*Measure 6: First railway package: support the creation of new infrastructure, and in particular rail freight freeways*

**First page:**

*Policy package:*
**2A**: Rail liberalisation and harmonisation
**2B**: Rail investment and technologies

*Measure 6:*
First railway package: improving the framework conditions for market opening in freight transport by rail

*What is the problem being addressed ?*
One main objective of the Community is to revitalise railways, thus ensuring a greater integration of the Community railway sector for the completion of the internal market and moving towards achieving sustainable mobility for passengers and goods in Europe. Since 1991 significant legislation affecting railways has been introduced in order to revitalise the railways, including:

- Regulation 1893/91/EEC amending regulation 1191/69/EEC concerning public service obligations;
- Directive 91/440/EEC on the development of the Community's railways;
- Directive 95/18/EC on the licensing of Railway Undertakings; and
- Directive 95/19/EC on allocation of railway infrastructure capacity and the charging of infrastructure fees.

Subsequently, the Directives mentioned above have been updated within the **1st Railway Package**:

- *Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways*. This Directive requires the EU Member States to adapt their legislation to enable the extension of access rights for international freight services to the national section of the Trans European Rail Freight Network (TERFN). The Directive also specifies that independent organisational entities must be specified for transport operations and infrastructure management. Railway undertakings are also expected to set up separate accounts for passenger and freight operations.
- *Directive 2001/13/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings* defines the conditions under which railway undertakings can obtain licenses. In particular, it establishes that a license issued by one Member State's Licensing authority will be valid throughout the EU.
- *Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification* replaced Directive 95/19/EC and applies to the entire rail network. It sets the framework conditions for the allocation and charging of capacity. The Directive specifies that the infrastructure manager should develop and publish a network statement with information about the technical nature and limitations of the network, access conditions and rules on capacity allocation as well as the tariff structure.

By revitalising the railways sector, the measure should also encourage a switch to more efficient and cleaner forms of transport including better organisation and logistics, as required by the 6th Community Environment Action Programme.

*Measure's costs and/or benefits:*
It is not an easy task to estimate the costs of implementing the three directives enumerated above. The cost of implementation depends of the specific costs of each country, from the level of the railway undertaking up to the level of the Ministry of Transport of the country. Its benefits though are clear: Member States that have opened their markets show a clear increase in freight transport by rail, and the railway undertakings operating in these countries (i.e. D, NL, S, UK) managed to increase their efficiency by cost reductions and the creation of new products.

*Legislative implementation at the EU level:*
The three Directives should have been implemented in the Member States by the 15.03.2003 but by 16 October 2003 only 6 countries had notified transposition of these directives (France, Belgium, Finland, the Netherlands, Italy and Denmark). On that date the Commission launched Court proceeding against 9

Member States for failing to notify the Commission of any transposition of the infrastructure package re opening the market for international freight services. In its decision the Commission though mentions that among these countries 4 countries have opened their rail freight to competition (Sweden, United Kingdom, Austria and Germany) while three have done it partly (Italy, Portugal and Spain). However, this does not exempt them to notify their national measures concerning market opening, as well as measures related to the other aspects covered by the infrastructure package. Subsequently, Portugal, Spain, Ireland, Luxembourg and Austria have notified the Commission of implementation measures for the infrastructure package.
The extent to which the First Package of EU rail liberalisation had been transferred into domestic law by November 2003 is summarised in the following table:

| | 91/440 | 95/18 | 96/48 | 2001/12/ 13/14 | 2001/16 | Comment |
|---|---|---|---|---|---|---|
| **European Union Members** | | | | | | |
| Austria | √ | √ | √ | X | X | Draft law published |
| Belgium | √ | √ | √ | √ | √ | |
| Denmark | √ | √ | √ | √ | √ | |
| Finland | √ | √ | √ | √ | √ | |
| France | √ | √ | √ | √ | √ | |
| Germany | √ | √ | √ | X | X | Draft legislation available |
| Greece | In part | √ | √ | X | X | Legislation expected Q4 2003 |
| Ireland | In Part | X | √ | X | X | Legislation not planned |
| Italy | √ | √ | √ | √ | X | Legislation for 2001/16 yet to be defined |
| Luxembourg | √ | √ | √ | X | X | Modifications planned |
| Netherlands | √ | √ | √ | √ | √ | |
| Portugal | √ | √ | √ | √ | √ | |
| Spain | √ | √ | √ | √ | √ | |
| Sweden | √ | √ | √ | X | X | Legislation expected Q4 2003 |
| United Kingdom | √ | √ | √ | X | √ | Draft legislation not yet available |

Source: Steer Davies Gleave, EU Passenger Rail Liberalisation: Extended Impact Assessment, DGTREN, 2004

The mentioned source reports a more complete table showing also the state of legislative implementation for Norway, Switzerland and most of the New Member States. Updates on the emerging status are available from the Commission's website.

