European Transport Safety Council

Position on the Proposal for a Directive Amending Directive 96/53/EC laying down for certain road vehicles circulating within the Community the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic (Proposal 2013/195 final)

1. Background

The European Commission has proposed a revision of Directive 96/53/EC which prescribes the maximum permitted weights and dimensions for vehicles using the road networks in the European Union[1]. The proposal will grant derogations from the maximum dimensions of vehicles for the addition of aerodynamic devices to the rear of vehicles and give the possibility to redefine the geometry of the cabs for tractors. The derogations must meet certain requirements, one of which is not to increase the load capacity of vehicles. The requirements will aim to ensure compliance with road safety rules and the constraints imposed by infrastructure and traffic flow.

The proposal offers an opportunity to improve road safety by streamlining of the cab, allowing a reduction of the driver's blind spots[2]. This has the potential to save the lives of vulnerable road users (VRUs) whom the driver does not always see when making manoeuvres. A new cab profile could also incorporate energy absorption structures in the event of a collision and could potentially save the lives of and injuries to car occupants as well as VRUs. Other elements include provisions to enable national inspection authorities to better detect infringements and harmonise administrative penalties that apply to them. The European Commission will also publish guidelines on inspection procedures to ensure harmonisation of inspection methods between all Member States. It will also be able to adopt delegated acts covering procedures for the establishment of the test certificate. At present, this legislation is mere enabling legislation. ETSC would support a move to introduce coverage of full type approval legislation in the medium term.

ETSC strongly supports the need for the front end design of large trucks to be improved to reduce the current risks to both car occupants and VRUs.

This position refers solely to the elements in the proposal linking to the potential redesign of the truck. The proposal also states that "the cross-border use of longer vehicles is lawful for journeys that only cross one border, if the two Member States concerned already allow it, and if the conditions for derogations under Article 4(2), (4) or (5) of Directive 96/53/EC

[1] EC Proposal Amending Directive 96/53/EC laying down for certain road vehicles circulating within the Community the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic COM (2013) 195.

[2] ibid

are met." For ETSC's position on allowing LHVs to cross international borders refer to ETSC's Position published in 2011[3]. This paper concluded that; ETSC has serious concerns about the impact of LHVs on transport safety in general, and road safety in particular. Depending on the operational conditions, several safety aspects would need to be addressed at high societal costs in order to maintain the current level of risk in road traffic of these vehicles and of other road traffic participants. As long as all safety issues are not properly addressed, and in the absence of evidence that likely positive impacts are outweighing negative ones, ETSC would not recommend a modification of the Directive which would allow LHVs to circulate across national borders in the EU[4].

2. Life Saving Potential

In the European Union 4,254 people lost their lives in collisions involving heavy goods vehicles (HGVs) in 2011[5]. HGVs have a higher mortality rate per billion km travelled than for the average vehicle and most of those killed are other road users rather than the occupants of the heavier vehicles. The relatively large masses of the HGVs translate into a higher severity of injury for other road users involved in a collision with them. A change in design could have a significant impact on the number of deaths and serious injuries involved in collisions with HGVs. However, as elaborated below, testing procedures with strict conditions relating to safety will have to be carefully designed.

2.1 Collisions involving HGVs

2.1.1 Type of road user killed

Across the EU the occupants of the HGVs involved in the collision make up only 12% of the deaths[6]. Figure 1 shows percentages by type of road user of deaths in collisions involving a goods vehicle over 3.5 t in the last two or three years for which numbers are available[7].

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[3] ETSC's Position Paper on Longer and Heavier Vehicles (2011)
http://etsc.eu/documents/ETSC_Position_on_Longer_and_Heavier_Vehicles.pdf

[4] ibid

[5] 7th Annual PIN Report Back on Track to Reach the 2020 Target Chapter 2
http://etsc.eu/documents/PIN_Annual_report_2013_web.pdf

[6] ibid

[7] Data collected by ETSC cover HGVs of all categories over 3.5 tons. Although not displaying a breakdown for all HGV weight clases, these data nevertheless give an indication of the levels of safety of all types.

