

EC public hearing on the revision of Directive 96/53

1. Pictures from the history book of “aerodynamic trucks”

Colani truck - from 1978



Colani's refreshed design for Mercedes



Why don't we see any of these trucks on the roads today?



2. We had aerodynamic trucks already – many decades ago

What happened? Why did they disappear?

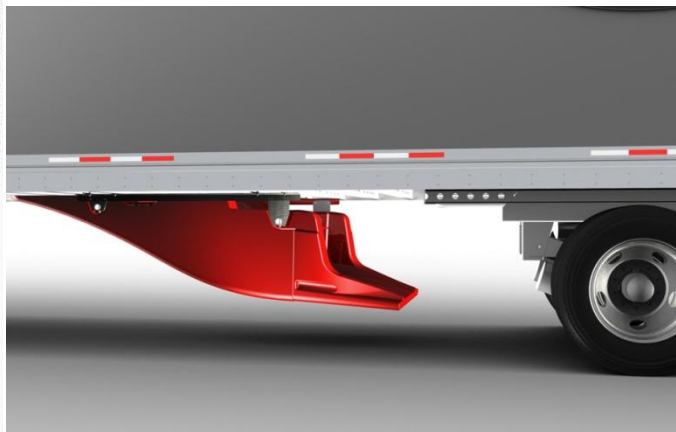


3. What makes sense is already done – within the prevailing exterior dimensions



4. Many effective ones do not affect exterior dimensions

Why have these not (yet) proliferated?



<http://green.autoblog.com/2011/02/16/aerodynamic-add-ons-reduce-fuel-consumption-of-semi-trucks-by-7/>
<http://www.truckpartsandservice.com/smarttruck-creates-improved-trailer-aerodynamics-system/>



<http://www.performanceparts.carrier.com/vgn-ext-templating/v/index.jsp?vgnextoid=95fc1373cd149210VgnVCM1000004f62529fRCRD>



During a test weekend the guiding vanes were mounted onto a standard box trailer in order to determine the optimal configuration and corresponding fuel savings. Its impact on the fuel consumption is measured and compared with a clean trailer which was not equipped with any drag reduction device. The configuration with the top vane only indicated **a fuel saving of 0.5 liter per 100 km**. Also the configuration with all four vanes at the rear edges was tested. This configuration resulted in a slight improvement compared to the top vane con figuration. The reason for this can be found in the boundary layer development at the sides of the vehicle. **More research is required** to improve the efficiency of the vane.

<http://www.part20.eu/en/applications/trailer/>



- **No comprehensive scientific study has been made to quantify the benefits achievable with aerodynamic elements that fit within the presently permitted vehicle dimensions.**
- **It is highly uncertain what those aerodynamic solutions could add to this, which require an extension of vehicle dimensions.**

5. Shippers simply seek maximum capacity



6. Safety reasons require limiting weights and dimensions...

| in 2009 | Number of accidents | Number of fatalities | Fatality ratio |
|---------|---------------------|----------------------|----------------|
| road | 1,189,863 | 34,826 | 2.93% |
| - HGVs | 103,323 | 3,937 | 3.81% |
| rail | 2,240 | 34 | 1.52% |

Source: Eurostat, European Railway Agency



Accident likelihood of HGVs compared to rail¹:

HGV : Rail = 10 : 1

Fatality ratio of HGVs compared to rail¹:

HGV : Rail = 25 : 1

7. Speed is the true enemy of fuel efficiency (not aerodynamics)



“Truck: an engine of the economy or a rolling bomb” – a speech by the Vice-President of BGL, the German Road Federation² (on 28 January 2011)

“Driving with 90km/h instead of 80km/h results in a surplus diesel consumption of about 9,8%.”

“The speed limit for HGVs throughout the European Union should be harmonised at 80km/h to achieve a nearly 10% saving in CO₂ emissions.”

Harmonising the maximum allowed speed of HGVs to 80km/h throughout the European Union³ would be a much more powerful tool to achieve savings in fuel consumption than what is achievable through the use of those aerodynamic elements, which require an extension of presently allowed vehicle dimensions. Such a measure would allow better speed control, as uniform speed limiters could be installed onto every CE homologated HGV.

8. Who should win the competition for fuel economy and carbon footprint?

| Measures | Fuel (energy) saving | Carbon footprint |
|---|----------------------|------------------|
| Aerodynamic elements within the existing dimensions: | - 2 - 5 % | |
| Aerodynamic elements needing extension of dimensions: | - 2 - 5 % | |
| Limiting of maximum speed to 80 km/h: | - 10% | |
| Shifting loads to Combined Transport today | - 35% | - 75% |
| Combined Transport estimated in 2050 | - 66% | - 90% |

¹ The ERA figures for rail include both passenger and freight operations

² http://www.bgl-ev.de/daten/news/2011/VORTRAG_VON_BGL-VIZEPRAESIDENT_ROESKES.PDF

³ Presently 80 km/h is the limit for HGVs in D, DK, FIN, IRL, A, POL, NL and H, while 90 km/h is allowed in B, E, EST, FR, LT, L, P, RO, SK

9. THE TRIVIAL WAY FORWARD

7 / 8

Do we really need to reinvent the train – one which

- uses rubber-wheels on asphalt?
- needs several more drivers for the same performance?
- allows for much more human error – and the corresponding poor safety record?

