
ASSESS

Assessment of the contribution of the TEN and other transport policy measures to the mid-term implementation of the White Paper on the European Transport Policy for 2010

FINAL REPORT

ANNEX XIII DEVELOPMENTS IN RAIL TRANSPORT SINCE THE 2001 WHITE PAPER

European Commission

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Preface

This is ANNEX XIII of the final report for '*Assessment of the contribution of the TEN and other transport policy measures to the mid-term implementation of the White Paper on the European Transport Policy for 2010*'.

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Scope

Scope of the ASSESS project

The ASSESS study is about the *“Assessment of the contribution of the TEN and other transport policy measures to the mid-term implementation of the White Paper on the European Transport Policy for 2010”*.

The European Commission’s White Paper of 12.9.2001 “European transport policy for 2010: time to decide” aims to promote a sustainable transport policy. The White Paper proposes to achieve sustainability by gradually breaking the link between transport growth and economic growth, principally in three ways: changing the modal split in the long term, clearing infrastructure bottlenecks and placing safety and quality at the heart of the transport policy.

As foreseen, the White Paper on Transport undergoes in 2005 an overall *assessment concerning the implementation of the measures it advocates and to check whether its targets* - for example, on modal split or road safety - *and objectives are being attained or whether adjustments are needed*.

ASSESS provides technical support to the Commission services for the above mid-term assessment of the White Paper.

The analysis accounts for the economic, social and environmental consequences of the proposed measures and their contribution to sustainable development objectives. It provides also a detailed analysis of those effects of enlargement likely to affect the structure and performance of the EU transport system.

The study takes a three pillar approach based on the use of analysis, indicators and models. National transport policies are reviewed for compatibility and coherence with the White Paper objectives. The models used allow a detailed analysis of the freight market, the passenger market and their infrastructure networks under a number of scenarios.

Scope of this Annex

This Annex discusses the developments in rail transport since 2001. The aim of report is to see what extent implementation of the White Paper measures, external developments and the policies of the member states have contributed towards the objectives of the White Paper.

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ANNEX XIII Developments in rail transport since the 2001 White Paper

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XIII.1. Introduction

As a starting point, it is important to explain the motivations behind EU policy towards rail. Over the years, the rail sector has lost market share relative to road. Railways carried one third of the rail/road freight market in 1970, but this figure had fallen to one fifth by 1990. This reflected the decline in traditional heavy industries within Europe where rail had a competitive advantage and the growth in the market for transport of higher weight per given volume manufactured goods which favoured the road sector. A similar pattern of growth has also occurred in the passenger market, where rising car ownership brought a pattern of trip making that never could have been made by rail. Nevertheless there was a strong perception that rail was not doing as well as it might even in those markets where it could be competitive, and this was particularly true of international traffic, where the fact that the service was not supplied by a single operator – as in other transport modes – was seen to be a big handicap. The growth in car and truck use has led to concerns over environmental issues and the unsustainability of the situation. This resulted in a view that railways had an important role to play in reducing environmental damage and reducing road congestion.

Before the 2001 White Paper CEC (2001), the three central objectives of the Commission have been to:

- promote greater competition in the supply of transport within each mode to reduce cost and increase quality
- ensure competition is ‘fair’ between the modes, reflecting external costs in prices and coordinating infrastructure charges across modes
- provide sufficient infrastructure.

CER (2004a) pointed out that the Commission had achieved substantial progress on the first objective but progress on the other two objectives is as yet unsatisfactory.

A series of Directives in the 1990s started the process of introducing competition into the rail sector. Directive 91/440 required the separation of rail infrastructure from operations in the form of separate accounts with transparent infrastructure charges, and the creation of rights of access for combination of rail operators in different member states to provide services through other countries, and for new entrants into international combined transport services. Directive 95/18 set a common criterion for licensing railway operators in the EU, based on conditions such as good repute, financial standing and professional competence. Directive 95/19 introduced the concept of an infrastructure capacity allocation body and charging rules for infrastructure. However, progress in the achievement of competition was slow, and the 1996 White Paper argued for a greater role for competition in the rail sector, which was believed to encourage operators to cut costs, improve the quality of service and offer new products. It also advocated a clear separation of responsibilities between the state and the railways.

¹ We are grateful for the useful comments by Laurent Franckx (TML); responsibility for the report is of course solely our own.

Further major legislation has followed in the form of the first of three railway packages in 2001 and these will be discussed in this report.

The aim of report is to see what extent implementation of the White Paper measures, external developments and the policies of the member states have contributed towards the objectives of the White Paper.

The key objectives for rail are:

- Revitalising the railways
- Unblocking the major routes
- Charging for infrastructure
- Improving user rights and obligations

The next section of the report looks at the development of rail market share. We then look in turn at progress relating specifically to each of the above four objectives before reaching conclusions.

XIII.2. Overall development of market share

At the time of the White Paper, the share of the freight market carried by rail in Europe had fallen from 21.1% to 8.4% (283 to 241 billion tonne kms) between 1970 and 1998. This was very different to the situation in the USA where rail freight accounted for 40% of total freight. In the passenger market over the same period, rail market share fell from 10% to 6% although volumes increased from 217 to 290 billion passenger kms. (CEC, 2001)

According to the White Paper a decline in rail market share need not be inevitable and a commitment to create a single European railway system by 2020 signed by the International Union of Railways (UIC), the Community of European Railways (CER), the International Union of Public Transport (UITP) and the Union of European Railway Industries (UNIFE) reflects the intentions of Europe's railways to reverse this decline and achieve the following objectives:

- increase market share of rail passenger traffic from 6% to 10%
- increase market share of rail freight traffic from 8% to 15%
- treble manpower productivity on the railways
- 50% gain in energy efficiency
- 50% reduction in emissions of pollutants
- Increase in infrastructure capacity in line with traffic targets.

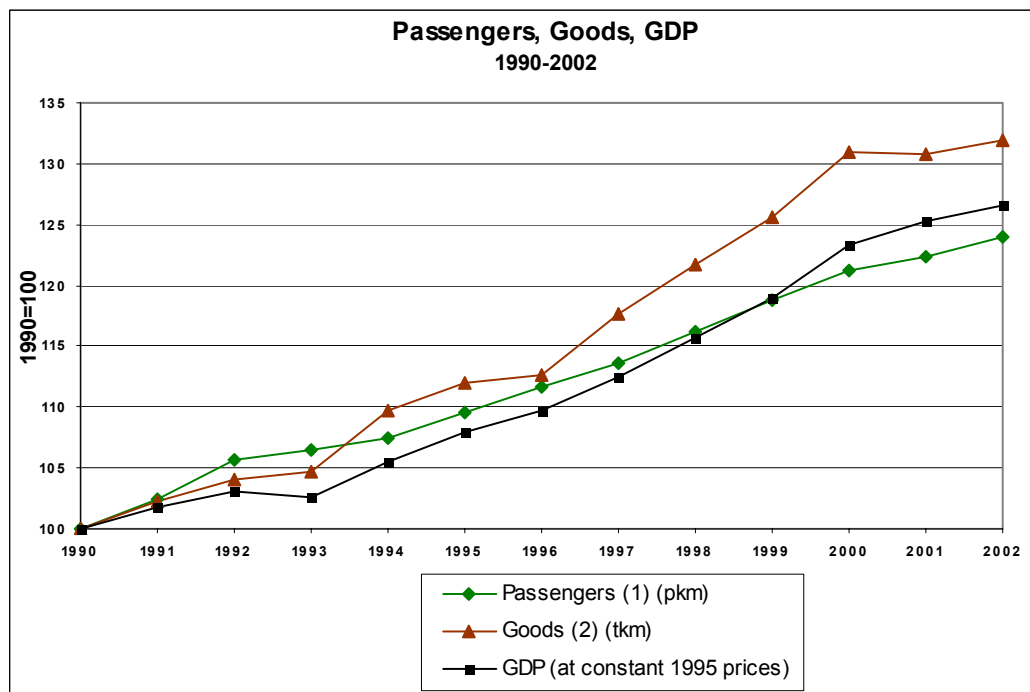
The White Paper itself proposes a series of measures ranging from pricing to revitalising alternative modes of transport to road and targeted investment in the Trans-European Network (TEN). The White Paper states "This integrated approach would allow the market shares of the other modes to return to their 1998 levels and thus make for a shift of balance from 2010 onwards. This approach is far more ambitious than it looks, bearing in mind the historical imbalance in favour of road for the last 50 years." It was pointed out that by implementing the numerous measures set out in the White Paper, there would be slower growth in road haulage due to better use of the alternative modes of transport (increase of 38% rather than 50% between 1998 and 2010). This trend would be even more marked in passenger transport by car (increase in transport of 21% against a rise in GDP of 43%).

The section below looks at what has been happening to the freight and passenger market since the White Paper and whether progress has been made in achieving the goals.

Transport statistics in the EU since the White Paper

Figure 1 illustrates the growth in the passenger and goods market in EU transport across all modes, along with GDP from 1990 to 2002. The largest increase over the whole period has been in goods transport and this is mainly dominated by road haulage.

Figure 1: Trends in the EU15



Notes : (1) : passenger cars, buses & coaches, tram & metro, railways, air
(2) : road, rail, inland waterways, pipelines, sea (intra-EU + domestic)

Source: European Commission (2004) EU Energy and Transport in Figures: Statistical Pocket Book 2004

Freight transport

Table 1 illustrates the modal split of freight transport over the period 1970 to 2002. The figures indicate that no progress has been made in moving towards the White Paper objectives of stabilising rail freight modal share, as there has been a further steady decline in rail market share from 8.4% to 7.7% in the period 1998-2002.

Table 1: Freight transport modal split (%) in the EU15 (5 modes)

Year	Road	Rail	Inland Water- ways	Pipe- lines	Sea
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	10.9	4.6	3.0	39.6
1991	42.3	9.8	4.5	3.3	40.0
1995	43.0	8.5	4.4	3.1	41.0
1997	43.0	8.7	4.3	3.0	41.0
1998	44.0	8.4	4.3	3.0	40.2
1999	44.0	8.1	4.2	2.9	40.9
2000	43.2	8.2	4.2	2.8	41.6
2001	44.0	7.9	4.1	2.8	41.1
2002	44.7	7.7	4.1	2.8	40.8

Source: European Commission (2004) EU Energy and Transport in Figures: Statistical Pocket Book 2004

Table 2 illustrates the modal split of freight transport by EU country in 2002. The largest share of rail freight in comparison to other modes is carried in Estonia (68.7%), Latvia (54.7%) and Slovenia (40.2%). In the remaining countries, freight is dominated by the road sector where it accounts for 100% of traffic

in Cyprus and Malta, and high amounts such as 98.1% in Greece and 96.1% in Ireland. The Netherlands have a fairly balanced freight modal split between road and waterways, with road modal share only slightly the larger.