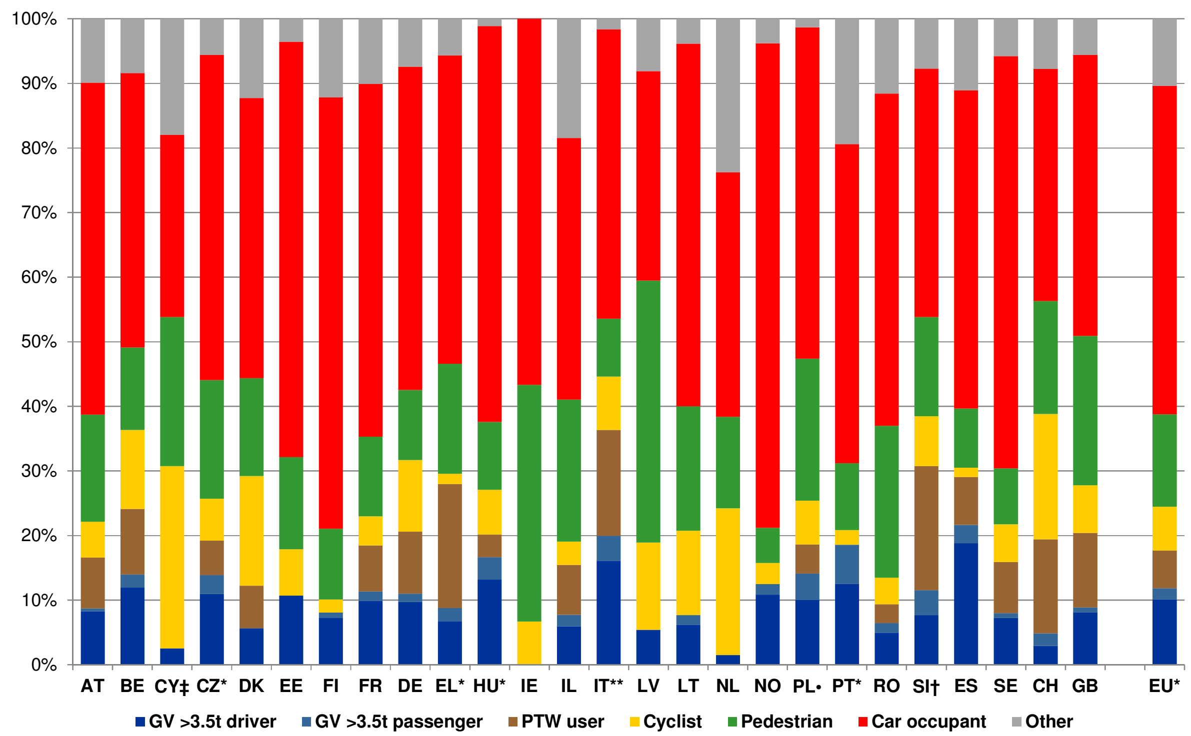

Fig.1 Percentages by type of road user of deaths in collisions involving a goods vehicle over 3.5 t in the last two or three years for which numbers are available (2009-2011 unless otherwise indicated). **CZ, EL, HU, PT values for 2009-2010. **IT 2008-2010, †SI 2010-2011, ‡CY values for 2009 and 2011. •PL data refers to all goods vehicles.*

The above figure shows that the highest number of road deaths following collisions with HGVs is observed among the occupants of passenger cars, either drivers or passengers. They amount to 50% of such road deaths during the last three years observed. Unprotected road users amount to 28% of the road deaths recorded following collisions involving HGVs: 6% were riders of powered two-wheeled vehicles (PTW), 7% were cyclists and 15% were pedestrians. Other types of road user accounted for 10% of the road deaths. The relatively large masses of the HGVs translate into higher momentum when the vehicle enters a traffic collision with another road vehicle or user, which in turn increases the severity of injury for the occupants of the other vehicle involved in the collision. The redistribution of momentum during a traffic collision partly explains the relatively small proportion of road deaths for HGV occupants. HGVs are relatively safe for their occupants, but most often they cause serious problems in collisions with other types of road users. Moreover, the generally raised cabs of HGVs afford their occupants a relatively higher level of protection than for other vehicle occupants.

In Finland, out of the 3 220 collisions resulting in death, investigated between 2002–2011 by the road collision investigation teams of the Finnish Motor Insurers' Centre, 869 involved heavy goods vehicles[8]. 742 of the HGVs were involved in a collision leading to the

[8] VALT 2013 Database of road accidents investigated by Finnish road accident investigation teams. Finnish Motor Insurers' Centre, Traffic Safety Committee of Insurance Companies. Helsinki, Finland.

death of a person using a motor vehicle. 127 of the HGVs were in a collision leading to the death of a pedestrian or cyclist.

In the motor vehicle user collisions resulting in death, the most common immediate risk factor given was short reaction time of the HGV driver, i.e. the collision was inevitable for the HGV. This was the case in 70% of the HGVs involved. In pedestrian/cyclist collisions resulting in death the most common immediate risk factors was short reaction time (40%) and insufficient perception (35%) of the involved HGVs.

2.1.2 Type of road

For the EU as a whole, 28% of the road deaths in collisions involving HGVs occur within urban areas, 59% on rural roads other than motorways and 13% on motorways[9].

