



## Traffic safety: Rights and obligations

Dinesh Mohan

Transportation Research & Injury Prevention Programme, Indian Institute of Technology Delhi, India



### ARTICLE INFO

#### Keywords:

Road safety  
Public health problem  
Human right  
State obligations

### ABSTRACT

Morbidity and mortality due to road traffic injuries (RTI) is one of the few public health problems where society and decision makers still accept death and disability on such a large scale as inevitable. Discussion only revolves around the number of deaths and injuries we are willing to accept. The partial departure from this mode of thinking is ‘Vision Zero’ for road safety that was adopted by the Swedish parliament in 1997. The long-term objective is that no one shall be killed or seriously injured in traffic and that the design, function and use of the transport system shall be adapted to the standards this requires. In this article we try to understand the concept of RTI as a public health problem and why that understanding has led to the introduction of Vision Zero and then sporadic attempts to establish road safety as a fundamental human right. We provide some details surrounding these events, the reasons for their limited success, and suggest ways in how we might move forward in establishing a place for rights and obligations to ensure road safety in reality. Some of the ways forward include: (a) Every policy, law or safety standard (concerning roads, vehicles or traffic management) established by the state to be accompanied by a justification for the same by including systematic reviews of the scientific evidence used for the decision and the expected safety benefits in numerical estimates. (b) Manufacturers of vehicles and other road-based technologies to explicitly state the quality and limits of the safety features embedded in their technologies. (c) International agencies dealing with road safety (state and non-state) to examine all sources of systematic reviews of road safety interventions and use them to justify the policies they pursue. They should also make it explicit that they will fund road safety activity by non-government organisations only if they promote interventions justified by scientific evidence.

### 1. Introduction

Three decades ago, an elderly man was about to get down from a city bus in Delhi (India) when the bus started moving. He fell off the bus, his head hit the edge of the curb and he died two days later of severe intracerebral haemorrhage. A decade later a middle-aged woman lost control of her car at 170 km/h on a highway in Sweden and hit a tree. She was dead by the time the ambulance arrived. A few years ago, a young un-helmeted woman passenger on a motorcycle taxi in Uganda was hit by a speeding car from the back. She suffered serious head injuries and is now paralysed for life. Three decades, three generations, and three lives destroyed. All consequences of ‘road accidents’ – which as a public health problem is under the purview of the *Unintentional Injury Prevention Unit* of the World Health Organization in the Decade of Action for Road Safety 2011–2020.

Is this loss of life and limb truly unintentional if we take into account the responsibilities of all actors involved in the system? The elderly gentleman would not have fallen off if the bus was not able to move unless the doors were closed. The car crash would have not been so severe if the car could not be driven at 170 km/h. After all no road in

Sweden allows such high speeds. And, the young lady may not have suffered such serious injuries if helmet use was mandatory and the law enforced in Uganda. All these measures could have been put in place by the lawmakers and policy makers in the three countries.

That road traffic injuries (RTI) should be considered a public health problem has been accepted for decades (Gibson, 1961; Haddon, 1963, 1968). In 1962 L.G. Norman, who was the Chief Technical Officer of the London Transport Executive, prepared a report for the WHO in which he stated that, “The problem of road accidents on a large scale has arisen for the first time in the present century. All other epidemics throughout history have been due to the onslaught of agencies external to man, principally the protozoa, bacteria, and viruses; but road accidents are caused by man himself” (Norman, 1962). But, he goes on to say “It has even been suggested that the limit of human performance is being reached in this respect and that the consequent accidents are the inevitable price of motorization. This view should not be accepted”, and that “As a public health problem, road accidents are amenable to treatment by the methodology applied to epidemic disease, including the detailed investigation of individual incidents and the application of epidemiological techniques”.

E-mail address: [dineshmohan@outlook.com](mailto:dineshmohan@outlook.com).

<https://doi.org/10.1016/j.aap.2019.04.010>

Received 16 February 2019; Received in revised form 15 April 2019; Accepted 15 April 2019

0001-4575/© 2019 Elsevier Ltd. All rights reserved.

