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Conference Proceedings:

European conference “Towards more sustainable freight transport”
5 December 2000, Paris

Organised by T&E European Federation for Transport and Environment
and
FNE France Nature Environnement

By Markus Liechti

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Contents

1. Introduction

These proceedings reflect the content of a conference (agenda: see Annex 1) of experts held in December 2000, hosted jointly by the European Federation for Transport and Environment (T&E) and France Nature Environnement (FNE). The conclusions set out here reflect participants' discussions on how to achieve sustainable freight transport in Europe, and map a way forward to that goal.

'Towards more sustainable freight transport' was held within the framework of T&E's project 'Freight: From Road to Rail'. This is a three-year fact-finding and awareness-raising project on developments in freight transport over the past 30 years. During this period, the railways have continually lost not only market share but also transport volume, while overall transport has increased by a factor of three and road freight transport has become the dominant transport mode. At the same time, the negative impacts of this development have become obvious and political opinion has started to favour more freight transport by rail. However, this has not yet happened.

The conference was held in Paris, with half of the presentations by representatives from French and half from European organisations. It was in French and English, with simultaneous translation into the other language. Matthias Zimmermann, president of T&E, and Christian Garnier, administrator of FNE, acted as co-chairs.

The project "Freight: From Road to Rail" is supported by the Swiss transport ministry, the Catalonian and Basque regional governments, the Swedish rail-infrastructure authority 'Banverket' and several Swiss NGOs. The conference was only possible with their financial support.

'Towards more sustainable freight transport' is an important issue nowadays; particularly bearing in mind the results of the TERM[1] study from the European Environment Agency (EEA) 'Are we moving in the right direction?' This shows that the transport sector, and particularly the freight sector, is still moving away from sustainability goals in many areas, and thus from sustainability.

It is also an important issue with regard to the fuel protests in the autumn of 2000, which showed the vulnerability of an economy which depends so much on one transport mode. Finally, after the disappointing result of the climate change conference at The Hague in November 2000, every effort made towards a more sustainable transport system is more important than ever.

However, making the freight transport system more sustainable is also complex and challenging, as there are different aspects which must be considered. Sustainability itself is not a simple concept, including as it does the three pillars of economic, social and environmental sustainability. Furthermore, sustainable freight transport depends on all transport modes: no mode can be exempted from the discussion. Every transport mode is necessary to keep the current economy running, every transport mode has its strengths and weaknesses and thus every transport mode must contribute to make the whole transport system more sustainable.

[1] TERM is the Transport and Environment Reporting Mechanism.

It was neither the ambition nor the objective of the conference to cover all aspects related with the complex issue of moving towards more sustainable freight transport. Instead, it concentrated on the rail and road modes. The objective was to show the environmental problems of freight transport, the lack of a level playing field between the two modes, and how a level playing field should be designed and achieved to increase the competitiveness of the rail mode.

Participants were professionals drawn from across the European spectrum – not only the EU – representing transport and environment NGOs, governments and some industries (participants list: see Annex 2).

FNE coordinator, Christian Garnier, gave the opening address. The first part of the conference dealt with transport's general environmental impact, with a particular focus on the railways; including how they intend to improve their environmental performance.

The second part covered the rail mode in more detail, with discussion on political and legal measures to be taken, and the importance of quality in rail freight services.

The third part moved towards road freight transport. Issues included road user charges for heavy goods vehicles; labour regulations; and road safety, related to problem of the transport of dangerous goods.

The final section of the conference summarised the discussion and presented conclusions.

The following proceedings are a summary of the presentations given by the speakers, based on their oral or written contributions.

Markus Liechti, T&E Project Manager
Brussels, December 2000

2. Opening Address

Christian Garnier
Coordinator
France Nature Environnement

This conference follows former FNE actions which consider transport's substantial impact; for example, the 1988 congress in Châlon and the FNE campaign, "For a different European Transport Policy," which was launched in 1990 and run together with the European Environment Bureau and the National Federation of Transport Users.

The conference takes place without representatives from the Ministry of Transport, who were expected to give an account of the French Presidency and some insights as to the way to be followed in the foreseeable future.

French NGOs have been working more closely with T&E. They joined the petition on the heavy goods vehicles taxation [which the European Parliament adopted at the end of 2000] and started the campaign "Less highways, more railways".

From an international perspective, this conference takes place in the context of economic growth, a boom in international exchange, and the failure of the recent Hague conference.

The European context seems to be more favourable than it was a couple of years ago. Packages on railways and greater maritime safety have been adopted. The recently published Green Paper on energy supply talks about the need for greater energy sector independence, and covers the transport sector as well.

Other important issues regarding European transport policy are related to the social harmonisation of transport sector working conditions, and the enlargement of the European Union and its impact on traffic flows and volumes.

The French context is marked by changing public opinion on the role of cars in every day life. The new urban transport plan envisages a reduction of car traffic in urban areas. In sensitive areas as the Alps and the Pyrenees, problems with goods transport are growing and require that stronger account be taken of people's unhappiness at the rapidly increasing number of heavy trucks on the roads.

The French "Land Management" law requires collective transport service schemes: France will have the National Scheme until May 2001. FNE is helping to change the approach; from infrastructure supply towards demand management "according to the need" for services. This is in itself a complete change of perspective.

The objective is the doubling of railway's share in the transport of goods; within the scope of planned contracts for the regions in the period 2000-2006. This actually represents only a preservation of rail's modal share. It is a good objective in the light of the diminishing of the role of rail, but is in itself a difficult target.

The abolition of the “Intervention Fund for Land and Water Transport,” as well as the reform of France's Motorway Financing worry all French NGOs. There is general agreement that France has missed an historical chance to reform its transport infrastructure financing, which threatens the real application of an intermodal approach.

3. Transport and the environment

3.1 Environmental impacts of the transport sector

Frazer Goodwin
Policy Officer
European Federation for Transport and Environment

We must be aware of a big range of environmental impacts of the transport system, when we talk about ways of reducing these impacts on society and the environment, and making the transport system more sustainable. The TERM Report 'Are we moving in the right direction?' issued by the European Environment Agency in May 2000 shows that these impacts still exist, and in many cases continue to increase.

The environmental challenges we are faced with concern not only the natural environment but also the human environment, as they affect human health directly. We have problems of air pollution, habitat loss, deforestation, extinction, waste streams, toxics and of course climate change. Some of these problems are related, as habitat loss and deforestation leads to extinction, or air pollution to climate change.

Society has environmental challenges, but we have also to satisfy our needs. We all have aspirations which we must meet without compromising the planet's ability to regenerate. However, we must not serve our aspirations but rather the real needs of society, such as providing enough food to avoid starvation.

Transport has direct human impacts but also natural impacts, which indirectly affect human health. The reason why we have so many impacts is that transport policy has aimed to mitigate the problems rather than trying to remove the origin of the problem itself, i.e. by changing transport patterns.

So far little mitigation has been done with regard to noise. We are just realising how serious this problem is, how many people are suffering from noise, basically from road transport but also from aviation around airports. However, noise is also an important problem of the rail mode, especially rail freight transport.

Accidents are a very obvious impact which transport has on human health. The vast majority of accidents occur within the road mode. Developments over the past 30 years show a sharp decrease in fatalities. However, on every year more then 40,000 people lose their lives in road accidents. If a terrorist group were wiping out that many people we would certainly accept an enormous curb on our civil liberties in order to stop the problem; but we don't accept the serious enforcement of speed limits on our roads.

A lot of political effort has been made with regard to air pollution. A new car today is much cleaner than old cars. But we are still using the old ones and vehicle use has increased dramatically over the past. Therefore, in many areas people suffer from a increased level of local air pollution. Despite the amount we have done we are still not doing enough; and we are still living in a environment which is dangerous for our health.

It is not just road transport that contributes to local air pollution: there are other sources such as non-transport and other transport modes; but the most important source is road transport. Despite the fact that emission standards have been passed, road transport has seen only a small decrease in NOx[2].

Therefore, it is not the case that you can simply look to one transport mode which is polluting, and to others which are not. All modes of transport have to ensure that they do the most they can, rather then to look how much better they are than other transport modes.

One of the most serious challenges we are faced with, if we are going to make sure that our economies actually serve our needs in the long term, is climate change. Transport is the branch of the economy which contributes more than any other to climate change; and it is still increasing while other branches are declining or stabilising their contributions.

Car makers, again, will say that they are doing what they can. For example, the voluntary agreement between car makers and the EU is predicted to result in a stabilisation of CO_2 emissions after 2005. However, the Kyoto target is not to stabilise emissions at 2005 levels, but to reduce it by 8% compared to 1990. We need to do much more than we are currently, and not just think about mitigating around the edges: we need to fundamentally change what is causing transport.

Another impact of transport is habitat loss and habitat fragmentation. We have many cases where there are sites with important ecological value in the surroundings of transport infrastructure. Across the modes it is fairly evenly shared and rail is not performing very well. It must be an important issue for rail to carefully examine where new infrastructure will be build and who it mitigates against fragmentation effects.

The fundamental driver in our transport problems is the ongoing increase in demand and therefore transport volume, and an ongoing modal shift towards road and air modes. The projections show a future which is worse than our current performance. What we need is a decoupling of the transport sector with economic growth; we need do more for less in the transport sector.

