

# NATIONAL POLICIES TOWARDS SHIFTING FREIGHT FROM ROAD TO RAIL

The Case of Switzerland, the United Kingdom and France



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The logo for the European Conference of Ministers of Transport (ECMT). It consists of the letters 'ECMT' in a bold, stylized, red font. The letters are interconnected, with the 'E' and 'C' sharing a vertical stroke, and the 'M' and 'T' sharing a vertical stroke. The logo is centered horizontally and is flanked by two horizontal red lines, one above and one below.

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## *Introduction*

At the Bucharest Council in 2002 ECMT Ministers debated shifting freight from road to rail as a key part of their strategies for developing more sustainable systems of transport. The conclusions of their debate are available on the web site [www.oecd.org/cem](http://www.oecd.org/cem) .

Achieving a shift to non-road modes in a manner that is efficient, compatible with the development of open market economies and which contributes effectively to the social, economic and environmental goals of sustainable development is not be easy. It requires major investments in railways, significant improvements in the quality and productivity of rail and liberalisation in freight transport markets. It will also require effective implementation of more efficient and equitable regulatory frameworks particularly in respect of charges for the use of transport infrastructure and the social working conditions that prevail in transport.

The full implications are explored below through an examination of the way rail policy has developed in three member countries: Switzerland, the United Kingdom and France.

## **TRANSPORT POLICY FOR INFLUENCING FREIGHT TRAFFIC THROUGH SWITZERLAND**

Switzerland's goal is to divert as much trans-Alpine freight traffic as possible from road to rail, to guarantee sustainable mobility whilst protecting the environment and the quality of life. This objective is, not least, clearly stipulated in the Swiss constitution. To attain it, the rail option will need to be developed and strengthened through a series of different measures. Switzerland is, however, counting not on dirigistic measures but on market economy incentives to foster greater recourse to the rail mode.

The key is the new inland transport agreement between Switzerland and the EU. With this agreement, Switzerland has successfully managed to co-ordinate its environment oriented transport policy with that of the European Union. This was an absolute necessity, given that three-quarters of the freight traffic crossing the Swiss Alps is international. Common action is imperative if the vulnerable Alpine biosphere is to be saved from a further increase in the number of HGV movements.

Efforts to attain the goal of a transfer from the roads are therefore to a large degree dependent on transport policy developments in Europe. It is not only Switzerland but the rest of Europe that must introduce measures to make the railways more productive and raise the quality of international rail transport. If these conditions can be met, then there is every chance that the previous upward trend in Alpine road freight traffic volumes may not only be halted but even reversed.

### **Growing road freight traffic through the Alps runs counter to the goal of sustainable mobility**

Over the past decade, road freight traffic through the Alps has been one of the main Swiss and European transport policy issues. Whilst passenger flows on Swiss Alpine routes have stabilised at a high level<sup>1</sup>, Alpine road freight traffic is still resolutely on the upsurge. In the last ten years, the number of HGV passing through the four Swiss-Alpine crossings rose by 89% to reach 1 318 million trips in 1999.

This growth trend is in direct contradiction to the attachment of the European Union and Switzerland to exert proper control over freight traffic flows through the Alps on a sustainable basis to take account of the particularly vulnerable nature of the Alpine biosphere. In Switzerland, the goal of shifting Alpine road freight traffic to rail has been part of the national constitution since 1994, the year in which the "Alpine initiative"<sup>2</sup> was accepted.

The goal of transferring traffic has thus become the backbone of Swiss transport policy and, by deliberately shaping conditions on the transport market, i.e. by strengthening the rail option, the Swiss Government is out to steer transport in the direction required to ensure sustainable mobility.

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1. In 1996, 8.8 million cars passed through the four Alpine crossing (Gothard, San Bernardino, Great St Bernard and Simplon), which corresponds to a daily average of almost 24 200. The average annual growth rate over the five years was under one percent.
  2. In Switzerland, associations and private individuals may demand a referendum regarding additions or alterations to the constitution provided they can collect at least 100 000 signatures within 18 months.

### Only partial success for Swiss transport policy instruments to date

The contradiction between actual transport trends and the goal of sustainable mobility has long been recognised. To promote rail, Switzerland has used a number of market based instruments. Examples are the operating grants for combined transport (in 1999 a total of CHF 125 million) and the promotion of terminal construction. For the most part, however, Switzerland concentrated on legal requirements, in particular through the 28-tonne maximum total weight limit imposed on HGVs.

At first glance this strategy was successful: railways, which in Alpine freight traffic through France and Austria only had a share of just over a quarter of the market can boast 72 % in Switzerland, as can be seen from Figure 1.

Figure 1. Modal split in freight traffic through the Alps

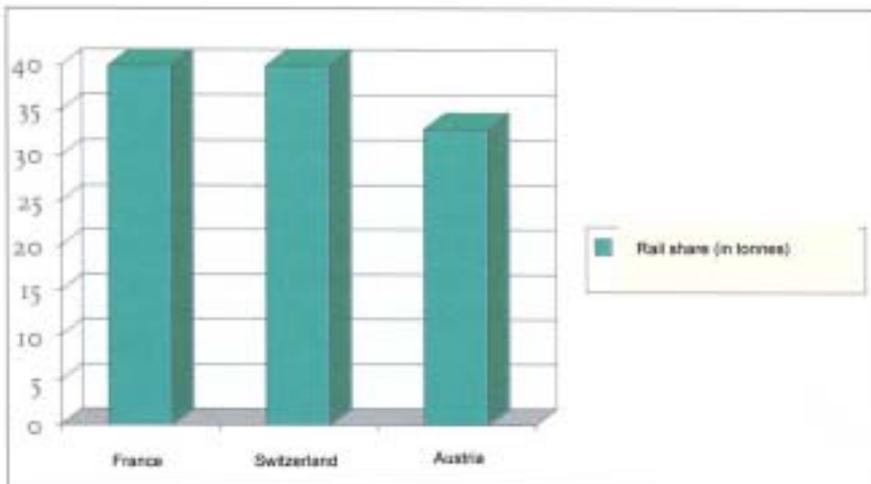
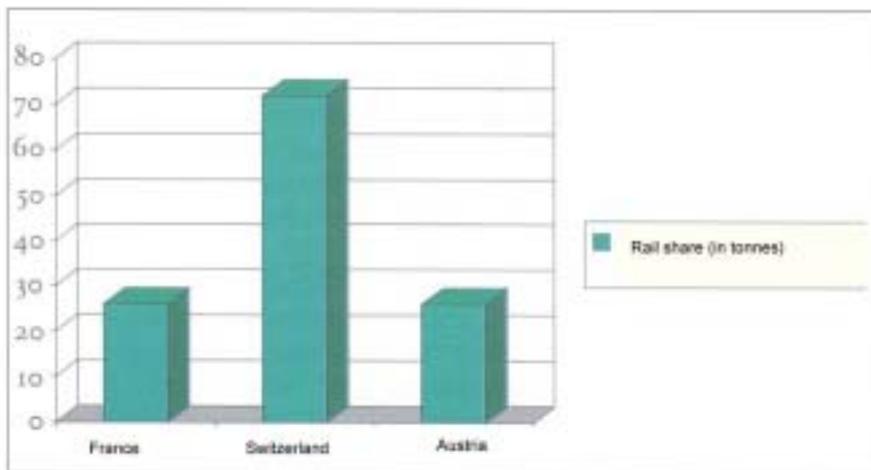


Figure 2. "Real" modal split for freight traffic through the Alps

A closer analysis shows, however, that these figures are only a partial reflection of the real situation. The modal split for Alpine freight traffic is biased by a “rerouting” phenomenon. Switzerland’s 28 tonne limit means that many heavily loaded HGVs are not able to take the shortest route through the Alps, namely via Switzerland, but opt for the longer way via France or Austria as a result. Depending on the survey used, in 1994 the number of HGVs involved ranged between 580 000 and 645 000. Rail’s share of the market in Switzerland is therefore “artificially” inflated. In France and Austria, by contrast, it is deflated for the same reason. If the road traffic diverted through France and Austria is added to Swiss road traffic figures, rail’s share of the market would be just a good 40 %. In France, by the same calculation, it would be around 40 % and in Austria one third, as can be seen from Figure 2.

Conversely, traffic is also diverted in the return direction, when the empty and lightly loaded HGVs opt to transit via the cheaper route through Switzerland. Whilst until the end of 1999, transit through Switzerland cost a maximum of CHF 25, the tolls levied for the France/Italy and Austrian Alpine crossings are relatively high. In 1994, 110 000 HGV chose the alternative route through Switzerland for this reason.

Switzerland’s policy in the past therefore ultimately ran counter to the goal of protecting the Alpine area as a whole as HGVs cover longer distances than really necessary for freight exchanges via the Alps and thus have an excessively negative impact on the environment in terms of pollutants and noise.

#### **Inland transport agreement: a change of approach**

With the new inland transport agreement, Switzerland has taken steps to modernise its transport policy approach and to bring it into line with that of the European Union. Co-ordination between Swiss and EU policy is, at all events, essential, since over three-quarters of the road freight traffic passing through the Alps is either transit or import/export traffic. On its own, without properly co-ordinated policy in respect of the Alpine area, Switzerland would be unable to achieve its goal of transferring this international traffic to rail to the desired degree.

The nucleus of the new Swiss transport policy is the replacement of the regulatory 28 t limit by a market economy approach based on road tolls levied on a weight and distance basis. The maximum permissible weight was raised to 34 tonnes in 2001 and will be raised to 40 tonnes from 2005. The previous very low, flat rate, heavy vehicle toll has been replaced by a charge based on weight and distance, comparable with road tolls in force elsewhere in Europe. With this new heavy vehicle tax (LSVA) the amount payable for a 40 tonne HGV for use of the main Basle-Gothard-Chiasso route through the Alps will go up to an average of CHF 325, the increase being timed to coincide with the commissioning of the first NEAT (new Alpine rail crossings) base tunnel (under the Lötschberg) in other words from 1 January 2008 at the latest. Per route/kilometre, this rate corresponds to the present toll through France (Fréjus). In addition, the LSVA is modulated in relation to the pollutant levels (Euro-classification) of the individual HGV. Cleaner vehicles will pay less, whilst those creating greater pollution will pay more.

The LSVA has been designed to be non-discriminatory. It applies throughout the Swiss road transport network and has to be paid by foreign as well as Swiss carriers.

## **LSVA**

With the introduction of the LSVA on 1<sup>st</sup> January 2001, the flat-rate pricing system was replaced with one based on a performance-related fee. As before, vehicles with a total authorised weight of more than 3.5 tonnes are liable to the charge. The charge is worked out on the basis of three factors:

- the number of kilometres covered on Swiss territory
- the total authorised weight (towing vehicle plus trailer), in other words the full charge is imposed even for empty runs
- vehicle emissions (assigned to one of three categories)

To calculate the charge, the number of tonne-kilometres (distance covered x total authorised weight) is multiplied by the pricing rate, ranging from 1.42 to 2 Swiss centimes, depending on the emissions category.

The introduction of the LSVA was accompanied by an increase in the total authorised weight from 28 to 34 tonnes. In a second stage in 2005, the pricing rate will be raised to an average of 2.5 Swiss centimes and the total authorised weight will be increased to the normal European limit of 40 tonnes. In addition, a quota will be applied in the period from 2001 to 2005. The first type of quota provides for the authorisation of trips by 40 tonne vehicles. The second is granted to hauliers carrying light goods or making "empty" trips.

### **A two-pronged rail/road approach**

The weight and distance-based levy (LSVA) is a road-related measure to foster freight transfers to rail. But to meet the desired goal, further measures of a railway nature are also required, in particular the modernisation of railway infrastructure with the construction of two new base tunnels as part of the new Alpine rail crossings project (NEAT) on the Gothard and Lötschberg, together with the general railway reform process launched on 1.1.1999.

The two NEAT base tunnels will not only bring the required increase in rail capacity through the Alps but by doing away with sharp gradients, they will also make it possible to work longer, heavier freight trains. In conjunction with the shorter route distance, this will reduce operating costs for rail consignments from border to border by about 20%.

Under the railway reform, a number of competitive elements have been introduced into rail freight transport. The railways now have greater entrepreneurial freedom to offer their customers more productive, efficient, flexible and, thereby, more attractive solutions. In addition, providing rights of access to the network for international services has paved the way for the urgently needed quantum leap in the quality of international rail freight services.

### **Additional supporting measures in support of short-term transfers**

The inland transport agreement, LSVA, the modernisation of railway infrastructure and railway reform will, however, only reach full flood in successive stages. NEAT, in particular, will only become operational in the 2006 to 2012 period. Consequently the Swiss Parliament – acting on a proposal from government – has decided on supporting measures to back up the shift in modal split in the interim period, until such time as the NEAT lines have been commissioned and LSVA takes full effect. These supporting measures are of a market economy nature and concern both road and rail. Three areas are involved:

- competitive conditions on road and rail are to be brought into line;
- railways must be made more productive;
- traffic on the roads must flow more fluidly.

Where the railways are concerned, the key measure is that of improving the basic conditions in which they have to operate. Compensation for combined transport is to be reorganised so that competition between operators can also play a role. From 2000 the Federal transfers will be available to reduce train path prices. With remaining funds, the Federal Government is to place orders for and defray costs of additional combined transport services. The new system of transfers will have more direct effects and should provide railways and operators with strong incentives to cut costs, improve quality and win new traffic.

Furthermore, Switzerland is prepared to contribute financially to the building of additional terminals abroad to overcome the persistent and urgent problem of transshipment capacity bottlenecks, without delay. CHF 180 million have been earmarked for the next ten years for the purpose but the resources will only be released if a terminal plays a part in traffic shipped via the Swiss Alps and fulfils a number of conditions in respect of access and efficiency. The intention is to avoid inefficient allocation of subsidies on the “a share of the cake for everybody” principle.

Further measures include simplification of the road approach and delivery sections of the unaccompanied combined transport process, international co-ordination of efforts to promote rail freight and emphasis on the need for the railways to enhance their productivity.

Finally, to expedite the modal shift process even before NEAT becomes fully operational, the annual operating grants for combined transport will be raised from CHF 125 million (1999) to an average CHF 259 million and the principle extended to wagonload traffic. This should enable rail freight services to develop strongly even in the shorter term.

