



Road Safety

How can vehicle design play a role?

1. Introduction

The International Organisation of Motor Vehicle Manufacturers (OICA) is the world federation of 38 national auto industry associations, spread all over the world. Through these associations, OICA represents almost all vehicle manufacturers worldwide and is the officially accredited representative at the United Nations. OICA actively contributes to the activities of the UNECE World Forum on Harmonisation of Vehicle Regulations (WP.29) and its various working parties.

Mid-way through the United Nations Decade of Action for Road Safety (2011-2020), it is a good time to assess the situation and to develop a comprehensive position on how global road safety can be improved. According to the World Health Organisation (WHO), road traffic injuries continue to represent a major public health problem. WHO estimates show more than 1.2 million people killed and 50 million people injured in road crashes every year with more than 90% of these casualties occurring in emerging countries.

OICA believes that the experience gained in developed countries, which have reached unprecedented levels of road safety despite a high concentration of traffic, can be put to good use in order to improve road safety in emerging countries.

Road safety is a complex phenomenon, involving a combination of various factors and stakeholders, interacting with each other. These factors and stakeholders include road user training, education and behaviour, road infrastructure, road traffic rules and their enforcement, efficient medical care system, progress in the analysis of accidents causation and their consequences, vehicle park age and composition, vehicle design, etc. Isolating one of these factors, while neglecting the others will not yield the hoped-for benefits; this calls for an "integrated approach", involving all stakeholders.

OICA recognises and advocates such integrated approach that focuses on all the factors as opposed to attempting to single out each individual factor.

This paper presents OICA's views on what could be done in terms of vehicle design and safety performance, for integration into a larger solution. A more comprehensive paper that will address the other issues in the framework of an integrated approach is underway. It is expected to be published in 2016.

2. Vehicle design

The design of vehicles on the road is an important factor in road safety. Modern vehicles are much safer than the ones they have replaced over time. Under similar accident conditions, occupants or other road users are much more effectively protected with modern vehicles compared to older models.

This improvement is due to various advances in research that have led to changes in design, from the vehicle structure as a whole, enhancing energy absorption capabilities, to specific occupant protection systems such as increasingly sophisticated safety belts and airbags, etc.

Not only do modern vehicles perform much better in case of an accident, they are also much better equipped to avoid the accident altogether. Through advances in crash avoidance technology vehicles are increasingly able to effectively brake, remain in a lane and provide effective lighting of roadways to help reduce the risk of an accident.

For this reason, and in order to place all actors on an equal footing, governments worldwide should use the experience gained in a number of well-developed markets, to set minimum vehicle safety standards for all new vehicles sold on their territory. OICA points out that several items should be considered in this determination:

- a) A careful study of the exact needs of a population must first of all be conducted in order to determine the kind of vehicle requirements most suitable to address the real problem in a given territory.

Not all aspects of vehicles may need to be regulated everywhere in the world in order to see a benefit in road safety. Depending on the local conditions, priorities should be set on attaining the most important safety aspects first. For instance, it would not make sense to prioritize an automatic emergency call system ("e-call") over other possible measures in a country with insufficient mobile network coverage.

- b) National or regional vehicle requirements should be based on international regulations (especially those developed under the United Nations 1958 Agreement) or their equivalent. One such equivalent could be the Global Technical Regulations under the UN 1998 Agreement; another could be requirements existing in well-developed markets (such as North America and others).

That said, OICA cautions against so called "cherry-picking", a practice where certain requirements are selected from different regulatory regimes. Such a practice would preclude existing vehicle concepts developed as a whole for these regimes and would require specific, unique new developments.

Some governments might consider that previous versions of some UN Regulations are better suited for their own purpose. These UN Regulations have proven their effectiveness in the past, and may provide incremental increases in benefits for countries that have little to no existing requirements but that might find current regulations too cumbersome at this stage until local conditions warrant moving up towards more severe/the latest levels.

The UN 1958 Agreement is currently under revision to, among other improvements, give especially emerging markets the possibility to use UN Regulations in their previous versions. This gives the various authorities the possibility to adapt versions of the safety regulations to their own national necessity.

- c) To the widest extent possible, governments should consider joining the United Nations' activities under Working Party 29 and the 1958 Agreement. By doing so, they would benefit from the expertise and the experience gained in other countries. They also would be able to contribute to shaping the evolution of vehicle legislation

to ensure that international regulations are suitable for their own needs and can be applied in their territories.

- d) Content and implementation of proposed new requirements should have input from all local stakeholders, including the local industry and importers, in order to ensure fair and adequate treatment to all, without disrupting the whole vehicle supply chain. Lead-time is needed in many cases, as is taking into account the local logistics and administration.
- e) As a general principle, governments should accept certification documentation that the vehicles meet the relevant requirements, such as approval certificates granted by the approval authorities of the Contracting Parties to the United Nations 1958 Agreement.
- f) Unique national requirements should be avoided. It is highly unlikely that a single country would be faced with a unique situation that has not already been addressed in other countries.
- g) Some coordination between neighbouring countries will certainly be very useful, whenever possible, in order to streamline the available resources, both from an industrial and an administrative point of view, in order to identify the common safety needs and their remedies.

Taking into account the above recommendations, vehicle manufacturers worldwide would have no objections to the imposition of vehicle design requirements through the national or even preferably regional rulemaking.
