

Safety In Numbers



Halving the risks of cycling

Safety In Numbers

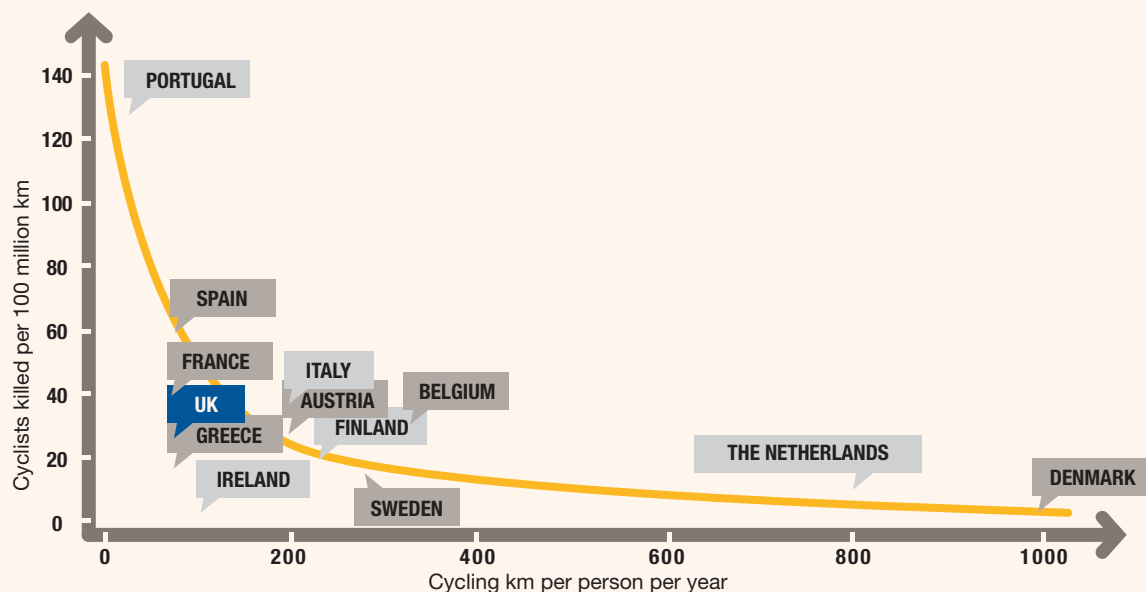


There is good evidence to support the idea that cycling gets safer the more people do it.

Yet despite this, many organisations are reluctant to encourage cycling for fear that this would increase the number of casualties on the roads. This approach fails to recognise the fact that cycling's health benefits greatly outweigh any risks involved – not to mention the benefits to the environment and people's quality of life.

The emphasis must now be on tackling the fears that prevent people from cycling more or not cycling at all. This can be done by: improving driver behaviour, creating more welcoming and cycle-friendly streets and giving people the confidence to cycle more. This will be good not only for our health, but also for streets, communities and the environment.

Countries in Europe with high levels of cycle use tend to be less risky for cyclists. In Denmark, people cycle over 900 kilometres a year and it is a far safer country to cycle in than Portugal, where barely 30 km is covered by each person by bike annually. See the graph below.



The evidence

Research suggests that a doubling of cycling would lead to a reduction in the risks of cycling by around a third, ie. the increase in cycle use is far higher than the increase in cyclists' casualties.

There are plenty of examples to show that steep increases in cycling can go with **reductions** in cycle casualties.

