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The British experience in transport safety development

Richard E Allsop

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UCL

Accidental deaths in Great Britain: annual average 1993-2003

At home	3665
At work	261
On the roads	3538
In railway operation and use	41
Trespassing on the railway	133
In UK registered aircraft	30
On UK merchant vessels > 100gt	4
All transport	3746
Others	4249
All accidental deaths	11920

*Collated by
Andrew Evans for the DfT*

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Disproportionate risk on the roads

- People in Britain under 75 years of age spend about one hour a day using the roads – and about 2800 of them are killed on the roads each year
- And in the 15 waking hours a day they spend elsewhere, about 5600 of them die as a result of accidents
- So the **risk of death per hour while using the roads is about 7.5 times the risk per hour in the rest of everyday life in Great Britain**
- The ratio is about 4.8 when deaths to people aged 75 or over in falls are included

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For people of all ages in Poland

- About 5300 are killed each year in the hour or so a day they spend using the roads
- And in the 15 waking hours a day they spend elsewhere, about 10500 of them die as a result of accidents
- So the risk of death per hour while using the roads is about 7.5 times the risk per hour in the rest of everyday life **even without excluding deaths to people aged 75 or over in falls**
- If they were excluded, the ratio would exceed 10

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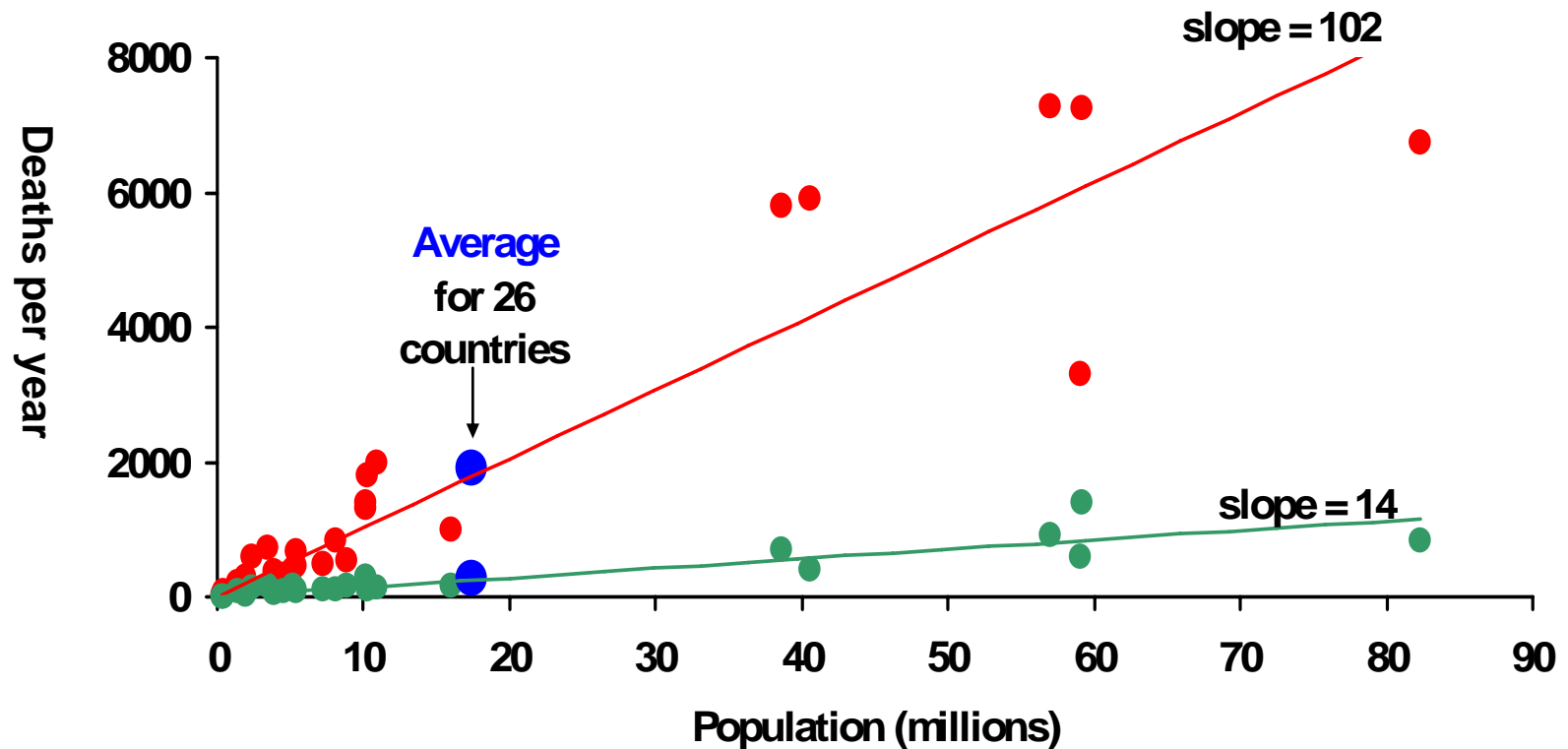


