Introduction
In this paper, I shall seek to examine, in succession:
- Transport growth and congestion
- The proposals by the European Commission for dealing with the problem of inadequate infrastructure
- The assessment by the IRU of the EU Commission proposals regarding the modal split for freight transport
- the case of the Alpine routes
- how to make better use of existing road infrastructures.

1. Transport Growth and Congestion

1.1 Industrial regions and distribution
As from 1 May 2004, the European Union and the economic area it represents will consist of 487 million inhabitants occupying 4.76 million square kilometres from Portugal to Poland. The outlook for demographic change has altered dramatically in view of this programmed geo-political expansion. However, the population of Europe is very unevenly distributed. The major industrial regions, contain high concentrations of population and the highest levels of urbanisation.

The IRF AIMSE study (published with the cooperation of the IRU) saw two major distribution corridors: the corridor extending from England through the Ruhr to Northern Italy, and a parallel one in the east running from Hamburg to Leipzig, Prague and Budapest. Several discontinuous corridors are also evident: for example, between Rouen and Marseilles via Paris and Lyons; between Bremen and Munich via Hanover and Nuremberg.

In the huge remaining areas, there are isolated pockets of industry and population as, for instance, in the Mediterranean Basin. This demographic and industrial landscape governs the main flow of people and goods and therefore determines major European infrastructure requirements.

Infrastructure Capacity: are the Railways a viable Alternative?

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- transport growth and congestion
- the proposals by the European Commission for dealing with the problem of inadequate infrastructure
- the assessment by the IRU of the EU Commission proposals regarding the modal split for freight transport
- the case of the Alpine routes
- how to make better use of existing road infrastructures.

It concludes by considering that, while combined road-rail transport may provide a viable alternative to pure road transport over distances exceeding 1000 kms, it will not provide a panacea to the increasing problem of road congestion.

Governments should embark on low-cost measures to facilitate road haulage which will be highly beneficial to congestion on certain road infrastructures.

They should carefully consider the respective benefits of investment on road and in rail infrastructure in increasing transport capacity to meet future demand, being aware that the huge sums planned to be introduced in the railways are unlikely to have the desired effect and that investment in road infrastructure is much more cost-effective.

If most of the congestion affects urban areas, the trans-European transport network itself suffers increasingly from chronic congestion: some 7,500 kms, i.e., 10% of the road network is affected daily by traffic jams. And 16,000 km of railways, 20% of the network, are classed as bottlenecks.

Because of such bottlenecks, there is a serious risk that Europe will lose economic competitiveness. The 2001 White Paper indicates that “The most recent study on the subject showed that the external costs of road traffic congestion alone amounted to 0.5% of Community GDP”. Traffic forecasts for the next 10 years show that, if nothing is done, road congestion will increase significantly by 2010. The costs attributable to congestion will also increase by 142% to reach EUR 80 billion a year, which is approximately 1% of Community GDP.

In the study carried out for the IRU by the Hague Consulting Group in 1998, the largest reported impediment for freight hauliers and traders in Italy and the United Kingdom was...
congestion, which accounted for about 5% of total transport time. In Poland and the Czech Republic, the non-EU countries studied, congestion was also identified as an important impediment. Similar findings for the significance of congestion to bus, coach and tour operators were also identified in Italy, the UK, the Czech Republic and Poland.

1.3 Transport Growth in an enlarged European Union
It is difficult to conceive of vigorous economic growth which can create jobs and wealth without an efficient transport system which allows full advantage to be taken of the internal market and globalised trade.

According to the White Paper, there are two key factors behind the continued growth in demand for transport. For passenger transport, the determining factor is the spectacular growth in car use. The number of cars has tripled in the last 30 years, at an increase of 3 million cars each year. Although the level of car ownership is likely to stabilise in most current member countries of the European Union, this will not be the case in the countries which will enter the Union in 2004, where car ownership is seen as a symbol of freedom. By the year 2010, says the White Paper, the enlarged Union will see its car fleet increase substantially.

