

EU
TRANSPORT IN FIGURES

STATISTICAL POCKET BOOK

2000

January

European Commission

Directorate-General for Energy and Transport

in co-operation with **Eurostat**

Preface

The main aim of this pocket book is to provide transport statistics for the EU Member States in a user-friendly way. Most of the data cover the period 1970-1997.

The pocket book is based on Eurostat statistics (<http://europa.eu.int/eurostat.html>) and on data from other international organisations, national statistics, studies and, where no data was available, estimates.

The tables of this book may also be found on the Europa internet site which is updated every quarter at the following URL :

<<http://europa.eu.int/en/comm/dg07/tif/>>

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Nomenclatures

- 1 NST/R
- 2 NACE
- 3 NUTS

Legal Acts

SYMBOLS AND ABBREVIATIONS

12	<i>Estimates are printed in italic</i>
<hr style="width: 10%; margin-left: 0;"/>	break in time series
%	per cent
-	nil
:	data not available
0	figure less than half of unit used
1970=100	reference year for an index
€	euro
ECU	European Currency Unit
ca.	circa = approximately
dwt	deadweight ton
GDP	Gross Domestic Product
grt	gross registered tonnage
mio p	1 million persons
pkm	passenger-kilometre : unit of measure
PPP	Purchasing Power Parities
tkm	tonne-kilometre : unit of measure
VOCs	Volatile Organic Compounds
ACEA	European Automobile Manufacturer's Association
ACI	Airports Council International
AEA	Association of European Airlines
ASECAP	Ass. Europ. Compagnies d'Autoroutes Payantes
CEC	Central and Eastern European Countries
ECF	European Cyclists' Federation
ECIS	European Centre for Infrastructure Studies
ECMT	European Conference of Ministers of Transport
EFIP	European Federation of Inland Ports
EU	European Union
EU15	European Union of 15 Member States
EUROSTAT	Statistical Office of the European Communities
GVF	Dienst für Gesamtverkehrsfragen (Switzerland)
IACA	International Air Charter Association
IATA	International Air Transport Association
IMF	International Monetary Fund
IRF	International Road Federation
ISL	Institute of Shipping Economics and Logistics
MS	Member States
UIC	Union Internationale des Chemins de fer
UN	United Nations
UIRR	Union Internationale des Societes de Transport Combiné Rail-Route
UITP	International Union of Public Transport

COUNTRY ABBREVIATIONS

European Union Countries (also EEA since 1994)

Member State since :

A	Austria	1995
B	Belgium	1958
D	Germany	1958
	[D-E (East Germany) included in D , unification on 3.10.1990]	
DK	Denmark	1973
E	Spain	1986
EL	Greece	1981
F	France	1958
FIN	Finland	1995
I	Italy	1958
IRL	Ireland	1973
L	Luxembourg	1958
NL	The Netherlands	1958
P	Portugal	1986
S	Sweden	1995
UK	United Kingdom	1973

Other European Economic Area (EEA) and in EFTA

N	Norway	EEA : 1994	EFTA:1960
IS	Iceland	EEA : 1994	EFTA:1960
FL	Liechtenstein	EEA : 1994	EFTA:1991

Other European Free Trade Association (EFTA)

CH	Switzerland	EFTA:1960
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Other European Countries

BG	Bulgaria
CS	Czechoslovakia (until 1992)
CZ	Czech Republic
EST	Estonia
H	Hungary
LT	Lithuania
LV	Latvia
PL	Poland
RO	Romania
SLO	Slovenia
SK	Slovak Republic
CY	Cyprus
M	Malta
TR	Turkey

Other Countries

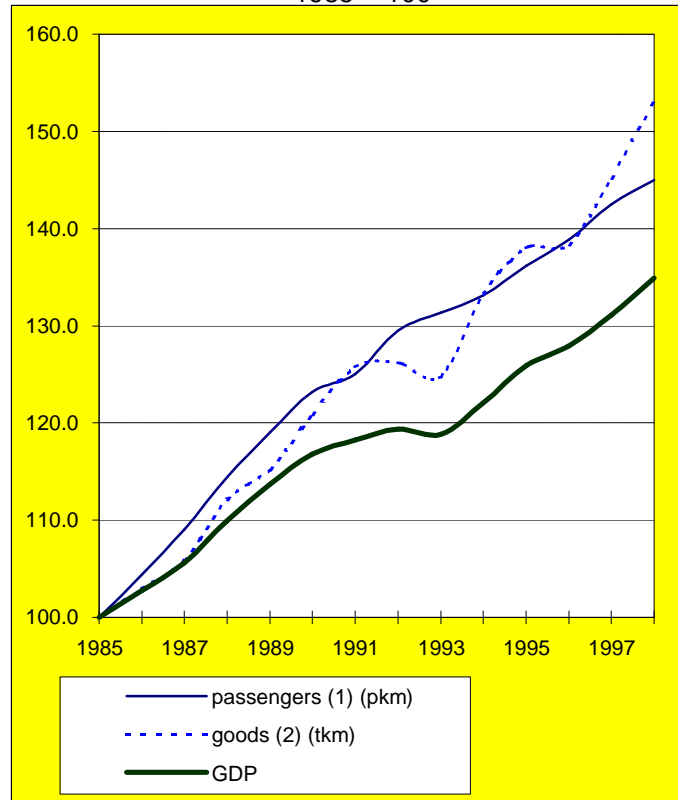
USA	United States of America
J	Japan

Chapter 1

General Data

Transport Growth EU 15 1.1

1985 = 100



Notes :

(1) : passenger cars, buses+coaches, tram+metro, railways, air

(2) : road, rail, inland waterways, pipelines, sea (intra-EU)

Annual Growth Rates EU 15

% change

	1980-90	1990-96	1997	1998
GDP	2.4	1.8	2.5	2.7
Industrial production	1.8	0.2	3.8	3.4
Passenger transport pkm (5 modes)	3.2	2.0	2.5	2.0
Freight transport tkm (5 modes)	1.9	2.4	5.0	4.0

1.2

Statistical Overview EU Transport

data for 1997, otherwise indicated

Value created	Total GDP is ECU 7164 billion or <i>ECU 19 200 per person</i> - of which value created by the transport services sector was 4% = ECU 290 billion - in addition value created in own account transport was 1% = ECU 70 billion
Employment	6 million persons are employed in the transport services sector = 4 % of all persons employed In addition, 2 million persons are employed in the transport equipment industry, and over 6 million in transport related industries
Investment in transport infrastructure	Investment in transport infrastructure is ca. ECU 70 billion or 1% of GDP - of which 65% road, 25% rail and 10% other modes
Household expenditure	Private households in the EU spend ECU 600 billion per year or 14% of their income for transport - of which about ECU 500 billion for private transport (mainly cars) and ECU 90 billion for purchased passenger transport services.
Goods transport	Transport demand is 2770 billion tkm or 7400 tkm per person (<i>20 tkm per person and day</i>) - of which road 43%, sea 41%, rail 9%, inland waterways 4%, pipelines 3%
Passenger transport	Transport demand is ca. 4 830 billion pkm or 13000 pkm per person (<i>35 pkm per person and day</i>) - of which car 79%, bus & coach 8%, air 7%, railway 6%, tram & metro 1%
Transport growth	<u>Goods transport</u> : ca. 3 % per year (1990-97) over 100% growth since 1970) <u>Passenger transport</u> ca. 2% per year (1990-97) over 120 % growth since 1970)
Safety	<u>Road</u> : ca. 43 400 persons killed in 1997 (fatalities within 30 days) <u>Rail</u> : ca. 90 passengers killed in 1996
Environment	Share of emissions (man made) originating from transport : CO ₂ : 26% (29% if maritime bunkers are included) NO _x : 63%

General Economic Data

1.3

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
GDP (nominal) 1998, ECU billion	223	156	1922	109	520	1297	76	1059	16	350	189	98	115	210	1247	7586
GDP per head in PPP (EU=100),1981-90	105	111	115	63	73	112	68	102	141	104	106	56	102	114	99	100
GDP per head in PPP (EU=100), 1991	107	109	106	61	79	113	76	107	151	102	108	63	94	104	97	100
GDP per head in PPP (EU=100), 1998	111	119	108	66	81	101	107	100	177	112	111	75	101	101	101	100
GDP per head in PPP (EU=100), 1999	111	118	107	67	82	101	112	99	180	112	111	75	103	101	102	100
GDP growth 1997, %	3.2	3.1	1.5	3.4	3.8	2.0	10.7	1.5	7.3	3.8	1.2	4.1	5.6	1.8	3.5	2.5
GDP growth 1998, %	2.9	2.7	2.2	3.7	4.0	3.2	8.9	1.3	5.0	3.7	2.9	3.5	5.6	2.6	2.2	2.7
GDP growth 1999, %	1.8	1.5	1.5	3.4	3.6	2.5	7.8	1.1	5.0	3.0	2.1	3.1	3.9	3.7	1.8	2.1
Indust. production growth 1997, %	4.7	5.3	3.5	1.3	7.0	3.9	15.3	3.9	5.8	2.6	5.9	2.6	9.3	7.1	1.1	3.8
Indust. production growth 1998, %	3.4	2.2	4.2	7.1	5.5	4.4	15.7	1.0	7.6	1.1	8.3	5.6	7.8	4.1	0.7	3.4
Indust. production growth 1999, %	1.6	1.5	0.5	2.2	1.4	2.0	11.5	-0.6	n.a.	0.0	5.8	1.5	2.1	3.5	0.0	n.a.
Unemployment rate 1997	9.2	5.6	9.9	10.0	20.8	12.3	9.8	11.7	2.8	5.2	4.4	6.8	12.7	9.9	7.0	10.6
Unemployment rate 1998	8.8	5.1	9.4	9.8	18.7	11.7	7.8	11.9	2.8	4.0	4.7	5.1	11.4	8.3	6.3	9.9
Unemployment rate 1999	8.5	4.3	9.1	9.5	15.7	11.1	6.4	11.6	2.5	3.0	4.4	4.6	10.4	7.3	6.0	9.2

