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REPORT FROM THE COMMISSION

On the use of buses and coaches of up to 15 m in length

SUMMARY

Subject : Commission report on the Use of Buses and Coaches of up to 15 m in length

Council Directive 96/53/EC of 25 July 1996 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 traffic¹ omitted to set a maximum dimension for rigid passenger vehicles at Community level. This reflected an absence of consensus between the Member States on whether a harmonised maximum length should be 12 m or 15 m.

The purpose of this report is thus to look at the whole issue of buses and coaches of up to 15 m in length and utilises information provided by the national authorities of the Member States, manufacturers and operators of buses and coaches.

¹ OJ L 235, 17.9.1996, p. 59.

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1. INTRODUCTION

1.1 BASIS FOR THE REPORT

The Transport Council of 28 September 1995 examined a Commission proposal for a Council Directive laying down maximum authorised weights and dimensions for road vehicles over 3.5 tonnes circulating within the Community.

This proposal¹ laid down, inter alia, a maximum length of 12 m for all rigid motor vehicles. Several Member States, though not a majority, wished to permit rigid buses and coaches of up to 15 m length.

The Council subsequently adopted the proposal, including provisions on a maximum length of 12 m for international transport only of buses and coaches, as Council Directive n° 96/53/EC².

Given that buses and coaches of up to 15 m in length are now in circulation in several Member States this report makes a detailed examination of the situation.

1.2 DEFINITIONS

Point 1.1 of Annex 1 of Council Directive 96/53 lays down a maximum length of 12 m for 'motor vehicles' where a motor vehicle is defined as 'any power driven vehicle which travels on the road by its own means'. This definition excludes the vehicle's load as part of the maximum dimensions.

Definitions of various bus types are also laid down in the United Nations ECE Regulation No 36 on bus construction, namely:

Class I vehicle: a vehicle of this Class has seats, and spaces for standing passengers.

Class II vehicle: a vehicle of this Class may have provision for standing passengers, but only in the gangway.

Class III vehicle: a vehicle of this Class has no provisions to carry standing passengers.

Given that the nature of a bus's duty has a bearing on its design, for the purpose of this report the terms "bus" and "coach" will, henceforth be used, where "bus" shall mean a vehicle of class I or II, and "coach" to mean a class III vehicle as defined above. A bus is thus understood to be a passenger vehicle operating routes chiefly of short distances with frequent stops, whilst a coach is for longer trips of an express or touring nature.

¹ Published in Official Journal No C 38, 08.02.1994, p.3

² Published in Official Journal No L 235, 17.09.1996, p. 59

2. CURRENT POSITION

2.1 NATIONAL AND EUROPEAN LEGISLATION

At the time of writing the legal limits for the maximum length of a passenger vehicle in the Member States are as follows :

- Unrestricted use of passenger vehicles of maximum length of 15 m permitted in Belgium and Germany.
- Unrestricted use of passenger vehicles of maximum length of 13.7 m permitted in Denmark
- Use of passenger vehicles of maximum length 15 m permitted in limited circumstances in Luxembourg, the Netherlands and Austria (e.g. by special permit).
- Unrestricted use of passenger vehicles of maximum length of 14.5 m permitted in Finland and Sweden.
- Legal maximum length of 12 m in the United Kingdom, Ireland, France, Spain, Italy, Portugal, and Greece.

At the Community level Council Directive 96/53/EC sets harmonised rules on weights and dimensions for international journeys, permitting rigid buses and coaches of up to 12 m in length (articulated buses and coaches of up to 18 m in length), up to 2.50 m in width (2.55 m from 1.1.2000) and up to 4 m in height and with weights of up to 18 t on 2 axles, 26 t on 3 axles, and 32 t on 4 axles to circulate freely throughout the Union.

The Member States have the faculty to permit maximum dimensions larger than the limits in Directive 96/53/EC for buses and coaches circulating on their territory, but only those that comply with the Directive can circulate freely through the European Union as a whole. Therefore, the current situation is that European legislation has not harmonised the dimensions of rigid buses and coaches of over 12 m in length.

2.2 15M VEHICLE DESIGNS CURRENTLY AVAILABLE

The introduction of an increased maximum length of 15m in some Member States has resulted in a upheaval in the bus and coach manufacturing sector as many producers have revised their product ranges accordingly.

There are basically three designs of passenger vehicle greater than 12 m available on the market:

Two-axle vehicles of length greater than 12m, where a standard design has been 'stretched' to a length of 12.7m, 12.9m or even 13.6m permitting an additional 4 to 6-seats to be fitted whilst still complying with the 18 tonnes weight limit;

Three-axle vehicles of 13.5m to 15 m in length, where an extra axle has been incorporated in the design to permit a maximum operating weight of 26 tonnes;

Four-axle vehicles (configured 2+2) of 15 m in length. These are of a completely new design.

Whilst the 15m vehicle originally started out as a four-axle, double-deck coach their is now a full range of vehicles between 12 m and 15 m in length - double deck coaches, interurban buses, high-floor single deck coaches, urban single deck buses and even urban double deck buses.

The demand for buses and coaches over 12 m length is proving to be significant. The "Verband deutscher Verkehrsunternehmen" (VDV) - the association of German transport operators - estimates that there is a realistic demand in Germany for over 1500 vehicles of 15 m length on scheduled services alone. Indeed, one major manufacturer of passenger vehicles has already sold around 200 15m buses and coaches to EU operators.