Table 2: Modal split by country for freight transport in 2002, by tonne-kilometres in % (4 modes: not including transport by sea)

Country	Road	Rail	Inland Water -ways	Pipeline
Belgium	70.0	12.9	14.3	2.8
Czech Republic	70.7	25.6	0.9	2.8
Denmark	74.1	7.7	-	18.2
Germany	69.7	14.5	12.8	3.0
Estonia	31.3	68.7	-	-
Greece	98.1	1.9	-	-
Spain	89.3	6.4	-	4.3
France	77.8	14.0	2.3	5.8
Ireland	96.1	3.9	-	-
Italy	86.3	9.1	0.1	4.5
Cyprus	100.0	-	-	-
Latvia	22.4	54.7	-	22.9
Lithuania	42.2	38.5	-	19.3
Luxembourg	77.3	15.2	7.5	-
Hungary	59.9	27.2	5.8	7.1
Malta	100.0	-	-	-
The Netherlands	44.9	4.4	44.2	6.5
Austria	51.3	29.7	4.9	14.0
Poland	52.1	32.5	0.8	14.6
Portugal	87.0	13.0	-	-
Slovenia	59.8	40.2	-	-
Slovak Republic	66.4	30.8	2.8	-
Finland	74.4	24.8	0.8	-
Sweden	62.6	37.4	-	-
United Kingdom	84.1	10.0	0.1	5.8
EU25	72.2	16.3	6.0	5.6
EU15	75.5	12.9	6.9	4.6

Source: European Commission (2004) *EU Energy and Transport in Figures: Statistical Pocket Book 2004*

There are still many gaps in the data for 2003 and 2004, so these tables cannot be brought fully up to date. However, wherever possible data on rail freight carryings has been included in the following table. Table 3 illustrates trends in total rail freight in each of the EU countries over the period 1970-2004. The table indicates that the amount of rail freight in terms of million tonne-kms has fallen by 27.4% and 16.6% in EU25 and EU15 countries respectively in 2003 in comparison to 1970. However, there has been a significant recovery in the last few years in most countries. Of the major railways, the best performing railways in this period are those of Germany and the UK, whilst of the major railways the worst performing is France. This is interesting in that Germany and the UK have completely liberated entry into the rail freight market whilst France has not. Of course it would be wrong to assume that the only difference between these countries is the degree of liberalization, but it does appear that there are signs that the most liberalised railways are performing best in the rail freight market.

Eurostat (2005) states that the evolution of rail freight transport is strongly related to the type of goods transported. In 2003, 364 billion tkm of rail goods were transported in the EU. Within this, the share of miscellaneous goods was the highest in comparison to the other goods. This may be due to the use of the group miscellaneous goods to report containerised goods which are often not specifically identified. As will be seen from Table 4, overall this category accounted for 18.4% of goods transported, but bulks (solid mineral fuels, petroleum products, iron ore, non ferrous ores, cement etc and crude and manufactured minerals) still accounted for 44.2% of rail freight traffic.

Table 3: Total rail freight transport in million tonne-kms over the period 1970-2004, for each EU country

	1970	1980	1990	1995	2000	2001	2002	2003	2004 ²
Belgium	7876	8037	8370	7304	7674	7080	7300	7294	7691
Czech Republic	-	-	-	22623	17496	16900	15810	15846	15092
Denmark	1701	1619	1730	1985	2025	2000	1867	1888	-
Germany³	113000	121300	101700	69490	76815	74523	72422	73950	86409
Estonia	5700	6500	6980	3845	8102	8557	9697	9670	10488
Greece	688	814	609	292	427	380	400	400	592
Spain	9741	11281	11153	10955	11614	11666	11563	11743	11365
France	67586	68815	50667	48137	55352	50396	50036	46835	45121
Ireland	545	637	589	602	486	516	433	400	399
Italy	18069	18384	19361	21690	22815	21763	20409	20300	21047
Cyprus	-	-	-	-	-	-	-	-	-
Latvia	15520	17590	18540	9760	13310	14180	15020	17955	18618
Lithuania	13570	18240	19260	7200	8918	7741	9767	11457	11637
Luxembourg	763	665	615	529	632	585	570	523	593
Hungary	19820	24400	16800	8400	8800	7700	7800	7610	8311
Malta	-	-	-	-	-	-	-	-	-
Netherlands	3715	3468	3070	3100	4610	4294	4029	4400	5225
Austria	9868	11002	12158	13200	16600	16893	17100	16870	17928
Poland	98000	132400	81600	68200	54000	47700	46600	47395	47871
Portugal	776	1001	1459	2019	2183	2138	2197	2072	2282
Slovenia	3300	3800	4210	3100	2800	2800	3100	3270	3466
Slovakia	-	-	-	13800	11233	10930	10380	10113	9675
Finland	6270	8335	8357	9600	10107	9857	9664	10047	10105
Sweden	17311	16648	19100	19391	20088	19547	19000	20140	-
United Kingdom	24550	17816	16000	13300	18100	19400	18700	18730	22552
EU25	494269	558952	461728	358522	374187	357546	353864	358908	-
EU15	282459	289822	254938	221594	249528	241038	235690	235592	-

Source: European Commission (2004) EU Energy and Transport in figures: Statistical pocketbook 2004, Luxembourg: Office for Official Publications of the European Communities,

http://europa.eu.int/comm/dgs/energy_transport/figures/pocketbook/index_en.htm

² Source: Eurostat <http://epp.eurostat.cec.eu.int>

³ Including ex-GDR (East Germany), 1970=41500, 1980=56400, 1990=39800

Table 4: Goods transported by type of goods in mio tkm in 2004 (domestic and international traffic).

	Belgium	Czech Republic	Germany	Estonia	Greece	Spain	France	Ireland	Italy	Latvia	Lithuania	Luxembourg	Hungary	Poland	Slovenia	Finland	UK
Cereals	47	32	168	35	3	253	3530	0	353	113	210	1	57	200	56	3	0
Potatoes, other fresh or frozen fruits and vegetables	-	4	152	0	2	0	166	0	36	1	10	0	3	11	0	0	0
Live animals, sugar beet	-	0	5	0	15	33	0	31	20	45	0	0	101	87	6	0	0
Wood and cork	16	771	2538	320	52	307	637	0	1349	470	365	2	452	1023	260	2823	0
Textiles, textile articles and manmade fibres, other raw animal and vegetable materials	-	0	73	7	27	39	2	0	6	150	10	0	25	11	1	27	0
Foodstuff and animal fodder	-	189	1278	77	10	73	3723	65	1210	499	800	3	143	421	77	58	257
Oil seeds and oleaginous fruits and fats	27	38	78	1	3	64	743	0	1	101	56	0	19	93	3	0	0
Solid mineral fuels	-	5498	7673	940	3	448	963	0	105	4599	395	30	648	20089	113	55	8907
Crude petroleum	3	4	103	1537	0	0	4	3	-	656	1483	0	32	366	0	303	0
Petroleum products	-	830	8457	6338	44	704	2676	0	565	7113	3530	44	596	2926	259	341	1366
Iron ore, iron and steel waste and blast furnace dust	-	460	7193	6	6	2560	2246	105	903	6	163	97	1029	6011	878	758	0
Non-ferrous ores and waste	114	12	88	64	0	7	156	0	13	10	5	3	124	429	29	111	231
Metal products	-	1917	12525	176	5	0	6627	0	2986	565	1162	169	664	3715	294	1237	2485
Cement, lime, manufactured building materials	-	733	1379	143	2	756	828	90	335	36	326	23	252	1207	71	49	2962
Crude and manufactured minerals	-	588	5817	1	113	8	4102	0	1464	309	590	35	595	5809	136	243	0
Natural and chemical fertilizers	-	181	2112	606	4	79	992	0	123	1565	2030	0	112	1426	37	147	0
Coal chemicals, tar	1	4	303	0	9	102	45	0	38	0	94	0	112	200	1	3	0
Chemicals other than coal chemicals and tar	-	549	7452	151	15	105	2675	0	450	500	222	11	442	1666	236	976	186
Paper pulp and waste paper	69	154	1663	30	29	276	340	0	119	42	15	4	117	131	53	534	189
Transport equipment machinery, apparatus, engines etc	-	246	4856	34	44	1131	2548	0	984	26	64	8	284	338	111	404	0
Manufactures of metal	23	0	753	18	79	0	19	0	58	0	8	1	18	101	0	9	0
Glass, glassware, ceramic products	1	65	118	0	8	3	143	0	53	10	16	1	34	66	29	18	5
Leather, textile, clothing, other manufactured articles	-	4	4290	4	3	23	862	0	432	1	79	8	139	558	51	2004	0
Miscellaneous articles	2480	2812	17336	3	114	4392	11094	105	9446	62	6	153	2311	988	762	2	5952
Total	2782	15092	86409	10488	592	11365	45121	399	21047	16877	11637	593	8311	47871	3466	10105	22541

Note: no data for Denmark, Cyprus, Malta, Netherlands, Austria, Portugal, Slovakia, Sweden, Turkey and Norway.

Source: EUROSTAT website

Passenger transport

Table 5 illustrates the modal split of passenger transport over the period 1970 to 2002. Here rail has achieved the target of avoiding further loss of market share since 1998.

