



# Passenger transport by rail 1990 - 1997

*Hans Strelow*

Total passenger transport by rail remained more or less constant between 1990 and 1997 (1,1 %), reaching a peak in 1992, when the European Union's rail networks carried 5 400 million passengers overall.

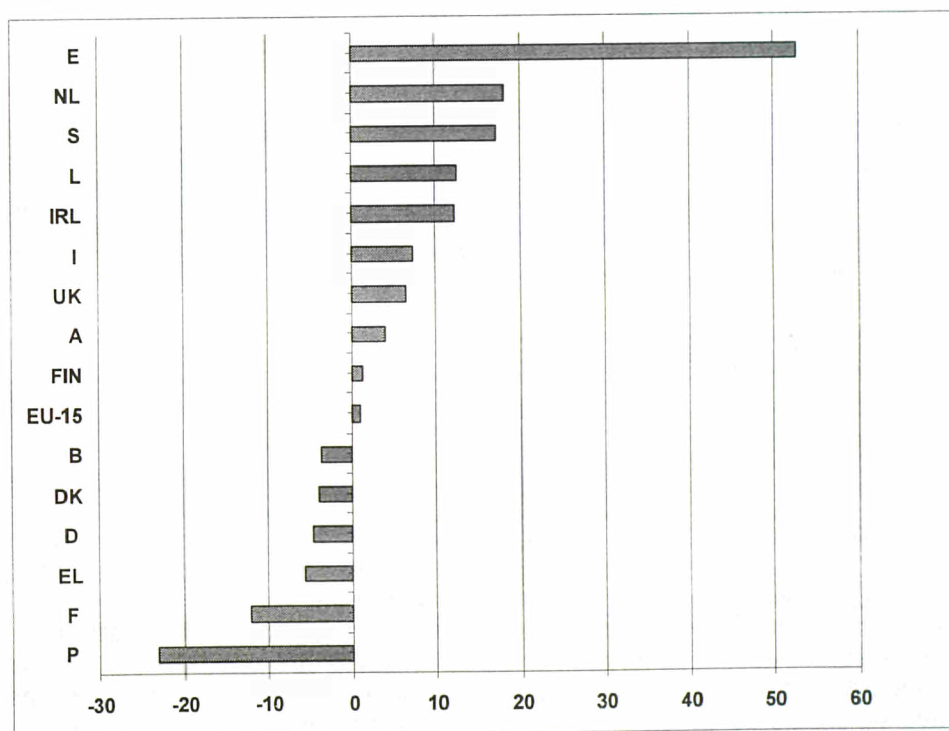
Nine of 15 Member States recorded a rise in the number of rail passengers carried, between 1990 and 1997.

The highest increase in the volume of rail passengers was experienced by Spain (+ 52,7 %), by the Netherlands (+ 18,2 %) and by Sweden (+ 17,2 %). However, Portugal experienced the biggest decline (- 23,1 %) in the number of passengers carried, due to Portuguese international transport volume which decreased sharply.

Denmark posted the highest number of journeys per inhabitant (28,2), nearly double the European average (14,2). The lowest rate was recorded in Greece (1,3).

Even if Germany had the densest rail network, the network utilisation rate was highest in the Netherlands (115 300 passengers per kilometre of network). At the other extreme, the lowest network use was registered in Greece (5 500 passengers per kilometre of network).

Graph 1: Evolution of total passenger transport from 1990 to 1997 - in %



## Statistics in focus

### TRANSPORT

THEME 7 – 2/2000

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## Total passenger transport

