

## ADVANCING SAFE SYSTEM: THE NEED FOR REALISTIC GOALS

Richard Allsop  
Centre for Transport Studies  
University College London

### Abstract

*Safe System* is an approach to road safety management that can be advocated as being the current state of the art; it draws comprehensively upon experience of recent decades in road safety management in many countries. *Safe System* owes much of its inspiration to *Vision Zero*, a vision of road transport from which the risk of death or life-changing injury has been removed. The sourcebooks of *Safe System* presume that the level of ambition of *Safe System* should be to eliminate death and life-changing injury from use of the roads, and even that the long-term policy goal should be zero deaths and life-changing injuries on the roads – although it is not known whether, let alone how, this can be achieved, even with autonomous vehicles. But parts of the basis of *Vision Zero* are questioned here as being at odds with realities of the experience of individuals and society. An adapted vision is one of zero *preventable* deaths and life-changing injuries – preventable by means that society finds affordable and individuals find acceptable. This can be seen as a realistically ambitious goal. Realistic goals are important for road safety in the realm of day-to-day political reality in at least two ways: unrealistic and remote goals like elimination and zero may undermine sound evidence-based claims made for policies in the here and now; and they can distract attention from the fresh challenge that advocates for road safety interventions will face as the risk of accidental death while using the roads is brought down to about the level that is accepted in the rest of everyday life. Emphasis on realistic goals rather than remote prospects should not only help to advance *Safe System* but also help to align progress towards it with the promotion of active travel and the creation of places for living and walking in our cities.

### 1 Introduction

*Safe System* is an approach to road safety management that can be advocated as being the current state of the art; it draws comprehensively upon experience of recent decades in road safety management in many countries, notably in north-west Europe and Australasia. The first sourcebook for the *Safe System* approach was the ITF report *Towards Zero* (ITF 2008), and this has been supplemented by *Zero Road Deaths and Serious Injuries* (ITF 2016). Both reports were produced by international teams including contributors from many of the countries that have achieved the greatest improvements in road safety over the last four decades.

These two sources contain a wealth of sound advice and together identify as essentials of *Safe System* that:

- people make mistakes that will continue to lead to collisions;
- the human body can withstand only limited forces in collisions without death or life-changing injury resulting;
- those who design, build, manage or use roads and vehicles or who provide post-collision care all share responsibility for preventing collisions resulting in death or life-changing injury;

- road safety management should be aligned with wider economic, human and environmental goals ;
- road safety interventions should be shaped to meet chosen long term road safety goals; and
- different elements of protection for road users should be managed holistically to reinforce one another and minimise the consequence of failure of any one element.

## 2 Vision Zero and the elimination of death and life-changing injury

Safe System owes much of its inspiration to *Vision Zero*, adopted by the Parliament of Sweden in 1997. This envisages road transport from which the risk of death or life-changing injury has been removed on the basis that it cannot be acceptable to trade life or limb for any benefits of road transport. *Vision Zero* is rightly credited with inspiring fresh ambition for road safety in many countries, and its assertion of the joint responsibility of system providers and road users for safety on the roads has become a cornerstone of Safe System.

Inspired by *Vision Zero*, the 2008 report conveys a strong presumption that the long term ambition of Safe System should be to eliminate death and serious injury from use of the roads. The report recommends, as a first step towards building a safe system approach, adopting

“the elimination of death and serious injury from use of the road transport system as the level of ambition for long term road safety achievement”.

The chapter describing the safe system approach concludes by stating that Safe System strategies being adopted in various countries are characterised by aiming to

“eliminate all fatalities and serious trauma arising from road crashes in the long term”.

The 2016 report speaks of several well-performing countries having

“adopted a long-term policy goal that no-one should be killed or seriously injured in a crash on their roads”.

The section entitled ‘Description of a Safe System’ begins by saying that the term Safe System refers to

“the vision or aspiration that zero fatalities and serious injuries from road crashes are ultimately possible”,

but the section on leadership for a Safe System qualifies this by saying that a number of countries, cities and companies adopting Safe System thinking and practice have

“made zero preventable fatalities and serious injuries the ultimate goal of their policy”.