2.3 COMMERCIAL CONSIDERATIONS FOR THE USE OF 15 M BUSES AND COACHES

The considerations outlined in this chapter are based on the study of the national markets in the Member States where buses and coaches of up to 15 m are allowed and are made on the assumption that, in the future, in all the E.C. 15 m buses and coaches will be allowed.

2.3.1 Capacity

The capacity of a passenger vehicle varies considerably according to its configuration and intended use : buses will have higher capacity than vehicles of identical size built as coaches since the former has provision for standing passengers. In addition, the capacity of coaches of identical size can vary by as much as 50 % depending on whether standard seating or spacious, luxury seating is fitted.

However, as an approximate guide for comparison purposes a standard single-deck coach of 12 m length will seat around 51 passengers. A 13.5 m vehicle to the same configuration will seat around 57 passengers, whilst the capacity of a 15 m vehicle would be around 67 passengers. An 18 m articulated coach also has a capacity of some 67 passengers, since seats are not permitted within the articulated joint and so this is 'dead' space.

For a standard 12 m bus for urban use a capacity of 100 is the norm, of which 40 would be seated. A similar vehicle of 15 m length would have a capacity of 130 with 66 seated, whilst an articulated bus of 18 m length can carry 150 passengers, again with 66 seated. Thus for urban and interurban operations the articulated vehicle still has a capacity advantage of 20 passengers, which represents the number of standing passengers permitted in the area of the articulated joint. It should, however, be noted that this is not a pleasant area in which to stand, particularly in rush hour conditions, given the absence of windows and also the disorientating effects of both vertical and horizontal movement in the articulation when the vehicle is in motion.

It should be noted that some coach operators (and at least one interurban bus operator) have chosen not to optimise the seating capacity of their 15m vehicles: rather, they have used the extra vehicle length to give larger seat pitches and thus offer greater levels of comfort. Using the additional 1 - 3 m length to provide more luxurious seating or even informal seating/bar areas whilst still carrying a sufficient number of passengers to make a commercially viable journey is a major commercial consideration that can be justified in making coach travel a more attractive means of transport.

Alternatively, the additional capacity could also be utilised to transport bicycles - a measure that would encourage intermodality and further promote bicycle use.

2.3.2 Price

Clearly, the price of the vehicle is a major commercial consideration and there is a price premium for larger vehicles. The price of a new 15 m vehicle costs around 125% of the cost of a new 12 m vehicle and an 18 m articulated vehicle some 150% of the cost of a 12 m vehicle. (This applies equally to buses and coaches. However, four-axle 15m double deckers are in a premium price category). In addition, the operating costs of 12 m /15 m /18 m vehicles compare in the ratio 100:110:150, with articulated vehicles facing particularly high maintenance costs due to the additional technical complexities of the articulation unit.

Nonetheless, the total investment costs per seat are calculated to be in the ratio 100:91:114 for 12/15/18m buses and coaches (with 3-axle 13.5m vehicles having the value of 98).

Thus the 15 m vehicle can offer a comparable cost per passenger space as an articulated vehicle but with a lower initial investment cost, whilst also being much more attractive per passenger space than a 12 m vehicle. But it should be noted that these comparisons are only valid if full loads are carried - a half empty big bus will always have higher costs than a half empty small bus.

This cost difference alone has probably resulted in the disappearance of the 18m articulated coach from the market.

2.3.3 User charges

The Commission has no detailed information regarding whether or not vehicles over 12 m in length and/or with three axles have to pay higher national road user charges than conventional 2 axle 12 m designs. However, it is believed that larger vehicles are treated identically to standard ones. If so, then this is an additional commercial consideration in favour of larger vehicles.

2.3.4 Competitiveness

A commercial consideration that not should be overlooked is the effects of 15m passenger vehicles on competition between bus and coach operators. In the highly regulated sector of bus service provisions the 15m bus will currently have limited competitive impact. However, as bus services throughout Europe are increasingly liberalised and tendering for transport providers is encouraged the operators of 15m buses will, it is expected, have advantages over their competitors with 12m buses since they can offer a lower cost-per-passenger space (see 2.3.2).

In the coach sector competition is both fiercer - reflecting the market-led nature of the market - and more apparent today, given the coaches over 12 m in length already in operation. Again, it would appear to be self-evident that an operator with a 15m coach will have better opportunity to gain some markets from rival operators, either as a result of increased capacity or a more luxurious service with the same capacity. If this is indeed true the implication is that some operators will be compelled to buy larger coaches simply in order to compete. However, experience in those Member States that have allowed 15m coaches would seem to show that the competitive nature of the coach market necessitates the regular replacement of vehicles - at least at the quality end of the market - and the appearance of 13.5m and 15m coaches on the market has, at worst, only speeded up this process a little.

2.3.5 Resale value of coaches

A corollary of this issue is the effect of 15m coaches on the second-hand market. To date the 15m concept is sufficiently new that few such coaches will have appeared for resale. The availability of 15m coaches must, however, have some negative effect on the market for used 12m coaches - since this size will now be seen by some customers as less attractive. However, it is hard to establish how significant this effect is, particularly since coach manufacturers, with attractive trade-in and leasing schemes for customers, are themselves major purchasers of second-hand coaches.