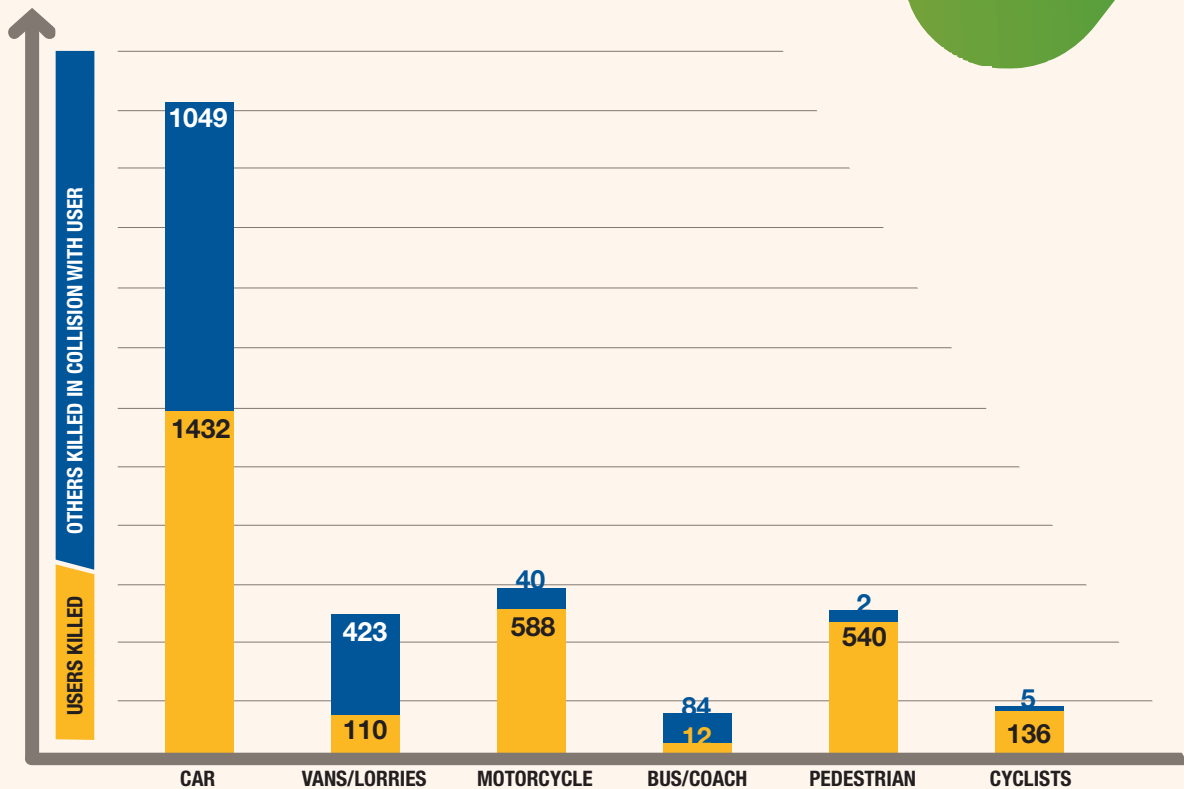
In the UK:

London has seen a 91% increase in cycling since 2000 and a 33% fall in cycle casualties since 1994-98. This means that cycling in the city is 2.9 times safer than it was previously.

In Europe:

The Netherlands has witnessed a 45% increase in cycling from 1980-2005 and a 58% decrease in cyclist fatalities.

2007 Fatalities



Increasing cycle use is good for the safety of other road users too. For every mile travelled, fewer injuries involve cyclists than motor vehicles. Every cycle trip that is a switch from car use means fewer injuries and deaths to others.

Reasons why the 'safety in numbers' effect occurs

1 Drivers grow more aware of cyclists and become better at anticipating their behaviour.

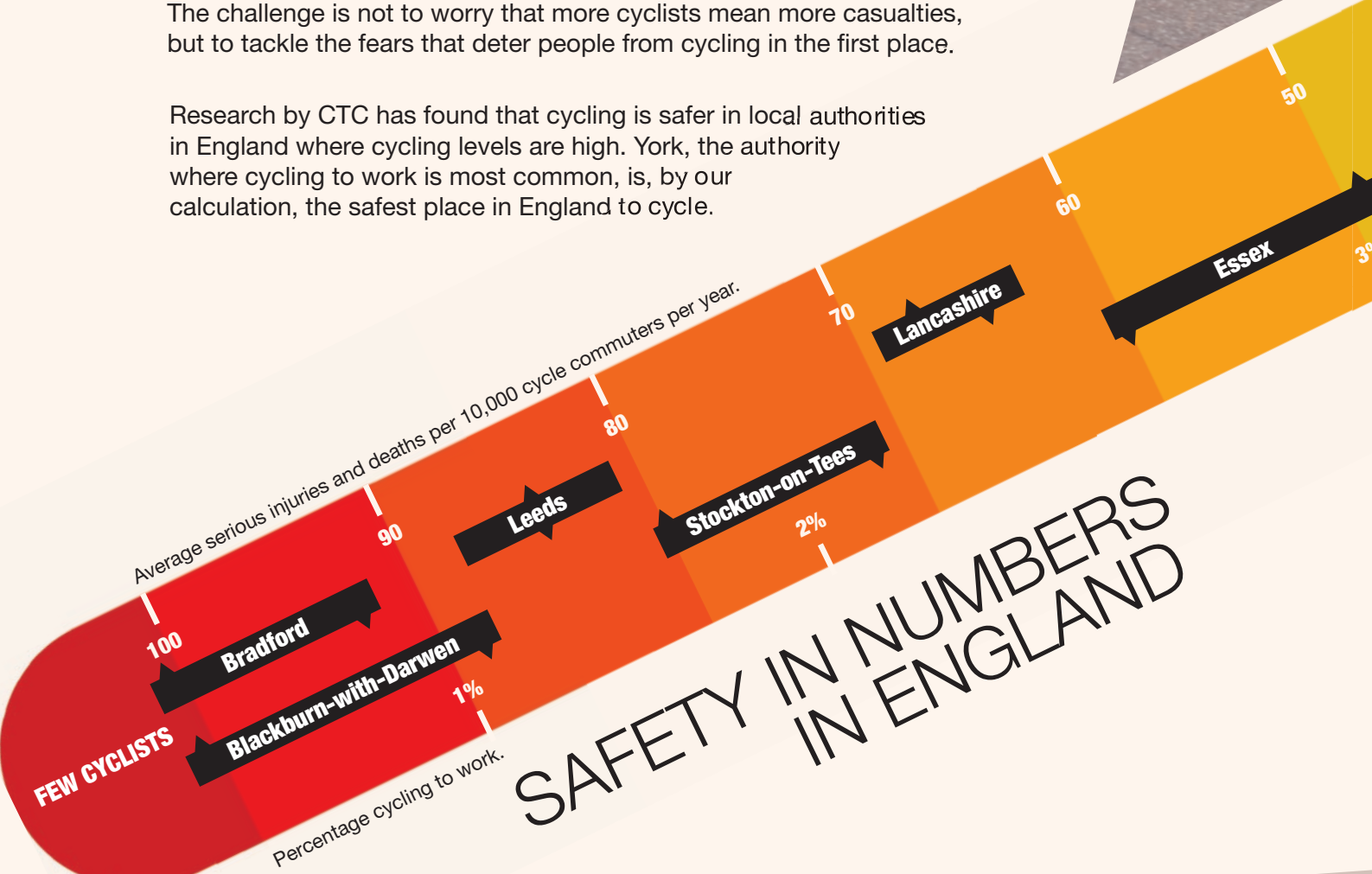
2 Drivers are also more likely to be cyclists themselves, which means that they are more likely to understand how their driving may affect other road users.