*What are the objectives ?*
According to the Extended Impact Assessment mentioned above, only the Netherlands, United Kingdom, Germany, Sweden, and Denmark have been proactive in encouraging market entry through extensive concession and open tender procedures in respect of passenger service provision, although structures are now in place to facilitate market entry in most of the EU countries. Portugal and Italy have provided limited encouragement and in France, Finland, Belgium and Luxembourg, relatively little encouragement for passenger services market entry has been provided. Market entry in Ireland and Greece, given the relatively small size of these markets, will remain limited in the foreseeable future. Finally, Spain has not yet set up the legislative and institutional framework to support market entry, and is likely to have regard to the speed of liberalisation in its neighbours when contemplating further encouragement.
A general conclusion is that, while the absence of a complete legal, regulatory and institutional framework in several countries represent an important barrier to further liberalisation, even where existing EU legislation has been fully or largely implemented it is not clear whether there is a real market opportunity for the introduction of new, competitive rail services. This is because there are a number of additional barriers, including:

- *Market-related barriers*, arising from factors such as route densities, competition from other transport modes and regulated fare levels.
- *Institutional and behavioural barriers*, arising from the efficiency and effectiveness of key institutions within a country's railway sector, notably the capacity allocation body, rather than just the legislative framework governing such institutions.
- *Technical barriers*, determined by the interoperability of different railway infrastructure and rolling stock and the availability of sufficient capacity on otherwise attractive passenger rail corridors.

Should these barriers be removed – even with the help of other measures adopted to revitalise railways, such as Measure 9 related to interoperability – the implementation of the three Directives will contribute to the White Paper objective of Eliminating Bottlenecks, by providing the organisational and operational framework to promote the development of efficient and competitive rail services on the TEN priority projects addressing passengers and / or freight, thus contributing to the modal shift from road and air to rail transport. Indeed, as already pointed out in the White Paper, the market share of rail is continuing to decline, while quality standards for goods and services remain far from sufficient and, in some cases, are deteriorating. Beyond doubt the greatest cause for concern is the state of rail freight services since their share of traffic, taking all modes together, stands in 2001 at 7,8% compared with 21% in 1970 and, looking at inland transport alone, at 14% from 35%. Despite a number of promising developments, the pace of change has not been fast enough (see second page).
Directive 2001/12/EC requested the Commission to set up a system for permanently monitoring developments on Europe's railways. Accordingly, the Commission has laid the foundation for a rail market monitoring scheme (RMMS) based on permanent monitoring of relevant statistics and indicators allowing rapid detection of trends in the railway sector as a results of the measures already taken. Once fully operational, this mechanism may allow constant monitoring of objective achievement.

*Interactions with other WP measures:*
There is obviously a strong link of Measure 6 with Measures 7 – Opening up the national and international freight market, Measure 8 – Ensuring a high level of safety for the railway network and Measure 9 related to interoperability, as well as with Measures 11 to 15 which are related to the rail sector. The main observation is that all these measures will strengthen each other by addressing specific issues and/or segments of the market. All the measures proposed or planned in the railway sector must, of course, fit in with other measures such as the Community programmes to promote the trans-European railway networks (TEN budget, support from the Structural Funds, including the Cohesion Fund and ISPA, EIB loans), intermodality (Marco Polo, i.e. measure 42 of this report) and measures for other modes, particularly for charging for use of road infrastructure (measure 57).

**Second page**:

*Output indicators:*
Outputs of the 1st Railway Package can be monitored using the following key indicators:
- Essential functions separated in railway undertakings in each Member State.
- Part of (no. of km) the TERFN (Trans European Rail Freight Network) on which the open access is granted for all international freight (shall be completed within seven years of adoption).
- Number of common licenses issued by each Member State.
- Number of railway undertaking active (i.e. having complied with all safety requirements) in a Member State.
- Is the regulatory body established or not – in each Member State.
- Is the network statement published by the infrastructure manager of each Member State.