Source : Economic and Monetary Affairs DG, Eurostat

Note : PPP= Purchasing Power Parities

External Trade by Member State and Partner

1.4

		1998										in billion ECU									
		EXPORTS to									IMPORTS from										
		Total Exports	EU 15 (sendings)			CEC		Mediterr. Countries		USA		Total Imports	EU 15 (arrivals)			CEC		Mediterr. Countries		USA	
B+L		159.5	120.9	76%	3.8	2%	5.5	3%	8.4	5%	148.8	105.5	71%	2.5	2%	3.4	2%	11.9	8%		
DK		43.8	29.2	67%	1.8	4%	0.7	2%	2.2	5%	41.9	29.5	70%	1.4	3%	0.3	1%	2.1	5%		
D		482.5	271.9	56%	39.2	8%	14.4	3%	45.4	9%	413.4	240.9	58%	32.3	8%	9.1	2%	27.4	7%		
EL		9.5	4.9	52%	0.8	9%	1.2	13%	0.4	5%	25.0	16.5	66%	0.9	3%	0.9	4%	1.2	5%		
E		93.3	65.8	71%	2.0	2%	4.3	5%	4.0	4%	111.6	76.4	68%	1.4	1%	3.1	3%	5.7	5%		
F		286.0	178.4	62%	7.3	3%	14.9	5%	22.0	8%	274.5	185.5	68%	4.5	2%	9.0	3%	21.6	8%		
IRL		58.3	40.7	70%	0.6	1%	0.8	1%	7.6	13%	38.3	23.6	62%	0.3	1%	0.3	1%	6.2	16%		
I		215.6	121.2	56%	11.4	5%	11.6	5%	18.5	9%	192.5	118.5	62%	7.9	4%	7.0	4%	9.7	5%		
NL		191.1	150.9	79%	4.7	2%	3.6	2%	7.2	4%	179.1	102.5	57%	3.6	2%	3.1	2%	17.0	10%		
A		57.2	36.7	64%	7.6	13%	1.0	2%	2.3	4%	62.0	45.7	74%	5.9	10%	0.6	1%	2.1	3%		
P		21.6	17.6	82%	0.2	1%	0.3	2%	1.1	5%	32.9	25.4	77%	0.2	1%	0.4	1%	0.9	3%		
FIN		39.0	21.9	56%	3.1	8%	0.9	2%	2.9	7%	29.4	19.3	66%	1.1	4%	0.1	0%	1.9	6%		
S		74.5	42.7	57%	3.0	4%	1.8	2%	6.5	9%	60.5	41.7	69%	2.1	3%	0.4	1%	3.8	6%		
UK		244.3	141.8	58%	4.7	2%	6.8	3%	32.1	13%	286.5	153.0	53%	3.9	1%	4.6	2%	40.1	14%		
EU15		1 976.2	1 244.6	63%	90.2	5%	67.7	3%	160.6	8%	1 896.4	1 184.0	62%	68.0	4%	42.4	2%	151.6	8%		

Notes : CEC countries : Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia, Slovak Republic

Mediterranean countries : Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Palestinian Authority, Syria, Tunisia, Turkey

External Trade by Mode of Transport 1998

1.5

	Value (billion ECU)								Weight (million tonnes)							
	Extra-EU15				Intra-EU15				Extra-EU15				Intra-EU15			
	Export %		Import %		Export + Import %		Import %		Export %		Import %		Export + Import %		Import %	
Sea	307	42.0	290	40.8	597	41.4	269	22.8	270	69.6	942	71.1	1212	70.8	308	30.7
Road	186	25.4	140	19.6	326	22.6	683	57.8	70	18.0	66	4.9	135	7.9	411	40.9
Rail	18	2.5	14	1.9	32	2.2	46	3.9	20	5.2	52	4.0	72	4.2	47	4.7
Inland waterway	5	0.7	6	0.8	11	0.8	10	0.9	15	4.0	34	2.6	49	2.9	126	12.5
Pipeline	2	0.2	19	2.6	20	1.4	9	0.8	4	1.1	182	13.7	186	10.9	81	8.1
Air	182	24.8	166	23.3	348	24.1	46	3.9	4	0.9	2	0.2	6	0.3	3	0.3
Other/unknown	32	4.4	77	10.9	109	7.6	118	10.0	5	1.2	47	3.5	51	3.0	29	2.9
Total	731	100.0	712	100.0	1 443	100.0	1 181	100.0	388	100.0	1 325	100.0	1 712	100.0	1 006	100.0

Value density of goods transported (Intra-EU 15 imports ECU/tonne) :					
Sea	872		Road	1661	
Inland waterway	83		Pipeline	112	
			Rail	971	
			Air	15269	

Source : Eurostat

Population

1.6

million

average for the year

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
1970	9.6	4.9	77.7	8.8	33.8	50.8	3.0	53.8	0.3	13.0	7.5	8.7	4.6	8.0	55.6	340.2
1980	9.8	5.1	78.3	9.6	37.4	53.9	3.4	56.4	0.4	14.1	7.5	9.8	4.8	8.3	56.3	355.2
1990	10.0	5.1	79.4	10.2	38.9	56.7	3.5	56.7	0.4	15.0	7.7	9.9	5.0	8.6	57.6	364.4
1991	10.0	5.2	80.0	10.2	38.9	57.1	3.5	56.8	0.4	15.1	7.8	9.9	5.0	8.6	57.8	366.4
1992	10.0	5.2	80.6	10.3	39.0	57.4	3.6	56.9	0.4	15.2	7.9	9.9	5.0	8.7	58.0	368.0
1993	10.1	5.2	81.2	10.4	39.1	57.7	3.6	57.0	0.4	15.3	8.0	9.9	5.1	8.7	58.2	369.6
1994	10.1	5.2	81.4	10.4	39.1	57.9	3.6	57.2	0.4	15.4	8.0	9.9	5.1	8.8	58.3	371.0
1995	10.1	5.2	81.7	10.5	39.2	58.1	3.6	57.3	0.4	15.5	8.0	9.9	5.1	8.8	58.5	372.1
1996	10.2	5.3	81.9	10.5	39.3	58.4	3.6	57.4	0.4	15.5	8.1	9.9	5.1	8.8	58.7	373.1
1997	10.2	5.3	82.1	10.5	39.3	58.6	3.7	57.5	0.4	15.6	8.1	9.9	5.1	8.8	58.9	374.1
1998	10.2	5.3	82.0	10.5	39.4	58.8	3.7	57.6	0.4	15.7	8.1	10.0	5.2	8.9	59.1	374.9
Area 1000 km2																
1998	30.5	43.1	357.0	132.0	506.0	544.0	70.3	301.3	2.6	41.5	83.9	91.9	338.1	450.0	244.1	3236.2
Density persons/km2																
1998	335	123	230	80	78	108	53	191	164	378	96	108	15	20	242	116

Source : Eurostat

D : population : includes D-E : 1970=17.1, 1980=16.7, 1990=16.1

Sociodemographic Data

1.7

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Population 1997, million	10	5.3	82	11	39	59	3.7	58	0.4	16	8.1	10	5.1	8.8	59	374.6
% urban 1980	95	84	83	58	73	73	55	67	85	88	65	29	60	83	89	76
% urban 1997	97	85	87	60	77	75	58	67	88	89	64	37	64	83	89	78
% 0-14 years old (1997)	18	18	16	16	16	19	23	15	19	18	17	17	19	19	19	17
% 15-64 years old (1997)	66	67	68	68	68	66	66	68	67	69	68	68	67	64	65	67
% 65+ years old (1997)	16	15	16	16	16	15	11	17	14	13	15	15	14	17	16	16
average n° of persons per household, 1997	2.5	2.2	2.2	2.6	3.1	2.4	3.0	2.7	2.6	2.3	2.5	2.9	2.1	2.3	2.4	2.6
% of households having a car, 1994	76	58	74	55	68	78	66	78	83	58	65	55	64	73	70	72
% of households without a car, 1994	24	42	26	45	32	22	34	22	17	42	35	45	36	27	30	28
of which % who cannot afford a car, 1994	7	16	5	24	16	7	18	4	4	7	na	28	na	na	11	9*
Average time spent commuting to and from work, minutes per day, 1996 (1)	39	38	45	40	33	36	40	23	40	44	36	33	41	40	46	38

