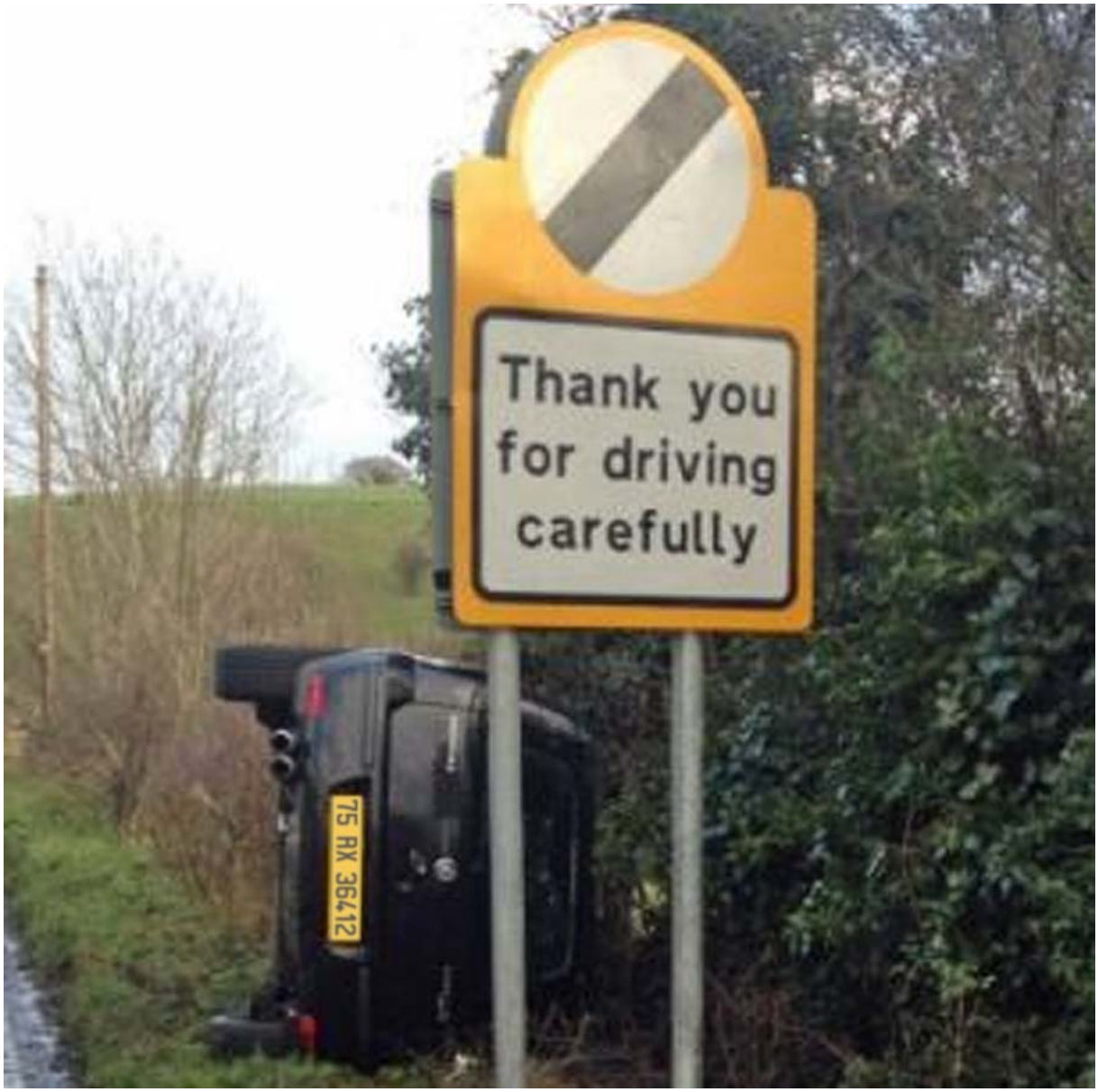
The doubtful benefits of driver education



50 years of studies have shown that pleading people to drive safely doesn't work. So why are we still pleading people to drive safely?

• This article, which was originally published by the American Institute for Highway Safety in 2001, summarises 30 years of previous studies, many of which are mentioned and hyperlinked within the text.

The remainder of studies are referenced on the last page.

The original IIHS article has been extensively expanded and anotated to take into account subsequent research •

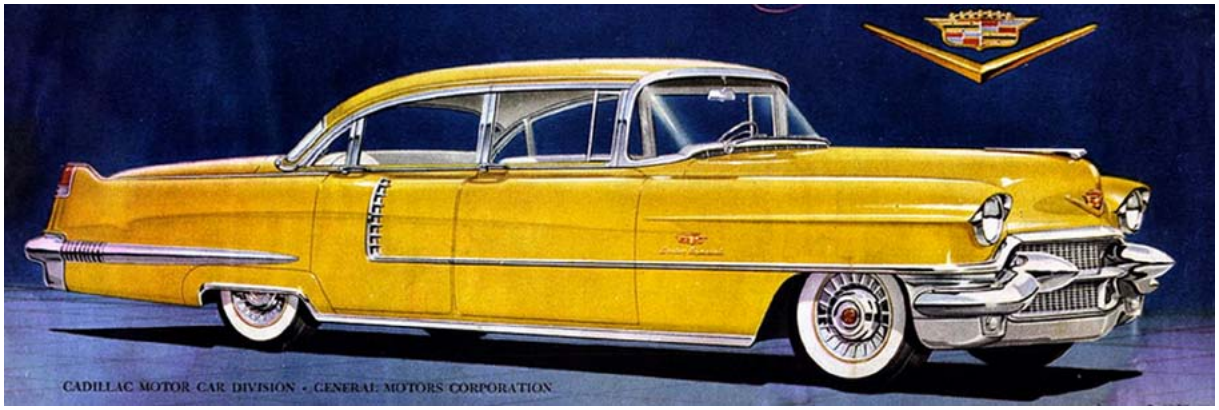
Before there were safety belts or airbags, before vehicles had crumple zones and padded interiors, before guardrails and breakaway signposts were used on highways and shoulders were cleared of roadside hazards, there were 'Please Drive Safely' signs.

Trying to prevent crashes by educating motorists was the almost exclusive focus of highway safety efforts for half a century, beginning soon after cars began to proliferate on the roads in the early 1900s. The entire idea of reducing the consequences of crashes wasn't a consideration.

A few advocates for a broader approach wanted to include things like installing and using safety belts to reduce deaths and injuries during crashes. These lone voices were ignored by the safety establishment of the time, but they didn't fade away.

These voices continued to grow, which made the existing road safety establishment uncomfortable.

This discomfort was apparent in 1961 remarks to the National Safety Congress by the president of General Motors, who criticized the work of "self-styled experts" who suggested "that we abandon hope of teaching drivers to avoid traffic accidents and concentrate on designing cars that will make collisions harmless".