3 More people cycling leads to greater political will to improve conditions for cyclists.

This means that we can promote cycling without worrying that this will lead to more casualties. It is clear that 'more' and 'safer' cycling are perfectly compatible.

The challenge is not to worry that more cyclists mean more casualties, but to tackle the fears that deter people from cycling in the first place.

Research by CTC has found that cycling is safer in local authorities in England where cycling levels are high. York, the authority where cycling to work is most common, is, by our calculation, the safest place in England to cycle.





Tackling the fears that prevent more cycling

So why are organisations reluctant to encourage cycling?

Unfortunately, many organisations perceive cycling as dangerous, and perpetuate that perception through their actions. For example, by treating it as a risky activity requiring special clothes and equipment, even well intentioned efforts to promote cycling may actually discourage people by playing on people's fears.

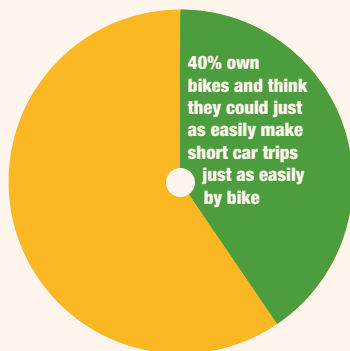
In fact cycling isn't as risky as commonly thought, with just one death every 32 million kilometres – that's over 800 times around the world.

Indeed not cycling is more risky than cycling: cyclists on average live two years longer than non-cyclists and take 15% fewer days off work through illness.

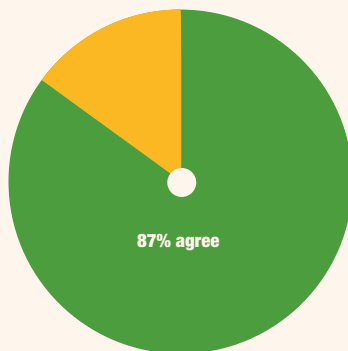


Few people cycle – but more would like to!

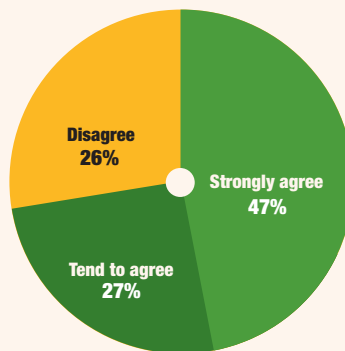
Those who own a bike and want to use it.



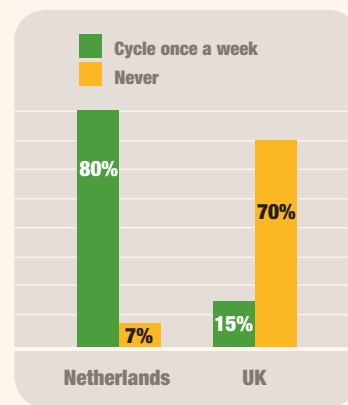
Percentage of people who agree that everyone should be encouraged to cycle for their health



Biggest deterrent to cycling: Fear "The idea of cycling on busy roads frightens me."