Nowadays, even in countries such as France and Finland, where the First Package has been implemented in full, the process for awarding licences and certificates to new entrants has not been fully tested because there have been few, if any, applicants to date. In Italy, the costs and duration of the process from application to award represent a potential barrier to entry (Steer Davies Gleave, 2004).[1]

*Outcome indicators: intermediate impacts on transport markets*

[1] See par. 2.15, page 8.

Overall, transport demand in the European Union Member States has increased significantly for a number of decades. In particular, passenger car and lorry traffic have increased, although some increase has also taken place for other modes (though to a smaller extent). Furthermore, most demand forecasts suggest significant increases over the next decade. For example, long distance passenger transport (trips over 80 km) is forecasted to increase by 30% in terms of passenger kms between 1999 and 2010 and by 60% between 1999 and 2020 (UIC, 2002). Overall, transport demand is set to increase by 38% for goods (50% increase for heavy goods traffic) and 24% for passengers in 2010, according to the White Paper. Furthermore, road based freight and passenger transport is expected to increase sharply in the next few years in the candidate countries, as car ownership rates are catching-up with EU averages.

**Passenger transport for EU15 (1000 mio pkm)**

| | Passenger cars | Buses and coaches | Tram and metro | Railway | Air | Total |
|---|---|---|---|---|---|---|
| 1970 | 1562 | 269 | 34 | 219 | 33 | 2118 |
| 1980 | 2246 | 348 | 35 | 248 | 74 | 2951 |
| 1990 | 3141 | 369 | 42 | 268 | 157 | 3977 |
| 1995 | 3481 | 382 | 41 | 273 | 202 | 4379 |
| 1997 | 3597 | 393 | 43 | 285 | 222 | 4539 |
| 1998 | 3673 | 400 | 44 | 287 | 241 | 4645 |
| 1999 | 3739 | 404 | 44 | 295 | 261 | 4743 |
| 2000 | 3735 | 410 | 46 | 304 | 284 | 4779 |
| 2001 | 3779 | 414 | 48 | 307 | 286 | 4834 |

Source: EU Energy and Transport in Figures 2003

**Freight transport for EU15 (1000 mio tkm)**

| | Road | Rail | Inland Waterways | Pipelines | Sea | Total |
|---|---|---|---|---|---|---|
| 1970 | 488 | 282 | 102 | 64 | 472 | 1409 |
| 1980 | 720 | 290 | 106 | 85 | 781 | 1982 |
| 1990 | 976 | 255 | 107 | 70 | 923 | 2332 |
| 1995 | 1144 | 221 | 114 | 82 | 1070 | 2632 |
| 1997 | 1214 | 237 | 118 | 82 | 1124 | 2775 |
| 1998 | 1283 | 240 | 120 | 85 | 1142 | 2870 |
| 1999 | 1344 | 236 | 120 | 85 | 1197 | 2983 |
| 2000 | 1378 | 250 | 125 | 85 | 1270 | 3108 |
| 2001 | 1395 | 242 | 125 | 87 | 1254 | 3102 |

Source: EU Energy and Transport in Figures 2003

The result has been a reduced a modal share for rail. Market share for rail passenger transport has declined from 10.2% in 1970 to 6.4% in 2000. In the case of rail freight the decline in market share is even more significant: from 20% in 1970 to 7.8% in 2001.

**Passenger transport modal split (%) for EU15**

| | Passenger cars | Buses and coaches | Tram and metro | Railway | Air |
|---|---|---|---|---|---|
| 1970 | 73.8 | 12.7 | 1.6 | 10.4 | 1.6 |
| 1980 | 76.1 | 11.8 | 1.2 | 8.4 | 2.5 |
| 1990 | 79.0 | 9.3 | 1.0 | 6.7 | 4.0 |
| 1995 | 79.5 | 8.7 | 0.9 | 6.2 | 4.6 |
| 1997 | 79.2 | 8.7 | 0.9 | 6.3 | 4.9 |
| 1998 | 79.1 | 8.6 | 0.9 | 6.2 | 5.2 |
| 1999 | 78.8 | 8.5 | 0.9 | 6.2 | 5.5 |
| 2000 | 78.1 | 8.6 | 1.0 | 6.4 | 5.9 |
| 2001 | 78.2 | 8.6 | 1.0 | 6.4 | 5.9 |