Source : Eurostat, urban population: World Bank; commuting time : European Foundation for the improvement of living and working conditions (Dublin)

Notes : average n° of persons per household : DK : 1995

% of households without a car : S : 1997

(1) average time spent by all persons in employment

* : EU 12

Household Expenditure for Transport

1.8

Final consumption of households on the territory

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU 15
Final consumption in transport, % of total consumption	1980	11.8	13.3	11.8	10.8	12.6	15.0	12.8	11.3	16.6	9.4	14.6	13.3	15.6	13.6	15.0	13.0
	1985	11.5	16.0	12.3	12.3	12.7	15.0	11.8	11.3	16.9	11.3	14.1	13.7	15.7	14.1	15.2	13.3
	1990	12.0	13.6	13.9	12.4	14.3	15.4	11.6	11.2	17.5	11.3	13.8	14.1	15.7	15.5	16.0	13.9
	1995	11.3	15.5	13.8	9.2	14.4	14.7	11.5	10.7	19.9	11.4	13.4	14.8	13.5	14.4	15.0	13.5
	1996	11.7	15.8	14.1	9.3	14.8	15.0	11.6	10.9	19.9	11.4	14.4	14.8	13.8	14.6	15.1	13.7
Total consumption in transport, bio ECU 1996		15.3	11.5	162.7	6.9	44.7	110.3	3.5	64.9	1.1	20.9	14.7	8.1	7.1	14.6	85.3	571.4
of which :																	
personal transport equipment		5.7	4.2	59.9	1.5	12.2	27.3	1.2	20.0	0.4	6.4	5.2	2.5	1.6	3.1	28.2	179.2
operation of personal transport equipment		8.4	5.2	84.3	3.2	27.2	67.6	1.4	33.8	0.6	10.5	7.3	4.3	4.2	8.3	37.5	303.8
purchased transport		1.3	2.1	18.5	2.2	5.4	15.4	0.9	11.2	0.1	3.9	2.2	1.3	1.3	3.2	19.6	88.4
consumption per capita (1000 ECU)		1.5	2.2	2.0	0.7	1.1	1.9	1.0	1.1	2.6	1.3	1.8	0.8	1.4	1.7	1.5	1.5

Source : Eurostat

Transport Infrastructure Investment

1.9

	ECU million														1994 prices		
	B	DK	D*	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1985 = 100
1985	2195	571	13772	515	2141	9519	246	7210	88	1876	1941	304	806	941	4727	46 852	100
1986	2085	534	14293	298	2091	9835	240	7475	87	1693	1926	373	851	889	4704	47 374	101
1987	1718	538	14079	323	2532	9956	200	9115	108	1849	1588	437	923	961	5308	49 635	106
1988	1807	657	13755	402	3709	10903	201	9873	114	1796	1638	538	879	1068	6175	53 515	114
1989	1427	790	13819	244	4517	10972	249	9752	122	1932	1673	629	951	1257	7339	55 673	119
1990	1369	768	14014	328	5938	12321	308	10087	113	2150	1977	871	1030	1389	8544	61 207	131
1991	1559	823	20397	379	6271	13490	343	9931	161	2179	1795	1005	1044	1160	8186	68 723	147
1992	1826	1088	21186	503	5631	13591	368	10232	182	2194	1675	854	1007	1416	8372	70 125	150
1993	2063	923	20489	529	5651	13428	465	8938	177	2309	1766	975	880	1787	8027	68 407	146
1994	1970	1000	20958	433	5552	12812	400	11080	158	2330	1591	1203	887	2125	7511	70 010	149
1995	2179	702	19547	461	5406	12800	432	12437	182	2318	1338	1148	515	2460	8779	70 704	151
1996	1989	674	20848	509	5248	13000	460	12838	194	2318	1593	1116	479	2127	7030	70 423	150
Investments as a % of GDP:																	
1996	1.0	0.6	1.3	0.6	1.2	1.2	0.9	1.5	1.6	0.8	1.0	1.5	0.6	1.2	0.9	1.2	

Source : up to 1994 : European Centre for Infrastructure Studies - 1996 report (the last report from this Centre which no longer exists)
from 1995 : study for Energy and Transport DG

Notes : * no data available for Eastern Germany (1985-1990)

1994 results for DK, IRL, I, NL are estimates based on results of studies. Data for Greece from a study for Energy and Transport DG.

Employment by Mode of Transport

1.10

1995

1000 persons

	Railways	Pipe- lines	Road passenger transport	Road freight transport	Sea transport	Inland water transport	Air transport	Travel agencies & tour operators	Other* auxiliary transport activities	Transport total	% of total empl- oyment
B	41.9	0.01	25.9	42.7	2.3	1.3	12.4	5.8	34.8	167.0	4.5 %
DK	15.7	0.13	22.9	36.9	11.8	-	13.3	5.5	30.5	136.7	5.4 %
D	311.0	0.96	198.2	236.2	31.5	11.6	66.8	65.1	355.8	1 277.1	3.7 %
EL	11.9	-	25.5	105.6	3.1	-	5.7	5.0	53.2	209.9	5.4 %
E	41.9	0.10	66.6	240.9	9.6	0.1	32.8	30.6	91.2	513.8	4.0 %
F	181.1	1.28	168.1	270.4	11.4	2.1	59.3	30.7	170.6	895.0	4.0 %
IRL	11.1	-	6.7	9.5	1.8	-	5.9	2.9	8.0	45.9	3.5 %
I	162.8	0.51	134.5	268.7	20.1	5.7	20.5	31.0	160.0	803.8	3.6 %
L	3.3	-	1.8	4.0	-	0.1	2.9	0.5	1.2	13.8	6.5 %
NL	26.6	0.19	60.5	102.6	8.7	13.8	32.4	18.0	56.3	319.1	5.9 %
A	62.8	0.14	35.6	34.8	0.0	0.5	6.3	8.2	20.5	168.9	5.0 %
P	13.1	-	34.1	30.2	1.5	1.1	9.2	5.0	17.2	111.4	2.5 %
FIN	15.2	-	16.4	28.3	8.1	0.3	7.4	3.3	14.8	93.8	4.8 %
S	21.6	0.00	34.2	44.9	12.7	0.7	10.1	7.6	25.9	157.8	3.9 %
UK	101.5	1.00	112.4	244.7	23.5	0.2	58.0	75.0	203.3	819.5	3.2 %
EU15	1 021.5	4.31	943.3	1 700.2	146.1	37.5	343.1	294.2	1 243.4	5 733.6	3.9 %

Source : Eurostat (employment according to NACE classification), national statistics, study for DG Energy and Transport

Note : * : cargo handling and storage, other supporting activities, activities of other transport agencies

Employment in Railways 1.11

Company		Main railways <small>staff in 1000</small>					
		1970	1980	1990	1995	1997	1998
<i>B</i>	SNCB	56.7	65.7	45.2	41.9	40.2	40.0
<i>DK</i>	DSB	24.0	22.1	20.4	15.7	11.1	10.9
<i>D-W</i>	DB AG	392.7	329.0	236.0	294.9	233.5	209.6
<i>D-E</i>	DR	252.6	237.9	246.3	(DB)	(DB)	(DB)
<i>EL</i>	CH	12.6	12.1	13.3	12.5	11.8	11.8
<i>E</i>	RENFE	85.1	71.5	49.7	39.0	36.4	35.0
<i>F</i>	SNCF	303.0	254.4	202.1	181.1	175.0	175.0
<i>IRL</i>	CIE	22.3	18.1	11.8	11.1	10.7	10.7
<i>I</i>	FS	197.6	220.7	200.4	129.8	121.8	118.3
<i>L</i>	CFL	4.4	4.2	3.5	3.2	3.1	3.1
<i>NL</i>	NS	26.8	26.9	26.2	26.6	25.9	25.8
<i>A</i>	ÖBB	73.9	72.5	66.9	61.3	55.1	53.5
<i>P</i>	CP	25.6	24.7	22.1	13.1	12.8	10.6
<i>FIN</i>	VR	27.7	28.7	20.2	15.2	14.3	13.8
<i>S</i>	SJ+MTAB	45.3	37.5	20.8	14.2	12.1	11.1
<i>UK</i>	BR	274.3	241.9	135.3	90.2		
Total		1824.6	1667.9	1320.2	949.8	763.8	729.2

D: 1994 creation of DB AG out of former DB and DR

Company		Infrastructure companies <small>staff in 1000</small>			
		1995	1997	1998	
<i>DK</i>	Banestyrelsen	founded 1.1.97	-	n.a.	n.a.
<i>E</i>	GIF	founded 1997	n.a.	n.a.	n.a.
<i>F</i>	RFF	founded 1997	-	0.06	0.1
<i>NL</i>	Railinfrabeheer	founded 1.1.95	n.a.	n.a.	n.a.
<i>P</i>	REFER	founded 1.7.97	-	0.4	2.5
<i>FIN</i>	RHK	founded 1.1.95	0.1	0.1	0.1
<i>S</i>	Banverket	founded 1.1.88	7.4	7.4	7.4
<i>UK</i>	Railtrack	founded 1.4.94	11.5	10.7	10.7