Cycling in the Netherlands and UK



It's time for a shift in emphasis towards promoting cycling as a healthy, enjoyable activity. At the same time, we need to tackle the fears which deter people from doing it: encouraging more cyclists onto the roads will make the road network safer for everyone.

Reducing danger and reducing fear

Bad driving, speed, hostile roads and junctions, and the intimidation presented by certain types of vehicle, especially lorries, all discourage people from cycling.

To get more people cycling, and make cycling safer, the Government and local authorities need to take a wide range of actions, for example:

1 Encourage safer driving

Improving driver training, with more emphasis on cyclists' needs.

Improving traffic law and enforcement to make it clear that endangering or intimidating other road users is as unacceptable as drink-driving.

2 Improve the road environment and make it more welcoming and safer for cyclists

Make 20 mph the default urban speed limit on most roads and streets. Reduce rural speed limits.

Reduce the risk presented by large vehicles, such as lorries, which account for one in five cyclist deaths.

3 Fund schemes that promote cycling positively and improve confidence

Provide good quality cycle training for all ages of children and adults.

Associate cycling with health and fun, not danger, in marketing materials.



Local and national authorities should measure the fear and perception of danger experienced by cyclists: in Copenhagen, the world's foremost cycling city, this key indicator is monitored each year.

Targets for cyclist safety must be based on exposure - that is reductions in casualties per mile or per hour, not based simply on numbers of injuries. CTC is pleased that the Government has adopted our position in A Safer Way, its new Road Safety Strategy.

Getting more people cycling will make the roads safer, make people healthier and reduce the risks of cycling for every one of us. It's up to local authorities and the Government to acknowledge the role of increased cycling in making the roads and streets safer and to pursue policies to make this happen.

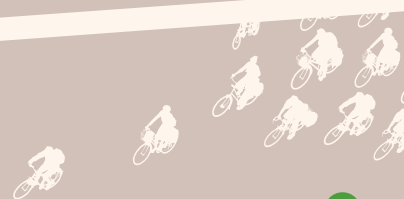


About CTC

In our 'New Vision for Cycling', CTC sets out the benefits of cycling and describes the measures needed to double cycle use whilst halving the risks of cycling within ten years. www.ctc.org.uk/newvision

CTC Charitable Trust, CTC's charity arm, works to promote cycling by raising public and political awareness of its health, social and environmental benefits and by working with all communities to help realise those benefits. CTC provides a comprehensive range of services, advice, events and protection for its members.

To find out more, to join or support CTC visit www.ctc.org.uk, or phone **0844 736 8451**





working for cycling

Safety In Numbers

JOIN AND SUPPORT US

Parklands, Railton Road, Guildford, Surrey GU2 9JX / www.ctc.org.uk / 0844 736 8450

Safety in numbers in England

There is good evidence to support the idea that cycling gets safer the more people do it.

Yet despite this, many organisations are reluctant to encourage cycling for fear that this would increase the number of casualties on the roads. This approach fails to recognise the fact that cycling's health benefits greatly outweigh any risks involved – not to mention the benefits to the environment and people's quality of life.

The emphasis must now be on tackling the fears that prevent people from cycling more or not cycling at all. This can be done by: improving driver behaviour, creating more welcoming and cycle-friendly streets and giving people the confidence to cycle more. This will be good not only for our health, but also for streets, communities and the environment.

The evidence

Research suggests that a doubling of cycling would lead to a reduction in the risks of cycling by around a third, ie. the increase in cycle use is far higher than the increase in cyclists' casualties.¹ There are plenty of examples to show that steep increases in cycling can go with reductions in cycle casualties. For example:

in the UK:

- London has seen a 91% increase in cycling since 2000 and a 33% fall in cycle casualties since 1994-98. This means that cycling in the city is 2.9 times safer than it was previously.²
- York, comparing 1991/3 and 1996/8: mode share for cycling rose from 15% to 18%, cyclist KSI fell 59% (from 38 to 15).³

and in Europe:

¹ Jacobsen P. *Safety in numbers: more walkers and bicyclists, safer walking and bicycling*. Injury Prevention vol. 9 pp 205-209, 2003 (see <http://ip.bmjournals.com/cgi/reprint/9/3/205>).