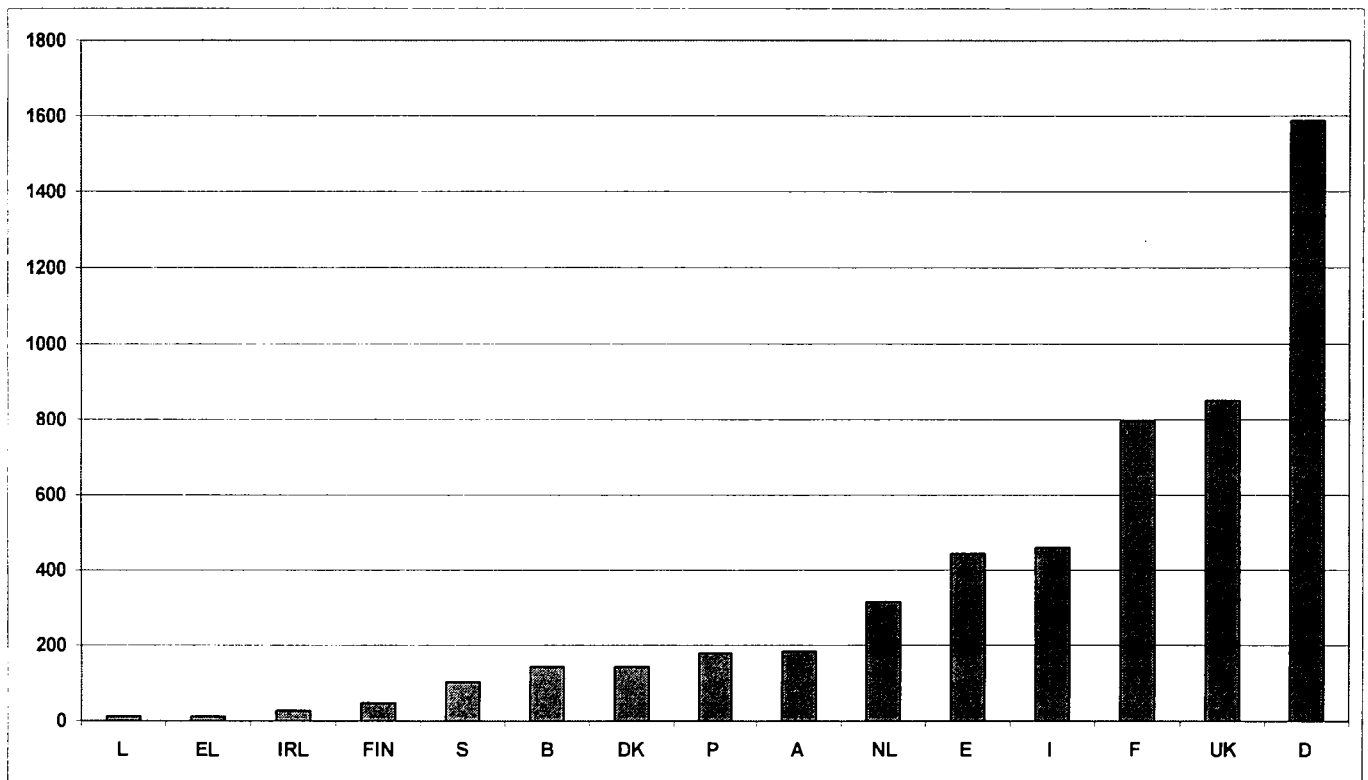
Over the long term, Spain more than doubled its number of passengers (+145% between 1980 and 1997). Ireland and the Netherlands similarly saw ridership increase markedly, whereas Denmark, France, Italy, Luxembourg and the United Kingdom experienced little change. By contrast, Germany, Belgium and Portugal recorded a fall in the volume of passenger transport.

During the nineties, it was Spain, once again, which notched up the biggest rise in passenger transport (+ 53%), with the Netherlands taking second place. Nine of the 15 Member States posted an increase in passenger numbers, while the figures for Germany, Belgium, Denmark, Greece, France and Portugal took a downturn.

The overall change for EU-15 amounted to + 1,1 %. The total rose from 1990 to 1992, when it reached its peak, and went into decline until 1995. It then picked up somewhat through to 1997.

In absolute terms, Germany carried the highest number of passengers (1 590 millions), followed by the United Kingdom (852 millions) and France (797 millions). On the whole, these three countries accounted for more than 60 % of total passenger transport within the European Union. The lowest passenger transport figures were posted by Luxembourg, Greece and Ireland.

Graph 2: Total passenger transport in 1997 – in millions



Over the five-year period under review (1992 to 1996), the volume of national and international passenger transport rose in Finland and Sweden, while the figures for Greece, France and Portugal decreased. Austria recorded a rise in national transport, but a fall on the international side. The reverse was true in Belgium, where a decline in

national ridership contrasted with a rising number of international passengers.

