

# Cleaner and Safer Road Transport

Response to the European Commission consultation  
on the EU Road Safety Action Programme 2011-2020

November 2009



**Cleaner and Safer Road Transport  
Submission to the consultation of the European Commission on the Road  
Safety Action Programme 2011-2020**

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## About Transport & Environment

Transport & Environment's mission is to promote transport policy that is based on the principles of sustainable development. That means minimising the use of energy and land and reducing harmful impacts on the environment and health while maximising safety and guaranteeing sufficient access for all.

The work of our Brussels-based team is focused on the areas where European Union policy has the potential to achieve the greatest environmental benefits. Such policies include technical standards for vehicle fuel efficiency and pollutant emissions, environmental regulation of international transport including aviation and shipping, European rules on infrastructure pricing and environmental regulation of energy used in transport.

Naturally our members work on similar issues with a national and local focus. But their work also extends to public transport, cycling policy and other areas largely untouched by the EU. Transport & Environment's role in this context is to bring our members together, adding value through the sharing of knowledge and campaigning strategies.

Established in 1990, we represent around 50 organisations across Europe, mostly environmental groups and sustainable transport campaigners.

We are politically independent, science-based and strictly not-for-profit.

## Context: Safety and the Environment

The EU Road Safety Action Programme will play a vital role in contributing to the reduction of traffic accidents across Europe, but can also contribute to environmental and climate goals. The EU bears a responsibility for traffic safety as well as environmental quality as the initiator of product type-approval standards for all vehicles, as a financial supporter of transport infrastructure and as the guardian of environmental legislation. The central tenet of the action programme must be to identify how European Union policy measures and instruments can complement national efforts in both areas.

This paper highlights measures where EU action can complement, and even reduce the burden on Member States, by making the vehicles, infrastructure and traffic mix safer and cleaner. A balance must be struck between respecting subsidiarity and passing the buck between levels of governance.

The EU can make a huge contribution, particularly with regard to vehicle standards and transport policy measures, and leave Member States to concentrate on some of the more intransigent safety issues which are linked to driver behaviour and safety awareness, including enforcement and awareness of current road rules (drink and drug driving and speed limits for instance).

The actions on safety highlighted below have important environmental co-benefits. Road transport entails various negative impacts on society, including accidents and other health costs caused by air pollutants and noise, but also climate change caused by greenhouse gas emissions from vehicles, and of course congestion. We also see valuable parallels with the policy approach taken in environmental policy, for example the EURO standards for vehicle air pollution and their contribution to helping Member States to achieve national air quality targets.

Historically, EU policy has focused on the completion of the internal market. In transport this has been translated into opening the EU's inner borders, the construction of the trans-European transport network infrastructure and liberalisation of international transport rules. In industrial policy, vehicle standards have been harmonised to ensure a level playing field in the internal market, and technological developments have made all transport modes, but particularly road and air transport, faster, cheaper and more comfortable. All this led to a dramatic fall in the cost of transport and a dramatic increase in speed, leading to spiralling demand growth, particularly in the fastest modes road and air.

This dash for speed has not only led to more demand, but also to more fuel consumption and CO<sub>2</sub> emission, and a pressure on safety.

Across all modes of transport, there has also been a trend for ever larger and heavier vehicles, again to exploit economies of scale and reduce transport costs. This carries the same safety and environmental price tag. Like the push for higher speed, bigger vehicles, particularly private cars, but also larger goods vehicles, start a vicious circle – drivers of smaller vehicles may feel bullied off the road, and a need to scale up to a larger car. The situation is of course exacerbated for cyclists and pedestrians. Both of these trends also have implications for the competitive position of public and collective transport modes.

As a preface to more detailed points, we believe that more joined-up thinking is required across the relevant European Commission directorates in relation to vehicle standards (DG ENTR), infrastructure spending and standards and data collection and analysis (DG TREN), also horizontal links to health, consumer and environmental policies.

There are several examples where traffic safety measures and environmental benefits go hand in hand. Under each of the headings below, these synergies will be explained in more detail.