Starting with these initial assertions by individual researchers the concept has been formalised and adopted by national and international agencies, and most professionals working on the issue of road safety, leading to the proclamation of The Decade of Action for Road Safety 2011–2020 by the UN General Assembly in March 2010, (Peden et al., 2004; United Nations, 2010).

However, morbidity and mortality due to road traffic injuries (RTI) is one of the few public health problems where society and decision makers still accept death and disability on such a large scale as inevitable. This human sacrifice is deemed inevitable in order to maintain high levels of mobility and is seen as a necessary “externality” of doing business. Discussion only revolves around the number of deaths and injuries we are willing to accept. This is made clear in the opening paragraph of the US *Highway Safety Manual*: “There is no such thing as absolute safety. There is risk in all highway transportation. A universal objective is to reduce the number and severity of crashes within the limits of available resources, science, and technology, while meeting legislatively mandated priorities” (AASHTO, 2010).

From the first decade of the nineteenth century to the nineteen sixties almost all the countermeasures for preventing traffic crashes focused almost entirely on trying to change road user behaviour – driver training, pedestrian education and punishment of traffic law violators. This belief in blaming the victims had strong political and public appeal and its supporters did not see much need to evaluate the effectiveness of these policies although the toll of RTI deaths continued to rise everywhere and showed a downward trend only in the early 1970s. This reduction was due to the fact that in the nineteen sixties and subsequent years safety researchers started to question the effectiveness of these policies and suggested alternatives including safer road and vehicle designs and considering ‘human error’ as an integral part of the road traffic system (Gibson, 1961; Haddon, 1963; Waller et al., 1964; Haddon, 1968; Waller, 1968; Haddon, 1970; Waller, 1970; Haddon, 1972; Baker et al., 1974; Perrow, 1984).

The fact that automobiles and motorcycles changed the way human beings move about and are believed to give everyone enormous ‘freedom’ it has always been very difficult to control their operations in favour of safety. Over the years, the “human error” approach also got strengthened and strong institutional and commercial lobbies developed to promote the educational approach. Despite contrary evidence, this continues to have strong support among policy makers and the public at large. This suits manufacturers and many government authorities as it reduces their responsibility in the system and places the responsibility on individual road users. This is also a strong reason why RTI has been allowed to become as big a problem as it is today.

A partial departure from this mode of thinking is ‘Vision Zero’ that originated in Sweden. In October 1997, the Road Traffic Safety Bill founded on Vision Zero was passed by a large majority in the Swedish parliament (Tingvall, 1997; Anon, 1998). The long-term objective is that no one shall be killed or seriously injured in traffic and that the design, function and use of the transport system shall be adapted to the standards this requires (Lie and Tingvall 2001; Anon, 2018). This formulation moves away from the most prevalent idea that individuals cause accidents because they make mistakes (knowingly or unknowingly) and gives greater responsibility to system designers. However, this formulation is still not accepted by all, even in Sweden (Fahlquist, 2006).

One of the objections cited by Fahlquist is that “Is it just rhetoric to talk about the responsibility of the system designers if there are no substantial consequences for failing to take responsibility? It could be argued that the fact that Vision Zero is not legally binding makes it a ‘toothless tiger’. The question is whether it will have any long-lasting effects if it continues to be an ethical idea rather than a distribution of responsibility with legal consequences attached to it”. If the system designers include road building agencies, vehicle manufacturers, police enforcement systems and road safety researchers, then it can be assumed that the state would have an obligation to set up rules and

regulations that cover all these agencies to ensure the success of Vision Zero.