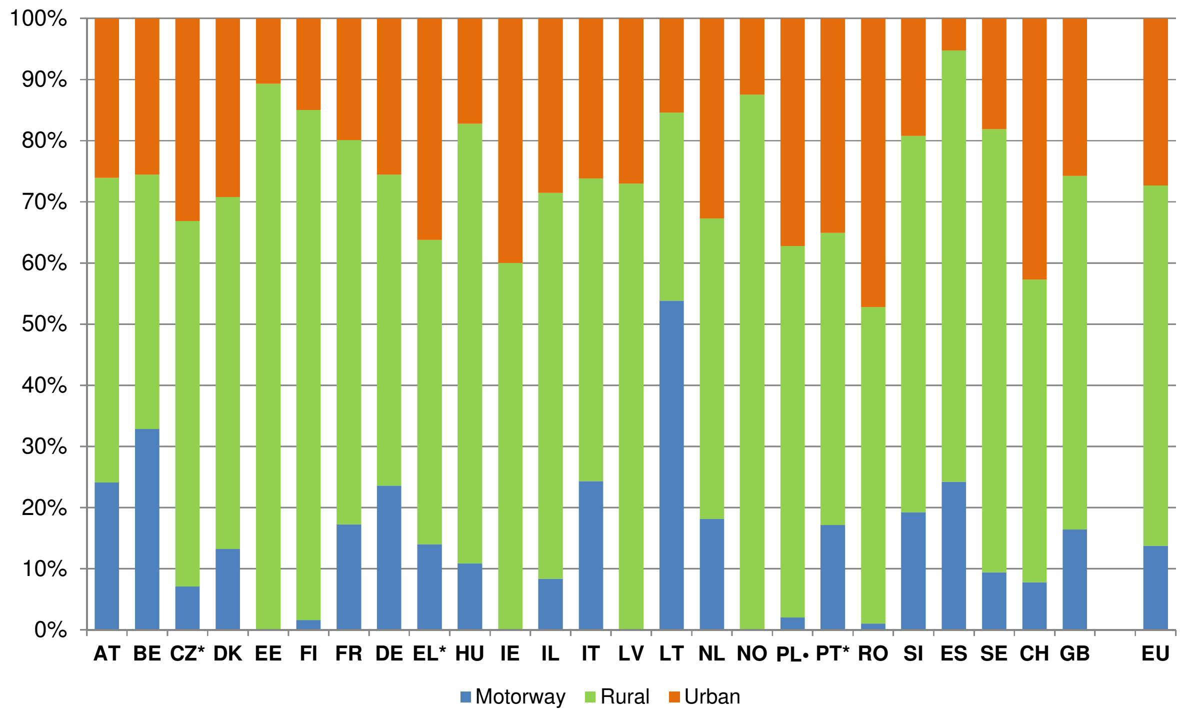

Fig. 2 Percentages by type of road of deaths in collisions involving a heavy goods vehicle in the last two or three years for which numbers are available (2009-2011 unless otherwise indicated).
**CZ, EL, PT values for 2009, 2010. •PL data refers to all goods vehicles.*

2.1.3 Types of Collisions: Nearside turn collisions

[9] 7th Annual PIN Report Back on Track to Reach the 2020 Target Chapter 2. http://etsc.eu/documents/PIN_Annual_report_2013_web.pdf

The larger size of the HGVs results in a comparatively smaller area of direct vision for their drivers than for drivers of passenger cars or Light Goods Vehicles (LGVs). At present this deficiency is corrected through the use of indirect vision devices, particularly mirror elements. A change in cab design may further improve vision and thus safety. There are also other in-vehicle technologies that can detect VRUs, but this is beyond the scope of the discussion of this change which focuses on vehicle design and crash worthiness.