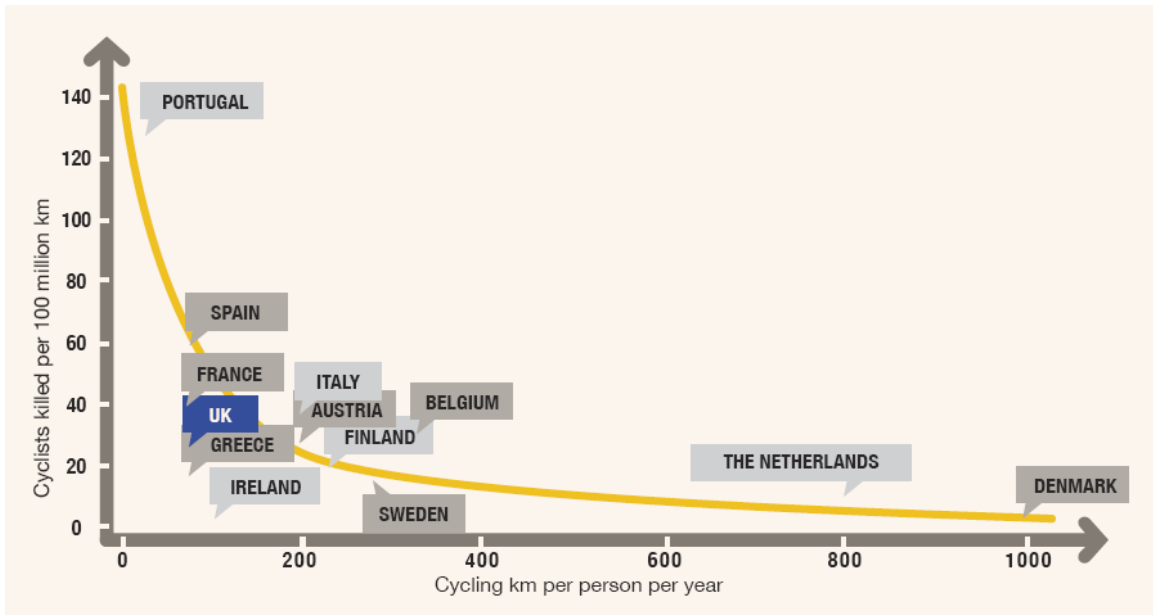
² Transport for London press release. 16/6/08.

www.tfl.gov.uk/corporate/media/newscentre/archive/8631.aspx

³ Harrison J. *Planning for more cycling: The York experience bucks the trend*, in World Transport Policy & Practice, Volume 7, (4), 2001

- The Netherlands has witnessed a 45% increase in cycling from 1980-2005 and a 58% decrease in cyclist fatalities.⁴
- Copenhagen, 1995-2006: 44% increase in cycling, 60% decrease in KSIs, with cycle to work modal share rising from 31% to 36%.⁵

Countries in Europe with high levels of cycle use tend to be less risky for cyclists. In Denmark, people cycle over 900 kilometres a year and it is a far safer country to cycle in than Portugal, where barely 30 km is covered by each person by bike annually. See graph below and **Appendix A**.



Evidence from English local authorities

CTC has found that cycling is safer in local authorities in England where cycling levels are high. York, the authority where cycling to work is most common, is, by our calculation, the safest place in England to cycle.

Our research has contrasted the cycle commuting use in English local authorities from the 2001 census against the rate of killed and serious injuries (KSI) in those local authorities, using an average of 5 years worth of data for KSI. 104 local authority areas were examined.

Greater London, Greater Manchester and Liverpool are included as single items because of high levels of cross-boundary commuting means that injuries often occur to cyclists who live or work outside the local authority in question.

⁴ Ministerie van Verkeer en Waterstaat. *Cycling in the Netherlands*. 2007

⁵ City of Copenhagen, *City of Cyclists: Bicycle Account*. 2006 - http://www.vejpark2.kk.dk/publikationer/pdf/464_Cykelregnskab_UK.%202006.pdf

We believe that commuting is an adequate proxy for overall cycle use since commuting makes up 42% of all the miles travelled by cycle in the UK. We also have no reason to suspect that places that have high levels of cycle commuting have disproportionately lower levels of leisure cycling, or vice versa.

Below is a chart including data for 7 local authority areas with similar population sizes, in a range of geographical locations in the UK.

This shows that even where there are very high levels of commuting, the average number of KSIs is approximately the same in areas which have a tenth of the number of commuter cyclists. This suggests that the exposure to risk for cyclists in areas with high cycle use is lower than those where there is lower cycle use.