Many researchers have even questioned the feasibility or the desirability of the state to assume such powers. These debates revolve around the limits of rights of citizens and the desirability of the state regulating the lives of all under its purview. A detailed discussion on the complexities surrounding these philosophical and ethical concerns is outside the scope of this paper but we will flag a few issues for the purposes of this limited discussion around RTI. Onora O’Neill in her book *Autonomy and Trust in Bioethics* suggests that “Unlike goods, rights and obligations are requirements, viewed respectively from the perspective of those who are to receive and of those who are to act. This structure of requirement links rights to their counterpart obligations: they are alternative ways of looking at the same requirements. Any human right must have as its counterpart some obligation: a right that nobody is required to respect is simply not a right” (O’Neill, 2002). If people demand rights what is the obligation of the state to honour those rights and which rights?

In this article we try to understand the concept of RTI as a public health problem and why that understanding has led to the introduction of Vision Zero and then sporadic attempts to establish road safety as a fundamental human right. We provide some details surrounding these events, the reasons for their limited success, and suggest ways in how we might move forward in establishing a place for rights and obligations to ensure road safety in reality.

## 2. Safety and human rights

On 10 December 1948, the General Assembly of the United Nations adopted and proclaimed the Universal Declaration of Human Rights (United Nations, 1948). Article 3 of this Declaration states, “Everyone has the right to life, liberty and security of person”. These rights have been elaborated and strengthened in international human rights instruments such as The International Covenant on Economic, Social and Cultural Rights, Declaration on the Elimination of Violence Against Women, Declaration on the Rights of the Child, and the Employment Policy Convention.<sup>1</sup>

The adoption of these conventions, declarations, and charters have made it possible for individuals, civil society groups and citizens’ organizations to demand safer products, safer working and living conditions, and safer environment around them. This has resulted in governments and courts in many countries instituting safety standards, legislation and enforcement mechanisms, and broadening the concept to right to life. For example, Article 21 of the Constitution of India, 1950 provides that, “No person shall be deprived of his life or personal liberty except according to procedure established by law”.<sup>2</sup> The application of this principle has been further elaborated by the Supreme Court of India in some path breaking judgements:

- “By the term ‘life’ as here used something more is meant than mere animal existence. The inhibition against its deprivation extends to all those limbs and faculties by which life is enjoyed” (In the case of *Kharak Singh v. State of Uttar Pradesh*).<sup>3</sup>

Since the judicial system in India is based on the common law system – a system of law based on recorded judicial precedents – most of the court’s interpretations would be similar to those followed in many other countries like the US and UK.

<sup>1</sup> UN Human Rights Treaties <https://www.humanrights.ch/en/standards/un-treaties/>

<sup>2</sup> Constitution of India. [https://www.india.gov.in/sites/upload\\_files/npi/files/coi\\_part\\_full.pdf](https://www.india.gov.in/sites/upload_files/npi/files/coi_part_full.pdf)

<sup>3</sup> *Kharak Singh vs The State Of U. P. & Others* on 18 December, 1962 (1963 AIR 1295), <https://indiankanon.org/doc/619152/>.

What some of these judgements in India and many other countries acknowledge is that rights are universal, indivisible and inseparable, no right is absolute, and that obligations are inherent in the rights. Human rights belong to human beings and humans live in society with others. The rights holder is obliged to respect the right of the other right holders and not infringe on the rights of the others. However, it is also the duty of the state to protect the right to life of all citizens as well as non-citizens living within the territory of the state. It is in this broader understanding of the right to life that the state is obliged to pass laws regarding issues that affect the health of citizens – safety of medical products, pollution, environment and climate change.

However, current efforts to make people's life safer on the road are not entirely based on the same principles and theories of rights as those employed for control of malnutrition and infectious and contagious diseases. That is why most efforts to promote safer products are made more as correctional measures rather than as policies based on a principle of rights. Though the right to a life safe from debilitating injuries is implicit in the right to life, decision makers and the public at large have still not used this knowledge as a right to influence policy. Therefore, it becomes necessary to promote the right of people to live in a world safe from harmful injuries as a fundamental human right in clear and explicit terms.