Company		Other railway companies <small>staff in 1000</small>					
		1995	1997	1998			
<i>D</i>	Regionaleisenbahnen	16.0	16.0	16.0			
<i>E</i>	FEVE	2.0	2.0	2.0			
<i>E</i>	FGC	1.3	1.3	1.2			
<i>I</i>	Ferrovie in concessione	15.7	n.a.	n.a.			
<i>UK</i>	EWS	-	6.8	n.a.			
<i>UK</i>	Eurotunnel	n.a.	3.0	3.2			
<i>UK</i>	NIR	0.8	0.7	0.7			
<i>USA</i>	AAR (freight)	566.3	459.0	216.4	188.2	178	178.2
<i>J</i>	JR	459.7	413.6	193.8	192.5	181	185
<i>CEC</i>	(11 railways)	1001	1048	1086	723.2	668.2	616.1

Source : UIC, national statistics

Employment in Airlines and 1.12 Ferries

Main Airlines staff in 1000

Company	1980	1990	1995	1996	1997
<i>B</i> Sabena	10.1	7.5	9.9	9.3	9.7
<i>DK/S</i> SAS	16.4	19.6	18.7	21.3	22.5
<i>D</i> Lufthansa	30.7	47.6	38.0	34.2	34.0
<i>EL</i> Olympic	8.8	11.9	9.1	7.8	8.2
<i>E</i> Iberia	24.2	28.8	23.6	19.7	21.5
<i>F</i> Air France	33.2	39.8	37.3	36.5	46.0
<i>IRL</i> Air Lingus	6.9	7.1	5.4	5.6	6.0
<i>I</i> Alitalia	18.2	19.7	18.4	17.9	17.6
<i>L</i> Luxair	0.7	1.1	1.2	1.3	1.4
<i>NL</i> KLM	19.0	26.4	25.3	25.5	26.0
<i>A</i> Austrian Airlines	2.6	4.2	3.9	4.1	4.2
<i>P</i> TAP	10.0	10.5	8.2	7.4	8.0
<i>FIN</i> Finnair	5.4	7.3	7.9	8.2	8.6
<i>UK</i> British Airways	52.0	53.6	53.1	55.3	54.7
Total	238.2	285.1	260.0	254.2	268.4

Source : AEA, IATA

Note : Employment of all 158 EU airlines in 1999 = 400400

Major European Ferry Operators

Number of employees

Company	1997
<i>S</i> P&O Stena Line	8 400
<i>I</i> Finmare	4 600
<i>DK</i> Scandlines A/S	4 549
<i>FIN</i> Silja Line	4 000
<i>DK</i> Scandinavian Seaways	1 875
<i>S</i> Scandlines AB	1 150
<i>S</i> TT Line	900
<i>EL</i> Superfast Ferries	515
<i>IRL</i> Irish Ferries	115
<i>S</i> Gotlandsbolaget	83
Total	26 187

Source : ShipPax

Number of Enterprises by Mode of Transport

1.13

1995

	Railways	Pipe- lines	Road passenger transport	Road freight transport	Sea transport	Inland water transport	Air transport	Travel agencies & tour operators	Other* auxiliary transport activities	Transport total	Persons employed per enterprise
B	11	10	2 813	9 229	190	2 225	197	1 505	2 839	19 019	8.8
DK	14	3	2 896	9 772	601	-	170	597	1 757	15 810	8.6
D	99	99	34 734	55 052	600	1 726	430	9 033	24 373	126 146	10.1
EL	1	-	2 290	10 938	66	-	13	540	1 000	14 848	14.1
E	6	17	62 923	122 392	220	12	194	4 944	11 853	202 561	2.5
F	27	175	26 792	36 765	720	1 290	575	2 279	4 671	73 294	12.2
IRL	2	-	252	2 000	43	-	38	298	454	3 087	14.9
I	152	12	22 036	109 874	614	433	151	6 350	13 185	152 807	5.3
L	1	-	166	366	-	23	51	54	58	719	19.2
NL	1	14	2 808	8 042	355	4 415	59	1 739	2 918	20 351	15.7
A	17	4	4 514	4 457	22	62	82	1 042	860	11 060	15.3
P	1	-	2 290	10 938	43	23	13	540	967	14 815	7.5
FIN	2	1	8 167	11 099	165	108	78	431	856	20 907	4.5
S	16	1	3 811	8 886	290	154	122	951	1 286	15 517	10.2
UK	114	12	8 328	38 781	1 030	296	1 160	6 050	12 789	68 560	12.0
EU15	464	348	184 820	438 591	4 959	10 767	3 333	36 353	79 866	759 501	7.5

Source : Eurostat (according to NACE classification), national statistics, study for Energy and Transport DG

Note : * : cargo handling and storage, other supporting activities, activities of other transport agencies

Turnover by Mode of Transport

1.14

1995

million ECU

	Railways	Pipelines	Road passenger transport	Road freight transport	Sea transport	Inland water transport	Air transport	Travel agencies & tour operators	Other* auxiliary transport activities	Transport total	Turnover per person employed ECU 1000
B	1 540	41	669	7 777	1 179	431	2 456	2 739	9 850	26 682	159.8
DK	1 005	101	1 000	2 307	4 196	0	1 855	200	3 397	14 062	102.9
D	10 200	410	9 205	26 195	1 698	2 082	7 780	5 925	43 495	106 990	83.8
EL	100	-	235	1 100	4 150	-	592	600	1 400	8 177	39.0
E	1 220	30	2 404	11 177	261	0	4 068	3 900	9 100	32 159	62.6
F	8 372	500	7 819	22 590	4 119	255	9 962	6 866	27 286	87 769	98.1
IRL	260	-	200	647	290	-	1 103	733	1 062	4 295	93.6
I	4 618	88	3 349	21 913	4 585	166	4 790	6 481	19 074	65 064	80.9
L	218	-	63	421	25	6	500	269	210	1 712	124.1
NL	2 360	264	1 567	7 458	2 737	1 076	5 040	2 959	4 944	28 405	89.0
A	2 085	62	1 606	3 141	36	62	1 511	2 588	5 043	16 135	95.5
P	290	-	610	1 317	350	-	915	1 152	1 920	6 553	58.8
FIN	540	0	847	2 450	1 673	20	1 251	197	2 800	9 778	104.2
S	1 300	0	2 541	4 203	2 908	62	2 060	3 675	6 190	22 938	145.3
UK	9 007	48	5 046	18 974	5 015	115	16 172	14 107	33 932	102 416	125.0
EU15	43 115	1 545	37 162	131 670	33 221	4 274	60 056	52 390	169 702	533 135	93.0
Turnover per person employed by mode of transport ECU 1000											
	42.2	358.2	39.4	77.4	227.4	113.9	175.0	178.1	136.5	93.0	

Source : Eurostat (according to NACE classification), national statistics, study for Energy and Transport DG

Note : * : cargo handling and storage, other supporting activities, activities of other transport agency

Road transport : 1999 Limits and Fuel Prices

1.15

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Speed limit, cars (in general), km/h :															
Urban roads	50	50	50	50	50	50	48	50	50	50	50	50	50	50	48
National roads	90	80	100	110	90	90	96	90	90	80	100	100	80	90	96
Motorways	120	110		120	120	130	112	130	120	120	130	120	120	110	112
Maximum gross vehicle weight :															
General, tonnes	44	48	40	40	40	40	40	44	44	50	40	40	56	60	40
Combined transport, tonnes	44	48	44	44	44	44	44	44	44	50	44	44	56	60	44
Blood alcohol limit, mg/ml	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.2	0.8
Fuel prices, €															
Petrol, 95 lead free, April 1999	0.88	0.84	0.82	0.66	0.67	0.92	0.71	0.92	0.65	0.96	0.78	0.77	0.93	0.94	1.00
of which, tax	75%	73%	74%	66%	68%	81%	72%	74%	64%	74%	69%	75%	78%	74%	81%
Diesel, April 1999	0.61	0.64	0.60	0.50	0.56	0.65	0.67	0.72	0.53	0.67	0.60	0.54	0.64	0.73	1.01
of which, tax	64%	68%	66%	64%	61%	73%	67%	70%	61%	65%	64%	66%	65%	62%	82%

Source : European Commission, national sources

Notes : UK and IRL drive on the left hand side of the road, other Member States on the right hand side (Sweden since 3.9.1967).

