

Passenger transport by rail in 2004-2005

**Transport performance in EU-25 increased by 2.2 %
compared to 2004 – Intensive use of rail network in the
Netherlands**

Statistics in focus

TRANSPORT

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Highlights

- Based on provisional quarterly data, rail passenger transport reached a total performance of 357 billion passenger-kilometres at the level of the EU-25 in 2005, an increase of 2.2 % compared to 2004.
- In absolute terms, France and Germany recorded the highest amount of passenger-kilometres in 2005 representing together 42% of the EU-25 total.
- The Channel Tunnel and the Öresund fixed link between Denmark and Sweden alone were responsible for more than 30% of the total volume of passengers (EU-25) travelling in international rail transport.
- Greece's rail network was predominantly used for passenger transport as 94 % of the total train-kilometres in 2004 were performed in passenger transport. This value was under 50 % in the Baltic States.
- The Dutch railway network is highly exploited in passenger transport: the number of passenger train-kilometres per kilometre of railway line in 2004 was 41 000, well ahead of the United Kingdom with 26 600 km.
- A passenger train in France carried an average of 185 passengers in 2004, the highest value ahead of Italy (165 passengers) and Portugal (146 passengers).
- The highest average distance travelled in national transport in 2004 was recorded in Greece (175 km); in international transport Spain came first (867 km).

Table 1: Rail passenger transport in EU-25 in 2004 - synthesis on the basis of available annual data.

Rail passenger transport performance (in mio pkm, annual data)	356 119
Average trip length at national level (km)	47
Average trip length at international level (km)	219
Share of passenger train-km in total train-km	79%
Occupancy : average number of passengers in passenger trains	122
Thousands of passenger train-kms per kilometre of railway line	17

Source: Eurostat



Total rail passenger transport

Based on provisional quarterly data, the cumulated rail passenger transport performance increased slightly from 350 billion passenger-kilometres in 2004 to 357 billion passenger-kilometres at EU-25 level in 2005 (see Table 2). The third quarter always registered the highest values, probably because of the summer holidays and the first quarter observed the lowest values.

Seasonal variations were particularly noticeable in the Baltic States and Poland. For these countries, differences between the 1st quarter and the 3rd quarter amounted to 40%.

In absolute terms, the 2005 transport performance values of France and Germany were quite close (76 billion and 75 billion passenger-kilometres respectively), followed by Italy (46 billion) and the United Kingdom (44 billion passenger-kilometres). These four countries together accounted for close to 70 % of the total EU-25 volume.

The highest relative growths in transport performance between 2004 and 2005 were registered in the smaller EU Member States: Estonia (28%), Ireland (13%) and Latvia (10%). Conversely, four countries recorded decreases, of which Hungary (-9%) and Lithuania (-9%) were the most noticeable.

Table 2: Rail passenger transport – in million passenger-kilometres (pkm).