Table 5: Passenger transport modal split (%) in the EU15

Year	Passenger Cars	Bus & Coach	Railway	Tram & Metro	Air
1970	73.8	12.7	10.4	1.6	1.6
1980	76.1	11.8	8.4	1.2	2.5
1990	79.0	9.3	6.7	1.0	4.0
1991	78.9	9.2	6.8	1.1	4.1
1995	79.5	8.7	6.3	0.9	4.6
1997	79.2	8.6	6.3	0.9	4.9
1998	79.1	8.6	6.2	0.9	5.2
1999	78.8	8.4	6.2	0.9	5.5
2000	78.5	8.3	6.3	1.0	5.9
2001	78.5	8.3	6.3	1.0	5.9
2002	78.8	8.3	6.2	1.0	5.7

Source: European Commission (2004) *EU Energy and Transport in Figures: Statistical Pocket Book 2004*

Table 6 illustrates the modal share of passenger transport carried by each country in 2002; the figures show that passenger transport is dominated by the car mode in all countries. The highest modal shares for rail are in Austria (8.4%), France (8.2%) and the Netherlands (8.1%). The lowest rail modal share is in Greece (1.4%) where passenger traffic is not as strongly concentrated on passenger cars (65.9%) in comparison to the other countries; bus and coach has a share of 17% and air accounts for 14.6%.

Table 6: Modal split by country for passenger transport in 2002, by passenger-kilometres in %

Country	Passenger Cars	Bus & Coach	Railway	Tram & Metro	Air
Belgium	79.8	9.9	6.0	0.7	3.6
Denmark	74.3	11.1	6.8	-	7.8
Germany	78.8	8.6	7.8	0.9	3.9
Greece	65.9	17.0	1.4	1.0	14.6
Spain	71.2	10.6	4.5	1.2	12.5
France	83.1	4.5	8.2	1.2	3.0
Ireland	72.8	12.4	3.2	-	11.5
Italy	80.2	11.0	5.3	0.6	3.0
Luxembourg	74.7	12.8	5.1	-	7.4
The Netherlands	81.5	4.1	8.1	0.8	5.5
Austria	70.7	13.6	8.4	2.8	4.5
Portugal	79.7	8.3	3.1	0.5	8.3
Finland	77.7	10.3	4.4	0.7	7.0
Sweden	74.0	8.0	7.2	1.8	9.1
United Kingdom	80.9	5.9	5.1	1.1	7.1
EU15	78.8	8.3	6.2	1.0	5.7

Source: European Commission (2004) *EU Energy and Transport in Figures: Statistical Pocket Book 2004*

There is inadequate data to extend the above two tables beyond 2002, but Table 7 illustrates total rail passenger transport in each of the EU countries over the period 1970-2003. In terms of million passenger-kms, there has been growth of 15% in EU25 countries in 2003 in comparison to 1970. However the growth has been even more remarkable when considering only the EU15 countries, as there has been an increase of 38.9% million passenger-kms in 2003 in comparison to 1970. In the last few years, overall growth has ceased; there has been continued strong growth in the UK and Sweden, but a falling back in Germany, generally attributed to increased competition from low-cost airlines.

Table 7: Total rail passenger transport in million pkms over the period 1970-2003, for each EU country

	1970	1980	1990	1995	2000	2001	2002	2003
Belgium	7567	6963	6539	6757	7732	8037	8259	8264
Czech Republic	-	-	-	8020	7300	7299	6597	6484
Denmark	3898	3803	4855	4784	5317	5525	5490	5358
Germany⁴	62400	62499	61060	75000	74014	73952	69294	69030
Estonia	1230	1550	1510	420	263	183	177	182
Greece	1531	1464	1977	1568	1886	1747	1836	1840
Spain	14013	14826	15476	16582	20150	20827	21135	21000
France	40979	54261	63761	55319	69866	71504	73522	72200
Ireland	755	1032	1226	1290	1389	1515	1628	1601
Italy	32608	39587	44709	43859	47132	46675	46784	46100
Cyprus	-	-	-	-	-	-	-	-
Latvia	3820	4770	5366	1256	715	706	744	762
Lithuania	2130	3260	3640	1130	611	533	498	432
Luxembourg	256	246	208	287	332	346	357	350
Hungary	15170	13710	11400	8441	9693	10005	10531	10400
Malta	-	-	-	-	-	-	-	-
Netherlands	8011	8910	11060	13977	14760	14392	14290	13850
Austria	6438	7586	8731	9628	8206	8240	8301	8249
Poland	36890	46330	50370	20960	19706	18208	17310	19643
Portugal	3546	6076	5664	4810	3672	3692	3683	3585
Slovenia	1500	1440	1430	600	705	715	749	779
Slovakia	-	-	-	4200	2870	2805	2682	2315
Finland	2156	3216	3331	3184	3405	3282	3305	3338
Sweden	4640	6998	6353	6345	8230	8603	9100	9100
United Kingdom	30600	30400	33191	30200	38400	39300	39900	40900
EU25 European Union	300638	336927	361257	318617	346354	348091	346172	345762
EU15 European Union	219398	247867	268141	273590	304491	307637	306884	304765

Source: European Commission (2004) EU Energy and Transport in figures: Statistical pocketbook 2004, Luxembourg: Office for Official Publications of the European Communities,

http://europa.eu.int/comm/dgs/energy_transport/figures/pocketbook/index_en.htm

High speed rail passenger network

The high speed passenger rail network in Europe emerged in 1981, with the first line of Paris-Lyon, which was originally designed for a maximum speed of 260 km/h, but speed increased to 300 km/h in 2001. Further lines were built with the total length in kilometres of EU-15 countries reaching 3,748 kms in 2003.

Table 8 illustrates the growth in high speed rail in terms of 1000 million passenger kilometres over the period 1990-2003. The growth has been very large over the years starting from 15.2 billion passenger kilometres in 1990 and rising to 70.5 billion by 2003. France was the leading contributor to this growth, followed by Germany and Italy. There is strong growth in market share. For journey times up to 2 ½ hours, rail's share of the rail/air market is over 75%, with 50% up to 4 hours. A study by Munchen-

⁴ Including ex-GDR (East Germany), 1970=17700, 1980=22000, 1990=17500

Arcueil (2003) reveals that by 2010, high speed rail will have generated an addition 51 billion passenger-km, two thirds of which will have come from other transport modes. It thus appears that a large part, although not all, of the growth in rail passenger kilometres in recent years has come from the development of the high speed network.

Table 8: High Speed Rail transport (1000 million passenger km)

Year	Belgium	Germany	Spain	France	Italy	Netherlands	Finland	Sweden	UK	EU15
1990	-	-	-	14.9	0.3	-	-	0.0	-	15.2
1991	-	2.0	-	17.9	0.4	-	-	0.1	-	20.4
1992	-	5.2	0.4	19.0	0.4	-	-	0.2	-	25.2
1993	-	7.0	0.9	18.9	0.5	-	-	0.3	-	27.6
1994	-	8.2	0.9	20.5	0.8	-	-	0.3	-	30.7
1995	-	8.7	1.2	21.4	1.1	-	-	0.4	-	32.8
1996	0.3	8.9	1.1	24.8	1.3	0.0	0.0	1.1	-	37.5
1997	0.6	10.1	1.3	27.6	2.4	0.1	0.1	1.3	-	43.4
1998	0.8	10.2	1.5	30.6	3.6	0.1	0.1	1.6	-	48.5
1999	0.8	11.6	1.7	32.2	4.5	0.1	0.1	1.8	-	52.7
2000	0.9	13.9	2.2	34.7	5.1	0.1	0.1	2.0	-	59.1
2001	0.9	15.5	2.4	37.4	6.8	0.2	0.1	2.2	-	65.5
2002	0.9	15.3	2.5	39.9	7.1	0.2	0.1	2.3	-	68.2
2003	0.9	17.5	2.5	39.6	7.4	0.2	0.1	2.3	-	70.5

Source: European Commission (2004) *EU Energy and Transport in Figures: Statistical Pocket Book 2004*

XIII.3. Revitalising the railways

Following the decline in rail market share as outlined in the previous sections, the White Paper states that the renewal of the railways is the key to achieving modal rebalance. The White Paper stated a “veritable cultural revolution was needed to make rail transport, once again, competitive enough to remain one of the leading players in the transport system in the enlarged Europe. The priority must be to resolve the problems holding back its development: the lack of infrastructure suitable for modern transport and of interoperability between networks and systems, the constant search for innovative manufacturing technologies, the non-transparency of costs, and the patchy productivity and shaky reliability of the service, which is failing to meet customer’s legitimate expectations.”

The proposals for revitalising the railways consisted of integrating rail transport into the internal market by creating a genuine internal market in rail and guaranteeing rail safety, making optimum use of the infrastructure and modernising the rail services.

The White Paper makes specific reference to the importance of opening up access to the 50,000 kms trans-European rail freight network by 2003 and the entire European international freight network by 2008. It sees this as a stimulus for competition from new operators such as Rail4Chem and IKEA to make existing rail operators more efficient and so more competitive against other modes of transport. It points out, however, a number of technical and regulatory barriers that may continue to obstruct the entry of new operators and maintain the position of existing operators. It highlights what it sees as a number of problems including:

- Lack of distinction between freight and passenger operators;
- Lack of distinction between ownership of the infrastructure, operation of the trains, allocation of track access and safety checks.

This allows incumbent rail operators the opportunity to artificially restrict availability of paths through the abuse of regulatory or price setting powers. It also fails to give clear commercial objectives to freight operations.

The White Paper proposals towards increasing competition in the rail sector were primarily devoted to implementing the 'first railway package' enshrined in directives 2001/12, 2001/13 and 2001/14 and subsequent proposals:

- Directive 2001/12 modified Directive 91/440 on the development of the Community's railways, extending access rights.
- Directive 2001/13 modified Directive 95/18 on licensing rules for rail freight services, stating the framework for financial, economic and safety conditions.
- Directive 2001/14 replaced Directive 95/19 dealing with the allocation and charging of rail infrastructure.

The first railway package, adopted in 2001, provided for open access for international freight on the Trans European rail freight network, infrastructure charges based on direct costs plus mark-ups, setting of infrastructure charges and path allocation to be in a separate organisation from any train operator, and right of appeal to an independent regulator.

Transposition of the first railway package has been patchy. The Commission proposed to bring nine member states (Austria, Germany, Greece, Ireland, Luxembourg, Portugal, Spain, Sweden and UK) in front of the court of justice in late 2003 for failing to notify the Commission of the transposition of the rail infrastructure package opening the market for international rail freight services. The railway infrastructure package had to be implemented by 15th March 2003 but by then, only France, Belgium, Finland, the Netherlands, Italy and Denmark had notified the transposition of the first package of measures. (EU website).