As far as goods transport is concerned, growth is due to a large extent to changes in the European economy and its system of production. The European Union has moved, in the last 20 years, from a “stock” economy to a “flow” economy. This phenomenon has been emphasised by the relocation of some industries particularly for goods with high labour input which are trying to reduce production costs, even though the production site is hundreds or even thousands of kilometres away from the final assembly plant or away from users. The abolition of frontiers within the Community has resulted in the establishment of a “just-in-time” or “revolving stock” production system.

So, claims the White Paper, unless major new measures are taken by 2010 in the European Union, regions and main through routes which are already heavily congested will have to handle even more traffic. The strong economic growth expected in the candidate countries, and better links with outlying regions, will also increase transport flows.

1.4 Expected Growth in Road Freight Volumes
The White Paper predicts that, without a change in modal split, heavy goods vehicle traffic alone will increase by 2010 by nearly 50% over its 1998 level, particularly in relation to traffic to and from the 10 new Member States, which, in 1998, already exported more than twice their 1990 volumes and imported more than five times their 1990 volumes. Although the former planned economies of most of the new Member States had a transport system which encouraged rail transport, the distribution between modes has tipped sharply in favour of road transport since the 1990s. Between 1990 and 1998, road haulage increased by 19.4%, while, during the same period, rail haulage decreased by 43.5%.

1.5 Causes of Congestion and Barriers to Road Transport
The European Commission admits that saturation on major routes is partly the result of delays in completing trans-European network infrastructure, due to inadequate investment. In this respect, it concludes that “Public funding must be more selective and focus on the major projects necessary for improving the territorial cohesion of the Union as well as concentrating on investment which optimises infrastructure capacity and helps remove bottlenecks”.

Other barriers to road transport were identified in the Hague Consulting Group Study. These were identified as border delays, traffic bans, strikes/blockades and speed restrictions, contributing to traffic congestion by artificially limiting the use of existing infrastructure capacity.

Indeed, the Study concluded that congestion, including blockades, border delays and traffic bans account for a sizeable and unnecessary component of total transport expenditure.

For the five countries investigated - Italy, UK, France, Czech Republic and Poland, the Hague Consulting Group estimated a total loss of US$ 16 billion, or 0.48% of GDP, representing a potential for the increase of the contribution by road transport to GDP, in terms of wages and profits, of about 24%, were currently being lost through “avoidable” barriers.

2. Proposals by the European Commission for dealing with the Problem of Inadequate Infrastructure

2.1 Sustainable Development and Sustainable Transport
The objective of introducing sustainable development into the Community transport policy was introduced by the Treaty of Amsterdam. The Gothenburg European Council placed shifting the balance between modes of transport at the heart of the Union’s sustainable development strategy.

The Commission’s Green Paper of November 2000 claimed that energy consumption in the transport sector was to blame for 28% of emissions of CO2, the leading greenhouse gas. According to the latest estimates, claims the latest White Paper, if nothing is done to reverse the traffic growth trend, CO2 emissions from transport can be expected to increase by around 50% to reach 1,113 billion tonnes in 2010, compared with the 739 million tonnes recorded in 1990. It claims that: “Once again, road transport is the main culprit since it alone accounts for 84% of the CO2 emissions attributable to transport.

The IRU questions whether rail transport is, in fact, a more environment-friendly mode for the transport of goods. A joint IRU/BGL study, carried out in 2001, comparing combined road-rail transport on 17 major trans-European operations featuring regular combined transport services concluded that this was not always the case.

The White Paper proposes some 60 specific measures to be taken at Community level to, amongst other things, change
the modal split in favour of rail, sea and inland waterway transport, rather than tackle the barriers identified in the Hague Study - and which would require relatively low financial investment.

While the IRU agreed with the analysis of the problems and challenges set out in the White Paper, it pointed out that it basically ignored the three "i"s: innovation, incentives and infrastructures which, according to the IRU, are the basis of any effective sustainable development strategy. In particular, the White Paper neglects incentives to encourage the introduction of innovative technology and practices and fails to propose cost-effective "at-source" measures to reduce environmental impact. Moreover, it fails to recognise that road offers the best rate of return of all infrastructure investments.