	2004					2005				
	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual
Belgium	2 094	2 163	2 142	2 271	8 670	2 193	2 308	2 235	2 381	9 117
Czech Republic	1 617	1 664	1 628	1 681	6 590	1 523	1 697	1 660	1 723	6 603
Denmark	1 355	1 434	1 480	1 476	5 745	1 361	1 447	1 486	1 481	5 775
Germany	17 161	17 877	18 733	18 792	72 563	17 294	18 313	19 808	19 532	74 947
Estonia	43	51	51	48	193	53	59	70	65	247
Greece	369	404	462	463	1 698	423	458	505	474	1 860
Spain	4 422	4 804	5 036	4 753	19 015	4 568	5 069	5 204	4 961	19 802
France	17 385	19 123	19 016	18 769	74 293	18 089	19 593	19 876	18 932	76 490
Ireland	329	464	406	383	1 582	347	481	408	545	1 781
Italy	10 765	11 701	11 829	11 283	45 578	10 890	11 799	11 898	11 558	46 145
Cyprus	-	-	-	-	-	-	-	-	-	-
Latvia	176	202	232	201	811	188	223	259	225	895
Lithuania	88	67	83	69	307	62	64	87	67	280
Luxembourg	73	67	56	71	267	72	71	56	73	272
Hungary	2 312	2 585	2 724	2 925	10 546	2 240	2 541	2 464	2 305	9 550
Malta	-	-	-	-	-	-	-	-	-	-
Netherlands	3 318	3 388	3 156	3 588	13 450	3 312	3 548	3 317	3 859	14 036
Austria	2 094	2 144	2 095	1 962	8 295	2 185	2 122	2 149	2 014	8 470
Poland	4 190	4 590	5 101	4 329	18 210	3 964	4 291	5 116	4 308	17 679
Portugal	858	938	964	931	3 691	894	955	955	948	3 752
Slovenia	195	186	186	196	763	196	190	190	199	775
Slovakia	542	564	548	574	2 228	527	554	514	586	2 181
Finland	842	797	834	873	3 346	877	812	877	902	3 468
Sweden	2 181	2 142	2 095	2 239	8 657	2 181	2 186	2 187	2 368	8 922
United Kingdom	10 579	10 581	11 009	11 180	43 349	10 642	11 273	11 017	11 484	44 416
EU-25	82 988	87 936	89 866	89 057	349 847	84 081	90 054	92 338	90 990	357 463

Source: Eurostat/NewCronos (Provisional quarterly data show lower values than annual data, see Methodological notes).

Generally, international rail transport represented less than 7% of total passenger transport in most EU-25 countries. In Luxembourg (24%), Austria (18%), Estonia (12%), Latvia (11%) and France (10%), international rail transport is more important than in other EU countries (see Table 3).

The relatively high share of Austria can be explained by its geographical location, and because Vienna is an important East-West rail gateway.

The high French share can partly be attributed to the increased offer of high-speed lines to destinations abroad.

Table 3: National and international rail transport in 2004 (in mio pkm).

	National	International	Total		Total
	Detailed declaration	Detailed declaration	Detailed declaration	Simplified declaration	
Belgium	8 675	:	8 675	0	8 675
Czech Republic	6 212	368	6 580	0	6 580
Denmark	5 384	332	5 716	205	5 921
Germany	71 592	1 287	72 879	0	72 879
Estonia	170	23	193	0	193
Greece	1 636	33	1 668	0	1 668
Spain	18 278	738	19 016	1 312	20 328
France	66 582	7 777	74 359	0	74 359
Ireland	1 582	:	1 582	0	1 582
Italy	43 576	2 002	45 578	3 676	49 254
Cyprus	-	-	-	-	-
Latvia	722	88	811	0	811
Lithuania	262	21	283	0	283
Luxembourg	191	62	253	:	253
Hungary	10 028	:	10 028	137	10 165
Malta	-	-	-	-	-
Netherlands	:	:	:	:	14 097
Austria	6 759	1 500	8 259	409	8 668
Poland	17 862	567	18 430	0	18 430
Portugal	3 633	60	3 693	0	3 693
Slovenia	648	47	695	0	695
Slovakia	2 099	129	2 228	0	2 228
Finland	3 280	72	3 352	0	3 352
Sweden	:	:	:	:	8 657
United Kingdom	:	:	:	:	43 349
EU-25	:	:	:	:	356 119

Source: Eurostat/NewCronos and Rail production database (Annual final data when available).

From where to where do Europeans travel?

As regards international rail passenger transport, it is interesting to identify the main country-pairs. Table 4 provides indications on the most important relations in 2004. It appears that 75% of the total volume of international intra-EU rail passenger transport in 2004 was carried out on these 20 relations alone. The relations between France and the United Kingdom, and Denmark and Sweden accounted for more than a third of the total international rail transport in number of passengers.