This is somewhat ironic in that many of those countries which had failed to notify the Commission of transposition of the package had in fact come closer to implementing the spirit of the reform than some of those that had. For instance, Germany, the UK, and Sweden all had open access freight competition, whereas in France at the time no new freight operator had received an operating licence or safety certification. Given the strategic importance of the location of France this prevented the emergence of competition on important international routes to the UK and the Iberian Peninsula.

The Channel Tunnel also provides a particular barrier in the case of the UK; under the agreement under which Channel Tunnel freight services were privatised, the UK government has to date paid the access charges of EWS, the privatised operator, but whilst this arrangement has just been extended to 2006, presumably it will then expire leaving both EWS and any new entrant with very high access charges.

The degree of liberalisation achieved has been revealed in an independent study by IBM Business Consulting for Deutsche Bahn, in which a Rail Liberalisation Index is estimated taking into account the level of the national legal framework, the level of actually available access opportunities and barriers and the level of market opening achieved (IBM and Humboldt University of Berlin, 2002). This has recently been updated (IBM and Humboldt University of Berlin, 2004). The results showed that Great Britain, Sweden and Germany are leading the liberalisation in the EU, following by the Netherlands, Denmark, Italy and Portugal, and much behind, Austria, Finland, Luxembourg, Belgium and France and at the bottom Greece, Ireland and Spain.

In most countries a single national public sector operator remains dominant; the biggest changes have come where open access for freight is combined with extensive franchising of passenger services (UK,

Sweden, Germany). But effective competition has emerged in some cases, most notably for rail freight through the Alps between Germany and Italy, where the two key national operators in Germany and Switzerland lead different consortia in fierce competition which is claimed to be beginning to impact on mode split (Railway Gazette International, May 2005). The Rail Net Europe consortium of infrastructure managers is providing easier access to information on path availability and costs for international freight paths, and the emergence of the European Bulls as a consortium of small private freight operators is promising. In France, where until 2005 no operator other than SNCF existed on the main line railway, two operators other than SNCF have now been licensed and the first (a subsidiary of Connex) has begun operating freight trains between France and Germany.

In an effort to rectify the failings of the current legislation the White Paper proposes a second package of measures to, "...create a genuine internal rail market". These are outlined below:

- a new directive on the regulation of safety and investigation of accidents and incidents on the community's railways;
- amendments to two previous directives on interoperability to harmonise the technical provision and requirements for high speed and conventional railway networks;
- a regulation to establish a new European safety and interoperability agency;
- a recommendation for a council decision authorising the Commission to negotiate the conditions for community accession to the COTIF arrangements for international transport;
- most fundamentally an amendment to 91/440 so as to open up access to the infrastructure for national services in order to completely open up the rail freight market, i.e. including cabotage.

A third railway package was presented in spring 2004 encompassing a further four legislative proposals:

- A proposal to amend directive 91/440 (COM2004/139): railway undertakings with a licence and the required safety certificates would, from 1 January 2010, be able to operate international passenger services in the Community, creating the potential for competition with existing international services such as Thalys and Eurostar;
- A proposal for a directive on the certification of train crews (COM2004/142);
- A proposal for a regulation on the rights and obligations of international rail passengers (COM2004/143);
- A proposal for a regulation on compensation in cases of non-compliance with contractual quality requirements for rail freight services (COM2004/144).

Given the emphasis elsewhere on opening rail freight markets to competition, the proposed regulation on compensation for freight customers is curious, and – having met with opposition in the European parliament – is unlikely to be adopted. The whole approach of introducing competition into freight markets is designed to give customers a choice in which if they are not satisfied by the price/quality mix offered by one operator they can turn to another. If competition is effective, there should be no need for regulatory action such as this. Moreover, if the compensation arrangements are too stringent, they may lead to an unwillingness of operators to provide certain types of rail freight service at all, unless higher prices could be charged, which could even damage the prospects for rail freight. It must be assumed from this proposal that the Commission doubts whether competition in rail freight will be fully effective in leading to efficient combinations of price and quality of service.

The White Paper places particular emphasis on the removal of technical barriers to promote interoperability between different member state's rail infrastructure. It argues that until rail rolling stock can travel freely across the Union's rail network then the rail sector will never be truly competitive with other modes of transport. At the same time it notes that the rail sectors' work force would have to receive both training and an improvement in current working conditions to add value compared with the national rules. As an example of what can be achieved the White Paper cites the deployment of the ERTMS (European Rail

Traffic Management System) which was developed from the early 1990s as part of the Communities framework programmes of research, and has been made, “a condition for Community co-financing of rail infrastructure and equipment”. As such similar technological research to support rail interoperability is seen as essential.

The European Rail Agency is now in existence, and proposals to enhance interoperability – notably the introduction of the new common signalling and train control system (ERTMS) – are being taken forward. Moreover a memorandum of understanding has been signed between the rail industry and the Commission, regarding implementation and funding of ERTMS. ERTMS offers significant advantages in terms of inter-operability and - in its more advanced forms – increased capacity, but it is very expensive and its full benefits will only be realised when it is widely used.

The third railway package begins the process of liberalisation of passenger services, with open access for international operators, including cabotage. However, whether such an approach would have much impact in the passenger sector appears doubtful. Passenger services in Europe form a complex inter connected network – indeed more so than for freight. As has already been mentioned, governments have long intervened extensively on the question of what passenger services should be provided and at what fares, and in principle there was good reason for such intervention given the predominance of economies of scale and externalities in the transport sector, even if it was not always exercised wisely. Subsidies to passenger services are commonplace. Thus there are a rather limited number of routes on which a free standing new entrant could hope to compete on a purely commercial basis. Moreover, on such routes track capacity at peak times is often scarce, so new entry could only be provided for if the infrastructure manager were willing and able to take paths away from existing operators, and such an entrant would be at a significant disadvantage if they did not also have access to passenger terminals, enquiry and booking facilities provided by the dominant operator. Thus even those countries which have had open access for commercial passenger operators (e.g. Germany, and - subject to severe regulatory constraints - Britain) have seen very little actual competition. Where it does occur, it is not necessarily the case that open access competition is necessarily socially beneficial, since it may worsen the overall pattern of fares and services and increase the need for subsidy.

Preston, Whelan and Wardman (1999) simulate competition on a particular route and find that whilst consumers benefit from lower fares, these benefits are not enough to offset the increased costs. Reduced profitability of the incumbent reduces the scope for cross subsidy and leads overall to higher subsidy levels and/or cuts in services elsewhere. There is also evidence that this happens in practice – for instance, between London and Ipswich competition led to lower fares, but to diversion of services from other routes to duplicate existing services to Ipswich.

For these reasons, the alternative of franchising appears a more promising way of introducing competition particularly for passenger services and particularly where existing operators are receiving substantial subsidies. The franchising process could specify minimum levels of service and maximum fares, require cooperation in the provision of information and ticketing facilities and then invite bids in terms of the minimum subsidy necessary to provide these services (or occasionally the premium that the franchisee was willing to pay for the right to run the services).

It would of course be possible to introduce both open access rights and franchising whilst leaving the infrastructure in the hands of an existing vertically integrated and dominant operator; Germany in particular has sought to do this. However, inevitably the incumbent operator would have an incentive to use its control of the infrastructure to make it difficult for a new operator, whether open access or a franchisee, to complete. Amongst the possible ways of doing this would be discrimination in the pricing and the allocation of paths, refusal of access to facilities such as stations, marshalling yards, depots and information

systems and discriminatory practices regarding the licensing and safety certification of new operators. All these and many other practices have been alleged to take place as ways of preventing entry.

For this reason, senior Commission officials are on record as saying that they would prefer to see complete separation of infrastructure and operations (although even that alone might not suffice if both were still under the control of the same government ministry, and that ministry saw protecting the existing operator as necessary for its financial or political health). But it has never been possible to reach agreement in the Council of Ministers for such a step.

Moreover the change which – it is argued – could do most to bring competition to passenger services, the introduction of competitive tendering, is not yet required. In 2000, the European Commission launched a proposal to revise Regulation 1191/69 to require compulsory competitive tendering wherever public transport is either in receipt of subsidy or has exclusive operating rights (CEC, 2000). This proposal met a lot of opposition (European Parliament, 2001) and an amended version was then brought forward for consideration (CEC, 2002). This amended version has not yet been adopted and a modified proposal has just emerged (CEC, 2005). A compromise has been suggested whereby governments would be able to choose between competitive tendering and continued government monopoly operation, but in the latter case the organisation operating the services would not be eligible to bid for contracts elsewhere. In any event, the new version specifically excludes regional and long distance rail services from the requirement for competitive tendering.

Regarding the extent to which franchising has actually been introduced, Table 9 summarises the current position. As described above there is complete franchising out of domestic services in Britain and extensive franchising in Sweden, with rather more limited introduction of franchising in Germany, Denmark, the Netherlands and one route in Portugal. In Denmark, the first tender covering some 15% of passenger services was let in 2003; a further 10% will be franchised in 2007. Franchising is also beginning to be implemented in Italy. Estonia split its railway system into a vertically integrated freight operator, and franchised passenger operators, but the passenger operations are relatively minor. Otherwise none of the new member states has yet implemented competitive tendering, although Hungary and Latvia have taken the first steps of entering into public service contracts with explicit subsidies for suburban services. Some non-EU countries have a small amount of competitive tendering. Switzerland has a long history of private passenger services, but only a few concessions have been competitively awarded. Norway is preparing for competitive tenders to provide passenger transport under public service contracts. But the main experience of franchising to date is in Britain, Sweden and Germany.

Table 9: Status of Competitive Tendering for Rail Passenger Services

Country	Extent of competitive tendering
Austria	Limited for regional
Belgium	None
Czech Republic	None
Denmark	Gradual introduction for regional
Estonia	All passengers
Finland	None
France	None
Germany	Some regional
Greece	None
Hungary	None
Ireland	None
Italy	Now being introduced for regional
Latvia	None
Lithuania	None
Luxembourg	None
Netherlands	Some regional
Norway	None
Poland	None
Portugal	One service franchised
Slovakia	None
Slovenia	None
Spain	None
Sweden	All subsidized services
Switzerland	Some regional and combined transport services
United Kingdom	All domestic passenger services (with minor exceptions)

Even though there have been some problems with franchising there seems little doubt that, with or without new legislation, this trend will continue, particularly for regional services, where in many countries responsibility is being handed to regional authorities who are more interested in securing the best deal possible for the residents rather than in protecting the national operator. For instance, it is reported that in Sweden (Alexandersson and Hulten, 2003) and Germany (Peter and Hegner, 2004), savings of the order of 20% have typically been achieved. In Britain, the initial experience was positive but the subsequent picture is muddled by the problems with the infrastructure manager (ECMT, 2005). It is clear that in France some of the regions would dearly love to be able to go to an operator other than SNCF in order to secure a more competitive deal.