Source: EU Energy and Transport in Figures 2003

**Goods transport – modal split (%) for EU15**

| | Road | Rail | Inland waterways | Pipe-lines | Sea (intra-EU) |
|---|---|---|---|---|---|
| 1970 | 34.7 | 20.0 | 7.3 | 4.5 | 33.5 |
| 1980 | 36.3 | 14.6 | 5.3 | 4.3 | 39.4 |
| 1990 | 41.9 | 11.0 | 4.6 | 3.0 | 39.6 |
| 1995 | 43.5 | 8.4 | 4.3 | 3.1 | 40.7 |
| 1997 | 43.7 | 8.5 | 4.3 | 3.0 | 40.5 |
| 1998 | 44.7 | 8.3 | 4.2 | 3.0 | 39.8 |
| 1999 | 45.1 | 7.9 | 4.0 | 2.8 | 40.1 |
| 2000 | 44.3 | 8.0 | 4.0 | 2.7 | 40.9 |
| 2001 | 45.0 | 7.8 | 4.0 | 2.8 | 40.4 |

Source: EU Energy and Transport in Figures 2003

It is expected that the rail share will increase as a result of implementing the 1st Railway Package. The indicators needed to quantify this increase are specified above. However, these indicators derived from observed data will not catch only the effect of implementing this policy package. For a more precise estimation of particular effects of this policy package the use of transport modelling is required. It is important to mention that when the rail share will increase the share of alternative transport modes will decrease, depending of the level of competition with railways on specific segments of the market. Other indicators which are particularly important for market segmentation are:

- Average route density: 000 passenger km per track km.
- Average journey length (km).

Route densities are a key determinant of the scope for direct on-rail competition because minimum frequencies are needed to support competitive services. In addition, for a given market size, on-rail competition tends to be more feasible for distances over 500 km. It is also possible in the case of niche services, such as night trains, for which frequency is also less important. However, for distance over 800 km time-sensitive passengers are likely to fly. In Europe, the Netherlands and Switzerland are outliers when measured in terms of route density, reflecting their particular geographical and population characteristics. Sweden, Greece and Italy are also outliers in terms of average journey length, again because of their respective geographies and population distributions.

The analysis of market indicators should include the assessment of impacts of the 1st Railway Package on the railways industry in terms of:

- Employment
- Turnover
- Profitability
- Investment
- State subsidies

In particular, we suggest to apply here the seven headline rail performance indicators selected in the context of the DG TREN-NERA Study of the financing of and public budget contribution to railways, which are:

1. Traffic units, disaggregated into passenger.km and freight tonne.km, showing the trend in traffic volumes.
2. Total commercial traffic revenue per traffic unit, disaggregated into revenue per passenger km and revenue. per freight tonne km, showing the trend in price/yield achieved by railways.
3. Total railway staff.
4. Staff costs as a proportion of operating costs.
5. Cost per employee, which indicates whether the railway is able to keep wage rates under control.
6. Unit operating costs (operating costs divided by traffic units), which is a measure of overall cost trends and can be compared with the trend in price/yield.
7. Viability ration (commercial revenue/operating costs), which shows whether the railway is becoming more self-financing and therefore reducing its need for government support.

Data concerning the evolution of these indicators in the period 1990 – 2001 for EU15 and candidate countries are available from the DGTREN-NERA Study. The following table the trends of the headline

performance indicators for EU15 Railways.

**Indicators of Operating Performance, Consolidated for EU15 Railways**

| *All currency in 2001 prices* | 1990 | 1995 | 2001 | Change 90-95 | Change 95-01 |
|---|---|---|---|---|---|
| Traffic units (millions) | | | | | |
| Passenger km | 253,085 | 266,603 | 301,253 | 5.3% | 13.0% |
| Freight tonne km | 214,617 | 221,510 | 245,377 | 3.2% | 10.8% |
| Total traffic units | 467,702 | 488,113 | 546,630 | 4.4% | 12.0% |
| Commercial traffic revenue (millions €) | | | | | |
| Passenger traffic receipts | 18,235 | 20,352 | 25,803 | 11.6% | 26.8% |
| Freight traffic receipts | 15,245 | 11,587 | 10,226 | -24.0% | -11.7% |
| Total traffic receipts | 33,480 | 31,939 | 36,029 | -4.6% | 12.8% |
| Yield - Commercial traffic revenue per traffic unit (€) | | | | | |
| Passenger (receipts per passenger km) | 0.07 | 0.08 | 0.09 | 5.9% | 12.5% |
| Freight (receipts per tonne km) | 0.07 | 0.05 | 0.04 | -26.4% | -20.0% |
| Overall yield (passenger and freight combined) | 0.07 | 0.07 | 0.07 | -8.6% | 0.7% |
| Total railway staff | 1,082,153 | 982,054 | 784,452 | -9.2% | -20.1% |
| Cost per employee (€) | 39,774 | 40,245 | 40,523 | 1.2% | 0.7% |
| Total operating costs (millions €) | 69,263 | 73,550 | 73,086 | 6.2% | -0.6% |
| Unit operating cost (cost per traffic unit) (€) | 0.15 | 0.15 | 0.13 | 1.7% | -13.3% |
| Viability ratio (revenue / operating costs) | 60% | 61% | 71% | 1.1% | 16.4% |