Furthermore, the development of markets in Eastern Europe for used vehicles may help to offset any drop in popularity for used 12m coaches within the European Community.

2.3.6 *Conclusions*

One can conclude that the enthusiasm shown by some operators for buses and coaches over 12 m in length does, indeed, confirm the commercial advantages of larger vehicles. However, the commercial attractiveness of a concept should not, in itself, be a sufficient reason for permissive legislation. In the road transport sector experience has shown that there will always be a commercial argument to increase the maximum permitted dimensions (or weight) of vehicles, regardless of what the limit is. This attitude should not be encouraged. However, in the case of passenger transport the inventive use made by certain operators of the additional space offered in 15m vehicles is recognised as a positive step to encourage modal shift back to public transport.

Furthermore, the 15m coach, in particular, must have effects for operators both with regards to competition and the resale price of vehicles.

2.4 TECHNICAL CONSIDERATIONS

2.4.1 *Swept circle requirements*

One requirement of EU Directive 96/53 is that all vehicles (including buses and coaches) shall be able to turn in a swept circle having an outer radius of 12.50 m and an inner radius of 5.30 m in order to have free circulation throughout the European Union³. Manufacturers claim that all the current designs of passenger vehicles greater than 12m can meet this requirement. In any case, the Commission Proposal for a Directive on motor vehicle construction standards relating to their masses and dimensions⁴ when adopted will require, in Point 7.6.1. of Annex I, that all motor vehicles shall have to meet this requirement.

Some preliminary discussions have taken place at the UN-ECE Working Group on buses in Geneva suggesting modifying UN Regulation N°36 which lays down a smaller turning circle requirement with outer diameter 12 m and inner diameter of 5.3 m.

Most designs of rigid vehicles of 13.5 m - 15 m in length incorporate more than one steering axle to assist in meeting turning circle requirements - in the case of Neoplan's 4 axle design no less than 3 axles are steered. Whilst the rear steer axles on 15 m passenger vehicles have only limited range the 5 to 17 degrees of steer they offer is very important to ensure the necessary manoeuvrability. The alternative - non-steering rear axles - requires a wheelbase of under 7 m to enable turning circle requirements to be met.

³ Article 3(1) and Annex I Point 1.5 of Directive 96/53.

⁴ Currently under discussion. Proposal originally published in O.J. No C 230 of 04.09.1991 p. 46, and a Common Position was published in O.J. No. C41 of 10 February 1997, p.5.

When considering turning circles with particular respect to passenger vehicles consideration must be given to whether the current test is appropriate. The ability to make a 360 degree turn within a 12.5 m radius does not reflect the normal demands of either buses which their working lives manoeuvring in urban built-up or of coaches on excursions. In this respect, it would be more appropriate to consider the performance of a bus or coach in making a 90 degree turn, simulating a typical street manoeuvre.

2.4.2 Vehicle weights

As regards vehicle weights, it can be seen that 15 m designs require 3 axles in order to comply with national and EU rules concerning total vehicle weights and axle weights. In this context, the weight distribution of the 4-axle design of 15 m vehicle is exemplary.

Some manufacturers are now offering coaches longer than 12m on two axles - the absence of a third axle making a significant price difference. It should be noted that the issue of complying with both the total weight limit of 18 tonnes and axle load limits of 11.5 tonnes has proved such a problem that prior to the appearance of 13.5/15 m coaches on the market many coach operators specified 12m vehicles with 3-axles to overcome the problem. This reflects the increasing weight of coaches as the demand for double-glazing, air conditioning, retarders, as well as entertainment systems, galleys and toilets increases.

2.4.3 Other technical aspects

The individual technical components of passenger vehicles such as braking systems, lighting, emissions, etc., are all covered by EU legislation (under framework Directive 70/156/EEC) which applies equally to longer 15 m vehicles. Furthermore, the proposal for an EU Directive relating to special provisions for vehicles used for the carriage of passengers comprising more than eight seats in addition to the driver's seat ⁵ lays down additional European requirements for buses and coaches.

2.5 SAFETY AND ENVIRONMENTAL CONSIDERATIONS

2.5.1 Safety

Safety is clearly a major concern when considering a new design of product, especially so when it is a high-capacity passenger-carrying vehicle:

As stated in 2.4, 15 m vehicles will be bound by existing EU legislation on technical issues, and thus have to be as safe as 12 m and 18 m vehicles.

As regards vehicle evacuation in an emergency, the proposal for an EU Directive relating to special provisions for vehicles used for the carriage of passengers comprising more than eight seats in addition to the driver's seat will require the number of emergency exits to be proportional to the vehicle's capacity. Thus, evacuation possibilities will not be compromised because a vehicle is bigger.

The proposed Directive will also lay down requirements that new buses and coaches from a future date shall have to pass both a tilt-test and shall also have sufficient roof strength to be able to withstand rolling over. Whilst these requirements are neither aimed specifically at - nor limited to buses and coaches over 12 m in length its effect, if adopted, will be to further improve the safety performances of all bus and coach designs.

Indeed, there are some arguments that 15 m vehicles may be safer than 12 m ones. Firstly, given that such vehicles have three or four axles they will have improved road-holding qualities compared with an equivalent 2-axle vehicle, and possibly also better stability and braking characteristics. (These arguments are certainly true for 4-axle vehicles with their lower centre of gravity, and when comparing a 15 m coach with an 18 m articulated coach).