### 2.1. People's right to safety

In cognisance of the above UN Resolutions and court judgments and interpretation on the right to life, a workshop on people's right to safety was organised jointly by the Transportation Research and Injury Prevention Programme (TRIPP) of the Indian Institute of Technology, Delhi, and the South Asia Forum for Human Rights (SAFHR) in association with the Fifth World Conference on Injury Prevention and Control, held in Delhi, India, in March 2000. Following the discussions at the Workshop, the participants of the Conference adopted the Delhi Declaration on People's Right to Safety on 8th March 2000.<sup>4</sup> A draft of the Charter on People's Right to Safety was circulated to all participants and put up on the websites of TRIPP and SAFHR for discussion among human rights groups. Based on comments received a Draft Convention on People's Right to Safety was prepared and discussed at a pre-conference Workshop on People's Right to Safety in Montreal on 11th May 2002 before the 6th World Conference on Injury Prevention and Control held in Montreal 12–15 May 2002. The draft was finalized based on comments received and put up for adoption at the closing ceremony of the conference. The participants of the conference adopted the final document as The Montreal Declaration on People's Right to Safety at the closing session (Montreal Declaration, 2002). The important articles in the declaration are reproduced below:

- Safety is a fundamental right. It is essential for the attainment of health, peace, justice and well-being.
- Safety is a state in which hazards and conditions leading to physical, psychological or material harm are controlled in order to preserve the health and well-being of individuals and the community.
- Safety is, however, not defined as a total absence of hazards. The object of this Declaration is not to eliminate all risks but rather to control them in order to protect the health and well-being of individuals and the community.
- All States shall develop mechanisms to protect the people's right to safety against any violation by agencies, including corporate bodies.
- All States shall respect and protect the right to safety. Accordingly, all States shall formulate injury prevention and safety promotion policies.

The Montreal Declaration included the right to safety from all

causes of injuries. The declaration was publicised widely and reproduced in some journals for discussion. As a result, a special session was held at the next World Conference on Injury Prevention and Control held in Durban, South Africa, to discuss how to get national and international agencies to take cognisance of these rights. Some of the participants at this meeting acknowledged that their efforts to get governments of their countries interested in taking this movement forward had not been very successful. The author of this article also had similar experiences in informal discussions with officials associated with health and transport ministries in India, Canada, USA, and international agencies like the World Bank, UNICEF and the United Nations.

It appears that there is a rights 'fatigue' among officials and politicians around the world and most of them think that there are far too many demands for rights that cannot be serviced anymore by states. Further, in most discussions it was pointed out that the existing UN Resolutions and Declarations on different rights are not being followed by most countries in the world and adding another one would be even more difficult. Almost all of the original promoters of the people's right to safety are not very active anymore and to the best of our knowledge, no further activity has taken place on this issue.

In addition to the practical and procedural problems associated with getting various rights to be recognised by states and international agencies some thinkers have also been critical of an abstract notion of rights. In a detailed discussion on the concept of human rights O'Neill (2002) advises us to be more careful in formulating such demands and makes the following observations:

- "There are those who go no further in seeking justifications for rights than to appeal to the great charters and declarations, and in particular to the United Nations Universal Declaration of Human Rights of 1948. These appeals are not philosophically very respectable because they amount to arguments from authority, but they are widely made and accepted".
- "But if the justice and justification of states and democratic governance presupposes the justification of human rights, human rights can hardly be justified by pointing out that they have been endorsed by states or by (elements of) democratic process. So much for one popular fantasy about hauling human rights into existence by their own bootstraps".
- "Although the rhetoric of rights dominates public life today, I believe that we fail to take rights seriously unless we link rights claims to rigorous thinking about obligations, about action and about the capabilities that agents and institutions need in order to discharge their obligations, and thereby respect one another's rights. If we try to think about rights in isolation, we end up gesturing towards supposed rights by offering hazy indications of what they would secure, while neglecting to specify the action needed to respect them".

It is obvious that in order to promote the concept of right to safety much more thought has to be given to the detailing of these rights and the obligations and the capacity of the state and its components to honour such rights. For the purposes of this article we focus only on the issue of injuries due to road traffic crashes and the methods by which we can move forward in making Vision Zero a right and the responsibilities and obligations of the state to honour the right.