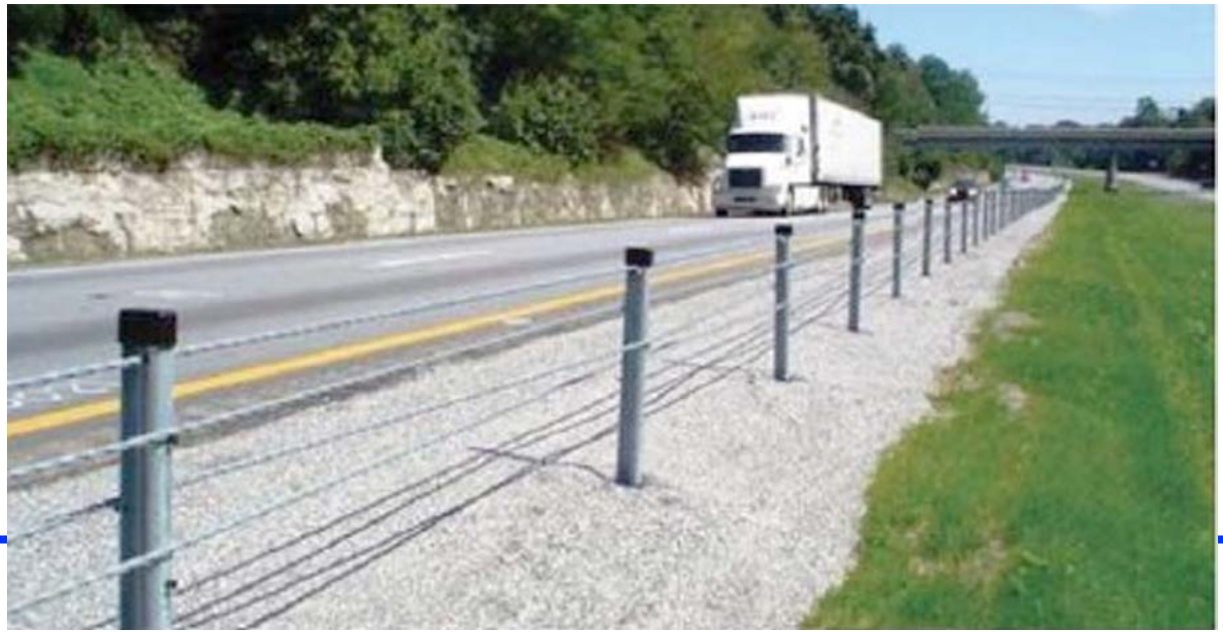
Science wins out

A few years later, the 'self-styled experts' prevailed. After Ralph Nader's groundbreaking book *Unsafe At Any Speed - the designed-in dangers of the American automobile* was released, an outraged American public began baying for action to make cars safer. As a direct result, the focus of safety efforts became much broader.

The new approach sought to reduce road deaths by focusing not only on driver behaviour but on crash prevention and crash injury prevention.

For example, separating opposing lanes of traffic almost always reduces the number of road deaths, even though it makes no difference to the number of bad drivers on the road.

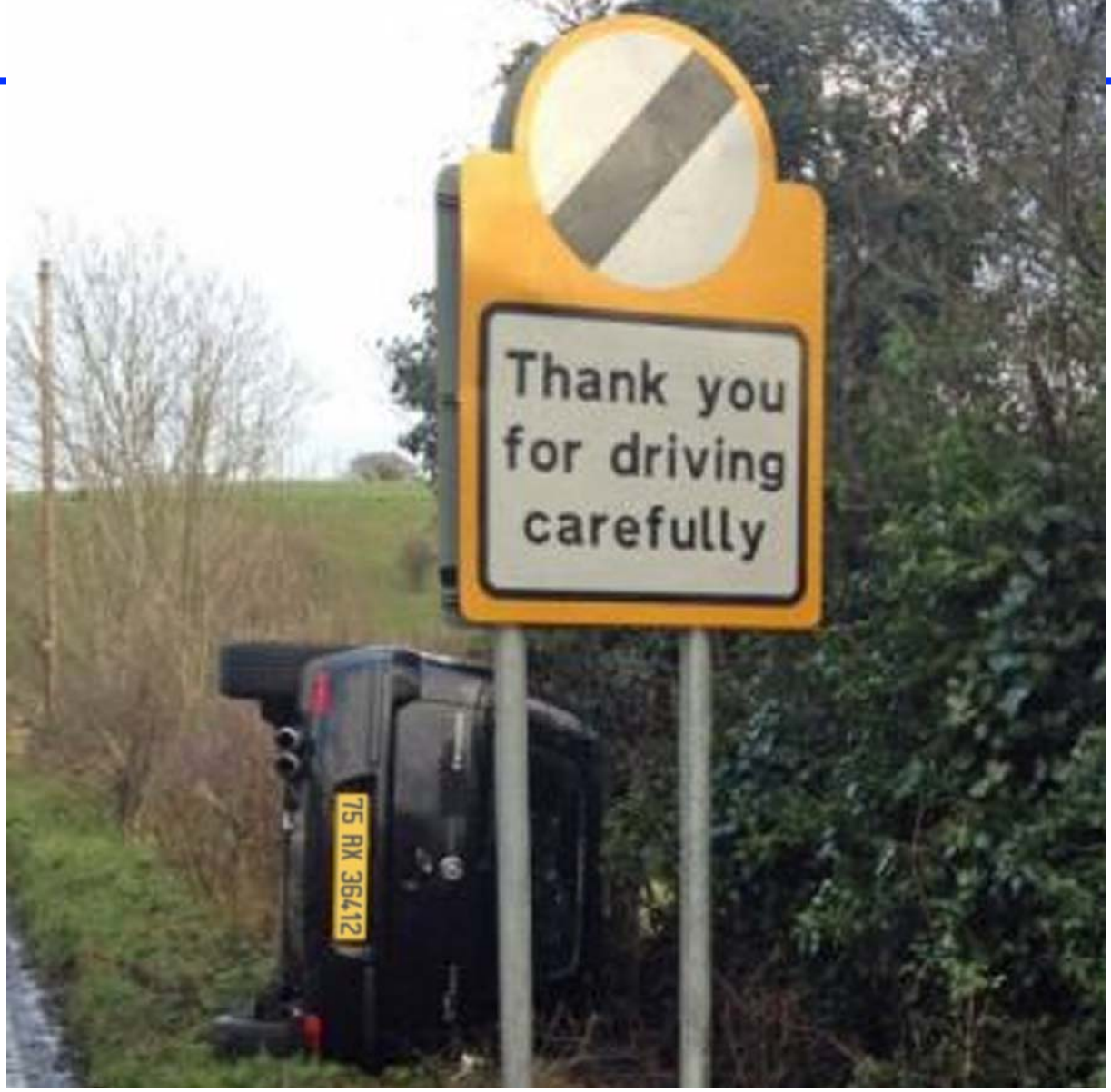
A study by Monash University of the effectiveness of roadside fencing and median barriers concluded that: "reductions of up to 90% in death and serious injury can be achieved, with no evidence of increased road trauma for motorcyclists."



