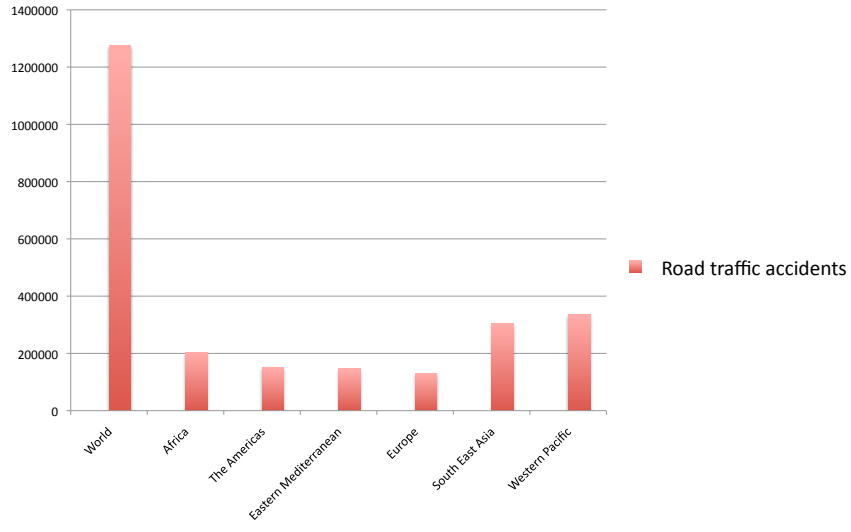
Risky behaviour?

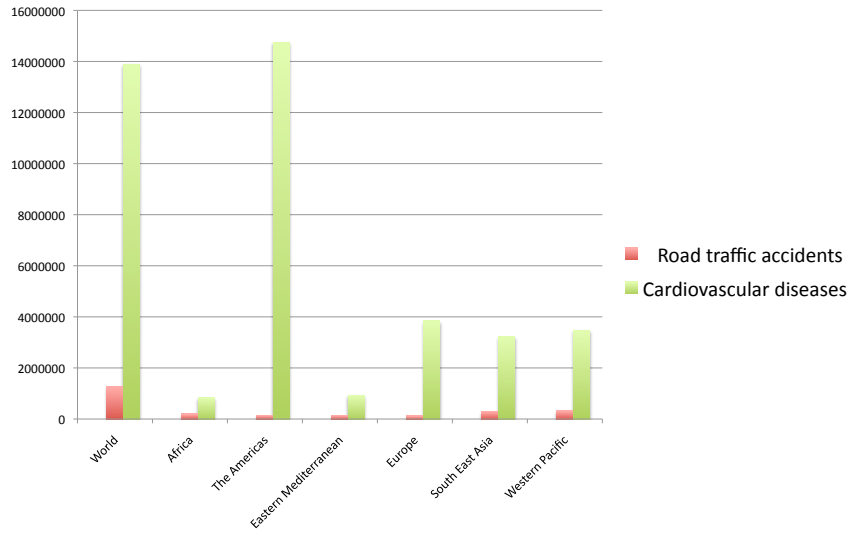
Dr Harry Rutter
Director, National Obesity Observatory

Global burden of disease



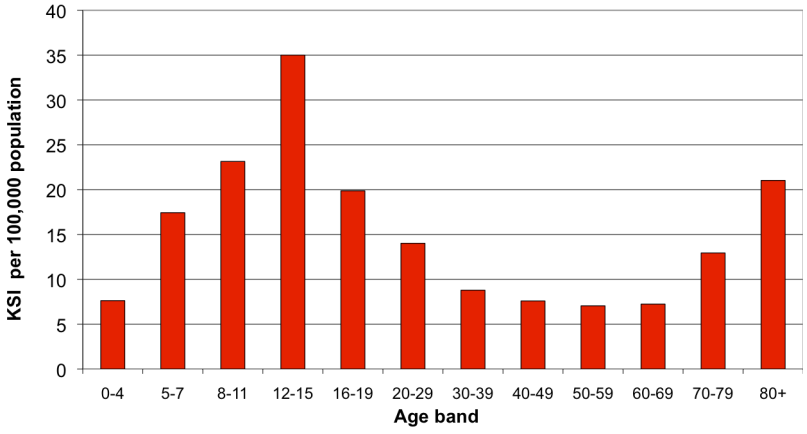
Source: WHO Global Burden of disease - http://www.who.int/healthinfo/global_burden_disease/