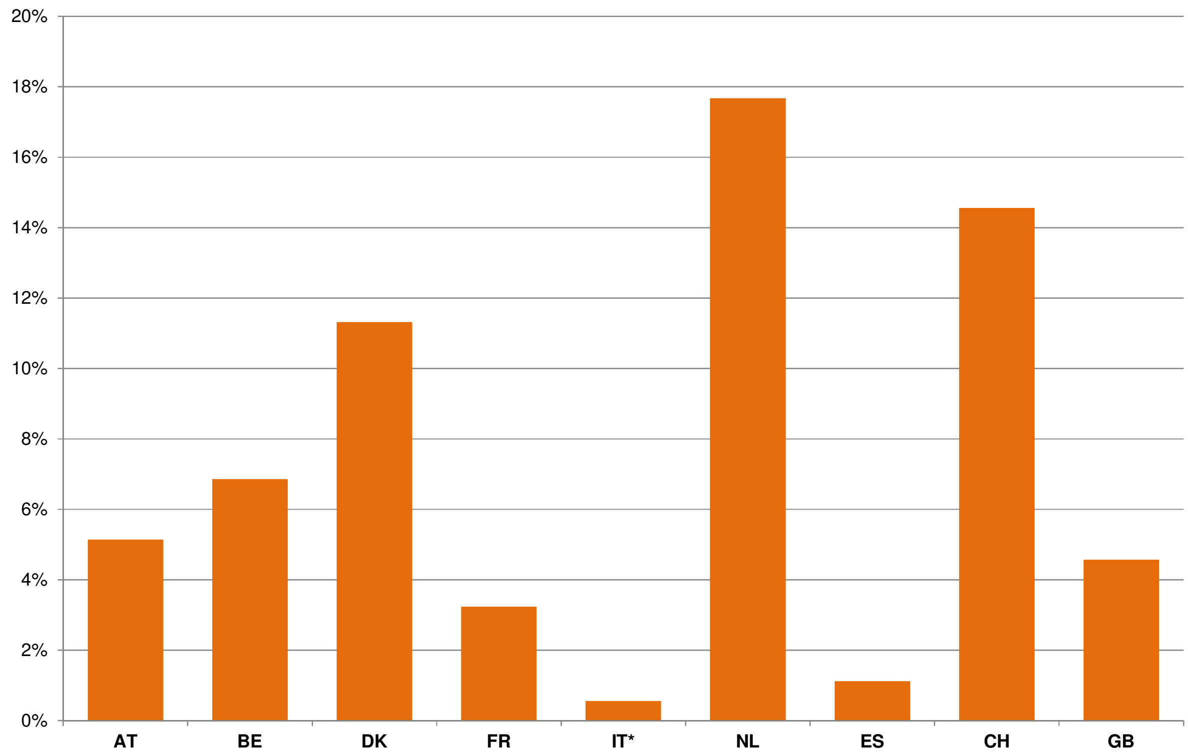

Fig. 3 Percentage of road deaths in collisions involving a goods vehicle over 3.5 t for which the HGV was performing a near-side turn (left turn in the UK, Malta and Ireland, right turn in the rest of Europe). Average for the last three years available.
**IT average for 2009 and 2010.*

2.1.4 Other Types of Collisions

Road traffic collisions involving Heavy Goods Vehicles (HGVs) tend to be more severe than other collisions because of the vehicles' size and mass[10]. A GB study[11] noted "that pedestrians hit by the driver's side front of trucks usually suffered serious or fatal injuries, and there is the additional danger of being run over by the truck or projected into the path of oncoming traffic. Pedestrians struck by the middle region often fall to the ground, and can be trapped and dragged under the vehicle. Pedestrians struck on the front

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[10] ERSO Fact Sheet 2010. http://ec.europa.eu/transport/wcm/road_safety/erso/knowledge/Fixed/60_work/work_related_road_safety.pdf
[11] Smith T. Summary of UK data: Advanced protection system (APROSYS) 2007.

passenger side are often not seen by the driver and there are a relatively large number of collisions in this region."

In Finland for example, according to pedestrian/cyclist collisions resulting in death involving an HGV investigated between 2002–2011 (N=127, which is 20 % of all investigated pedestrian/cyclist collision resulting in death), the most common impact point of the HGVs' front end is the middle (35%, N= 14, in cyclist collisions and 60%, N=50 in pedestrian collisions)[12]. Furthermore, the passenger side was a more common impact point in collisions resulting in death than the driver's side, also in collisions where the pedestrian or cyclist were run over by the truck.

In 20% (N=16) of pedestrian collisions resulting in death the pedestrian was run over by a truck and in cyclist collisions resulting in death the percentage was 25% (N=11). Furthermore, the speed of the truck in these collisions where the pedestrian or cyclist was run over by the truck was 30 km/h or less in more than 50% of the cases. This states that the probability of being run over by the truck depends strongly on the speed of the truck and the position of the pedestrian. Usually the pedestrian/cyclist is projected into the road or into the side of the road because of the height of the mass center of human body and the truck manages to stop before it reaches the victim.

HGV collisions where pedestrians/cyclists collide with the side of the truck (e.g. truck is turning) or are run over by a reversing truck make up about 5% of pedestrian/cyclist collisions resulting in death. In reversing collisions the pedestrian/cyclist is usually run over by the truck. Thus the case where the truck is moving backwards, the importance of good mirrors and possibly a video screen must be emphasized.

In Ireland the number of collisions between HGVs and cyclists or pedestrians is very high, in particular with older people. In the twelve year period between 1996 and 2008, some twenty-one deaths and fourteen serious injuries in Ireland can be attributed to the inability of a HGV driver to see the victim as they passed in front of their vehicle's blind zone[13]. In Ireland regulations were introduced in June 2011 that require all HGV's over 7.5 tonnes HGV to be fitted with a class VI mirror in order to give the driver a view of the blind spot immediately in front of the vehicle. It is expected that two deaths and one serious injury will be prevented in Ireland each year due to this measure.