## Summary of key demands

1. Collect better information
  - a. on vehicle specifications, in particular cars;
  - b. on accidents involving commercial vehicles;
2. Set overall safety targets, specify them by Member States, and set more sophisticated, e.g. relative, targets for vulnerable road users;
3. Take action to tackle speed – in the short term introduce a 100 km/h speed limiter for vans, complementing similar EU measures for trucks;
4. Update the General Safety Regulation, particularly regarding tyre pressure monitoring systems;
5. Make car CO<sub>2</sub> standards footprint-based, not weight-based;
6. Internalise the external costs of accidents in the Eurovignette Directive;
7. Focus on road freight and commercial vehicles – their safety for other road users must be improved;
8. Factor safety into EU transport infrastructure spending.

## 1 Collect better information

The Community database of road accident statistics CARE is an indispensable resource for identifying key problems and enabling tailored measures and instruments in response. Whilst the database is very detailed with regard to accident causes, the range of data systematically collected and reported should be extended to include more detailed specifications of the vehicles involved.

The lack of such data currently prevents policy-makers from establishing relationships between key vehicle specifications (power, speed, size, etc.) and accident rates. The decision on the Community database should be updated to oblige all Member States to report this information, from all classes of roads.

In addition, commercial vehicles are comparatively rarely covered in statistics, especially light commercial vehicles. SafetyNet for example has not yet presented information on heavy goods vehicles and buses which includes data from New Member States. In order to be able to identify and address specific problems, it is particularly important to properly record the involvement of commercial and heavy vehicles in accidents where occupants of other vehicles or other road users are the injured party.

## 2 Set more specific targets

In order to continue reducing the number of serious accidents and victims, a renewed and strict target to cut road fatalities by 2020 is needed.

But such a target alone is not enough to achieve a sustainable society. An extreme response to such a target could be simply eliminating vulnerable road users and turning cars into tank-like vehicles. Clearly that would be absurd.

Therefore more sophisticated target-setting is required that avoids such perverse effects. It could be considered to set a *relative* (but very challenging), target for safety of cyclists and pedestrians, i.e. a target per billion passenger kms performed. In this way the 'safety in numbers' or 'critical mass' principle can be fully respected – the fact that relative safety strongly increases with increased bike ridership.

Such a target would logically lead to improved actions and measures focused on protecting vulnerable road users from each of the less vulnerable ones, and not just to measures to protect the drivers themselves.

In addition, targets should be shared out amongst Member States. Such 'effort sharing' is not easy (for example rewarding early action is difficult) but it has been done before. For example, on CO<sub>2</sub> reduction an 'effort sharing' decision was adopted (406/2009).

If member states are made responsible, they not only have more incentives to improve, but also have a stake in the EU adopting serious measures – as this helps them achieve their target. Such a dynamic is highly fruitful and the Commission should take a resolute lead to make the case.

### 3 Take action to tackle speed

High speed is the single biggest contributing factor in fatal road crashes throughout Europe.<sup>1</sup>

Reducing vehicle speed is also an extremely effective fuel and emissions saving measure:

- Lower speeds lead to lower fuel consumption and CO<sub>2</sub> and other emissions associated with driving motor vehicles;
  - Lower speeds increase the access to the road network for cyclists and pedestrians. Higher speeds reduce the access for non-car travellers;
  - Lower speeds on the roads improve the relative competitiveness of public transport and rail transport;
  - Lower speeds increase travel times, thereby reducing transport volumes and emissions. Higher speeds do the opposite;
- An evaluation of Swedish road safety policy concluded that if all drivers respected the speed limits, lethal accidents would go down by 40 per cent. Today close to 60 per cent of all cars go faster than the maximum allowed speed. Speed control is obviously vital.

Whilst speed limits are often considered a matter for national subsidiarity, the EU can take immediate action to tackle vehicle speeds and improve safety.

In fact, the EU has already adopted two landmark directives, 92/6 and 2002/85, that introduce mandatory 89 km/h speed limiters for heavy goods vehicles in two steps (first applying to vehicles over 12 tonnes of weight, the second taking that limit down to 3.5 tonnes).

Speed limiters actually reduce CO<sub>2</sub> in two steps. First, driving slower requires less fuel consumption. Second, capping maximum speeds allows precise optimisation of drivetrains for that specific speed. Trucks are completely optimised for maximum fuel efficiency at 89 km/h, and truck engine power has not seen the sort of out-of-control race as in passenger cars and vans. Adding power is pointless when speed is limited.