Global burden of disease



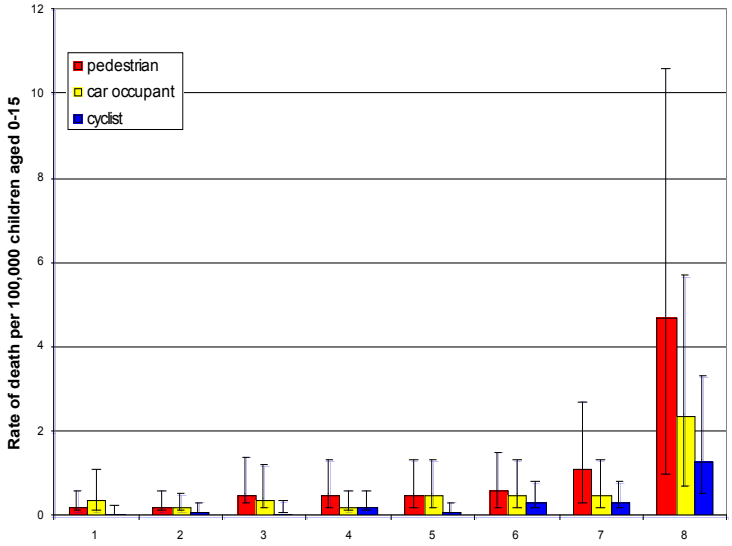
Source: WHO Global Burden of disease - http://www.who.int/healthinfo/global_burden_disease/