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Numbers killed per year **on the roads** and **in a similar time in the rest of everyday life** in 26 European countries 2000-2002



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The scandal of tolerance

- **No area of active life can be free of risk**
- **But we should not tolerate such disproportionate risk in any unavoidable part of everyday life**
- **To get to grips with risk on the roads we need to address the public and political tolerance of current levels of risk**
- **This needs both public awareness and political commitment**

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Recent history of road safety strategy in Britain

- 1987 – casualty reduction target for 2000 and review of actions that could help to achieve it**
- 1996 – consultation about post-2000**
- 1997 – commitment to post-2000 strategy focussing on a casualty reduction target for 2010**
- 1998-99 – development of strategy including target setting and review of speed policy**
- 2000 – strategy and targets for 2010 published**
- 2004 – first 3-year review published**
- 2007 – second 3-year review published**
- 2007 – preparation for beyond 2010 began**

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British Government road casualty reduction targets for 2010

Compared with the average for 1994-1998:

- **to reduce the number of people killed or seriously injured in road accidents by 40%**
- **to reduce the number of children killed or seriously injured by 50%**
- **to reduce the number of people slightly injured per unit vehicle-distance by 10%**

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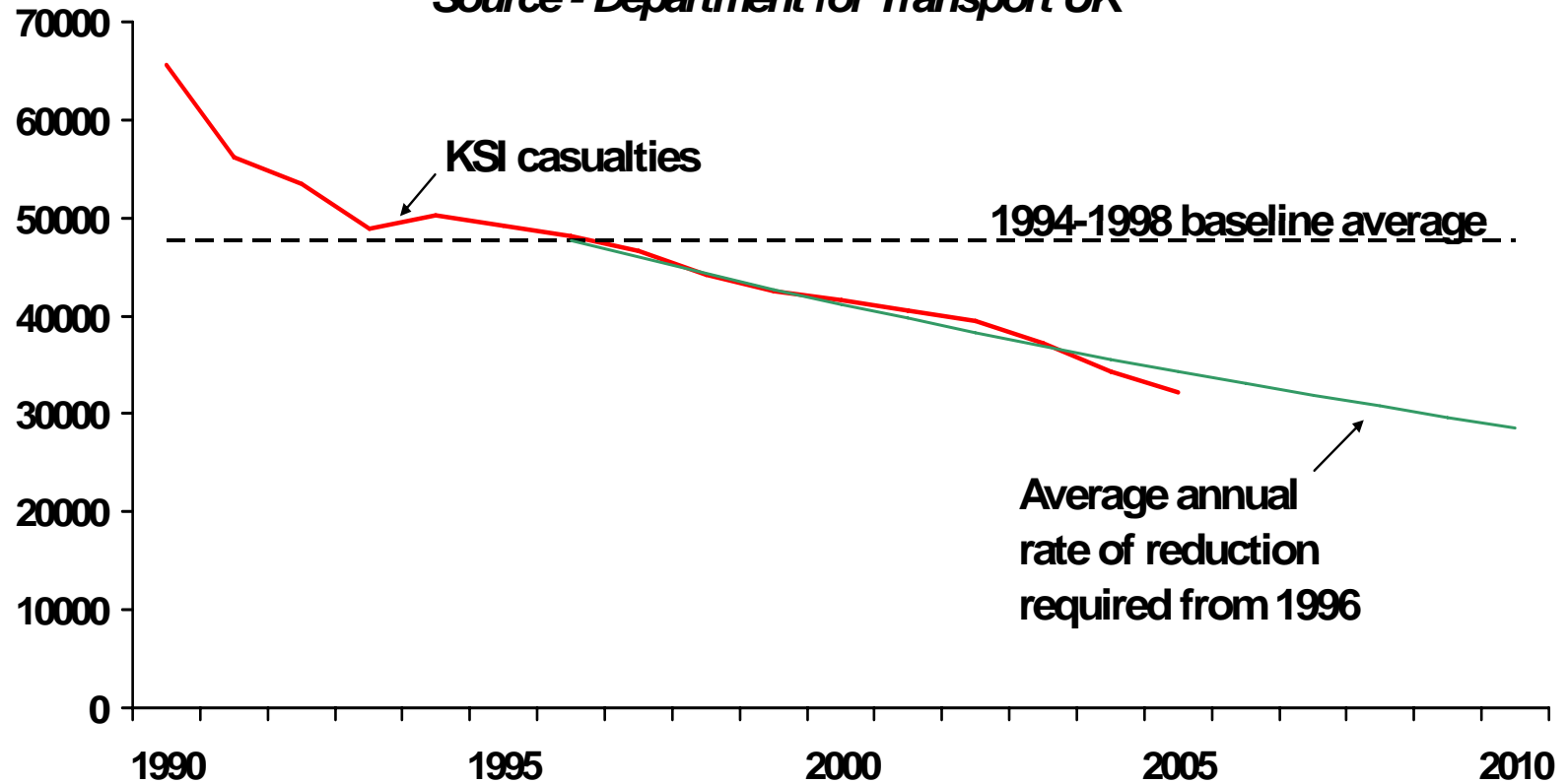
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Numbers killed or seriously injured (KSI) Great Britain 1990-2006