Similarly, well-designed cars significantly reduce injury risk during crashes. People routinely walk away from accidents that would have been unsurvivable 50 years ago.

Equally important was an unprecedented emphasis on scientific methods to evaluate highway safety programmes. This systematic, scientific approach has saved thousands of lives and prevented countless injuries since implementation in the 1970s.

Today's passenger vehicles are much safer. So are today's roadways.



But what about the driver, the 'nut behind the wheel'?

Because most motor vehicle crashes involve driver error, some people continue to this day to believe that improving driver behaviour should be the overriding priority. Claims continue to be made that 'getting rid of drunk drivers', 'improving driver skills', or shock tv road safety ads are more important than separating opposing lanes of traffic or equipping cars with airbags.

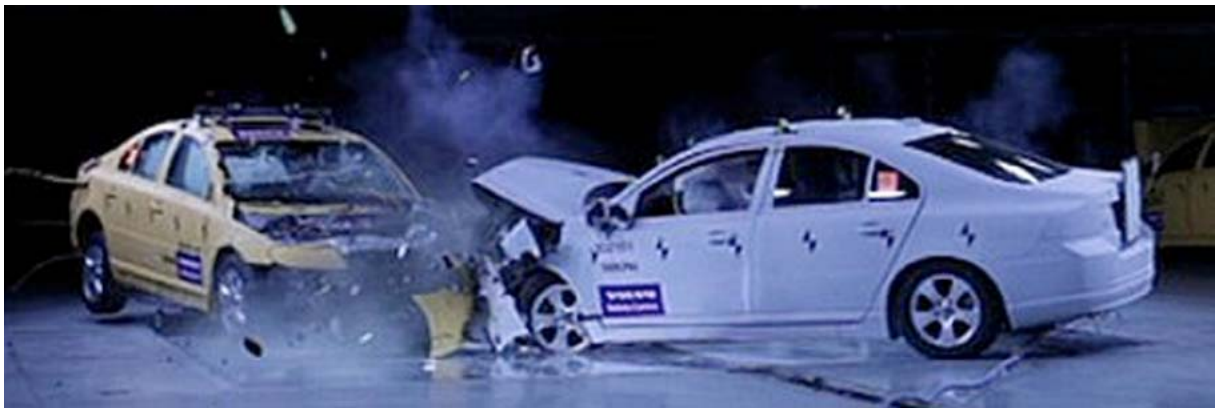
Blaming other people's bad driving has a natural appeal whenever we are angry. We tend to see ourselves as good drivers and thus ignore our little mistakes, holding onto our positive view of ourselves. When other people make the same little mistakes however, we are outraged. It's like double parking – when other people do it we mutter about "bloody inconsiderate drivers" but when we do it, we tell ourselves that we're just dropping someone off, so it's okay.

In another example, 71% of young motorists think they are better-than-average drivers, according to a 2014 British survey.

The survey, by the online survey company visioncritical.com, on behalf of the British Institute of Advanced Motorists, showed a startling gap between perception and reality.

75% of young males surveyed believed they were better-than-average drivers. 68% of young women believed they were better-than-average drivers.

These views are in complete conflict with the facts: young drivers make up just 8% of British motorists but nearly a quarter of road deaths.



It's not just young drivers, either. Multiple studies have shown that the poorest performers in any field tend to be the ones who most overestimate their own ability.

The British study also explains why it's so hard to teach teenagers to drive safely. Even if teenagers take road safety messages onboard, they tend to believe these messages don't apply to them, because they're better-than-average drivers.

That appears to be a major reason that education programmes aimed at changing driver behaviour are generally ineffective.

The American Insurance Institute for Highway Safety, one of the most respected road safety establishments in the world, collated the results of dozens of other studies over the last 30 years.

Their conclusion: "Research indicates that education has no effect, or only a very limited effect, on habits like staying within speed limits, heeding stop signs, and using safety belts."

"[Until you check out the facts,] who can argue against the benefits of education or training?" asks Institute chief scientist Allan Williams. "But when good scientific evaluations are undertaken, most of the driver improvement programmes based on education or persuasion alone are found not to work."

Car enthusiasts, who tend to see speed limits as an unnatural intrusion on their freedom, often claim that lack of driver training, rather than speed, is the cause of road accidents. This conclusion, while appealing, is not backed up by much factual evidence.

For example, in 1997, the Insurance Institute for Highway Safety[1] published a worldwide review of the effectiveness of driver training.

The conclusion: "driver education and training don't lead to lower crash involvement".

In fact, the opposite has often been observed. For example, when young men attended courses that taught skid control, offroad recovery, and other emergency manoeuvres, the outcome was adverse.

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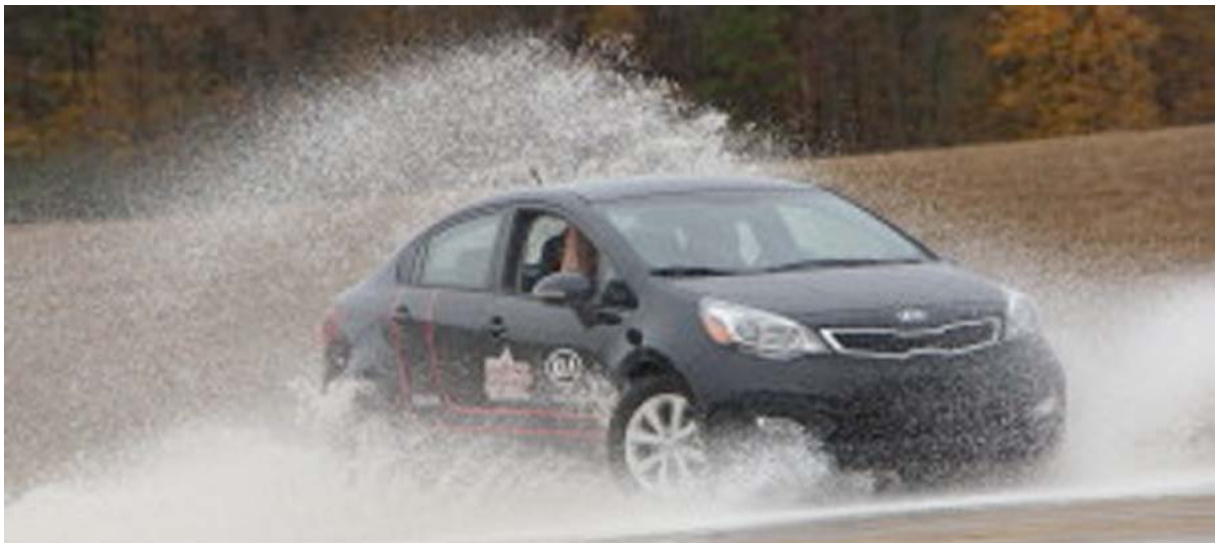
1 It's worth noting also that when road deaths and injuries are reduced, the insurance companies that fund IIHS directly benefit, through reduced payouts. It's one of those rare situations where corporate interests and the public interest appear to coincide. This perhaps also explains why the IIHS is so proactive about working out practical road safety solutions and so skeptical about well-meant strategies that simply don't work.