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

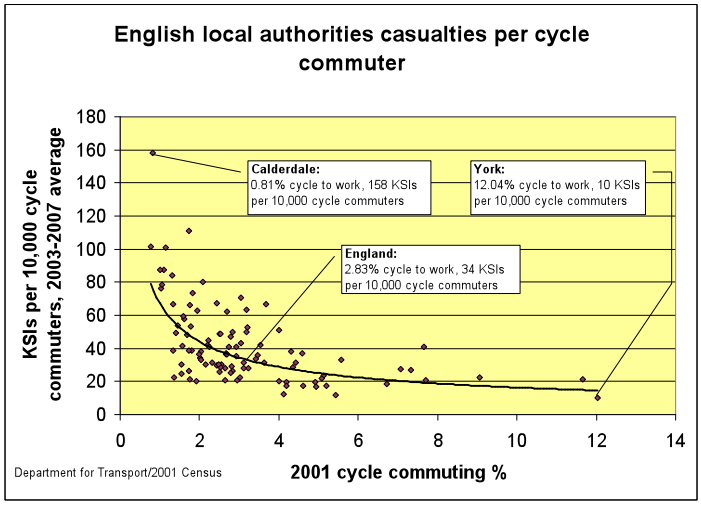


Source: Edwards et al, BMJ 2006;333:119-121

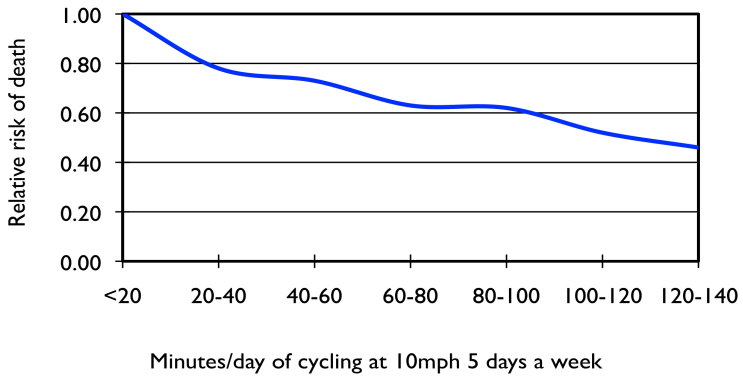
Safety in numbers

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

Safety in (English) numbers

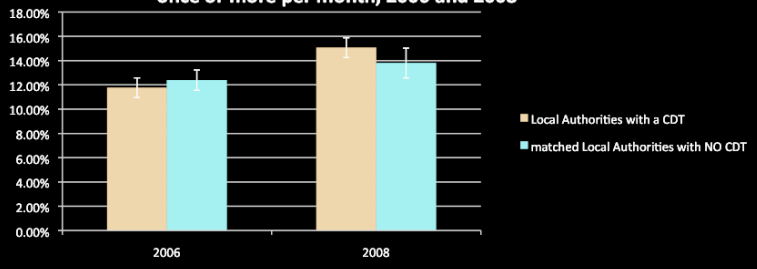


Reduction in relative risk of death for regular cyclists

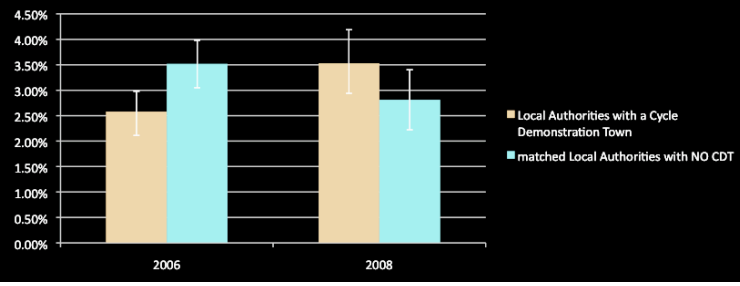


Adapted from: Paffenbarger et al. Physical activity, all-cause mortality, and longevity of college alumni. *NEJM* 1986;314:605-13

Percentage of Active People Survey respondents participating in cycling for at least 30 minutes, once or more per month, 2006 and 2008



Percentage of Active People Survey respondents participating in cycling for at least 30 minutes, 12 times or more per month, 2006 and 2008



Health Economic Assessment Tool for Cycling

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

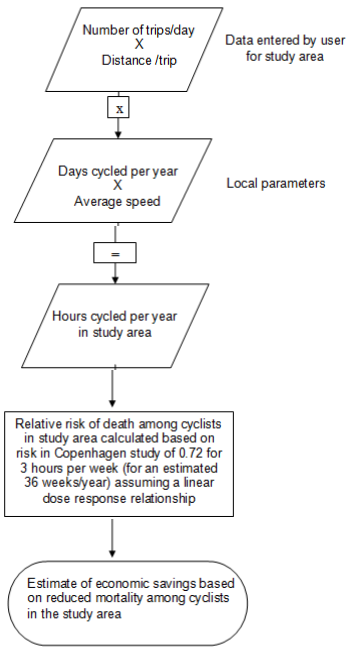
Click here to go to the calculation screen

Click here to go to acknowledgements

Click here to maximise screen size to your monitor

Hide/unhide toolbars to maximise screen space

Figure 1. Basic workings of the HEAT for Cycling



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 nee
The population parameters used to calculate the results are displayed at the bottom of the sheet.