The statistics available for Denmark, Germany, Spain, Ireland, Italy and Luxembourg make no distinction between national and international passengers.

## National transport

Five Member States (Belgium, Greece, France, the Netherlands and Portugal) posted a negative trend in national passenger transport. It was Portugal which

experienced the biggest decrease, of 21%. Austria, Finland, Sweden and the United Kingdom saw their national transport volume rise slightly.

**Table 1: National passenger transport – in thousands**

	1992	1993	1994	1995	1996	Variation 1992 - 1996 (%)
Belgium	134 850	135 388	133 417	133 215	130 754	-3,0
Greece	13 922	13 021	12 158	11 241	12 610	-9,4
France	830 854	806 421	792 596	724 873	767 678	-7,6
Netherlands	326 000	314 000	306 000	295 333	299 736	-8,1
Austria	164 790	170 922	180 918	185 247	185 053	12,3
Portugal	224 135	208 250	201 102	187 357	176 914	-21,1
Finland	45 007	44 256	43 849	44 249	46 815	4,0
Sweden	92 754	96 497	97 976	96 300	98 700	6,4
United Kingdom	781 896	749 480	737 209	764 469	820 350	4,9

## International transport

The figures for Portugal plummeted over the period by 63%. Greece and Austria also experienced major falls in the level of international transport. Figures for the Netherlands were available only in millions of passengers and for three years only (for 1992 and 1996, figures have been estimated). Increases in the volume of international transport were recorded only

by Belgium, Finland - whose figures almost doubled - and Sweden.

Since the opening of the Channel Tunnel, the number of international rail passengers has grown steadily in the United Kingdom

**Table 2: International passenger transport – in thousands**

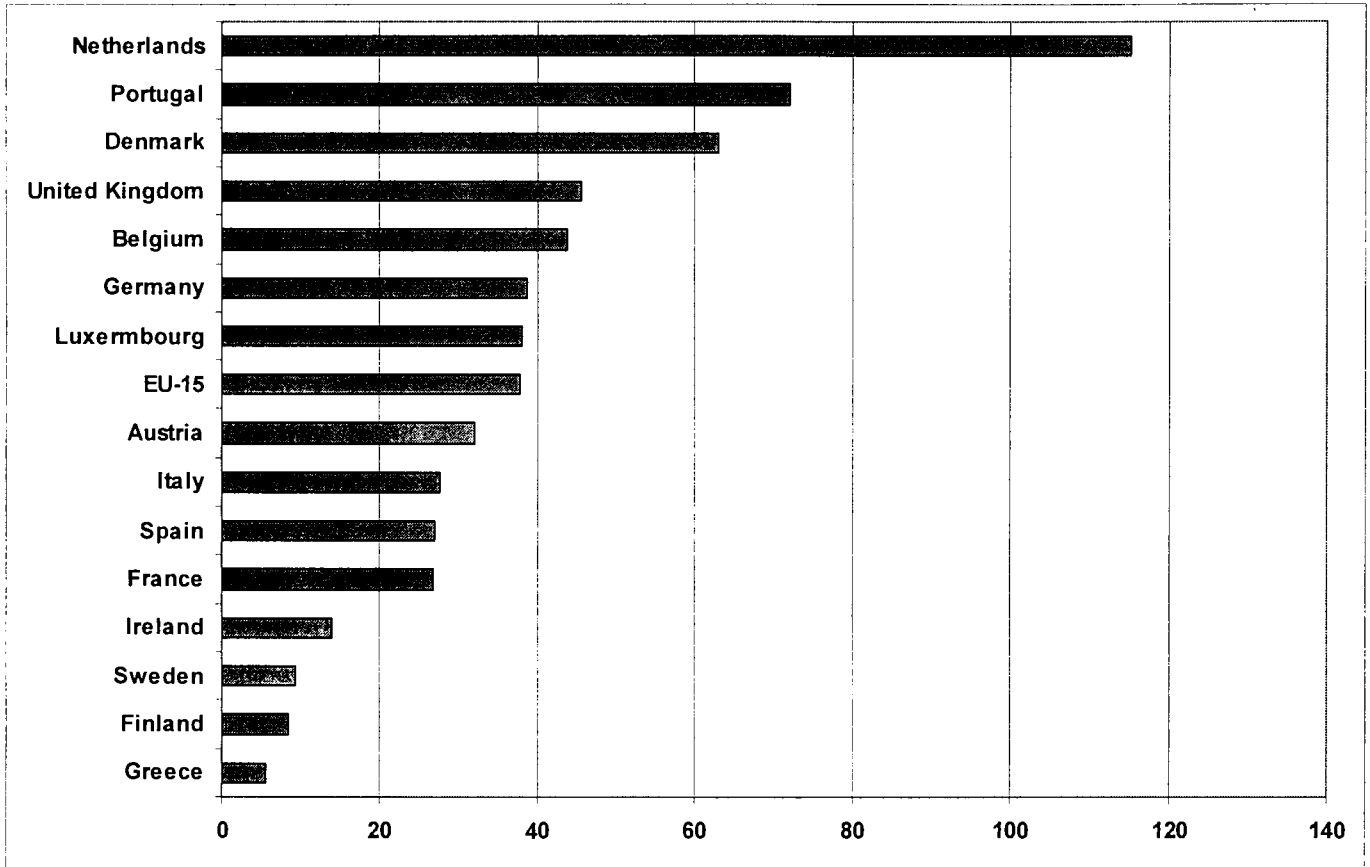
	1992	1993	1994	1995	1996	Variation 1992-1996 (%)
Belgium	10 156	9 959	9 185	10 797	10 942	7,7
Greece	258	364	434	237	206	-20,2
France	19 611	15 537	13 769	15 974	18 949	-3,4
netherlands	7 000	7 000	6 000	6 000	6 000	:
Austria	10 145	10 177	9 494	8 785	8 375	-17,4
Portugal	486	338	254	176	180	-63,0
Finland	94	106	140	171	186	97,9
Sweden	1 890	2 033	2 070	2 070	2 084	10,3
United Kingdom	0	15	20	24	29	93,3 (1993-1996)