2.2 Infrastructure charging
The Commission plans to establish the principles of infrastructure charging and a pricing structure for all modes of transport. Even if it is not said directly, it is supposed that infrastructure charging internalising external costs leads to a modal shift.

The IRU has always stated that the road transport sector accepts to pay for external costs involved on the condition that other modes do the same, and fixation and collection of taxes and charges is harmonised and transparent.

The IRU does not believe that changes in taxation lead to more use of combined transport. If unaccompanied combined transport met the qualitative needs of the clients, mainly regarding punctuality, it would be economically competitive over long distances.

Infrastructure charging substituting existing taxes on vehicles at the level indicated, would lead to increases in the total cost of road transportation over longer distances by up to 10%, which would have to be paid by the user, but to a very limited transfer to other modes. Higher taxes do not lead to better environment.

In any case, vehicles involved in combined transport should, as an incentive, be exempt from the infrastructure charging.

2.3 Liberalisation of rail services
According to the White Paper, the priority is to open up the rail markets, not only for international services, but also for cabotage on the national markets (to avoid trains running empty).

IRU agrees that access to the rail freight market should be liberalised as soon as possible. Railway traction of international combined transport trains was however already liberalised in 1993 with the following paragraph in Council Directive 91/440: "10.2: Railway undertakings ...shall be granted access on equitable conditions to the infrastructure in the other Member States for the purpose of operating international combined transport goods service...".

The Directive ought to have been implemented by the Member States on 1 January 1993, which was not respected in all countries. The possibility of carrying out rail traction in other countries was never used. IRU hopes that initiatives taken by some new rail operators will be supported and followed by others, leading to more reliable rail traction services for combined transport trains.

3. IRU Assessment of the Commission Proposals regarding the Modal Split

3.1 Is a change in the modal split feasible?
In the White Paper, the Commission itself recognises that "To take drastic action to shift the balance between modes - even if it were possible - could very well destabilise the whole transport system and have negative repercussions on the economies of candidate countries."

In reacting to the White Paper, the IRU depicted a fantasy scenario, in which the volume of goods moved by rail was doubled by 2010. Even in this unlikely event, road transport would still have to grow by 33% to meet expected overall demand. The White Paper assumed that road transport can grow by this order of magnitude without major additional investment in a road infrastructure that is already saturated and without sacrificing the major improvements already made in reducing emissions.

3.2 Types of rail freight transport
In its pledge for non-road transport modes, the White Paper refers to rail freight transport as a homogenous notion, at the same time referring to the need for inter-modalism.

What is called Rail Freight transport is in reality 3 completely different types of transport products:
- Transport of parcels and general cargo, where only the transport between terminals takes place by rail; this product has been given up in most European countries for lack of profitability.
- Wagon load transport of bulk goods, where loading and unloading facilities are situated close to private sidings. In most countries this transport type has stagnated following the reduced demand for transport of coal, steel, iron scrap etc. The number of private sidings has been reduced for operative costs reasons. Railway wagon load transport competes with inland waterways more than road.
- The only sector where Rail Freight has a possibility of increasing volumes and market share is combined transport.

3.3 Combined road/rail transport
IRU is concerned that a commercially thinking state or private railway will give first priority to passenger transport and too little priority to combined transport of freight. The conflict between political wishes and commercial realities is obvious.

The White Paper makes no distinction between the different road-rail combined transport techniques. As the technical characteristics and hence the costs and market acceptance differ considerably, this deficiency is important. IRU believes that more nuanced and precise expressions lead to a better understanding of the need for high quality rail traction of
combined transport trains.

Only one of the 3 different combined transport techniques used today is suited for a revitalisation. The “Rolling Highway” technique is a cost-ineffective way of using railway capacity and should only be used to overcome infrastructure bottlenecks (Alps, Channel tunnel, mountains between Dresden and Lovosice).

Unaccompanied semi-trailer or swap body combined transport solutions using existing terminal techniques or more sophisticated techniques like RoadRaider or other horizontal transhipment is the rail related product with potential for revitalisation. It is successful over distances above 1000 Km like Scandinavia – Italy, Germany – Iberian peninsula, Benelux/Germany – Poland/CIS, Benelux/Germany – Balkan peninsula/Turkey. It is also much used over distances between 500 and 1000 km, such as Germany – Italy, Benelux – Italy, domestic transport in Scandinavia, Germany, France, Italy. However, it does require good organisation by transport logistic operators as the chain is complex:

A calculation of the maximum possible extension of this type of combined transport will prove that it will only have a marginal effect on the growth rate of road transport.