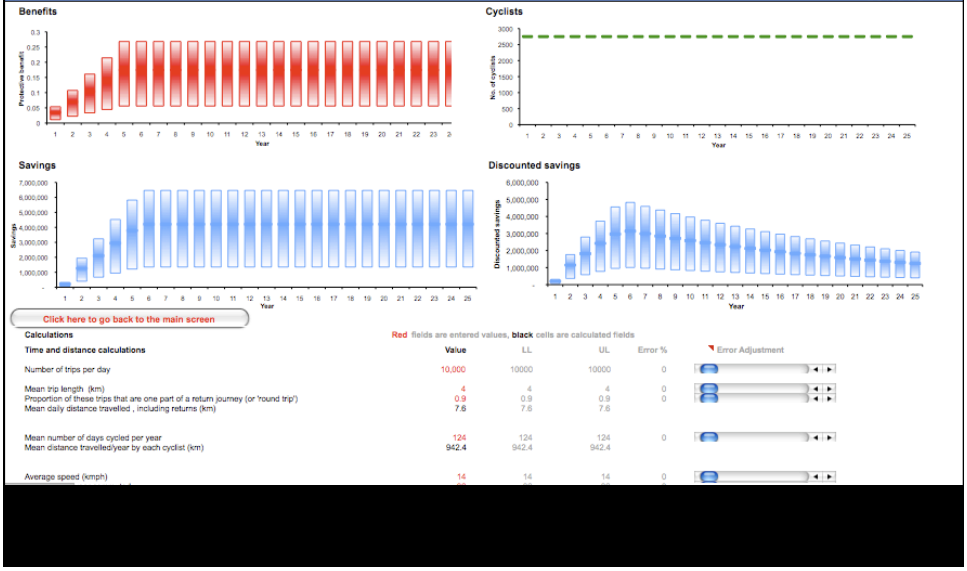
About this tool

Step 1: enter your data (all users must fill in the red fields)		**Notes on how to use this tool.** For additional instructions, hold the mouse over any red triangle.
Number of trips per day	300,000	How many trips are observed (or are estimated) on the specific route; across a city; or on a network, in any direction?
Mean trip length (km)	3.2	What is the mean trip length (estimated or measured)?
Step 2: check the parameters		**The default parameters in green are based on best available evidence and are to be changed only if local data available.**
Mean number of days cycled per year	124	The estimated number of days per year that people cycle
Proportion of trips that are one part of a return journey (or 'round trip')	0.9	What proportion of these observed cyclists do you expect will also be making a return trip later in the day?
Proportion undertaken by people who would not otherwise cycle	0.5	Proportion of these cyclists that are new users DIRECTLY as a result of the new infrastructure or policy
Mean proportion of working age population who die each year	0.005847	See local parameters page for explanation.
Value of life (in Euros)	EUR 1,500,000	What is the standard value of a statistical life used in the country of study?
Discount rate	5.0%	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
Step 3: read the economic savings resulting from reduced mortality		
Maximum annual benefit	EUR 101,015,000	Total value of lives saved (mortality only) assuming 'steady state' of health benefits achieved
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	This value takes the likely build up of benefit into account (see below)
Present value of mean annual benefit:	EUR 54,801,000	This value uses the discount rate from section two to calculate the present value, taking inflation into account
Based on:		Click here to change the timeframe used in calculation
5% discount rate		Click here to view full calculation, graphs and adjust error
5 year build-up of benefit and 1 year build-up of uptake, averaged over 10 years		Reset all default values

Population parameters used to calculate results

Population that stands to benefit	82500	Based on number of individual cyclists calculated from data in steps 1 and 2
Mean proportion of working age population who die each year	0.005847	This reflects the relative risk of all cause mortality in the age groups that are most likely to cycle
Expected deaths in the local population	482.35	Yearly deaths expected among the population of cyclists (assuming they are aged 25-64)
Protective benefit, according to actual distance traveled	0.14	Relative risk of death among cyclists, adjusted for the actual distance cycled (assuming regular trips per year)
Lives saved	67.34	Reduction in number of deaths expected due to the modelled increase in cycling