[2] Oxides of Nitrogen. Another important source of NOx is shipping. For example, ships emit as much NOx annually in the Mediterranean as is emitted on land in the whole of France.

3.2 Rail transport and sustainable development : What are the railways doing to reduce their environmental impacts?

Luc Aliadière SNCF
Associate Director, Environment
French National Railways[3]

Intermodality is currently the major topic for the transport sector, in both freight and passenger transport. We need the intelligent combination of different modes in a way which does not bring them into opposition with each other. We need also to change our mentality, to stop defending only our own infrastructures. The railways are by no means flawless. SNCF has not owned its infrastructure for the last four years and consequently has a new role to play.

Bearing in mind the present-day role of transport in industry and politics, we wonder whether SNCF's new role is not just a marginal one, given the low costs of the dominant road transport mode.

With regard to sustainable development, we have to stress the existing dynamics within France's railway system. Paradoxically, passenger rail transport is most stressed, even though the railway accounts for just 9% of all passenger transport in France. On the other hand railway freight has a quarter of the goods transport market.

Rail passenger transport faces the difficulty of changing passengers' habits, despite the obvious environmental advantages of rail travel. Selling the railways as a good thing is difficult: it is an obsolete argument and no longer changes behaviour.

The fact that railways have advantages should not take away from the need to address the railways' existing negative image. People employed in the railway sector should be conscious of this and should work on existing deficiencies. Railways need to be excellent, not just good.

It seems that we need a sort of educational approach to make railway personnel aware of environmental problems and think of how to handle them. SNCF has started work in the field of environmental management within different units. In fact, railways face two kinds of environmental problems; namely noise and air pollution.

There are excessive levels of noise around the big freight terminals which are now located within urban areas (although they were outside urban areas when they were originally built). Noise pollution should unquestionably be abated, but there is a lot of subjectivity in noise perception, so it is difficult to judge where the greatest problems lie. It is necessary to draw up noise maps to increase the objectivity of the process, so as to locate the most pressing needs and take specific, pragmatic measures.

It is possible to diminish noise through different technical measures with infrastructure and rolling stock. In terms of infrastructure, the surface needs to be very smooth. As to rolling stock, the brake-systems need to be modified – which will

[3] SNCF: Societé nationale des chemins de fer

be possible within 10 years for goods carriages. It is thus possible to reduce the noise level by 3 to 5 decibels, though the expected doubling of traffic will raise it by 3 decibels. In general, therefore, it is possible to double the traffic level while lowering – at least slightly – the noise pollution level.

It is not enough to have a better system of brakes for the carriages: rubber noise absorbers, anti-noise walls and better front neighbouring walls would all contribute. Both these groups of measures cost 4 to 5 billion FF in equal parts (half for infrastructure half for rolling stock).

The other problem is air pollution. It is likely to rise, in view of the fact that freight transport will double over the next 10 years. New freight routes, presently less used, need to be promoted. This secondary railway system is not thoroughly electrified, nor will it be in the coming years; so diesel locomotives will have to be used. Existing diesel machines should be improved and new, less polluting diesel locomotives bought.

These are expensive measures, but this is how to increase environmental quality. The added value which would accrue from these investments should also be considered, even though it is not easy to fix a price on a kilogram of CO_2 or a human life.

4. How to improve the railway system

4.1 CSSPF proposal to develop rail freight transport in France and in Europe

Philippe Domergue
Chargé de Mission
Conseil Supérieur du Service Public Ferroviaire (CSSPF)

Presentation of CSSPF

The “Conseil Supérieur du Service Public Ferroviaire” (CSSPF) was founded in 1999 as an element of the reform initiated by Minister Jean-Claude Gayssot. Its principal task is to assess the railway transport reform. The Council will present its report in November 2001 to the Prime Minister, the National Assembly and the Senate on the results of this reform.

Another task of the Council is ensuring the integrity of the development of the railway system in France. The Council consists of 37 members and is quite particular, with no counterpart anywhere else in Europe. It has 10 elected members, including members of the National Assembly, senators, regional councillors and one mayor. The presidents of SNCF and RFF, and different ministries, also participate in the Council. Trade unions, passengers and shippers are also represented.

This Council is a fruitful place for public debate. It has nine working groups and has so far adopted four positions on different topics.

Position on the European "Railway package"

In October 2000 the CSSPF adopted a position on the European "railway package". It points to four specific characteristics of railways’ activity:

1. Activity with low profitability. This is a distinguishing feature from other activities and enterprises functioning in a network.
2. Networks and integrated services. The exploitation of railway networks requires integrated services. There are a lot of differences between an electron circulating over electric networks and a client circulating over a rail network.
3. Security is a permanent imperative. Security is a technical requirement, a commercial imperative for the clients and a permanent collective requirement.
4. Lack of harmonisation between the different modes of transport in social, environmental and economic aspects. The market between the different modes of transport is not perfect, which makes an "up to extreme" liberalisation of the railways system inefficient.

The CSSPF required that the most extreme amendments of the Parliament be rejected, and that there would be a five year moratorium period. This is intended to allow an account of the reforms that started in 1991 and should also be a period of strengthening and reinforcing the railway sector.

Apart from that, it should be used to harmonise the different modes of transport. Social harmonisation, for instance, always affects one single mode of transport and represents intra-modal, rather than inter-modal, harmonisation. Finally, it should be used to establish the Trans European Rail Freight Network and ban all bottlenecks.

To sum up, this period has to be marked by a sort of a Marshall plan, combating the delay in terms of railway infrastructure.

Position on railway freight development

The position on railway freight development was adopted by the CSSPF in July 2000. Rail freight development is a social issue as regards environment protection, safety, land use management, development of exchanges, improvement of social conditions and free access to a less polluting and more secure mode of transport.

This position makes 34 recommendations in total to different institutions such as the state, SNCF, RFF, territorial communities and the European Union. Even though these are separate recommendations, CSSPF insists that their overall coherence must be respected.

CSSPF has some fears on contract plans, which in France do not entirely concern the railway sector. These plans should give absolute priority to rail infrastructure.

As to the need for a re-equilibrium between the road and the rail, it is evident that rail services need to be improved. It is no longer acceptable for shippers to have lower quality services, as is presently the case. Finally, combined transport should be given pre-eminence in the question of goods transport.

4.2 How can liberalisation of rail freight transport contribute to increase rail transport's market share in Europe and improve the environment?

Markus Liechti
Project Manager
European Federation for Transport and Environment

Liberalisation has an important place within the European Union's economy, which is based on the principle of free movement of people, goods, services and capital. These four freedoms are the pillars of the internal market, which abolishes borders and removes institutional obstacles within the European Union. These principles do not allow for any discrimination on the basis of the nationality of any person or company based within the European Union, with regard to any economic activity in any Member State.

The common market is gaining an increasingly important role over time. It is successively applied in all parts of the economy. Many previously protected industries, which were run by big national monopolies, have been liberalised and

competition has been introduced to such sectors as energy supply or telecommunication. The transport sector has not been exempt from this development either. In the road freight sector for example, it is possible to run services throughout Europe without any national borders and institutional barriers.

However, one exception still exists: the rail sector. Here, although some liberalisation has already taken place, the situation has not changed fundamentally. Traditionally, the rail sector is a nationally-oriented business with a strong and dominant rail-organisation in each country. This national orientation has created many technical barriers in the past; for example different widths of gauges or electricity. It also creates institutional barriers, which are focused by liberalisation.

The national orientation of railways and the lack of an internal market have two major impacts on rail freight, compared to other freight transport.

Firstly, there is no level playing field between transport modes. Rail freight operators must overcome institutional obstacles and barriers. Therefore, they are confronted with higher costs in international transport than their competitors in other transport modes, who can offer door-to-door services throughout Europe.

The second impact is internal to the railways, but is nevertheless even bigger. The national orientation and protection has limited railways' perspectives to their own domestic market. Consequently, there has been no intra-modal competition within or across national borders, and little or no incentive for improving services in international rail freight transport. These additional obstacles and barriers are a major disadvantage for long distance rail freight transport, a market where railways in fact should have competitive advantages compared to the road sector.

The performance of rail freight over the last 30 year is rather disappointing. In a strongly growing market, transported volume on rail has stagnated or even fallen slightly. One of the reasons is that the freight market has become increasingly international and – for the reasons just described – the railways have not been competitive enough to respond to the flexibility of international road transport. Obviously, institutional factors have not been alone in creating an unlevelled playing field between transport modes; but they have certainly contributed to the situation.

Several attempts have been made in the past to liberalise the rail sector and create a framework which ensures the principle of the internal market within the rail sector as well. In 1991, i.e. 10 years ago, Directive 91/440 on revitalising the railways of the Union included the principle of non-discriminating access to rail infrastructure. In 1995, two other directives were approved on the licensing of railways undertakings and on the allocation and charging for of the use of rail infrastructure. In 1996, a white paper on the revitalisation of the railways was issued. All these documents advocated a liberalisation of the rail sector, with the clear objective of improving rail services and stopping the permanent loss of the rail market.