Secondly, if one accepts that driver error is a significantly greater cause of accidents than the risk of mechanical defects or other causes then it follows that it would be safer to transport the same number of passengers in 2 x 15 m coaches rather than 3 x 12 m coaches, since the risk of human error is reduced by one-third. In this respect, it has been calculated that only 3 percent of all bus and coach accidents are due to technical problems.

Thirdly, on 4-axle coaches the risk of accident as a result of a tyre blow-out on the front (steering) axle is virtually eliminated. Similarly, the risk of a serious accident occurring as a result of a wheel working loose are diminished if the vehicle has a third or fourth axle (i.e. more wheels).

On the other hand it is self-evident that in the event of an accident the greater the number of passengers is then the greater number of injured passengers there will be. Clearly, if a coach carrying 50 passengers and coach carrying 100 passengers are involved in identical accidents, then the larger coach will have a greater number of injuries (though the proportion of injured passengers can assume to be the same).

It can also be argued that the increased mass of a 15 m coach as compared to a 12 m coach will have negative effects in a crash situation. Certainly in a frontal impact the greater the mass of the coach the worse the impact damage will be. However, a heavier vehicle will also absorb and dissipate impact energy better throughout the vehicle as a whole. So, whilst there may be marginally greater risk for the driver and front passengers of a 15m vehicle in a frontal impact, this may be offset by reduced whiplash effects for the majority of the passengers.

That a 15 m vehicle is 25 percent longer than a conventional bus or coach will make such vehicles marginally more difficult to overtake and could pose a risk if a driver commences an overtaking manoeuvre past a 15 m vehicle assuming that it is 12 m or less. In this regard, a sign on the rear of the vehicle making following drivers aware of its non-standard length e.g. reflector strips of the kind described in ECE Regulation N°70 could be appropriate. However, it once again must be noted that in this case the 15 m vehicle does pose less problems than longer 18 m articulated vehicles.

Another safety aspect in which a 15 m rigid vehicle is better than an 18 m articulated vehicle is all-round vision. Unless the rear section of an articulated vehicle is in-line with the front section then some blind spots occur for the driver due to the vehicle's articulation. This problem does not exist on rigid vehicles. Similarly, a driver can better observe passengers' activities at the doors of a 15 m bus than on an 18 m articulated bus. However, in both cases it can equally be argued that a 12 m vehicle is superior to a 15 m vehicle.

Finally, a negative feature is that longer vehicles will be more susceptible to small knocks and scrapes, particularly when manoeuvring in urban areas.

In conclusion there is no evidence to assume that a rigid vehicle of up to 15 m total length is any less safe than a similar vehicle of 12 m length and is probably safer in certain working environments than an 18 m articulated vehicle.

2.5.2 *Environmental considerations*

All 15m buses and coaches will have to meet EU legislation on exhaust and noise emissions⁶ and so will not be dirtier or noisier than existing vehicles: indeed one can expect improved emissions and noise performances from new vehicle designs. These benefits are for all new designs, regardless of length.

However, there are two positive environmental arguments specifically in favour of the 15 m vehicle. Firstly, the fuel consumption per passenger carried on a 15 m vehicle is around 10% less than with a 12 m vehicle, with consequent reductions in vehicle emissions created.

Secondly, the road space required per passenger carried on a 15 m vehicle is some 15% less than with a 12 m vehicle (assuming identical seat configurations). This has important environmental consequences on congestion, particularly in urban areas.

⁶ Directive No. 70/220/EEC, as amended on vehicle emissions, and Directive No. 70/157/EEC, as amended on sound levels.

It should, however, be noted that both these environmental benefits are subject to vehicles operating with full loads: a 15m vehicle with 20 passengers, say, will be no more environmentally-friendly than a smaller vehicle with the same number of passengers. In addition, in both cases the performance of 18 m articulated vehicles are almost identical to 15 m vehicles.

Furthermore, whilst a full 15m vehicle causes less congestion than the alternatives the reverse is true when a vehicle is not used efficiently: a 15m vehicle with 20 passengers, say, will take up more road space than a smaller vehicle with the same number of passengers. In addition, coaches do create localised congestion for example when dropping off tourists at hotels in town-centres, and a 15m coach will not be less disruptive than a 12 m one. However, it is hard to quantify how much additional congestion a 15m vehicle will create, compared with a 12m vehicle, and it may be only marginal.

A further potential environmental consideration in favour of 15 m vehicles is that they may encourage modal shift from cars to buses/coaches. The higher degree of comfort (either more seats per vehicle, or more spacious seating), potential lower costs, or even use of the extra space to allow the transport of bicycles are all possible reasons that may attract new passengers to this mode of transport.

One must conclude that bigger buses and coaches can have a positive environmental impact, but only if used efficiently i.e. either with loadings in excess of what is capable with a 12 m bus, or if a 15 m bus is used to attract passengers who would otherwise use their cars.

2.6 INFRASTRUCTURE CONSIDERATIONS

Given the fundamentally different operating environments of buses and coaches it is appropriate that the infrastructure considerations for each type is considered separately.