Source - Department for Transport UK



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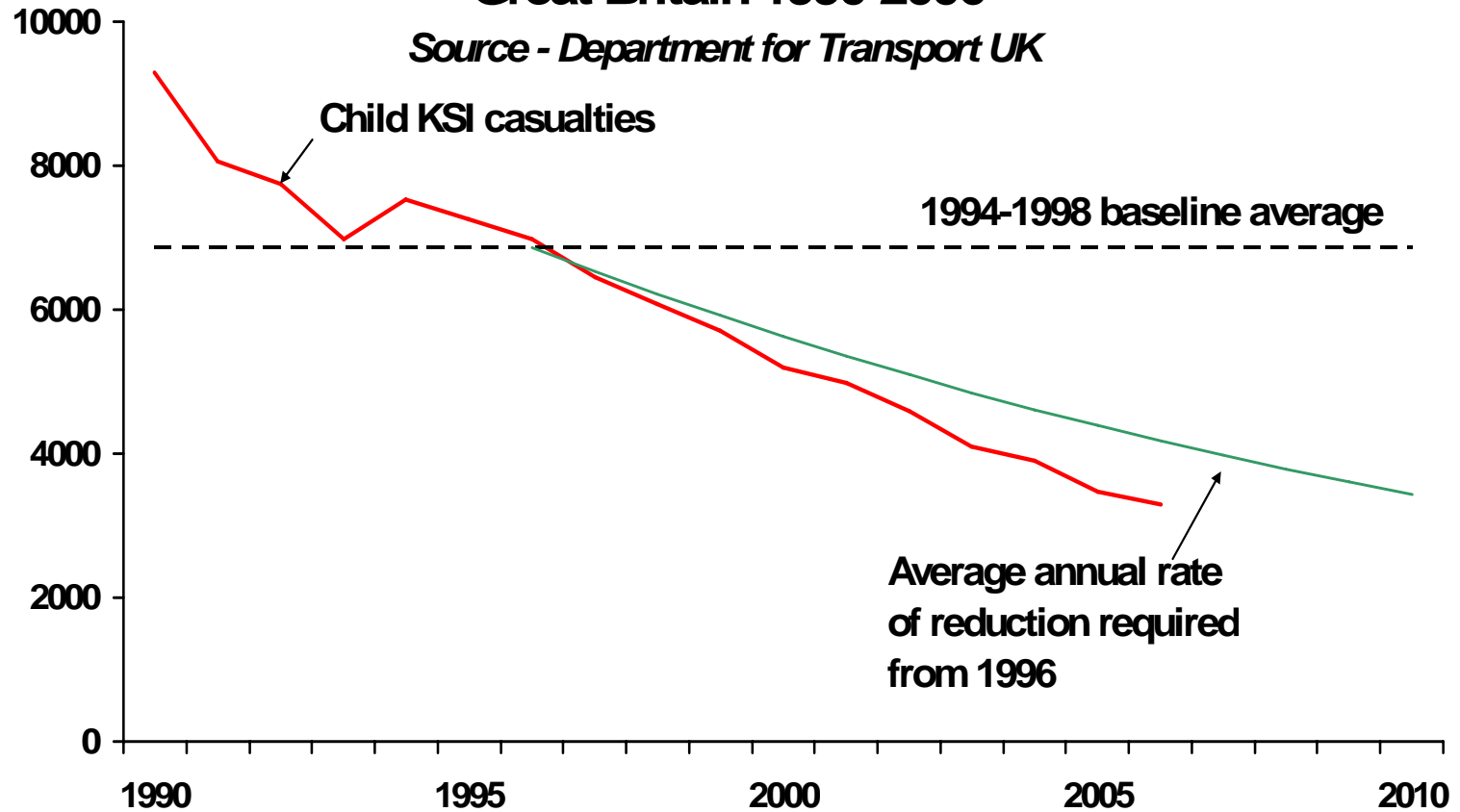
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Number of children killed or seriously injured (KSI) Great Britain 1990-2006