The same applies to both bicycles and motorbikes: after reviewing motorcycle rider education and training programs in three countries, Dan Mayhew, of Canada's Traffic Injury Research Foundation concluded that there's "no compelling evidence that rider training is associated with reductions in collisions."

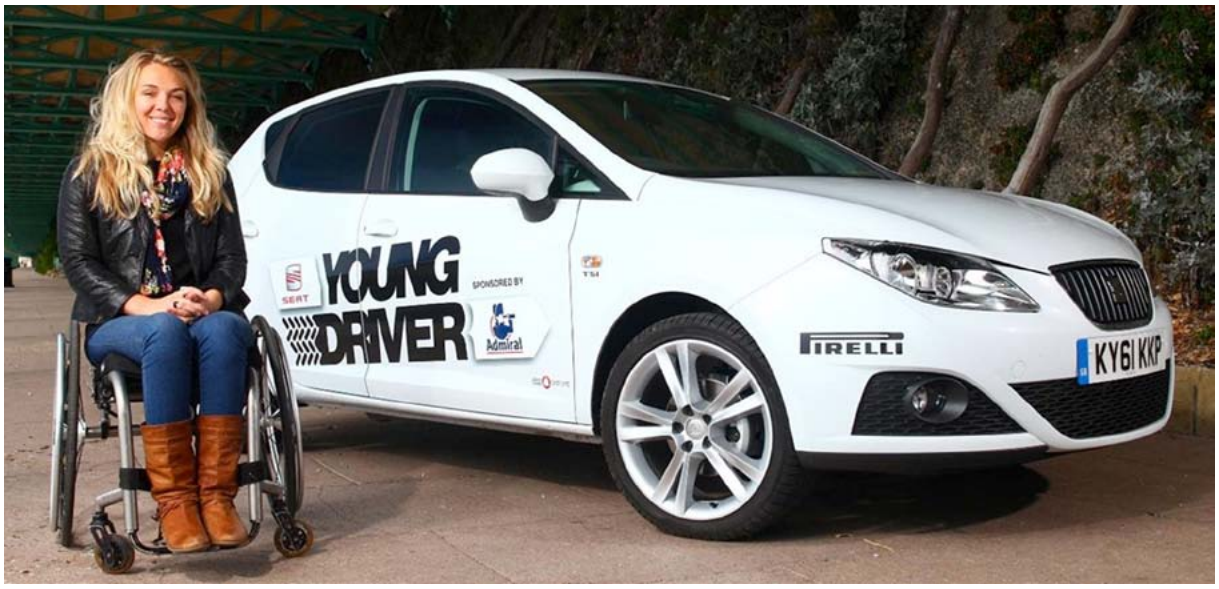
"Males who received training had higher crash rates than those who did not take the training. Authors of the relevant studies have suggested that males trained in these skills become overconfident in their ability and now take unnecessary risks," Mayhew says.

"The education might increase drivers' knowledge (for example, about the benefits of using belts), but the expanded knowledge usually doesn't result in behaviour changes."

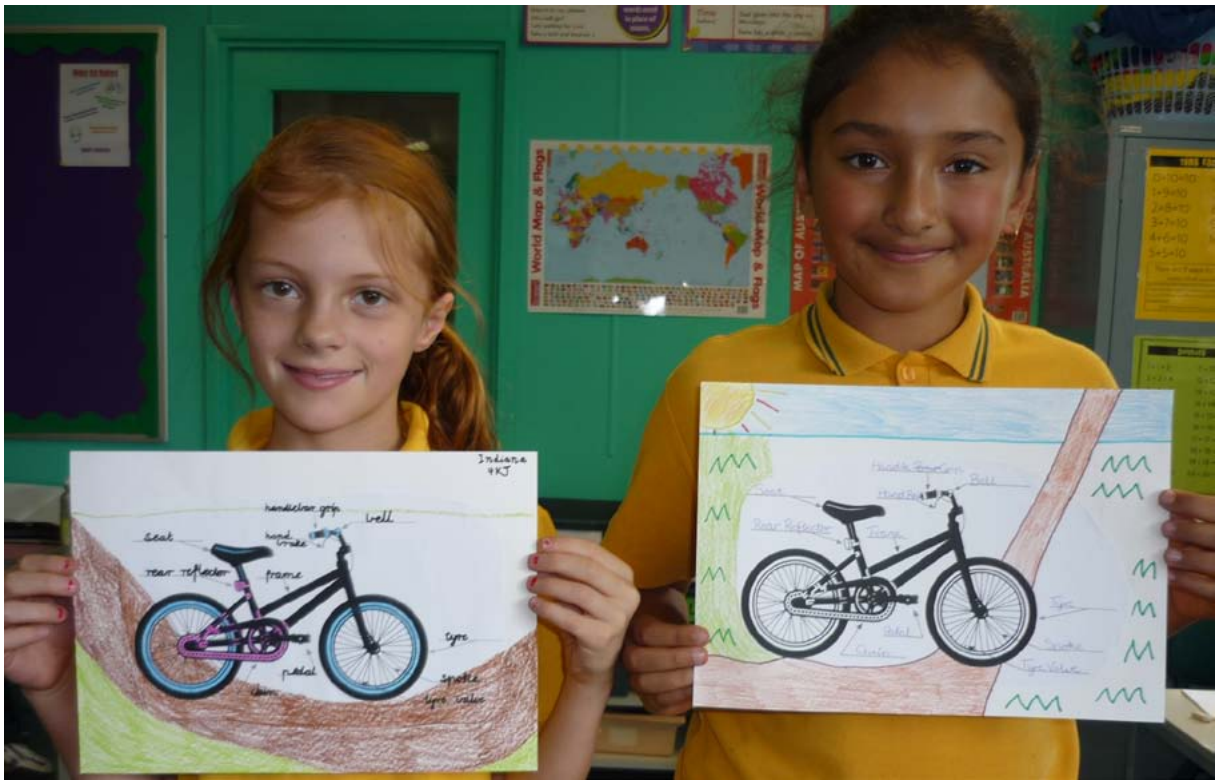


The 1997 IIHS conclusion was reinforced by a 2015 study of a special training course for young drivers, which included skid avoidance and vehicle control training.

The conclusion: "there is no evidence the extra training makes them safer drivers."



In some cases the education programme makes things worse. The Australian 'bike ed' programme was designed to reduce the number of collisions involving child cyclists by provided skills training in bicycle use.