2.6.1 Infrastructure considerations for 15 m buses

Given that a significant proportion, if not all, of the operating life of a bus is spent in urban areas its compatibility with the infrastructure is of considerable importance. In this regard the Ministry of Town Construction and Transport ("Städtebau u. Verkehr") in the German Land of Nordrhein-Westfalen made a detailed study and report in April 1995. The bus operator in the town of Herne - the "Vestische Straßenbahn GmbH" - were given special permission to operate 15 m - long 3 axle buses (of the type Neoplan N 4020/3) and their performance was then compared with 12 m rigid - and 18 m articulated buses.

The three buses were asked to perform four manoeuvres on a typical bus route. In all cases it is assumed that the bus driver performed the manoeuvre correctly.

The first manoeuvre was to enter a bay in a bus station, requiring a 90 degree turn (figure A). Entering the bay, the 12 m bus had a front overhang of 45 cm, with no rear overhang. The 15 m bus had a front overhang of 90 cm when entering the bay, with no rear overhang. The 18 m articulated bus had no front overhang, but did have a rear overhang of 10 cm when entering the bay.

The second manoeuvre was to pull into a bay at a bus stop (figure B - This manoeuvre is particularly important if buses are of low-floor design and fitted with kneeling systems or boarding ramps since these are only effective if the bus can parallel park close to the kerb). The 12 m bus pulled into the bay perfectly in line with the kerb. No rear outswing occurred when the bus pulled away. The 15 m bus was around 35 cm away from the kerb when it pulled into the bay. When it pulled away the rear of the bus overhung the pavement by 35 cm. This could have implications for accessibility and safety at bus stops and is a matter that has to be looked into.

The articulated bus was not able to parallel park in the bay. It was able to get its front door close to the kerb but its rearmost door was some 60 cm away. It did pull away from the stop without any difficulties, however.

The third manoeuvre involved a 90 degree turn at a T-junction in a housing estate (i.e. with relatively narrow roads). In this situation, the articulated bus performed the best with the sweep of both the 12 m and 15 m rigid vehicles going over the pavement in order to achieve the turn.

FIGURE A

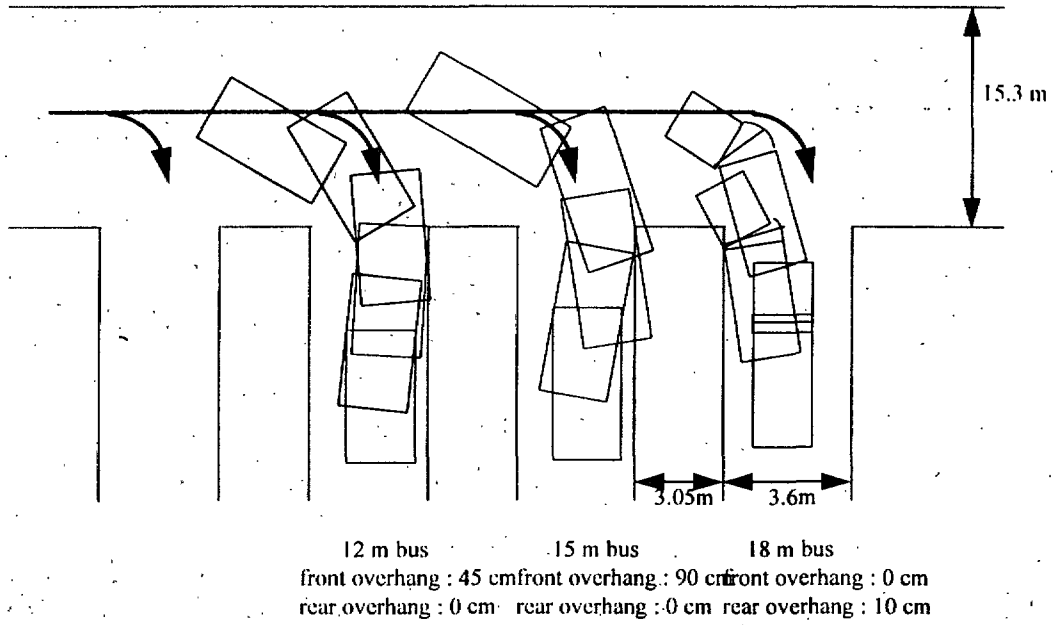
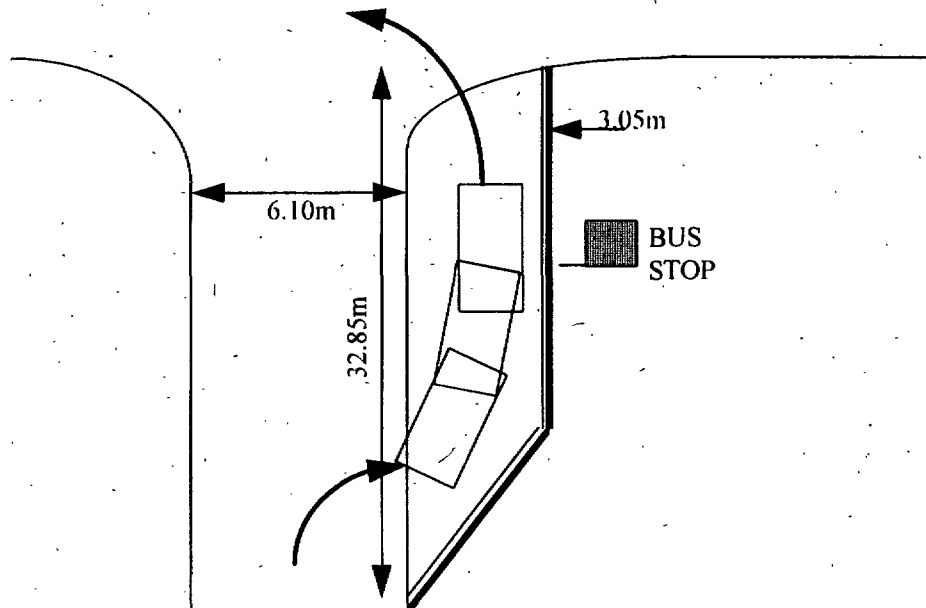