### 3. The right to road safety

The demand for establishment of a right emerges in society when people feel the need for a norm that provides the possibility of an actionable claim against physical, social or emotional harm. This need for a right becomes stronger when individuals also feel isolated and relatively powerless and that remedies need societal agreement and action. In the past, people led lives using products, homes and environments designed by themselves or local communities, and they blamed

<sup>4</sup> <http://tripp.iitd.ernet.in/usefullinks/people-right-to-safety>

themselves, someone they knew, or a supernatural agency if they suffered harm or injury from such arrangements. There was also a natural contract that when individuals voluntarily exchanged goods and services no harm would accrue to either party. This natural contract even exists today - if a stranger comes up and asks for a drink of water, you would not knowingly give water that was polluted.

Modern systems of interconnected complex life styles under control of states and large corporations do not allow us to live in isolation or in independence of others. Normal activities preclude individual choices all the time. For example, most of us cannot choose the time at which we travel to work or the road we use, we live in homes that are mostly designed and built by others, we use technologies that are manufactured by powerful organisations not necessarily under our control, and we cannot guess the hazards that accompany chemicals and other products sold to us. Exchange of goods and services takes place between parties unknown to each other and possessing different power in society. In this situation there is a deficit of trust and the natural contract of harmless exchange loses relevance. This is a relatively new development in human history and for this reason we have to develop a new regime of rights that protect us from unreasonable harm. This is particularly true for all of us as road users.

Death and disability due to RTI is recognised as a public health problem by most national governments and international agencies because of the extent of the problem (WHO, 2004, 2009, 2011; United Nations, 2016). However, this does not necessarily mean that the concerned state agencies and all road users understand the implications of such a recognition. If RTI constitute a public health problem, it necessarily means that almost everyone in society is at potential risk, the activity that promotes that risk is compulsory, users do not have many choices in how they participate in that activity, and we cannot select people who can or cannot participate in that activity. Therefore, we cannot depend on individual initiative alone to ensure safety and there has to be system that endeavours to guarantee health and well-being to all participants in the system. Not very different from the right to clean drinking water and air, or mobile phones and laptops that do not electrocute you.

This is particularly true for those situations where we cannot specifically select the people who will be involved in a particular activity at a given time, like domestic work, use of road space and in most working environments. Because of this, on any day, the population in such situations would include individuals with any of the following characteristics:

- Those who cannot concentrate on the job at hand because they have suffered a personal tragedy recently - death of a loved one, loss of a job, failure in an important examination, monetary loss, etc.
- Those who are disturbed because of problems in personal relationships with a spouse, parent, sibling or close friend.
- Persons taking medication or drugs that alter behaviour and perceptual abilities, or those who are under the influence of alcohol.
- Children whose cognitive and locomotor abilities make it difficult for them to understand or follow instructions given to them.
- Elderly people whose motor and cognitive functions are impaired
- Psychologically disturbed persons who may not be able to function as desired but who cannot be singled out from participation in a specific activity.

If we add up the number of individuals who could be included in the above categories on any given day it would amount to a significant proportion of persons using the road that day (probably greater than 20–30 per cent). These individuals cannot always be identified or prevented from participating in these activities. These people also have a right to lead healthy lives and need to operate in environments that give them a reasonable opportunity to do so.

This need for asserting that protection from RTI should be a right is also strengthened by research findings that there are severe limits to

ensuring safety of individuals by ‘educating’ them, and that there is a wide variation between people’s knowledge and their actual behaviour (Sandels, 1970; Robertson and Zador, 1978; Robertson, 1980; OECD, 1994; IHS, 1997, 2001, O’neill, 2001; Duperrex et al., 2003; Roberts et al., 2003; Williams, 2007, 2013; Mohan, 2016). Therefore, in the modern interdependent world, where there are many activities that have to be performed compulsorily, we cannot only depend on individual decision-making precautionary actions to ensure a right to life in its broadest understanding.