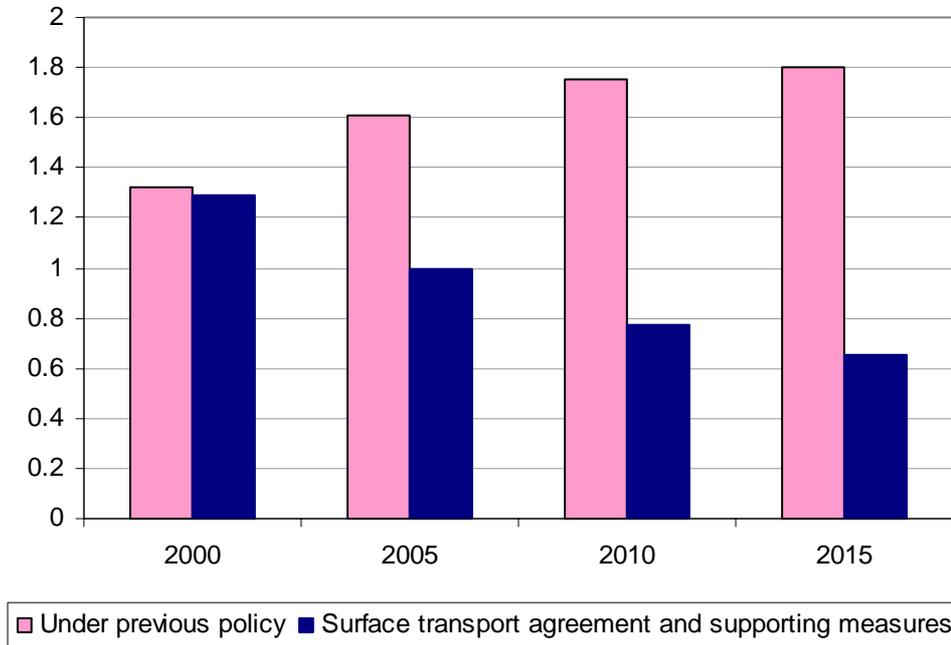
On the road side, the existing regulations are to be applied more systematically in the future. The cantons are responsible for road traffic controls. They will be receiving extra subsidies from central government to help them defray the extra costs of the requisite more frequent inspections.

### **The expected impact on freight traffic of the measures introduced**

The degree to which the measures outlined above enable Switzerland to reach its objective of finding a sustainable solution to the problem of freight traffic across the Alps was the subject of much analysis ahead of the measures and of monitoring since the beginning of 2001.

Had the previous policy been maintained, in other words the 28 tones limit and the corresponding cheap flat-rate road levies, the number of road vehicles crossing through the Alps were forecast to rise from 1.318 million in 2000 to around 1.8 million in the year 2015. With application of the overall Swiss modal shift package – LSVA, modernisation of railway infrastructure (NEAT), railway reform, the inland transport agreement and other supporting measures — road freight traffic growth was forecast to be halted in the short term with a downward trend from 2005, making the transfer to rail sought achievable. Figure 3 shows forecast HGV trips as set out in the legislation. The projections thus form an integral part of the package of measures under the inland transport agreement. As soon as possible and, at the latest two years after the opening of the Lötschberg base tunnel (around 2009 therefore) a maximum of 650 000 HGV should be allowed to transit on roads through the Swiss Alps. The rest will have to go by rail. This will enable the Alpine protection clause in the Swiss constitution to be fulfilled.

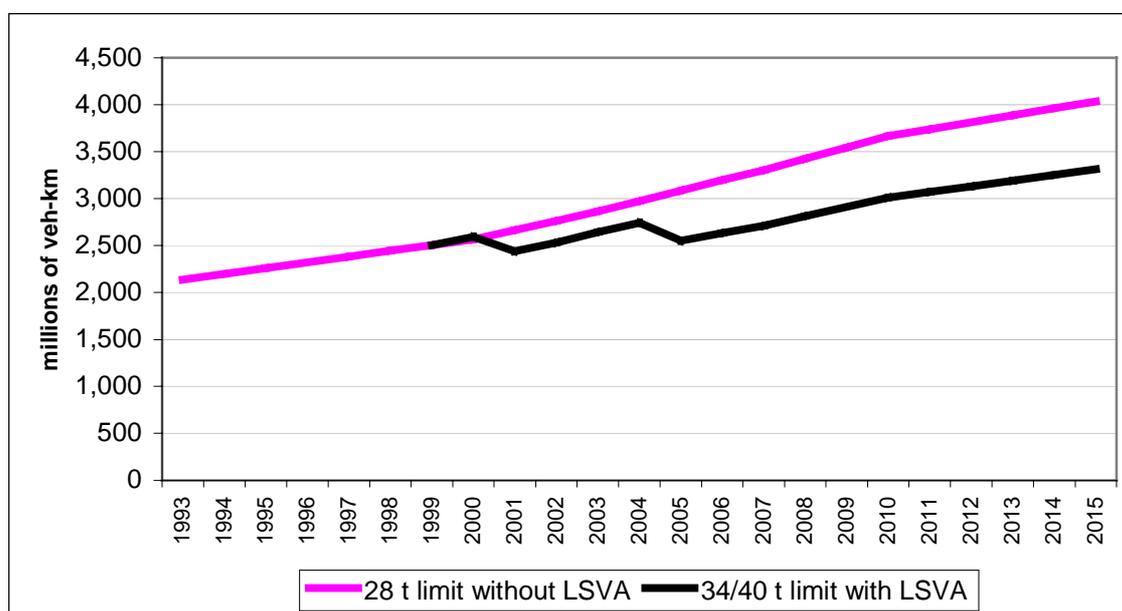
Figure 3. **Trans-Alpine road freight transport development prospects**  
(in million of HGV movements)



This is a highly ambitious goal and, in truth, there is no guarantee that it will be achieved by the deadline set. The reasons have less to do with the measures and approaches adopted in Switzerland itself and more to do with uncertainties about the development of rail freight transport and transport policy in Europe. If the quality of international rail services improves and railway productivity is enhanced in relation to the road alternative through competition on the rail freight transport market, then the shift forecast is a feasible proposition. A similar supportive role may be played by a road charge based on weight and distance (on the model of the LSVA) in the EU or only in Germany, given that approximately only one third of the costs of Alpine combined transport are incurred in Switzerland. If railway reform in Europe is only enforced half-heartedly and the standard of international rail services does not improve, Switzerland's hopes as regards transfers from road to rail could turn out to be over-optimistic.

Figure 4 shows forecast vehicle kilometres for all HGV traffic in Switzerland as a whole, according to the government's report, *The effects of the bilateral inland transport agreement between Switzerland and the European Union on road and rail freight traffic*, GVF 2/99. The report forecast that vehicle-kilometres for road haulage traffic as a whole for the period 2000 to 2015 would increase by 50% if no regulatory changes were made (28 tonne limit, no LSVA). The new scenario (introduction of the LSVA in two stages with a simultaneous increase in the weight limit) should, according to the GVF report, cause the level of growth to be halved. At the same time the years in which the charge is introduced (2001) and then raised (2005 and 1<sup>st</sup> January 2008 at the latest) are expected to experience a decline in vehicle-kilometres driven. These calculations do not show how great an influence is exerted by each of the two factors, charge and weight limit, taken individually. It is certain that the expected halving of the growth in traffic cannot be ascribed solely to the higher weight limit — the resulting gain in productivity makes road transport cheaper and therefore more attractive.

Figure 4: Vehicle-kilometres for all road haulage traffic (internal, import, export and transit traffic)



Source: GVF report 2/99

The sharp change in trend for trans-Alpine goods transport expected in figure 3 is not fully reflected in the trend for Switzerland as a whole: its significance in relation to transport as a whole is fairly slight (it represents about 12% of the total volume of freight transport); and external factors such as weight limit, quotas, measures on the part of the railways and the redirection of traffic, clearly play a much greater role for the trans-Alpine part of traffic.

### Monitoring of HGVs since the introduction of the LSVAs

The impact of the introduction of the LSVAs and accompanying measures is being monitored by the Government in conjunction with the EC DESIRE research program (Design for interurban road pricing schemes in Europe). Case studies will be completed in early 2002, and the comments here are based on interim assessment in autumn 2001, 9 months after the introduction of the new road charging system. It should be noted, first of all, that prior to introduction of the LSVAs, most concern had been expressed over its potential impact on high street prices. However, the new charges were not introduced in isolation, and the increased weight limits brought the potential for large compensating gains in productivity.

Eventually, more complete data on truck movements will be available from the electronic fee collection system, but current monitoring is based on a more limited pre-existing monitoring system using long vehicle counters (LVCs). These both count vehicles and classify them according to length. In relation to the LSVAs two categories are of interest: class 4 (> 12.5m) and class 3 (6—12.5m). Class 4 vehicles are without exception liable to the LSVAs, class 3 vehicles predominantly so. Monthly results for the period January to July 2001 were compared with the corresponding figures for periods between 1997 and 2000. The disadvantage of drawing a comparison with several periods from previous years is that, as a result of defects in the counters or the fact that counters were only brought into service during the most recent period, few results are available from the counters. But this is more than compensated by the greater reliability of the results thus obtained. To check reliability, the trend from 1997 to 2000 was also compared with Swiss road traffic counts carried out between 1995 and 2000. These methodologically different types

of survey tallied very closely: average annual growth rate of 5.2 % measured at the 40 conventional road traffic counting points, compared with 6 % at the 47 LVC counting points.

The result of a first assessment of the LVC figures was unequivocal. While traffic in both classes steadily increased between 1997 and 2000, with average growth rates of 6 % for class 4 and around 5 % for class 3, the corresponding period in 2001 saw a clear 3 % fall in total traffic. This provisional finding called for closer analysis. In particular it was necessary to determine whether the result was influenced by the change in the choice of routes. Closer examination reveals that such change does have a certain effect. On the one hand traffic takes alternative routes along the frontiers, the drivers being prepared to travel slightly longer distances; on the other hand traffic leaves the major road network, as shorter alternative routes are to be found on the minor roads, and by taking them drivers are able to save on the LSVA.

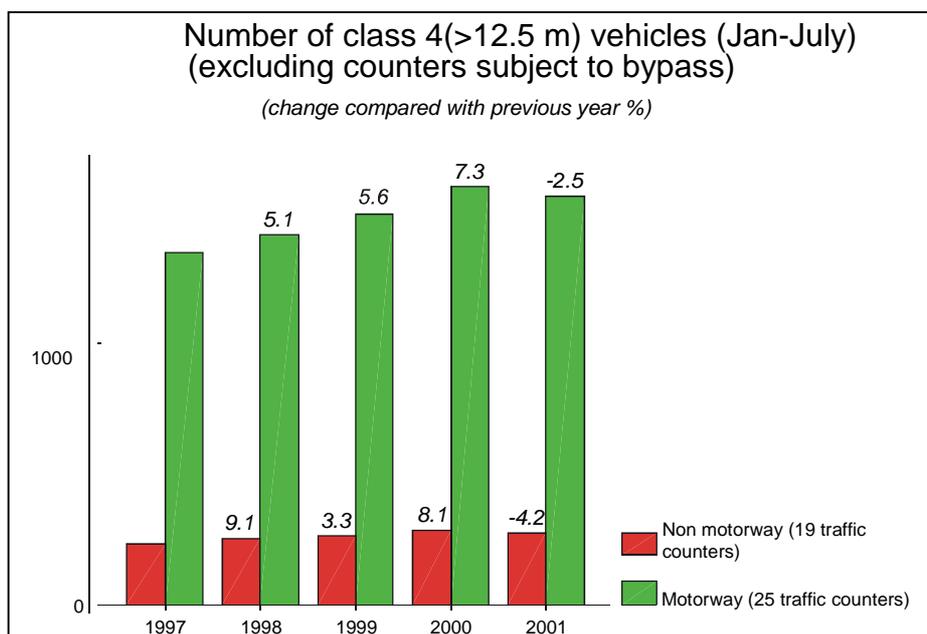
### ***Traffic shift along the frontiers***

A fall in the heavy vehicle traffic on the Swiss side of the frontier between Basle and Koblenz was clearly evident. This fall could be largely traced back to a shift in traffic to the road network north of the Rhine. It is conceivable, though it cannot be proven owing to a lack of counting points, that re-routing effects are also to be found on the south bank of Lake Geneva (certainly insignificant according to information from the customs authority), in the Rhine valley and in Tessin. In relation to the total amount of traffic, however, such shifts are not relevant.

### ***Traffic shift inside the Swiss border***

The fall in traffic revealed at individual counting points can be ascribed with a greater or lesser degree of probability to the fact that drivers chose a shorter route. This is clearly apparent, for example, at counting point N° 142 at Zofingen, where a decline of 5.4 % is revealed (January to July 2001 compared with January to July 2000). It is highly probable that this effect is the result of drivers' choosing a clearly shorter route. In order not to diminish the plausibility of the results of the study, certain counting points, where the fall in traffic was clearly connected with the choice of a shorter route, were not taken into account in the overall assessment. The option - interesting in itself - of including the routes to which the traffic had (presumably) shifted was unfortunately impossible, owing to a lack of LVCs. With the "by-passed" counting points left out, the conclusion that the reduction in vehicle-kilometres was due to the LSVA is certainly weakened, but not refuted. Traffic counters installed on roads other than motorways, confirm the trend of a fall in traffic and re-routing outside the motorway network is not an issue. Generally, the results show a fall in vehicle-kilometres of 2.5 % on the motorways and 4.2 % on other roads (Figure 5).

Figure 5: Changes in number of class 4 (>12.5 m) vehicles



Source: Are, data from Long Vehicle Counters, Astra)

In relation to the effect of this shift in traffic on the villages that bear the brunt of it, the cantons are entitled by law to a third of the net yield of the LSV. They are thus provided with the means to cope more or less effectively with the negative effects of the increased traffic (or indeed all traffic), for example, by introducing measures to reduce traffic noise or limit traffic levels or by building by-pass roads.

### *Where has the traffic gone?*

In relation to the underlying trend, the LSV has brought about a fall in vehicle-kilometres of the order of 9 % (this is the difference between the trend up to introduction of the LSV, +6% per annum, and the result for 2001, -3%). Is this attributable to transferring traffic to rail, or to greater efficiency in the road haulage industry (utilising vehicles to greater effect, avoiding empty runs), or are more goods simply being transported by commercial vehicles that are not liable to the heavy vehicle charge? There are no conclusive answers to these questions at present, though there are developments that suggest the way things will develop.

### **An example: The firm Zingg Transporte AG**

The firm Zingg Transporte AG in Hedingen carries refrigerated, deep-frozen and conventional shipments. In the year 2000 its Swiss operations represented around 6 million vehicle km with a fleet of vehicles liable to the heavy vehicle charge. As a result of a series of targeted measures, such as the further improvement of their service to customers, targeted acquisition of contracts, or the provision of "Smart" cars for work trips that had formerly been made in lorries, it was possible to achieve a significant reduction in the proportion of empty runs. Together with the gain in productivity due to the higher weight limit, it was possible to lower the total number of kilometres covered annually by around 5 %.

According to information from the Swiss national railway (SBB), freight carried by the SBB in the first half of 2001 (measured in tonne-km) increased by 1 %. This can not, however, be considered an indication of a transfer of traffic to rail.

It is interesting to note the above-average growth, of 8.7 %, in internal Swiss rail traffic. Since the increase in the weight limit has played a significantly smaller role in this field than in that of import/export or transit traffic, the LSVA is likely to be largely responsible for the effects here.