FIGURE B



N.B. - Figures A and B are diagrammatic only and not drawn to scale.

The final manoeuvre was to make a 360 degree turn on a roundabout with an inner diameter of 12 m and an outer one of 28.8 m entering and exiting on the same road. All the vehicle types achieved this manoeuvre without difficulty - given that this test was less stringent than the turning circle requirements of Directive 96/53/EC this was to be expected.

The general conclusion that can be drawn from the manoeuvres performed by "Vestische Straßenbahn GmbH" is that the operating characteristics of 15 m buses are sufficiently different from 12 m and 18 m buses that it cannot be automatically assumed that existing infrastructure could be used without any adaptation. As well as the layout of bus stops and bus stations the positioning of street furniture (pedestrian fences, signposts, litter bins, lamp posts, etc.) and also the existence of traffic-calming measures can be particularly important for the functioning of the 15 m bus because its relatively large front and rear overhangs can, in some manoeuvres, result in greater outswing over pavements. It should, therefore, be noted that any decision allowing the greater use of 15 m buses will have some financial cost for local authorities, since such infrastructure matters are generally their primary responsibility. In addition, such overhangs could have adverse implications for the safety of certain pedestrians, notably disabled people, other people with reduced mobility and children.

In at least two Member States - UK and Ireland - the use of articulated buses is virtually non-existent : indeed the majority of urban buses in these two countries are not even 12 m. Thus it is reasonable to assume that much of their urban infrastructure has not been designed with buses over 12 m in mind. In the view of the Commission, however, such problems could be dealt with by suitable provisions in EU legislation and is not a sufficient reason in itself to oppose a longer maximum bus length throughout the European Union.

2.6.2 Infrastructure considerations for 15 m coaches

Coaches will generally spend a considerable proportion of their operating lives on major roads travelling long distances. In such a working environment, the 15 m coach performs just like a 12 m coach and possibly better than an 18 m articulated coach.

The infrastructure considerations for 15 m coaches lie chiefly at the start and finish of journeys. These will be usually in congested areas as passengers are picked up or set down. The issue of bus station design is thus relevant for 15 m coaches, too. Furthermore, coaches are more likely to visit streets seldom frequented by large vehicles as tourists are dropped off in the centre of an old town, or are picked up outside their hotel, say. Thus, infrastructure issues for buses (par. 2.6.1.) are equally pertinent to coaches.

Furthermore, parking spaces at many tourist sites are already at a premium for 12 m coaches and congestion caused by parked coaches is not uncommon. Whilst it can be argued that a 15 m coach replaces an 18 m articulated coach the popularity of 15 m coaches (in those countries that have allowed them) has been such that the number of 15 m has far exceeded the number of 18 m articulated coaches replaced. This will have a negative impact on parking spaces. Again, as mentioned in 2.6.1 for 15m buses it should be noted that any requirements for additional parking spaces will have some financial cost for local authorities, since such infrastructure matters are generally their primary responsibility.

2.6.3 Possibilities for local restrictions

It should be remembered that, regardless of legislation agreed at the European level on the maximum dimensions of buses and coaches, the right will always exist to set local restrictions on vehicles circulating on individual roads (provided, of course, that such restrictions are applied in a non-discriminatory manner).

2.7 MANUFACTURING CONSIDERATIONS

Whilst some European bus and coach manufacturers do not currently offer rigid vehicles over 12m in length it would appear that the willingness of the industry to design new products has outweighed the possible difficulty that the creation of a new range of products might have on their production chain.

2.8 OTHER LEGISLATIVE CONSIDERATIONS

If the free circulation of passenger vehicles of up to 15m length were to be permitted then some related issues would need to be considered from a legislative perspective.

2.8.1- Skiboxes and luggage trailers

An issue that needs to be resolved satisfactorily is the question of skiboxes⁷ and luggage trailers behind coaches. At present the practice of fitting skiboxes is a common practice. Such fixtures are seemingly viewed by national authorities as a vehicle's load and so not included in the maximum dimensions of the coach itself. This effectively means that the maximum length of 12m coaches is actually "tolerated" at around 13m. Apart from the issue of the length of the coach there are also safety implications in the case of rear collisions of such protruding objects.

If skiboxes are allowed to be used on 15m coaches then the actual maximum length would be more than 15 m.

It is argued that the need for additional luggage space which prompts the use of skiboxes and trailers should not exist on 15m coaches, since the extra 3m length will create significantly more luggage space than is needed by the additional passengers. This is because the volume of the engine compartment for a 15m coach will be the same as that on a 12m coach and thus the additional below-floor space will be available for luggage. However, whilst this argument may hold true for high-floor single-deck coaches it will not necessarily apply to double-deck coaches where it is reasonable to assume that coach operators will wish to have an extra 3m of lower-deck seating capacity rather than additional luggage capacity.