These relations in Table 4 deserve special attention due to particular infrastructure projects. The Channel Tunnel between France and the United Kingdom (rank 1 and 7) is the only link for international rail traffic between these countries. Transport from France to the UK reported by France is under reported. In fact, the French data do not cover all international high-speed rail links. According to the UK, the flows in the two directions are in balance. The Öresund fixed link was opened in July 2000 and offered more than 6 million rail passengers a gateway to either Sweden or Denmark. According to the consortium operating the bridge, close to half of the rail passengers in 2005 consisted of daily commuters (paying special tariffs).

The country-pair Luxembourg-France (declared by Luxembourg) can be found at rank 10. As these two countries have only a limited amount of cross-border lines, one would expect similar passenger volumes

declared by France. However, the latter country-pair does not appear in the top-20. This might be linked to the fact that passenger volumes declared by French authorities do not take into account season ticket holders among the numerous cross-border workers that travel to Luxembourg to work.

Table 4: TOP 20-list of the most important intra-EU 25 relations in rail passenger transport (number of passengers) as a percentage of all relations in 2004.

	Embarking	Disembarking	1000 pass.	in %
1	United Kingdom	France	6 441	16.4
2	Denmark	Sweden	3 225	8.2
3	Sweden	Denmark	2 909	7.4 (1)
4	Belgium	France	1 990	5.1
5	Austria	Germany	1 802	4.6
6	France	Belgium	1 651	4.2
7	France	United Kingdom	1 296	3.3 :u (2)
8	United Kingdom	Belgium	1 092	2.8 (3)
9	Germany	Austria	1 045	2.7
10	Luxembourg	France	1 032	2.6
11	Belgium	Netherlands	610	2.5
12	France	Italy	853	2.2
13	Belgium	Luxembourg	822	2.1
14	Netherlands	Germany	780	2.0
15	Slovakia	Austria	770	2.0
16	Netherlands	Belgium	730	1.9
17	Germany	Netherlands	610	1.6
18	France	Germany	547	1.4
19	Germany	France	546	1.4
20	Netherlands	France	510	1.3

(1) Based on mirror data for SE; :u(2) UK data show 6.4 million passengers in both directions; (3) UK data show 1.1 million passengers in both directions.

Source: Eurostat/New Cronos.

The matrix below (Table 5) completes the picture by showing all individual country-pairs in passenger transport in 2004 (mostly as reported by the country of embarkation).

When considering the number of relations between countries, France and Belgium show several significant passenger-flows with neighbour countries which are a sign of cross-border commuting by train.

Table 5: Passenger transport, by country of disembarking, 2004 (in 1000 passengers).

Country of embarkation	Country of disembarkation															
	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
BE		1	0	208			0	1990		4	-			822	0	-
CZ	1		1	110	0	0	0	2	0	4	-	0	0	0	24	-
DK	1	26		260	0	0	0	2	0	13	-	0	0	1	2	-
DE	115	375	128				0	546		406	-	0	2	35	161	-
EE											-					-
EL		0									-				0	-
ES								281		31	-					-
FR	1651	1	0	547		0	374		0	853	-			145	0	-
IE											-					-
IT	5	6	4	257			31	905			-			1	6	-
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV											-					-
LT		0		0					0		-	2		1		-
LU	497	0		157				1032		2	-				0	-
HU	1	52	2	86		3	3	53	3	28	-		0	0		-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	730	0		780			170	510		20	-			:		-
AT	11	106		1802		0	2	39	0	237	-		0	2	210	-
PL	0	49	0	204		0		0		1	-	0	10		18	-
PT							198				-					-
SI	0	3	0	15		0	0	1		13	-		0	0	8	-
SK	0	375	0	7		0	0	0		2	-	0	0	0	47	-
FI											-					-
SE*	0	0	2909	14						0	-		0	:	3	-
UK	1092							6441			-					-