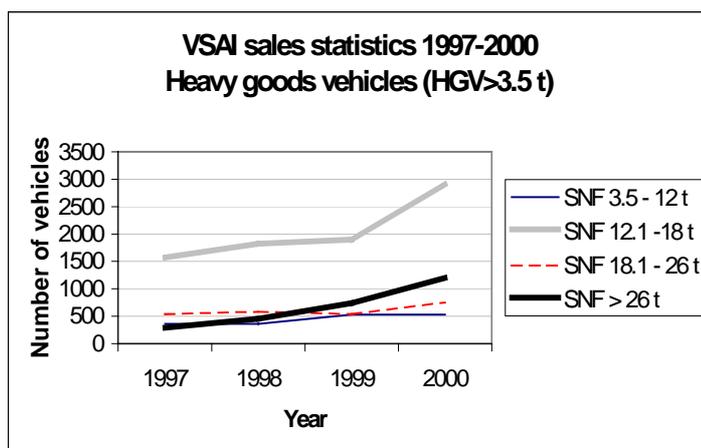
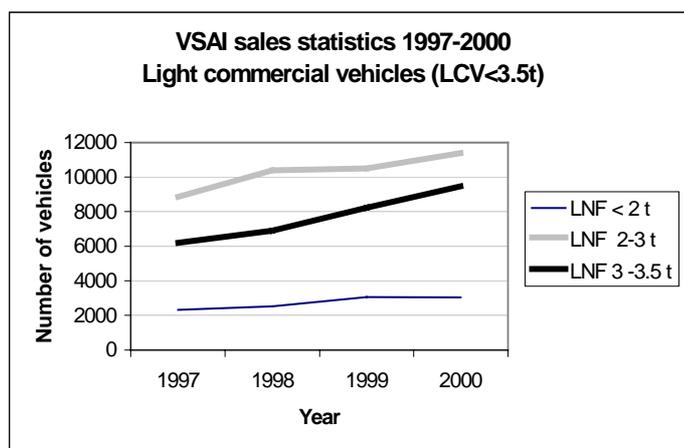
### *Increased efficiency*

Two factors are suggested to explain the observed growth in vehicle-kilometres: the higher weight limit allows the transport of more goods per vehicle-kilometre; the restructuring that occurred in the run-up to the introduction of the LSVA, together with logistical improvements, led to a clear reduction in the number of empty runs. The example of Zingg Transporte in Hedingen shows the second factor would seem to be the more significant one. This is all the more likely if, as the customs authorities maintain, the proportion of empty runs has clearly fallen in the fields of export, import and transit traffic.

### *Light commercial vehicles*

The vehicle-kilometres travelled by light commercial vehicles in the 3—3.5 tonne category are of interest as they may be able to substitute for vehicles liable to the LSVA. However, no relevant surveys are available, either for the period before the introduction of the LSVA or the period after its introduction, and even the LVC counts provide little help in surveying vehicles that are not much longer than large passenger cars. The VSAI (Association of Swiss Automobile Importers) sales statistics for the period 1997 to 2000 provide a clue: according to these statistics, the sale of delivery vehicles in 2000 was up by an average of 15 % on previous years (1997 up by 11 %, 1998 up by 19 %, Figure 3). It is therefore not possible to speak of a clear shift from heavy to light vehicles, at least on the basis of new vehicle sales, especially if we consider that the sale of heavy goods vehicles increased by a dramatic 45% in the same year. Assuming many of these vehicles replace old 28 tonne trucks there should be significant benefits in improved exhaust emissions. Figure 7 reveals a clear trend towards heavier vehicles.

Figure 6: VSAI sales statistics for LCVs (deliveries)    Figure 7: VSAI sales statistics for HGVs (orders)



## **Results and prospects**

On the basis of available findings it is possible to draw three provisional conclusions:

- With the introduction of the LSVA the steady increase in vehicle-kilometres travelled by heavy goods vehicles has stopped, at least temporarily. In comparison to the previous trend, vehicle-kilometres fell by around 8 % in the first seven months of 2001;
- This effect can be ascribed chiefly to an increase in efficiency in the road haulage sector. An essential contribution to this must have been made by the improvements in logistics and better utilisation of vehicles;
- The LSVA has encouraged the trend towards low-emission vehicles.

## **Conclusion**

Sustainable mobility is only attainable in Switzerland if a maximum of Alpine road traffic transfers to rail. The key to this process will be the inland transport agreement. Together with supporting measures, the agreement is designed to underpin the Swiss target of a shift to rail on a contractual basis with the rest of Europe. It also provides a focus for co-ordinated efforts across Europe to protect the vulnerable Alpine biosphere. This is of enormous importance, given that three-quarters of all HGVs currently transiting through Switzerland are international traffic. By signing the inland transport agreement, both Switzerland and the EU have shown how seriously they take the issue of promoting the rail mode as a way of protecting the environment and the quality of life.

## Measures in support of the bilateral inland transport agreement between Switzerland and the EU

<p><b>Road-related measures</b></p> <p><b><i>Reinforcement of HGV traffic controls</i></b>            Consistent application of existing road traffic regulations (driving hours, rest periods, maximum speeds, maximum weights, etc.). Cantons to receive contributions towards their additional costs on the basis of a performance-related agreement with the State.</p> <p><b><i>Working conditions in road freight traffic</i></b>            Present regulations regarding labour conditions (e.g. driving hours and rest periods) to be underpinned at international level by ratification of the European agreement on the working conditions of driving crews employed in international road freight haulage.</p> <p><b><i>Control of HGV traffic in the event of saturation of transit routes through the Alps</i></b>            In the event of major saturation on individual Alpine transit routes, the government may enforce traffic restrictions. Application of such measures would be on a non-discriminatory basis.</p> <p><b><i>Securing the period of validity of the night traffic ban at legal level</i></b>            The validity period for the ban on night and Sunday movements has been now consigned to law.</p>	<p><b>Rail-related measures</b></p> <p><b><i>Increasing the efficiency of rail freight transport; reorganisation of compensatory payments</i></b>            The operating grants awarded to rail freight transport are being reorganised to step up competition in subsidised rail freight transport and increase the effects of subsidies. Part of the money will go towards reducing the cost of train paths for combined and wagonload transport. The other part will be used by the government to order and defray additional combined transport services.</p> <p><b><i>Guaranteeing the availability of adequate transshipment yard capacity at home and abroad</i></b>            The government is to make financial contributions to the development of additional transshipment terminals at home and abroad to resolve urgent bottleneck problems. The funds earmarked for the purpose will, however, only be released for projects fulfilling requirements as regards access, efficiency and benefits for Switzerland.</p> <p><b><i>Simplification of road collection and delivery services associated with unaccompanied combined transport</i></b>            Road cartage associated with unaccompanied combined transport is treated as an exception under the LSV, and the present regulations governing catchment areas are to be withdrawn. This will make unaccompanied combined transport an attractive alternative to road transport for other potential shippers.</p> <p><b><i>International support for rail freight transport and speedier frontier procedures</i></b>            Since modal shift can only really be achieved at international level, the government is to work towards obtaining internationally co-ordinated support for rail freight and for faster border crossing procedures.</p> <p><b><i>Faster completion of the Lötschberg base tunnel</i></b>            The NEAT is to be completed as soon as possible. Approval procedures will be expedited to this end.</p> <p><b><i>Enhanced railway infrastructure productivity</i></b>            As the owner of CFF/SBB AG, the government is setting the CFF/SBB Infrastructure Division the task of reducing infrastructure costs per passing train by at least 5% per annum until 2002. The same principles will apply to the private Alpine railway company BLS when placing orders for use of transit infrastructure.</p> <p><b><i>Increasing rail operating productivity</i></b>            Railway operation must also show productivity improvements. As owner, the government is insisting that the CFF/SBB Freight Division achieve annual productivity enhancements of at least 5%.</p> <p><b><i>Accelerating modal shift in the transition period (raising annual operating contributions)</i></b>            To halt the trend towards continued growth in the volume of heavy road haulage through the Alps even in the transition period and accelerate the process of modal shift to rail, the Federal Council is to increase the annual grants for combined transport from CHF 125 million in 1999 to an average of CHF 259 million (new for train path reductions and combined transport service orders). In the transition phase, wagonload traffic should also enjoy the benefits of cheaper train paths.</p>
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3. This report was drafted by Jeremy Drew and does not necessarily represent the views of the British government.

## 1. INTRODUCTION

### **British Government Policy<sup>4</sup>**

The British Government's 1998 White Paper<sup>5</sup> stated that the Government would promote the role of rail freight in order to:

- relieve pressure (i.e. congestion) on the road network,
- bring environmental benefits.

Concern about congestion and the environment arises because road traffic has increased by 70% over the past 20 years and this pace of growth is not considered to be sustainable.

The main instruments for achieving a switch from road to rail are contained in the Transport Act 2000. Also important is the Government's 10 Year Plan for transport<sup>6</sup>, which envisages "a significant increase in rail's share of the freight market by 2010". The Plan states that "it ought to be possible to increase the rail market share to 10% from 7%, an 80% increase in rail freight, provided the rail freight companies can deliver improvements in performance and efficiency". These figures may be compared to a forecast increase in demand for freight by all modes of 25-30%.

### **Purpose of this Report**

The purpose of this report is to examine the current arrangements and plans and the required conditions, mainly in terms of finance for investment and operations, for achieving a significant increase in rail's share of the freight market in Britain. Sister reports cover other countries.

In carrying out this examination, a comparison is made with the highly ambitious approach being adopted in Switzerland. In making this comparison, account is taken of the major differences in circumstances between the two countries:

- the importance of transit traffic in Switzerland and its absence in Britain;

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4 . This report deals with Great Britain since plans and data are available for Great Britain only, and Northern Ireland has a separate railway.

5. *A New Deal for Transport: Better for Everyone*, Department of Environment, Transport and the Regions, July 1998, paragraph 3.32.

6. *Transport 2010, The Ten Year Plan, Annex 2, Targets and Indicators*, Department of Environment, Transport and the Regions, July 2000.

- the overriding importance attached to conserving the Alpine environment in Switzerland in contrast to wider concerns in Britain;
- the resulting focus on Trans-Alpine freight traffic in Switzerland.

### **Structure of the Railways**

Unlike other European railways, the railways in Britain have since 1996 been entirely owned and managed by the private sector with separate companies responsible for infrastructure (Railtrack), rolling stock provision (ROSCOs) and train operations<sup>7</sup>.

A Rail Regulator referees the relationships between Railtrack and operators. His duties are defined in the Railways Act 1993 as amended by the Transport Act. Under the Transport Act, the Regulator has concurrent powers with the Office of Fair Trading in relation to competition in the rail industry.

Whatever the merits of this structure for improving accountability and management focus, and for facilitating competition, its complexity makes planning and implementation of investment far more difficult than in countries where the railways are unified and state owned. To fill the gaps left by the original privatisation structure, the Transport Act 2000 established a Strategic Rail Authority (SRA); this came into being on 1 February 2001 after operating in shadow form since 1999. SRA is a non-departmental public body but receives Objectives, Instructions and Guidance from the Secretary of State. SRA provides strategic direction and funding to the industry and has wide powers to promote rail freight<sup>8</sup>.

However, the establishment of SRA has not been sufficient. Recent criticisms of the structure and options for change are discussed in Chapter 5.

### **Economics of Rail Freight in Britain**

The geography of Britain does not always favour rail freight because of the short distances for some freight movements. For other movements, particularly of bulk materials, high volumes make distance less important. Freight has therefore become an increasingly marginal activity for railways in Britain representing only about 10% of the total revenue (including subsidies) of the industry.

Historically, freight has been expected to cover only its avoidable cost but, unlike passenger services, rail freight has until recently received almost no subsidy. Investment and management of the network has been largely determined by the needs of the politically important and subsidised passenger railway.

Despite British Rail pulling out of less lucrative freight markets in the years before privatisation and five years of private sector management, rail freight remains relatively unprofitable in Britain. Railtrack claims that the track access charges it receives from operators currently provide it with no financial incentives to improve its services to rail freight. The profitability of rail freight operators is also poor. It is accepted by SRA and the Rail Regulator that freight is unable to pay for either common costs

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7. The railways were privatised under the Railways Act 1993 and most activities were transferred to the private sector around 1996.

8. SRA's powers are limited in Scotland and Wales because of devolution. In this paper the arrangements in England are described.

(with passenger services) or major enhancements. The passenger railway, which receives substantial subsidies, therefore pays for common costs through its access charges.

## 2. RAIL FREIGHT IN BRITAIN

### Trends in Rail Freight

Freight moved on the railways in Britain declined from 37 billion net tonne km in 1952 to 13 billion net tonne km in 1995/96, the last year before rail privatisation. Rail's share of the total land freight market declined over the same period from 42% to 6%. Trends are shown in Figure 1<sup>9</sup>.

Figure 1. Freight Moved on National Railways  
Tonne-kilometres and Percentage of all Freight:  
Great Britain 1952 to 199/00



A report on the rail freight market for the Rail Regulator in 1997<sup>10</sup> concluded that a large proportion of the changes in rail freight volumes over the previous 15 years had been due to exogenous factors affecting the total demand for transport. However, the price and service offered by rail and road were also found to have affected modal choice:

9 Source: DETR website

10. The Potential for Rail Freight, NERA, 1997.

- falling road costs had led to a small reduction in rail's share of bulk traffic;
- relative price and service levels (particularly reliability and flexibility) had affected modal choice for non-bulk traffic.

The report forecast modest growth in rail freight rising from 13.1 in 1995/96 to 17.2 billion net tonne km by 2005, providing key industry improvements were made. It projected a small decline if those improvements were not made. These projections were made following years of decline. In the event, an extraordinary turn round took place and 17.3 billion net tonne km were carried by rail in 1998/99, already exceeding the 2005 projection. Traffic then reached 18.2 billion net tonne km in 1999/2000. It fell slightly 18.1 billion net tonne km in 2000/01<sup>11</sup> but the SRA estimates that it would have grown by 6-8% had it not been for a serious accident at Hatfield and its aftermath<sup>12</sup>. However, this still represents 7-8% of the total traffic<sup>13</sup>, one of the lowest percentages in the EU and well below the average rail share in the EU of 14%.

### **Rail Freight Operators**

At privatisation, about 90% by volume of British Rail's rail freight businesses were sold (for £225 million) to a consortium led by Wisconsin Central, a US railway company. This business is now known as English Welsh and Scottish Railway (EWS). Wisconsin Central, which has agreed to merge with Canadian National (this was approved by US regulators in September 2001), still owns 42.5 % of EWS but may sell its share once EWS is on a sound financial footing.

EWS carries trainload traffic (mostly bulk) within the UK, operates trains through the Channel Tunnel and carries mail for the Royal Mail. It has also been successful in building up a wagonload business. However, despite rapid growth in traffic and revenue (now over £500 million annually), it has failed to make adequate profits<sup>14</sup> because of increasing costs (partly the leasing charges on its new rolling stock) and the rate reductions made immediately following privatisation in order to increase volumes.