## Network utilisation rate

Dividing the number of passengers by the length of the network gives the network utilisation rate. The results show that, by this measure, the Netherlands led the field, carrying 115 300 passengers per kilometre of network, ahead of Portugal (72 000

passengers/km) and Denmark (63 000 passengers/km). Bringing up the rear was Greece, with a rate of 5 500 passengers per km. The average for EU-15 stood at 37 800 passengers/km.

**Graph 3: Passengers carried by km of national network – in thousands**



## Average number of journeys per inhabitant

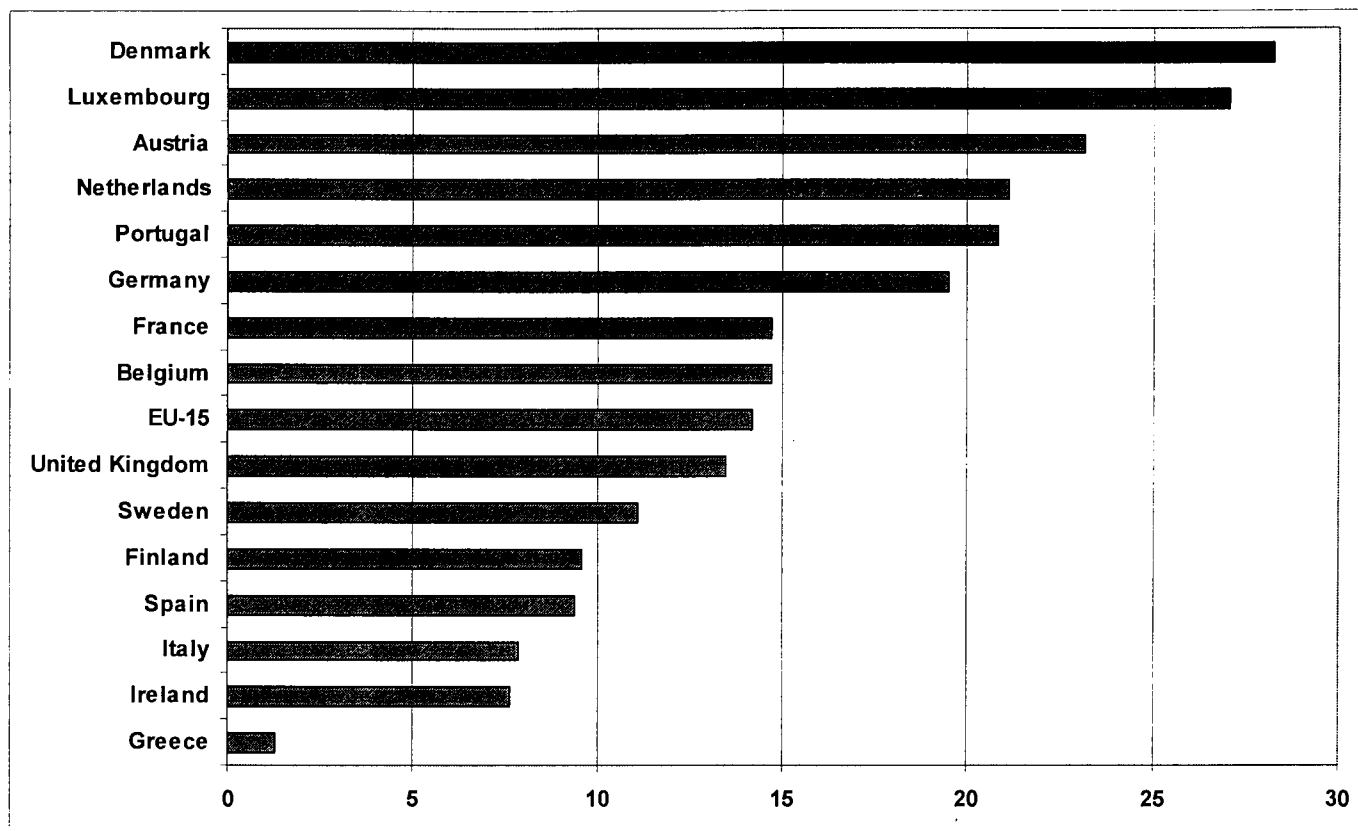
On average, it was Denmark which recorded the highest rate of all Member States, at 28,2 journeys per inhabitant. Other countries with a rate of more than 20 journeys per inhabitant were Luxembourg (27,1), Austria (23,2), the Netherlands (21,1) and Portugal (20,9). At the other end of the scale, the inhabitants of Greece made an average of 1,3 train

journeys per year.

Luxembourg's figure very much reflects the large number of workers who use the train daily for their journey to and from work.

On average, each inhabitant of the European Union travelled by rail 14,2 times per year.

Graph 4: Average number of journeys per inhabitant



### Network density

The network density figure is obtained by dividing the total length of a Member State's railway lines by the country's surface area. Belgium, Germany and Luxembourg thus have the highest densities, Greece, Finland and Sweden the lowest. This reflects the fact that Finland and Sweden have a relatively large

surface area but a low population density. Greece, on the other hand, comprises a large number of small islands, most of them with no rail network. The largest Member State, France, has only an average density, while the smallest EU countries, Belgium and Luxembourg, have a high one.

Table 3: network density for 1994 – in m/km<sup>2</sup>

	Density (m/km <sup>2</sup> )	Length (km)	Area (km <sup>2</sup> )
Belgium	111,3	3 396	30 518
Denmark	54,5	2 349	43 093
Germany	116,0	41 401	356 970
Greece	18,7	2 474	131 957
Spain	25,1	12 646	504 795
France	58,8	32 275	549 085
Ireland	27,7	1 944	70 285
Italy	53,3	16 066	301 311
Luxembourg	107,1	275	2 568
Netherlands	66,5	2 757	41 480
Austria	67,2	5 636	83 860
Portugal	33,4	3 070	91 910
Finland	17,4	5 880	338 150
Sweden	21,5	9 661	449 960
United Kingdom	70,0	17 091	244 138