: D : Motorways : No general speed limit, recommended speed limit is 130 km/h, UK: change to 40 t general weight limit in 1999

Chapter 2

Infrastructure

Railways : High Speed Rail Network 2.1

Existing lines : length in km

	B	DK	D	E	F	I	S	UK*	EU15
1981	-	-	-	-	301	150	-	-	451
1983	-	-	-	-	417	150	-	-	567
1988	-	-	90	-	417	224	-	-	731
1990	-	-	90	-	699	224	-	-	1 013
1991	-	-	428	-	699	224	-	-	1 351
1992	-	-	428	471	737	246	-	-	1 882
1993	-	-	428	471	1057	246	-	-	2 202
1994	-	-	428	471	1159	246	-	52	2 356
1995	-	-	428	471	1159	246	-	52	2 356
1996	14	-	428	471	1246	246	-	52	2 457
1997	88	15	428	471	1246	246	-	52	2 546
1998	88	15	577	471	1246	246	31	52	2 726
1999	88	15	577	471	1246	246	31	52	2 726

Source : UIC

Note : * : UK (and France) : Channel tunnel; DK : Great Belt crossing; S : Flemingsberg-Jarna; E : Madrid-Sevilla; I : Roma-Firenze; B : Bruxelles/Brussels-French border

High speed lines under construction

LINE	Length km under construction	Year of opening
B (Brussels) Leuven - Bierset (Liège)	62	2002
B Antwerpen-Dutch frontier	38	2005
DK Öresund crossing	18	2000
D Köln-Rhein/Main (Frankfurt)	215	2002
D Nürnberg-Ingolstadt	88	2003
E Madrid - Lleida/Barcelona (3 sections)	296	2002
F Valence-Marseille / Nîmes	250	2001
I Roma-Napoli	220	2003
I Firenze-Bologna	77	2005
NL Amsterdam-Belgian border (sections)	120	2005
S Nyland-Umeå	200	2006
UK Channel Tunnel-Fawkham Jn (London)	74	2003

Note : year of opening is indicative and subject to change

The length under construction is not the distance between the above-mentioned places

Railways : Length of Lines

km

2.2

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970=10
1970	4232	2352	43777	2571	13668	36117	2189	16069	271	3148	5907	3591	5870	11550	19330	170 642	100
1980	3971	2015	42765	2461	13542	34382	1987	16133	270	2760	5847	3588	6096	11382	18030	165 229	97
1990	3479	2344	40981	2484	12560	34260	1944	16086	271	2798	5624	3592	5867	10801	16914	160 005	94
1995	3368	2349	41719	2474	12280	31939	1947	15998	275	2739	5672	2850	5880	9782	16999	156 271	92
1996	3380	2349	40826	2474	12284	31852	1945	16014	274	2739	5672	2850	5881	10923	17001	156 464	92
1997	3422	2232	38450	2503	12294	31754	1945	16030	274	2805	5672	2856	5865	11168	16991	154 261	90
1998	3410	2232	38450	2503	12303	31727	1945	16041	274	2805	5643	2856	5867	11156	16847	154 059	90

of which, % electrified :

1998	74%	28%	48%	0%	56%	45%	2%	65%	95%	73%	60%	30%	35%	68%	30%	48%
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Main railway gauge and electric current used :

mm	1435	1435	1435	1435	1668	1435	1600	1435	1435	1435	1435	1668	1524	1435	1435
dc volts	3000	3000			3000	1500	1500	3000		1500					Contact rail
ac volts		25000	15000			25000			25000		15000	25000	25000	15000	25000
volts		50Hz	16.7Hz			50Hz			50Hz		16.7Hz	50Hz	50Hz	16.7Hz	50Hz

Source : UIC, data for main UIC member railways

D: includes D-E : 1970=14250, 1980=14248, 1990=14031

Notes : Other EU railways : ca 10000km, of which (1996) **I** : 3485 km, **D** : 3700 km, **E** : 1380 km

1435 mm = standard gauge; 1524 mm, 1600 mm, 1668 mm = broad gauge

Motorways

2.3

Length at end of year

km

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970 =100
1970	488	184	6061	11	387	1553	0	3913	7	1209	478	66	108	403	1183	16 051	100
1980	1203	516	9225	91	2008	5264	0	5900	44	1780	938	132	204	850	2683	30 838	192
1990	1631	601	10809	190	4693	6824	26	6193	78	2092	1445	316	225	939	3180	39 242	244
1992	1667	706	11013	280	6486	7408	32	6289	95	2134	1554	520	318	1005	3244	42 751	266
1993	1686	747	11080	330	6577	7614	53	6401	100	2167	1557	579	337	1061	3252	43 541	271
1994	1665	786	11143	380	6485	7956	72	6401	121	2178	1559	587	388	1125	3286	44 132	275
1995	1666	796	11190	420	6962	8275	72	6401	123	2300	1596	687	394	1231	3308	45 421	283
1996	1674	832	11246	470	7293	8596	80	6439	115	2360	1607	710	431	1330	3344	46 527	290
1997	1679	855	11309	470	7750	8864	94	6445	118	2360	1613	797	444	1423	3412	47 633	297
1998		861	11427					6453	115				467		3421		

Source : EUROSTAT, IRF, national statistics

D : includes D-E : 1970=1600, 1980=1687, 1990=1850

Roads Length of road network

2.4

	1996															1000 km
	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Motorways	1.7	0.9	11.3	0.5	7.3	8.3	0.1	6.4	0.1	2.4	1.6	0.7	0.4	1.3	3.3	46.3
National roads	12.6	3.7	41.5	9.1	17.6	26.9	4.4	44.8	1.0	2.1	10.3	9.0	12.3	14.6	12.4	222.3
State roads	1.3	7.1	178.3	29.1	70.5	360.1	10.7	113.4	1.9	8.6	19.8	46.1	29.1	83.4	38.1	997.4
Municipal roads	128.5	60.0	418.6	75.6	67.1	569.0	76.3	142.0	2.3	114.0	98.0	62.5	35.9	38.9	339.1	2227.9
Toll roads, km	1			871	2083	6768		5575			179	600				16 077

Source : EUROSTAT, UN, ECMT, IRF, ASECAP, national statistics

Note : There are about 1 million park and ride spaces and 0.3 million parking spaces at airports in the EU

Urban Rail and Trolleybus Systems

2.5

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Length of track, km (1998)																
Metro	40	-	343	26	252	293	-	111	-	120	38	30	17	110	402	1 782
Light rail + tram	296	:	2838	-	284	125	-	444	-	370	272	72	75	148	197	5 121
Number of systems (1999)																
Metro	1	-	5	1	3	5	-	3	-	2	1	1	1	1	3	27
Light rail + tram	5	-	57	-	3	8	-	6	-	4	5	1	1	3	8	101
Monorail	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
Funicular	-	-	7	1	6	7	-	14	-	-	3	5	-	2	5	50
Trolleybus	1	1	3	1	-	6	-	11	-	1	4	2	-	-	-	30

Under construction (1999):

Metro	Copenhagen ('Mini-Metro'), Rennes; Thessaloniki	Monorail	Düsseldorf (Airport)
Light rail+tram	Croydon, Heilbronn, Lyon, Montpellier, Orleans, Porto	Funicular	Evian, People-mover: Milano, Monza

Source: Light Rail Transit Association, Jane's Urban Transport Systems

Notes : Heritage tramways and non-urban light-rail systems not included; Funiculars: 50 urban systems in 38 places

Metro: includes only heavy rail / full metro; there are 15 systems with underground stations and separate track classified as light rail

Monorail : suspended monorails in Wuppertal, Dresden, Dortmund; amusement park systems (supported monorails) not included

Pipelines
Length of oil pipelines

2.6

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
1970	52	-	3 358	-	1 099	3 609	-	1 860	-	323	604	-	-	-	1 634	12 539
1980	458	77	3 387	-	1 753	5 254	-	3 069	-	391	777	-	-	-	3 166	18 332
1990	301	444	3 547	-	2 678	4 948	-	4 086	-	391	777	-	-	-	2 422	19 594
1991	294	444	3 318	-	3 097	4 871	-	4 098	-	391	777	-	-	-	2 650	19 940
1992	294	409	3 318	-	3 536	4 871	-	4 235	-	391	777	-	-	-	2 762	20 593
1993	294	409	3 318	-	3 536	4 830	-	4 235	-	391	777	-	-	-	2 601	20 391
1994	294	409	3 318	-	3 536	4 830	-	4 235	-	391	777	-	-	-	2 602	20 392
1995	294	409	3 318	-	3 691	4 830	-	4 235	-	391	777	-	-	-	2 602	20 547

Length of gas pipelines, 1997

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Transmission	3453	1086	53000	789	6637	32060	1015	28500	:	11429	5068	599	820	527	17900	162883
Distribution	41231	16168	282000	1072	17533	140590	5075	170000	:	109000	19058	1435	1170	3000	253200	1060532

Source : EUROSTAT, UN, ECMT, Eurogas, national statistics

D : includes D-E : 1970=2.2, 1980=5.0, 1990=3.3

Inland Waterways

2.7

Length in use (Navigable canals, rivers and lakes regularly used for transport)																km	
	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	1 553	-	6 808	6	70	7 433	-	2 337	37	5 599	350	124	6 000	390	1 631	32 338	100
1980	1 510	-	6 697	6	70	6 568	-	2 337	37	4 843	350	124	6 057	390	1 631	30 620	95
1990	1 513	-	6 669	6	70	6 197	-	1 366	37	5 046	351	124	6 237	390	1 631	29 637	92
1994	1 531	-	7 681	6	70	5 736	-	1 466	37	5 046	351	124	6 245	390	1 153	29 836	92
1995	1 531	-	7 343	6	70	5 962	-	1 466	37	5 046	351	124	6 245	390	1 153	29 724	92
1996	1 531	-	7 339	6	70	5 678	-	1 466	37	5 046	351	124	6 245	390	1 153	29 436	91
1997	1 540	-	7 339	6	70	6 051	-	1 466	37	5 046	351	124	6 245	390	1 153	29 818	92