Local authority	Average KSIs – 2003-2007	% commuting	Population (2007)	Cycle commuters (2001)	Average KSIs/ 10,000 commuters
York	10.4	12.04	193,000	10,508	10
Herefordshire	6	4.2	178,000	3,415	18
Swindon	10.4	5.08	190,000	4,777	22
Luton	3.8	1.74	189,000	1,433	27
Portsmouth	17	7.08	198,000	6,160	28
Warrington	8.2	3.22	195,000	2,936	28
Stockton	8.4	2.08	190,000	1,050	80

The full data-set can be found at **Appendix B**.

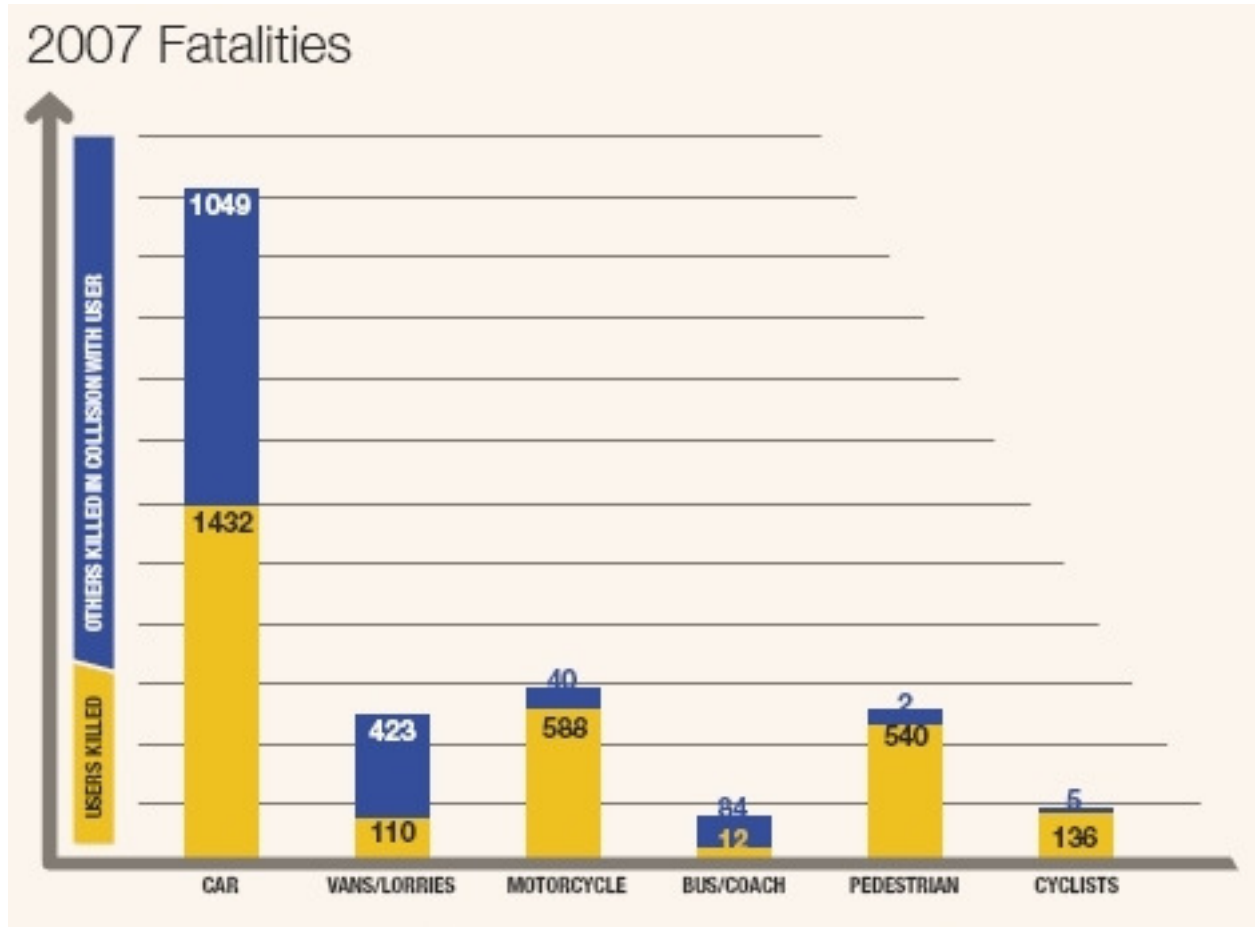
Why does the effect occur?

The correlation between cyclists' safety and cycle use - the 'safety in numbers' effect – may exist for a variety of reasons:

1. Drivers grow more aware of cyclists and become better at anticipating their behaviour.
2. Drivers are also more likely to be cyclists themselves, which means that they are more likely to understand how their driving may affect other road users.
3. More people cycling leads to greater political will to improve conditions for cyclists.