**Table 4: Total passenger transport – in thousands**

	1980	1990	1991	1992	1993	1994	1995	1996	1997
Belgium	170 673	148 911	152 244	151 804	152 041	149 240	144 012	141 696	143 566
Denmark	134 216	150 236	149 436	146 820	144 682	148 073	145 467	144 308	144 414
Germany	1 705 000	1 666 925	1 454 324	1 622 991	1 627 789	1 556 291	1 517 000	1 589 400	1 589 900
Greece	11 600	14 044	14 247	14 279	13 473	12 647	11 478	12 816	13 261
Spain	180 727	289 476	331 022	371 302	354 234	366 853	365 503	422 833	442 064
France	739 908	906 507	899 250	912 722	880 561	865 293	730 835	776 706	797 256
Ireland	17 686	26 230	26 915	27 063	27 417	27 073	27 124	27 930	29 467
Italy	420 999	429 400	438 000	440 000	438 000	455 000	462 500	468 300	461 000
Luxembourg	11 515	10 252	10 371	10 384	10 700	11 300	12 000	11 127	11 536
Netherlands	205 762	267 060	345 195	338 229	326 259	317 403	358 619	306 481	315 600
Austria	170 000	176 960	182 826	172 872	178 605	188 575	194 032	193 428	183 897
Portugal	230 268	231 546	229 323	230 315	213 985	206 505	184 343	177 094	178 130
Finland	39 300	49 329	49 025	49 927	49 266	48 916	44 420	47 000	49 980
Sweden	77 100	89 010	87 905	94 644	98 530	100 046	98 371	100 784	104 323
United Kingdom	796 080	800 191	777 458	781 895	749 480	737 209	764 499	820 387	852 053
EU-15	4 910 834	5 256 077	5 147 541	5 365 247	5 265 022	5 190 424	5 060 203	5 240 290	5 316 447

	Variation 1980-1997 (%)	Variation 1990-1997 (%)
Belgium	-15,9	-3,6
Denmark	7,6	-3,9
Germany	-6,8	-4,6
Greece	14,3	-5,6
Spain	144,6	52,7
France	7,8	-12,1
Ireland	66,6	12,3
Italy	9,5	7,4
Luxembourg	0,2	12,5
Netherlands	53,4	18,2
Austria	8,2	3,9
Portugal	-22,6	-23,1
Finland	27,2	1,3
Sweden	35,3	17,2
United Kingdom	7,0	6,5
EU-15	8,3	1,1

## ➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

### Definitions

The following definitions are taken from the Glossary for Transport Statistics (Eurostat/UN-ECE<sup>1</sup>/ECMT<sup>2</sup>).

#### Rail passenger

Any person, excluding members of train crew, who makes a journey by railway vehicle.

Passengers making a journey by railway-operated ferry or bus services are excluded.

#### Railway network

All railways in a given area.

This does not include stretches of road or water even if rolling stock should be conveyed over such routes, e.g. by wagon-carrying trailers or ferries. Lines solely used for tourism purposes during the season are excluded, as are railways constructed solely to serve mines, forests or other industrial or agricultural undertakings and which are not open to public traffic.

#### National rail transport

Rail transport between two places (a place of loading and place of unloading) located in the same country irrespective of the country in which the railway vehicles were registered. It may involve transit through a second country.

However, it should be noted that figures on national transport are only partially comparable. For some countries, the figures are liable to include passengers carried by secondary railway enterprises, whereas other countries take only the ridership of principal railway enterprises into account. Unfortunately, details about data sources are not always available. Another problem relates to urban journeys: in some countries, these are included in national transport figures, whereas other Member States take no account of them in their statistics.

#### International rail transport

Rail transport between two places (a place of loading and a place of unloading) in two different countries. It may involve transit through one or more additional countries.

### Methodology

#### Total transport, national and international

The figures were collected using the common questionnaire (Eurostat/UN-ECE/ECMT). For the years 1995 to 1997, the UIC<sup>3</sup>'s figures were used to complete the tables. Where an item of data was unavailable, it was estimated, as far as possible, using the linear regression method. Estimated figures appear in italics in the tables.

#### Network utilisation rate

The number of passengers carried was divided by the length of the network. Using this rate, network utilisation can be compared between the various Member States.

#### Number of journeys per inhabitant

To calculate this rate, the number of passengers carried was divided by the population of the Member State concerned. The rate measures annual use of a country's rail network by its inhabitants.

#### Network density

Network density is determined by dividing the length of the network by the surface area of the country. It is expressed in metres per km<sup>2</sup>.

<sup>1</sup>: United Nations - Economic Commission for Europe

<sup>2</sup>: European Conference of Ministers of Transport

<sup>3</sup>: International Union of Railways

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