**These two laws setting speed limits for lorries have arguably been amongst the most effective safety and environmental measures the EU has ever taken in transport.**

The current Commission proposal to reduce CO<sub>2</sub> from vans (N1 vehicles, commercial vehicles under 3.5 tonnes) says it is 'appropriate to investigate' speed limiters for vans, but regrettably does not commit to their introduction. This is unfortunate: van drivers are on the whole not professional drivers; additional training is not required to drive these vehicles; the top speed of some vans currently exceeds 180km/h, which is clearly dangerous and encourages drivers to break speed limits. Limiting the top speed enables vehicle designers to design less powerful and gas guzzling vehicles.

In addition, vans are artificially made overly attractive to use instead of a >3.5 tonnes truck. In comparison with trucks, vans

- Do not have a speed limiter;
- Do not require a professional driving licence;

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<sup>1</sup> ETSC (2008), *Managing Speed – Towards safe and sustainable road transport*, [www.etsc.be](http://www.etsc.be).



- Are exempt from tolls under the Eurovignette directive;
- Do not have to have a tachograph;
- Do not have to be fitted with a lane departure warning system and an advanced emergency braking system;
- Are not subject to driving/rest time legislation.

Hence the fact that vans constitute the fastest-growing segment in road transport should not be a surprise.

Introducing a speed limiter would at least close one of these many artificial advantages of vans over trucks, and hence strongly improve the functioning of the internal market.

Setting van speed limiters at 100km/h, the same as buses, would reduce CO<sub>2</sub> emissions from road transport by 8% by 2020.<sup>2</sup> Some enterprises already voluntarily fit speed limiters to their fleets because of these fuel savings, as well as decreased maintenance costs and reduced insurance premiums. Introducing mandatory speed limiters ensures a level playing field for all operators, and stops unscrupulous firms and drivers from gaining a competitive advantage by driving too fast.

The Commission should further investigate the benefits of reducing the top speed of heavy trucks to 80km/h, from 89km/h. The original intention was that trucks should be limited to 80km/h (which is anyway the official, but rarely respected, speed limits for trucks in Europe), but leeway was given due to the accuracy of measurement equipment, which is no longer justified.

With regard to private cars, the Commission should consider introduction of speed limiters to address the ridiculous situation that vehicles are designed to deliver top speeds vastly in excess of the speed limits in operation throughout Europe, on all but a tiny number of German highways. Merely expecting drivers to restrain themselves from putting their foot down on roads with speed limits clearly does not work, and puts the burden on Member States to carry out expensive enforcement. Why should the majority of drivers who never push their cars to the top speeds pay a premium for this high-speed R&D, when they could rather be profiting from the fuel savings that would come with lighter and less powerful engines? It goes without saying that society as a whole would benefit from the safety improvement, as well as the emissions reductions.

## **4 The General Safety Regulation should keep up with technological developments through regular updates**

Technical progress in the field of advanced vehicle safety must be reflected in type-approval legislation proposed by the European Commission. We also believe that synergies between industrial and transport policy need to be better identified and exploited.

Regulation EC 661/2009 concerning the general safety of motor vehicles is an important milestone in improving vehicle safety, as it will mandate the following equipment: advanced emergency braking systems and lane departure warning systems for new commercial vehicles; electronic stability control systems for cars,

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<sup>2</sup> Speed limiters on vans and light trucks, CE Delft, 1998

light vans and some heavy vehicles and trailers; tyre pressure monitoring systems (TPMS) for new cars; and minimum wet grip standards for motor vehicle tyres from 2011-2012.

The measures with regard to tyres are necessary to ensure that the worst performing tyres in terms of wet grip, fuel consumption and noise emissions are removed from the market.

Tyre pressure monitoring systems in particular have clear environmental as well as safety benefits, as drivers are warned of pressure losses which unnecessarily cause safety risks as well as increased fuel consumption and therefore CO2 emissions.

The regulatory scope with regard to TPMS should be extended to include light and heavy commercial vehicles at the earliest opportunity; there is really no good reason why light commercial vehicles (N1 vehicles) have been excluded, the earlier mentioned CO2 regulation for N1 vehicles is an excellent opportunity to repair this flaw.