Source : EUROSTAT , UN, national statistics

D : includes D-E : 1970=2300, 1980=2302, 1990=2319

Navigable inland waterways not regularly used for transport

2 450	750	7	775	1 380
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Notes : the inland waterways of Greece (Korinthos Canal), Spain (Guadalquivir), Portugal (Douro, Guadiana, Tejo) and Sweden are used by seagoing ships only

Sweden: data relate to Göta canal system; only 91 km (Göta river) are regularly used for goods transport

Germany: includes 978 km non-classified waterways, some of them not regularly used for transport

Italy: figure includes 428 km rivers (of which Po: 389 km), 201 km canals, 225 km coastal and Venice lagoon waterways (= 854 km) and in addition 612 km passenger transport lines on the lakes in Northern Italy and in Venice

Austria: Danube canal in Vienna not regularly used. Ireland: inland waterway freight transport ceased in the late 50s

Navigable Inland Waterways by Type

2.7.a

1997

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Canals	880	-	1 729	6	-	4 183	-	203	-	3 745	-	-	125	70	191	11 132
Rivers/lakes	660	-	5 610	-	70	1 868	-	1 263	37	1 301	351	124	6 120	320	962	18 686
Length by carrying capacity of vessels (km)																
< 1000 t	300	-	2 356	-	-	4 253	-	201	-	2 648	-	-	5 360	90	406	15 614
> 1000 t	1 240	-	4 983	6	70	1 798	-	1 265	37	2 398	351	124	885	300	747	14 204
Locks (number)																
																number
Locks (all)	211	-	277	-	-	1 836	158	16	2	132	10	-	28	6	1 555	4 231
- Double locks	7	-	69	-	-	50	-	-	-	13	10	-	-	-	11	160
Ship elevators and inclined planes																
Ship elevators	B: 4 at the Canal du Centre, D: Henrichenburg, Niederfinow, Rothensee, Scharnebeck															8
Inclined planes	B: Ronquières, F: Arzviller; water wedge system (pente d'eau): Montech, Fonserannes															4

Source : UN, Energy and Transport DG, national statistics

Notes : Rivers/lakes: ca. 4000 km free flowing rivers, 8000 km canalised rivers, 6000 km lakes and 500 km coastal waterways

Waterways with a carrying capacity of vessels up to 1000t (waterway classes 0-III) are of regional importance

Waterways >1000t (waterway classes IV-VII) are of international importance and can carry pushed convoys

Locks: data for latest year available, data for France and UK include ca. 2000 locks at waterways not regularly used for transport

Ship elevators: Europe's largest ship elevator (elevation 73m) is under construction at Strépy-Thieu (Belgium)

Intermodal Transport Facilities 2.8

Airport rail links

Type of rail link	N° of Airports	Airports
High speed trains	4	Paris CDG (18%), Lyon-Satolas, Stockholm-Arlanda, Frankfurt
Long distance trains	7	Amsterdam, Bruxelles/Brussels-Zaventem, Kobenhaven, Berlin-Schönefeld, Birmingham (5%), Manchester (5%), Southampton
Local trains	14	Barcelona, Friedrichshafen , London-Gatwick(20%), London-Stansted (19%), Malaga, Pisa, Roma, Milano-Malpensa, Düsseldorf, München (30%), Stuttgart, Wien, Belfast City, Graz
Underground trains	5	London-Heathrow (16%)(also local trains), Newcastle, Paris Orly (people mover), Madrid Barajas, Nürnberg
Tram / light rail	2	Bremen, Essen-Mülheim
Under construction	4	Hannover [2000] Dresden [2001], Köln [2002], Leipzig

Notes : Lyon Satolas has only high speed train services. All other airports with high speed or long distance train services have also local train services.
 There are about 1 billion trips to and from EU 15 airports per year
 Figures in brackets refer to the percentage of passengers travelling by train to the airport

Bicycle stations at railway stations

	N° of serviced bicycle stations	Selected stations (capacity)
Netherlands	104	Leiden 7000, Utrecht 6200, Groningen 2700, Amsterdam 2400, Delft 2200, Den Haag 1800
Germany	ca. 25	Münster 3000, Lüneburg 1000, Freiburg 1000, Rheine 960, Mannheim 800
Denmark	2	Kobenhaven 300
Italy	2	Ferrara 200

Note : In EU15 about 0.5 million persons cycle on an average day to the station (7% of access trips)

Chapter 3

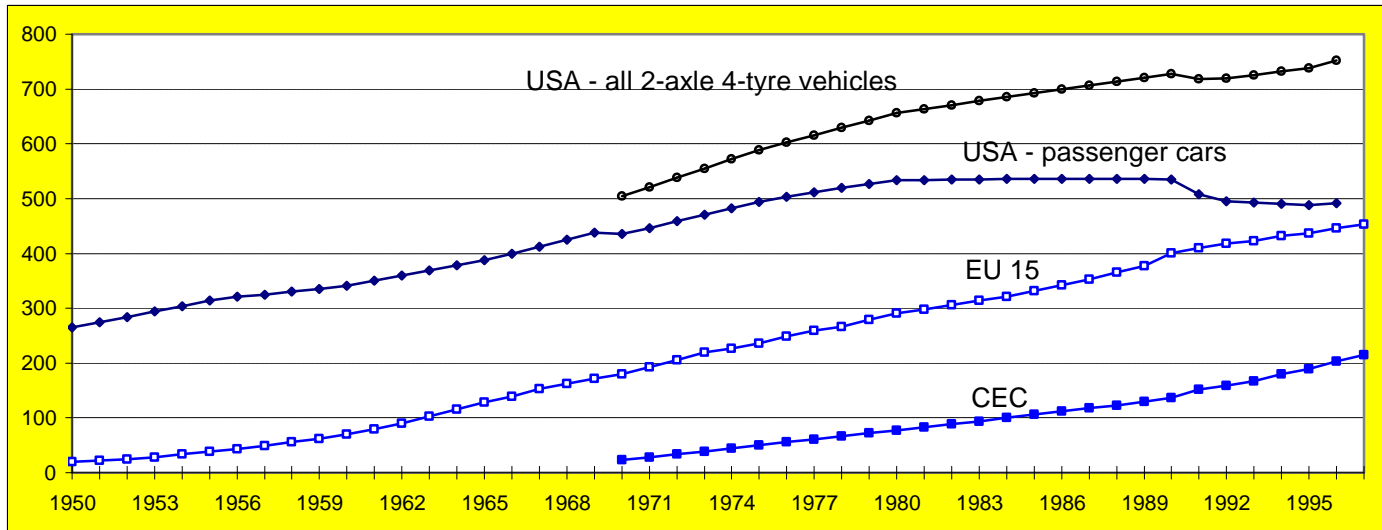
Means of Transport

Road

Motorization 1950-97

Number of passenger cars per 1000 persons

3.1



Note : USA : 2-axle 4-tyred vehicles include passenger cars, pick-ups, light vans and sports utility vehicles. Some of these vehicles are used for commercial purposes.

Road

Motorization

3.2

Number of passenger cars per 1000 inhabitants

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970=100
1970	214	218	194	26	70	234	133	189	212	197	160	49	155	284	214	184	100
1980	321	271	330	89	202	341	217	313	353	322	298	94	257	347	277	291	158
1990	388	309	447	171	309	466	227	483	480	368	387	187	389	421	360	401	218
1991	397	309	460	173	322	474	233	501	496	369	397	204	384	420	360	410	223
1992	400	310	471	177	336	476	241	518	512	373	410	205	384	414	360	418	227
1993	408	312	479	189	344	479	249	520	523	376	421	224	370	409	366	423	231
1994	422	312	488	199	351	478	262	540	540	383	433	242	368	409	372	432	235
1995	428	319	495	211	362	478	265	553	559	364	447	258	372	411	374	437	238
1996	435	330	500	223	376	477	272	571	558	370	458	277	379	413	388	447	243
1997	441	338	504	238	389	478	310	577	565	372	469	297	377	419	399	454	247

Source : DG Transport calculations

Percentage of tax added to the price of a small new passenger car

1998	21.0*	173.0	16.0	79.7	39.0	20.6	74.0	20.0	15.0	59.5	48.4	86.0	22.0**	52.4	17.5
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Source : VDA (example of small car used : VW Polo)

* : B : plus a registration tax which depends on engine power and type of fuel, also applicable to used cars but at reduced rates