On 22 November 2000, the Transport Council and the European Parliament agreed on the so-called 'rail package,' which includes the amendment or replacement of the 1991 and 1995 directives. The main results of the rail package are:

- Access rights for licensed rail operators must be given to routes on the defined Trans-European Rail Freight Network as a priority. Within 7 years of the Directive entering into force, access rights must be given to the entire rail network for international rail freight transport.

- Separating essential functions related with the allocation of rail infrastructure from operating rail services must ensure non-discrimination of railways undertakings.

- Every country has to establish an independent rail regulator. This institution must ensure non-discrimination against railway undertakings.

- The use of the rail infrastructure should be charged. The long-term objective is full cost recovery. However, the intermodal situation regarding transport infrastructure charging must be taken into account and infrastructure charges must not become an obstacle to developing advanced rail services as combined transport.

- Existing safety quality must be maintained or even improved. Safety rules must be set by independent bodies.

This agreement, which was achieved through the conciliation procedure between Council and Parliament; is an important step towards a liberalised rail sector, giving incentives to create a competitive rail freight system by improving the quality of rail freight services. The crucial point is to ensure the non-discrimination of railways undertakings. As the new directives do not ask for a complete separation of railway undertakings and the infrastructure manager, there is the potential that the existing, dominant railway organisation will try to discriminate against potential competitors through rail infrastructure charges, and prevent them from entering the market. The separation of the crucial functions to allocate rail infrastructure must be implemented immediately and to its full extent. The rail regulator plays an important role in such a framework.

Another restriction from the package is the limitation to the so-called Trans-European Rail Freight Network for the next seven years, which covers those freight links which are presently most used. Nevertheless it also restricts the infrastructure manager in allocating the network in the most efficient way.

The most important steps, and the most important obstacles, in the near future consist in transposing the directives to national law and the implementation of this liberalised rail freight approach. This has to be done as soon as possible, as effectively as possible, so as to void losing more time for the rail freight sector.

As important as the liberalisation of the rail freight sector is, liberalisation is not an objective in itself. The real objective must be that railways become a more competitive transport mode and that the whole transport system becomes more sustainable. The implementation of rail freight liberalisation must bear these objectives in mind. Our conclusions with regard to the liberalisation of the rail freight sector can be summarised as follows:

- Political responsibility will continue under a liberalised regime

- Liberalisation means neither automatic privatisation nor deregulation. In fact, a liberalised market needs to have a strong regulated framework in which to operate.

- The provision of public services is still possible. This is presently more important in passenger transport, but could also be applied in rail freight transport.

- The lack of liberalisation in rail freight is only one of the barriers this sector is confronted with and only one reason that the playing field between transport modes is not level. Other barriers – such as technological or different legal requirements with regard to safety or labour regulations – exist and must be removed as well.

- Liberalisation is therefore only one instrument among others. Only the implementation a package of instruments can be successful in achieving the goal of a more competitive rail freight sector and a more sustainable transport system.

- However, the existence of other obstacles is not an argument against liberalisation. Liberalisation is certainly a necessary, but not a sufficient, step to achieve a competitive rail freight system.

4.3 Point of view of the combined transport operators on the perspective of modal shift

Jean Claude Berthod
President
Novatrans

Novatrans is a combined transport company which was founded in 1955 by road operators. Novatrans is 60%-owned by road operators and 40% by SNCF. The social purpose of Novatrans is to promote combined transport.

Novatrans buys trains from SNCF and sells its transport capacity to the road carriers, which in fact are its sole customers. National traffic accounts for 50% and international traffic for 50% of business. Novatrans has 360 employees and in the year 2000 it transported some 420 000 units.

A permanent decline of railway transport has been observed since the 1970s in Europe. It is a serious phenomenon and it is all the more difficult to reverse the tendencies, given that it dates so far back.

A survey on customers' motivation for modal choice, conducted in Europe, U.S. and Japan, shows that the three main criteria are price, quality and flexibility. Price in

itself is not the real problem. This means that charging heavy goods vehicles is an instrument to finance railway infrastructures, but not to influence modal shift.

The rail sector has lost market share over the last years partly due to the nature of the goods transported. There are now more value-added products and fewer bulk products. This means that the market has been (and continues to be) developed in a way which is unfavourable for the railways. New market requirements – speed, safety and flexibility – favour the road. Then there is the bottleneck problem in the Paris and Lyon areas, and across the Alps and the Pyrenees. There is also the problem with Spanish railways' using a different gauge-width.

In addition, there has been a shortage of railway personnel and locomotives for years. This has become dramatic, as 10% of trains are disabled for lack of personnel or locomotives. These trains, which do not move, are not even covered by statistics for delayed trains, as trains which do not move can also obviously not be delayed.

The strikes at SNCF represent another reliability problem for combined transport. Still, SNCF functions pretty well and does not deserve to be blamed. And in the case of international transport there is the problem of interoperability. In short, the quality of the services is average; nevertheless combined transport trains have a better performance than conventional freight trains, with an average speed of 80 km/h.

Given the circumstances and conditions, is it possible that combined transport can be tripled over the next ten years? The professional context appears very positive. Road operators are very much in favour of combined transport because they are the victims of their own success, i.e. the increase in congestion. It is worth noting that road operators have concluded an agreement with SNCF in which they undertake to guarantee a growth of 'only' 20% across certain road links in exchange for a guarantee from SNCF for 95% timetable reliability.

SNCF has only been favourable towards combined transport for a dozen years. Before that, there was the fear that combined transport would threaten conventional rail freight transport. The RFF is also favourable towards combined transport, and decided to finance removing the bottlenecks. And on the political side, both the European Union and the French Government are in favour.

In order to assess the possibility of tripling combined transport, we should also analyse what has happened during the last ten years. Novatrans's traffic volume has grown by 61% and UIRR's by 54%. Thus, in the absence of economic growth, and without special political support, the volume of traffic grew considerably. Its doubling during the next ten years is completely possible.

Provided the will of the partners is strong, and that rail services are improved, why shouldn't we also consider a possible tripling of combined transport within the next ten years.

4.4 Improving the quality of rail freight to encourage modal shift. Good practice in railway freight services

Lucas van Hasselt
Senior Policy Advisor
Community of European Railways

Railways must provide the quality the market seeks, if we are to achieve a modal shift towards the more environmentally sound railway mode. Quality can be loosely defined as providing the service the customer wants. If we are a bit more specific, we can list four elements which comprise quality in rail freight transport. We talk about punctuality, information to clients on where the cargo is at any given time. We talk about the safe arrival of goods and we talk about client service which makes life easy for the client. That is to say, quality is what the customer wants as quality.

There are many complaints about the quality rail freight operators deliver, but before anything else, a number of misconceptions have to be put straight!

Often the comment is made that rail freight travels at an average speed of 16 km/h. This figure is often quoted, and makes for easy laughter; but actually no one knows where it comes from and what it is based on. Anyway, the remark is silly, as one can not talk about a general speed. Some transport needs speed, some doesn't – empty trains certainly do not. To add all this together and talk about an average speed does not serve any goal!

Another thing I'd like to point out is that rail freight is not as bad as is often claimed. A recent study showed that people in transport businesses who use rail feel they have far less to complain about than those who do not have any experience with rail!

One reason for the negative perception can be found in the average comprehension of the rail freight market; about what railways can deliver.

Rail is good at transporting heavy bulk goods, at transporting over long distances. We are good at transports which are relatively fixed and we are good in transporting large quantities. Certainly there are a few other market segments where we can deliver, but they are limited. Meanwhile the market in general is changing, away from heavy bulk goods, long distances and large loads. This has meant that our market share has grown smaller – a trend that might continue.

Moreover, railways are companies. And more than ever, these companies have to make profits. Railways will only carry goods if it is profitable business in the long run!

However bad our image is, when I look at the growth of our transport, that also seems to tell a less negative story. We have grown in absolute figures. SNCF and DB recorded growth of 9,5% and 16,2% respectively during the first half of [2000]. These kind of figures are reported also from other CER members. It may sound odd, but actually it is particularly the fast growth over the past 10 years that led to bottlenecks in production which has meant a fall in quality.

The fact that rail's market share has decreased does not mean that rail freight will dwindle out of existence. As I said before, the market is changing and requires relatively less transport in areas where railways are traditionally strong. But we are growing in absolute figures and we carry 230 billion tonne/km per year in the EU.

A further point is that rail liberalisation is often said to solve all problems, including insufficient quality. CER is not against liberalisation, but is of the opinion that liberalisation does not automatically lead to quality improvement of the system. Liberalisation will not in itself solve the quality problems discussed below. It is very much open to debate whether liberalised rail freight systems encourage quality improvements.

As a last point, railways are often seen as slow to act. CER had a meeting with Members of DG TREN [Transport and Energy] a few months ago where the railway community presented its international quality actions. They were impressed by our actions and wondered why we do not communicate them. There is more than meets the eye: CER is grateful to have the possibility to talk about quality now and here.

CER members are well aware that the quality delivered is frequently insufficient and we know that our quality must improve to live up to an ever more demanding market. However, the picture is less bleak than often appears. Some kinds of transport are doing well; others – combined transport in particular – give us serious headaches.

Generally speaking, railway operators have made big strides forward in quality at a national level. A number of railways have gained ISO certification for national transport, or introduced similar quality management systems. Also, reimbursing clients when punctuality is insufficient is gradually being introduced.