In fact, there is no difference in claiming road safety as a right, the demands for cleaner air, or to control climate change. State and international agencies are framing laws and treaties for the latter two issues on the basis of the fact that there is an obligation to protect the ‘right to life’ of all citizens. Climate change and air pollution, like RTI, are also multicausal events and have a large number of agencies responsible, but very few question that it is everyone’s right to be protected from the ravages of pollution and rise in world temperatures. Similarly, a life free from polio, plague, malaria, H1N1 Flu Virus and even obesity are thought to be rights that the state and corporations have an obligation to protect those rights. It is because of this assumption that packaged foods have had to include calorific and food item contents on their packaging.

Therefore, we have a societal and moral responsibility to design our products, environment and laws so that people find it easy and convenient to behave in a safer manner without sacrificing their needs to earn a living and fulfil their other societal obligations. The systems must be such that they are safe not only for ‘normal’ people but also for those individuals who might belong to any of the groups listed above. These kinds of designs, rules and regulations would reduce the probability of people hurting each other or themselves even when they make mistakes. Such policies would help in moving toward a future where it would be recognised that individuals have a right to safety and the state and society at large has an obligation to protect those rights.

Such changes will take place in a systematic manner only when safety is recognised as a fundamental right of communities and not depend just on the goodwill of powerful institutions. This issue is sated forcefully by Perrow, “Above all, I will argue, sensible living with risky systems means keeping the controversies alive, listening to the public, and the essentially political nature of risk assessment. Ultimately, the issue is not risk, but power; the power to impose risks on the many for the benefit of the few” (Perrow, 1999).

A ‘right’ to safety can exist only when there exists a relationship between individuals or groups using a product or services and the provider of those products or services. The relationship between the state and its citizens is enshrined in the Constitution of each country. Constitutions of most countries ensure that their citizens have a right to life, and it is this right that gets translated into a right to live free from debilitating injury and preventable illnesses. Similarly, when a private corporation sells goods or services, it is assumed by the buyer that they will not be harmed using these products. Finally, all the UN human rights agreements signed by different countries bring the international responsibilities into focus. Individuals and communities need to understand that a right to safety on the road is as valid as a right to clean air or a right to live free of small pox, polio or malaria and that they could make political and societal demands to be free off the latter diseases because they had a right to do so. As stated earlier, in order to take rights seriously we have to link rights claims to rigorous thinking about obligations, about action and about the capabilities that agents and institutions need in order to discharge their obligations, and thereby respect one another’s rights.

#### 4. Way forward

If we can think of safety on the road as a right of all road users, then we will also have to think of obligations of all those associated with the road traffic system. We can think in this direction if the obligations can

be associated with the kind of rights we demand. This is because a right can only exist if someone is obliged to respect that right and is bound by procedures and requirements to do so. The obligations would fall on the controllers of the road traffic system – road building and maintenance agencies, traffic management authorities, manufacturers of all vehicles and technologies on the road, and law-making institutions. Since road designs and technologies are exchanged internationally, human rights and states cannot be separated in the international arena. States are the main actors in international relations, as well as the primary actors responsible for the enforcement of human rights. However, human rights exist even if they are not enforced by a particular state, they are universal - all humans, no matter in what political system or culture they live, have human rights. Consequently, designers and manufacturers of all technologies associated with road use would have to think in international terms rather than specific local safety regulations.

At the operational level it is the state which has the primary obligation for ensuring the people's right to road safety since the state is granted sovereign powers through the mutual transference of the powers of the citizens to the state by way of a social contract. For this to be successful there needs to exist some level of trust between the state and the citizen. At present the lack of trust exists between the state and vehicle manufacturers, the citizen and the state, and the citizen and the manufacturer of vehicles. This lack of trust is exhibited in the tussles between the government and the industry in establishing safety standards, the road users trusting reports of consumer organisations rather than claims of the industry, and road users disobeying traffic regulations at times as they do not see the benefit of obeying the law.