Source - Department for Transport UK



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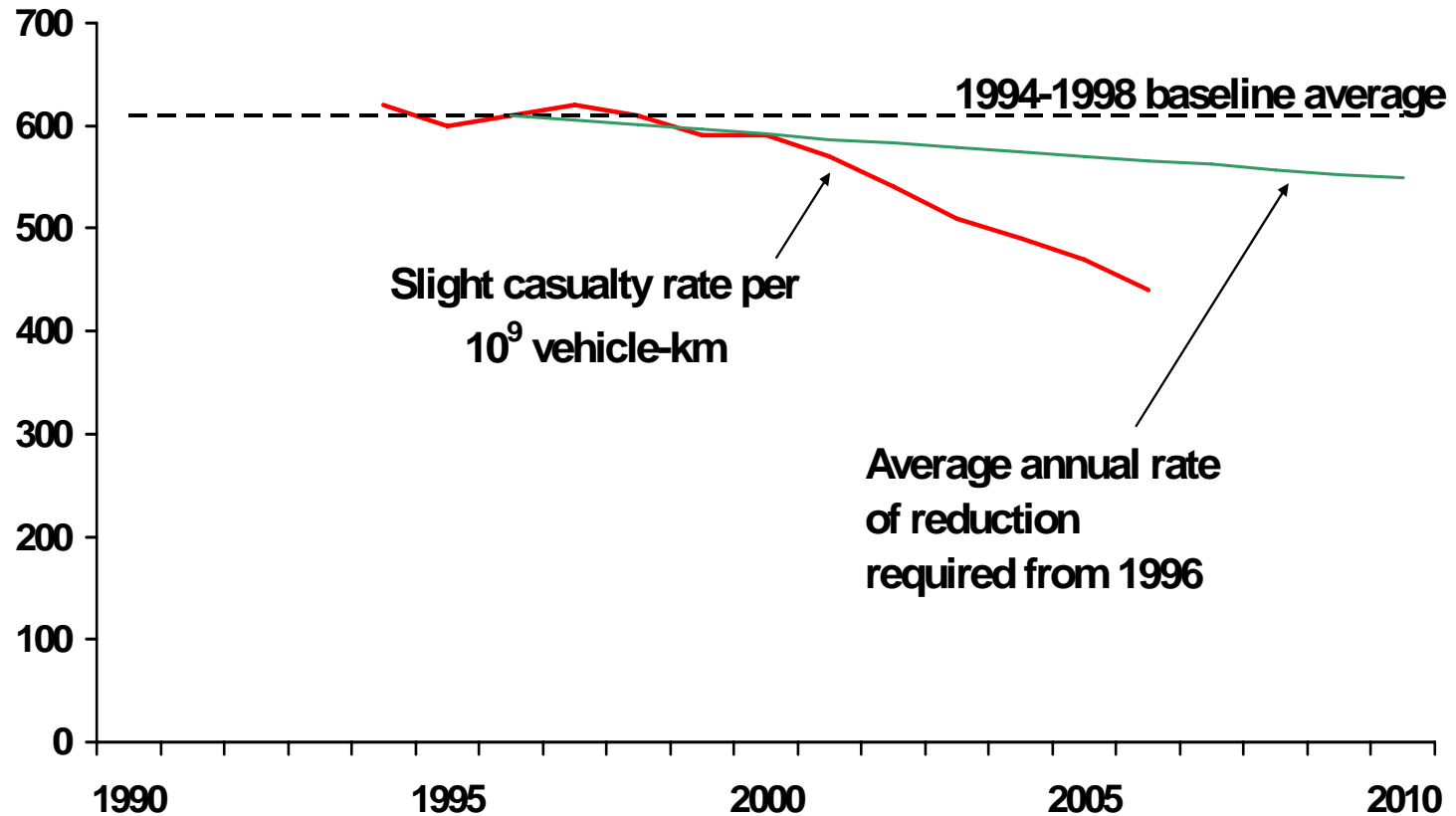
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Slight casualty rate per 10^9 vehicle-km Great Britain 1994-2006

Source - Department for Transport UK



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Additional target for 2005

To reduce road casualties more rapidly in deprived areas of England than in England as a whole between the average for 1999-2001 and the number in 2005

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Numerical progress to 2006

- **Some concern about changes in level of reporting**
- **But progress towards targets for numbers KSI is judged to be largely genuine**
- **On present trends these targets should be met – the challenge is now to surpass them**
- **The additional target for casualty reduction in deprived areas to 2005 has been met**

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British Government road safety strategy: 10 areas of concern and action

progress

- safer road use for children **good**
- safer drivers - training and testing **limited**
- safer drivers - drink, drugs and drowsiness **poor**
- safer infrastructure **good**
- safer speeds **good**
- safer vehicles **good**
- safer motorcycling **limited**
- safer walking, cycling and horseriding **limited**
- better enforcement of traffic law **limited**
- promotion of safer road use **good**

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Some policy challenges

- Persistence of deaths among car users
- Helping young drivers towards maturity
- Getting the unbelted to belt up
- Drink driving – the next steps
- Keeping on with road safety engineering
- Opening the way to voluntary ISA
- The changing mix of cars
- Motorcycling
- **Beyond 2010**