On this issue the development of the 12.75 m 2-axle coach is of particular interest since it appears highly likely that the extra passenger capacity compared with a 12 m coach more than offsets the extra luggage space created. Indeed, the same may even apply to 13.5m designs.

When the Council adopted Directive 96/53/EC it excluded from the scope of application of the original proposal of the Commission maximum limits for passenger vehicles. Thus, only goods vehicles are under the obligation to respect the maximum dimensions laid down in the Directive.

It should be noted that Council Directive 70/156, which is referred to in Article 2 of Directive 96/53, thus prevents goods vehicles from having bolt-on extras other than those permitted in the Directive if they protrude beyond the maximum lengths/widths laid down in the Directive (though it does currently allow vehicle loads to overhang).

⁷ A skibox is a demountable box of around 1m depth, and the height and width of the coach, which are hooked onto the back of coaches give additional luggage-carrying capacity. They were originally used for transporting skis - hence the name - but are now often used for luggage in general.

A similar issue concerns the use of trailers by coaches. Trailers of 2 or 3m length are sometimes used (albeit much less commonly than skiboxes) by coaches as a means of supplementing luggage space. Should 15m coaches be permitted to pull trailers also? If so, would coach+trailer then be limited to a maximum length of 18.75m, as for truck+trailer combinations, or should different rules prevail?

At least one Member State has looked at this issue and legislated that 12m coaches may carry skiboxes and pull trailers, but that 15m coaches cannot. This is at least a clear position, if not a particularly consequent one, nor does it deal with the issue of coaches of 12.75 m or 13.5 m in length.

The Commission would conclude that the issue of skiboxes and luggage trailers needs to be resolved at the Community level, given the existence of differing national legislation.

2.8.2 15 m trucks

Currently, EU legislation does not set differential limits on maximum lengths according to whether the vehicle is a freight or a passenger vehicle - with the specific exception of the 18 m limit for articulated buses and coaches. If EU Directive 96/53 was amended to allow rigid vehicles for the carriage of passengers of up to 15 m length then it could be argued that it would be consistent to permit rigid vehicles for the carriage of goods (henceforth simply referred to as trucks) of up to 15 m also.

One argument against allowing trucks over 12 m in length is that there is no demand for long rigid trucks. Indeed, it is true that there are today very few rigid trucks of 12 m length. However, a 15 m long vehicle offering a load length of around 13 m could be an attractive design for some hauliers. In this regard, it should be noted that five years ago the concept of a 15 m bus would have also appeared strange and unpopular.

Certainly, a 15 m rigid truck would have difficulties with axle weights and turning circle requirements but as with the buses these could be overcome by using additional, steered axles.

As referred to earlier in 2.3 the Commission would have to conclude from past experience that permitting rigid passenger vehicles of 15 m length may stimulate truck manufacturers or truck operators to justify the need for legislation to permit 15 m rigid trucks also, or other increases in the dimensions of trucks.

3. OPTIONS AVAILABLE FOR THE USE OF 15 M BUSES AND COACHES

There exists several options that are open to consideration. One option is that no new legislation is made (or existing legislation amended) at the European level regarding passenger vehicles over 12 m in length (i.e. the current position). The alternative is that some form of European legislation concerning 15 m buses and coaches is enacted, and various degrees of legislation are feasible. This chapter considers the various options available at the European level.

This report contains elements of a cost-benefit analysis which the Commission intends to further elaborate in order to inform the discussion about the available options.

3.1 CONSEQUENCES OF PRESERVING THE PRESENT SITUATION

Preserving the present situation would mean that passenger vehicles of up to 12 m in length would continue to be guaranteed the right to free circulation throughout the Union, but that the registration or circulation of longer vehicles on the national territory of Member States would continue to be allowed, as at present.

The drawbacks behind this course of (in)action are clear. Firstly, the existing confused position will remain, with Member States having differing legislation on vehicles over 12m in length, thus effectively precluding free circulation throughout the Union. Today this results in 15m coaches being stopped on a regular basis in certain countries, stopped irregularly or tolerated if foreign-registered in other countries, and legally permitted in yet other countries - an unacceptable situation in a free Single Market.

Secondly, the absence of harmonised Community legislation for the maximum length of coaches, in particular, could seriously jeopardise the efficient working of cabotage in the passenger sector⁸. On the one hand, it will be very difficult for vehicles of 12m maximum length to compete in countries where 15m vehicles are permitted, since as seen in par. 2.3.2, the operating costs per seat for a 15m vehicle are much less than for a 12m vehicle. On the other hand, those countries with a 12m limit will automatically preclude 15m vehicles from competing for cabotage.

In this respect, it is already clear that cabotage will be a very attractive option in the coach sector, which thus necessitates the need for harmonised vehicle sizes to avoid distortions and unfair advantages.

Furthermore, whilst individual bus and coach operators may have different views on the optimum vehicle size, it is clear that operators prefer to have unambiguous harmonised rules, in order to provide stability and fair competition.

3.2 CONSEQUENCES OF DEVELOPING ADDITIONAL LEGISLATION

It should be noted that, for all the legislative options listed below, Member States will still retain the right to set localised limits on roads on the maximum length of vehicles, on a non-discriminatory basis.