Country of embarkation	Country of disembarkation																
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	CH	NO	Other	TOTAL
BE	983		2		0	0		0	214		0	0		27		5	4256
CZ	2	101	36	0	1	400	0	0	0	0	1	2	0	3		14	702
DK	10	22	1	0	0	0		3225	1	0	1	0	0	9	29		3604
DE	610	1045	317		26	26	1	5	1	1	92	2	0	1271	2	40	5207
EE																66	66
EL			0		0	0				1	0	1	0			81	83
ES					91									25			428
FR	260	17	0	0	0	0	0	0	1296	0	0	0	0	1156	0	0	6302
IE									390								390
IT	6	244	2	0	13	1		0	0	0	5	5		391		3	1885
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV																157	158
LT		0	8			0										126	137
LU	19	1												8			1716
HU	5	237	22	1	15	93	2	3	3	6	38	151	0	23	2	91	920
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL			20											60		190	2480
AT	36		33	0	51	128	3	5	16	1	59	33	0	536	2	14	3327
PL	1	28			0	22				0	0	1	0	0		267	602
PT																	198
SI	0	33	1			1		0		1	87	1	0	2		38	203
SK	0	770	18		1			0	0	2	0	1	0	1		7	1230
FI																127	127
SE*	:	1	2		0	3				:	:	:	:	:	:	:	:
UK																	7533

* missing SE data replaced by the data declared by the country of disembarkation (mirror statistics)

Note: FR and BE data exclude a major part of the traffic through the channel tunnel.

Source : Eurostat/New Cronos.

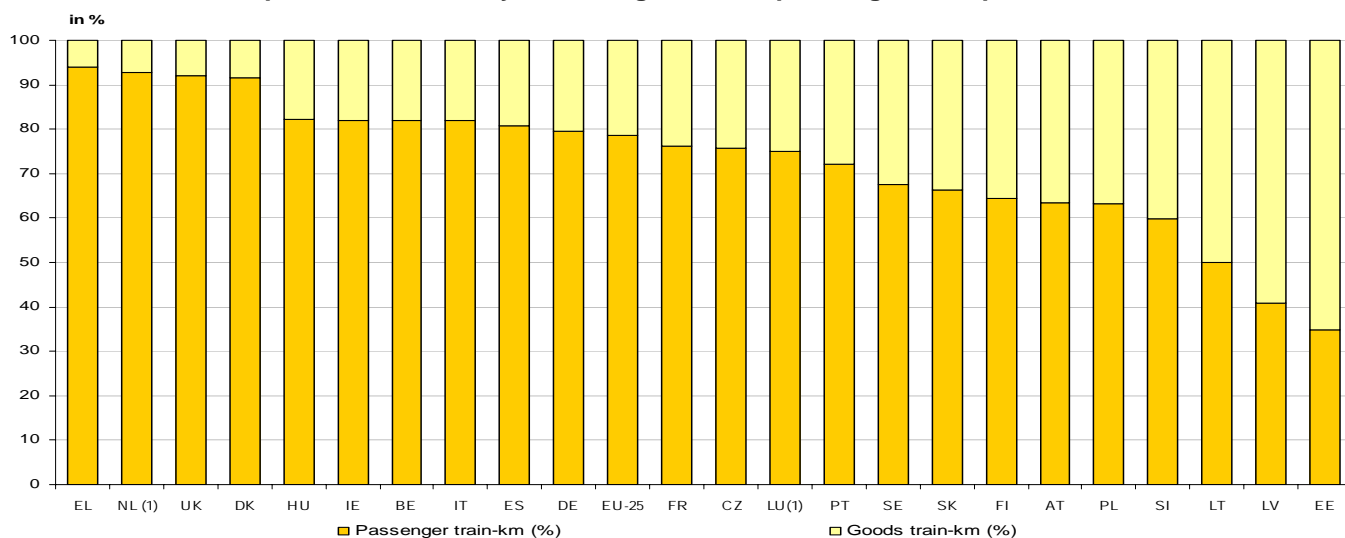
Use of the European railway network

The rail network is used by both passenger trains and goods trains. The proportion of passenger trains using the national rail network was very high in Greece, the Netherlands, the United Kingdom and Denmark (over 90 %) whereas the Estonian, Latvian and Lithuanian railways were predominantly used by goods trains (share between 50 % and 65 % – see Graph 1). At the level of the EU, close to 80 % of all train-kilometres performed were by passenger trains.