So the ambition to eliminate death and life-changing injury has come to be expressed as the ultimate goal of zero deaths and life-changing injuries, and this has evolved from being a vision to being regarded as ultimately possible – even though it is not known whether, let alone how, it can be achieved, even with autonomous vehicles. This lack of knowledge casts doubt upon the ethics of advocating elimination or zero as a goal of policy.

### 3 Why not eliminate? - why not aim for zero?

Few would question that it should be the aim of a commercial airline that no-one be killed or suffer life-changing injury while flying in its aircraft – or that it should be the aim of a train operator that no-one using its trains should be killed or suffer life-changing injury through a train colliding, derailing or catching fire.

The fact that many airlines and train operators achieve this aim in most years in respect of deaths is used to support an expectation that this could also be a realistic aim for road transport.

But to do so is to ignore two important differences. First, these near-achievements of elimination or zero relate not to aviation or rail transport as a whole, but only to closely defined elements of these two forms of transport, while there continue to be many deaths elsewhere in aviation and rail transport. Secondly, both train and commercial airline operation are tightly managed activities in which those with responsible roles in the movement of the closely managed fleets of trains and aircraft are all highly trained and closely managed professionals.

In contrast, road transport in a country may well involve tens of millions of people, mostly with no more than general education, of whom more than half are entitled to drive the tens of millions of motor vehicles, most may cycle if they choose to, and almost all use the system on foot, so that those with responsible roles in movement by road comprise almost the whole population.

Vision Zero, in which road transport without risk of death or life-changing injury was first envisaged, was immensely influential in raising ambition greatly to reduce deaths and life-changing injuries on the roads, and can thus be credited with contributing hugely to the substantial reduction achieved across Europe in the last 20 years. But as zero evolves from being a vision to being seen as an achievable goal, there are parts of the basis for Vision Zero that call for examination.

In the 2008 ITF report, the then Swedish Road Administration state that

“Human life and health are paramount ethical considerations, According to Vision Zero, life and health should not be allowed to be traded off against the benefits of the road transport system, such as mobility”

Yes, human life and health are very important, and should not be lightly traded off, but people and society do not regard them as paramount. In almost every human activity, people as individuals accept risk in return for what they see themselves as gaining from the activity: *safety is for living – living is more than just keeping safe*. Examples of this in use of the roads are cycling in heavy urban motor traffic and leisure motorcycling at high speeds on rural roads. For society as a whole there are many policy areas in which premature death and life-changing injury or illness can be reduced by allocating resources to them, but available resources are finite, so government and organisations have to judge just how many deaths and injuries to try to prevent in each policy area. Even within road transport, active travel, like walking in cities, is encouraged as promoting health and long life, notwithstanding that the risk of death or life-changing injury from falling or from collision with a vehicle is often greater than if most of the journey were made by car or public transport.

So Vision Zero is at odds with realities of the experience of individuals and society – and a vision that fails to adapt to these realities risks fading or rejection. But the whole world would be the loser if Vision Zero were to fade or be rejected. So we all need to reconcile its sound elements with the behavioural reality of choices made by road users and with economic rationality in use of resources.

In looking for an adapted vision it is helpful to distinguish between deaths and injuries that are, under current circumstances, preventable, and others that are, for the time being, not preventable. This distinction is mentioned or hinted at in places, but too rarely, in the ITF reports. It points to an adapted vision of *zero preventable deaths and life-changing injuries*.

A death or injury is preventable when:

- technical or behavioural means of prevention are established;
- society is ready to allocate resources to implement these means; and
- people are ready to accept the changes needed to implement the means of prevention.

The range of deaths and injuries that are preventable can be widened not only by devising new methods of prevention, including ones that require less resources or gain greater public acceptance, but also by increasing the allocation of resources and by gaining greater public acceptance through information and persuasion.

Such an adapted vision is one of *boundless ambition to use all means that are affordable and acceptable to the public to reduce without predetermined limit the number of deaths and life-changing injuries on the roads*.

With this understanding, *zero preventable deaths and life-changing injuries* becomes more than a vision, but instead a realistically ambitious goal.