Calculator and error controls



Department for Transport

Cycling Demonstration Towns Development of Benefit-Cost Ratios

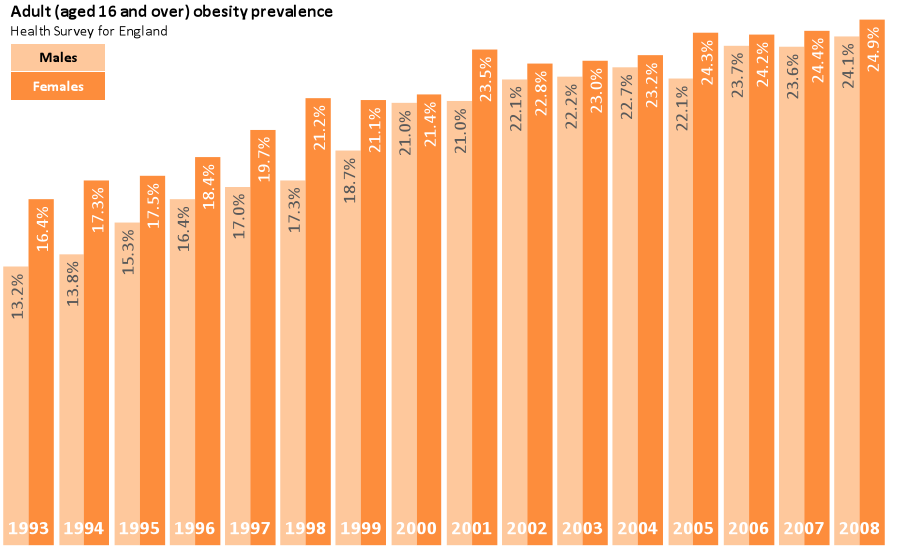
February 2010

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

Adult (aged 16 and over) obesity prevalence

Health Survey for England

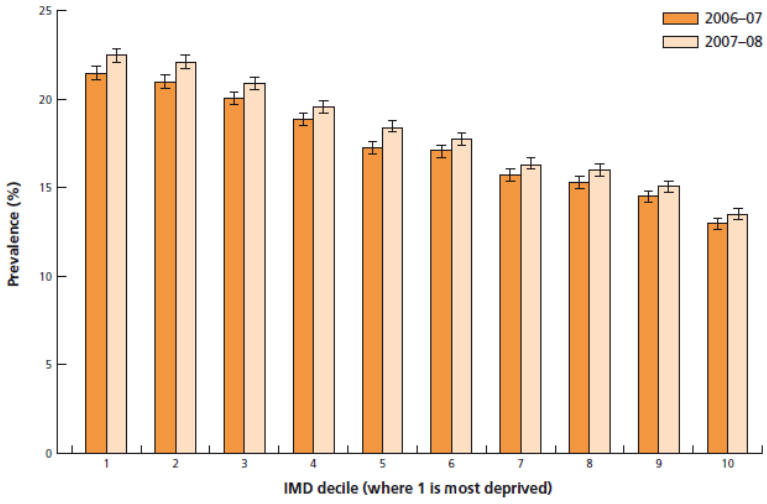


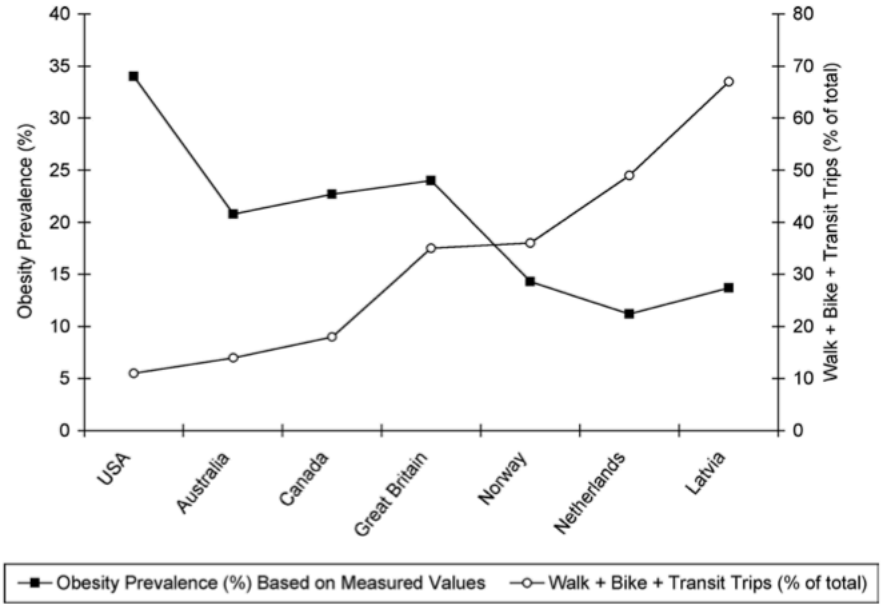
Obese = BMI 30 or more (includes morbidly obese)

Data up to 2002 are unweighted; from 2003 onwards data have been weighted for nonresponse

Prevalence of obesity in Year 6 children 2006/07 and 2007/08 by 2007 Index of Multiple Deprivation decile

Source: NCMP





Source: Bassett et al, Journal of Physical Activity and Health, 2008, 5, 795-814

Getting the balance right…

Social zone / slow world

Multi-functional
Diverse
Culturally defined
Personal
Eye contact
Unpredictable
Human oriented

Single purpose
Uniform
Regulated
Impersonal
Anonymous
Predictable
Vehicle oriented

Traffic zone / fast world

From Hans Monderman - http://www.transformscotland.org.uk/conferences/homezones2004/HansMonderman.htm