Another study, the "ETAC" European Truck Collision Causation[14] concluded that the main causes for collisions between a truck and other road users were non-adapted speed, failure to observe intersection rules and improper manoeuvres when changing lanes. The report also gave an overview of the main causes of collisions according to different configurations.

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[12] VALT 2013 Database of road accidents investigated by Finnish road accident investigation teams. Finnish Motor Insurers' Centre, Traffic Safety Committee of Insurance Companies. Helsinki, Finland.
[13]http://www.rsa.ie/en/RSA/Your-Vehicle/Vehicle-Standards/Information-Notes-Consultations--EU-proposals-/Consultations-/Closed-Consultations/Class-VI-Front-Blind-Spot-Mirrors/)
[14] ETAC (2007). http://ec.europa.eu/transport/roadsafety_library/publications/etac_exec_summary.pdf

2.2 EC Impact assessment

According to the European Commission's impact assessment changing the cabin design of HGVs could save 300 to 500 lives per year. This represents a reduction of 10% of the current deaths involving trucks[15]. This calculation is based on the FKA Report[16] which undertook simulations of collisions involving pedestrians and cyclists and passenger cars to calculate the improvements in road safety. The distribution of deaths used by the FKA Study[17] for the basis of the calculations is based on a TRL Study from 2010[18]. ETSC supports these findings. There are two respects in which the front end design of HGVs can be improved. The first is to provide an appropriate structure which will reduce the risks of injury to car occupants in head-on collisions. The FKA proposal is to specify a crash test between the front of the HGV and the front of a typical passenger car. The criteria to be met are to limit the intrusions into the passenger compartment of the car and also to limit the accelerations on the undeformed parts of the car. The details of such a test procedure in terms of what is a typical car, what offset is appropriate and what speed to be used still need to be developed.

The second way to improve the front end design of HGVs is to provide protection in collisions with VRUs, by using the sub-system testing which is currently applied to passenger cars, where four separate impactors are propelled into various zones of the car front. The resulting forces and accelerations measured on the impactors have limits set to reflect human tolerance values. This system is used successfully to specify the bumper, front end and bonnet structures of passenger cars and light trucks under the EuroNCAP system. Most new car models now achieve better ratings than older models. Such a procedure is possible to replicate using simulation techniques which offer an alternative procedure. The details of such a test in terms of impact speeds, adult and child testing and precisely where on the front of the HGV the impacts should be conducted needs to be examined further. An alternative to sub-system testing by separate impactors is to use a polar pedestrian dummy. This would have the advantage of being able to assess the post-impact path of the pedestrian in terms of being deflected laterally to reduce the risk of being run over.

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[15] EC Impact Assessment Accompanying Proposal COM (2013) 195 final 15.4.2013.

[16] FKA Design of a Tractor for Optimised Safety and Fuel Consumption Report 104190. http://www.transportenvironment.org/sites/te/files/media/2012%2002%20FKA%20Smart%20Cab%20study_web.pdf

[17] FKA Design of a Tractor for Optimised Safety and Fuel Consumption Report 104190. http://www.transportenvironment.org/sites/te/files/media/2012%2002%20FKA%20Smart%20Cab%20study_web.pdf

[18] Since 2008, new ADAS have been further integrated into HGVs and are also contributing to improved active safety.

See Hummel et al, *Fahrerassistenzsysteme Ermittlung des Sicherheitspotenzials auf Basis des Schadengeschehens der Deutschen Versicherer* (GDV).

Although there may be benefits from ADAS developments, the fundamental requirement of this new change to design is to improve crashworthiness of HGVs.

When elaborating these crash tests, thought should be given to extend the capacity of test centers that are currently able to perform crash tests with HGVs. The high cost of these tests should also be taken into account with the exploration of options including the possibility of merging test centres or having mutual recognition of certification processes.

ETSC supports both of these proposals but is of the opinion that they need to be developed more precisely within the context of the current revision.

2.2.1 Parallel with Pedestrian Protection Requirements of Passenger Cars

Vulnerable road users have benefitted from Regulation 2011/459 on pedestrian protection requirements for passenger cars. This sets out the technical requirements for the construction and functioning of vehicles and frontal protection systems in order to reduce the number and severity of injuries to pedestrians and other vulnerable road users who are hit by the fronts of those vehicles. ETSC assumes that a similar benefit will be brought about by changes to the design of the front cab of HGVs.