#### **4 Why realistic goals are important**

The danger that unrealistic goals may be counterproductive in terms of reducing deaths and life-changing injury on the roads is twofold: they may

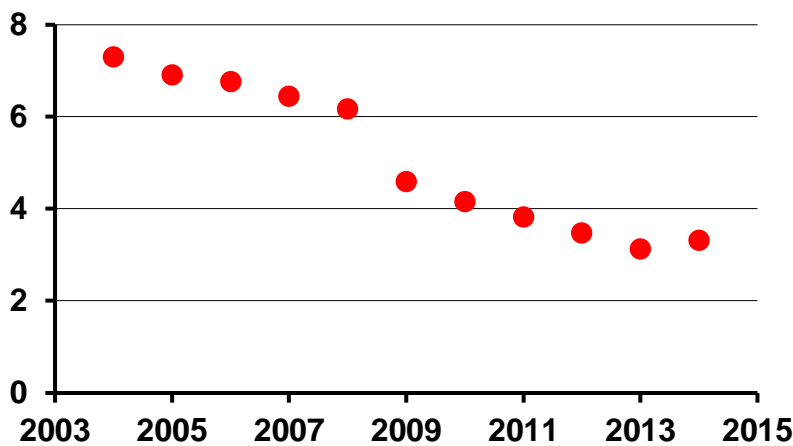
- undermine the case for action in the eyes of decision-makers; and
- distract those working for road safety from upcoming challenges that have to be faced long before even zero preventable deaths and life-changing injuries comes within sight.

This is because high ideals that rightly underpin Safe System have to be applied in the realm of day-to-day political reality.

The principal decision-makers on road safety policy and its implementation are politicians in national, regional and local government. They tend to be both wary of the long term and wary of offering the prospect of outcomes that look too good to be true or are likely to be belied in the eyes of the sceptical public by short-term developments. Elimination and zero are high-risk on all these grounds – the more so because their advocates have no hard knowledge whether they are achievable at all, let alone how they can be achieved, even with the help of autonomous vehicles and related developments. Claims by advocates for road safety that they can be achieved in the long term threaten to undermine sound evidence-based claims that can be made for policies and interventions in the here and now.

Up to now the cases, both for resources for road safety and for interventions that people may at first find unwelcome, have been helped by the fact that the risk of death from using the roads is substantially higher than in most activities shared by all or large sectors of the population. For any country or region for which mortality statistics by cause of death and an estimate of the time people spend using the roads are available, this disparity can be measured by the ratio shown roughly by way of example in the accompanying chart for those aged under 75 in Great Britain between 2004 and 2014:

**Ratio:  $\frac{\text{risk of death per hour spent using the roads}}{\text{corresponding risk in the rest of everyday life}}$   
for those aged under 75 in Great Britain**



The chart shows how the ratio has been falling as using the roads has become less dangerous compared with the rest of everyday life. As this ratio is reduced further, people will look harder at the cost and intrusiveness of further reducing death and injury on the roads compared with those of reducing death and injury elsewhere, for example in healthcare, social care and fire prevention. And as the ratio is brought close to 1, road safety will be competing for resources and public attention on level terms with other areas of preventable death and injury across society.

The challenge that this will present to those working for road safety in the context of increasing pressure on public funding and the administrative capacity of government does not seem to be recognised in the ITF reports – and a ratio of 1 implies numbers of deaths that are still far, far from zero.

## 5 Conclusion

Advancing the objectives of Safe System seems to require different understandings of

- the place of concern for safety in human life, and
- the place of concern about risk on the roads in the wider concerns of society

than those to be found in the ITF reports that are the sourcebooks for Safe System.

Practical progress in reducing deaths and life-changing injuries in road transport through securing resources for the development and implementation of technical interventions and public support for interventions that require changes in the lifestyles and behaviours of road users is likely to be helped by emphasis on the shorter-term goals that are rightly recommended in the ITF reports and reduced emphasis on remote prospects like elimination and zero.

Revised understandings may well also help to align progress towards Safe System with the promotion of active travel and the creation of places for living and walking in our cities.

### **References**

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