Building a quality management system might sound easy; so many other companies have ISO certification. However, it took the German Railways two years to build a quality management system for its national traffic. Obviously the more complex a company's activities, the more complex a quality management system will be.

A quality management system means implementing a framework where everyone knows what her/his role in the production process is, and in which everyone knows what responsibilities to live up to. It might require the total overhaul of the way a company's operations are managed, how its performance is measured and how communication channels are organised. Moreover, to be useful, it must contain the entire logistic chain – which includes rail's clients to some extent.

A major element of a quality management system is making clear who is responsible for what. In international traffic, exactly this has been our Achilles' heel.

And that is where rail's major challenge lies: at the quality level of international traffic. One can imagine that a Europe-wide system is very complex indeed. A European system stretches across a number of railways and in some cases individual infrastructure managers. Who is responsible for what?

Liberalisation can actually increase this complexity. Railways are increasingly in competition with each other, which makes the operational reality on the work floor

into “us and them” – we are no longer the one family. To ensure that this does not have negative effects on quality it more important than ever to make sure that the points where we must co-operate are well worked and organised. This is at border crossings. And responsibility must be particularly clearly allocated here.

As a railway community, the UIC in particular, we therefore started a number of ongoing quality management projects which address cross border transport. These tackle the different quality problems of a particular transport. But that is not the most important element. The projects lead to best practice and quality manuals which can be implemented in other places. Our border crossing manual is a good example of this. The projects create a common language with which we can talk quality across borders! The most important best practice to my mind is the way responsibility is clearly attributed.

We must now ensure that we arrive from project basis to a Europe-wide quality management system. To achieve this we will keep doing projects of international scope, based on the ISO 9000 quality management system. Through best practice and a gradually increasing number of projects the railways are moving to a coherent quality management system. We are slowly growing towards a clear responsibility allocation, supported by a common quality language.

Regretfully, a common quality management system is not all that we need to improve our quality. We need more means of production: we need more locomotives and personnel. Mainly due to the strong continuing increase in traffic we find ourselves with a substantial shortage of those. I am sure you are aware that hundreds of locomotives have been ordered – 120 in France alone – which is gradually easing the strain. Investment in a tracking and tracing system are being done, to be better able to inform our clients and allow for better last minute solutions.

It is easily said that the railways should have made these investments earlier. But first of all political pressure has directed investments towards passenger transport for decades. And secondly, nobody predicted the enormous economic growth we have witnessed. And it takes 18 months before a new locomotive is operational and new drivers have been trained.

Rail infrastructure capacity is another issue which strongly influences our punctuality. The massive upgrading of the infrastructure which is taking place in a number of countries causes havoc. The issue of priority of passenger trains versus freight trains is a difficult topic: it requires political decisions. Urgently needed investments in new infrastructure and investments to optimise the use of existing capacity are only a part of the answer.

A third point that must be discussed in relation to quality of rail freight are the actions which others must do. These are policy measures which are necessary to allow rail to play its optimal role and to encourage modal shift towards the environmentally less damaging form of transport.

Above all, I refer to the external cost discussion which appears to be leading nowhere. However, in the long run the allocation of true transport costs is essential to ensure a lasting modal shift. I do think that, in your company, I do not need to

explain why it is simply wrong that rail is not rewarded for the fact that it is only 20% as polluting as the road!

CER feels that the Eurovignette is not truly helping towards a modal shift; it is merely seen as an extra tax. We believe we should work hard towards a system where the lorry pays according to its pollution and damage to the infrastructure, based on its actual weight and kilometres travelled. That would help the modal shift as it is a first step towards the attribution of external cost.

Concluding, there are enormous challenges to be addressed to ensure that rail can play its role to the full. We are talking of a combination of measures: of infrastructure investments; of political decisions on priority and external costs; of investments in rolling stock and personnel; and not least to improve the quality of our product. This is work for hundreds of thousands of people, on the abstract political level and on the daily operational level.

5. Introducing fairer conditions in road freight transport

5.1 Swiss Heavy Vehicle Fee : Good example for kilometre charging implementation

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General notes

During the 1970s, a Global Conception for Transport in Switzerland (GCTS) was produced by a commission of experts. The main idea was to achieve better harmonisation of the different transport modes. One of the results of this research was the proposal to introduce a heavy vehicle fee. Even a fee related to transport volumes has been suggested by the government. For diverse reasons, one of which was undoubtedly the lack of adequate technical equipment, Parliament decided to just introduce a flat fee, which took place in 1985. Even at that time, though, the intention was to introduce a fee with respect to transport volume (distance and weight) at a later date.

Ten years later, in 1994, the Swiss people accepted the constitutional basis for the introduction of such a fee. Finally, on September 27 1998, the people and the cantons approved by referendum a law on a distance related heavy vehicle fee. The RPLP follows the user- or polluter pays principle (those who travel more, pay more).

Apart from meeting the costs for infrastructure, heavy vehicle traffic would have to cover social costs (accidents, air pollution, noise pollution etc.). The RPLP also contributes to financing public transport infrastructure and to protection of the Alps. Last but not least, this fee will help reduce the negative impacts on the environment and on the railways by a progressive raising of the heavy vehicle weight limit from 28 to 40 tonnes.

Content

The RPLP is intended to replace the flat fee and is being applied to all heavy vehicles of more than 3,5 tonnes. It must be paid for the use of the whole road network and is not discriminating: Swiss vehicles and foreign vehicles are subject to the fee applying the same principles for both categories.

- Amount of the charge: In 1993 the amount of all the direct and external costs not being paid by the heavy goods vehicles (road infrastructure, noise, damages on buildings, health, accidents) was 1 150 million Swiss francs (about 700 million Euros), which is 2,5 swiss centimes (0,016 Euros) per tonne and per kilometre (t/km). In view of facilitating the introduction of the fee, the fee is staggered, with the initial fee, charged from January 1st 2001 set at about 1,6 centimes per t/km (0,01 Euro).

- Calculation basis: The RPLP will be levied on the basis of the maximal laden weight permitted in Switzerland, of the kilometres driven in the country and of the emission characteristics. A vehicle having driven 300km in Switzerland, with a maximum allowed weight of 30 tons and with an average emissions classification, consequently has to pay 90 Euros (0.01 Euros x 300 x 30 x 1 = 90).

- Fee collecting system: Swiss and some non-Swiss trucks are equipped with an on-board unit which is connected to the tachograph. The kilometre count is stopped at the border for vehicles leaving the country and activated for those entering the country. This is done by DSRC (dedicated short range communication => microwave communication). The maximal allowed laden weight and the emission class are registered in the on-board unit and in the background system. At the beginning of each month, the person subject to the payment of the fee checks the driven kilometres data using a chip card. One can declare the required information at the customs authorities by way of the chip card (by the post) or by electronic way (via a modem /internet). It is not obligatory for the foreign vehicles to be equipped with the on-board device. Thus, ignoring the special device, the fee is being levied by way of an identification card and the RPLP terminals.

- Revenues: They will vary between 470 million Euros in 2001 (at the average rate of 0,01 Euro per t/km) and 950 million (at the rate of 0,016 Euro) starting in 2007. One third of the collected sum will go to the cantons, mainly for financing traffic related activities, the other two thirds at the most will contribute to modernising the rail way network (RAIL 2000, alpine railway links, etc).

Impacts:

The introduction of the RPLP will definitely have considerable impacts on the state of the transport system and the environment:
- heavy load vehicles traffic growth will be slowed by 50% (as compared to a situation without the RPLP and without raising the weight limit from 28 to 40 tonnes).
- The RPLP gives a chance to the rail way sector to recuperate certain lost positions in terms of heavy goods transport (on the condition of course that the rail ways will raise their productivity in the mean time).
- Air pollution from heavy vehicles will progressively decrease, namely because the progress in terms of the release of cleaner gases from vehicles won't be compensated by the overall growth of road transport.

Prospects:

By introducing the RPLP, Switzerland is taking a step forward towards the policies, such as described by the European Commission (i.e. in the Green and White Paper). Obviously, this step is not sufficient to guarantee a sustainable impact on international transport. For a 2000 kilometre trip from Hamburg to Naples, a heavy vehicle fee levied for just 300 kilometres is far from enough to transfer goods transport from the road to the rail. There is a lot that still needs to be done.

5.2 A European kilometre charging scheme: How should it look?

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European Federation for Transport and Environment

Charging for transport infrastructure has been high on the European agenda since the 1995 Green Paper on fair and efficient prices. The White Paper on the use of transport infrastructure followed the Green Paper's path and proposed the introduction of the user pays principle for the use of transport infrastructure.

However, so far the charging system for using roads gives a rather heterogeneous impression. Different instruments exist to charge road users but there is no harmonisation between Member states. All of them levy different levels of fuel tax, and vehicle tax is different everywhere. Six countries are part of the Eurovignette scheme according to Directive 1999/62. They levy a time-based charge for the use of motorways; but only for vehicles with a maximum laden weight above 12 tons. Other countries have tolls on motorways for all kind of vehicles. They usually depend on the vehicle's class and the distance between entry and exit points on the motorway.