British Rail's maritime container business, Freightliners (95% deep sea), was bought by its management in 1996. Despite growth in traffic and revenue (turnover reached £130 million in 2000/01), Freightliners made a pre tax loss of £2.7 million in 2000/01. This was because revenue growth has failed to offset the reduction in its track access grant from Government. Results in 2000/01 were also affected by a downturn in the container traffic to the Far East and the accident at Hatfield<sup>15</sup> which together led to a 4% fall in containers carried. Freightliner Heavy Haul was established in 2000 as a separate company within the same group to compete with EWS: it grew several times over in 2000/01, having secured contracts worth over £10 million a year.

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11. Source: National Rail Trends, 2001/-02, September 2001. There was no increase in tonnes lifted over the period. The increase in tonne km may be explained by increased lengths of haul. The figures before and after privatisation are not strictly comparable because the method of collecting the data changed but the discrepancy is not thought to be material in the context of 40% growth in traffic.

12. *Annual Report 2000-01*, SRA

13. Excluding coastal shipping.

14. Net income for EWS in 2000 was estimated at about £15 million, a margin of less than 3%. This is down from £22 million in 1999. Source: Wisconsin Central accounts adjusted for its 42.5% share in EWS.

15. Train derailment north of London in October 2000 as a result of a broken rail, killing 4 people. Weaknesses revealed by the accident in Railtrack's inability to identify and repair potentially dangerous sections of track led to the imposition over several months of over 1000 speed restrictions across the country.

There is an open access regime for freight and the other rail freight operators are:

- Direct Rail Services, a subsidiary of British Nuclear Fuels, which carries goods on its own account;
- GB Railfreight which has an 8-year contract to transport materials for Railtrack and is also winning other business.

Several other companies are also considering entering the market but have been put off by:

- High access charges (making it difficult for new entrants to compete with EWS which has a negotiated track access agreement with Railtrack with high fixed but low variable charges) – this barrier should be removed with the new access charging regime effective retrospectively from April 2001 (see separate section below).
- Difficulties in obtaining affordable rolling stock.

Despite these barriers, competition is developing for bulk traffic, including coal, waste, cars and the transport of materials for Railtrack, all markets which were previously served only by EWS. The SRA is also examining barriers to entry to see how best to remove them.

### **Causes of Recent Turn Round**

Most of the 5 billion net tonne km (40%) increase in traffic between 1995/96 and 2000/01 has been in two areas:

- Coal - net tonne km increased by 1.2 billion despite the fall in tonnage handled because of the switch to imported coal which is carried over longer distances (it is still the largest market for rail freight with 26% of total rail freight tonne km in 2000/01).
- Maritime containers - net tonne km increased by 1.5 billion, again mainly because of longer distances of haul.

This growth in traffic cannot be attributed primarily to investment. EWS has invested about £600 million (out of a planned £700 million) in locomotives, wagons and a new major customer service centre and Freightliners has also made investments. However, these investments have only recently started to have an impact on traffic levels.

Nor can much of the growth be attributed to government grants which, given the scale of the challenge, have until recently been running at a modest level (see Annex A for details). Freight facilities grants, which are capital grants paid to single companies to pay for the capital cost of providing rail freight facilities, between 1996/97 and 1999/2000 totalled only £45 million (an annual average of £11 million). In 2000/01, the figure increased dramatically to £43 million but this is unlikely to have had much effect on growth in that year. Track access grants, which are revenue grants to help rail operators meet track access charges, totalled £113 million between 1996/97 and 2000/01. £75 million of this was granted to allow the privatisation of Freightliners, leaving only £29 million for other purposes. These grants are unlikely to have had a significant effect on traffic growth so far.

It is therefore concluded that growth in rail freight in the period since privatisation may be attributed to:

- exogenous factors, principally growth in the economy and patterns of trade and changes in sourcing for coal;

- the more commercial way of working following privatisation, including greater focus on customer needs.

## **Performance**

A survey<sup>16</sup> for the Rail Regulator before the Hatfield accident showed that freight customers were generally dissatisfied with the performance of the rail industry. Their key concerns were price (usually the key reason for choosing rail) and reliability. They were most critical of Railtrack but also of operators. Immediately following privatisation, EWS focused on growth and customers have complained that quality has suffered. EWS has since become more selective about the business it will take on and is focussing more on quality. However, all freight operators are finding it increasingly difficult to obtain paths and deliver reliable services because:

- the railway is becoming increasingly congested during the day because more passenger services are being introduced in response to the major growth in passenger demand since privatisation;
- more engineering work is being carried out, mainly at night or weekends, in order to make enhancements to the network and Railtrack and its contractors make inefficient use of track possessions;
- the absence of suitable alternative routes when possessions are taken which makes it difficult to provide 7 day 24 hour services as increasingly required by customers.

Improving the quality of service to customers in the future will therefore require both more investment and more efficient management of the network, especially during the implementation of enhancement projects. Measures in the SRA's Freight Strategy, particularly in relation to investment, should lead to an improvement in service quality.

### **3. BRITAIN'S APPROACH TO INCREASING RAIL FREIGHT**

#### **The 10 Year Plan**

The 10 Year Plan represents part of an ambitious strategy for tackling congestion and pollution by improving all types of transport. The key elements of the approach are:

- Integration – looking at transport as a whole rather than at individual sectors separately.
- Public Private Partnerships (PPPs) – use of the private sector to boost investment.
- Modernisation of the network through new projects.

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16. *National Survey of Rail Freight Users - Summary of Results*, Office of the Rail Regulator, August 2000. Note the sample for this survey was very small.

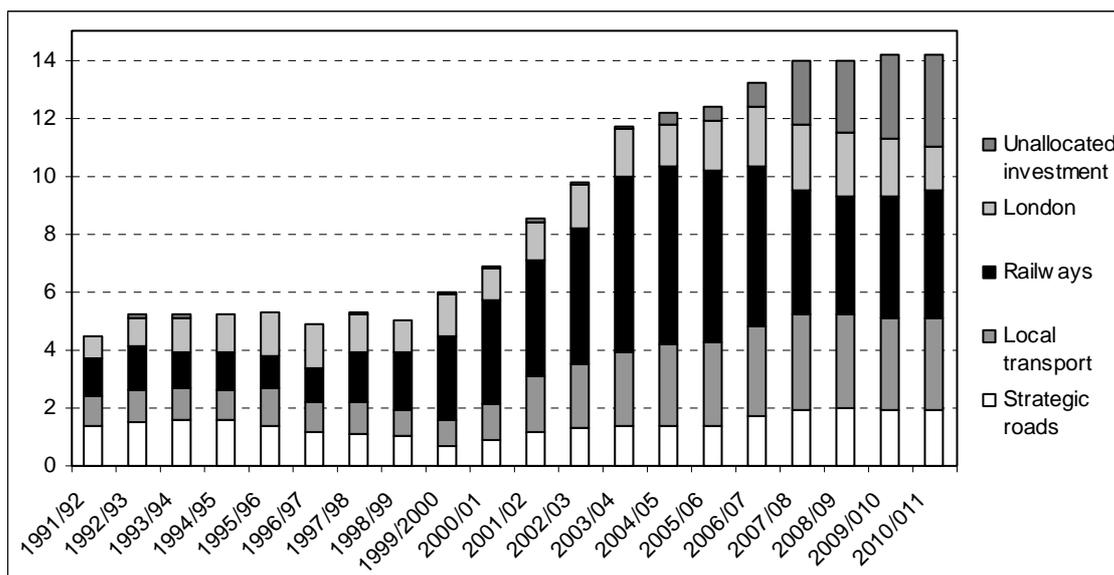
Table 1 summarises the planned investment and public resource spend<sup>17</sup> in the 10 Year Plan by source of funding:

Table 1. **Planned Investment and Public Spend, Rail and Other (2001/2-2010/11)**  
£bn

Mode	Public investment	Private investment	Total investment	Public resource spend	Total
Rail	15	34	49	11	60
Other	50	22	72	48	120
Total	65	56	121	59	180

Table 1 shows that, under the 10 Year Plan, rail represents one third of total planned investment and public resource spend. About £49 billion of investment is planned for the rail system as a whole (£42 billion in 1999/2000 prices). In the 10 years to 2000/01, annual investment has been only about £1.8 billion.<sup>18</sup> The planned annual investment of £4.2 billion (in 1999/2000 prices) is therefore more than double the level over the past 10 years<sup>19</sup>. Figure 2 shows how total public and private investment will evolve over time. Rail freight figures are not differentiated from passenger related spending but the figure makes it clear that, under the plan, expenditure in the first few years is lower than the annual average, building up in the middle of the coming decade.

Figure 2: **Public and Private Investment by Mode 1991/92—2010/11 (£ billion)**



About £34 billion (70%) of planned investment in rail would be financed by the private sector, reflecting the ownership of the sector. This is a lower proportion than during the period since privatisation,

17. Revenue support for services paid on a recurring basis by the public sector. Figures exclude direct revenue support for private investment.

18. *National Rail Trends*, SRA, 2001.

19. Despite the disruption caused by privatisation, annual investment in the 1990s exceeded that between 1960 and 1990. The Plan is even more ambitious when compared to earlier years.

when there has been almost no public investment in railways. However, it has been argued by the Railway Forum<sup>20</sup> that unless there are major increases in public investment, adequate private investment will not be attracted to the railway and total investment will not be sufficient to cater for anticipated increases in the demand over the next 10 years: 50% for rail passenger and 80% for freight.

There are further reasons why the investments in the 10 Year Plan may not be adequate. Most rail investment over the next five years will be on two major projects, the Channel Tunnel Rail link and the West Coast Main Line, both of which are aimed at high speed passenger services. Small scale investment is also needed for both passenger and freight services and may produce higher returns than larger projects underway. Smaller projects have proved difficult to fund with the current structure and contractual arrangements in the industry and lack of funding may further inhibit growth, especially as recent events have put strains on the SRA budget.

Based on the 10 Year Plan, the SRA currently plans the following source and application of funds (separately for rail freight and passenger beneficiaries).

Table 2: **Planned Investment and Public Spend, Rail Freight and Passenger 2001/2 – 2010/1 (£bn)**

<b>Business</b>	<b>Public investment</b>	<b>Private investment</b>	<b>Total investment</b>	<b>Public resource spend</b>	<b>Total</b>
Freight	2.6	0.6	3.2	0.8	4.0
Passenger	12.1	33.7	45.8	10.5	56.3
Total	14.7	34.3	49.0	11.3	60.3
% freight	18%	2%	7%	7%	7%

Table 2 shows that, of the total £60 bn investment and public resources spend planned for rail, £4 bn will be for schemes that primarily benefit rail freight<sup>21</sup>. Most funding for freight will come in the form of public investment, in contrast to the rail passenger businesses, for which funding will mainly be from private investment. Freight represents about 18% of total rail investment by the public sector but only 7% of overall investment.

### **Scenarios for Rail Freight**

A background paper to the 10 Year Plan<sup>22</sup> set out three illustrative scenarios and the associated growth of rail freight over the next 10 years. These are summarised in Table 3.

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20 *Building the Railway for the Future*, The Railway Forum, May 2001, based on a paper *A Plan for Growth*, Dr Rana Roy.

21 . Some primarily passenger schemes will also yield benefits for freight.

22. *Transport 2010, The Background Analysis*, Department of Environment, Transport and the Regions, 1998.

Table 3. **Ten Year Plan Scenarios and Rail Freight Projections (2000-2010)**

<b>Scenario</b>	<b>Forecast increase in net tonne km</b>
<b>Baseline:</b> No improvement in rail costs and service quality	38% growth (10% if capacity constraints not removed)
<b>Plan:</b> Improvements in rail services (offset by continued decline in the real cost of road haulage)	80% growth
<b>Constant motoring costs:</b> As Plan plus zero track access charges for marginal flows under 400 km and no change in the real cost of road haulage	120% growth

The Plan Scenario envisages improvements in rail service from gauge enhancements, longer trains and increased terminal capacity. In the Plan, these improvements are forecast to lead to an 80% increase in net tonne km. However, the wide range of forecasts under the alternative scenarios illustrates the sensitivity of rail freight traffic to the effectiveness of rail improvements and to changes in the costs of road haulage. The choice of mode for intermodal traffic, which SRA expects to be the main growth market, is particularly sensitive to levels of service and charges. Achieving forecast growth will therefore depend on:

- government policies to support rail freight with significant injections of public sector funds carefully targeted to achieve maximum impact;
- investment by the private sector, including Railtrack, in response to positive commercial incentives and improvements in rail industry management;
- implementation of policies affecting road haulage costs.

### **SRA's Freight Strategy**

SRA has developed a strategy to encourage the carriage of freight by rail using its powers under the Transport Act 2000. Its Freight Strategy document was produced in May 2001 and contains four elements: network, interchange, funding and service delivery. The aims and instruments of each of these elements are described in Table 4:

Table 4. **Aims and Instruments of SRA's Freight Strategy**

<b>Elements of Strategy</b>	<b>Aims</b>	<b>Instruments</b>
Network	To provide capacity for growth, continuous path availability, alternative routes and ability to deal with disruption.	<ul style="list-style-type: none"> <li>• Network investment</li> <li>• Maintenance planning</li> </ul>
Interchanges	To connect new customers to the railway via freight interchanges	<ul style="list-style-type: none"> <li>• Proactively facilitating the process of development</li> </ul>

	or rail connected premises.	<ul style="list-style-type: none"> <li>• Influencing the planning process<sup>23</sup></li> </ul>
Funding	To support the above aims while proving value for money, efficiency and appropriate incentives.	<ul style="list-style-type: none"> <li>• Support for investment in network and interchanges.</li> <li>• Revenue support (focussed on traffic not companies)</li> </ul>
Service delivery	To improve standards of quality of service and efficiency .	<ul style="list-style-type: none"> <li>• Promotion of competition and innovation</li> </ul>

Based on its preliminary estimate of the amount of expenditure in each area that can be justified by the external benefits, SRA has made the following allocation for the £2.6 bn of public investment for rail freight (see Table 2):

- **Network:** SRA is developing corridor investment plans to allow forecast freight demand to be carried more efficiently and with a higher quality of service (£1.5 billion has been allocated for this purpose, much of it for increasing gauge to allow transport to ports of modern 9' 6'' maritime containers<sup>24</sup> and to improve services to the Channel Tunnel).
- **Interchanges:** The SRA plans to relaunch the current Freight Facility Grant system to widen the range of interchange facilities and costs that can be paid for, to allow other methods of funding as well as grants and to increase competition between operators (£1.1 billion has been allocated for this purpose).

The SRA has allocated £0.8 billion for revenue support for freight services. It plans largely to replace the current Track Access Grant (TAG) system, whereby payment are linked to specific operators, by a company neutral revenue scheme, under which grants would be linked to traffic flows. This will allow operators to compete in the market taking account of pre-advised subsidies, based on environmental benefits. The company neutral scheme is still subject to EU approval although it is considered to conform more closely to EU rules on state aid than the TAG scheme. The SRA plans to continue to provide track access grants to specific operators in exceptional circumstances such as where there are short-term opportunities or during a build up phase.