At her speech to the IRU on 20 September 2001 the EU Transport Commissioner said:

“Let us try to invest more intelligently, to seek transport capacity beyond the road and set up priorities where weaknesses are in the transport system: in sorting out bottlenecks, in supporting greater use of modes which are totally under-utilised. This has to be completed by a real expansion of intermodal services – combined transport – making a better use of road and rail and also linking road and rail services with short-sea shipping.”

The members of the IRU’s Member Associations can agree to that formulation and will play an active role in its realisation. But instead of the classical notion of road versus rail it has to be recognised that more use of combined rail-road transport in reality means road transport operators subcontracting railway traction services through intermodal operators.

The road transport industry has proved that it accepts this recommendation and considers combined transport as a possible alternative to classical road transport.

The role of the railways should be limited to improving the quality of the traction service and its productivity. Community legislation on “Freight Integrators” is misguided, and such legislation will only bring confusion to transport operators wishing to use combined transport.

4. The Case of the Alpine Routes

4.1 Alpine traffic and the modal split

The crossing of the Alps is recognised as a problem of particular significance by all those concerned since the mountainous terrain constitutes a natural barrier between major European economies. Because of the nature of the terrain, it is considerably more expensive to build corresponding infrastructure and existing infrastructure is consequently more rare and is subject to more bottleneck phenomena than routes in non-mountainous areas.

Road transport increased its percentage of total goods tonnage in transit through the Alps from 22% to over 55% between 1970 and 1990 and to over 67% in 1999. Total tonnage through the Alps rose from 27.8 million tonnes to 126.5 million tonnes.

Transalpine freight transport is concentrated in a small number of corridors with different characteristics. While the freight flow over the St Gotthard shows one third moving by road and two thirds by rail, the freight flow in transit through Austria - mainly moving across the Brenner - presents just the opposite, with almost two thirds of the freight volume moving by road and one third by rail. This relatively small share for rail transport is even smaller when this trade flow is observed from an Italian and German viewpoint. Some 5 million tonnes of freight - i.e., one third of all rail-carried movements - are concentrated in the Austrian transit corridor, while the trade links in Germany and Italy shift to road transport.

When the Mt Blanc and St Gotthard road tunnels were both closed in 2001, 5-6,000 trucks per day in trans-Alpine traffic had to be rerouted. The IRU pointed out that the remaining road infrastructure would have been sufficient to compensate for their closure if the French, Italian and, above all, Austrian and Swiss authorities had facilitated traffic flows by eliminating all non-essential restrictions on truck movements on their north-south trans-Alpine routes, as requested by the IRU in the Declaration approved by its General Assembly in November 2001.

4.2 Road-rail combined transport through the Alps

Although the majority of combined freight transport in Europe relates to trade between Italy and central and western Europe, such services did not provide the solution to the closure of the St Gotthard and Mont-Blanc road tunnels since it had an additional capacity of only about 350 trucks per day through Switzerland and 90 per day through Austria.

According to the CSST report on Combined Transport, published in November 2002, combined transport between central Europe and Italy suffers from severe quality problems, most of which seem to be related to the difficulties of four railway companies and four combined transport operators from four independent countries, cooperating together. However, several combined transport terminals are already working to capacity and any endeavour to increase combined transport volume would need to be accompanied by corresponding increases in track and terminal capacity.

The capacity problems identified in the CSST report relate to the single railway track in Italy on the southermmost part of the St Gotthard axis and the severe bottleneck on the Brenner axis between Wörgl and Innsbruck. Another problem relates to the trend in Germany to increase the commuter train offer which could result in extreme
intensive use of rail track capacity. There are also problems of terminal capacity, both to the north and to the south of the Alps.

