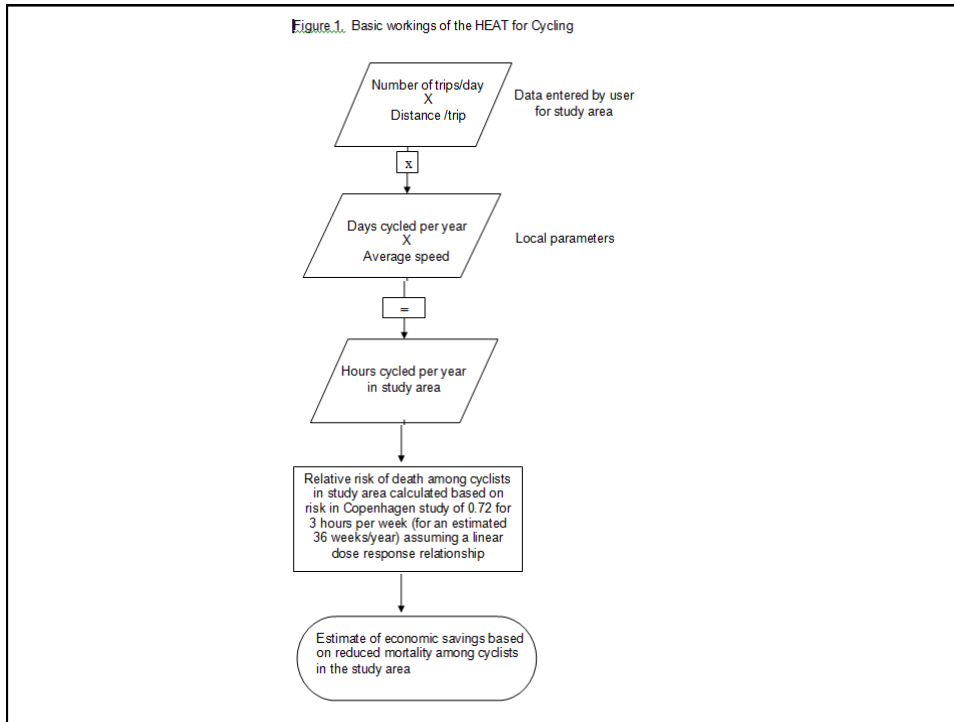
 UNITED NATIONS EUROPE

Welcome to the WHO/Europe Health Economic Assessment Tool for Cycling (HEAT for Cycling)
 This tool allows you to conduct an economic assessment of the health benefits of cycling by estimating the value of reduced mortality that results from cycling.

The tool can be used in a number of situations:

- 1 When planning a piece of new cycle infrastructure, it allows the user to model the impact of different levels of cycling and attach a value to the estimated level of cycling when the new infrastructure is in place. This can be compared to the costs of implementing interventions to produce a benefit:cost ratio (and help make the case for investment), or as an input into a more comprehensive cost-benefit analysis.
- 2 To value the reduced mortality from current levels of cycling, such as to a specific workplace, across a city or in a country. It can also be used to illustrate costs consequences from a potential future decline of the current levels of cycling.
- 3 To provide input into more comprehensive cost benefit analyses, or prospective health impact assessments. For example, to estimate the mortality benefits from achieving targets to increase cycling.

A full user guide for this tool is available from: http://www.euro.who.int/transport/policy/20070503_1



Health Economic Assessment Tool for Cycling

UNITED NATIONS EUROPE

Fill in the two fields in Step 1 with your values and read the corresponding results in Step 3. You can use the default parameters supplied in Step 2 or adjust them according to your needs. The population parameters used to calculate the results are displayed at the bottom of the sheet.

Step 1: enter your data (all users must fill in the red fields)

Number of trips per day	300,000
Mean trip length (km)	3.2

Step 2: check the parameters

Mean number of days cycled per year	124
Proportion of trips that are one part of a return journey (or 'round trip')	0.9
Proportion undertaken by people who would not otherwise cycle	0.5
Mean proportion of working age population who die each year	0.005847
Value of life (in Euros)	EUR 1,500,000
Discount rate	-5.0%

Step 3: read the economic savings resulting from reduced mortality

Maximum annual benefit	EUR 101,015,000
Savings per km cycled per individual cyclist per year	EUR 0.81
Savings per individual cyclist per year	EUR 612
Savings per trip	EUR 2.72
Mean annual benefit:	EUR 75,256,000
Present value of mean annual benefit:	EUR 54,801,000

Based on:
5% discount rate
5 year build-up of benefit and 1 year build-up of uptake, averaged over 10 years

Population parameters used to calculate results

Population that stands to benefit	82500
Mean proportion of working age population who die each year	0.005847
Expected deaths in the local population	482.35
Protective benefit, according to actual distance traveled	0.14
Lives saved	67.34

Notes on how to use this tool. For additional instructions, hold the mouse over any red triangle.