In the past, there was no clear distinction between funds for investment for freight and investment for passengers so it is not possible to compare investment plans for freight with past investment. However, it is possible to compare planned revenue support with past awards. An annual average of £110 million has been allocated in the Plan to Freight Facility Grants. This is 10 times the average annual award for the four years 1996/97 to 1999/2000 (£11 million p.a.). In 2000/01, the change in policy was already beginning to have an impact with level of awards increasing to £43 million. Similarly the annual allocation for revenue support is £80 million, which is over five times the average for the past five years. This step change partly reflects the widening of the scope of these schemes and they should have a significant impact.

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23. This is mainly the responsibility of regional or local government but SRA is consulted on matters that might affect rail freight.

24. 20% of all containers moving internationally from Britain are now 9' 6''. This is becoming the international standard. These containers are too large to be carried on Britain's railways at present but pose no problem for road haulage.

The Strategy makes it clear that the SRA intends to interpret its statutory duties widely and to be highly proactive in promoting the development of freight by:

- working closely with authorities at regional and local level to develop strategies and influence planning decisions – this is likely to be a major task.
- persuading freight operators and customers to be responsive to the SRA’s requirements and persuading freight customers to integrate rail into their supply chains.

The SRA recognises that the best approach depends on circumstances and is seeking to combine two broad approaches:

- The SRA takes the initiative in promoting schemes (e.g. in developing terminals where there is a perceived gap in national coverage) and seeks the involvement of the private sector to implement and partly finance them.
- The private sector proposes schemes and the SRA considers whether it will provide support.

Land Use Planning is recognised by the SRA to be an important factor in terminal development as key local decisions can have a large impact on the ability of rail to play a part in the local economy e.g. through zoning or through consent for rail related development. However, the SRA’s ability to achieve this is constrained by its limited powers under the Transport Act 2000. It must therefore largely rely on its ability to persuade local government to make decisions that favour rail, where this is in the national interest. Local governments have in the past tended to respond to local pressure against rail developments, such as, for example, objections to terminals because of local increases in traffic.

The Strategy notes that suitable railway land is in extremely short supply. A further problem is that land is often worth so much more in non-rail than in rail uses, especially in the London area. This is partly because the price of land is distorted by planning restrictions which boosts values in many areas where land is needed for railway purposes. Finding suitable land for rail freight development is therefore a key part of the strategy.

Operators have criticised the Freight Strategy for placing too much emphasis on competition as a means of reducing rates, increasing innovation and improving customer service. These desirable outcomes need to be balanced against the risks to market structure and investment by existing operators as their already poor profitability is put under further pressure. Competition should not be seen an objective in its own right but as a means of achieving more efficient services to customers.

### Freight Forecasts

The SRA’s Freight Strategy takes as given the 80% growth target contained in the 10 Year Plan. Modelling work by SRA has assessed the impact on rail freight of greater efficiency and improved service. Table 6 shows the breakdown of this growth between traditional bulk and other types of traffic (non bulk, unit loads and premium logistics):

Table 5. **SRA Rail Freight Forecasts by Commodity**

Commodity	Rail freight (billion net tonne km)		Change 2000-2010 (billion net t-km)	Change 2000-2010 (%)
	1999/2000 <sup>25</sup>	2010 (projection) <sup>26</sup>		

25

Source: National Rail Trends, SRA. Numbers may not add up due to rounding errors

<b>Traditional Bulk</b>	<b>10.5</b>	<b>15.3</b>	<b>+4.8</b>	<b>+46%</b>
Coal	4.8	No breakdown of forecasts by commodity published		
Metals	2.2			
Construction	2.0			
Oil & petroleum	1.5			
<b>Non bulk and other</b>	<b>7.6</b>	<b>17.7</b>	<b>+10.1</b>	<b>+136%</b>
Channel Tunnel	1.0	No breakdown of forecasts by commodity published		
Intermodal	3.9			
Other <sup>27</sup>	2.7			
<b>Total</b>	<b>18.2</b>	<b>33.0</b>	<b>+14.8</b>	<b>+81%</b>
<b>% non bulk</b>	<b>42%</b>	<b>54%</b>	<b>-</b>	<b>-</b>

Table 5 shows that only one third of growth is expected to come from bulk traffic (mainly coal) which is forecast to increase by 46%. Two thirds of growth is expected to come from non bulk and other traffic which is expected to increase by 136%. Although no separate forecasts are available, it is understood that SRA expects the most rapid growth to occur in:

- maritime container traffic (continuing trends over past few years);
- domestic intermodal, which includes swap bodies as well as containers (this also expected to grow rapidly, though from a small base).

SRA also expects Channel Tunnel traffic to grow, though less rapidly than other inter-modal markets. This traffic is particularly relevant to the comparison with Switzerland because:

- like the Alps, the Channel is a natural barrier, though not an environmentally sensitive one;
- the Channel Tunnel is an international link and the Alpine crossings are largely used for generating international traffic.

Growth in Channel Tunnel traffic has so far been disappointing and through-rail services represent only about 3 million tonnes of freight a year, about half the amount originally forecast when the tunnel was planned<sup>28</sup>. This represents only 3-4% of the cross Channel freight market, with the remainder split between Eurotunnel's shuttle trains through the Channel tunnel and ships. Eurotunnel attributes the disappointing performance to "quality problems in both France and the UK with operators affected by capacity bottlenecks, organisational problems and industrial action"<sup>29</sup>. Eurotunnel's own performance has also been mixed. EWS considers that current traffic levels have "not even dented market potential"<sup>30</sup> and that providing problems can be overcome, Channel Tunnel traffic could grow significantly.

SNCF is undertaking a major investment programme for freight and this should improve the overall situation<sup>31</sup>. However, given the number of players and the complexities of managing international

26 Source: Freight Strategy, SRA, May 2001

27 This is mostly non bulk but also includes flows of non traditional bulk such as chemicals, waste and agricultural products.

28. This is despite the fact that the UK Government pays part of the track access charges through the tunnel

29. Source of quote: *1999 Annual Financial Statements*, Eurotunnel.

30. Quote from Philip Mengel, Chief Executive of EWS. Source: Professional Engineering, Special Report on the Railways, 2000.

31. *Locomotive renewal spearheads freight drive*, Railway Gazette International, February 2001.

services, quality of service is often determined by the weakest link. According to SRA, there need to be lots of small initiatives if traffic is to increase. As in Switzerland, there is a need for improved international co-ordination to make these work together<sup>32</sup>.

EWS considers that overall rail freight traffic could more than double over the next 10 years although, to achieve this, the following will be needed:

- track access charges need to be affordable for all traffic, particularly where it is marginal, and freight trains need to be able to gain easier access to the network;
- adequate and well targeted investment needs to be made in a timely way<sup>33</sup>.

The difficulty of gaining timely access to the network is another factor that has constrained the development of rail freight. Freight customers are increasingly demanding a 7 day 24 hour service but this is difficult with current infrastructure maintenance practices and may be made more difficult by Railtrack's network enhancement programme.

SRA is addressing these concerns. On access, it is working with the Rail Regulator to manage long term access issues in the context of growth to ensure that capacity is reserved for freight. It is also developing a capacity allocation strategy.

On investment, guidance from the Secretary of State<sup>34</sup> emphasises SRA's duty to secure value for money from its expenditure and SRA is now developing its forecasting and project appraisal methodologies for freight. The choice of projects will depend on the traffic forecasts but the normal uncertainty about forecasts is aggravated by the sensitivity of inter-modal traffic growth to performance, which is proving difficult to develop or even sustain. This means that investment projects for rail freight need to be appraised taking particular account of uncertainty.

### **Track Access Charges**

The Rail Regulator sets the policy on access charges for rail infrastructure (as well as Railtrack's licensing conditions). The Regulator completed a review of freight charging policy in 2001.<sup>35</sup> At a preparatory hearing in November 2000, participants emphasised that track access charges are crucial factors in meeting the growth target for rail freight as they can represent a significant proportion of rail freight costs. For example, EWS's track access charges, for its traffic which has to pay access charges<sup>36</sup>, represent 37% of their total cost and so may have a direct and material impact on the choice between rail and road. Charges may also have an impact on the financial position of rail freight operators if they lose

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32 *Freight growth checked but prospects bright*, Railway Gazette International, September 2001 (quotes from Julia Clarke, Executive Director, Freight, SRA)

33. *Freight by Rail, the 10 Year Investment Plan*, EWS, May 2000. In this document, EWS states that £5 billion needs to be invested in infrastructure for rail freight compared to the £3.2 billion for all investment envisaged in the Freight Strategy.

34 Draft Directions and Guidance to the Strategic Rail Authority, 24 June 2001

35. Review of Freight Charging Policy: Final Conclusions, Office of the Rail Regulator, October 2001.

36. Source: EWS representation to the Rail Regulator on Regulator's website. Railtrack's revenue from freight operators (mainly track access charges) was £158 million in 1999/2000 representing about 25% of the estimated combined revenue of all operators. However, track access charges are not paid on some traffic (e.g. transport of materials for Railtrack).

traffic or are obliged to absorb any increase in charges, and this may lead to lower investment or reduced services in the future.

The Rail Regulator is also required to take account of the impact of charges on Railtrack's finances. However, this impact is likely to be small, as freight access charges represent only 6% of Railtrack's turnover. The key consideration in relation to Railtrack is therefore to prevent it from abusing its monopoly position whilst providing it with incentives to develop rail freight service markets.

Railtrack claimed that the track access charges applicable up to March 2001 (the end of the first charges review period) provided it with no financial incentives to improve its services to rail freight, although work by the Regulator suggests that Railtrack makes a good margin from freight. These differences in views may be explained by the fact that freight "competes" for paths with engineering possessions required to enhance, renew and maintain the network, mainly for the benefit of passenger services. Railtrack values these opportunity costs more highly than does the Regulator.

In April 2001, the Rail Regulator published preliminary conclusions on the level and structure of access charges for rail freight to apply retrospectively from April 2001. His preliminary conclusions<sup>37</sup> were that:

- a more deterministic approach should apply to charges whereby they would be determined from defined criteria published by the Regulator, though some flexibility may be retained for negotiation at the margin – this will make charges more transparent, reduce barriers to entry and encourage new operators and customers;
- track access charges for freight should be set so that Railtrack can recover its freight specific costs, including fixed costs associated with any freight-related enhancements, but charges should make no contribution towards common costs (costs that are joint with passenger services)<sup>38</sup>

Final conclusions were published in October 2001, introduced by a statement that there are strong reasons for reducing the charges paid by freight operators and for introducing a more transparent and deterministic charging framework. The Regulator also stated that the entry of Railtrack PLC into administration did not affect these "basic and sound principles".

Compared to the charges levied to 1 April 2001, the changes introduced will cut the total paid to Railtrack, and its successor, 40% for the period 2001-2002 (and 52% from 1 April 2002). In order to ensure that Railtrack is no worse off and that it has a financial incentive to respond to the requirements of its customers and to facilitate growth in traffic, the SRA has agreed to make up for any shortfalls in Railtrack's revenue arising from these conclusions. This will amount to £84 million per year or £ 500 million over the control period. These changes will have a positive impact on the growth of rail freight.

The Regulator based his conclusions on the following principles:

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37. *Review of Freight Charging Policy: Emerging Views on Key Issues*, Office of the Rail Regulator, August 2000; *Review of Freight Charging Policy: Consultation on Costs*, November 2000; and *Review of Freight Charging Policy, Provisional Conclusions*, April 2001.

38. It has also been agreed that SRA will pay for the freight specific costs of major enhancements to the network.

- Freight operators should not pay either fixed freight costs or common costs with passenger operations for use of the existing network.
- For network enhancements benefiting only freight, freight operators will be expected to pay associated fixed costs not funded from other sources.
- Charges should be set taking a long term view, i.e. on the basis of projected future costs that will be lower than current costs given the regulator's view that efficiencies of 3-5% per year should be achieved by the track owner (the lower target was used for the period beyond April 2002). The imperative for this approach was given as the need to avoid deterring investments related to traffic that would be economic only over the longer term, and avoiding pricing current customers off the network, since due to the high sunk costs of re-entry these customers would be unlikely to return to the railway. The approach was also justified on the grounds of compensating for the recent cuts in vehicle and fuel excise duty applied to road haulage.

### **Road Haulage Alternative**

The best alternative for most rail traffic is road haulage and so government policies affecting road costs will be important in determining mode choice.

One policy that affects road haulage costs is that concerning maximum lorry weights. The Commission for Integrated Transport (CfIT) was established as an independent body at the time of the White Paper in 1998 to provide independent advice to Government on the implementation of policy. One of its first tasks was to consider the case for allowing 44 tonne lorries on 6 axles for general use (they were already permitted for intermodal traffic). The CfIT Interim Report<sup>39</sup> recommended that the government raise the limit on the maximum weight of lorries to 44 tonnes provided that:

- the lorries meet Euro II emission standards,
- enforcement of regulations of lorry operations and routes is strengthened,
- action is taken to mitigate any impact on rail freight.

The government has implemented the CfIT recommendation and this was taken into account in the forecasts in the 10 Year Plan. The Plan also assumed a fall in fuel prices and in November 2000, following major protests over fuel prices, the Government agreed to reduce the tax on diesel fuel and vehicle excise duties. Future tax policy for diesel has not yet been announced but if taxes fall beyond the level assumed in the Plan this will make it more difficult to achieve 80% growth in rail freight. As noted above, the Rail Regulator has introduced cuts in freight rail infrastructure use charges largely in order to compensate for cuts in charges on the roads.

## **4. SWISS APPROACH**

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39. *Interim Report, Permitting 44 tonne lorries for general use in the UK*, Commission for Integrated Transport, March 2000.

## Objectives

An important objective of the Swiss Government's transport policy is "to divert as much Trans-Alpine traffic as possible from road to rail, in order to guarantee sustainable mobility, whilst protecting the environment and the quality of life"<sup>40</sup>. The main reasons for this policy are that the number of HGVs using Swiss Alpine road crossings has grown by about 90% over the past decade and has now reached unacceptable levels, given the vulnerability of the Alpine biosphere and the impact of trucks on Alpine valley settlements.

Because 70% of all Trans-Alpine freight traffic is international, and road traffic can divert to alternative routes through Austria and France, international co-ordination is key to implementing the policy. As a result, a new Land Transport Agreement between Switzerland and the EU was signed in June 1999 to manage Trans-Alpine freight traffic.

## Instruments for Encouraging Freight by Rail

In the past, Switzerland adopted a mainly regulatory approach to encourage the carriage of freight by rail including the imposition of a maximum total weight limit for lorries of 28 tonnes. This approach is now being replaced by a more market oriented approach, whereby switching to rail is to be encouraged through appropriate economic incentives applied to both the rail and road modes:

- The maximum total weight limit for lorries is being increased to 34 tonnes in 2001 and 40 tonnes in 2005 in parallel with increases in road user charges to reflect their full cost (including external costs). The mileage related heavy vehicle tax (MRVHT)<sup>41</sup> is distance, weight and emissions dependent and is non discriminatory (it applies to foreign as well as domestic carriers).
- Proceeds from these taxes will be used to finance the modernisation of railway infrastructure including the construction of two new Alpine rail tunnels allowing longer, heavier trains.
- Railway reform to allow greater commercial freedom and competition.

