Review of directive 96/53/EC: Weights & Dimensions

Part I. Information about the participant

Please provide your name, surname and email address. A notification of receipt will be (manually) sent to this address. If the email address is not valid, the contribution will not be taken into account. -open reply-(optional)	
European Aluminium Association AISLB Patrik Ragnarsson ragnarsson@eaa.be	
In what capacity are you completing this questionnaire? -single choice reply-(optional)	As an industry association or non-governmental organisation (NGO)
Is your organisation registered in the Transparency Register of the European Commission **http://europa.eu/transparency-register/index_en.htm** -single choice reply-(optional)	Yes
Please indicate the identification number -open reply-(optional)	9224280267-20

Part II. Energy and CO_2 efficiency

Do you have any evidence that the provisions of Directive 96/53 are limiting innovations to improve fuel consumption and energy efficiency of vehicles? If so, which provisions?

-open reply-(optional)

Today's tractors are almost without exceptions flat fronted. The reason for this is that the truck owner want to have as much space as possible for the payload and since the total length of the vehicles are limited under Directive 96/53 (16.5m and 18.75m and trailer 12m), the more compact the tractor is the more space you will have for payload. Making the tractor front more aerodynamic by constructing the front with a rounder shape would decrease the fuel consumption, but since this also takes up space in the forward direction it would also reduce the available space for payload, and market forces push for maximum payload. In two recent studies from Forschungsgesellschaft Kraftfahrwesen Aachen (FKA) the effect of an improved cab design is presented. The studies show that, in additional to the lower fuel consumption, an extended aerodynamic front can be used to dramatically increase road safety, both for vulnerable road users, other vehicles and the truck driver. The studies conclude that a length increase of 800mm would allow for significantly better designed tractor cabins. Such cabs would have a round or soft nose, which would make them more aerodynamic and hence more fuel efficient. It would also allow for deflection of other road users in case of accidents and allow for the inclusion of an energy absorbing 'crash management system' (crash box). This would significantly reduce impacts of accidents with trucks involved. Because of the different cab structure the windscreen could be bigger, thus increasing direct vision and eliminating blind spots. The FKA study shows that better designed cabs would make HDVs between 3.2 and 5.3% more fuel efficient. In addition, a better design could help avoiding around 300 pedestrian and cyclist fatalities every year and dramatically improve the energy absorption of the truck front in case of an accident with another vehicle and thus reduce the severity of all crashes with a truck front involved. A study published by Linköping University 2006 [Nilsson] also showed that an energy absorbing front structure of 800 mm could have a huge impact on the survival chances in the case of an accident between a truck and a car. Simulations show that it is possible to design an energy absorbing truck front so that there would be no fatal injuries in a 90 km/h relative velocity collision. The report concludes that an energy absorbing Front Underrun Protection system has a great potential in annually saving about 12,000 severe injuries and fatalities due to collisions between a heavy truck and a passenger car within the EU. EAA therefore calls on the Commission to propose for an 800mm overall length increase of the vehicle for aerodynamic and safety purposes while leaving the trailer length and cargo space untouched. See FKA, Concept Design of a Crash Management System for Heavy Goods Vehicles. http://www.alueurope.eu/wp-content/uploads/2011/11/11wt0006_EAA_CMS_final.pdf FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012, http://www.transportenvironment.org/publications/design-lorry-tractor-optimised-safety-and-fuel-consumption Nilsson, L., Forsberg, J.: Crash Zone Concept -A conceptual study of energy absorbing frontal under-run devices, Swedish Vehicular Engineering News Forum, No 4, 2006 ========== Regqrding the below question "Is the aerodynamic performance of

heavy-duty vehicles an efficient way to achieve savings in energy and fuel consumption'", we would like to add the re;qrks below. Aerodynamic improvements of truck cabs have significant potential. The FKA study shows that better designed cabs would make trucks between 3.2 and 5.3% more fuel efficient. Several concept trucks such as the MAN concept S or the DAF XFC show that manufacturers have looked into the possibility of producing more aerodynamic cabs. What is lacking today is the appropriate legal framework. FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012, 113-115. http://www.transportenvironment.org/publications/design-lorry-tractor-optimised-safety-and-fuel-consumption MAN Concept S: http://www.mantruckandbus.com/com/en/press___media/Pressemitteilung_100611.html Aerodynamic side skirts also have a significant potential to reduce fuel consumption. Safe, lightweight, non-combustible light metal side skirts have been tested in the Superform project and the project PART have shown a fuel efficiency increase by 5% if side skirts are added to the trailers. http://www.superform-aluminium.com/ www.part20.eu