Another main problem identified by the study relates to traffic delays in combined transport between central Europe and Italy where up to 50% of all trains can be delayed for more than half an hour, mainly due to the non-availability of locomotives and locomotive drivers and the non-standardisation of information systems. These delays ruin the logistic competitively of the technique as compared with door-to-door road transport.

The report concludes that the transport volume and the market share of combined transport between central Europe and Italy can be increased, providing efficiency can be improved and infrastructure bottlenecks eliminated. Combined transport operations over a distance of more than 500-600 kms and with a high volume possess greater potential, allowing the railways to offset transhipment costs and to guarantee minimum service frequency.

4.3 Road and rail compete for financing
The elimination of bottlenecks in the rail networks requires considerable investment which may be difficult to obtain in the current climate of economic stagnation. While supporting the expansion of combined transport services providing non-discriminatory conditions of competition with road transport are upheld, the IRU is of the view that such resources should be directed first and foremost to improving road infrastructures whose flexibility has led to the significant growth of the road transport sector - both of passengers and goods - over recent years.

In particular, as far as Alpine transit is concerned, finance should be made available to upgrade existing road tunnels in accordance with the recommendations made by the Multidisciplinary Group of Experts on Safety in Tunnels of the United Nations Economic Commission for Europe and the Proposal by the European Commission for a Directive on minimum safety requirements for tunnels in the Trans-European Road Network. Both of these foresee that twin-tube tunnels should be provided on main arteries. Twin-tube tunnels reduce the risk of serious accident and facilitate traffic flow.

5. How to make Better Use of Existing Road Infrastructures
Low-cost measures to improve road traffic flows could also considerably increase infrastructure capacity and the IRU identifies these as follows.

5.1 Traffic Management Plans
The White Paper indicates that specific traffic management measures coordinated at European level can produce an overall improvement in traffic conditions on the major inter-city routes, whatever the causes of congestion. There are many road infrastructure managers in Europe who now have experience in this field and, for a number of years, the European Union has provided financial incentives to introduce such measures on international corridors. Such measures are already applied between Germany and the Netherlands and a number of tests are underway between the Benelux countries and their neighbours and at the Alpine (between France and Italy in particular) and Pyrenean crossings. By 2006, all the main trans-European links should have traffic management plans.

For heavy vehicles, claims the White Paper, precise traffic management at peak times will make it possible to offer more suitable routes, better schedules and driver assistance. This could result in capacity gains while reducing the risks of accidents and pollution.

5.2 Reducing traffic bans (weekend/holiday/night), blockades
There are a multitude of traffic restrictions on the movement of heavy goods vehicles in many countries related to certain dates, time of day, infrastructure, type of vehicle, weather conditions, goods carried, etc. Furthermore, governments are increasingly introducing divergent rules on traffic bans and restrictions, varying even by regions within the same State. International harmonisation is obviously lacking in spite of its legal justification and potential.

As far as Alpine transit is concerned, the night-time ban on heavy vehicles moving through Switzerland results in the diversion of traffic around its borders, contrary to the demands of productivity and to the principles of freedom of movement contained in the GATT agreement and resulting in the overburdening of other transit routes.

The introduction of bans is often part of a chain reaction by governments taking retaliatory measures against their neighbours who have introduced similar restrictions. Thus, many restrictive measures are introduced without any special reason. Derogations are frequent and often arbitrary and may lead to discrimination.

The length of journeys is thereby artificially increased in time and distance. The consequences in terms of congestion at times when the bans do not apply are serious and will become more so in the future with the projected increases in traffic levels.

The IRU has called upon the European Union authorities at least to harmonise such traffic restrictions, but to no avail.

In reply to a question put to her at the meeting of the IRU General Assembly in Brussels on 24 April 2003, Mrs Loyola de Palacio said that with regard to the reduction, or at least the harmonisation of weekend movements of heavy vehicles, there was no majority within the Council and no change was expected.

Congestion similarly occurs in connection with the blockade of roads which has become all too common in many countries and is considered a highly efficient tool of social protest. The IRU has again appealed to Governments to take harmonised action, using appropriate socio-economic measures, to prevent blockades from occurring. If they do occur, despite all, an efficient information system should be
put in place by the competent authorities assisted by trade associations to mitigate congestion and improve road infrastructure use.