The principal argument for competitive tendering is that it permits the preservation of an integrated network of services, subsidised where necessary, whilst still introducing competitive pressures, leading to incentives to reduce costs and (depending on who bears the revenue risk and what other incentives are in place) improve quality of service.

If it is decided to franchise passenger services, there are many issues about the best way to do it. Key questions are:

- What pattern of franchise length, control of services and fares and responsibility for investment is best?
- How large a network should each franchise cover?
- How may appropriate incentives be built in to the contract?

So far there is a wide variation in practice on such issues. A commonly identified problem with separation of infrastructure from operations in the literature is the so-called “hold-up” problem that when one party invests the other has the incentive to try reap the benefits of that investment by higher charges. There are a number of ways of trying to avoid this in the rail sector. Firstly, rail infrastructure is typically still in gov-

ernment ownership, with investment and pricing both regulated on public interest criteria. Secondly, whilst access agreements are normally limited to 5 years, the legislation provides for agreements to be up to 10 years or even longer when necessary to secure investment. Thirdly, in some countries an active leasing market has been achieved for railway rolling stock (particularly in Britain, where virtually all rolling stock is leased); in others (e.g. Sweden) rolling stock for franchised regional services is owned by the franchising authority.

Nevertheless, it must be accepted that when a franchise is signed, knowledge of future circumstances that will pertain cannot be perfect, and thus situations are likely to arise in which details have to be renegotiated, for instance because changed circumstances mean that the government want to ensure a different level of service. This is the problem of incomplete contracts (Williamson, 1999). Although contracts may specify rules for proceeding in such circumstances (for instance, that changes should be on the basis that the profitability of the franchisee is unaffected), such renegotiations obviously give rise to the risk of opportunistic behaviour which may raise costs. Hart, Shleifer and Vishny (1996) argue that in-house provision is to be preferred in cases where large ex post hold up opportunities exist. With a choice between a private contractor and an in-house provider, it is argued that the government would have to pay more to the private contractor in such circumstances.

In terms of modernising and improving rail transport, the White Paper ambitiously drives towards the following by 2010 but understands this may not be realistic:

- Railway companies enjoy access to the rail network on equal terms
- Infrastructure managers allocate capacity in real time with reference to the entire European network, and charging principles are harmonised
- Train punctuality is guaranteed and passengers and customers receive compensation if trains run late
- Average speeds for international freight trains are up to 80km/h, four times faster than in the year 2000
- Railway equipment manufacturers should benefit from the introduction of Community provisions on the interoperability of the railway system to gain non-discriminatory access to the European market and enjoy the possibility of using innovative technology rapidly
- Engine drivers can drive anywhere on the trans-European network and are trained for European routes at European training centres open to all railway companies
- National infrastructure managers are organised at European level and in cooperation decide the conditions for access to the network. Based on the competition rules, they decide on investment priorities together and establish a dedicated infrastructure network for freight
- Railway regulators meet frequently to exchange information on the development of the rail market and propose measures to adapt to competition from other modes
- All rail operators offer travellers integrated online services covering information, bookings and payment for leisure and business travel
- The European network offers high safety standards (CEC, 2001).

What evidence is there of success so far?

Throughout the 1990's, European railways have gone through significant institutional restructuring. NERA (2003) states there has been greater commercial independence, more focus on the core railway business areas and the introduction of some competition. NERA reports on data regarding operating performance in the EU railways in the period 1990-2001 as illustrated in Table 10. The findings show that the EU railways have encountered significant growth, but simultaneously, the number of railway staff has fallen substantially reflecting partly a trend towards outsourcing activities. NERA states that overall, the railways have become more commercially viable as a result of falling unit costs and broadly stable yields.

However, whilst yields have increased for passenger services, they have decreased for freight services. The viability ratio is an important indicator of the trends in railway financial viability and has shown improvements especially in the period 1995-2001.

Table 10: Indicators of Operating Performance, consolidated for EU15 Railways (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%

Source: NERA (2003)

Nilsson argues that the reforms in Sweden have been a modest success, with traffic growing and the efficiency of the train operating companies increasing. Nevertheless, Schmutzler and Buehler (2002) argue that there is little evidence of railway reforms yielding any benefits, and regard the experience of Britain as a spectacular failure.

Britain is an extreme case of reform; unlike any other country in Europe having privatised all train operators and the infrastructure manager. Despite the negative publicity surrounding rail privatisation in Britain, research for the early years shows that the newly-privatised industry got off to a promising start. Pollitt and Smith (2002), amongst others, find that the privatisation and restructuring of British Rail resulted in substantial savings in operating costs over the period prior to the Hatfield accident (1996/97 to 1999/00). Traffic volumes also increased sharply over the post-privatisation, pre-Hatfield period (by 28% and 37% for passenger kilometres and freight tonne kilometres respectively between 1995/96 and 1999/00), arresting previous trends. Whilst part of this traffic growth may be attributed to the economic cycle, a number of “privatisation-effects” have also been identified (e.g. fare capping; innovative ticket types; improved protection against passengers travelling without paying). Simultaneously, punctuality improved over the period up until Hatfield, driven largely by reductions in infrastructure-related delays; although punctuality slipped back slightly after 1997/98, as the rate of improvement at Railtrack slowed, and Train Operating Company (TOC) - caused delays started to rise.

The rise in infrastructure costs since the Hatfield accident is large, although some of the increase reflects higher track renewal activity. Also, whilst there has been considerable attention on infrastructure costs, Smith (2004) calculates that the costs of train operations (including rolling stock maintenance and capital costs) have also been on the rise in recent years. Total rail industry cash costs increased by 47% between 1999/00 and 2001/02. However, the cost of train operations accounted for 38% of the total industry cost increase over the period. Due to cost increases, subsidies to the railways increased sharply after Hatfield, reversing the previous trend of falling subsidies during the earlier years. In addition, train performance (punctuality and reliability) fell sharply after Hatfield and, although recovering slowly, is still well below pre-Hatfield levels. Meanwhile safety measures have continued to show further improvement.

Overall therefore it appears that the gradualist approach of Sweden has achieved better results than the rapid reform in Britain. But overall it does appear that reform is having an impact both on the quality of international rail freight services and on the level of rail costs. However both improvements are slower than might have been anticipated at the time of the White Paper.

XIII.4. Unblocking the major routes

The elimination of bottlenecks is the second policy goal identified by the White Paper with two sub-objectives: unblocking the major routes and developing funding packages. The White Paper highlights a large number of bottlenecks on Europe's transport systems which affect all modes of transport. There lies a great importance in eradicating them if the European Union is to fully realize its economic potential by facilitating as freely as possible the physical movement of goods and people. This was also the justification behind the Trans-European Network (TEN) policy.

In 1996, guidelines were drawn up for the development of TEN aiming at:

- integrating national networks and modes of transport – enhancing competitiveness
- linking peripheral regions of the EU to the centre – enhancing cohesion
- improving safety and efficiency of the networks.

14 priority 'Essen' projects were identified in 1994 and a further 16 priority projects were added in 2001-03. When the White Paper was published, only 20% of the planned infrastructure had been finished and it was unlikely that the remaining 80% would be finished by the 2010 deadline set in 1996. By 2007, only 5 out of the 14 1994 'Essen' projects were predicted to be in operation and most of the rest were expected to only partially be complete by 2010.

Despite the slow progress, the White Paper states its support for the TEN in order for Europe to remain competitive and for an improvement in the links between the European Union's outlying regions and its central markets. Therefore the Commission planned to propose a two stage revision to the TEN guidelines. The first stage would see the Commission "concentrate on eliminating bottlenecks on the routes already identified, completing the routes identified as priorities for absorbing the traffic flows generated by enlargement, particularly in frontier regions, and improving access to outlying areas". The second stage would, in 2004, involve a more extensive revision of the TEN guidelines following reactions to the White Paper.

The White Paper notes that the revised Community guidelines on the TEN must be environmentally sustainable as was outlined by the Gothenburg European Council. As such Community action must be focused upon: (1) the development of multi-modal corridors giving priority to freight; (2) a high-speed passenger network; (3) traffic management of existing infrastructure; and (4) completing major infrastructure projects. The first and second of these measures have particular significance to rail, and are outlined below.

Establishing multimodal freight corridors requires a high quality rail infrastructure and investment must be made to encourage the gradual development of trans-European corridors for the priority, or even exclusive, use of freight trains. These corridors will run along mainly existing lines with additional lines (new and looped) to be constructed in areas with particularly intensive traffic (particularly urban areas). In other areas the upgrading and rehabilitation of infrastructure on alternative low-traffic routes or the development of more effective traffic management systems will help achieve freight corridors. Rail access to ports and rail freight terminals are two other areas where major bottlenecks are occurring and which require investment.

Vinois (undated) points out that the White Paper gave priority status to a large number of railway projects generally belonging to the high speed network. In order to progress with funding for cross-border links and for crossing natural barriers such as the Alps, the Pyrenees and straits, the commission is trying to speed up the development of a genuine TEN for high speed rail which should consist of over 10,000 km of line by 2010 and provide a feasible alternative to road and air travel over distances ranging from 300-1500 km. The commission is earmarking over 60% of the budget for the TEN to railway projects and a large proportion of the Cohesion Fund benefiting Spain, Portugal, Ireland and Greece is also invested into rail.

Nevertheless, progress with the high speed network remains slow, whilst the freight priority corridor is almost confined to the Betuwe line in the Netherlands, and to the new Alpine base tunnels. The main obstacle to carrying out these projects, apart from technical or environmental considerations, is obtaining capital investment. Traditionally funding for transport infrastructure has come from national public funding and so traditionally priority has been given to lines within Member States rather than schemes to improve the quality and capacity of cross border links.