Trust can be established to some extent by following practices already in place in the sale of medicines and foods, and requiring informed consent of system users before they participate in the activity. The problem is that people are often not able to judge whether the information they receive is trustworthy because of the complexity of the problem and competing claims of experts overwhelm them.

The first step forward would be to acknowledge that road users have a right to expect that state decisions affecting their safety should be based on fact-based expectation of the safety consequences of such decisions. This would require every policy, law or safety standard (concerning roads, vehicles or traffic management) established by the state to be accompanied by a justification for the same by including systematic reviews of the scientific evidence used for the decision and the expected safety benefits stated in numerical estimates. The document would have to include information on what effects that measure would have on all road users and non-road users on their daily lives. These documents would obviously have to be placed in the public domain.

The second step would be for manufacturers of vehicles and other road-based technologies to explicitly state the quality and limits of the safety features embedded in their technologies. For example, a car manufacturer would have to state that the car has been tested for frontal impacts at say 60 km/h, and at that speed it reduces fatality rates by approximately x%, and that it may not be as safe at speeds above that limit.

The third step would be for international agencies dealing with road safety (state and non-state) to examine all sources of systematic reviews of road safety interventions and use them to justify the policies they pursue. They should also make it explicit that they will fund road safety activity by non-government organisations only if they promote interventions justified by scientific evidence. If they diverge from available evidence then they must provide justification for doing so.

The proposed measures should help us move in a path that leads us to a situation that actually establishes Vision Zero as a right enjoyed by all road users and the accompanying obligations of the state and the private sector that accompany that right. The exact modalities of implementing these suggestions successfully will only come with experience.