However, according to an analysis of the programme by John Carlin of the Murdoch Children's Research Institute and University of Melbourne suggested that, far from reducing accidents, the programme was causing them.

Carlin concluded that the programme was inadvertently leading children "to undertake a level of risky activity that they would not have attempted without the 'license' provided by having completed the programme."

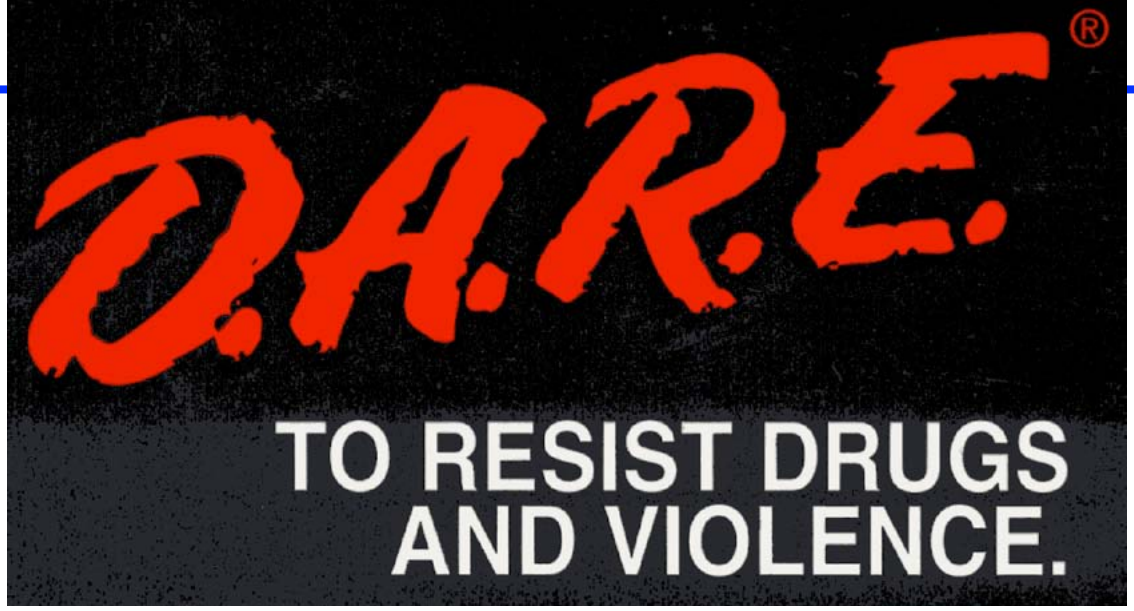
Even drivers whose skills are actually above average may not be safer. Research conducted in the early 1970s involved a group of highly skilled race drivers. Far from being safer drivers off the racetrack, this group was found to have worse onroad crash records than a group of average motorists.

The race car drivers' knowledge and skills were obviously greater than those of the average drivers, but this didn't translate into enhanced highway safety.

Vernick points to another example: "[When] high school driver education programmes contribute to earlier licensing for young drivers, these programs may actually increase motor vehicle fatality rates for young persons."

IIHS chief scientist Allan Williams says. Knowledge alone isn't enough: "The belief that increasing motorists' or other road users' knowledge will change their actions reflects a naive view of human behaviour."

Williams adds. "At one level all drivers know, for example, that it's wrong to ignore stop signs and run red lights. Yet these obviously unsafe behaviours occur routinely. They're leading causes of crashes. Another example is that by now all motorists know that driving after consuming significant amounts of alcohol increases crash risk, but millions of trips are taken each year by seriously impaired drivers."



An analogy involves educating students about drug use. One of the most prominent efforts, the Drug Abuse Resistance Education Program (DARE), began in California in the early 1980s. Now DARE is in 80% of U.S. school districts plus many other countries.

Yet numerous studies have found that the DARE curriculum, which features police officers teaching in classrooms, is ineffective.

Richard Clayton, director of the Center for Prevention Research at the University of Kentucky, authored one of the studies.

"When we have something as complex and as hidden as drug abuse among adolescents, our usual answer to it is more education .... It makes us, as adults, feel good that they're getting this information, but we know information often times doesn't carry much weight. We've got to step back and ask: 'Is education ever the best magic bullet?' I, for one, don't think it is."

Laws may sometimes change behaviour

Most of the demonstrable improvements in driver behaviour come from traffic safety laws. The clearest examples are those where the behaviours are readily observable and the changes are measurable - belt use, motorcycle helmet use, or travel speeds.

Victoria, Australia, enacted the first safety belt law in 1970. Use rates, which had been 18-26%, immediately jumped to 75% in urban areas and 64% on rural roads. When other Australian states passed similar laws, each experienced big jumps in rates of buckling up.

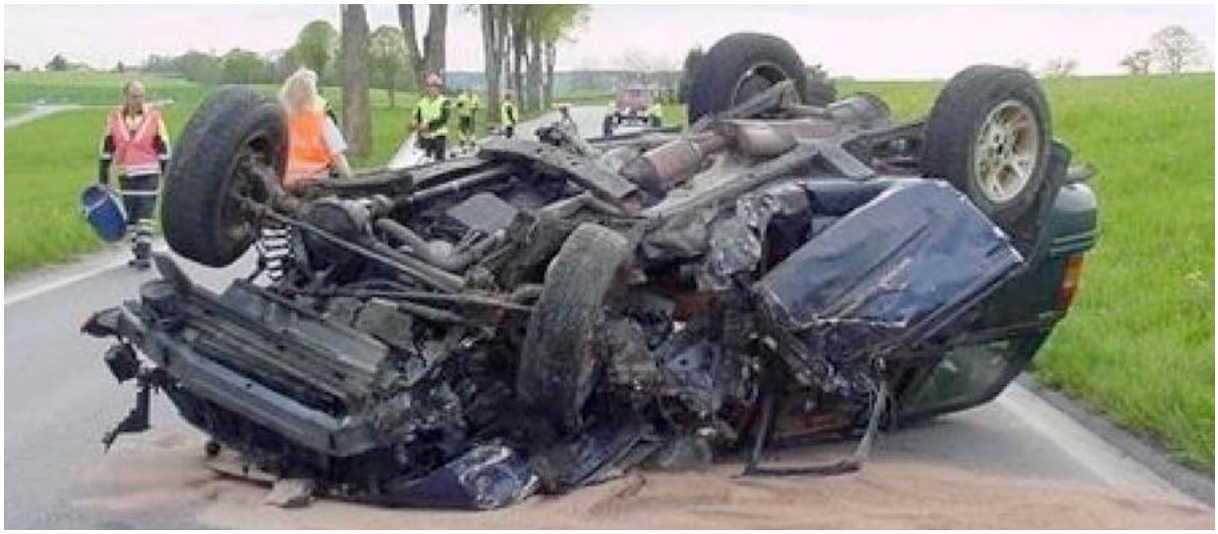
While education to change driver behaviour is almost never effective by itself, it may be beneficial when it enhances the effectiveness of traffic laws.