Is the aerodynamic performance of heavy-duty vehicles an efficient way to achieve savings in energy and fuel consumption? -single choice reply-(optional)	Yes
Lateral wings -single choice reply-(optional)	3
Aerodynamic tails (guiding vanes, boat tails) -single choice reply-(optional)	3
Collapsible tails -single choice reply-(optional)	3
Inflatable tails -single choice reply-(optional)	3
Side skirts -single choice reply-(optional)	3
Improved cabin design -single choice reply-(optional)	4
If other measures or devices should be used, please specify which ones and rate each answer selected on a scale of 1 to 4, 1 being the lowest level and 4 the highest, according to a cost/benefit ratio. -open reply-(optional)	
Cost -single choice reply-(optional)	4
Infrastructure (geometry) -single choice reply-(optional)	0
Road safety -single choice reply-(optional)	4
Intermodality (interoperability of intermodal units) -single choice reply-(optional)	0
Modal share of rail and waterborne transport -single choice reply-(optional)	0
Fuel/carbon efficiency -single choice reply-(optional)	4
Competitiveness of European vehicle manufacturing industry -single choice reply-(optional)	4

Please indicate the likely impacts on the above aspects of other measures not ranked with the highest cost/benefit ratio, but worth considering. If you consider that other types of impact should be taken into account, please specify which ones and rate each answer selected on a scale of 1 to 4, 1 being the lowest level and 4 the highest, according to the cost/benefit ratio.

-open reply-(optional)

What length of tails, width of lateral wings and type of cabin design would you recommend?
Please explain why and provide reference to studies where relevant.
-open reply-(optional)

Better cab design: EAA would recommend allowing an extra length for better cab design of at least 800mm. An 800mm increase would yield good aerodynamic and safety improvements whilst ensuring full compliance with existing EU regulation and minimising the complexity of the new design. Of course, extending the length by more than 800 mm could improve the energy absorption even more if this was the only objective. This can be achieved by increasing the overall allowed length to 17,3m for articulated trucks and 19,55m for road trains, whilst leaving maximum trailer lengths unchanged at 12m. To ensure that the extra space is used effectively we propose the Commission to investigate if it is possible to set minimum requirement for energy absorption of the Front Underrun Protection system. See FKA, Concept Design of a Crash Management System for Heavy Goods Vehicles. http://www.alueurope.eu/wp-content/uploads/2011/11/11wt0006_EAA_CMS_final.pdf FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012, 113-115. http://www.transportenvironment.org/publications/design-lorry-tractor-optimised-safety-and-fuel-consumption

Could the aerodynamic aspects of buses and coaches be improved? -single choice reply-(optional)	

Please explain your answer
-open reply-(optional)

What is the expected cost/benefit of aerodynamic improvement compared to the cost/benefit of other measures to improve the energy efficiency of heavy vehicles such as better engines, energy and fuel optimisation, and eco-driving?
Please justify your answer and provide references where possible.
-open reply-(optional)

When talking about cost benefit of improved cab design it is important to also take the improved safety into account. The FKA study showed that an additional production cost of around 400 € is to be expected. The positive effects are a 5500€ savings on the fuel cost during the first 4 years plus the societal benefits of higher safety. Estimations show that around 3200-3800 fatalities per year, including an estimated 300 cyclists and pedestrians can be saved and the severity of all accidents involving trucks can be reduced. See FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012, p108-112. http://www.transportenvironment.org/publications/design-lorry-tractor-optimised-safety-and-fuel-consumption A study from Linkoping University concludes that an energy absorbing Front Underrun Protection system has a great potential in annually saving additional about 12,000 severe injuries and fatalities due to collisions between a heavy truck and a passenger car within the EU. Nilsson, L., Forsberg, J.: Crash Zone Concept -A conceptual study of energy absorbing frontal under-run devices, Swedish Vehicular Engineering News Forum, No 4, 2006

Can you provide an estimate of the benefit in terms of fuel consumption (e.g. % reduction according to type of travel, e.g. traffic conditions, type of network, distance, weather conditions)?
Please justify your answer and provide references where possible.
-open reply-(optional)

Improved cab design would result in a 3.2-5.3% reduction of fuel consumption for an average long haul lorry which represents a fuel cost saving of around €1500 per year. Aerodynamic improvements have most impact at higher speeds which are mostly obtained on longer distances. The 3.2-5.3% improvement is based on a 150km trip (Aachen-Cologne-Aachen) See FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012, 104-107.

Should a special derogation for maximum weights be introduced for vehicles using electric batteries? -single choice reply-(optional)	No
If you are the manager of a heavy duty fleet and provided that the directive on weights and dimensions is adapted, would you update your fleet with the following elements	

-multiple choices reply-(optional)

If so, to what extent would you update your fleet with the chosen elements (including on which vehicles: size, age, type of use, etc)
-open reply-(optional)

Do you know of any studies or reports analysing the impact of the use of longer and/or heavier vehicles on energy and CO_2 efficiency of vehicles? -single choice reply-(optional)	Yes

Please provide references including links for online download where possible
-open reply-(optional)

See FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012.
http://www.transportenvironment.org/publications/design-lorry-tractor-optimised-safety-and-fuel-consumption

Part III. Intermodality and innovation in transport needs

Do you have any evidence showing that there is a case for adapting Directive 96/53/EC to evolutions in intermodal transport? -single choice reply-(optional)	No

What would be the advantages or disadvantages of adapting the Directive to allow transport of 45 foot containers without restrictions?
-open reply-(optional)