It will take some years for these measures to be introduced and to have an impact. In the meantime, the government is planning a number of interim measures, again along market lines. These interim measures are included in the Land Transport Agreement with the EU and are summarised in Table 6.

Table 6. Measures in Support of the Land Transport Agreement

Road related measures	Rail related measures
<ul style="list-style-type: none"> <li>- Reinforce HGV traffic controls.</li> <li>- Comply with EU Directive on</li> </ul>	<ul style="list-style-type: none"> <li>- Reorganise grants system (used to reduce track access charges and to order and defray additional combined transport services) to promote competition between</li> </ul>

40. *Transport policy as a means of influencing freight traffic through the Alps*, Dr Max Friedli, Director of the Federal Office of Transport, Switzerland, article in Rail International, May 2000.

41. From 1.1.2001: the MRVHT is 172 CHF on average for a reference journey of 300 km with a 34 tonne lorry. The MRVHT will progressively be increased in order to reach 325 CHF for a journey of 300 km with a 40 tonne lorry by 1.1.2008 at the latest. CHF1 = 0.68 Euros

<p>working conditions for drivers.</p> <ul style="list-style-type: none"> <li>- Better use of electronic traffic management systems for dealing with major saturation of roads.</li> <li>- Award quotas for 40 tonne lorries as well as for empty runs and vehicles with light loads for EU and Swiss carriers.</li> <li>- Ban night and Sunday movements.</li> </ul>	<p>operators.</p> <ul style="list-style-type: none"> <li>- Double annual budget for reducing track access charges for freight traffic and for grants to combined transport to an average of CHF 259 million (Euro 170 millions).</li> <li>- Support to ensure availability of adequate transshipment yard capacity in Switzerland and abroad.</li> <li>- Work for internationally co-ordinated support for rail freight and speedier border crossings.</li> <li>- Accelerate construction of Alpine crossings.</li> <li>- Enhance productivity of rail infrastructure and rail operations by 5% p.a. in each sector<sup>42</sup>.</li> </ul>
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### Planned Investment

During the next 20 years, the Swiss Government plans to invest CHF 30 billion (€20 billion) in the Swiss railways, allocated as follows:

- CHF 13.6 billion, nearly half the total, for the New Rail Links through the Alps (NRLA) with two new base tunnels.
- CHF 13.4 billion, also nearly half the total, for Rail 2000 which will strengthen east-west connections and improve services throughout central Switzerland.
- CHF 1.2 billion for connection of eastern and western Switzerland to the European high speed rail network.
- CHF 2.3 billion for noise reduction measures.

These investments will be financed from four sources:

- Mileage related heavy vehicle tax (MRVHT), the main source,
- Fuel tax,
- VAT,
- Loans to be raised by the Confederation (these may represent up to 25% of project costs).

### Expected Impact

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42. This target applies separately to infrastructure and operations. This is ambitious compared to the targets set for Railtrack by the UK Rail Regulator of 2% p.a. for 1996-2001 and 3.1% p.a. for 2001-06.

According to the Federal Office of Transport, the various measures for shifting traffic to rail should halve HGV traffic across the Swiss Alps, returning traffic to the levels of the 1980s, though there is no corresponding target for rail traffic. However, the Office accepts that the timing of achievement of this target is uncertain because it partly depends on the development of transport policy and rail freight operations in neighbouring countries.

### Comparison between Britain and Switzerland

Table 7 summarises the position in Britain for those instruments (listed for Switzerland in Table 6) which are expected to help develop rail freight.

Table 7. Comparison of Policies Assisting Rail Freight

Switzerland	Britain
<i>Road</i>	
Reinforce HGV traffic controls	Likely to be applied less effectively due to more dispersed movements making control more difficult.
Comply with EU Directive on Working conditions for drivers	Likely to be applied less effectively due to more dispersed movements making control more difficult.
Award quotas for 40 tonne lorries for Swiss and EU carriers	No such measure
Ban night and Sunday movements	Only on some urban roads
<i>Rail</i>	
Reorganise grants system to promote competition between operators	Also being re-organised
Double annual budget for grants	Major increase planned but from a lower base
Support to ensure availability of adequate transshipment yard capacity in Switzerland and abroad	FFG scheme being reorganised but strict economic tests applied and this makes it difficult to justify support. No public support abroad possible.
Increase concessions for unaccompanied combined transport	No such measure
Work for internationally co-ordinated support for rail freight and speedier border crossings	SRA studying barriers to increasing Channel traffic
Accelerate construction of Alpine crossings	Construction projects to increase capacity and gauges of lines serving maritime container ports

It appears from Table 7 that, of the various instruments that will favour rail freight in Switzerland, some are not planned at all in Britain, others are less ambitious and others are not expected to

be applied as rigorously. The gap is widest for instruments aimed at regulating and charging road haulage and using the charges to pay for new rail projects.

Turning to investment, Table 2 showed that only 7% of planned public and private investment in railways in Britain is for freight<sup>43</sup>. In Switzerland, nearly half the total planned investment is earmarked for the New Rail Links through the Alps (NRLA) alone and this is aimed mainly at freight. Assuming conservatively that about 40% of rail investment in Switzerland is for freight, this gives CHF 600 million (€400 million) a year<sup>44</sup>. Using this assumption, Table 8 compares network size, traffic and planned investment for rail freight in Switzerland and Britain:

Table 8. **Comparison of Investment Plans**

	Switzerland	Britain
Annual planned investment (public and private) in rail freight	CHF 600 million (€400 million)	£ 320 million <sup>45</sup> (€500 million)
Route km	5,313 km	16,536 km
Planned annual investment per route km	€76,000	€30,000
Net tonne km (billions)	9	18
Annual investment per net tonne km	€0.044	€0.027

It be seen in Table 8 that planned investment per route km in Britain is less than half that in Switzerland and planned investment per net tonne km is about 40% lower.

In both countries, governments also provide ongoing support for rail freight although there are differences in the level of support and the way it is targeted:

- In Britain, support has been through Track Access Grants, which contribute to track access charges. The system is now being extended and subsidies will be available for other recurrent costs. The annual allocation for ongoing support over the next 10 years is £80 million (Euros 126 million).
- In Switzerland, the support can be used to defray all traffic costs, not just track access charges. The annual allocation for ongoing support is CHF 259 million (Euros 170 million).

Despite the limits placed on the types of traffic that may benefit from support and the smaller volumes currently carried, the annual allocation of funding for ongoing support to rail freight is higher in Switzerland than in Britain. One explanation may be that the rates of subsidy are higher in Switzerland because of the greater environmental cost of road freight. Environmental problems associated with road haulage are very different in the two countries and are probably less serious in Britain than in the Swiss Alps. This explains why, although the level of planned investment and associated measures to promote rail freight in Britain are high by historical standards, support is much less than in Switzerland.

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43. £3.2 billion over 10 years.

44. CHF 30 bn over 20 years (see chapter 2) is CHF 1.5 bn . 40% of this is CHF 600 million.

45. Total planned public contribution to investment in rail for next 10 years is £18 billion. This comprises £15 billion of public sector investment and £3 billion investment made by private sector but paid for by the State through Private Finance Initiative (PFI) deals.

Another explanation for the lower level of support in Britain is that the SRA is bound by the strict rules of the British Treasury and the EU, both of which limit the form and level of support it can provide:

- under Treasury rules, support can only be provided where it is required to achieve a shift to rail that would not otherwise have taken place on commercial grounds and must be justified by congestion and environmental benefits;
- under EU State Aid rules, support must not distort competition.

These considerations reflect public policies which aim to correct for distortions in the market but no more. The aim is not to achieve a shift to rail for its own sake, since this might create more distortions in the market. Therefore, while more investment would lead to a greater shift to rail in Britain, this might not represent value for money. It would therefore be neither permissible under EU/Treasury rules nor would it be desirable.

## 5. MANAGING GROWTH AND RECENT EVENTS

### Trends in Managing Growth

Concern have been increasing for several years about the ability of the railways in Britain, especially Railtrack, to manage the pace of growth experienced since privatisation which, as shown above, is expected to continue over the next 10 years. Railtrack's resources and its contracts with operating companies were established before privatisation and were designed for a steady state railway with no major increases in traffic. Railtrack's growing realisation of the implications of growth is revealed by its planned investment in enhancements which nearly trebled each year between 1997 and 2000<sup>46</sup>.

Railtrack was clear from the beginning that it could not fund all enhancement investment, even through borrowing, but considered that it should manage enhancement projects. However, doubts were raised about Railtrack's ability to manage major projects when the first major project since its formation, the West Coast Main line, was radically redesigned leading to cost estimates rising from £2.3bn initially to over £7bn. Railtrack was also performing poorly in managing the network on a day to day basis although this was partly due to heavier traffic volumes.

Before the establishment of SRA, there was no government body responsible for ensuring that investment is made at the right levels and in the right projects. Under the privatisation model, it had been left to the market to make such decisions. One of SRA's main tasks is to plan for growth and ensure that capacity is available to accommodate that growth.

After its formation, SRA began to try to persuade Railtrack that it should focus on its core business of operating, maintaining and renewing the network and allow enhancement investment to be

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46. Source: *Network Management Statements, 1997, 1998, 1999 and 2000*, Railtrack. 10 year forecasts for enhancement investment increased from £1.9 bn in 1997 to £26.8 bn in 2000.

carried out by third parties under some form of Design, Build, Finance and Transfer arrangement<sup>47</sup>. Initially, Railtrack resisted this as it saw higher profits in taking more risk. However, recent events have changed this.

### **Impact of Hatfield and Paddington Accidents**

In October 2000, a fatal crash occurred at Hatfield (30 km north of London). It was caused by a rail defect known as gauge corner cracking and raised questions about Railtrack's maintenance policies and practices, including its use and management of maintenance contractors. Railtrack concluded that gauge corner cracking elsewhere on the network might lead to more crashes and, to avoid this, it imposed speed restrictions affecting almost the entire network until well into 2001.

The Hatfield crash and its consequences came on top of Railtrack's existing financial and management problems. These factors together seriously undermined Railtrack's capability to raise finance and reduced the confidence of Government, the SRA and operators in Railtrack's ability to implement major investments and to carry out its core business.

An enquiry into the earlier Paddington (Ladbroke Grove) crash of 1999 by Lord Cullen concluded that the European Train Control System (ETCS) should be installed by 2010 and that meanwhile, installation of the cheaper Train Protection and Warning System (TPWS) should continue. The practicalities are being investigated and the Health and Safety Executive will advise the Government on the way forward during 2002. The government has not provided more money for this purpose putting further strain on the finances of the SRA and the industry. The Cullen enquiry report also recommended that a new rail safety industry body be established to take over the responsibilities of Railtrack Safety, a Railtrack subsidiary.

### **Evolution of the Industry's Structure**

There have been persistent concerns with the structure of the rail industry in Great Britain since privatisation focusing on problems resulting from fragmentation and vertical separation combined with the privatisation of infrastructure management. One problem was that Railtrack did not have adequate incentives to invest in enhancements. As Preston put it in 1999, before the Hatfield incident, "Railtrack, as a private monopoly, has strong incentives to increase prices and reduce output, and this has been reflected in its reluctance to invest in the network."<sup>48</sup>

In April 2001, in return for a commitment from the Government to making an advanced payment of £1.5 billion to improve its finances, Railtrack agreed to give up its monopoly on the construction of major enhancement projects and allow other companies to become involved in public private partnerships (known as Special Purpose Vehicles) to finance and deliver expansion. Railtrack was restructured in order to make a distinction between its regulated core business of operating and maintaining infrastructure (Railtrack plc) and unregulated activities related to enhancement (Railtrack holding), each with their own operating boards<sup>49</sup>.

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47. *Strategic Agenda*, SRA, March 2001.

48. British Experience of Reorganising Passenger Traffic on Railways, Preston, Transport Studies Unit, Oxford University, 1999

49. Source: Railtrack Annual Report, 2001

These changes mainly concerned the way enhancements are financed and managed. Following the Hatfield incident, there have also been calls for changes in the responsibility for maintenance of infrastructure. Chris Green of Virgin Trains stated that “The hurt was fragmentation not privatisation: and especially the artificial separation of wheel from rail”<sup>50</sup>. Green then went on to argue for evolution not revolution. This might involve five regional groups in which Railtrack, infrastructure maintenance contractors and TOCs would participate with new alliance type maintenance contracts but there would be no change in ownership. Other directors of passenger operating companies have since gone further, some arguing that operators should take over responsibility for track maintenance from Railtrack.

Professor Begg, the Chairman of the Commission for Integrated Transport was co-author of a paper which stated that: “Railtrack is shielded from passengers who place demands on TOCs, not Railtrack, for punctual and reliable services. It is extremely difficult for Railtrack to gauge the need for maintenance work to be undertaken and to check its quality and the value for money of its execution.”<sup>51</sup> He advocated a staged approach building on, but going well beyond, Green’s approach:

- Step 1: Green’s suggestions on regional groups involving TOCs
- Step 2: regulatory reform (merger of SRA with the Rail Regulator)
- Step 3: transfer of responsibility for maintenance and renewal of track and possibly signalling from Railtrack to TOCs.
- in the longer term there might be a Step 4, which would involve vertical integration with lines leased by the dominant user.

Vertical re-integration would require careful consideration of ensuring compliance with EU Directives and ensuring fair access for other operators, especially freight which is rarely a dominant user. It would also replace the current complex set of interfaces between Railtrack and operators by another complex set of relationships between different infrastructure managers and between vertically integrated operators and the other operators on their infrastructure. The response from SRA to these various suggestions has therefore been limited. SRA stated in February 2001 that, if Railtrack agreed, operating companies could become involved in the maintenance and renewal of track but that challenging Railtrack’s monopoly of owning and operating the track and signals was not an available option<sup>52</sup>. However, Sir Alistair Morton, chairman of the SRA, has since stated that: “The wheel/rail interface is the most crucial element in operating a railways... The Hatfield train crash ...showed there was no longer any such relationship”<sup>53</sup> although he did not suggest a solution to this problem.

Politicians have focussed on the more immediate problems of Railtrack and its finances. A House of Commons Environment, Transport and Regional Affairs Committee suggested in March 2001 that “the government should consider re-nationalising Railtrack or taking a majority stake<sup>54</sup> but in April the government ruled this out.