The EC's objective is to “**halve the number of road fatalities**”. If wanting to be consequent, effort should be made to prevent the possibility of unfair competition (in road haulage) through tolerating a behaviour which **assumes business risks daily (for the sake of more profit) against human lives and our safety**.

Rather, we would **all be better off** if our efforts here in Europe were focused on how to improve the shortcomings of the mode that, if inserted efficiently into long(er) distance transport-chains, could the most simply solve the issues of safety, energy efficiency, carbon-footprint, land-use, oil-dependency: **rail**.

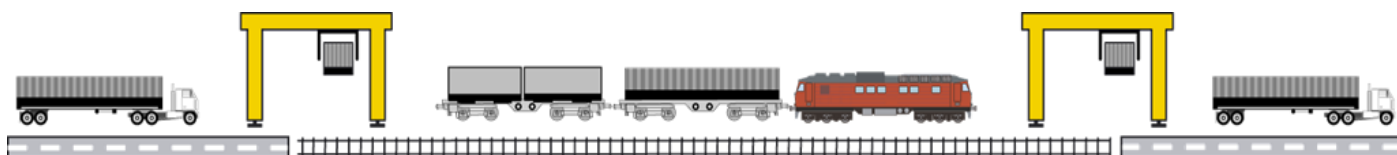
European transport policy should aim to develop **the freight transport system of the future**.

Such a system should **outperform the way we forward cargo today** in every aspect:

- average speed,
- reliability,
- safety,
- labour-productivity,
- energy-efficiency,
- carbon-footprint, and ultimately
- price.

The solution is:

Combined Transport



Essentials:

- Cargo packed into **intermodal loading units (ILUs: containers or swap-bodies)**
- Flexible and efficient **short-haul trucking** used for positioning legs
- **Transshipment terminals** to act as efficient links between the collaborating modes
- **Electric rail traction** to take care of the long-distance segments
- Pan-European **IT networks** to efficiently support the collaboration of modes across borders

Capabilities:

- **Faster speeds** (100-120km/h) possible without compromising safety
- **Energy savings of 35% today** and estimated 66% by 2050
- Collectively: **75% fewer GHG emissions today**, and potentially 90% by 2050⁴
- **25 times safer** than pure road haulage – with advanced safety consciousness and compliance culture

⁴ Increased share of renewables in electricity generation, electric road propulsion becomes economically viable on short-haul sections – eliminating the need for internal combustion engines altogether

10. ACTIONS NEEDED - FROM A COMBINED TRANSPORT PERSPECTIVE

8 / 8

The European Commission together with national governments of every EU Member State, and with the help of the European Parliament representing the people of Europe, should focus their capacities and abilities on developing the freight transport system of the future, which

- Uses **road haulage for local distribution** (short haul runs) – road haulage which is slower, safer, more humane, and which maximises its flexibility in order to best collaborate with other modes.
- Sustainable – that is safe, energy-efficient and extremely low-GHG emitting – **rail, as well as inland and sea navigation to facilitate the freight moving needs of society over long(er) distance segments.**
- Rail should be **freed from extensive political intervention** in its daily management affairs, and the **framework allowing for genuine competition created and enforced.**
- The chronic underinvestment in the public infrastructure of railways should be reversed in a timely manner.
- A regulatory framework should be created which leads to an **interoperable and freely accessible, and competitively functioning Single European Railway Area.**
- Every mode of transport should be made to bear the full cost, which its operations/existence impose on society; all forms of subsidies should be calculated and extended evenly so as to ensure fair **competition based on inherent technical capabilities.**
- Road related transport policy should focus on:
 - a) strictly **prevent the possibility of wilfully assuming business risks** against safety,
 - b) the introduction of more **technologies in compliance and enforcement,**
 - c) **optimising road vehicles** for short-haul feeder and distribution operations, and
 - d) **weights and dimensions unchanged** to create stable environment needed to attract investment into intermodality, with the only exception being the extension of the maximum allowed flatbed semitrailer length by 12cm-s to **enable the use of 45-foot rectangular European swap-bodies.**

Intermodality requires stable framework conditions – including weights and dimensions – to facilitate the necessary investments required for the freight transport system of the future.

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For more information, comments, clarifications please turn to UIRR (www.uirr.com) directly:

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