The EU15 railways experienced significant traffic growth over the period. At the same time, the number of railway staff fell substantially, in part reflecting a trend towards outsourcing activities. Overall, railways have become more commercially viable, a consequence of falling unit costs and broadly stable yields. However, whilst yields for passenger services have increased, those for freight services have fallen markedly. When interpreting changes in the indicators at a Europe-wide level, it useful to understand the relative importance of each of the countries in contributing to European totals: in particular changes in Germany, France, Italy or Great Britain will have a major impact on the aggregate indicators, as these four countries alone represent around 70 per cent of total traffic units.
A different picture is presented in the DGTREN-NERA Study for candidate countries. In contrast to the EU15, railway activity in these countries, in terms of both passenger and freight train-kms operated, fell (by 12 per cent) from 1995 to 2001. The big drivers of this fall in traffic are Bulgaria, Polonia and Romania, for whom total train kilometres have fallen by 16 per cent over the period.

Finally, market indicators shall be determined for the relevant market segments. For instance, the passenger rail market categorisation used in the Extended Impact Assessment of the 1st Rail Package (cfr. Steer Davies Gleave, 2004) is as follows:

1. International high-speed long-distance: high-speed rolling stock operating over High-Speed infrastructure for at least some of the journey; overall journey time exceeds 2 hours.
2. Other international long-distance: conventional rolling stock and infrastructure; overall journey time exceeds 2 hours
3. International high-speed short-distance: high-speed rolling stock operating over High-Speed infrastructure for at least some of the journey; overall journey time less than 2 hours.
4. Other international short-distance: conventional rolling stock and infrastructure; overall journey time less than 2 hours.
5. National high-speed long-distance: high-speed rolling stock operating over High-Speed infrastructure for at least some of the journey; overall journey time exceeds 2 hours.
6. Other national long-distance: conventional rolling stock and infrastructure; overall journey time exceeds 2 hours
7. National short-distance: conventional rolling stock and infrastructure; overall journey time less than

2 hours

8. Public Service Obligation (PSO): services operating over distances of less than 80 km and services defined as regional by national or local governments. This latter category is it not always is to distinguish, because it may include traffic from the other short-distance categories.

*Outcome indicators: final impacts on transport users and non users*

The main objective of the measure is to contribute to a more efficient and competitive railway sector contributing substantially to achieving sustainable mobility in Europe for passengers and goods. The most relevant outcome indicators that may be affected by the implementation of the measure are:

- Accessibility to freight intermodal terminals. Rail accessibility to intermodal terminals, including ports, shall be improved as a result of increased quality and reliability of rail freight.
- Accessibility of origin / destinations. The rail accessibility shall be improved as a result of increasing rail quality and reliability. The spatial unit for the representation of origins / destinations shall be NUTS2 for freight and NUTS3 for passengers, for a proper use of this information. This indicator shall be estimated by network models. The standard GISCO rail network of the Commission can be considered.
- Travel time savings. Rail travel times shall be reduced as a result of increasing competition which usually will increase the frequency of services on certain routes.
- Emissions to air. The modal shift from road / air to rail will induce a reduction in road and air transport emissions. The use of models is needed to estimate this indicator.
- Safety. Safety performance of the rail transport mode is generally very good, in particular in comparison with its main competitor, road transport. The number of passenger killed in accidents average around 100 a year in the EU15 Member States and total fatalities (primarily car occupants on level crossings) are about 800-900, whereas more than 40.000 people are killed on the roads each year.