Education can build public support to enact the laws in the first place. Then education can enhance enforcement by increasing motorists' perceptions of the risk of apprehension.

However, even the most comprehensive education and enforcement campaigns are often ineffective against the highest risk groups.

A 2009 study of 300 fatal crashes by the New Zealand Automobile Association found:

"It is apparent that [many speed-based road fatalities] were caused by people who don't care about any kind of rules. These are men who speed, drink, don't wear safety belts, have no valid license or [vehicle safety certificate] - who are basically renegades. They usually end up wrapped around a tree, but they can also overtake across a yellow line and take out other motorists as well."



Despite the sceptics, this 'enforce & educate' policy has been popular among road safety authorities in Australia & New Zealand, where extensive and creative highway safety advertising runs frequently on television and other media.

The pioneering road safety advertising and enforcement campaign was run in Victoria. Australia, in the late 1990s and was claimed to be highly successful.

A similar campaign in New Zealand was credited with saving 100 lives and 1000 serious injuries.

However, the advertising works, according to professor Peter Vulcan of Monash University in Victoria, 'only when it is done in direct support of high levels of enforcement, usually highly visible enforcement."

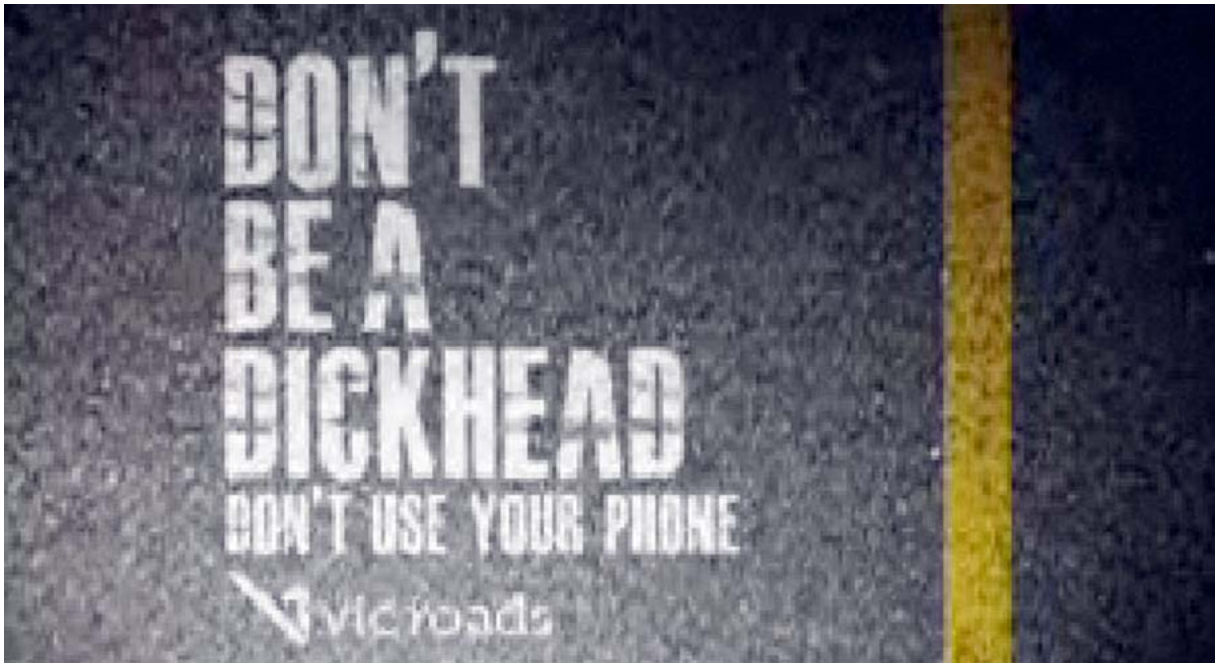
"You can start the process with compliance with traffic safety laws, but then to get the majority of road users to comply you need enforcement that is magnified by publicity."

Other studies, however, have refuted Monash's finding that educational ads work at all. There is, in particular, a great deal of doubt within the road safety community about the value of shock TV ads such as the ones run in both New Zealand and Australia.

Much to the embarrassment of the Monash University Accident Research Centre, **Dr Michael White and his team pointed out** that one of the key elements of the Monash report – a dramatic fall in road deaths following the beginning of the campaign – did not appear to be linked to the campaign at all.

The marked reduction in road deaths had been occurring months before the campaign started.

Further, claimed reductions in serious injuries were highly dubious, because the definition of serious injuries changed, which meant that fewer injuries were being defined as 'serious' and therefore they apparently dropped even though nothing had changed except the way that the accidents were being reported.



So why did the road toll start to plummet months before the education campaign started?

Dr White has a rather more plausible explanation:

"First, there has been an ongoing downward trend in road deaths that has been noticed for decades. However, while the overall trend is downwards, the highs and lows tend to correspond almost exactly with economic activity."

As Dr White put it: "It is likely that relatively small changes in employment produce relatively large changes in the numbers of marginally employable young males on the road, with corresponding changes in crash numbers".

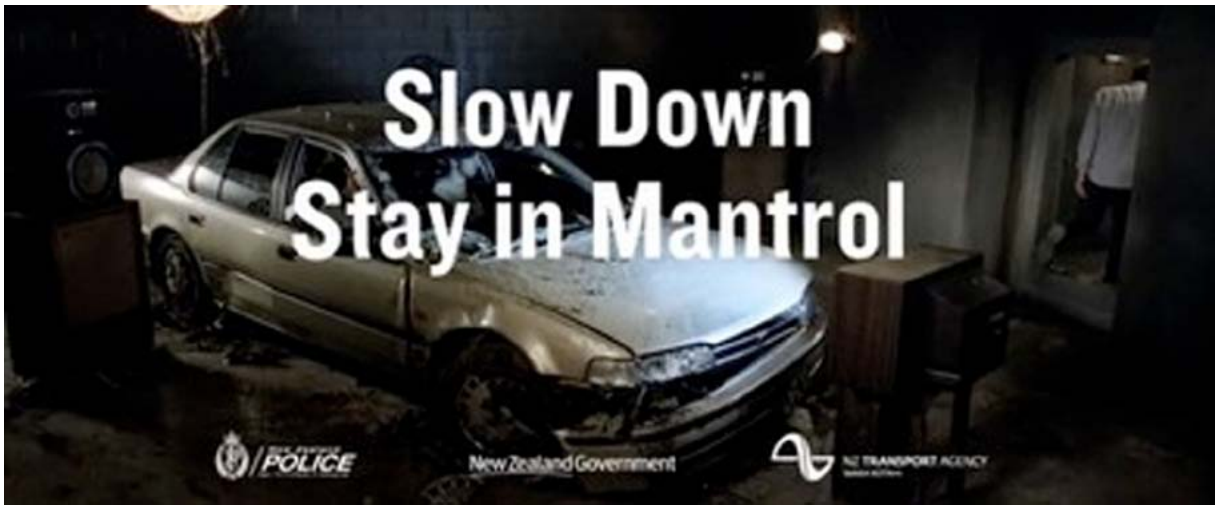
White's theory that the peaks and troughs in the road toll are the result of economic circumstances may sound far-fetched, but it's robustly supported by almost all available data and his conclusions have been duplicated in similar research around the world.