When limiting the view to rail passenger transport, the number of passenger train-kilometres performed on national railway lines, divided by the length of the

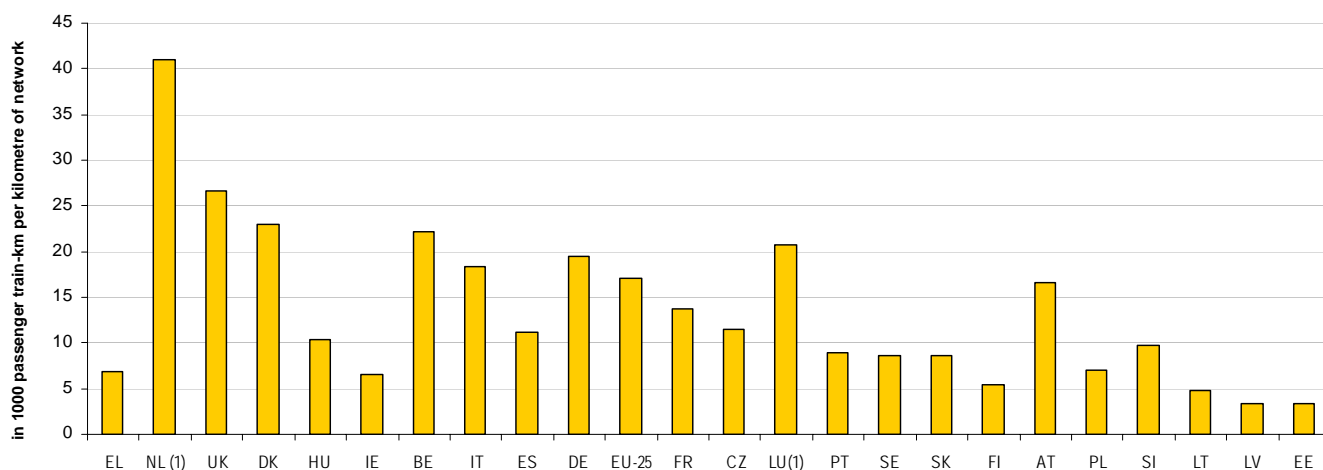
network, constitutes an indicator for the intensity of usage. In 2004, the Netherlands excelled here (41 000 passenger train-kms per km of national network, corresponding to an average of 112 passenger trains per day on each 1 kilometre of railway line), well ahead of the United Kingdom (26 600), Denmark (23 000), Belgium (22 200) and Luxembourg (20 800 – see Graph 2). At the other end of the scale, and as already suggested by Graph 1, the three Baltic States displayed values below 5 000 passenger train-kilometres per kilometre of railway line.

Graph 1: Use of railway lines for goods and passenger transport in 2004.



Source: Eurostat/NewCronos.

Graph 2: Number of passenger train-kilometres per kilometre of railway line in 2004.