Community funds (Structural Funds, Cohesion Fund and TEN budget) have been made available to complement national funds but are limited as to the contribution they can make, for example the contribution from the TEN budget was, at the time of the White Paper, limited to 10% of the total cost of the investment. Experience has shown, however, that this level of contribution is not sufficient to act as an incentive to mobilize and coordinate required investment, particularly for projects that cross borders and offer low returns, despite such projects' strategic importance. The White Paper therefore proposes to raise the level of contribution to 20% for 'critical projects with a high added value for the trans-European network but a low socio-economic return at national level'. In particular this would apply to cross-border rail projects crossing natural barriers (e.g. mountain ranges and water) requiring major civil engineering works such as tunnels or bridges (this would also apply for projects at the borders of candidate countries). In addition the White Paper pushes for more selectivity of projects and a greater emphasis to be placed on obtaining either public or private funding. It also proposes that Community funding be, "...much more conditional upon the implementation of projects guaranteeing interconnection of the infrastructure concerned, their interoperability, their contribution to the development of intermodality, greater safety, and the recovery of the aid where this principle is not met".

In some circumstances public funding is supplemented by private funds in the form of public/private partnerships, e.g. the Oresund bridge/tunnel. Such schemes put almost the entire risk onto the State, but despite this the public/private partnership formula has found it difficult to attract investors. As such, the White Paper reports on some new procedures which the Commission hope will achieve, "...greater involvement of private capital in infrastructure funding". These procedures will ensure the involvement of the private investor at the earliest possible stage of the project planning and greater legal certainty in the way projects are put together. Any mechanisms that result in a single body taking responsibility for obtaining and utilising funding will be encouraged.

Despite the introduction of these new procedures, the White Paper is conscious of the fact that many major projects do not offer a return on their investments for long periods of time, up to several decades. It therefore proposes that,

"New infrastructure projects should benefit from an 'income' even before the first operating revenue is generated. The incomes from charges on competing routes – once these have been amortised – could provide a reserve of surplus financial resources. Some of this income could therefore be used to make up the shortfall in funds needed to complete other infrastructure projects, particularly rail, in the region in question."

Following the report of the high Level Group chaired by Van Miert in 2003, agreement was reached on revised guidelines which expanded the list of priority projects, (with 20 out of the 30 new projects being rail projects or having a substantial rail element) and raised the maximum Commission contribution to funding cross border projects to 20%.

However, funding remains a big issue. The priority projects together require funding of the order of 220n euros and the entire TEN-T network some 600b euros. The combination of national and European funding sources will not be adequate for this, despite the provision of new funding mechanisms through the European Investment Bank.. Given the doubtful financial case for much of the investment, securing a significant private sector contribution will be difficult. A final source of funding might be cross funding from road, but the current Eurovignette directive ties charges for the use of roads to the cost of providing road infrastructure (at the time of writing an amendment is proposed which will allow up to a 25% surcharge in sensitive mountain regions to be applied to funding of other modes).

Table 11 shows the projects expected to be completely finished by 2007 (5 projects) and projects where several sections will be completed by 2010. Whilst collectively these projects do represent a significant extension of the European high speed rail network, and also free up capacity on the existing network for freight, as well as providing the new Betuwe freight line, their overall impact is limited, and there are doubts as to whether all of them are a good use of resources. (See Annex XX1). Progress with the development of high speed rail in Europe is illustrated in Table 12 and Table 13.

Table 11: TEN Projects for completion by 2010 (f) = finished

TEN projects	Subprojects	Original deadline	2004 Deadline	2010
1. High-speed train/combined transport north-south	1. Berlin Bahnhof-Berlin/Ludwigsfelde		2008	yes
	2. Berlin/Ludwigsfelde-Halle/Leipzig		2002	yes
	3. Halle/Leipzig-Erfurt	2003	2015	no
	4. Erfurt-Nurenburg	2007	2015	no
	5. Nurenburg-Munich		2006	yes
	6. Munich-Kufstein	2002	2015	no
	7. Kufstein-Innsbruck	2010	2009-18	no
	8. Innsbruck-Fortezza (Brenner Base tunnel)	2012	2015	no
	9. Fortezza-Verona		2002 (f)	no
	10. Verona-Bologna		2007	yes
	11. Milan-Bologna		2006-08	yes
	12. Bologna-Florence		2007	yes
	13. Florence-Rome (re-electrification)		200	yes
	14. Rome-Naples	2004	2007	yes
	15. Rail/road bridge over the strait of Messina		2015	no
2. High-speed train PBKAL (Paris-Brussels-Cologne-Amsterdam-London)	1. Belgian/German border Cologne		2007	yes
	2. Cologne-Frankfurt		2004 (f)	yes
	3. London-Channel tunnel rail link		2007	yes
	4. Belgium		2006	yes
	5. Netherlands		2007	yes
	6. Paris-Lille-Calais-Channel tunnel		1994 (f)	yes
3. High-speed railway axis of south-west Europe	1. Spain, Atlantic branch	2007	2010-11	no
	2. Spain, Mediterranean branch	2007	2008	yes
	3. French Atlantic branch		2010	yes
	4. French Mediterranean branch		2015	no
	5. Montpellier-Nîmes	2006	2008-09	yes
	6. Madrid-Barcelona	2012	2010-11	no
	7. Lisboa/Porto-Madrid		2005	yes
	8. Dax-Bordeaux		2011	no
	9. Bordeaux-Tours		2020	no
	10. Spain, Atlantic branch		2015	no
4. High-speed train east	1. Paris-Baudrecourt		2007	yes
	2. Metz-Luxembourg		2007	yes
	3. Saarbrücken-Mannheim		2007	yes

TEN projects	Subprojects	Original deadline	2004 Deadline	2010
5. Conventional rail/combined transport: Betuwe line	1. Port Railway line	2006	2007	yes
	2. A15 line	2006	2007	yes
6. High-speed train/combined transport, France-Italy	1. Lyon-Montmélián-Modane (St Jean de Maurienne)	2010	2015	no
	2. St Jean de Maurienne-Bruzolo	2013	2017	no
	3. Bruzolo-Turin	2008	2011	no
	4. Turin-Venezia	2006-08	2010	yes
	5. Venezia-south Ronchi-Trieste [...]Divaca (2015)		2015	no
	6. Koper-Divaca-Ljubljana (2015)		2015	no
	7. Ljubljana-Budapest (2015)		2015	no
7. Motorway axis Igoumenitsa/Patra-Athina-Sofia-Budapest	1. Via Egnatia	2005	2006-08	yes
	2. Pathe	2005	2008	yes
	3. Sofia-Kulata-Greek/Bulgarian border motorway, with Promahon-Kulata as cross-border section		2010	yes
	4. Nadlac-Sibiu motorway (branch towards Bucuresti and Constanta)		2007	yes
8. Multimodal link Portugal-Spain-Central Europe	1. Railway La Coruña-Lisboa-Sines	no date mentioned	2010	yes
	2. Railway Lisboa-Valladolid	no date mentioned	2010	yes
	3. Railway Lisboa-Faro	no date mentioned	2004 (f)	yes
	4. Lisboa-Valladolid motorway	no date mentioned	2010	yes
	5. La Coruña-Lisboa motorway	no date mentioned	2003 (f)	yes
	6. Sevilla-Lisboa motorway	no date mentioned	2001 (f)	yes
	7. New Lisboa airport	no date mentioned	2015	no
9. Conventional rail link Cork-Dublin-Belfast-Larne,Stranraer	1. UK sections		2001 (f)	yes
	2. Republic of Ireland sections		2001 (f)	yes
10. Malpensa airport,Milan			2001 (f)	yes
11. Øresund fixed rail/road link between Denmark and Sweden (completed)	1. Øresund fixed link		2000 (f)	yes
	2. Danish access routes		1999 (f)	yes
	3. Swedish access routes		2001 (f)	yes
12. Nordic triangle rail/road	1. Road and railway projects in Sweden		2010	yes
	2. Helsinki-Turku motorway	2008	2010	yes
	3. Railway Kerava-Lahti	2010	2006	yes
	4. Helsinki-Vaalimaa motorway	2008	2015	no
	5. Railway Helsinki-Vainikkala (Russian border)	2010	2014	no
13. Ireland/United Kingdom/Benelux road link			2010	yes
14. West coast main line (rail)	1. West coast main line		2007-08	yes
15. Global navigation and positioning satellite system Galileo	1. Development and validation		2005	yes
	2. Deployment	2007	2008	yes
16. Freight railway axis Sines/Algeciras-Madrid-Paris	1. New high-capacity rail axis across the Pyrenees	2020	no date mentioned	no
	2. Railway Sines-Badajoz		2010	yes
	3. Railway Algeciras-Bobadilla		2010	yes
17. Railway axis Paris-Strasbourg-Stuttgart-Wien-Bratislava	1. Baudrecourt-Strasbourg-Stuttgart with the Kehl bridge as cross-border section		2015	no
	2. Stuttgart-Ulm		2012	no
	3. München-Salzburg		2015	no
	4. Salzburg-Wien		2012	no
	5. Wien-Bratislava		2010-12	no
18. Rhine/Meuse-Main-Danube inland waterway axis	1. Rhine-Meuse, with the lock of Lanaye as cross border section		2019	no
	2. Vilshofen Straubing	no date mentioned	2013	no
	3. Wien-Bratislava, cross-border section		2015	no
	4. Palkovicovo-Mohacs		2014	no
	5. Bottlenecks in Romania and Bulgaria		2011	no
19. High-speed rail interoperability on the Iberian peninsula	1. Madrid-Andalucía	project was not defined	2010-20	no