How many trips are observed (or are estimated) on the specific route; across a city; or on a network, in any direction?

What is the mean trip length (estimated or measured)?

The default parameters in green are based on best available evidence and are to be changed only if local data available.

The estimated number of days per year that people cycle

What proportion of these observed cyclists do you expect will also be making a return trip later in the day?

Proportion of these cyclists that are new users DIRECTLY as a result of the new infrastructure or policy

See local parameters page for explanation.

What is the standard value of a statistical life used in the country of study?

Discount rate used for future benefits. This is only used for the 'Present value of mean annual benefits', see step 3.

[Click here to change local parameters](#)
[Click here to view underlying study parameters](#)

Total value of lives saved (mortality only) assuming 'steady state' of health benefits achieved

This value takes the likely build up of benefit into account (see below)

This value uses the discount rate from section two to calculate the present value, taking inflation into account

[Click here to change the timeframe used in calculation](#)
[Click here to view full calculation, graphs and adjust error](#)

Reset all default values

Based on number of individual cyclists calculated from data in steps 1 and 2

This reflects the relative risk of all cause mortality in the age groups that are most likely to cycle

Yearly deaths expected among the population of cyclists (assuming they are aged 25-64)

Relative risk of death among cyclists, adjusted for the actual distance cycled (assuming regular trips per year)

Reduction in number of deaths expected due to the modelled increase in cycling

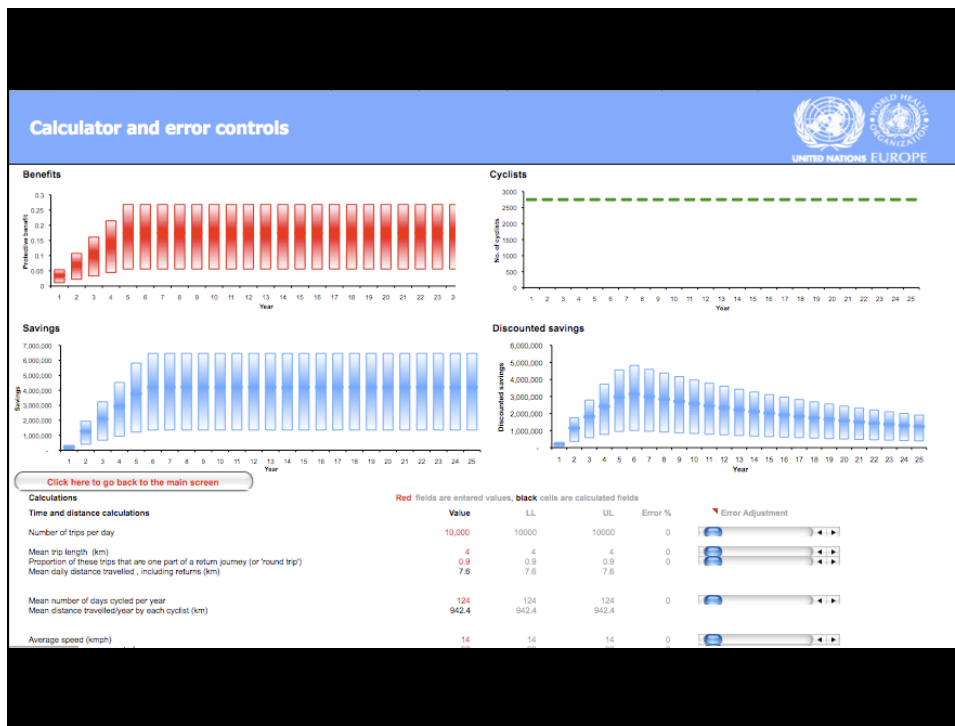


Table 2. Benefits and Costs of Cycling Demonstration Towns

Impact	Estimate of benefits and costs over 10 year period (£m, 2007 prices and values)
Reduced mortality	Benefit of £45 million
Decongestion	Benefit of £7 million
Reduced absenteeism	Benefit of £1-3 million
Amenity	Benefit of £9 million
Accidents	Disbenefit of £0-£15 million
TOTAL BENEFITS	£47-64 million
Costs	£18 million
Benefit-Cost Ratio	2.6 – 3.5