## References

- AASHTO, 2010. Highway Safety Manual, 1st edition ed. American Association of State Highway and Transportation Officials, Washington, DC.
- Anon, 1998. "Vision Zero" in Perspective of Global Generalization. National Society for Road Safety, Stockholm.
- Anon, 2018. Renewed Commitment to Vision Zero: Intensified Efforts for Transport Safety in Sweden. Ministry of Enterprise and Innovation, Stockholm, pp. 24.
- Baker, S.P., Robertson, L.S., O'Neill, B., 1974. Fatal pedestrian collisions: driver negligence. *Am. J. Public Health* 64 (4), 318–325.
- Duperrex, O., Roberts, I., Bunn, F., 2003. Safety Education of Pedestrians for Injury Prevention (Cochrane Review). Update Software, Oxford.
- Fahlquist, J.N., 2006. Responsibility ascriptions and vision zero. *Accid. Anal. Prev.* 38 (6), 1113–1118.
- Gibson, J.J., 1961. The Contribution of Experimental Psychology to the Formulation of the Problem of Safety—A Brief for Basic Research. Behavioral Approaches for Accident Research. Association for the Aid of Crippled Children, New York, pp. 77–89.
- Haddon Jr, W., 1963. A note concerning accident theory and research with special reference to motor vehicle accidents. *Ann. N. Y. Acad. Sci.* 107, 635–646.
- Haddon Jr, W., 1968. The changing approach to the epidemiology, prevention, and amelioration of trauma: the transition to approaches etiologically rather than descriptively based. *Am. J. Public Health Nations Health* 58 (8), 1431–1438.
- Haddon Jr, W., 1970. On the escape of tigers: an ecologic note. *Am. J. Public Health* 60 (12), 2229–2234.
- Haddon Jr, W., 1972. A logical framework for categorizing highway safety phenomena and activity. *J. Trauma* 12 (3), 193–207.
- IIHS, 1997. Driver Education: Does Not Equal Safe Drivers. Status Report. Insurance Institute for Highway Safety, Arlington, VA, pp. 1–3.
- IIHS, 2001. Education Alone is Ineffective at Best and can even Increase Risk. Status Report. Insurance Institute for Highway Safety, Washington D.C., pp. 3.
- Lie, A., Tingvall, C., 2001. Governmental status report, Sweden. Year. Proceedings of the The 16th International Technical Conference on the Enhanced Safety of Vehicles (ESV) 5.
- Mohan, D., 2016. Safety promotion: education and legislation. In: Tiwari, G., Mohan, D. (Eds.), *Transport Planning & Traffic Safety: Making Cities, Roads, & Vehicles Safer*. CRC Press, Taylor & Francis Group, Boca raton, FL, pp. 59–70.
- Montreal Declaration, 2002. People's right to safety. *Injury prevention. BMJ* 5.
- Norman, L.G., 1962. Road Traffic Accidents: Epidemiology, Control, and Prevention. World Health Organization, Geneva, pp. 110.
- O'Neill, B., 2001. Role of advocacy, education, and training in reducing motor vehicle crash losses. Proceedings from WHO Meeting to Develop a 5-Year Strategy on Road Traffic Injury Prevention.
- O'Neill, O., 2002. Principled Autonomy. *Autonomy and Trust in Bioethics*. Cambridge University Press, Cambridge, pp. 73–95.
- OECD, 1994. Improving Road Safety by Attitude Modification. OECD, Paris.
- Peden, M., Scurfield, R., Sleet, D., Mohan, D., Hyder, A.A., Jarawan, E., Mathers, C., 2004. World Report on Road Traffic Accidents: Epidemiology, Prevention. World Health Organization, Geneva.
- Perrow, C., 1984. Normal Accidents: Living With High Risk Technologies. Basic Books, New York.
- Perrow, C., 1999. Normal Accidents: Living With High Risk Technologies. Princeton University Press, Princeton NJ.
- Roberts, I., Kwan, I., Cochrane Injuries Group Driver Education, R, 2003. School Based Driver Education for the Prevention of Traffic Crashes (Cochrane Review). Update Software, Oxford.
- Robertson, L.S., 1980. Fact and fancy in the formation of public policy. *Am. J. Public Health* 70 (6), 627.
- Robertson, L.S., Zador, P.L., 1978. Driver education and fatal crash involvement of teenaged drivers. *Am. J. Public Health* 68 (10), 959–965.
- Sandels, S., 1970. Young children in traffic. *Br. J. Educ. Psychol.* 40 (2), 111–116.
- Tingvall, C., 1997. The zero vision. A road transport system free from serious health losses. In: Holst Von, H., Nygren, È., Thord, R. (Eds.), *Transportation, Traffic Safety and Health*. Springer Verlag, Berlin, pp. 37–57.
- United Nations, 1948. The Universal Declaration of Human Rights. General Assembly Resolution 217 a. United Nations, New York.
- United Nations, 2010. Improving Global Road Safety: Resolution Adopted by the General Assembly on 2 March 2010. United Nations, New York, pp. 6.
- United Nations, 2016. Improving Global Road Safety. United Nations, New York, pp. 20.
- Waller, J.A., 1968. Fact and fiction about accidental injury. *Northwest Med.* 67 (5), 451–457.
- Waller, J.A., 1970. Present Knowledge of Medical and Behavioral Factors in Highway Crashes: Options for Loss Reduction. SAE Technical Papers.
- Waller, J.A., Curran, R., Noyes, F., 1964. Traffic deaths. A preliminary study of urban and rural fatalities in California. *Calif. Med.* 101, 272–276.
- WHO, 2004. Road Safety and Health: Resolution wha57.10. Geneva. pp. 3.
- WHO, 2009. Road Traffic Injuries Publications and Resources: Related Resolutions. Geneva.
- WHO, 2011. Saving Millions of Lives: Decade of Action for Road Safety 2011–2020. World Health Organisation, Geneva.
- Williams, A.F., 2007. Public Information and Education in the Promotion of Highway Safety. National Cooperative Highway Research Program. Transportation Research Board, Washington D.C., pp. 16.
- Williams, A., 2013. The contribution and limitations of education and driver training. In: Mohan, D. (Ed.), *Safety, Sustainability & Future Urban Transport*. Eicher Goodearth Pvt. Ltd, New Delhi, pp. 1–16.