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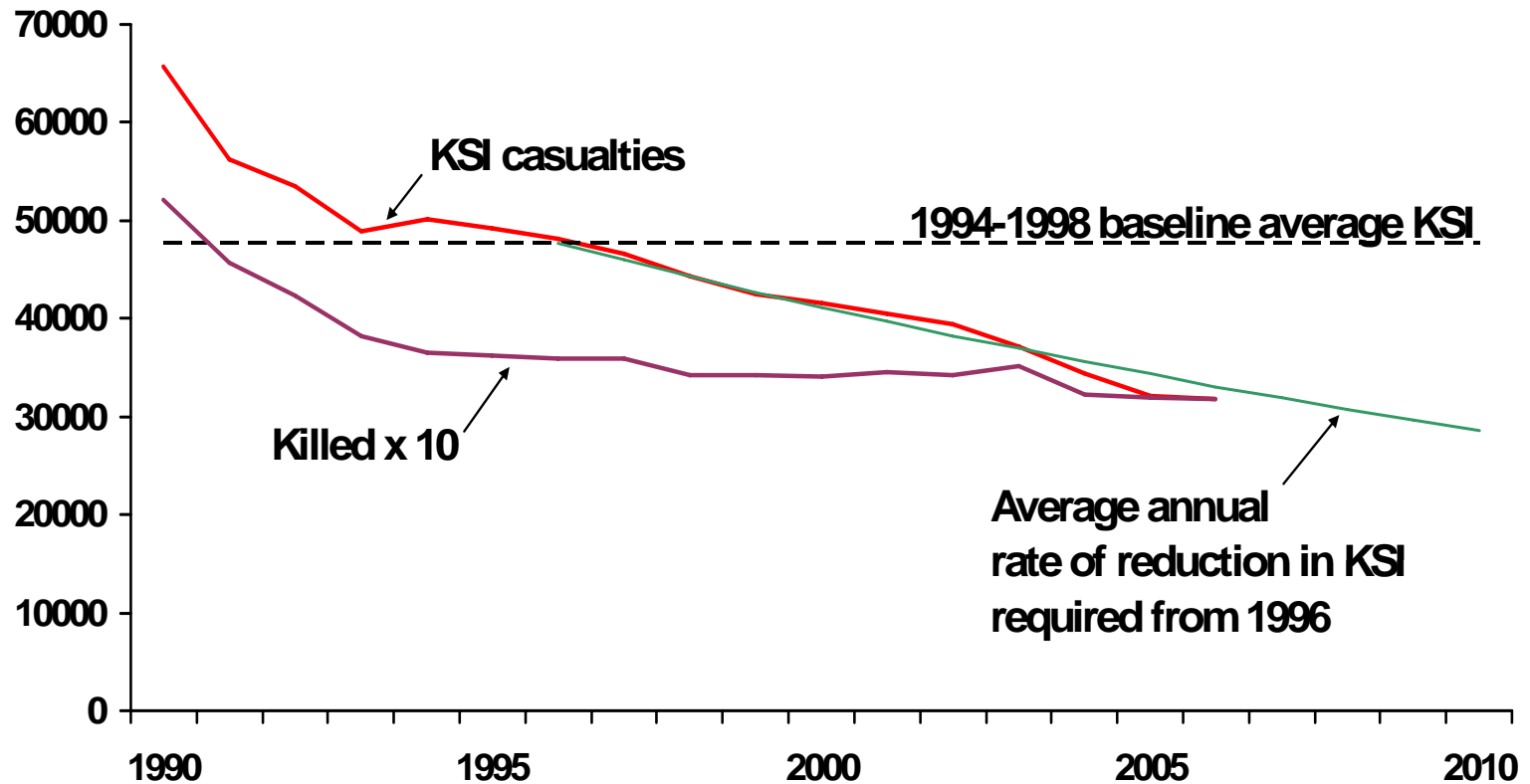


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Changes in number KSI and number killed Great Britain 1990-2006



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Persistence of car user deaths

- The age group 16-30 (~25% of adult life) includes 40% of male car driver deaths, 60% of male car passenger deaths and 30% of female car user deaths
- They are concentrated in leisure hours
- 2/3 happen in accidents in which a driver loses control – mainly through excessive speed, lack of judgement or carelessness
- Deaths on the roads in Britain are likely to be reduced by only about 18% by 2010

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Helping young drivers towards maturity

- **Learning to drive is part of growing up – it cannot be risk-free**
- **Young people need help to become mature drivers with less risk to themselves and to others – and with respect for traffic law**
- **Systematic reform of the way people learn and maintain safe driving skills is envisaged**

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Getting the unbelted to belt up

- **Belt-wearing in Britain is currently around 90%**
- **Yet 30% of car occupants killed are unbelted**
- **If belt-wearing halves the risk of death, this means that severe accident risk of the unbelted is 1.5 times that of the belted**
- **Imposing penalty points for non-wearing in addition to a fine is being considered**

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Drink driving – the next steps

- The risks of driving after drinking need to be taught to each new cohort of drivers and kept fresh in the minds of all drivers
- Better enforcement technology is awaited
- The UK is the only large EU country with a legal blood alcohol limit over 50mg/100ml
- Lowering the limit to 50 with fresh public information and more enforcement could get deaths in drink-driving accidents moving downward again

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Keeping on with road safety engineering

- **Yes, most of the backlog of very high-risk sites have been treated**
- **But the range of techniques for small-scale road safety engineering is growing and rates of return remain high**
- **So we are still under investing in it**
- **Putting this right needs money and skills**

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Opening the way to voluntary ISA