3. Comments on the Proposal

3.1 Approach

Current regulation of vehicle design is a mixture of design requirements (such as vehicle weight or length, angles of fields of view, permissible bumper heights) or performance criteria where permissible limits on the forces applied to dummies which replicate the human frame are required in crash tests which replicate common collision situations. Current car design is mainly regulated by performance criteria and as a general rule it is to be preferred because it allows more freedom in overall vehicle design providing the performance criteria are met.

ETSC supports the approach proposed by the EC to set up performance criteria. However the safety criteria must be well defined and strict.

3.2 Definitions

The vehicles under discussion are defined either by gross vehicle weight (GVW) or by their dimensions, mainly overall length. They can either be large, multiple axis trucks or articulated vehicles where there is a tractor unit which pulls one or more trailers. There are differences in the operation of these two classes of truck. The large rigid trucks are often used in off-road activities (at construction sites or in quarrying operations, for example) where high ground clearance and ramp angles are needed. It will be difficult to apply aerodynamic and safety standards to this category of truck as this will have consequences of restricting operations. Measures to improve vision such as additional or wider mirrors or video screens should be applied. Articulated vehicles, on the other hand, are confined largely to roads. Safety issues and possible changes of the allowed weights and dimensions will be most relevant to articulated vehicles.

3.3 Key Safety Issues

3.3.1 Vision

Current cab design has the driver's sitting position such that their eye height is around 2 metres or more above the ground. The dimensions of the window apertures to the front and the sides mean that there are large blind areas in the driver's field of view. Those blind areas change when the vehicle is turning, particularly because the trailer unit always turns along a shorter radius than the tractor unit,. That results in the driver being unable to see pedestrians, cyclists and powered two wheelers who are close to the vehicle, particularly when turning.

Improving the driver's current fields of view can be achieved by lowering the eye height, enlarging the size of the window apertures, extending the size and positioning of mirrors[19]. Installing television camera and screens may also be an option but these are second best to a direct zone of vision[20]. Efforts should also be made to improve the vision of the passenger side both through the windscreen and through the side door window. The visibility to the back of the truck is also of vital importance.

ETSC supports Article 9.2.i) that aims to make VRUs more visible to the driver in particular by reducing the blind spot under the front windscreen and vision to the back.

3.3.2 Safe Design: Front End Safety in Collisions

The characteristics of the front and side structures in terms of their geometrical and structural properties will affect how they strike either passenger cars or vulnerable road users. There are two considerations. The first relates to the incompatibility between the geometry and structural properties of trucks and the fronts of passenger cars. Bumper heights of trucks are mainly too high and they therefore over-ride the load paths of cars. That results in more intrusion of forward structures into the passenger compartment with greater injury risks. Therefore lower energy absorbing structures are needed on trucks, which is already the case with some designs.

As occupants of cars make up 50% of deaths following collisions with HGV[21] and as they will also benefit from a change in the front cab design, ETSC recommends the addition of a new section on car occupant safety in a new sub-paragraph 9.2. iii) alongside VRUs.

Secondly, a rounded profile may also be beneficial in reducing the actual change in velocity in frontal collisions between cars and trucks by allowing the car to be deflected

[19] FKA Design of a Tractor for Optimised Safety and Fuel Consumption Report 104190. http://www.transportenvironment.org/sites/te/files/media/2012%2002%20FKA%20Smart%20Cab%20study_web.pdf

[20] When considering mirrors, mounting height needs to take pedestrians/cyclists and their possible collision trajectory into account.

[21] 7th Annual PIN Report, Back on Track to Reach the 2020 Target, Chapter 2. http://etsc.eu/documents/PIN_Annual_report_2013_web.pdf

and not lock into the sharp corner of existing truck bumpers. ETSC supports the proposed 80 cm of the FKA Study[22] as a reasonable compromise between the safety issue, the vision issue and the aerodynamics issue. ETSC, however, recognises that further research and testing will be needed to validate this study.

As aforementioned, field collision studies (Smith T et al 2007) show that in truck versus VRU collisions there is a significant risk of pedestrians going underneath the striking truck. That suggests that a rounded profile for truck fronts which would deflect the pedestrian (or cyclist) sideways, this would be beneficial in reducing that risk.

The need for VRUs, particularly pedestrians, to be deflected sideways requires a whole standing dummy to be used as well as the sub-system testing of the type used by EuroNCAP. ETSC recommends that a new simple deflection test procedure is devised whilst sub-system testing with separate impactors is applied to the appropriate zones of the front end in a manner similar to that of the pedestrian requirements specified for cars in EuroNCAP. In addition, a separate test could be conducted using a simple uninstrumented standing dummy to assess the deflection laterally and the risk of the pedestrian being run over.

One consequence of requiring a rounded profile is that, if such a requirement is imposed on an existing truck design, then the overall length of the vehicle, if measured along the centre line of the vehicle, is increased. If, however, the maximum length requirement is measured between the front and rear corners then some increase at the centre line could be allowed. See Figure 4 below. ETSC would be in favour of such a compromise.