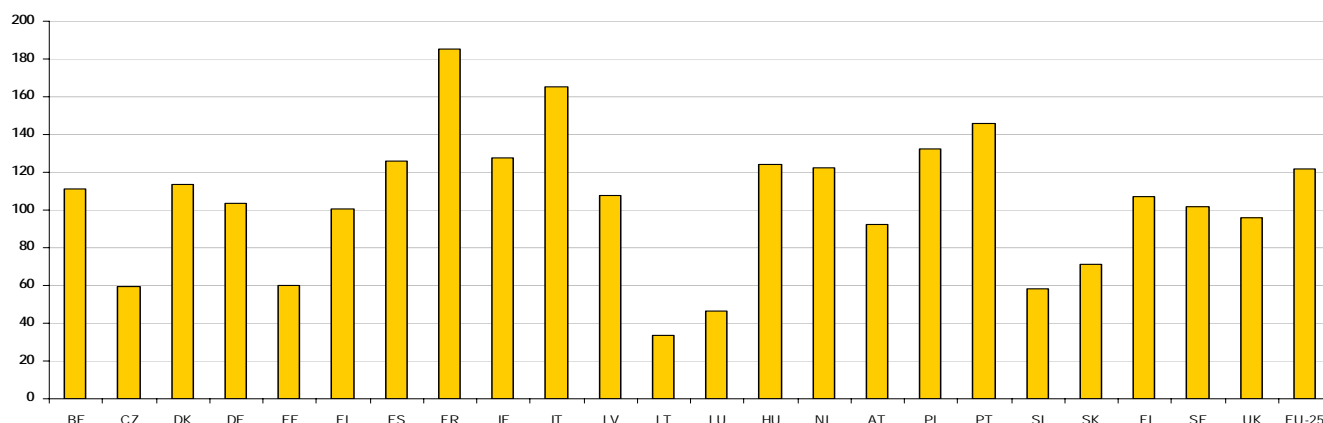
Source: Eurostat/NewCronos.

¹ Source of estimate: International Union of Railways

Disregarding the differences in the actual capacity of the various passenger trains, the average number of passengers on a passenger train in 2004 (see Graph 3) amounted to 185 in France, ahead of

Portugal (165) and Italy (146). At the low end came Lithuania (33) and Luxembourg (47) with less than 50 passengers per train on average.

Graph 3: Average number of passengers in passenger trains in 2004.



Source: Eurostat/NewCronos.

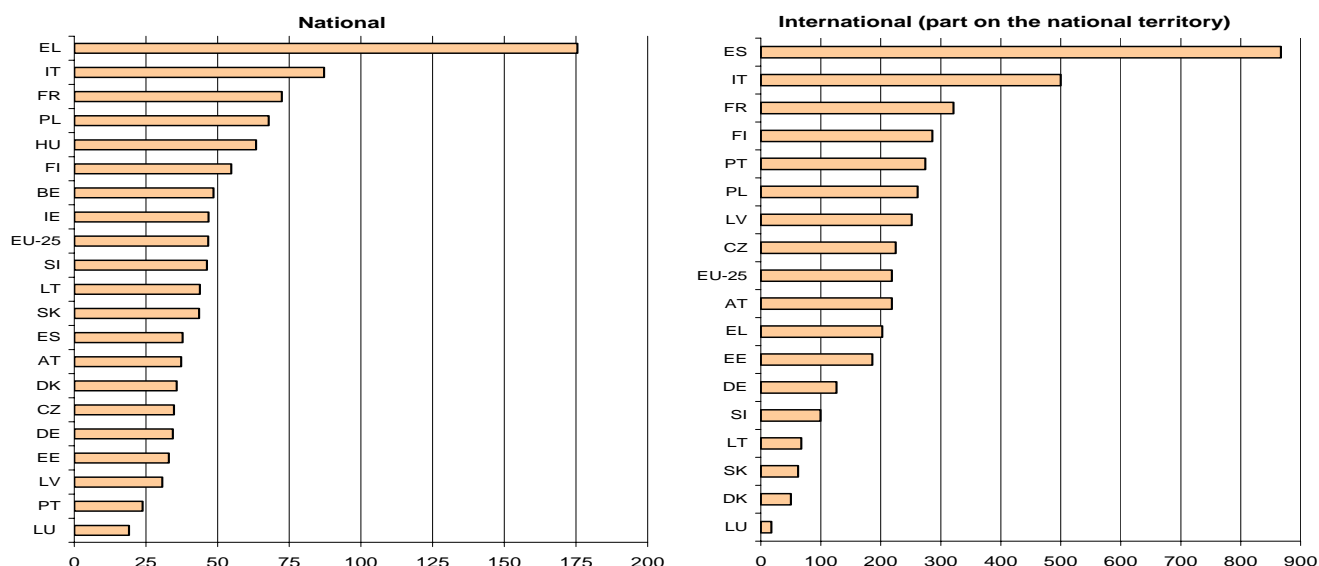
Average distance travelled

With 175 km, Greece has the highest average trip length for national rail journeys. Its value is more than double that of the second highest Italy with 87 km.