TEN projects	Subprojects	Original deadline	2004 Deadline	2010
	2. North-east	project was not defined	2010-20	no
	3. Madrid-Levante and Mediterranean	project was not defined	2010-20	no
	4. North/North-west corridor, including Vigo-Porto	project was not defined	2010-20	no
	5. Extremadura	project was not defined	2010-20	no
20. Fehmarn Belt: fixed link between Germany and Denmark	1. Fehmarn Belt fixed rail/road link	2013	2014-15	no
	2. Railway for access in Denmark from Öresund		2015	no
	3. Railway for access in Germany from Hamburg		2015	no
	4. Railway Hannover-Hamburg/Bremen		2015	no
21. Motorways of the sea	1. Motorway of the Baltic Sea		2010	yes
	2. Motorway of the sea of Western Europe		2010	yes
	3. Motorway of the sea of south-east Europe		2010	yes
	4. Motorway of the sea of south-west Europe		2010	yes
22. Railway axis Athina-Sofia-Budapest-Wien-Praha-Nürnberg/Dresden	1. Railway line Greek/Bulgarian border-Kulata-Sofia-Vidin/Calafat		2015	no
	2. Railway line Curtici-Brasov		2010-13	no
	3. Railway line Budapest-Wien		2010-19	no
	4. Railway line Breclav-Praha-Nürnberg		2010-16	no
	5. Railway axis Prague-Linz		2016	no
23. Railway axis Gdansk-Warszawa-Brno/Bratislava-Wien	1. Railway line Gdansk-Warszawa-Katowice		2015	no
	2. Railway line Katowice-Brno-Breclav		2010	yes
	3. Railway line Katowice-Zilina-Nove Mesto n.V		2010-15	no
24. Railway axis Lyon/Genova-Basel-Duisburg-Rotterdam/Antwerpen	1. Lyon-Mulhouse-Mülheim		2018	no
	2. Genova-Milano/Novara-Swiss border		2013	no
	3. Basel-Karlsruhe		2015	no
	4. Frankfurt-Mannheim		2012	no
	5. Duisburg-Emmerich		2009-15	no
	6. "Iron Rhine" Rheidt-Antwerpen		2010-15	yes
25. Motorway axis Gdansk-Brno/Bratislava-Wien	1. Gdansk-Katowice motorway		2010	yes
	2. Katowice-Brno/Zilina motorway		2010	yes
	3. Brno-Wien motorway		2009-13	no
26. Railway/road axis Ireland/UK/continental Europe	1. Road/railway corridor linking Dublin with the North and South		2010	yes
	2. Road/railway corridor Hull-Liverpool		2015-20	no
	3. Railway line Felixstowe-Nuneaton		2011-14	no
	4. Railway line Crewe-Holyhead		2008-12	no
27. "Rail Baltica" railway axis Warszawa-Kaunas-Riga-Tallinn	1. Warszawa – Kaunas		2010-17	no
	2. Kaunas - Riga		2014-17	no
	3. Riga - Tallinn		2016-17	no
28. Eurocaprail on the Bruxelles-Luxembourg-Strasbourg railway axis	1. Bruxelles-Luxembourg-Strasbourg		2012	no
29. Railway axis on the Ionian/Adriatic inter-modal corridor.	1. Kozani-Kalambaka-Igoumenitsa		2012	no
	2. Ioannina-Antirrio-Rio-Kalamata		2014	no
30. Inland waterways Seine-Scheldt	1. Navigability improvements Deulemont-Gent		2012-16	no
	2. Compiègne-Cambrai		2012-16	no

Table 12: High speed rail network (length in kilometres)

Year	Belgium	Germany	Spain	France	Italy	EU-15
1981	-	-	-	285	-	285
1983	-	-	-	402	-	402
1988	-	-	-	402	-	402
1990	-	-	-	667	-	-
1995	-	-	476	1 124	-	-
1996	12	434	476	1 152	237	2 311
1997	71	434	476	1 152	259	2 392
1998	71	486	476	1 147	259	2 439
1999	73	491	476	1 147	259	2 446
2000	73	510	476	1 147	259	2 465
2001	73	510	476	1 395	259	2 713
2002	135	687	476	1 395	259	2 952
2003	142	796	1 031	1 520	259	3 748

Note : Lines capable of speeds of 250 km/h or more

Source: European Commission (2004) EU Energy and Transport in Figures: Statistical Pocket Book 2004

Table 13: High speed rail lines under construction

Country	Line	Length km
Belgium	Liege - German border	33
	Antwerp - Dutch border	38
The Netherlands	Amsterdam/Schiphol - Belgian border	120
Germany	Nuremberg - Ingolstadt	88
Spain	Lerida - Barcelona	42
	Barcelona - French border	49
	Madrid - Valladolid	203
	Madrid - Valencia	104
	Madrid - Toledo	24
	Cordoba - Malaga	150
	Leon - Asturias	25
	Orense - Santiago	68
France	TGV-Est	302
	Angouleme - Bordeaux	120
	Nimes - Montpellier	60
Italy	Milan - Bologna	196
	Bologna - Florence	77
	Turin - Novara	92
	Novara - Milan	51
	Verona - Padova	77
	Rome - Naples	220
Sweden	Södertälje - Linköping	140
	Nyland - Umeå	190
United Kingdom	Ebbsfleet - London (St. Pancras)	38

Source: European Commission (2004) EU Energy and Transport in Figures: Statistical Pocket Book 2004

XIII.5. Charging for infrastructure

The European Commission has stated that one of the main causes of imbalance in the transport sector is the failure for transport prices to reflect the full social costs of their activities. As such transport users have not been adequately confronted with the full costs of their activities, leading to imbalances and inefficiencies between different modes of transport. The White Paper recognises this and notes "...failure to spread the burden (of transport costs) fairly between infrastructure operators, taxpayers and users causes considerable distortion of competition between transport operators and between modes of transport". It also notes that the current taxation of transport is very complex and treats all users alike, irrespective of the infrastructure, damage, bottlenecks and pollution they cause. The White Paper therefore recommends that: "The thrust of Community action should therefore be gradually to replace existing transport system taxes with more effective instruments for integrating infrastructure costs and external costs."

The White Paper stated that for rail transport, existing Community legislation already allowed for rail traffic external costs to be internalised if other competing modes were doing so too. The possibility of noise related charges still needed to be considered and a new pricing system may be needed to incorporate this social cost.

CER (2002b) state that the White Paper recognises for the first time the distortions of the transport market as the main cause of the reduced ability of the railways to compete with other modes in the freight market. They welcomed the proposal to address historic cross-modal differences in infrastructure charging and investment, and to include externalities. It was thought this would lead to a better balance between competing rail freight mode's production costs and ensure that the road sector (particularly road freight) pays its fair share of infrastructure and external costs. CER stated that a common set of principles for a charging system (including a scientific basis for establishing internal and external costs) was needed for all modes of transport in each member state and according to a fixed timescale.

Directive 2001/14, on allocation of railway infrastructure capacity and levying of charges, preserved the proposals on railway infrastructure charging emerging from the 1998 railways package. In summary, the directive determines that charges must be based on 'costs directly incurred as a result of operating the train service'. They may include:

- scarcity, although where a section of track is defined as having a scarcity problem, the infrastructure manager must examine proposals to relieve that scarcity, and undertake them unless they are shown, on the basis of cost benefit analysis, not to be worthwhile.
- environmental costs, but only where these are levied on other modes.
- recovery of the costs of specific investments where these are worthwhile and could not otherwise be funded
- discounts but only where justified by costs; large operators may not use their market power to get discounts
- reservation charges for scarce capacity, which must be paid whether the capacity is used or not.
- compensation for unpaid costs on other modes
- non discriminatory mark ups but these must not exclude segments of traffic which could cover direct cost

ECMT (2005) stated that access charges should reflect the marginal cost that each user imposes on the infrastructure provider. External costs such as pollution, accidents, congestion etc should be added to the marginal costs to derive social marginal cost pricing. It was stated that "...if implemented correctly, it will result in the most efficient use of the rail infrastructure." This is conditioned on the assumption that governments will fill the gap between marginal and the financial cost of the infrastructure business. EU rules allow member states to charge users higher amounts than the marginal costs, but require that the added

funds be generated through mark-ups on marginal cost. These mark-ups must be applied in a way that encourages efficiency or does little harm to efficiency, and does not create discrimination among potentially competing users.

ECMT (2005) point out three possible charging approaches followed by governments:

- Social Marginal Cost pricing (SMC), with state compensation for the difference between marginal cost and financial cost. This yields the most efficient use of the infrastructure, but puts the most pressure on state budgets.
- Full Financial Cost (FC-): Setting access charges to collect the difference between state compensation and full financial cost. This protects the financial state of the infrastructure manager but may lead to inefficient use of the infrastructure.
- Mark-ups to Marginal Cost (MC+): Applying mark-ups to marginal cost in order to reduce or eliminate state compensation and the gap between marginal cost and financial cost. This could yield the best trade-off between efficiency goals and the budgetary needs, and may still be consistent with the FC- goals.

The charges were either:

- Simple tariffs: vary directly with the use of the network, by gross tonne-km, train-km etc
- Two-part tariffs: where one part is variable with use and one part is fixed in relation to capacity requirements.

Table 14: Rail infrastructure charging methods

	Charging Principles		Categories included in costs as variable charges					
	Pricing Approach	Basis of calculation of Charging	Maintenance	Renewals	Train Planning and Operations	Congestion and scarcity	Accidents	Environment
Austria	MC+	Charges per gross tonne-km, train km	✓	X	X	✓	X	X
Bulgaria	MC+	Train km	-	-	-	-	-	-
Czech Republic	MC+	Charges per gross tonne-km, train km	✓	X	✓	X	X	X
Denmark	MC+	Train km, charges per trains for bottlenecks and bridges	✓	X	X	✓	X	X
Estonia	FC-	Fixed charges, Charges per gross tonne-km, train km	✓	✓	✓	X	X	X
Finland	MC+	Charges per gross tonne-km	✓	✓	X	X	X	✓
France	MC+	Fixed charges, train km, path km	✓	✓	✓	✓	X	X
Germany	FC-	Train km	✓	✓	✓	✓	X	X
Hungary	FC	train km, path km	✓	✓	✓	X	X	X
Italy	FC- (Traffic management only)	Fixed charges, train km, path km	X	X	✓	✓	X	X
Latvia	FC	Train km	✓	✓	✓	X	X	X
Netherlands	SMC	Train km	✓	X	✓	X	X	X
Poland	FC	train km, path km	✓	✓	✓	X	X	X
Portugal	SMC	Train-km	✓	X	✓	X	X	X
Romania	FC	Fixed charges, Charges per gross tonne-km, path km	✓	X	✓	X	X	X
Slovenia	FC	Train km	✓	✓	✓	X	X	X
Sweden	MC+	Charges per gross tonne-km	✓	X	X	X	✓	✓
Switzerland	MC+	Charges per gross tonne-km, train km	✓	✓	✓	✓	X	noise bonus
UK	MC+	Fixed charges to franchisees only, train km	✓	✓	X	✓	X	X