⁸ Council Regulation (EEC) No.2454/92, published in Official Journal No L251, 29.08.1992, p.1 lays down conditions under which non-resident carriers may operate national road passenger services within a Member State. In particular, this Regulation has liberalised cabotage for non-occasional services and special services since 1.1.1996.

3.2.1 Option 1: To have a harmonised limit of 12 m for all rigid vehicles

One legislative option is to set a maximum length throughout the European Union of 12m for all new rigid vehicles (whilst permitting existing vehicles of up to 15 m to continue to circulate nationally for a given period under the principle of "Grandfathers Rights").

This option was in the Commission's original proposal for the Directive which became Directive 96/53⁹ and reflected the legislative position at that time that the overwhelming majority of the Member States (eleven out of twelve) did not nationally permit the free circulation of rigid vehicles of over 12m length.

An EU-wide limit of 12 m for buses and coaches would have the advantage of ensuring that there were not different maximum lengths for trucks and for buses.

An additional alternative could be to exempt buses used in urban areas from the obligation to respect the harmonised limit of 12m.

3.2.2 Option 2: To have a harmonised limit of 15 m for rigid buses, but with a different turning circle requirement

Rather than simply require that a vehicle be able to make a 360 degree turn and stay within concentric circles of 5.3m and 12.5m diameter one option is to require that rigid vehicles over 12m in length are required to perform an additional manoeuvrability test. Changing the test would help to ascertain that such vehicles can perform realistic manoeuvres, particularly in urban areas.

3.2.3 Option 3: To have a harmonised limit of 15 m for rigid buses, with no additional requirements

The option exists to set a maximum of 15m for rigid buses by modifying Directive 96/53/EC accordingly, with no additional requirements. Such a limit would thus permit the full range of vehicles, including 12.75 m, 13.5 m, 13.75m length etc., on any number of axles.

The advantage of this approach is that it gives manufacturers and operators free scope to design and buy vehicles without any design-restrictive constraints. This would also reflect the current position of some of the Member States at present.

However, this would be more justifiable if harmonised total and axle weights - as originally proposed by the Commission - existed throughout the Community. Since this is not the case the disadvantage of allowing unlimited design possibilities is that vehicles which by their design are legally within weight limits in one country may exceed the limits in another.

⁹ Published in Official Journal No C 38, 08.02.1994, p.3

3.2.4 *Option 4: To have a differential limit according to the number of axles*

Rather than simply set a maximum length of 15 m for passenger vehicles one option is to set a differential limit in Directive 96/53 according to the number of axles. Following this approach a logical differential would be to limit 2-axle passenger vehicles to a maximum length of 12 m, 3-axle vehicles to 13.5 m and 4-axle vehicles to 15 m.

The advantage of this approach is that it eliminates the problem of overloading - both as regards total vehicle weight limits and also the bigger problem of axle weight limits. This is an important factor both in road damage and in the safety of the vehicle since overloading has negative consequences for a vehicle's handling, especially in emergency situations.

This approach can be criticised for assuming that all 15 m designs of 3 axles are unsuitable. However, it should be viewed not as a restrictive proposal, but rather one that extended the current 12 m limit for vehicles that can be clearly shown to be "road friendly" (and, as such, is consistent with the Commission's earlier proposal to harmonise maximum weights).

A second disadvantage is that this proposal would appear to be very design restrictive with regard to 15 m buses. However, a variant could be to exclude urban buses from this requirement, thus enabling Member States to have the option to permit 3-axle urban buses of 15 m length.

3.2.5 *Option 5: To have a harmonised limit of 15 m for international traffic, with differing national rules*

This option would require amending Directive 96/53 to ensure that all buses and coaches of up to 15 m in length on international journeys would be allowed to circulate freely in the Community, whilst permitting Member States to set different rules for national traffic.

Effectively this means that all Member States would have to allow to circulate on their territory 15 m buses and coaches registered in other Member States but could set lower maximum lengths for vehicles registered on their territory. Indeed, it could be said that this option is currently practised in some Member States.

A drawback of this approach is the possible distorting effect on future cabotage operations. The existence of differing national limits will have an effect on fair and efficient competition. On the one hand, operators in countries which only allow a maximum national limit of 12 m for buses will be at a competitive disadvantage when seeking to perform cabotage operations in countries where a 15 m limit applies whilst, on the other hand, operators with 15 m vehicles will not even be permitted to operate internally in countries with a lower limit.

4. FURTHER ACTION

The Commission has produced this report detailing the possibilities - both legislative and non-legislative - that exist. It should be stressed that the options are not in all cases mutually exclusive but can be combined in different ways. Indeed, the Commission is of the opinion that, on the basis of the arguments laid down in Chapter 3, option 5, possibly together with options 2 and 4, could provide a good basis for a balanced solution taking into account the various concerns. The right of 15 m vehicles to circulate internationally would be guaranteed while at the same time standards would be set to mitigate the negative impacts of such vehicles. This approach would allow free and fair competition at the international level, whilst still permitting Member States to have lower limits for the national transport operations. In particular, this would enable Member States to retain limits of less than 15m for urban bus operations if they so wished.

However, before taking an initiative for legislation in this field the Commission thus invites the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions to submit their observations on this report.

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