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50 *Phoenix from the Ashes*, Chris Green, Chief Executive, Virgin Trains, speech to ILT dated February 2001

51 *A rational approach to rationalisation*, Professor David Begg, Chairman of Commission for Integrated Transport (CfIT) and Dr Jon Shaw, published by Centre for Transport Policy, June 2001

52 Article in Financial Times, February 2, 2001 quoting Mike Grant, Chief Executive of SRA

53 Speech by Sir Alastair Morton, TransAfrica21 Conference, London, May 2001, reported in IRJ, July 2001

54 Report by House of Commons Environment, Transport and Regional Affairs Committee, March 2001

Under the April 2001 agreement between the Government and Railtrack, the Government agreed to advance a substantial sum of money into the second regulatory control period (2001-6). Following further requests from Railtrack for more money, the Government decided it could not justify any more additional public money for Railtrack and successfully applied for Railtrack plc to be taken into administration on 5 October<sup>55</sup>. The Government's intends to put forward to the administrator a proposal for a new private sector company limited by guarantee (without shareholders) whose membership will represent a wide range of stakeholder interests. Detailed proposals for its membership and management are under development and will be subject to consultation. Other options are also being considered by the Administrators such as sale to the private sector. The Government has also announced that it intends to simplify the regulatory regime in Great Britain to provide a clear strategic link between Government policy and day-to-day running of the railway.

## 6. CONCLUSIONS

The British Government's 10 Year Plan envisages a significant increase in rail's share of the freight market by 2010. The Plan states that it ought to be possible to increase the rail market share from 7% to 10% of net tonne km, equivalent to an increase of 80% in rail freight (about 6% compound annual growth rate). Although this represents a significant increase, it is from a low base. It will have only a small effect on general road usage and congestion although, if well targeted, it could have a major effect on congestion pinch-points on the road network and on environmentally sensitive locations.

The Government's projections for rail growth are broadly consistent with the levels of increase foreseen by the rail industry<sup>56</sup>. The largest rail freight operator, EWS, considers that freight can be doubled, providing investment is adequate, appropriate and timely. The second largest rail freight operator, Freightliners, considers that government/SRA targets are achievable, providing the right investments are made. Discussions with operators suggest that the key factor determining future growth will be investment and that SRA will be key because of its role as provider of finance.

Planned state support for rail freight in Britain is high by historical standards although it is about half that planned in Switzerland when account is taken of the size of network and traffic levels. Before public money can be spent under the 10 year plan, the economic case for each individual project has to be demonstrated following Treasury (Ministry of Finance) guidelines. This is an important and appropriate test of value for money, but may delay expenditure and delivery of support in a way that can not be predicted ahead of the individual project assessments. However, the 10 year plan is based on an overall assessment that sufficient good projects will be identified to meet the total investment project over the lifetime of the plan.

It has not been possible to examine the models used by SRA in order to assess the realism of the growth projections. However, several factors favour growth:

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55 . *Railtrack placed in administration*, Department for Transport, Local Government and the Regions, News release 416, 7 October 2001.

56. It should be noted that the operators have a vested interest in high forecasts as they justify investments by Government.

- the SRA now has funding to support rail freight and is developing the capabilities to make decisions on the use of that funding
- EWS and Freightliners are making significant investments in their businesses, thereby confirming with action their belief in the potential for growth;
- track access charges have been reduced;
- there is evidence of considerable growth potential for maritime container and domestic intermodal;
- there is also considerable growth potential for Channel Tunnel traffic although, to achieve this, a range of improvements are required;
- the past decline in road haulage costs may not continue as the road network becomes increasingly congested and as various regulatory changes are introduced, such as the EU Directive on drivers' hours and strengthened enforcement of standards.

On the other hand, rail freight operators have experienced low profitability and the on-going problems in the industry may reduce their ability to raise finance for further investment. Also, although traffic growth has resumed following the Hatfield incident, the problems in the industry may result in a loss of customer confidence in rail; this may affect customers' investment decisions and rail's modal share in the long term.

Increased engineering possessions for the ambitious enhancement programme (mainly benefiting passenger services) and maintenance and renewal may also limit freight growth because possessions compete with freight for scarce track capacity at nights and at weekends. Railtrack and its contractors need to be more efficient in their use of possessions if freight is not to suffer.

Growth in rail freight will depend on a number of factors, both exogenous and internal to the industry. These factors include:

- Exogenous factors such as economic growth, trading patterns and changes in the structure of industries that are served by rail, e.g., the extent to which coal fired power stations continue in operation and from where they obtain their coal. These factors make any forecasts uncertain.
- Whether the Government changes policy and strengthens regulation of road freight by following the advice of the CfIT.
- The effectiveness of the SRA, the successor to Railtrack and others in introducing new ways of implementing enhancement projects and managing the rail network for the benefit of freight.
- The effectiveness of the successor to Railtrack in managing the network on a day-to-day basis in a way that takes account of the specific needs of freight.

Whilst the provisions of the 10 Year Plan and other recent changes should lead to significant growth in rail freight, past experience shows how difficult it is to predict rail freight demand. Future growth is predicted by SRA to come mainly from non-bulk traffic which is particularly sensitive to quality of service. Quality of service depends on many factors, including the actions of the successor to Railtrack. There is also more uncertainty because of continuing problems on the railways and the current economic climate. It is therefore unclear whether the provisions of the Plan will be sufficient to increase rail freight by as much as 80% over the next 10 years.

**ANNEX A  
RAIL FREIGHT GRANT HISTORY IN BRITAIN**

There are two types of grant for rail freight in Britain:

- Freight Facility Grants (FFGs), established in 1975/76, are capital grants paid to single companies to contribute to the capital cost of providing rail freight facilities (traditionally terminals, but now also rolling stock and branch lines)
- Track Access Grants (TAGs), established in 1996/97, are revenue grants to help rail operators meet track access charges

Table A.1 summarises the value and number of grants awarded over the period since their establishment.

**Table A.1 Value and number of grants awarded by type of grant (current prices)<sup>57</sup>**

<b>Years</b>	<b>1976 – 1996 (£ million)</b>	<b>1997 – 2001 (£ million)</b>	<b>Total (£ million)</b>	<b>Number of grants made</b>
FFG	69	88	157	281
TAG	-	113	113	60
<b>Total</b>	<b>69</b>	<b>201</b>	<b>270</b>	<b>295</b>

Table A.1 shows that:

- FFGs worth £157 million have been awarded since their introduction in 1976.
- TAGs worth £113 million have been awarded since 1997 – of this most was for Freightliners which was given a track access grant of £75 million for the 5-year period 1997-2001 to allow it to be privatised.
- The overall level of grants made has increased dramatically since 1997 partly because of the introduction of TAGs.

Most grants have been small: the average FFG was under £500,000. A sign that industry, customers and government are starting to think on a larger scale is that there have recently been much larger FFGs: for example, in 2000-01 Bristol Port Company was awarded a £15.6 million grant to rebuild a section of track and to link it to the docks. This is the largest FFG ever awarded and was part of £43 million worth of FFGs awarded in 2000-01. All this reflects the more proactive policy in favour of rail freight.

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57. Source: *Public Support for Rail Freight: A Consultation Document*, SRA, August 2000

Table A.2 shows the evolution of actual payments of grants since 1983:

**Table A.2 . Actual payments made by type of grant (£ million – current prices)<sup>58</sup>**

<b>Financial Year ending</b>	<b>Freight Facility Grants</b>	<b>Track Access Grants</b>	<b>Total</b>
1983 –1996	47	-	47
1997	3	12	15
1998	8	21	29
1999	10	19	29
2000	6	17	23
2001	21	14	35
<b>Total payments 1997-2001</b>	<b>48</b>	<b>83<sup>59</sup></b>	<b>131</b>
<b>Awards 1997-2001</b>	<b>88</b>	<b>113</b>	<b>201</b>

Table A.2 shows the rapid increase in FFGs in 2001. The comparison with awards also shows there are clearly significant lags between awards and payments. This is particularly the case with Track Access Grants (other than for Freightliners). Actual payment of Track Access Grants in the period 1997-2001 was only £8 million (excluding payments to Freightliners) compared to the £38 million awarded. This is because these grants are only paid when the traffic is actually carried.

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58 Source: *Annual Report 2000/01*, SRA

59 Includes £75 million for Freightliners

**Chapter 3. FRENCH POLICY TOWARDS RAIL FREIGHT DEVELOPMENT <sup>60</sup>**

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60 . This report was drafted by Professor Alain Bonnafous and does not necessarily represent the position of the French government.

## FRENCH POLICY TOWARDS RAIL FREIGHT DEVELOPMENT

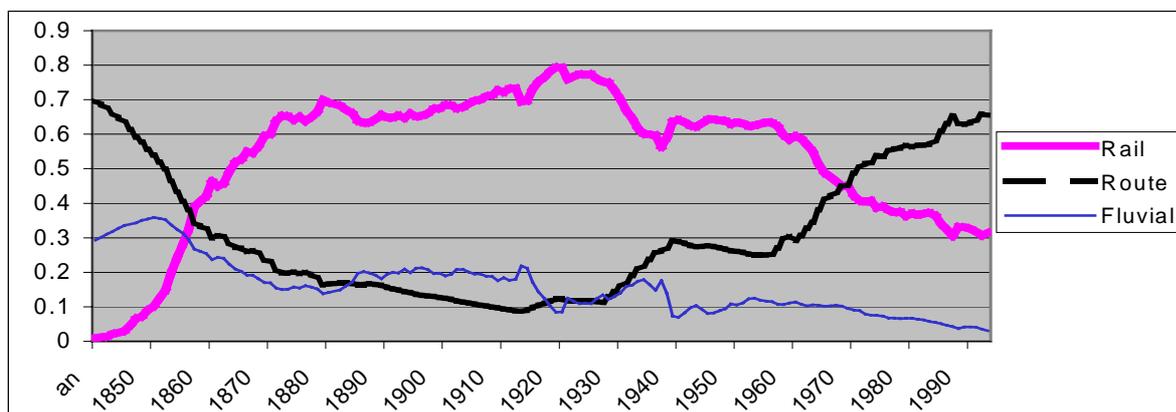
In France, sustainable mobility is an objective that has the broad support of policy-makers, particularly in those sectors where the negative externalities of transport are considered to be more harmful. Hence, in urban areas and on the freight market the necessity of developing the market share of rail transport is acknowledged. Given the underlying trends in modal split for freight transport, what is required is a reversal of the historical trend observed since the First World War.

### 1. *The freight market*

The official aim, first stated in 1998<sup>61</sup> and frequently reiterated by the Minister for Transport, Jean-Claude Gayssot, is to double the total freight carried by the railways in France in tonne-kilometres by 2010. Assuming economic growth of around 3 per cent per year, rail would have to maintain or slightly increase its share of the market if it is to achieve this target. Road freight will continue its strong growth: by at least 60 per cent and as much as 100 per cent, according to available forecast models.

The objective is therefore reasonable in relation to sustainable development<sup>62</sup>, but rather ambitious compared with the trends that have been observed for decades now. These trends are shown in Figure 1 and are worth reviewing.

**Figure 1. Trends in modal split in freight transport in France in t-km (1841 -1994)**



<sup>61</sup> Press conference given by the Minister on 19 June 1998.

<sup>62</sup> Particularly considering France's Kyoto commitments.

From a position of market dominance at the beginning and the 20th century, at which time it held nearly 80 per cent of the modal split, rail had slipped to a much weaker position by the end of the century with a market share of less than 30 per cent in 1994<sup>63</sup>.

Somewhat more alarming has been the relentlessly steep decline since the 1960s: by the beginning of the 1970s road freight had caught up with rail freight, which only 10 years previously had accounted for twice the share of road.

Of course, this uncertain future depends on many things. Road traffic congestion on major trunk routes, trends in taxation and user charging, enforcement of and compliance with social regulations and safety regulations, the reliability of rail services, may all change radically, changing the terms of competition.

In a previous document, drafted at the request of the ECMT, we presented some simulations identifying the conditions under which rail would be able to retain its share of the freight market. A brief review of the conclusions of this study, which covered a market segment that is *a priori* promising for rail mode: international traffic through the Rhone Valley<sup>64</sup>.

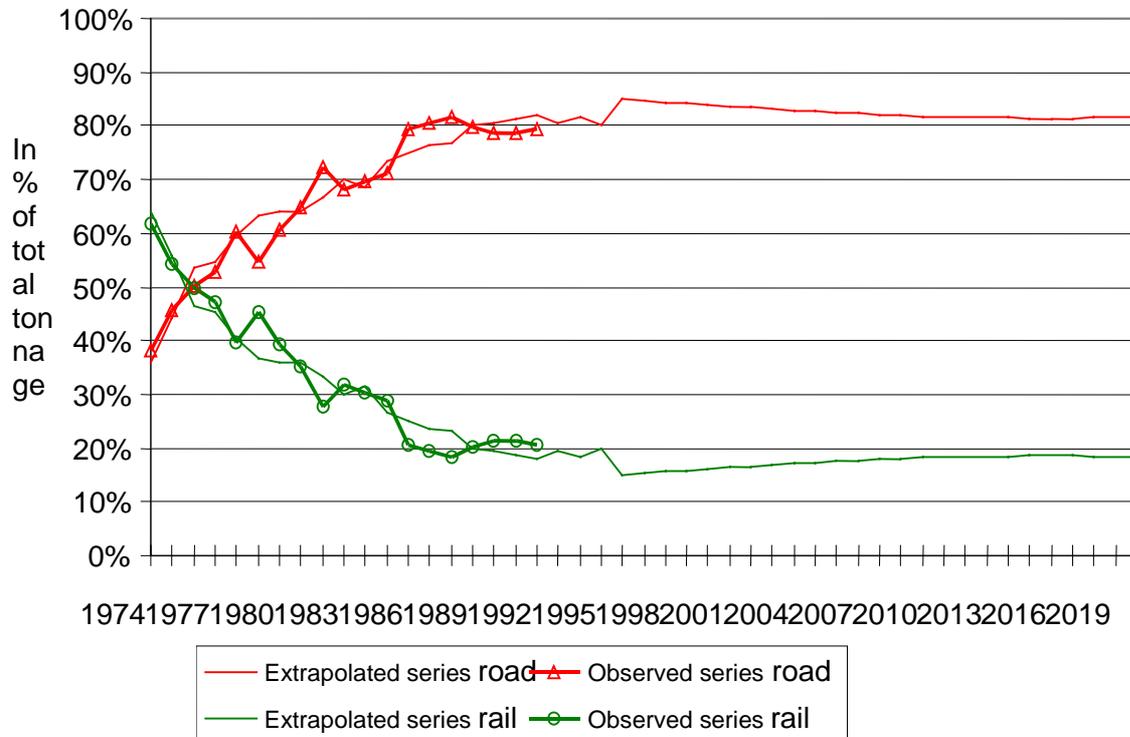
The result of the simulation illustrated in Figure 2 is that rail's share would remain virtually the same, *whereas its share is actually only a third of what it was less than 20 years ago*. This "performance" is based on the following assumptions: the relative price of rail will fall by 1.5 per cent per year while the price of road will increase by 0.5 per cent per year; the length of the motorway network will increase by no more than 1.5 per cent per year on average.

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<sup>63</sup> The time series represented here are slightly more favourable to rail than the statistics published by the ECMT, mainly due to the definition of long distance. The long time series shown in Figure 1 were recompiled by the LET from different sources and are consistent with those for the first 100 years. Series consistent with current reference bases make our point even more forcefully as official SES statistics put rail's market share at 22 per cent in 1994.