Charges and tolls are levied for the use of road infrastructure, but these instruments do not reflect sensible charging principles which would correspond to the user-pays principle. They are first of all the result of historic development. Both the White Paper on Infrastructure Use and the High Level Group on Infrastructure Charging believe charges should be linked most closely to the social marginal costs, i.e. additional costs an additional user generates. However, application of the social marginal cost principle does not in every case ensure the most efficient solution and does not always guarantee that objectives – broadly, environmental ones – can be met.

The discussion should therefore be more focussed on the objectives, and only later on the instrument. The following table shows which instruments fit best to fulfil the user-pays principle.

Costs to be covered	Instrument	Parameters
Maintenance cost	Kilometre charge	Distance, weight of vehicle, weight per axle
Operating cost	Kilometre charge	Distance, weight of vehicle,
Air pollution costs	Kilometre charge	Distance, Emissions, emissions classes
Noise costs	Kilometre charge	Distance, location (population density), time (day, night)
CO2 / climate change	Fuel tax	Fuel consumption
Accident costs	Insurance	
Congestion costs	Congestion charge	Congested situation, (location, time), distance

In many cases, a kilometre charge is the ‘first–best’ solution to meet fair and efficient cost recovery by the users of transport infrastructure. However, there are a number of requirements such a system must fulfil; making it necessary that the system be technologically advanced.

The more general requirements are reliability, resistance against fraud, ensuring free traffic flow, non-discrimination against different users and interoperability with other systems. Furthermore, there are also concrete functional requirements the system must meet:

- Recognition of the border or the boundary of the charging area
- Recording of the distance a vehicle is doing within a charging area
- Classification of the vehicles, e.g. relevant weight, emission class
- Enforcement, i.e. checking the vehicles if they are using the system correctly
- Payment of the charge

The system is complex, as it has to fulfil all of the previous requirements, but it is technically feasible. The example of Swiss heavy vehicles fee will soon show this.

Different technical solutions are already available to cover the key functions. The electronic tachograph has been mandatory for all vehicles with a maximum laden weight above 3.5 tons since July 2000. This device can be used to register the distance. For border recognition, there are two broad options available: a ground-based system using microwave communication, or a satellite-based system like the GPS (Global Positioning System). The microwave system DSRC (Digital Short Range Communication) can also be used for enforcement and communication. Another technology which could be used is mobile communication, known as GSM (Global System of Mobile Communication).

Even though there is not much experience with technology being used for this application, technology is neither a fundamental obstacle, nor should it be the driving force to introduce any charging system. The contrary is the case: first the objectives of the charging system should be defined, based on that the requested functions identified, and only then a technology chosen which fulfils these functions.

Thus, a sensible kilometre charging system should be differentiated beyond simply distance travelled, to include at least the weight and the emissions (noise and air pollutants). An advanced system should also consider the road type, the location (e.g. sensitive areas, urban areas) and the time of the day (or, even more appropriate, traffic density). Such a comprehensive charging system should not be an instrument of additional tax or public revenue raising, but should rather be a fairer and more efficient way to cover existing costs. Therefore, kilometre charging schemes should replace such existing charges as the Eurovignette or annual vehicle tax. It could also contribute to reducing the level of fuel taxes.

A kilometre charging scheme fulfils perfectly the principle of subsidiarity, as it can be introduced unilaterally by one single country; although obviously the introduction in several countries would increase its effectiveness. Furthermore, the revenues can be allocated strictly according to the principle of territoriality. This means that there is no way to escape the charge or to benefit from lower charge levels as is the case with different fuel taxes. Finally, the decision on all the important parameters, including the charge level, can be taken autonomously by Member States.

The European Union just needs to provide the legal framework. It is already possible to introduce kilometre charging, based on according to Directive 1999/62. However, this directive has some drawbacks, which should be removed to enable the application of a really efficient and fair pricing scheme. These include:

- The main problem is that the current directive allows the application on motorways only. This is not sensible, and even provokes perverted effects, as there is then an incentive to use normal roads instead of motorways. Obviously, costs arise on all roads and restricting the charge to motorways only will surely not fulfil the user pays principle.

- The Eurovignette directive covers only vehicles above 12 tons but the same scheme should be applied to all goods vehicles above 3.5 tons, again to avoid perversion of the system. Limiting the charge to vehicles above 12 tons gives wrong incentives to use a larger number of smaller vehicles so as to escape paying the charges.

- The kilometre charging system should also allow differentiating according to all EURO classes and not to EURO I and II only.

T&E made specific proposals for changes to the Directive in a 2000 publication, ‘Bringing the Eurovignette into the Electronic Age’.

5.3 Road labour regulations: Fairer conditions for drivers

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Section Secretary
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Today's legislative framework

Road transport workers, like all transport workers, were excluded from the 1993 European working time directive.

Only in 2000 was the working time directive 34/2000 for the excluded sectors adopted. This grants an average of 48 hours per week working time for mobile workers in road transport over a reference period of 4 months. It does not regulate minimum rest time for mobile workers and the limitations for night workers do not apply to mobile workers. And, importantly in the road transport sector, the general working time directive does not limit maximum working time. Notwithstanding that, this directive has an implementation period of three years.

The only applicable European legislation limiting driving hours today is the famous Regulation 3820 from 1985. This regulation limits the maximum driving time over a period of two weeks (to 90 hours) and stipulates rest time. It does not limit working time.

The regulation allows 56 hours driving in a single week and 78 hours work in a single week. Daily driving time is limited to 9 hours a day, but can be extended 3 times a week to 10 hours a day. Rest time is 11 consecutive hours, which can be reduced 3 time to 10 hours. On the other days it can be split into three periods of rest, of which one must be at least 8 hours; the total rest time must be 12 hours on such days.

There is legislation on inspection: the chrono-tachigraph, which registers driving time, rest time, other work and speed; and Directive 599/88 which requires Member States to check at least 1% of annual working days on the street and in companies.

However, 1% of the annual working days is not sufficient and in a number of Member states is not even carried out. The legislation on inspection allows roadside controls for a period of only 8 days, which means that the two week limit of 90 hours is never checked on the road, and the maximum of 56 in one week – which theoretically has to be balanced by 34 hours the following week – becomes the standard for every week. Working time is not checked on the road, though research estimates that 30 to 40% of the activities of a professional driver is other work than driving. So you can add 17 to 22 hours, making a working week of 73 to 78 hours.

The reality

In 1997 the International Transport Federation ITF started a worldwide campaign with the slogan "Fatigue kills". ETF as a European organisation participates in the yearly action campaign. For the last two years ETF has organised a central action with blockades around Luxembourg on the day of the Transport Ministers' Council

meeting, demanding the adoption of the specific road transport working time directive by the Council.

A survey last year [1999] among drivers came to the following results:

- More than half of the participating truck drivers (55,2%) work between 40 and 60 hours a week, 23,9% between 60 and 80 hours and 9,5% more than 80 hours. One third spends between 40 and 60 hours driving and 13,4 % more than 60 hours, which is illegal.
- In Germany about half of participating drivers said that they work 60 hours and more a week, 4,5 % even more than 80 hours. Two thirds said they spent more than 40 hours behind the steering wheel; 15% between 60 and 80 hours, which is against legislation.
- In Luxembourg 39% of professional drivers in freight transport work between 40 and 60 hours, and 52% between 60 and 80 hours. 59% said they were driving 40 to 60 hours, and again 16% were illegally spending more than 60 hours behind the steering wheel.
- In Finland the figures are bit better but still high: 67% of participating truck drivers work between 40 and 60 hours a week, 12% between 60 and 80 hours and 3% more than 80 hours. Only 2% were at the steering wheel for longer than 60 hours, while 27 % were driving between 40 and 60 hours.
- Only a minority of drivers has a normal working week of up to 40 hours, compared with European working time standards. The huge majority works more than 40 hours, almost half even spends more than 40 hours driving, and 13,4 % of the drivers have illegal driving hours.

From the point of view of road transport trade unions these excessive working hours are a danger to the driver's health and a danger to road safety for all road users. Studies show that the profession of driver is one of the most dangerous in terms of accident and death rates at work; even more dangerous than the work of miners or construction workers.

But they are also a threat to fair competition between transport modes.

What kind of legislation do we need?

The highly individualised activity of a professional driver, who spends most of his/her time away from the company base, needs a combination of working time limitations and strict inspection. The driver is usually alone in her/his truck. No collective inspection is possible, such as in the case of companies with non-mobile work forces. Increasingly, cost-cutting results in delocalisation of companies, where the drivers never appear.

Additionally, the percentage of self-employed drivers is high. In Spain and Italy more than 50%, and up to 80%, of professional drivers are self-employed; in the UK about 20%. Industries with their own transport department are increasingly outsourcing the transport activities, often to self-employed drivers who are in reality falsely self-employed. Traditional transport companies are transforming to logistics companies, often subcontracting the transport activities to the self-employed. The effect of e-commerce is not yet known.

Existing legislation is not sufficient to limit working time to an acceptable degree and to guarantee fair competition.

In 1998 the European Commission adopted a specific draft directive for the road transport sector, which in contrary to the general working time directive applies also to self-employed drivers and which limits the maximum possible working time in a single week at 60 hours, notwithstanding an average weekly working time of 48 hours. This directive also respects scientific evidence that night work in road transport is more dangerous.