It also seems highly probable that people simply take more risks during good times than during bad.

Much of the scientific community shared White's scepticism of the Monash report.

A paper on international trends in road crashes, published in 2000, concluded:

"The fall in the accident rate that occurred in Victoria, Australia in the early 1990s ... may simply have been the renewal of a downward trend in the accident rate that would have occurred without [the road safety education campaign]." (*Beenstock & Gafni, 2000*, P83).



ABC Radio producer Dr Norman Swan was even more scathing about the Victorian campaigns:

"A few years ago the Victorian Government, concerned that there'd been a rise in serious road crashes, created a high-intensity, high-impact television, press and billboard advertising campaign aimed at speed and drunk driving...The crash rate went down and fatality rates halved; and Victoria, proud of its achievement, promoted the concept of such an intense campaign, alongside other measures like speed cameras and upscaled random breath testing. New Zealand took up the idea with a budget of $7million a year on media ads alone, as did Western Australia. South Australia was tempted as well but there was a healthy scepticism, and the data was re-examined.

What the South Australian researchers discovered was that the rise in road crashes prior to the television campaign was actually just a glitch in a steady 20-year long downward trend. And even taking the temporary rise into consideration, the falloff [in the road toll] started two years *before* the media campaign and countermeasures had swung into action...all that money [spent on advertising] was wasted."

This doubt about the effectiveness of education campaigns extends far beyond the road safety community: Massey University marketing lecturer Terry Macpherson rubbished New Zealand's Land Transport Safety Authority claims that shock tv ads have saved 100 lives and 1000 serious injuries.

According to Macpherson, the improvement in the road toll was the result of improved enforcement by the police, particularly the tough anti-drink-driving campaigns.

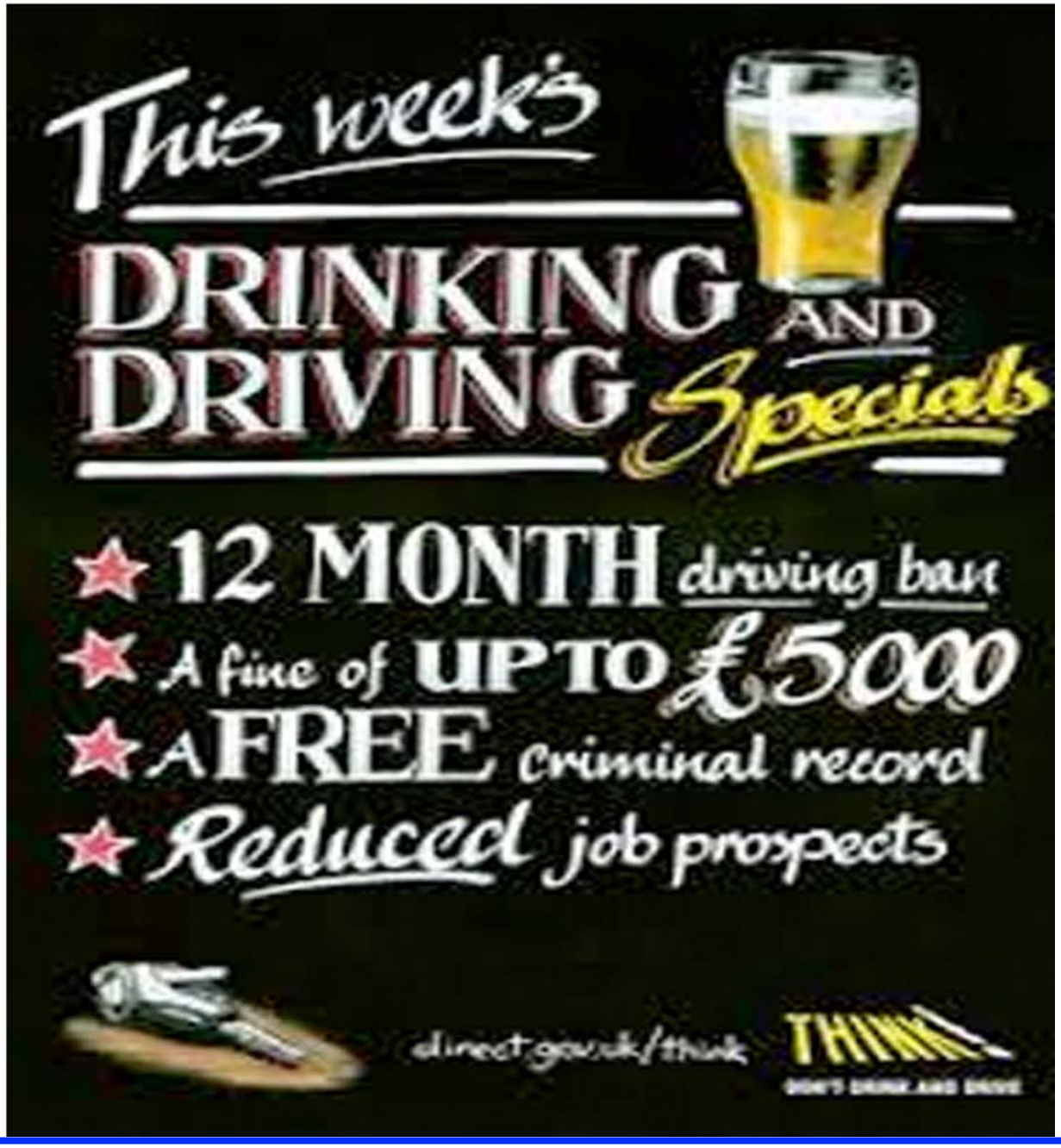
The long arm of the law

Compliance with traffic laws varies considerably. The greater the compliance, the more effective the laws. If motorists don't know about a law or don't believe it will be enforced, compliance will be limited.

But even laws that are frequently violated can have positive effects. A good example is speed limits. American studies show that many drivers routinely exceed them, but there's still a safety benefit because drivers typically won't go more than 10km/h faster than a posted limit.

This behaviour has nothing to do with choosing safe speeds to drive. It has everything to do with the perception that speed limits are actually being enforced at about 10km/h above what's posted.

Motorists are much more likely to change their behaviour in response to traffic laws than because of education about what increases crash risk. In large part this is because motorists believe their driving skills will enable them to avoid collisions. At the same time, they recognize their skills won't enable them to avoid a ticket. So they slow down, buckle up or otherwise comply with the laws.