** : FIN : after import tax on cars of 100%

Road

Passenger Cars**3.3**

million

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	2.1	1.1	15.1	0.2	2.4	11.9	0.4	10.2	0.1	2.6	1.2	0.4	0.7	2.3	11.9	62.5	100
1980	3.2	1.4	25.9	0.9	7.6	18.4	0.7	17.7	0.1	4.6	2.2	0.9	1.2	2.9	15.6	103.2	165
1990	3.9	1.6	35.5	1.7	12.0	26.4	0.8	27.4	0.2	5.5	3.0	1.8	1.9	3.6	20.7	146.1	234
1991	4.0	1.6	36.8	1.8	12.5	27.1	0.8	28.4	0.2	5.6	3.1	2.0	1.9	3.6	20.8	150.2	240
1992	4.0	1.6	37.9	1.8	13.1	27.3	0.9	29.4	0.2	5.7	3.2	2.0	1.9	3.6	20.9	153.7	246
1993	4.1	1.6	38.9	2.0	13.4	27.6	0.9	29.7	0.2	5.8	3.4	2.2	1.9	3.6	21.3	156.4	250
1994	4.3	1.6	39.8	2.1	13.7	27.7	0.9	30.9	0.2	5.9	3.5	2.4	1.9	3.6	21.7	160.1	256
1995	4.3	1.7	40.4	2.2	14.2	27.8	1.0	31.7	0.2	5.6	3.6	2.6	1.9	3.6	21.9	162.7	260
1996	4.4	1.7	41.0	2.3	14.8	27.9	1.0	32.8	0.2	5.7	3.7	2.8	1.9	3.7	22.8	166.7	267
1997	4.5	1.8	41.4	2.5	15.3	28.0	1.1	33.2	0.2	5.8	3.8	3.0	1.9	3.7	23.5	169.7	272

Source : EUROSTAT , national statistics , IRF

D : includes D-E : 1970=1.2, 1980=2.7, 1990=4.8

Note : the above figures include approximately 450 000 taxis

Road

Buses and Coaches**3.4**

thousands

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	16.2	5.0	63.9	10.5	30.7	41.0	2.0	32.9	0.6	9.5	6.8	5.9	8.1	14.3	84.2	332	100
1980	19.6	7.4	95.8	18.0	42.6	65.0	2.7	58.1	0.6	11.2	9.0	8.5	9.0	12.8	83.3	444	134
1990	15.6	8.1	100.4	21.4	45.8	75.0	4.0	77.7	0.8	12.1	9.4	12.1	9.3	14.6	78.0	484	146
1991	15.4	10.0	89.6	22.1	46.6	77.0	4.4	78.6	0.8	12.4	9.3	12.3	8.9	14.5	77.0	479	144
1992	15.0	11.3	90.9	22.7	47.2	76.0	4.6	78.2	0.8	12.3	9.4	12.8	8.7	14.2	77.0	481	145
1993	15.0	13.0	88.4	23.2	47.0	77.7	4.8	77.0	0.8	12.2	9.5	13.6	8.3	14.1	78.0	483	146
1994	14.9	13.6	88.5	23.5	47.0	79.3	5.0	78.0	0.9	11.0	9.6	14.3	8.1	14.3	80.0	488	147
1995	14.6	13.5	86.3	24.6	47.4	80.0	5.3	77.2	0.8	12.0	9.8	15.0	8.1	14.6	80.0	489	147
1996	14.7	14.0	85.0	25.1	48.4	82.1	5.5	78.0	0.9	11.0	9.7	15.6	8.2	14.9	82.0	495	149
1997	14.7	13.8	84.0	25.6	50.0	82.0	5.8	78.0	0.9	11.0	9.7	16.4	8.5	14.8	84.0	499	151
1998		13.9	83.3						0.9				9.0		85.0		

Source : Eurostat, ECMT, national statistics

D : includes D-E : 1970=16.7, 1980=25.3, 1990=30.0

Road

Goods Vehicles ⁽¹⁾**3.5**

thousands

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	187	245	1 188	105	710	1 504	49	877	9	286	121	100	108	145	1 749	7 383	100
1980	217	249	1 511	401	1 338	2 515	65	1 338	9	314	184	230	146	182	1 828	10 527	143
1990	285	287	1 653	743	2 333	3 568	143	2 349	11	507	253	555	264	310	2 428	15 689	213
1991	364	291	1 660	793	2 495	3 685	148	2 448	12	527	259	620	264	310	2 348	16 224	220
1992	400	297	1 849	798	2 650	3 677	145	2 400	13	565	269	684	263	305	2 609	16 923	229
1993	407	306	2 020	826	2 735	3 618	135	2 314	14	575	276	747	253	302	2 587	17 115	232
1994	417	322	2 114	849	2 832	3 606	130	2 325	15	578	283	830	249	304	2 588	17 442	236
1995	433	333	2 215	884	2 937	3 597	121	2 500	15	578	290	866	272	308	2 582	17 931	243
1996	446	340	2 273	915	3 057	3 554	115	2 850	16	597	294	917	259	312	2 642	18 587	252
1997		346	2 315		3 206	3 453				635	301			321	2 731		

Source : EUROSTAT, IRF, national statistics

D : includes D-E : 1970=160, 1980=234, 1990=264

Note : (1) difference in definitions between countries (includes vans in some countries), the comparability of the data is therefore limited

Road

Vehicles by Category**3.6**

1000

1995		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Passenger cars (1995 - 1997)	petrol	64%	96%	86%	99%	84%	69%	86%	82%	82%	83%	71%	90%	92%	96%	89%	82.5%
	diesel	35%	4%	14%	1%	16%	31%	14%	13%	18%	11%	29%	10%	8%	3%	11%	16.3%
	other	1%	0%	0%	0%	0%	0%	0%	5%	0%	6%	0%	0%	0%	0%	0%	1.3%
Light duty vehicles (1995)		247	180	1 250	708	2 348	3 409	60	1 905	5	5	90	331	220	242	2 072	13 072
Heavy duty vehicles g.v.w.	3.5 - 7.5 tonnes	71	23	498	28	205	297	26	525	6	93	14	169	4	12	81	2 050
	7.5 - 16 tonnes	46	13	295	57	92	134	9	289	2	191	17	79	8	16	167	1 415
	16 - 32 tonnes	57	94	225	87	149	216	47	329	9	291	164	47	19	43	254	2 030
	> 32 tonnes	4	10	12	6	13	18	5	9	1	20	18	3	12	1	17	148

Source : UN-ECE; Research project : Methodologies for estimating air pollutant emissions from transport (MEET), Aristotle University, Thessaloniki, Greece; national statistics (heavy duty vehicle data for FIN and S)

Note : Passenger cars functioning on LPG & LNG : 1.8 million. Electric cars : ca. 10 000

Road

Powered Two Wheelers**3.6.a**

1000

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Motorcycles																
1990	139	44	2 725	257	1 073	695	23	2 975	3	163	105	135	60	100	587	9 084
1993	175	47	1 902	388	1 279	725	24	2 971	6	275	138	178	64	114	503	8 789
1994	187	49	2 083	429	1 288	716	24	2 973	7	291	154	192	64	115	502	9 074
1995	200	52	2 268	476	1 301	712	24	2 962	8	308	175	216	65	117	482	9 366
1996	212	56	2 470	518	1 308	737	24	3 000	8	335	194	230	66	122	504	9 784
1997	225	60	2 717	550	1 326	780	24	3 000	8	360	200	250	69	130	530	10 229
Mopeds																
1990	300	120	3 954	350	2 500	2 300	10	3 029	10	550	442	820	109	170	248	14 912
1993	300	110	1 963	512	2 200	1 840	17	3 363	20	540	387	711	94	155	147	12 359
1994	300	110	1 691	549	2 100	1 800	16	3 572	20	538	378	673	90	150	129	12 116
1995	300	100	1 667	590	2 101	1 600	15	3 548	20	529	372	623	90	142	112	11 809
1996	300	100	1 728	621	2 138	1 544	15	3 600	20	539	366	552	90	150	105	11 868
1997	300	100	1 667	630	2 174	1 522	15	3 600	20	522	360	500	90	150	96	11 746

Source : Study for Energy and Transport DG

Goods Transport

Road

3.7

Vehicle Production : Cars and Commercial Vehicles

1000

	B	DK	D	EL	E	F*	IRL	I	L	NL	A	P	FIN	S	UK	EU15	
Passenger cars																	
1990	1 160		4 661		1 679	3 295		1 875		121			60		336	1 296	14 483
1995	1 168		4 360		1 959	3 051		1 422		100	61	73		388		1 532	14 115
1996	1 153		4 540		1 942	2 088		1 318		145	101	153		368		1 686	13 493
1997	1 005		4 678		2 010	2 259		1 563		197	100	189		376		1 698	14 075
1998	951		5 348		2 217	2 603		1 402		243	93	181		368		1 748	15 156
Commercial vehicles																	
1990	92		316		374	474		246		30			77		74	270	1 954
1995	103		307		375	424		245		32	13	86		99		375	2 058
1996	90		303		471	303		227		32	12	80		95		238	1 852
1997	96		345		551	322		254		34	10	81		104		238	2 036
1998	114		379		609	351		290		28	12	90		114		233	2 220