In addition, since cycling is often perceived as risky, existing cyclists may be less risk-averse than any new cyclists who take up cycling. This effect can be seen from the fact that where cycle commuting levels are high, a higher proportion of the commuters are women.

Increasing cycle use is good for the safety of other road users too. For every mile travelled, fewer injuries involve cyclists than motor vehicles. Every cycle trip that is a switch from car use means fewer injuries and deaths to others.



(Department for Transport, *Road Casualties Great Britain 2007*, table 23)

This means that we can promote cycling without worrying that this will lead to more casualties. It is clear that 'more' and 'safer' cycling are perfectly compatible.

The challenge is not to worry that more cyclists mean more casualties, but to tackle the fears that deter people from cycling in the first place.

Tackling the fears that prevent more cycling

So why are organisations reluctant to encourage cycling?

Unfortunately, many organisations perceive cycling as dangerous, and perpetuate that perception through their actions. For example, by treating it as a risky activity requiring special clothes and equipment, even well intentioned efforts to promote cycling may actually discourage people by playing on people's fears.

Cycling is much safer than many people think it is and the health benefits far outweigh the risks. An adult cyclist typically has a level of fitness equivalent to someone 10 years younger,⁶ and a life expectancy two years above the average.⁷

Few people cycle – but more would like to!

We think the biggest deterrent to cycling is fear: 74% of people agree that the idea of cycling on a busy road frightens them.

About 40% of people in the UK own bikes and around the same percentage agree that they could make short car trips just as easily by bike. But only about half that number – 1 in 5 of us – cycle more than once or twice a month.⁸

By contrast, in the Netherlands, 4 out of 5 people cycle once a week and only 7% never ride a bike, compared with 70% in the UK.

Even though most people don't cycle, surveys show that the vast majority think that cycling is a good idea and should be given greater priority in designing streets and towns.

It's time for a shift in emphasis towards promoting cycling as a healthy, enjoyable activity. At the same time, we need to tackle the fears which deter people from doing it: encouraging more cyclists onto the roads will make the road network safer for everyone.

Reducing danger and reducing fear

Bad driving, speed, hostile roads and junctions, and the intimidation presented by certain types of vehicle, especially lorries, all discourage people from cycling.

To get more people cycling, and make cycling safer, the Government and local authorities need to take a wide range of actions, for example:

⁶ Tuxworth W et al, *Health, fitness, physical activity and morbidity of middle aged male factory workers*. British Journal of Industrial Medicine vol 43. pp 733-753, 1986.

⁷ Paffenbarger R et al, *Physical activity, all-cause mortality and longevity of college alumni*. New England Journal of Medicine, vol. 314(10) pp 605-613, 1986 (for abstract see <http://content.nejm.org/cgi/content/abstract/314/10/605>).

⁸ Department for Transport. *Cycling factsheet*. January 2007 - <http://www.dft.gov.uk/pgr/statistics/datatablespublications/personal/factsheets/cyclefactsheet.pdf>

Encouraging safer driving by:

- improving **driver training**, with more emphasis on understanding the needs of cyclists;
- improving **traffic law and enforcement** to make it clear that endangering or intimidating other road users is as unacceptable as drink-driving.

Improving the road environment and making it more welcoming and safer for cyclists by:

- adopting 20 mph as the **default urban speed limit**, with exceptions allowed for certain major roads. Rural speed limits must be reduced for most roads, especially country lanes.
- eradicating the **disproportionate risk presented by large vehicles**, such as lorries, which account for one in five cyclist deaths.

Funding schemes that promote cycling positively and improve confidence such as:

- providing good quality **cycle training** for everyone, including **Bikeability** for students and **refresher training** for adults.
- marketing cycling by talking about its **fun, enjoyment and health benefits**. These benefits far outweigh the risks involved and organisations should recognise this when they promote cycling.

Finally, local and national authorities should measure the **fear and perception of danger** experienced by cyclists: in Copenhagen, the world's foremost cycling city, this key indicator is monitored each year.⁹ The Department for Transport already measures the perception of the safety of accessing public transport, the same should be done for cycling.¹⁰

Local and national government should also adopt targets for cyclist safety based on exposure - that is reductions in casualties per mile or per hour, not based simply on numbers of injuries. CTC is pleased that the Government has adopted our position in *A Safer Way*, its new Road Safety Strategy, published as a draft in April 2009.¹¹

⁹ City of Copenhagen, *Bicycle Account*. 2006, p. 5 - http://www.vejpark2.kk.dk/publikationer/pdf/464_Cykelregnskab_UK.%202006.pdf

¹⁰ Department for Transport. *Transport Trends 2008*. Trends 7.6 – 7.7

¹¹ <http://www.dft.gov.uk/roadsafetyconsultation>

Getting more people cycling will make the roads safer, make people healthier and reduce the risks of cycling for every one of us. It's up to local authorities and the Government to acknowledge the role of increased cycling in making the roads and streets safer and to pursue policies to make this happen.