Keeping the focus on what works

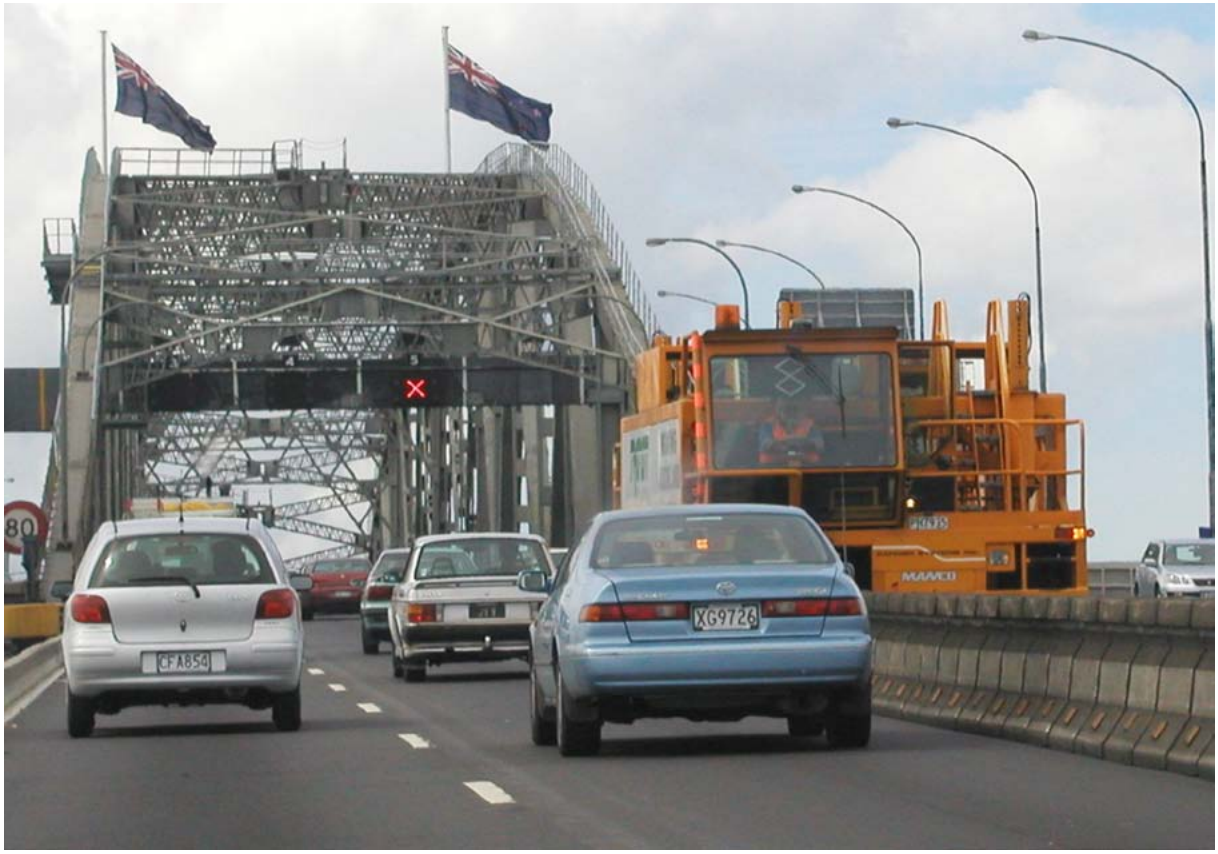
The classic example of using science to prevent road accidents is the harbour bridge in Auckland, New Zealand.

First opened in 1959, the bridge allowed opposing lanes of traffic to pass at high speeds.

From the beginning, the Auckland harbour bridge suffered an ongoing series of serious road accidents, mainly head-on collisions, caused by a vehicle drifting, or being propelled into the opposing lane.

After a vigorous campaign by Auckland medical professionals, a moveable concrete barrier was installed down the middle of the bridge.

But in the years leading up to the installation of the barrier, there was significant opposition to this lifesaving technology, inevitably from those who thought that the problem was not bad roads, but bad driving.



However, the facts spoke for themselves: after the barrier was installed, head-on collisions on the harbour bridge dropped to zero and there was a huge reduction in overall crashes on the bridge.

There wasn't one less 'idiot' or drunk driver, yet the accidents stopped, simply because the road was changed in a way that prevented mistakes from becoming fatalities.

And yet, globally, 'drive safely' campaigns, aimed at changing behaviour through advertising and education, continue to this day.

This is sad, because the time and money spent promoting highway safety strategies that don't work, inevitably steals critical resources from those that do •

References

• Large parts of this article were originally published by the American Institute for Highway Safety in **Status Report issue 36, No. 5, May 19, 2001,** which quoted multiple studies, including the following: Barmack, A.E. and Payne. D.E. 1961. The Lackland accident countermeasure experiment. Highway Research Board Proceedings 40:513-22. Washington. D.C.: Transportation Research Board. Carlin, J.B.: Taylor, P.: and Nolan, T. 1998. School-based bicycle safety education and bicycle injuries in children: a case control study. Injury Prevention 4:22-27. Haddon, W., Jr. 1972. A logical framework for categorizing highway safety phenomena and activity. The Journal of Trauma 12:193-207. Kraus, J.F.; Peek, C.; and Williams. A.F. 1995. Compliance with the 1992 California motorcycle helmet use law. American Journal of Public Health 85:9699. Leukefeld. C.G. 1995. Prevention Practice in Substance Abuse (ed. R.R. Clayton). Binghamton. N.Y.: Haworth Press. Mayhew, D.R. and Simpson. H.M. 1996. Effectiveness and role of driver education and training in a graduated licensing system. Ottawa, Ontario. Canada: Traffic Injury Research Foundation. Miller. R.E.: Reisinger. K.S.: Blatter. M.M. and Wucher. F. 1982. Pediatric counseling and subsequent use of smoke detectors. American Journal of Public Health 72:392-93. O'Neill. B. 21101. Role of advocacy, education, and training in reducing motor vehicle crash losses. Presented at the World Health Organization Traffic Meeting. Geneva. Switzerland. Arlington. VA: Insurance Institute for Highway Safety. O'Neill. B. 211111. Seatbelt use: where we've been, where we are and what's next. 2001 Seat Belt Summit: Policy Options for Increasing Seatbelt use Appendix A. Arlington, VA: Automotive Coalition for Traffic Safety Retting. R.A. and Greene. M.A. 1997. Traffic speeds following repeal of the national maximum speed limit. ITE Journal 67:42-46. Struckmann-Johnson. D.L.: Loud. A.K.: Williams. A.F.: and Osborne. ID.W. 1989. Comparative effects of driver improvement programmes on crashes and violations, and others.