T&E strongly urges the Commission to continuously examine possibilities to include further advanced safety equipment and driver assist systems into this framework. The Regulation states that “The Commission should continue to assess the technical and economic feasibility and market maturity of other advanced safety features, and present a report, including, if appropriate, proposals for amendment to this Regulation, by 1 December 2012, and every three years thereafter.” In particular the Commission should already examine the extension of mandatory TPMS, lane departure warning systems and advanced emergency breaking systems to other types of vehicle. We would also add for example, mandatory seat belt warning systems for all seats in both cars and commercial vehicles in the next revision. It is incomprehensible why such a simple and extremely effective system is still not mandatory. Alcolocks are another relatively easy safety gain.

T&E believes that consumer labelling schemes, such as EURO NCAP, can be very effective to raise driver awareness of both safety and environmental performance of vehicles and equipment. An example of EU legislation where safety and environmental concerns have been integrated is provided by a new Regulation (2008/0221 COD), which will introduce a tyre labelling scheme, including wet grip, fuel efficiency (rolling resistance) and noise from 2012.

The EU must work closely with Member States to ensure that the provisions of the Regulations on vehicle safety equipment and tyre labelling are implemented correctly in order to be effective, and be prepared to follow up in cases of non-compliance.

## **5 Internalise the external costs of accidents**

The costs of accidents exceed the amounts paid in insurance payments. These uncovered costs, such as for road closures, emergency access, infrastructure repair, currently constitute an external cost, for which the bill is footed ultimately by the taxpayer. This is contrary to the user pays principle, so it is both surprising and regrettable that the Commission opted not to include accident costs in the proposal to review the “Eurovignette Directive” (2006/38/EC).

The omission of accident costs is surprising as the previous Commission proposal 2003/448 on the Eurovignette, as discussed in 2003-2005, did include a provision for

the internalisation of accident costs. Scientific underpinning has indeed progressed since then. There is widespread scientific and economic consensus regarding how the uncovered accident costs should be internalised on a per-km-basis. It is equitable to allow Member States to internalise accident costs in road charges, since statistically, it is transit countries which are most affected and a higher proportion of non-domestic vehicles are involved.

Indeed, all measures to manage road transport demand, including road tolls, pricing and congestion charges are likely to have both safety and environmental benefits, which must be taken into account in policy-making.

## 6 Focus on CO2 standards for cars: change from weight-based to footprint-based standards

Regulation 2009/443 sets 130 and 95 g/km average CO2 targets for new passenger cars sold by 2015 and 2020 respectively. Targets for manufacturers, however, are based on the average weight of vehicles that manufacturers produce in 2015 and 2020 respectively – the heavier their vehicles, the more relaxed the CO2 target. This strongly reduces the incentive to cut weight from vehicles.

The regulation also says the Commission will ‘publish a report on the availability of data on footprint and its use as a utility parameter for determining specific emissions targets.’ Footprint means the surface between the four wheels of the car and is therefore a measure of the size of the car. Such a metric would fully reward weight reduction measures, and hence open up more avenues for CO2 reduction.

Even better, the footprint metric would also improve safety for two reasons:

First, heavy cars are especially dangerous for *third parties* in collisions. Studies have consistently shown up to four times higher levels of severe injury and death for pedestrians in collisions with SUVs. SUVs distinguish themselves from normal cars primarily through their additional weight and height – not their footprint.

Second, a report by Dynamic Research Inc. (DRI), which formed an important basis for US regulation, showed that, if larger vehicles are safer for their *occupants*, it is not their weight but their size (more specifically their footprint), that makes them safer. The summary of this report states that “weight reduction would be expected to decrease the overall number of fatalities” – in other words: heavier cars are more dangerous. So CO2 standards that are easier on heavier cars can be expected to lead to more fatalities than CO2 standards that are easier for cars with a larger footprint.<sup>3</sup> A later report by IEEP and TNO for T&E<sup>4</sup> confirmed that footprint-based CO2 standards only offered advantages and no obvious downsides.