About CTC

In our 'New Vision for Cycling', CTC sets out the benefits of cycling and describes the measures needed to double cycle use whilst halving the risks of cycling within ten years.

www.ctc.org.uk/newvision

Find out more about the Safety in Numbers campaign:

www.ctc.org.uk/safetyinnumbers

Appendix A – 13 EU countries

From ERSO and Eurobarometer.

	Fatalities per billion kms (2006/7)	2007 (Eurobarometer)
Denmark	5.8	954
Netherlands	12.9	879
Belgium	26.4	329
Sweden	10.1	277
Finland	21.1	256
Ireland	12.1	186
Italy	31.0	159
Austria	32.8	173
United Kingdom	29.0	84
France	34.3	81
Greece	24.3	77
Portugal	128.8	29
Spain	60.3	27

Appendix B – English local authorities data tables

From *Road Casualties Great Britain 2003-2007*, table 46. Commuting data from *Census 2001*.

	Cycle commuting % rate 2001	Average casualties (2003-2007) per 10,000 commuters
York	12.04	10
Lincolnshire	5.42	12
Reading	4.11	13
Suffolk	4.95	17
Norfolk	5.2	17
Somerset	4.61	17
Herefordshire	4.2	18
Oxfordshire	6.73	19
Rutland	4.91	20
Gloucestershire	4.18	20
Redcar & Cleveland	1.93	20
Leicester City	4	20
Peterborough	7.7	21
South Gloucestershire	2.96	21
Plymouth	2.64	21
Kingston upon Hull	11.65	21

Cornwall and Isle of Scilly	1.76	21
Swindon	5.08	22
Medway Towns	1.36	22
Cambridgeshire	9.05	22
Milton Keynes	3.02	23
East Riding of Yorkshire	5.12	23
Torbay	1.55	25
Bracknell Forest	2.79	25
Telford & Wrekin	2.51	26
Coventry	2.84	26
Luton	1.74	27
Humberside	7.32	27
Portsmouth	7.08	28
Wokingham	2.65	28
Warrington	3.22	28
Leicestershire	3.11	28
Poole	4.35	29
Middlesbrough	2.54	29
Windsor and Maidenhead	2.8	29
Bath and NE Somerset	2.43	30
Doncaster	2.89	30
North Somerset	2.55	30
Worcestershire	2.49	30
Staffordshire	2.16	30
Solihull	1.55	30
Bedfordshire	3.11	31
Devon	2.32	31
Wiltshire	3.63	31
Derby	4.43	32
Halton	2.03	33
North Lincolnshire	5.57	33
West Sussex	3.42	34
North Tyneside	2.02	34
Warwickshire	2.93	36
Shropshire	3.47	36
Kent	2	36
Cumbria	2.7	36
West Berkshire	2.67	37
Bristol	4.58	37
Wolverhampton	2.67	37
Walsall	2.04	38
Southampton	4.3	38
Sandwell	1.74	38
Dudley	1.34	38
Slough	2.93	41
Southend	2.73	41
North-East Lincolnshire	7.65	41
Northamptonshire	2.25	41

Stoke on Trent	1.56	42
Greater Manchester	1.91	42
Darlington	2.21	42
Hampshire	3.53	42
Isle of Wight	3.04	43
Surrey	2.23	45
Liverpool	1.98	46
Hartlepool	2.78	47
Thurrock	1.68	48
Essex	2.51	49
Wiltshire (excl Swindon)	2.52	49
Birmingham	1.4	49
North Yorkshire	2.83	50
Blackpool	3.19	50
Bournemouth	4	51
London	2.33	52
Cheshire	3.21	53
Rotherham	0.95	53
Hertfordshire	1.78	53
Wakefield	1.45	54
Buckinghamshire	1.61	58
Northumberland	1.6	60
South Yorks	1.41	61
Brighton and Hove	2.7	62
South Tyneside	1.94	63
Nottinghamshire	3.19	64
Newcastle upon Tyne	1.76	66
Nottingham	3.67	66
Sunderland	1.34	67
Lancashire	2.44	67
Dorset	3.05	71
Derbyshire	1.82	74
Gateshead	1.03	76
Durham	1.06	79
Stockton-on-Tees	2.08	80
Leeds	1.3	84
Kirklees	1.01	87
West Yorkshire	1.11	88
Blackburn with Darwen	1.15	101
Bradford	0.77	101
E Sussex	1.74	111
Barnsley	0.83	114
Sheffield	1.08	116
Calderdale	0.81	158