- Many who have driven with intelligent speed adaptation like it
- The market could deliver it to those who want it ahead of any legislation – provided that reliably updated digital maps of speed limits are assured
- London is assuring this for its road network and other parts of Britain could follow

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The changing mix of cars

- Injury in collisions between light and heavy cars is more severe than in collisions between equally heavy cars
- More car-buyers are choosing the lightest or the heaviest types of car
- In Britain this has increased car user deaths by about 1% over 6 years

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Motorcycling

- **Motorcycles offer people more mobility for less cash, fuel and road space – but an order of magnitude higher risk of death or severely disabling injury**
- **Balancing these gains and losses calls for more understanding of differences between utilitarian and risk-seeking motorcycling – and of the choice to motorcycle**

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Beyond 2010

- To come within a factor of 2 of the pragmatic vision
- *To reduce the risk of death per hour spent using the roads to the average per hour spent in other everyday activities*
- Requires in Britain about two more halving in deaths per year on the roads from the likely number in 2010

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Engaging new stakeholders – safer road use as part of:

Not only safe access and mobility but also

- improved public health through greater physical activity in travel
- greater liveability in our surroundings through more welcoming local roads
- greater social inclusion through safe neighbourhoods for all
- reduced use of fossil fuels

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Towards a sustainable transport system – five broad goals

- To maximise the competitiveness and productivity of the economy
- To address climate change
- To protect people's safety, security and health
- To improve the quality of life
- To promote greater equality of opportunity

Transport safety is relevant to all of these

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Rail safety

- **The risk of death per hour spent travelling by rail in Britain is about the same as in the rest of everyday life – with about 10 passengers killed per year**
- **But for every 2 passengers killed, roughly one railway worker and 2 users of level crossings are killed – and so are about 30 trespassers**

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Fatal train accidents

Are fatal collisions, derailments and overruns

- Analysis by Andrew Evans estimates that these have decreased in number by about 6% per year since 1967 – without change in the average of 4 deaths per such accident
- No evidence that rate of decrease has been affected by privatisation
- Estimated rate in 2006 was 0.5 accidents/year after reduction by 0.37 for industry-estimated effect of warning system TPWS since 2004

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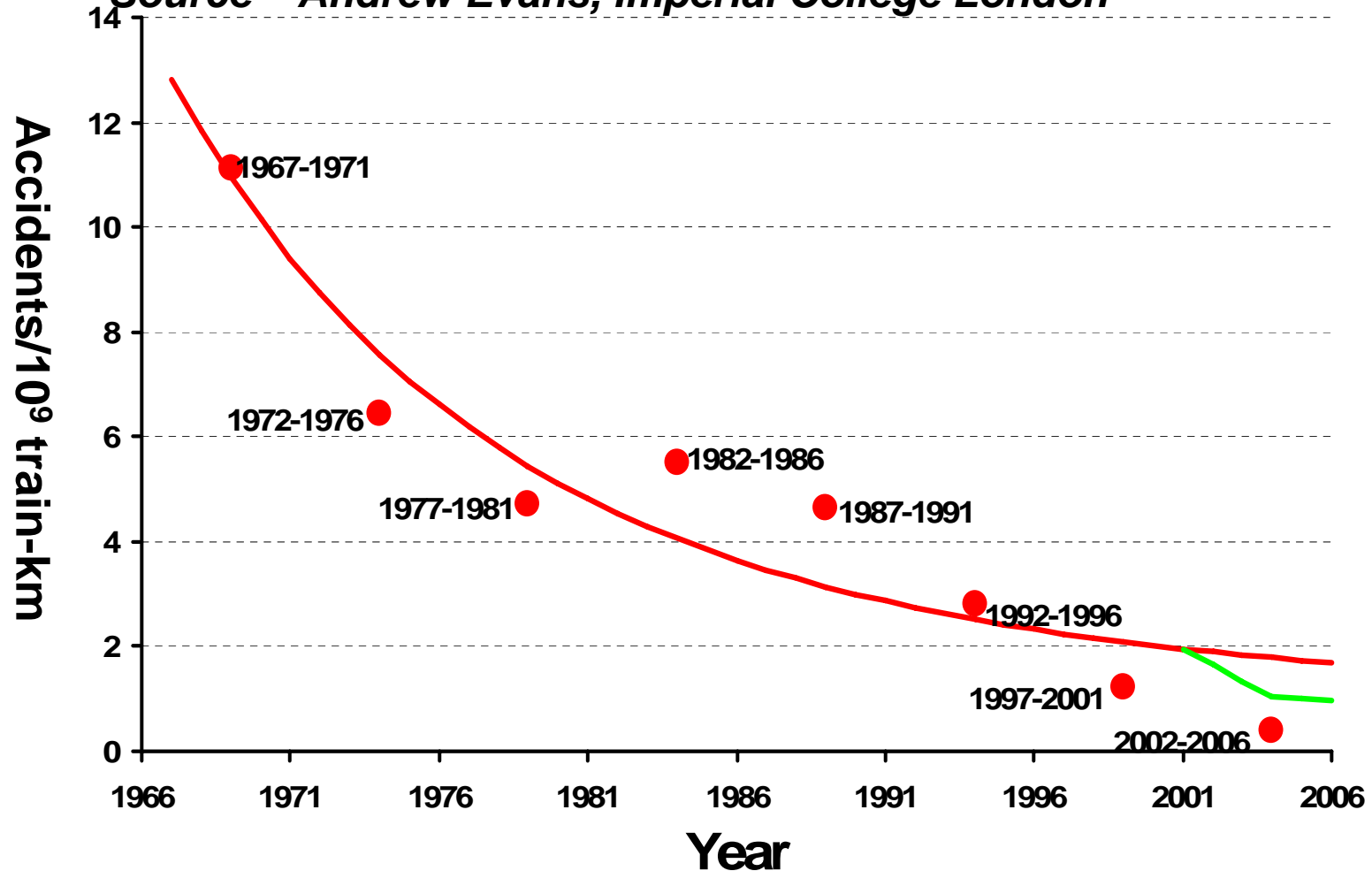
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Fatal train accidents per billion train-km Great Britain 1967-2006