## 7 Focus on road freight and commercial vehicles

It is particularly difficult to improve the safety record of heavy vehicles. Even Member States with exemplary road safety improvements for car traffic have made

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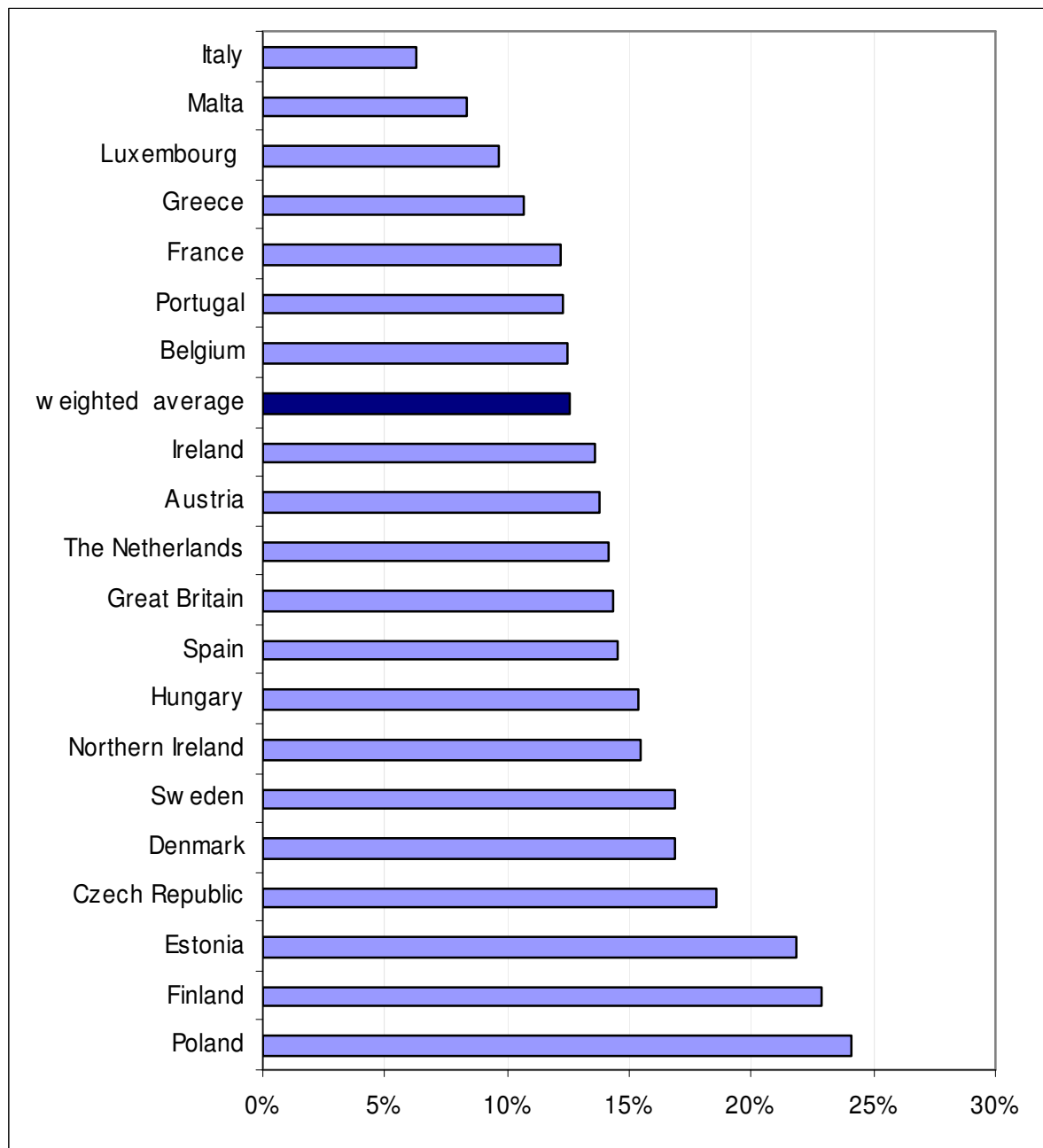
<sup>3</sup> A Review of the Results in the 1997 Kahane, 2002 DRI, 2003 DRI, and 2003 Kahane Reports on the Effects of Passenger Car and Light Truck Weight and Size on Fatality Risk (DRI-TR-04-02), R. M. Van Auken and J. W. Zellner, March 2004

<sup>4</sup> [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid/511](http://www.transportenvironment.org/Publications/prep_hand_out/lid/511)

comparatively little progress in reducing fatalities and injuries from accidents involving heavy vehicles – note the position of Denmark, Sweden and the Netherlands in Figure 1 below. This reflects the intrinsic risk of mixing road freight and passenger transport.