Source: Adapted from ECMT (2005)

Table 14 illustrates a summary of the principles behind the pricing structure and levels of rail infrastructure charges in various countries. MC+ pricing is the most common approach in Western Europe, with target levels of cost recovery ranging from 5% in Sweden to 63% in France. Most countries use this approach to also charge for at least part of maintenance and renewal costs, but Italy is unique in the sense that maintenance and renewal costs are not charged for but only traffic management is. Germany and Italy are the sole advocates of full financial cost pricing in Western Europe with cost coverage of 60% and 16% respectively. In Germany, the approach is applied to all costs except some investment costs; in Italy it is only applied to train planning and operations. At privatization Great Britain also sought to cover full cost but mainly by the use of two-part tariffs, with the variable element of the tariff reflecting short run marginal cost. The situation now in Great Britain is that two part tariffs still exist for franchised passenger services (the majority) while open access passenger and freight operators pay marginal cost. However the full cost approach is widely followed in Eastern Europe, with the Baltic States, Hungary, Poland and Slovakia adopting it with cost recovery ranging from 50% to 100% and Slovenia regarding it as a target, although it only covered 9% of costs from charges in 2004. (ECMT, 2005)

Most countries have infrastructure charging schemes broadly confirming to EU principles although:

- some countries (e.g. Sweden) fail to charge for accelerated renewals and may actually charge less than marginal cost. Italy does not charge for maintenance or renewals.
- Some countries (e.g. Germany and some of the new members e.g. Poland) appear to base their charges more on average than marginal costs
- Variation in the level of mark-ups means that actual charges vary from 0.5 to 10 euros per train km.

A review of the situation by a task force brought together by DGTREN concluded that the big problem was not the diversity of approaches but that the high charges in some countries demanded rail freight not only in those countries but also on international routes involving them.

At the same time no progress has been made on legislation on internalisation of external costs into the level of charges on other modes. Even the 2003 proposal for amending the Eurovignette Directive, as agreed by the Council of Ministers, only permits these externalities to be taken into account in differentiating charges by time and place; the overall level of charges is still tied to average infrastructure cost. Moreover, agreement between the European parliament and the Council of ministers even on this has yet to be achieved. However, the development of kilometre based road charges, already implemented in Switzerland, Austria and Germany may be of some help to the rail sector.

Of course it is recognised that short run marginal social cost pricing does not provide incentives to the infrastructure manager to invest in increased or enhanced capacity. In most countries, however, rail infrastructure is provided by a public agency with investment funded by the government and appraised on social cost benefit criteria. Nevertheless, if the pricing policy constrained the income of the infrastructure manager to the extent that desirable investments were unaffordable, this might do more harm than good to the rail industry objectives. This is specifically recognised by the provision for non discriminatory mark-ups⁵ when necessary to fund investment projects that would otherwise not take place.

⁵ Note that it is clear from the wording that non discriminatory in this context means non discriminatory between operators, not between market segments.

XIII.6. User rights

The 2001 White Paper, was regarded as the ‘first time the commission is placing the needs of the users at the heart of its transport strategy.’(EU website). A goal was to develop a transport system with a ‘human face’, focussing on encouraging measures in favour of intermodality for users and pursuing action on user rights. It is the latter on which this section is focussed.

The White Paper had concentrated on user rights in the air transport sector by publishing a Charter defining the rights of passenger, opening up of markets and protecting passengers against conflicting national rules and regulations.

The Commission proposes a reinforcement of air transport passenger rights, with the following objectives:

- Compensation where travellers are delayed or denied boarding due to overbooking by airlines
- Increase airline company’s liability in the event of accidents, delays or loss of baggage
- Develop service quality indicators. Publish a classification of airlines according to their performance in terms of number of passengers denied boarding, punctuality, loss of baggage levels etc. This will give users an objective criteria to compare the various airlines. This transparency will lead airlines to improve their services and promote competitiveness.
- Passengers are entitled to be properly informed of the contract they enter with the operator and the clauses of that contract must be fair
- Clarification of the regulatory framework
- The commission must address the problems all passengers encounter in enforcing rights: how to identify the party responsible, how to start procedures in other member states, and how to obtain compensation for damage.

The White Paper stated that the next step was to extend these passenger protection measures, as outlined for air, to other modes of transport, including rail.

A CER charter on rail passenger services adopted in October 2002. It covered areas such as information on passenger services and travel tickets, ticket issuing, communication languages, intermodal information, information regarding services for luggage arrangements, complaints and claims, refunds, punctuality, delays, passengers with reduced mobility, conditions of contract, cleanliness, customer obligations, monitoring, safety and security etc.

The CEC communication (2004) regarding the ‘third railway package’ highlighted that passenger rights, along with punctuality and safety, were a vital influence in determining the choice of mode of transport used by people. Railway operators had made positive progress in several member states to uphold passenger rights (reducing delays, offering reimbursements etc) and this has in turn enhanced the railway’s image and made it more attractive. However, the situation on international journeys was regarded as less secure, with railway operators sometimes passing the responsibility to one another as regards to liability. It was felt that the current international arrangements based on international conference CIV were inadequate, as they only governed relations between railway operators and not between passengers and operators, and also offered a low level of protection. Therefore the Communication proposed the creation of a community framework which was compatible with the CIV but gave passengers better protection, along with better knowledge of their rights and information on appeals.

The Communication (CEC, 2004) also proposed that the third railway package would guarantee minimum rights to facilitate passenger transactions. The clear objectives, which correspond to what the White Paper has highlighted for air, but are specifically for rail are:

- good access to information and fares, and the option of buying international rail tickets easily
- a framework is required for liability in the event of accidents or incidents during a journey or in the event of a delay
- acknowledge the principle of compensation and set thresholds for the amount of compensation depending on the type of journey
- clearly identify the channels for making appeals and handling complaints
- take into account the particular needs of people with reduced mobility.

In 2003, the freight quality charter was adopted for European railways. The charter committed railways to improve quality through bilateral agreements with their customers. CER (2004b) state that by mid 2004, market segments most sensitive to quality (maritime and rail-road combined transport) had 55% of contracts containing quality clauses, which was a 30% rise in one year since the charter was adopted. There has been a large differentiation in the types of contracts offered – several different price/quality mixes for both block trains and single wagon load traffic. Since the charter, the freight sector has seen growth in performance. In the rail-road combined sector, punctuality is nearly 70%, which is 20% higher than when the White Paper was written in 2001. It is believed that with rail operator’s efforts to change their internal processes and methods, continued efforts and investments of the railways in the field of operability, and combined with good quality infrastructure, punctuality levels of over 90% can be achieved, as for example in Switzerland and Finland.

XIII.7. Conclusions

In terms of rail specific legislation since the White Paper, progress has been good. Policies for improving the performance of the railways by introducing competition for freight traffic within the sector and by improving inter operability are now largely in place with the adoption of the first two railway packages, although liberalisation of domestic freight does not take place until 2007. In the passenger sector, open access for international passenger services is proposed but not yet agreed; but the other commercial measure, the introduction of competitive tendering for subsidised or exclusively operated services, has been abandoned due to the impossibility of reaching agreement on it. However, the measures that have been implemented do require separate freight and passenger accounts and the implementation of public service contracts for non commercial passenger services, which should increase transparency and improve the efficiency of management of passenger services, particularly in the new member states where public service contracts are only starting to be implemented.

It will be seen that in terms of performance progress since the White Paper in the rail sector is less encouraging. Far from moving towards the mode split target of the White Paper, rail has continued to lose freight market share, although with some recovery of volumes in the last couple of years. In the passenger sector its market share has stabilised, with new high speed services being a major factor in this achievement. The progress of reform within the rail sector has been slow and investment in new capacity, particularly for freight traffic, is slow to take off. There is limited progress in multi-modal pricing policy.

There are however clear signs of progress. Effective competition has emerged on some key international corridors, most notably through the Alps. The activities of the Rail Net Europe consortium of infrastructure managers is improving the marketing of international paths, and the formation of the European Bulls consortium of private rail freight operators promises to spread competition. In France, two new operators have now been licensed and the first has started operating. Thus it appears likely that the efficiency and quality of service of rail freight will improve over the coming years under the impact of greater competition and indeed it is possible that the scene has been set for very major changes over the next few years.

In the passenger sector, new high speed services plus greater efficiency in the provision of conventional services as a result of institutional reform and of the partial introduction of competitive tendering have already apparently stabilised rail mode share over recent years. Moreover, even in the late 1990s significant cost savings were achieved, and it seems likely that with the spread of competitive tendering for passenger services and on track competition for freight substantial cost reductions may be anticipated.

The current rail freight tkm show limited overall growth, but with a diversity of experience, Germany and the UK doing very well and France doing very badly. It is interesting that Germany and the UK are countries where complete open access to the freight market has already been the rule for a decade, whilst in France the first new entrant only started operation in 2005. In the absence of specific policy measures, this loss of market share is projected to continue, with a slight loss of rail traffic in absolute terms over the period to 2020. A modest growth in some countries is offset by continued losses in others, particularly France. However, according to the modelling exercise full implementation of the White Paper policy, which includes marginal social cost pricing on all modes as well as effective completion of the liberalisation of rail freight, leads to a substantially better rail performance, with traffic in 2020 27% above the level in the do-nothing scenario. Nevertheless, road freight continues to grow faster, and rail continues to lose market share.

On the passenger side, a do nothing policy results in continued slow growth, with traffic in 2020 15% above that in 2000. One reason for this slow growth is the development of low cost airlines. Marginal social cost pricing on all modes again has a positive impact on rail, taking the growth in rail traffic up to 2020 from 15% to 20%.

In summary, then, whilst it seems clear that progress is slower than was hoped for by the Commission at the time of the White Paper, significant progress is being made. Regarding freight traffic, the appropriate policy is to continue to press for the full implementation of the measures already adopted in those countries which have been slow to do so. Significant areas requiring further attention are:-

- The problems caused by high infrastructure charges for rail freight in some countries, particularly amongst the new member states. This might be tackled as part of a funding package for rail infrastructure in those countries
- The need to accelerate reform in the passenger sector, where competitive tendering appears to offer better prospects for competition than does open access
- The need to tackle the issue of appropriate charging on competing modes, where we understand that a further communication is planned by the Commission later this year.

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