Source – Andrew Evans, Imperial College London



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Collisions with road motor vehicles

Of which about 90% occur at level crossings

- Analysis by Andrew Evans estimates that these have decreased in number by about 3% per year since 1967 – without change in the average of 1.4 deaths per accident at level crossings and 2.1 elsewhere
- Estimated rate in 2006 was 2.5 accidents/year at level crossings and 0.27 elsewhere
- Since 1967 5/6 of those killed in these accidents have been road vehicle occupants and 1/6 train occupants

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Aviation safety

- **Most deaths and injuries are in general aviation**
- **More are to crew than to passengers**
- **Issues in airline and air taxi safety are:**
 - **whether current levels of safety can be maintained with growing traffic**
 - **how the safety of helicopter flying can be brought nearer to that of fixed-wing flying**

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Maritime safety

- **More deaths and injuries on merchant vessels are to crew than to passengers**
- **Environmental damage from accidents to large vessels is a greater concern than death or injury**
- **Death and injury on fishing vessels are regarded as at work, not in transport – 2/3 are related to problems with machinery**
- **Death and injury on private leisure craft are not seen as transport-related**

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Thank you for your attention

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Implementation and monitoring

- **Programme of action by all stakeholders and led by Department for Transport**
- **Allocation of government funding**
- **Supporting research and development**
- **Road Safety Advisory Panel**
- **Spreadsheet of progress with actions naming responsible officers in Department**
- **Annual statistical report on progress**
- **3-yearly comprehensive reviews**

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Safer for children

- **Child pedestrian training by trained local parent and carer volunteers**
 - **Teaching and training material for use in schools**
 - **School travel plans**
 - **Local audits of road safety for children**
 - **Child restraints and seatbelts in cars**
- Parents and carers, trainers of teachers, teachers, local authorities, car users**

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Safer drivers – training and testing

- **Stricter requirements of driving instructors**
- **Encouraging more structured approaches to learning to drive**
- **Encouraging further instruction after gaining full licence**
- **Extending principles of health and safety at work to driving in the course of work**

Driving instructors, novice drivers, accompanying drivers, health and safety authorities, employers

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Safer drivers – drink, drugs and drowsiness

- Research and public information on
 - prevalence of drugs among drivers and effects on capability to drive
 - risks of falling asleep at the wheel
- Public information about drink-driving
- Legislation for evidential roadside breath testing for alcohol
- But drink-drive deaths are not decreasing

**Police, Home Office, researchers,
equipment manufacturers, media**

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Safer infrastructure

- **Increased investment by local authorities in road safety engineering schemes within Local Transport Plans**
- **Synergy with urban regeneration**
- **Action for safety engineering and safer road use on national networks of strategic roads**

**Local authorities, developers,
national highway authorities**

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Safer speeds

- Revised guidance on setting of local speed limits
- Traffic calming and 20miles/h (32km/h) zones in built-up areas
- Assessment framework for speed management on two-way rural roads
- Extensive and systematic use of conspicuous safety cameras where there has been a record of speed-related accidents

Local authorities, national highway authorities, police, courts, safety camera partnerships, researchers

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Safer vehicles

- Regulation of safety characteristics of vehicles is harmonised across the EU
- Enhancement of occupant protection in new cars through regulation and the European New Car Assessment Programme
- Initial level of pedestrian protection on the newest cars

Vehicle manufacturers, buyers of vehicles, consumer organisations

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Safer motorcycling

- **Advisory Group on Motorcycling**
- **Government motorcycling strategy**
- **Guidelines for motorcycling**
- **Death and injury rates per vehicle-km starting to decrease – but still very high**
- **And motorcycling has increased by one-third, especially among people aged 30-50 riding large machines**

Motorcycling organisations, police, local authorities, riding instructors

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Safer walking, cycling and horse riding