Road accidents involving heavy goods vehicles are more severe, due to the larger size and mass of the vehicles. Heavy trucks are involved in 14% of fatal crashes in Europe, with 92% of the fatalities outside of the truck (i.e. other road users or in the other vehicles), equating to 6,500 lives. On a per-km basis, lorries are twice as dangerous as passenger cars.

Figure 1: Share of fatalities attributable to HGV in different countries, average (1996-2006)



Source: CE (2009), *Are trucks taking their toll?* Delft, Jan 2009. Data from CARE database.

Clearly accidents involving heavy and commercial vehicles merit further investigation and targeted policy initiatives and measures.

This must also be viewed in the context of increasing road freight, and the rapidly growing share of light and heavy commercial vehicles in the traffic mix, including in urban areas and particularly in the New Member States.

For this reason, we would support an initiative by the Commission to develop a safety labelling initiative for vans, lorries and busses, similar to the existing EURO NCAP rating scheme for cars. However, the weighting of the scheme should reflect the fact that it is most often other road users and occupants of other vehicles who are the victims of accidents involving commercial vehicles. For example, only 8% of fatalities in accidents involving trucks are the occupants of the truck themselves. For public transport vehicles and public fleets, including taxis, such accreditation or labelling should be factored into procurement requirements.

Given this relationship between mass and accident severity, it is alarming that the Commission continues to look into options for introducing longer and heavier trucks throughout the EU. A substantial length increase would have negative implications for vehicle manoeuvrability and overtaking. A study for the Commission<sup>5</sup> on longer and heavier lorries found that longer and heavier lorries are considerably more dangerous than standard vehicles.

It is vital to explain that the dramatic increase of weights and dimensions associated with a move to so-called 'megatrucks' will most likely *not* lead to fewer trucks on the roads. This is because larger trucks would offer a massive cost reduction to road freight and therefore in fact, through a price elasticity close to -1, attract additional road freight demand, both from safer transport modes, as well as entirely new traffic.

The public intuitively seems to understand this and therefore it is no surprise that public opinion is strongly against the introduction of longer and heavier lorries; surveys demonstrate unmistakable opposition to increasing the size and weights:<sup>6</sup>

- France: 81% opposition
- Germany: 73% opposition
- UK: 75% opposition

With regard to heavy trucks, mandatory introduction of driver assist equipment via the General Safety Regulation is an important step, which should be built upon over time, for example with mandatory tyre pressure monitoring systems. However, the vehicles themselves can also be further optimised. Currently tractor units and trailers are rather blunt, which means increased fuel consumption because of limitations to aerodynamic performance. The absence of a crumple zone or improved bumpers to protect occupants of other vehicles and other road users is also a problem with existing tractor design. Given that the majority of truck accident impacts are head on (from the truck perspective), measures to improve the cab should be examined as a priority.<sup>7</sup>

Aerodynamic features can also bring safety benefits, for example moulded side skirts offer opportunities to improve side underrun protection.

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<sup>5</sup> [http://ec.europa.eu/transport/strategies/studies/doc/2009\\_01\\_weights\\_and\\_dimensions\\_vehicles.pdf](http://ec.europa.eu/transport/strategies/studies/doc/2009_01_weights_and_dimensions_vehicles.pdf)

<sup>6</sup> <http://www.nomegatrucks.eu/news/81-percent-of-french-people-against-mega-trucks/>

<sup>7</sup> DEKRA (2009), *Road safety report HGV 2009*. [www.dekra.de](http://www.dekra.de)

## 8 Factor safety into EU transport infrastructure spending

T&E believes that the current revision of the TEN-T guidelines and future revision of the entire EU budget, including structural and cohesion spending, offer important opportunities to target spending towards issues, such as safety and environmental quality, which result in genuine, Europe-wide added value.

Transport spending should also incorporate improvement of transport safety, across all modes, into project selection criteria. Traffic management, demand management and intelligent transport projects and systems should therefore be eligible for EU financial support and integrated into traditional TEN-T spending projects. All projects should undergo thorough evaluation including all external cost impacts.

Spending on public and urban transport, intermodal transport and modal shift, should receive additional support on the basis that these offer overall transport safety improvements. We firmly include safe infrastructure for cyclists and pedestrians in this priority.

Improved road safety, particularly in urban areas, gives rise to a virtuous circle for both safety and environment, as safer roads make people feel more confident to cycle and walk.

### For further information, please contact:

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