5.3 Improving border procedures
The report on Road Transport Transit, Trade and Tourism Facilitation, approved by the IRU Goods Transport Council in November 2002, stressed that a proper balance must be achieved between Customs and other controls and the flexibility needed for transport operators, whereby both physical controls and controls based on proper risk analyses should be performed. As a means of reducing bottlenecks and congestion at borders, there are considerable possibilities for shifting some of the controls currently performed at borders to inland departure and destination offices.

Divergent procedures in performing border controls are a major source of border congestion. They concern drivers, passengers, vehicles, the transport operation itself and the goods, as well as the corresponding documentation.

The ratification and enforcement of the International Convention on the Harmonisation of Frontier Controls of Goods, of 21 October 1982, prepared under the auspices of the United Nations Economic Commission for Europe, could help to overcome some of the recurrent problems faced by operators at borders. Regrettably, so far the Convention has been adhered to by a very limited number of States.

The IRU is in favour of promoting the harmonisation, simplification and acceleration of border-crossing procedures, including mutual acceptance of vehicle weight measurement protocols and the introduction of an international technical inspection certificate. In addition, the IRU recommends the development of cooperation between national control services on either side of borders, introducing “one-stop” technology, benchmarking and extensive use of risk analysis techniques. It is also vital to improve training of border personnel and transport operators regarding the use of transport and Customs documentation.

5.4 Increasing the weights and dimensions of vehicles
It is obvious that an increase in the weights and dimensions of road vehicles would make it possible to carry the same quantity of goods in a smaller number of vehicles, thus reducing their contribution to congestion.

44 tonnes intermodal transport
One example of a useful contribution in this respect would be for the European Union to permit exceeding the 40 tonnes max. authorised vehicle weight for vehicle combinations used in combined transport up to 44 tonnes for all types of combined transport.

In the European Directive, it is restricted to the carriage of 40-foot ISO containers in combined transport operations. However, the 44 tonnes max. weight is valid for all types of combined transport (20-foot containers, tank containers, semi trailers, swap bodies and rolling highway) in many EU countries, such as Belgium, Denmark, Finland, Italy, Luxembourg, Netherlands, Sweden, UK Germany and France.

IRU’s Group of Experts on Combined Transport confirms that this issue is of great importance for further development of combined transport to countries like Spain and Portugal, Switzerland, Austria and non-EU countries.

Initiatives - also from the EU Commission - in this respect have failed. With reference to the EU Commission White Paper, the issue ought to be taken up again.

Modular concept
Finally, according to Directive 96/53, art. 4, point 4.b) the discussion about modular concept has to be re-opened before end 2003. The EU Council minutes from 1996 contained the following remark:

“...The Council calls upon the Commission to submit as soon as possible a report on the implications of the derogation provided for in Article 4(4)(b) of this Directive, to enable it to assess whether its possible use by Member States other than Finland and Sweden would be justified and could significantly affect international competition in the transport sector, bearing in mind also the principles of harmonisation and stabilisation of the dimensions of road vehicles for the transport of goods...”

Mr Lundström will address this issue.

5.5 Shifting individual transport to collective transport
A major contribution to relieving traffic congestion could be made by transferring individual transport by private car to collective transport by bus and coach.

Coaches help to relieve traffic congestion because, in one coach, it is possible to carry 35 to 40 times the average number of persons travelling by car.

As far as tourism is concerned, this transport mode should be encouraged by the authorities, instead of which, a growing number of cities have already taken or are planning to take unilateral measures to restrict coach access to their centres.

6. Conclusions
In general terms, while combined road-rail transport may provide a viable alternative to pure road transport over distances exceeding 1000 kms, it will not provide a panacea to the increasing problem of road congestion. Governments should embark on low-cost measures to facilitate road haulage which will be highly beneficial to congestion on certain road infrastructures.

They should carefully consider the respective benefits of investment on road and in rail infrastructure in increasing transport capacity to meet future demand, being aware that the huge sums planned to be introduced in the railways are unlikely to have the desired effect and that investment in road infrastructure is much more cost-effective.
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