- Fewer pedestrians and cyclists KSI for the same amount of walking and cycling
 - More 20miles/h (32km/h) zones and some *home zones* with lower speed limits
 - Demonstration towns spending much more on provision for cyclists
 - Wearing of cycle helmets increasing slowly
 - Training for cyclists and horseriders
- Local authorities, organisations of pedestrians, cyclists and horseriders, providers of training**

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Better enforcement of traffic law

- Recognition in National Policing Plans
- Roads Policing Strategy
- Safety cameras, automatic number plate recognition and rapid access to databases
- Legislation for stiffer penalties, alcohol interlocks, evidential roadside breath testing, retraining as part-penalty for speeding, closer regulation of driver training, and enforcement for drivers from outside Britain

Home Office, police, courts, Driver and Vehicle Licensing Agency, insurance industry

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Promoting safer road use

- National campaign ***THINK! Road Safety***
 - High recognition of ***THINK!***
 - Higher percentages of motorists seeing speeding in towns and not wearing seatbelts as unacceptable
- Media, organisers of sporting events, local authorities, road-user and road safety organisations**

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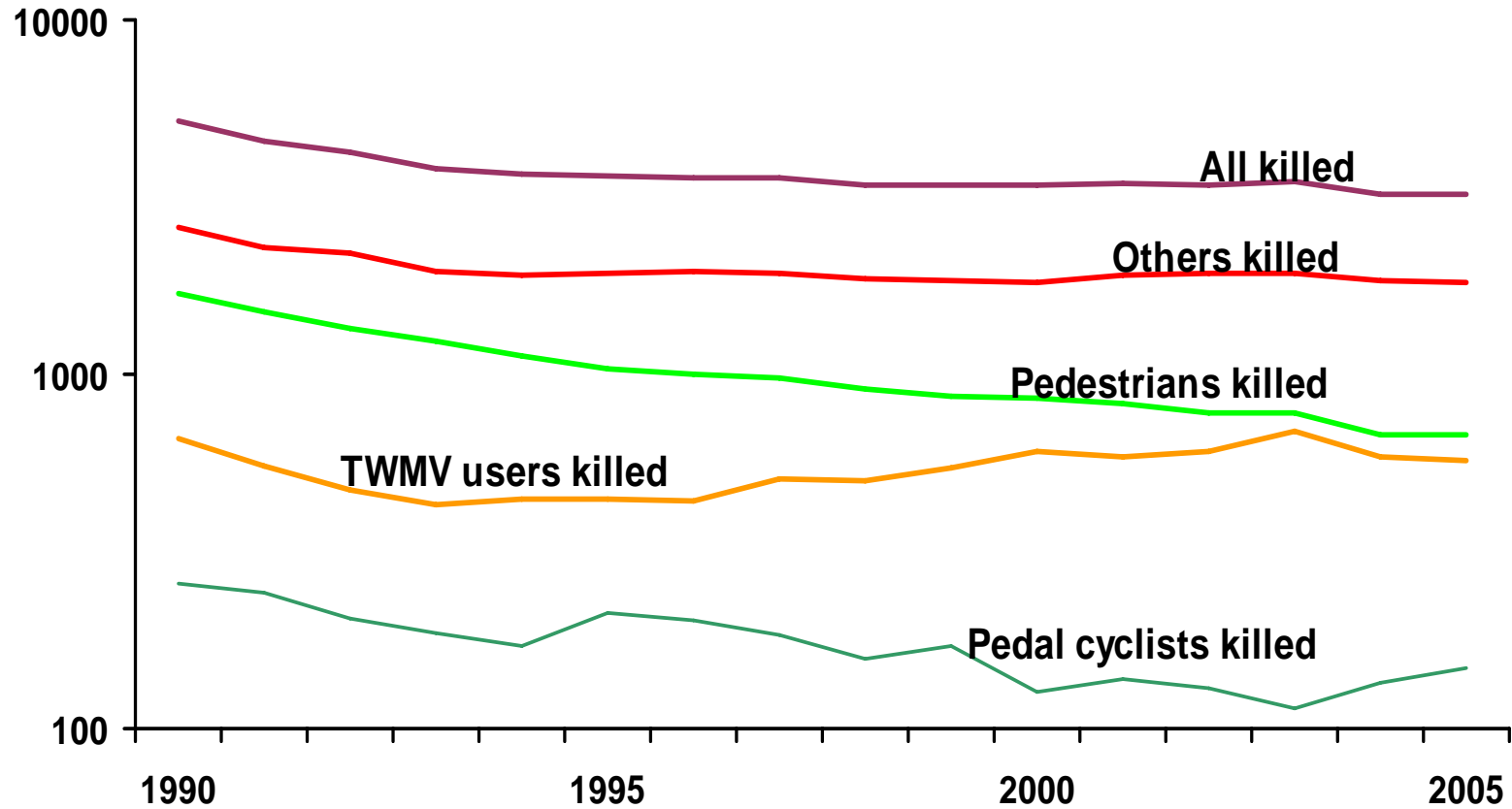


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Numbers killed by road user type - Great Britain 1990-2005 (logarithmic scale)



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