For international journeys, which only consider the part performed on the territory of the declaring country, it comes as no surprise that geographically small countries display relatively low values. Furthermore, the country's position on the European

map considerably influences trip length. Keeping this in mind, it then comes as no surprise that Spain is at the top of the list with a value exceeding 850 km. A similar but less extreme situation is that of Italy (500 km). With its central position in the EU and 9 neighbouring countries, the German leg of the average international trip length amounted to only 126 km. The average international train journey thus started relatively close to the German border.

Graph 4: Average trip length (in km) in 2004.



¹ Data are not available for NL, SE and UK on national transport and for BE, IE, HU, NL, SE and UK on international transport.

Source: Eurostat/NewCronos.

➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

Data availability

The figures presented in this publication have been extracted from Eurostat's rail transport database. It includes the statistics of the national and international rail transport of the Member States, collected according to the new Regulation n°91/2003 that replaced the Council Directive 80/1177/EEC since 2003. Figures on the length of the rail network have been extracted from the Eurostat/UNECE¹/ECMT² Common Questionnaire for transport statistics. Most data are included in Eurostat's NewCronos reference database, except the latest data received for the year 2004. In addition, some gaps have been filled with UIC data (Union internationale des chemins de fer).

The 2004-2005 data comparison was possible at total transport level for all Member States. The following table details some particularities linked to data availability:

Country Characteristics of data availability

CY	No railways transport
MT	No railways transport
BE, IE, HU, NL, SE, UK	2004 data are not available on national and international transport on the date of last extraction 6 October 2006

Methodology

Tables and graphs present data collected under the so-called 'detailed' and 'simplified' reporting. Simplified reporting is an alternative to the normal detailed reporting for undertakings whose total transport performance is less than 200 million pkm during the reference year.

National detailed declaration for Belgium includes international detailed declaration.

Provisional quarterly data were used for the year 2005 (Table 2) and for completing the data of those countries that had not provided annual data 2004. Annual data take also simplified reporting into account.

Definitions of various kinds of rail transport

All the definitions used are taken from the Regulation 1192/2003.

Total rail transport

Total rail transport (in pkm – see Tables 2 and 3) was calculated as a sum of national and international transport, where international transport is the sum of international embarked and disembarked in the reporting country.

National rail transport

Rail transport between two places (a place of loading/embarkation and a place of unloading/disembarkation) located in the reporting country. It may involve transit through a second country;

International rail transport

Rail transport between a place (of loading/embarkation or unloading/disembarkation) in the reporting country and a place (of loading/embarkation or unloading/disembarkation) in another country.

Passenger-kilometres by rail

Unit of measure of passenger transport which represents the transport of one passenger by rail over a distance of one kilometre. Only the distance on the national territory of the reporting country is taken into account.

Train-kilometres

Unit of measure representing the movement of a train over one kilometre. The distance used is the distance actually run, if available, otherwise the standard network distance between the origin and destination is used. Only the distance on the national territory of the reporting country shall be taken into account.

Rail network

All railway lines in a given area.

Average number of passengers in passenger trains

The passenger-km performance of 2004 was divided by the number of passenger train-kilometres.

Average trip length

The passenger-km performance of 2004 was divided by the number of passengers. It is expressed in kilometres.

Symbols:

- : not available
- :u unreliable data
- not applicable
- 0 actual zero or very negligible transport

This publication was prepared with the assistance of Isabelle DELIN and Sandrine CIPPONERI.


¹: United Nations – Economic Commission for Europe

²: European Conference of Ministers of Transport


Further information:

Data: [EUROSTAT Website/Home page/Transport/Data](#)


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