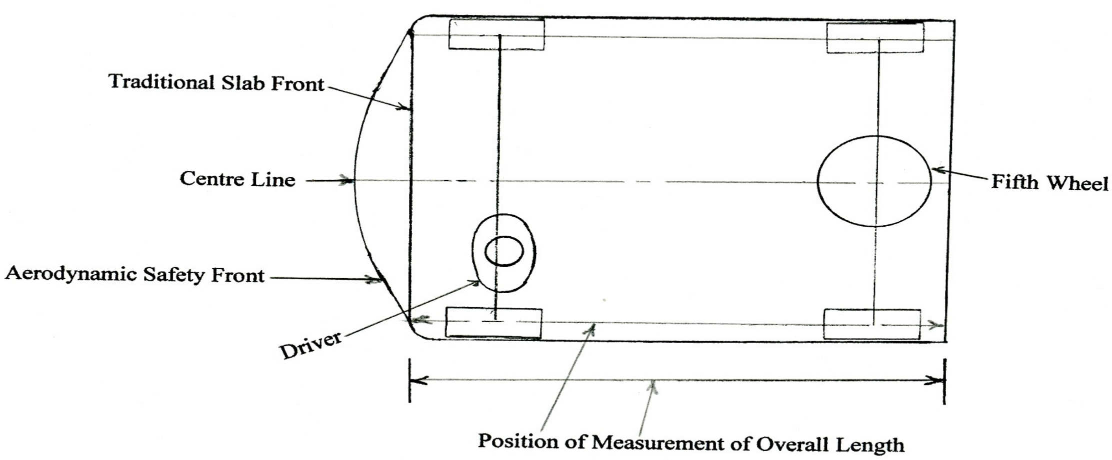

Figure 4. Diagram displaying new proposal for measuring length[23]

[22] FKA Design of a Tractor for Optimised Safety and Fuel Consumption Report 104190 http://www.transportenvironment.org/sites/te/files/media/2012%2002%20FKA%20Smart%20Cab%20study_web.pdf

[23] Murray Mackay (2013).

3.3.3 Underrun Protection for heavy vehicles

Another area which should also be included in the revision of this legislation is enabling the improvement of front, side and rear underrun protection of heavy vehicles to improve safety.

Improvements in the requirements of the Regulation 2009/661/EC for underrun protection systems in HGVs would be beneficial in reducing the severity of the collisions between HGVs and other vehicles. Rigid front underrun protection is mandated for all HGVs in the EU. However, as frontal car-to-truck collisions normally occur at high relative speeds, an energy-absorbing front underrun protection system would improve the survivability of frontal collisions, even up to relative speeds of 75km/h.[24]

Side underrun protection systems fill the empty space between the wheels of the HGVs thus reducing the occurrence of unprotected road users being caught under the HGV, especially in cases when the latter is making a turning manoeuvre. However, the legislation currently in force permits the use of an 'open' frame, i.e. two side planks with a maximum distance between them of 30cm. In some circumstances road users can be caught between these two planks and research has shown that deaths in such situations among pedestrians and cyclists could be reduced by approximately 45%.[25]

Rear underrun protection systems for HGVs and trailers are designed primarily to protect in the case of collisions with passenger cars. This would also benefit pedestrians and cyclists by preventing them from being run over by HGVs during reversing collisions. Council Directive 70/221/EEC requires a ground clearance of 550mm and test forces of 100kN. Conservative estimates by studies that reviewed these requirements showed that lowering the ground clearance to 400mm and doubling the test forces for the rear underrun protection systems would yield a one third reduction in the number of car occupants killed or seriously injured in such collisions.[26]

3.4 Synergies between Aerodynamic and Crash Safety Considerations

Regulating for good aerodynamics presents substantial challenges. To specify drag factor limits would require wind tunnel or model testing which would still need a lot of development. Therefore specific design requirements, specifying the curvature of the front end structures would be the most practical solution for the short term. That would also mesh with the safety requirements, particularly for VRUs.

[24] ETSC (2005) The Safety of Vulnerable Road Users.
[25] ETSC (2013) ETSC Contribution to CARS 2020.
[26] ibid

An essential precondition of further work is the enhanced co-operation between research and testing in the area of fusing safety and aerodynamics. This must ensure that improved aerodynamics also means improved safety.

The current proposal needs to be strengthened to reflect the potential to improve road safety as well as aerodynamics, thus under Article 8 paragraph 1, ETSC would also support the inclusion of the same wording as under Article 9 "the aim of improving the aerodynamic performance *and road safety of vehicles..".*

3.5 Type Approval

More detailed work needs to be undertaken to produce specific regulatory requirements to specify the geometric and structural properties of the front end design of the appropriate truck categories and change the type approval for all new vehicles. In justifying such requirements the aerodynamic benefits also need to be spelt out.