The European Parliament confirmed – and from our point of view improved – the Commission's proposal, while the Council has blocked the directive ever since. The French Presidency has put a lot of effort in concluding a compromise in the Council. Unfortunately this compromise will exclude self-employed drivers from the scope of the directive; which will be a problem regarding fair competition within the sector and between transport modes. We fear a huge wave of subcontracting and pseudo self-employment.

For this and other reasons, let us come back to the driving time Regulation 3820, which is a operational safety regulation and therefore applies as also to the self-employed. This regulation has so many derogations, based on the argument of flexibility, that it is incomprehensible and unenforceable. As previously mentioned, it allows 56 hours driving and 78 hours working in a single week.

We call for an amendment of this regulation. It must have simple rules – without derogations – like a maximum of 45 hours driving a week, 12 hours daily rest time and 48 hours weekly rest time. We recognise the situation of long distance drivers who are not able to return home every day and would accept 10 hours daily rest time and 24 hours weekly rest time when they are away from home. However, such reduced rest times should certainly be compensated immediately the long distance driver returns home. A maximum of 45 hours driving time, instead of 56 hours, should in any case remain the limit.

This regulation can only be complementary to the working time directive, which sets the present EU standard of 48 hours.

The question of inspection remains. There must be more checks than 1% of annual working days and we need harmonised and efficient sanctions for those breaking the rules. An efficient sanction would be to immobilise the truck when working time and rest time regulation has not been respected. I participated in an inspection action of *Eurocontrôle Route* where a stopped truck driver had the fine money ready in his hand when he was stopped. And this is not a single case, as inspectors confirm.

EU inspection legislation must also check working time legislation. When the digital chronotachigraph is introduced in about two years (for new vehicles) this will be technically possible.

We also believe that better qualification of drivers will have a positive impact on the image of the profession and the working conditions of drivers. Nowadays a

professional driver needs only a driving license, and many drivers get their license during military service. The majority of drivers do not have any vocational training. With an investment in training, the single driver becomes more valuable. Training must include knowledge of social legislation, and the health and safety impacts of not respecting such rules. We also call for training to include information on industrial relations and collective agreement rights.

We appreciate very much that the European Commission intends to propose a directive on compulsory initial and continuous training. The European Social Partners have already been consulted on this project.

Another problem in terms of social conditions for professional drivers is that more and more companies use loopholes in legislation, or even act illegally, to employ third country drivers under very low salary and working conditions, and without social security. There have been cases where an eastern European driver earns one tenth of a German driver. Those drivers are in a weak position to insist on respecting working conditions, and this social dumping leads to pressure on EU drivers as well. We welcome the Commission's proposal on introducing a driver's attestation, which allows a check on the employment status of a driver in a EU registered vehicle: it should be an efficient instrument to avoid illegal employment. However, it does not solve all problems, which arise from more open borders between East and West Europe.

I am not able to raise all the problems we are facing in road transport due the liberalisation of the market. As usual, the internal market has been established without analysing the social impact and without simultaneously implementing social legislation at European level.

Looking at the railway sector we see the same tendency. Strong emphasis is put on the liberalisation of the European railways, yet we are missing the same emphasis on the social side. European safety standards, qualification standards and minimum working standards in cross border activities are as important there as in the road sector.

5.4 How to improve transport of dangerous goods?

André Gastaud
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What substances, what flows?

Dangerous goods and substances – more than 3000 in total – fall into 13 groups, uneven in terms of levels of risks, or shipped quantities. We have inherited this.

The transport of dangerous substances has been increasingly unevenly shared between the road and the rail over the last twenty years, to the advantage of the road; which is more rapid and efficient, but generates greater risk.

Petroleum products, which constitute the majority of dangerous substances, are increasingly transported on the road. The dramatic accident in March1999 in the Mont-Blanc Tunnel – even though it did not involve dangerous substances – calls again to the agenda the issue of rebalancing the modes of transport, with regards to goods in general and to dangerous substances in particular. Of course, if such an attitude were adopted, it would require long-term efforts. Alternative modes (railways for example) are not ready for it.

Complex, numerous and constraining regulations

The founding legal texts, some of which date far back[4], need to be reviewed and harmonised. International transport of dangerous goods is being regulated by contracts and conventions signed within the scope of the European institutions, the UN and concern a large number of states[5].

During the 90s, European directives on each mode of land transport introduced regulatory harmonisation. In the road sector for instance, the ADR has to be applied irrespective of whether trans-boundary or domestic transport is concerned. During the same decade, other directives strengthened the harmonisation of road checks with regard to dangerous substances. At the beginning of the new millennium, each shipper or transporter of dangerous materials has to have a reliable graduate counsellor. The regulation, jointly designed by several European states over the last fifty years, is undoubtedly heavy and complex (it consists of more than one thousand pages for the ADR alone). It is in many ways constraining and subject to a number of national or international derogations.

In France, transport of dangerous substances is of course subject to the regulatory framework for road traffic in general, and also for working conditions (driving time). Despite its extensive nature, regulations do not cover all operational aspects of transport, failing to sufficiently prevent risks to the environment during the

[4] These are the decree on transport of dangerous substances from 1942, the law on infractions on the roads from 1975 and the law on orientation in domestic transport (LOTI) from 1982.
[5] These are the ADR since 1957 for the roads, the RID for the rail ways, the ADN for inland water ways.

transportation of dangerous substances – such as nature and quality of the route, presence of stand-by users, risky points like tunnels, and urban and industrial areas.

Finally, European law does not allow member states to privilege one mode of transport or route, unless in exceptional circumstances, for a limited period and a limited area, and for reasons of national security or to protect the environment .

A great number of accidents while transporting dangerous substances

During the last 25 years the greatest accidents have been on the road in St-Amand-les-Eaux (1973), les Eparres (1993) and in Port-Sainte-Foy (1997), or on the rail in Chavanay, Aix-les-Bains and La Voulte (1990-93). These accidents changed public opinion. Accidents are relatively less frequent on inland water and railways, and the consequences are mainly material damages.

Since several accidents dating back at the beginning of the nineties, SNCF has made progress in terms of the transport of dangerous substances: heat detecting devices have been installed, regional experts have been appointed, local studies have been conducted and ad hoc plans developed. Also, special measures for rail tunnels have been designed.

In years to come, special attention will be paid to multimodal sites that fall under the transport of dangerous substances regulation and dangerous installations regulation.

On the road, there have been an average of 200 accidents per year on the roads over the last 10 years. This has led to 20 deaths, 2 of which were caused by the dangerous substance itself.

Transport professionals' approach to transport of dangerous substances

There are two initiatives from transport enterprises – in addition to the constraining but insufficient measures prescribed by the United Nations, the European Union or the USA – which will, in the long run, reduce the level of risks.

First, there is the ISO 9000 insurance and quality certification system. This measure was introduced in France in 1997 in application of the subsidiary principle. In any case, although this system is applicable to the most dangerous substances being transported in great quantities (of above 3000 litres for instance), it does not apply to the most commonly transported substances, such as fuels. In the same context, we must mention the existing insurance and quality certification obligation with regard to packaging of dangerous substances.

The second approach refers to the "safety advisor". It was initiated by a transposed European directive, but will from its introduction on January 1 2001, rely on enterprises' initiative – in terms of education, counsels and internal audits. Safety advisors will have to produce an annual report as well as a report on each accident, which will be helpful for gaining more experience in the long run.

Transport of dangerous substances has to consider the environment.

This aspect is not totally covered by national and international regulation. Taking into account the environment calls for the application of the following principles:

1. ensuring the safety if dangerous substances in transit means more than the safety of the substance itself, the packaging or the vehicle used. It means also each chunk of the itinerary: the previously-mentioned steep road sectors, tunnels, urban and industrial areas. In addition, the "human" element should be taken care of: the conduct of drivers, users and people in the neighbourhood.

2. All specific difficulties on the local level should be identified by the local authorities and appropriate measures should be taken. The State should participate as a partner and should provide all the required decentralised services, as well as facilities for spreading information in the regions.

Important key actors should be involved. These include the police, emergency and fire services, professional organisations, associations, the media and experts.

A possible hosting structure for this kind of social cooperation is the permanent secretariat for the prevention of industrial accidents, located in every big French industrial site. Special working groups could be created. There is some past experience in this sense in some regions of France. These activities should of course be financed by local authorities.

A lot of studies have been done, for instance on tunnel safety. The State directly regulates dangerous substance transport in this case. A quantitative risk study for each tunnel is being conducted and alternative itineraries considered. These studies, are long, complex and expensive. Technical support in this respect hardly exists.

Studies, which until now have been limited to tunnels and alternative routes, need to be applied to other types of site. Thus a risk comparison between road and rail could be done. The previously-mentioned European prohibition on giving priority to a single mode of transport limits, for the time being, the outreach of this approach.

Conclusion

It is obvious that European and national regulations as they presently stand are insufficient to achieve a low risk regarding the transport of dangerous substances especially in the road sector.

All actors and operators are increasingly conscious that they have an important safety role to play, one which affects their public image. And local authorities also have a responsibility to reduce the risks on the routes.