What would be the advantages or disadvantages of adapting the Directive to allow transport of 45 foot containers with restrictions based on geographical, time or intermodal criteria?
-open reply-(optional)

Is it necessary to adapt the maximum length of vehicles to allow for the transport of 45 foot containers, and with which additional length?
-open reply-(optional)

Should the transport of 45 foot containers by road be authorised:
-multiple choices reply-(optional)

Please justify your answers
-open reply-(optional)

What would be the impacts of generalising the transport of such containers (including on traffic and modal split)?
Please justify your answer and provide references whenever possible.
-open reply-(optional)

If the directive on weights and dimensions is adapted to allow the transport of 45 foot containers and if you are the manager of a heavy duty fleet, how much of your transport will be of 45 foot containers (in absolute figures in units or in %)?
-open reply-(optional)

Should the Directive be adapted to allow for the transport without special authorisations of other types of containers and swap bodies?
-single choice reply-(optional)

Do you know of any recent developments and innovations in freight transport needs which are incompatible with the provisions of the Directive for maximum weights and dimensions? -single choice reply-(optional)	
Would the above mentioned changes to adapt the Directive to developments in intermodal transport and innovation, notably 45 foot containers, have an impact on infrastructure? -single choice reply-(optional)	
Would changes to adapt the Directive to developments in intermodal transport and innovation have an impact on road safety, particularly of vulnerable users? -single choice reply-(optional)	
Do you have any evidence that road safety developments justify specific treatment for two-axle coaches? -single choice reply-(optional)	
Road Safety -single choice reply-(optional)	
Infrastructure -single choice reply-(optional)	
Passenger comfort -single choice reply-(optional)	
The coach transport market -single choice reply-(optional)	
The rail market -single choice reply-(optional)	

If other types of impact should be taken into account, please specify which ones and rate each answer selected on a scale of 1 to 4, 1 being the lowest level and 4 the highest.
-open reply-(optional)

If the directive on weights and dimensions is adapted to allow heavier two-axle coaches and if you are the manager of a coach fleet, what proportion of your fleet would you replace with heavier two-axle vehicles? -open reply-(optional)	
Do you know of any studies or reports analysing the effects of innovative transport concepts with impacts on weights and dimensions (EMS, automatic transhipment systems, or other) on intermodal transport? -single choice reply-(optional)	

Part IV. Legal clarifications

The Directive is currently understood as prohibiting in general the cross border transport with vehicles deviating from the maximum weights and dimensions between two Member States each allowing this type of transport. Does this cause particular problems? -single choice reply-(optional)	No

Please explain
-open reply-(optional)

EAA has no opinion on the matter.

Can the procedures for derogations laid out in Art. 4.3 and Art. 4.4 be improved? -single choice reply-(optional)	

Please explain your answer
-open reply-(optional)

Can the provisions for trials in Art. 4.5 be improved? -single choice reply-(optional)	

Please explain your answer
-open reply-(optional)

What role should the European Commission play in these procedures?
-open reply-(optional)

Should guidelines on common criteria to authorise transport of vehicles deviating from the maximum weights and dimensions be issued? -multiple choices reply-(optional)	

Part V. Controls, checks and enforcement

Do you believe that current checks, enforcement policy and means are effective to ensure compliance with the rules on weights and dimensions of Directive 96/53/EC? -single choice reply-(optional)	No

Please explain your answer
-open reply-(optional)

What can be done to improve the cost/effectiveness of the enforcement policy? -multiple choices reply-(optional)	Other (please specify)

Please specify "Other"
-open reply-(optional)

Install more weigh-in motion systems on European roads..

Are weigh-in-motion systems and systems to measure length in motion a cost-efficient solution to improve enforcement on the rules on weight and length? If not, please skip to question 5. -single choice reply-(optional)	Yes

Please explain your answer
-open reply-(optional)

Should their deployment along TEN-T roads be encouraged? -single choice reply-(optional)	Yes

Please explain your answer
-open reply-(optional)

What are the 5 most serious infringements to the rules on weights and dimensions in your opinion?

-open reply-(optional)

What are the other very serious infringements to the rules on weights and dimensions in your opinion?

-open reply-(optional)

Should companies be encouraged to self-monitor the enforcement of rules on weights and dimensions in their own work, and if so how?

-open reply-(optional)

Part VI. Other Questions

Please list references to any studies or documents of relevance to the review of the Directive in the box below, with links for online download where possible.

-open reply-(optional)

FKA, Concept Design of a Crash Management System for Heavy Goods Vehicles. http://www.alueurope.eu/wp-content/uploads/2011/11/11wt0006_EAA_CMS_final.pdf FKA, Design of a Tractor for Optimised Safety and Fuel consumption, 2012, http://www.transportenvironment.org/publications/design-lorry-tractor-optimised-safety-and-fuel-consumption MAN Concept S: http://www.mantruckandbus.com/com/en/press___media/Pressemitteilung_100611.html

Do you agree that the Commission publishes your response? -single choice reply-(optional)	Yes