These joint safety and aerodynamic aims can be achieved if the European Commission establishes the appropriate technical programmes to develop such regulations.

ETSC would support the extension of this enabling legislation to full type approval legislation in the medium term.

3.6 Rear Flaps

Under Article 8.2 (i), ETSC supports the requirement to ensure that, in case of fitment of rear flaps for improved aerodynamics, these are secured in such a way as to reduce their risk of detachment. Under Article 8.2.iii) the design should aim higher, not only to 'limit' the risk, but rather to confine it to the most exceptional of circumstances. It is important to emphasize that safety for all types of road users should not deteriorate through the attachment of these rear flaps. Clear guidelines on how this will be done should be formulated.

3.7 Conspicuity

To see and to be seen is a fundamental prerequisite for the safety of all road users[27]. Crash investigations show that nearly 5% of severe truck collisions can be traced back to poor conspicuity of the truck or its trailer at night[28]. Different studies showed that trucks can be rendered much more conspicuous by marking their sides and rear using retro reflective marking tape[29]. Under Article 8.2 (ii), ETSC supports the requirement to include day and night markings to enable other road users to gauge the external bodywork of the vehicle. ETSC would welcome clearer criteria concerning the type, design and legibility of markings, and suggests that common guidelines should also be drawn up.

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[27] ETSC Factsheet Conspicuity (2006) http://etsc.eu/documents/FINAL_Fact_Sheet_Conspicuity.pdf
[28] ETSC (2001), Priorities for EU motor vehicle safety design.
[29] Ibid.

3.8 On board Weighing Devices

On average one in three vehicles checked is overloaded[30]. Weight has a serious impact on the dynamics and braking distance and can be a decisive factor for the level of severity of a collision. Overloading can also lead to the malfunction of brakes. Furthermore, overloading may damage the frame of the truck or the trailers and the probability of the cargo to be poorly secured increases. All these mentioned facts may decrease the steering response of the truck and increase the possibility to lose control of the vehicle. ETSC supports the inclusion in Article 12.6 that Member States encourage the equipment of vehicles with onboard weighing devices to facilitate vehicle inspections and enforcement. ETSC welcomes the preparation by the EC of common technical standards under delegated acts foreseen under Article 7.

3.9 Guidelines for Certificate Procedures

New aerodynamic devices and their installation in vehicles must be tested before being put on the market. The EC proposes that Member States issue certificates that will be recognised by other Member States under Article 9.3. The European Commission will also be able to adopt delegated acts covering procedures for the establishment of the test certificate under Article 9.4. These procedures should be framed in guidelines that set out one common set of criteria to ensure streamlining of inspection methods between all Member States. Moreover, the procedures for certification should be made very clear to ensure common high standards are respected throughout the EU especially in the areas relevant to safety.

3.10 Safety and Comfort of Drivers

The redesign of the cabin is also an opportunity to consult with HGV drivers and take their comfort into account. The European Commission's proposal recognises that a new profile of a cab could improve a driver's comfort and safety. ETSC's PRAISE reports covering the safety of HGVs[31] cite the high levels of stress and fatigue as causation factors in traffic. The comfort and design of cabs could contribute to improving the working environment and have a positive effect on road safety. There are some important synergies here with the Occupational Health and Safety Framework Directive 89/391, with its hierarchy of prevention, starting with elimination at source of issues such as whole-body vibration, and musculoskeletal disorders including back problems.

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[30] EC Proposal Amending Directive 96/53/EC laying down for certain road vehicles circulating within the Community the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic (Proposal 2013/195 final).

[31] PRAISE Thematic Report: Tackling Fatigue: EU Social Rules and Heavy Goods Vehicle Drivers http://etsc.eu/documents/Report7_final.pdf
And PRAISE Thematic Report 'Fitness to Drive' http://etsc.eu/documents/PRAISE%20Report%203.pdf

4. Conclusion

Safety must be placed on at least an equal footing with aerodynamics in this revision of the Weights and Dimensions legislation, if not even take precedence over it. This alteration of the HGV design represents an opportunity to contribute to improved safety of passenger car occupants and cyclists, pedestrians and PTWs on Europe's roads.

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All ETSC Positions and Responses are available from http://etsc.eu/documents.php?did=3

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ETSC is a Brussels-based independent non-profit making organisation dedicated to reducing the numbers of deaths and injuries in transport in Europe. The ETSC seeks to identify and promote research-based measures with a high safety potential. It brings together 46 national and international organisations concerned with transport safety from across Europe. www.etsc.eu

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