Finally, all these efforts, especially in road transport, have to be complemented by a greater responsibility on the part of drivers and other road users. Most accidents involving dangerous substances occur because traffic rules have been broken.

6. Summary and Conclusions

Making freight transport more sustainable is a big challenge and certainly an imperative need. Although some environmental regulations have led to progress in certain areas, the transport sector as a whole is still not moving generally in the direction of sustainability.

The European Environmental Agency's TERM report, "Are we moving in the right direction?" has shown us a number of fields in which no improvements have been made, and indeed some in which the situation has become even worse.

Transport has a number of impacts: air pollution and climate change through traffic itself; habitat loss and extinction from building transport infrastructure; waste streams at the end-of-life cycle; and toxics and the obvious damage caused by accidents. These are not only threats for our natural environment but also for our health. Exposure to noise and accidents are other impacts transport has on human health.

The lack of real environmental improvement in the transport system is due first of all to ever-increasing transport volumes, and secondly to the modal development of this growth.

Freight transport within the EU has been increasing dramatically since 1970. Its growth rate has even been slightly higher than GDP growth. In other words, freight transport growth has outpaced the growth of the economy. Furthermore, goods transport has grown predominantly on the roads, to the detriment of rail and inland waterways. These trends must be broken in the future if freight transport is to develop towards sustainability.

Economic growth and freight transport development must be decoupled. Economic growth should be achieved with less transport, and the transport sector should be more economically efficient. The current modal shift from rail and inland waterways to the road must be reversed. These modes must play a bigger role, serving as reliable, serious alternatives to contribute to contemporary transport requirements.

Although rail has still a better environmental performance in general, it too needs to improve its environmental performance. Each transport mode needs to do its best to change current trends, rather than pointing out environmental advantages over other modes (which are in danger of being eroded in the face of complacency).

A cultural change is needed within railway organisations to make them more aware of their own environmental deficits, which are mostly noise impacts but also air pollution (including greenhouse gas emissions) caused by old diesel engines. Railways are losing their historic environmental advantages over road transport – mainly in terms of air pollution – which is making progress by introducing engines with lower emissions.

The creation of a level playing field between all transport modes is at the core of a sustainable freight transport system. There are still many inequalities between the different modes, which are usually to the detriment of the environmentally less

damaging mode. Infrastructure policy has often been unbalanced, giving priority to the road.

In international transport, rail freight services are facing many more obstacles than their competitors. There are technological barriers between different rail networks, as well as institutional barriers, which together are a huge disadvantage for international rail freight, especially compared to the freedom of movement guaranteed by the internal market which other transport modes benefit from. These disadvantages must be removed by making the conventional rail systems interoperable and by opening access to the rail freight network.

The Council and European Parliament adopted the rail package in November 2000, which provides the legal framework for open use of rail infrastructure for removal of institutional barriers in trans-border rail freight services. Another directive, recently adopted, calls for rail interoperability and therefore for the removal of technical barriers. The most important challenge for the future is to transpose these into national law, and to implement them as soon as possible.

In other fields, the legal framework still needs to be set in order to allow for the protection of the environment and people's health. The working time directive, as it stands now is a very weak instrument to protect road transport workers and others from accidents caused by tired truck drivers. It is also not sufficient to level the playing field, as rail transport labour regulations are much stricter.

Finally, a crucial condition for sustainability in freight transport is application of the user pays principle. A kilometre charge for heavy goods vehicles, as now exists in Switzerland, would be a good vehicle to apply this principle. It considers external costs and it is differentiated according to vehicles' maximum laden weight and emission classes. As it is applied for the use of all roads it also gives no incentives to escape paying the charge by using the secondary, non-motorway, network.

The following conclusions can be drawn from the results of the conference:

1. Transport is a major threat to sustainability and is moving *away from* rather than *towards* the targets which must be met to achieve sustainability. So far, measures have essentially followed a policy of mitigation; which is insufficient. A complete change in transport policy and behaviour is necessary, with a comprehensive set of measures to achieve specific targets (such as the EU's Kyoto commitment); which together lead to a sustainable transport system.

2. Although road transport and aviation represent the biggest threats for sustainability, because of their huge volume and/or extremely rapid growth, all transport modes must improve their environmental performance. Railways particularly need to improve with regard to their old diesel locomotives, which are even more polluting than modern trucks. Another serious environmental problem for railways is noise, which also needs to be tackled.

3. Rail freight transport must become a competitive transport mode and a reliable alternative to the dominant road transport. In a sustainable freight transport system, railways will play a far more important role than they do

today. To achieve sustainability, the playing field between modes must be levelled

4. Railways themselves can play an important role in making themselves competitive. This they can do by better meeting customers' needs. This requires for example increased reliability of rail freight transport: many rail transports arrive late, which is typically a bigger problem for clients than the transport price.

5. Levelling the playing field is essentially a political task. On the European level, legislation such as the rail package level the playing field – by applying internal market principles to the rail freight sector; and also create incentives to improve rail services – by allowing competition within the rail sector. Other steps must be taken as well; for example removing technical obstacles[6]. Infrastructure policy and the framework to finance transport infrastructure must also enable fair competition between transport modes. The regulations at European and national level on state aid and TENs must ensure money can also be used to promote transport modes which have less environmental impact; such as rail, inland shipping or combined transport.

6. A crucial condition for sustainable freight transport is the application of a fair and efficient charging scheme, applying the user pays principle to the use of transport infrastructure. The Swiss heavy vehicles tax is an example for such a charging system: it not only makes the user pay, but also uses the revenues (partly) to improve the railway system. EU legislation[7] must be changed to allow a distance-related kilometre charge for the use of all roads and not for motorways only. The technology already exists to do it, and interoperability with existing and planned systems can be ensured in its implementation. Sovereign Member States will have responsibility for the system, including its parameters, in line with the subsidiarity principle.

7. Levelling the playing field between transport modes also means applying the same regulations for all modes in the fields of labour regulation, security and environmental standards. These regulations must ensure the protection of the whole of society, but especially of those directly affected: workers (against increased demands from employers) and those living along sensitive areas or densely used routes. Transport of dangerous goods must be given highest attention to avoid damage to people and the environment. Therefore, levelling the playing field means applying the strictest rules for any transport modes. It means also that existing rules must be enforced strictly and equally, without differences between transport modes.

In the framework of the T&E project 'Freight: From Road to Rail' the recommendation for a sustainable freight transport have been summarised in 10 points and published as a fact sheet. It can be found as in annex 3 to this report, downloaded from the T&E website (http://www.t-e.nu) or ordered direct.

[6] This is being targeted by the new directive on interoperability of the conventional railway system.
[7] Eurovignette Directive 1999/62

ANNEX 1

Programme

European Conference

Towards more sustainable freight transport

Tuesday, 5 December 2000
From 8.30am to 4.40pm

Espace du Centenaire
Auditorium
189, rue de Bercy
75 012 Paris
Metro station: Gare de Lyon

Conférence européenne

Vers un transport de marchandises plus durable

Mardi, 5 décembre 2000
De 08h30 à 16h40

Espace du Centenaire
Auditorium
189, rue de Bercy
75 012 Paris
Arrêt du Métro: Gare de Lyon

La conférence a pu été réalisé par le soutien de
The confernce benefits from supports of

Bask Government, Catalonian Government, SNCF, Swedish Rail Infrastructure Banverket, Swiss Federal Ministry of Transport, Swiss NGOs

La conférence est co-présidée par Matthias ZIMMERMANN, président de T&E et Christian GARNIER, administrateur de FNE.

The conference is co-chaired by Matthias ZIMMERMANN, president of T&E and Christian GARNIER, administrator of FNE.

	Accueil – Registration	**8.30 – 9.00**
0.	**Bienvenue et discours d'ouverture** **Welcome note and opening speech** *Christian Garnier, administrateur de FNE*	**9.00 – 9.35**
	Discussion et questions **Discussion and questions**	**9.35 – 9.50**

	Transports et Environnement **Transport and Environment**	
2.	**Impacts des transports sur l'environnement** **Environmental impacts of transport sector** *Frazer Goodwin, Policy Officer, T&E*	**9.50 – 10.10**
3.	**Transports par fer et développement durable: Quelle politique pour réduire les impacts du ferroviaire sur l'environnement ?** **Rail transports and sustainable development: What are the railways doing to reduce their environmental impacts**	**10.10 – 10.30**
	Discussion	**10.30 – 10.45**

	Café ***Coffee break***	***10.45 – 11.00***

	Politiques de développement du fret ferroviaire **Politics to develop rail freight transport**	
4.	**Proposition du CSSPF pour le développement du fret ferroviaire en France et en Europe** **Proposal of CSSPF to develop rail freight transport in France and in Europe** *Jean-Jacques Filleul, Président du Conseil supérieur du service public ferroviaire (CSSPF)*	**11.00 – 11.20**
5.	**Comment la libéralisation du fret ferroviaire peut-elle favoriser le développement des transports ferroviaires en Europe et contribuer à protéger l'environnement ?** **How can liberalisation of rail freight transport contribute to increase rail transports in Europe and improve the environment?** *Markus Liechti, Project Manager, T&E*	**11.20 – 11.40**
	Discussion	**11.40 – 11.55**

