

# Contributed Articles

## Zero Tolerance for Road Slaughter

Article contributed by **SaferRoads**  
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The following interview with Professor Claes Tingvall, Head of Road Safety with the Swedish National Road Agency and Chair of EuroNCAP, was first published in the New Scientist Magazine in July 2005 and republished in August in the SaferRoads Supporter Newsletter.

### Your plan was to halve the number of traffic deaths in Sweden by 2007. Is it working?

Last year we saw a drastic drop in the number of traffic deaths, the lowest ever at 480, compared with 631 a decade ago. Partitioning the lanes of country roads with thousands of kilometres of fenced cables has reduced frontal collisions by 95 per cent. Car makers now install electronic seat belt reminders on 80 per cent of Swedish cars. That's up from almost none just a few years ago.

A technology called electronic stability control is a great new improvement. ESC compares the position of the steering wheel with the way the car is actually moving, and if there's a discrepancy it slows the engine and applies the brakes. This can stop a car from skidding on a wet road or around a turn. Seventy per cent of Swedish cars are now equipped with this technology - that's triple what it was 18 months ago, top of the world league. In the US, where the use of ESC is about 20 per cent, the results of a consumer survey suggest it is twice as effective at saving lives as airbags, and could halve the number of single vehicle fatal crashes.

We won't reach our target by 2007, in part because traffic has increased since we set that goal. There are more foreign trucks on the road and more young people drinking and speeding. But the plan is working.

### A large number of deaths are caused by drink-driving. How do you deal with that?

Alcohol is a growing problem — it is estimated that more than half of single crashes on state highways are caused by drivers under the influence. Alcolocks can change that. The idea is that you have to blow into the apparatus in order to start the car, and at regular intervals during the journey, or else the car will stop.

These devices have been used in Canada, Sweden and the US for convicted drunk drivers who get to keep their licences if they keep alcolocks in their cars for two years. But the Swedish government is the first to propose that all new cars be sold with alcolocks from 2012, and lorries, taxis and buses from 2010.

After a high-profile accident last year, which involved a drunk Hungarian lorry driver going the wrong way down the motorway and killing four people, a lot of Swedish firms are taking their own initiatives. Trucking firms and bus companies are already installing alcolocks on their vehicles. At the moment they are expensive, over 1000 Kronor. They also take a long time to warm up. But the concept is being developed.

In the future we may not use breathalysers at all, but more subtle instruments such as on-board computers that detect when the car is being driven in an erratic way characteristic of drunk driving, and then cut the ignition.

### Isn't that a lot of government control over people's lives?

People say things like that, but it's actually a liberating principle. It is every human being's right to use the road without risking their life as an entrance fee. Some campaigners say that driving drunk is like having a 1-tonne murder weapon at your disposal. Fourteen thousand people a day drive while intoxicated on Sweden's roads, and that is unacceptable.

### Safety is expensive, and ultimately it's a cost-benefit analysis issue. How much is a life worth?

It is estimated that the public values a life at 1.7 million Kronor. That is how much they are prepared to pay in taxes for improvements to save a life. Wire barriers at 140 Kronor per metre are cheap by that measure, especially since they make the safety of country highways equivalent to that of motorways - the safest roads around - which cost 6000 Kronor a metre.

### Are you exploring other safety measures?

A colleague at the Transport Research Laboratory in the UK says that many deaths could be avoided by restructuring the front bumper to absorb energy and reduce the chances of leg breakage. The average cost would be less than 100 Kronor.

There is also a technology called speed limiters, in which the accelerator vibrates or a voice sounds an alarm when the driver exceeds the speed limit, as measured by GPS. Sweden is running a trial in four towns, and both the European Commission and the UK Department for Transport are interested in the technology.

## What about the behaviour of individual drivers?

Drivers can improve their survival rates significantly by wearing seat belts, keeping to the speed limit and not drinking. But the zero vision recognises that everyone makes mistakes, and there will always be accidents, even with the best drivers. So we have to take a comprehensive approach to safety, tackling not only individual road users' behaviour but also road infrastructure and vehicle design.

## Response to the Burden of Work Related Crashes

by Lori Mooren, Consultant, Safety and Communications, Sydney

Road trauma is a major burden on global well-being, with World Health Organisation data suggesting that approximately 1.2 million of the 5 million global injury deaths each year are road use related. As data collection improves there is likely to be increasingly clear evidence that many of those deaths involve, or are caused by employees engaged in work related driving.

### Australian Work Related Road Safety Problem

Precise data on the numbers and rates of work related crashes throughout Australia – or indeed in other countries is not known as the 'purpose of journey' is generally not recorded by police or other investigation agencies. But in Queensland where the best data is collected, crashes involving fleet vehicles account for 25% of road fatalities, 43% of work-related fatalities, and cost businesses more than \$1 billion per annum. This problem is of a magnitude that likely has a deleterious effect on the competitiveness of Australian industry.

There is a growing concern about the high costs of driving incidents and crashes. Company vehicle crash rates are estimated to be between 20-65% per year. And fleet crashes are estimated to factor up fleet costs by around 15%. One Australian manufacturing company with a fleet of 4000 vehicles reports an annual vehicle incident rate of nearly 50% with \$4.5 million in direct costs associated with these events. But increasingly, the hidden costs are being calculated. Insurers like Lumley General advise that a multiplier of between 3-5 should be factored in to show the real costs of these incidents.

In Australia, road crashes are the most common cause of work-related death, injury and absence from work. A study published by the National Occupational Health and Safety Commission (NOHSC) found that 23% of occupational deaths occurred while employees were involved in work task related driving, and 26% of occupational deaths occurred from road related crashes whilst commuting to and from work.

Non-fatal injury data is less clear. However, Queensland Workers Compensation figures for 1997-2000, show that vehicle accident payments from 10,195 claims (5% of total claims) cost over \$52.5 million (10% of total costs) and resulted in 233,013 workdays absent (9% of total days).



While much of the focus on work related driving is on heavy vehicle transport risk, 63% of the workers compensation claims were light vehicle related. Also, insurance data under-represents the problem as many workers are either not covered under worker compensation schemes, or crashes involving third party injuries are claimed through separate insurance arrangements or private settlement.

A truck safety benchmarking study commissioned by the National Road Transport Commission in 2002, found that the truck related fatality rate in Australia is much higher than in some other OECD countries per vehicle kilometres travelled (risk exposure). For example, it was 47% higher than in the US and 39% higher than in the UK. But it was comparable to Germany and New Zealand. On average there are 180 deaths per year in Australia involving heavy trucks.

### Nature of the Problem

A number of direct factors are involved in work related crashes, including the same road, vehicle and human factors that are involved in non-work related crashes. However, the underlying reasons for these factors manifesting in work related journeys are important to examine in order that employers can focus their safety effort in the best way.

The sheer amount of risk exposure of corporate fleet driving is greater than that of the general driving community. Fleet vehicles travel about three times the distance of the average private motorist in Australia (about 30,000 compared to 10,000 kilometres per annum). Company car drivers travel further; but often drive under greater time pressure due to tight schedules, and do not own the car they drive so are less inclined to take special care not to damage it.

A number of studies have found that greater risks are associated with work related or fleet vehicle driving. There is a common perception that company car drivers are the most likely to speed, tailgate (drive too close to other vehicles), show aggression, take risks, lose concentration, use their mobile