<sup>64</sup> The figure and comments that follow were presented at the UIC/ECMT World Railway Congress in Vienna on 25 September 2001 and published in *Rail International*.

**Figure 2: Long-term trends in market shares**  
 (International traffic in the Rhone Valley assuming a “competitive rail price”)



This would be a fairly good outcome for rail transport, given the expansion of the market under consideration, as freight would virtually double if industrial output were to rise by 1 per cent per year. However, from a sustainable development standpoint it would not be sufficient for rail simply to maintain its market share because road freight would also virtually double. Nevertheless, let us take this situation as a sort of baseline, a minimum performance level from which rail might win back the long distance freight market.

This level of performance in improving the competitiveness of rail freight prices (-1.5 per cent per year at constant prices) supposes very substantial productivity gains. Those gains would have to cover all of the following:

- a reduction of the SNCF’s deficit on this activity;
- an increase in unit labour costs;
- infrastructure charges ;
- and, of course, the postulated 1.5 per cent annual reduction in freight prices.

Past productivity trends<sup>65</sup> underline the effort required. However, the past also shows that road freight transport has been through a somewhat similar scenario since the 1960s: despite (or thanks to) the introduction of motorway tolls, the development of motorways made it possible to improve long-distance commercial speeds (doubled between 1960 and 2000), and at the same time to improve both labour and rolling stock productivity and, with shippers' price/time trade-offs, enabled road to strengthen its competitive position. The question is whether similar developments could be possible for rail. *Or, to put the question another way: what policy could prompt such developments? What reforms would give the railways their best chance?*

On the latter point, which is not a main concern of this note, we will confine ourselves to a final paragraph outlining the situation in France and its outlook in the European context.

The other potential source of productivity gains, and the one that is relevant to us here, since it involves railway investment policy, is related to the development of the network, which would produce gains in commercial speeds for operators comparable to those reaped by road freight hauliers as a result of motorway development over the last 40 years.

## **2. *Dedicated rail freight lines***

It can be seen that rail freight, especially in France suffers from a double handicap affecting precisely the two areas of potential productivity gains mentioned above:

- *commercial speeds* that are very low compared with door-to-door road haulage;
- working practices and production processes that are insufficiently flexible.

One explanation is that freight trains travel on relatively heavily-trafficked routes, on which main line trains, regional express trains (TER) and, often, high-speed trains (TGV) also travel. Train schedulers, who compile line operating timetables work to a priority system that takes account of competitive pressures from other services. This means that TGV "paths" are obviously given priority and make path demand all the more rigid because there is generally one such train scheduled at regular intervals every hour (if not every thirty minutes) on the hour (and sometimes the half-hour). Next come other main line trains whose regular times and commercial speeds are traditionally accommodated. The available paths remaining are then allocated to regional express trains but with increasingly strict requirements imposed by the rail service authorities: today, these are the regional authorities. After conducting pilot schemes in five regions, the regionalisation process was extended to all of the regions as of 1 January 2002. The regional authorities have agreed public service agreements with the SNCF, which will provide services in accordance with the terms of the agreement, and compensate it for costs that are not covered by commercial revenues.

Freight trains can use only the remaining capacity, to avoid compromising the flow of passenger trains whose commercial speeds and regular schedules condition train movements. This can mean, for instance, that a freight train running slower than a following passenger train has to stop at a station to let the passenger train overtake it on the main line. The technical and economic consequences are far from negligible since the standard length of stabling tracks on the rail network generally restricts the length of good trains to 750 metres.

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<sup>65</sup> Productivity gains for which there are no reliable indicators specifically for freight operations in the absence of activity-based cost accounting for the French rail system.

In contrast to this constrained situation, rail freight operators are examining<sup>66</sup> the viability of dedicated freight lines on which freight trains could run at cruising speed ( on “parallel paths”), just as happens on a sizeable portion of the US rail network. As no train would have to overtake another or “pull in” to make way for another, trains twice (1 500 m) or even three times (2 250 m) as long would be able to run on this type of network. There would be three major benefits.

- Commercial speeds considerably higher than on the ordinary network (in some cases several times higher) and, consequently, dramatic gains in crew and rolling stock productivity;
- Consolidation of trains by forming double or triple rakes;
- A much more attractive service in terms of prices for shippers, made possible by gains in productivity and commercial speeds facilitated by no-stop, parallel paths.

The position accorded freight on European rail networks suggests that the above scenario may well be unrealistic in the short term. Nevertheless this is how the situation developed in the United States, albeit with passenger services disappearing from a great many rail lines, which cleared the way for a dedicated freight network with all of the technical advantages outlined above and explains the astounding commercial success of rail freight transport and its ability to win back market share from road transport. Today rail accounts for 32 per cent of the US freight market

Two other explanatory factors are worth noting but are hardly likely to be transposable to Europe in the short term. The first is *double stacking*, i.e. being able to stack two containers one on top of the other on a wagon. This can be done only where the loading gauge permits, which is not the case with the UIC B+ gauge which European networks are trying to provide. The second relates to the average distances covered by rail transport. Today these are shorter in Europe than in the United States, but the difference is getting smaller as the relative share of international freight transport is increasing in Europe. These technical details apart, the example of the United States clearly makes a strong case for the introduction of a freight network.

### **3. Outline of a Plan for Rail Freight**

A small number of trunk lines on the French rail network could be cleared for dedication to freight, particularly under recent “public transport services plans”<sup>67</sup>. When these plans were drafted, replacing the traditional national infrastructure plans established on a mode by mode basis, the Government chose to give priority to the “actively multimodal” scenario. This scenario can be regarded as an objective that aims at shifting traffic to more environmentally-friendly modes.

This scenario is based on the assumptions used in France’s climate change prevention programme (PLNCC), which are as follows:

- Growth (GDP and household consumption) 3.3 per cent per year from 1996 to 2020, oil prices at USD 24 per barrel (dollar rate, FF 5.10);

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<sup>66</sup> See, for instance, the contribution by SNCF’s Freight Directorate to the preliminary discussions on service plans, “Schéma d’aménagement ferroviaire pour un développement durable du transport de fret”, 2 February 1998.

<sup>67</sup> “Schémas multimodaux de services collectifs de transport de voyageurs et de transport de marchandises”, Ministère de l’équipement, des transports et du logement, DATAR 2001.

- From 1996 to 2020, an increase of 17 per cent (constant Francs) in premium grade fuel and 16 per cent in diesel fuel.
- EU harmonisation of social legislation for road transport (with the preceding measure, road transport costs are assumed to increase by 28 per cent from 1996 to 2020).
- Priority to alternatives to road transport by developing a multimodal supply aimed at doubling the freight traffic carried by rail and inland waterway by 2010 ( infrastructure investment is presumably implicit in this latter assumption).

However, the measures contained in the final document are only indicative on the subject of major investments. The document states that plans should “provide for the development of new dedicated freight or mixed traffic rail routes where these prove necessary”. The detailed, region by region breakdown of measures mentions a few major trunk routes on which “the capacity and performance of rail links for freight should be upgraded”.

From this standpoint, freight is becoming a priority. In addition, the plan contains a commitment to take the necessary steps to improve the utilisation of existing capacity, which could be interpreted as slowing the pace of road infrastructure investment.

This said, no major rail freight trunk route figures in the plan. This omission could be taken as an indication that the plans are not sufficiently mature. It may also be that the actors lacked the commitment to take this approach forward, if only because of the twofold problem that would have to be overcome: the difficulty of dedicating track to freight over long routes, of which at least part would be difficult to appropriate from passenger trains; and the associated difficulty of financing new routes where this kind of appropriation is out of the question

Current projects all concern the “Magistrale Eco-Fret”,<sup>68</sup> or trunk eco-freight line, that would form the backbone of a network on which freight would have “high priority”. Possibly, freight trains would have priority over quite large timetable slots so as to be able to guarantee constant speeds and parallel paths.

The route would follow the major long-distance flows already carried by rail, chiefly over international links. It would therefore follow two trunk routes with a common central section:

- the first linking the United Kingdom to the Benelux countries and Italy from Calais to Modane via Lille, Metz and Dijon, ultimately via the Mont Cenis base tunnel on completion of the Lyon-Turin high speed link;
- the second linking Germany to the Iberian peninsula via Metz, Dijon, the Rhône-Saône valleys and Perpignan, obviously with a mainline connection to Modane and Italy and to Marseilles.

The Eco-Fret trunk network would carry freight from priority freight feeder lines, principally from Le Havre via Amiens, Paris and Mulhouse, which is connected to the Swiss network.

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<sup>68</sup> Presented in the official introductory document to the public debate on “motorway and railway by-passes in the Lyons area”

Ensuring that speeds, regular services and high capacity could be maintained on the network would require major investment, some of it in new lines and some in upgrades to existing lines. For instance, a freight by-pass would have to be constructed around the railway junction at Lyons: a public debate was held on this issue recently. In other cases, new mixed freight and TGV lines are under consideration, for example on the southern branch of the Rhine-Rhône TGV line or the rail by-pass at the Nîmes and Montpellier rail junction.

Several routing alternatives are still open and as the new line sections have not yet been determined, the total that would have to be invested is not yet known but in any case would amount to several billion euros. However, a substantial portion of this expenditure has been scheduled under State-Region Planning Contracts (CPER) for 2000-2006, as outlined in greater detail below.

It should be recalled that a "freight corridor" has already been agreed between SNCB, CFL, SNCF, FS and RFF. The corridor links Belgium and Italy, via Luxembourg and France. The framework agreement provides for the creation of the Muizen - Bettembourg -- Sibelin/ Venissieux -- Milan/ Genoa/ La Spezia/Gioia Tauro corridor<sup>69</sup>.

This corridor has also resulted in another innovation to facilitate the circulation of freight trains, at least in the triangle Belgium-Luxembourg-France, by the definition of a "common train profile". This involves common rules for the three networks on train configuration, breaking and signalling systems making technical stops at frontiers redundant.

The important thing is the route capacity that the corridor provides: 17 high-quality international paths. This is significant and prefigures a dedicated freight line.

#### **4. Financing**

The French railway system ran a recurring deficit and has a substantial outstanding debt of over €30 billion. With low productivity gains over recent years and only moderate revenue growth, its financing capacity is highly dependent on state contributions.

Among the main objectives of the 1997 railway reforms were clarifying the roles of the infrastructure manager and the train operators in infrastructure investment and re-balancing the accounts of SNCF, which was relieved of two-thirds of its debt and of network maintenance and development costs. Another aim of the reforms was to stabilise the debt of RFF, and this too has now virtually been achieved. Needless to say, the drive to attain financial stability was not without an impact on investment, which declined to 2000 before turning around in 2001.

In February 1999, the Minister for Transport, announcing future infrastructure investment plans to 2010, gave the Government's target as FF 12 billion per year, i.e. FF 120 billion over 10 years.

As is standard practice in France, the target figure for total infrastructure investment can be broken down into three main headings:

- Renovation of the existing network(4 to 4.5 billion per year)
- High-speed lines (4.5 to 5.5 billion per year)

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<sup>69</sup> Agreement signed by the five parties on 26 November 1997.

- Investment in conventional lines (3 to 3.5 billion per year).

It is investment under this last heading that could provide the basis of a programme geared to support freight transport. This latter category of investment has largely been incorporated in the contract planning procedure between the State and the Regions (CPER) and the Government and the Regions were in the process of negotiating the Contract Plans when these targets were announced. Following the negotiations, overall infrastructure investment programmed for the period 2000 - 2006 under the CPER totalled FF 30.7 billion, i.e., an average of FF 4.4 billion per year, theoretically very much higher than the stated target for conventional lines.

The main point to note from these developments in financing is that, despite a marked increase in investments planned for rail infrastructure, the overall level of finance for freight transport has tended to remain stable.

Only investment in combined transport “terminals” can be considered to be freight-specific and these are relatively small sums (although sufficient to improve the few terminals whose activity poses capacity problems).

Another explanation is the *major shift in financing policy* that is becoming apparent. Until 2000 there was only one intermodal transport fund: the surface and inland waterway transport investment fund, FITTVN. This was additional to the general government budget, based on earmarking of tax revenues for investment in surface transport. These revenues come from two taxes, one on the generation of hydroelectric power and the other on motorway tolls. They have gradually risen to a total of around FF 4 billion and were divided between investment in roads (around 40 per cent), inland waterways (a little over 10 per cent) and rail and combined transport (a little under 50 per cent).

This fund was viewed rather critically by the finance administration, traditionally resistant to any system of earmarked taxes. It was supposed to raise additional resources, but was used instead to lighten the Government’s burden. Rail investment, for example, did not see the increase expected from the fund.

Though the taxes were maintained, the FITTVN was scrapped in the 2001 budget and should be replaced by other funding methods. While this shift does not follow exactly the same approach as Swiss policy, it is nevertheless based on the same principles. The Swiss Federal Government elected to use road charges (the mileage-related heavy vehicle tax, MRHVT) to help finance the construction of new rail lines through the Alps (NLFA) at rates similar to the tolls charged in France or Italy.

France is opting for a system that will have the same ends in terms of “cross-financing”. Thus under a law of 3 January 2002 on the safety of infrastructure three new financing tools were created:

- A "Multimodal Alpine Pole", which is a public corporation grouping semi-public motorway concession holders (SEMCA). These are the alpine motorway companies (AREA), the Fréjus tunnel concession holder (SFTRF) and the Mont Blanc tunnel concession holder (ATMB). It will help finance rail operations in the Alps, starting with a pilot scheme using Modalohr wagons for combined transport between France and Italy.
- An intermodal development fund for freight and intermodal projects, financed through opening up the capital of the ASF motorway concession to private investment by a share offering on the stock exchange.

## **5. Conditions for the recovery of rail freight transport**

For rail to improve its performance on the freight market, there are two imperatives, as we pointed out at the beginning of this note. The first is a marked improvement in commercial speeds to substantially increase productivity, which as we have just seen requires a major financing effort. The financing tools outlined will contribute here. The other condition is improving the capacity of the system to adapt, and this is largely in the hands of the rail companies. It is an absolute priority.

SNCF's latest figures for freight are disappointing. While the target of doubling rail freight is maintained, a decline of the order of 8% was reported in 2001. This came as no surprise to industry experts who attribute it to the impact of strikes on the behaviour of shippers. It is also the result of structural factors such as a reduction in the transport of forest products (that had risen in the wake of the storms at the end of 1999) and short term effects such as the major reduction in Channel Tunnel traffic linked to illegal immigration into the United Kingdom (freight traffic that switched to sea-rail links that do not transit France). The end result is a vicious circle in which business is lost just while fixed costs can not be lowered, with a subsequent loss of competitiveness.

What is required, in any scenario, is the creation of conditions for the French railway system to begin one day to win a larger share of the market. Setting this virtuous circle in motion requires rail transport to modernise and become more reliable. Traffic growth would then hold out the prospect of increased revenues from rail infrastructure charges and thereby improve the system's financing capacity, which would enable both improvements in infrastructure and increased productivity for the train operator.