	Services offerts par le fret ferroviaire **Rail freight services**	
6.	**Point de vue des opérateurs du transport combiné sur les perspectives de reports modaux** **Point of view of the combined transport operators on the perspective of modal shift** *Jean Claude BERTHOD, PDG de NOVATRANS, Président de l'OPCA (Organisme Paritaire Collecteur Agréé)* *Représentant des opérateurs de transports combinés*	**11.55 – 12.15**
7.	**Améliorer la qualité du service du fret ferroviaire pour encourager les reports modaux** **Examples d' actions** **Improving the quality of rail freight to encourage modal shift.** **Good practice in railway freight services**	**12.15 – 12.35**
	Discussion	**12.35 – 12.50**

Déjeuner ***Lunch break***	***12.50 – 14.00***

	Tarification équitable des poids lourds **Fair charging for heavy goods vehicles**	
8.	**Redevance sur le trafic des Poids Lourds liée aux Prestations (RPLP) suisse : Exemple de système de tarification des poids lourds au kilomètre** **Swiss Heavy Vehicle Fee: Good example for km charging implementation** *Ueli Balmer, adjoint juridique, service d'études des transports, Département fédéral de l'environnement, des transports, de l'énergie et de la communication*	**14.00 – 14.20**
9.	**Comment mettre en œuvre le système européen de tarification des poids lourds au kilomètre** **European kilometre charging scheme: How should it look like?** *Markus Liechti, Project Manager, T&E*	**14.20 – 14.40**
	Discussion	**14.40 – 14.55**
	Café ***Coffee break***	***14.55 – 15.10***
	Améliorer et contrôler les conditions sociales et la sécurité routière **Improve and enforce labour regulations and road safety**	
10.	**En quoi les réglementations du travail en Europe peuvent-elles améliorer les conditions des transporteurs routiers ?** **Road labour regulations: Fairer conditions for drivers** *Sabine Trier, Section Secretary, Fédération Européenne des Travailleurs des Transports*	**15.10 – 15.30**
11.	**Comment améliorer le transport de matières dangereuses ?** **How to improve transport of dangerous goods?**	**15.30 – 15.50**
	Discussion	**15.50 – 16.05**
12.	**Clôture de la conférence** **Closure of the conference**	**16.05 – 16.40**

ANNEX 2

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ANNEX 3

Recommendation for a sustainable freight transport policy

1. Integration - Making freight transport more sustainable is complex but feasible if a bundle of instruments is applied to achieve this objective. Complex issues demand complex solutions. One single instrument cannot be sufficient by its own but can contribute to make freight transport more sustainable as an element of concerted measures. The integration of single instruments into a whole comprehensive and coherent concept is a basic step towards sustainable freight transport.

2. Objectives – Instruments and measures must always serve a certain objective. The general objective is sustainability of freight transport, which includes, according to the Amsterdam Treaty, economic, environmental and social sustainability. Translating this general objective into detailed objectives e.g. reduce energy consumption per ton-kilometre, stop the increase of ton-kilometre of environmentally less sustainable transport modes, increase modal split of rail and inland water transport, define upper limit of environmental impact in sensitive areas must have first priority.

3. Priorities - All the instruments and measures have to contribute to achieve the objectives. Priorities must be given to measures favouring environmentally less harmful transport modes as railways and inland waterways. The wider use of these transport modes can contribute to make freight transport more sustainable if they manage to maintain or even increase their environmental advantage.

4. Level playing field - The environmentally less harmful transport modes must be put into a position where they can successfully compete with other modes mainly the road mode. Therefore, the creation of a level playing field for all transport modes is a condition to make freight transport more sustainable. Level the playing field means to abolish competitive distortions and to ensure fair competition among transport modes. Competitive distortions, which must be removed exist with regard to taxation, pricing, entrepreneurial freedom, legal requirements, infrastructure investments and subsidies.

5. Pricing - Getting the prices right for the use of transport infrastructure is on the top of the priorities as the existing pricing system is a major reason for the lack of sustainability in the freight transport system. Getting the prices right means applying the user pays principle which is common for the majority of goods also for the use of infrastructure. Pricing should be based on equal principles for all transport modes, preferably on social marginal costs. However pricing should also contribute to achieve the defined objectives.

6. Services - In all transport modes, freight services should be supplied in a similarly open and competitive environment. Therefore, entrepreneurial freedom should also be given to rail freight operators. Rail infrastructure has to be opened for rail freight operators and institutional barriers in international rail freight transport must be abolished in order to make it more competitive

with road freight transport. The political responsibility remains to ensure that opening rail infrastructure provides incentives to improve rail freight services by intramodal competition and leads to a better position of rail freight services in intermodal competition.

7. Infrastructure - The existing transport infrastructure should be optimised by increasing its capacity through technical and operational improvements. Conventional rail systems have to become interoperable throughout Europe and the implementation of modern technology as traffic management and control systems should be applied for all transport modes. Additional infrastructure has to be build to remove bottlenecks and after applying strategic environment assessments.

8. Investment - Infrastructure investment policy has to support the defined objectives giving priority on investments in environmentally less harmful transport modes as railways and inland waterways. Putting the priorities on railways and inland waterways rebalances also the emphasis on road infrastructure investment in the past.

9. Standards - Equal standards for all transport modes are required with regard to environment, safety and social regulation. These standards must be up-graded to bring them on a equal level within all transport modes to protect the environment, citizens and employees the most. Furthermore, existing regulation must be consequently enforced and any abuse effectively fined in all transport modes.

10. State aid - As long as the playing field is not levelled yet, direct public support for environmentally less harmful freight transport services may be necessary to reach the defined objectives and to give environmentally sensible services the opportunity to survive if there is at the moment no economical opportunity for these services. Such state aids must be seen as second best solution and should be applied only for a limited period.

This 10-point recommendation is available to download from the T&E website (www.t-e.nu) in four languages: English, French, German and Spanish. It can also be ordered as a fact-sheet direct from T&E.

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T&E 96/12 The Greening of Freight Transport in Europe - final report
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T&E 97/4 Updated response to the EU's Auto-Oil Programme
T&E 97/5 Memorandum on Transport and Environment to the Council of Ministers and the UK Presidency
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T&E 97/7 Traffic, air pollution and health

1998

T&E 98/1 Sustainable Aviation - The need for a European environmental aviation charge
T&E 98/2 Transport and climate change (see T&E 00/1)
T&E 98/3 Cycle Beating and the EU Test Cycle for Cars
T&E 98/4 Comments on the Consultation Paper on Air Transport and Environment

1999

T&E 99/1 Memorandum to the German Presidency
T&E 99/2 Road Fuel and Vehicles taxation in Light of EU Enlargement
T&E 99/3 Response to the Commission report on the on the implementation of the Trans-European Transport Network Guidelines and Priorities for the Future
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About this paper

Freight transport has been increasing for years, especially on the road. This is leading to ever greater negative impacts: on the environment and human health; but also on the economy. Making the change from the existing undesirable development to a more sustainable approach is a big challenge.

Transport experts from across Europe met in Paris on 5 December 2000 to present and discus possible ways of changing the current pattern towards a more sustainable one. It took place within the frame of T&E's three year project "Freight: From road to rail." This paper reflects the presentations and conclusions of the conference.

A basic message from the conference is that a level playing field between transport modes is a basic condition for a sustainable freight transport system; and at the moment the field is far from level. Fair competition between transport modes and a fair and efficient pricing system for all modes are a must.

About T&E

The European Federation for Transport and Environment (T&E) is Europe's primary non-governmental organisation campaigning on a Europe-wide level for an environmentally responsible approach to transport. The Federation was founded in 1989 as a European umbrella for organisations working in this field. At present T&E has 37 member organisations covering 20 countries. The members are mostly national organisations, including public transport users' groups, environmental organisations and the European environmental transport associations ('Verkehrsclubs'). These organisations in all have several million individual members. Several transnational organisations are associated members.

T&E closely monitors developments in European transport policy and submits responses on all major papers and proposals from the European Commission. T&E frequently publishes reports on important issues in the field of transport and the environment, and also carries out research projects.

The list of T&E publications in the annex provides a picture of recent T&E activities.

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Komitee Milieu en Mobiliteit (Belgium)
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Liikenneliitto (Finland)
Magyar Közlekedési Klub (Hungary)
Norges Naturvernforbund (Norway)
Polish Ecological Club (Poland)
Pro Bahn (Germany)
Pro Bahn der Schweiz (Switzerland)
Quercus (Portugal)
Society for Nature Protection and Eco-development (Greece)
Romanian Traffic Club (Romania)
Stichting Natuur en Milieu (Netherlands)
Svenska Naturskyddsföreningen (Sweden)
TRANSform Scotland (United Kingdom)
Transport 2000 (United Kingdom)
Verkehrsclub Deutschland (Germany)
Verkehrsclub Österreich (Austria)
Verkehrsclub der Schweiz (VCS/ATE/ATA) (Switzerland)

<u>Associate members</u>
Alpine Initiative
BirdLife International
Community of European Railways
European Cyclists' Federation
Union Internationale des Chemins de fer (UIC)
International Union for Public Transport
Worldwide Fund for Nature