Source : Comité des Constructeurs Français d'Automobiles

Note : * : France : from 1996, production of vehicles assembled in France only

Goods Transport

Road

3.7.a

Vehicle Production : Two Wheelers

1000

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Motorcycles and Mopeds																
1995			68.2		279.9	394.6		900.2			14.2			0.1	13.5	1 670.7
1996			59.4		255.4	398.7		918.6			15.9			0.1	13.6	1 661.6
1997			58.8		299.7	413.8		1027.1			18.7			0.1	15.0	1 833.2
1998			60.7		382.3	471.6		1027.1			19.6			0.5	15.1	1 976.9
Bicycles																
1995	160	180	3 220	40	410	1 421		5 200	750	100	590	110	140	1 250		13 571
1996	390	170	2 840	40	280	1 334		3 950	705	110	580	100	130	1 230		11 859
1997	420	180	2 820	45	290	1 291		3 400	730	110	560	100	145	1 270		11 361
1998	410	170	3 003	65	280	1 150		2 900	730	115	470	95	140	1 170		10 698

Source : Association des Constructeurs Européens de Motocycles (ACEM), European Bicycles Manufacturers Association (EBMA)

Note: Moped production (1000): 1995= 1380; 1996= 1350; 1997= 1480 Motorcycle production (1000): 1995=319; 1996= 334; 1997= 377

Passenger cars and two wheelers

thousands

	Passenger cars				Motorcycles			
	1997	1998	1999 (prov.)	ch. % 99/98	1996	1997	1998	ch. % 98/97
B	396	452	490	+8.3	15.3	17.5	20.5	+17.1
DK	152	162	142	-12.4	3.0	3.3	3.4	+4.3
D	3 528	3 736	3 788	+1.4	271.8	313.7	289.9	-7.6
EL	160	180	262	+45.3	27.3	34.1	45.3	+33.0
E	1 016	1 193	1 408	+18.1	30.5	41.5	55.3	+33.5
F	1 713	1 944	2 148	+10.5	116.0	148.4	172.3	+16.2
IRL	137	146	174	+19.6	2.4	2.7	3.0	+9.7
L	31	36	40	+12.5	1.2	1.0	1.1	+4.4
I	2 404	2 379	2 349	-1.2	92.0	114.9	228.3	+98.7
NL	478	543	612	+12.7	17.0	16.5	15.1	-8.4
A	275	296	315	+6.5	21.1	20.9	25.0	+19.7
P	214	248	273	+10.0	23.3	12.2	14.3	+17.4
FIN	105	126	136	+8.4	1.3	2.3	3.8	+63.1
S	225	253	295	+16.5	5.6	8.7	11.0	+26.7
UK	2 171	2 247	2 198	-2.2	59.3	80.6	97.9	+21.4
EU	13 005	13 941	14 631	+4.9	687.1	818.1	986.2	+20.6
	Mopeds				Bicycle consumption			
	1996	1997	1998	ch. % 98/97	1996	1997	1998	ch. % 98/97
B	28.8	35.4	38.2	+8.1	425	455	415	-8.8
DK	17.5	23.3	23.9	+2.6	415	425	430	+1.2
D	177.3	139.5	127.9	-8.3	4 750	4 330	4 500	+3.9
EL	9.3	n.a.	n.a.	n.a.	240	230	210	-8.7
E	116.9	230.9	320.3	+38.7	610	630	620	-1.6
F	220.7	216.0	189.7	-12.2	2 351	2 220	2 076	-6.5
IRL	n.a.	n.a.	n.a.	n.a.	120	130	120	-7.7
L	0.4	0.4	0.4	+4.9	inc.	with	B	
I	586.9	701.2	694.4	-1.0	1 550	1 550	1 350	-12.9
NL	61.9	67.1	69.2	+3.2	1 358	1 300	1 350	+3.8
A	14.0	15.9	16.4	+2.8	444	450	430	-4.4
P	n.a.	8.0	8.8	+9.6	380	380	350	-7.9
FIN	5.1	6.0	7.1	+17.3	230	250	225	-10.0
S	3.4	4.9	7.1	+46.6	420	440	440	+0.0
UK	9.1	12.6	22.6	+79.3	2 300	2 250	2 150	-4.4
EU	1 251.3	1 461.1	1 526.0	+4.4	15 593	15 040	14 666	-2.5

Source : ACEA, ACEM, European Bicycle Manufacturers Association (EBMA)

Road

Vehicle Registrations 3.8.a**Commercial vehicles**

thousands

	1990	1997	1998	Change 98/97 %	1990	1997	1998	Change 98/97 %
	Heavy goods vehicles				Light goods vehicles			
B	10.7	9.3	10.0	+7.7	52.5	45.3	50.3	+11.1
DK	3.5	4.9	5.3	+8.7	19.6	30.2	29.0	-4.0
D	73.8	73.1	87.8	+20.2	125.4	185.8	202.1	+8.7
EL	0.5	1.0	1.0	+0.5	29.5	18.0	16.3	-9.4
E	30.4	21.6	26.2	+21.3	229.8	218.2	253.0	+15.9
F	50.0	39.3	47.4	+20.6	393.8	312.8	347.1	+11.0
IRL	2.7	3.2	3.9	+21.7	24.1	19.8	27.3	+37.9
L	1.1	0.6	0.9	+55.8	1.9	2.2	2.6	+17.1
I	32.0	19.5	24.9	+27.4	157.0	136.8	165.5	+21.0
NL	14.8	14.0	17.6	+25.9	53.1	82.0	97.2	+18.5
A	7.2	6.4	7.9	+24.0	21.5	23.6	24.9	+5.8
P	7.2	5.1	5.6	+11.2	64.2	103.3	115.1	+11.4
FIN	4.2	2.8	3.3	+20.1	27.5	13.4	15.8	+18.2
S	6.0	4.1	4.4	+6.9	26.4	20.7	26.4	+27.3
UK	45.8	43.1	50.4	+17.1	247.7	230.0	243.4	+5.8
EU	290.0	247.8	296.7	+19.7	1474.1	1442.2	1616.1	+12.1
	Buses and coaches				Total Commercial vehicles			
B	0.58	0.57	0.86	+51.8	63.8	55.2	61.2	+10.9
DK	0.31	0.33	0.61	+81.1	23.5	35.4	34.9	-1.5
D	4.24	5.02	5.22	+4.0	203.4	263.9	295.1	+11.8
EL	0.63	0.12	0.17	+50.4	30.6	19.1	17.5	-8.5
E	2.38	2.65	2.97	+12.1	262.6	242.4	282.1	+16.4
F	3.16	3.12	4.09	+30.8	447.0	355.2	398.6	+12.2
IRL	0.02	0.08	0.11	+35.4	26.9	23.1	31.4	+35.6
L	0.06	0.10	0.10	+0.0	3.1	2.9	3.6	+24.6
I	3.83	2.69	3.08	+14.6	192.8	159.0	193.5	+21.7
NL	1.07	0.36	0.58	+59.6	69.0	96.4	115.4	+19.7
A	0.45	0.42	0.49	+17.4	29.2	30.4	33.3	+9.7
P	0.48	0.45	0.81	+80.5	71.9	108.8	121.5	+11.7
FIN	0.43	0.30	0.34	+12.3	32.2	16.5	19.5	+18.4
S	0.86	0.96	0.52	-46.3	33.2	25.8	31.3	+21.3
UK	3.32	4.30	4.57	+6.4	296.8	277.4	298.4	+7.6
EU	21.81	21.48	24.52	+14.2	1785.9	1711.5	1937.3	+13.2

Source : Comité des Constructeurs Français d'Automobiles

Rail

Rail Transport Vehicles

3.9

Passenger transport vehicles (coaches + railcars + trailers)

units

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970=100
1970	3 415	1 481	31 506	574	3 353	15 053	481	11 357	114	1 932	4 125	980	1 043	2 705	18 678	96 797	100
1980	3 641	1 613	29 118	660	3 506	15 922	343	13 611	102	1 986	4 055	1 143	1 095	2 021	17 042	95 858	99
1990	3 286	1 594	24 139	810	3 839	15 748	314	14 025	114	2 268	3 689	1 232	957	1 747	12 564	86 326	89
1996	3 271	1 534	18 163	869	4 448	15 764	334	13 068	146	2 691	3 287	1 394	947	1 589	8 000	75 505	78
1997	3 430	1 375	18 548	787	4 079	15 746	347	12 273	146	2 688	3 315	1 367	959	1 619	8 000	74 679	77

D : includes D-E : 1970=10000, 1980=10761, 1990=9635

Goods Transport Wagons

thousands

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970=100
1970	48.9	10.3	459.0	9.0	41.0	302.4	9.5	125.9	4.2	19.2	34.9	9.0	21.9	48.2	364.9	1 508.3	100
1980	43.4	8.3	476.4	10.9	41.0	253.1	4.7	113.4	3.7	12.3	38.7	6.7	21.5	45.9	141.2	1 221.2	81
1990	30.3	4.6	366.7	11.0	37.2	162.0	1.8	99.7	2.7	6.7	34.3	4.6	15.2	27.5	34.4	838.9	56
1996	19.6	4.1	240.5	11.1	28.7	112.2	1.6	80.6	2.3	5.8	27.1	4.2	13.7	19.9	14.0	585.3	39
1997	18.9	3.2	224.1	8.6	28.5	106.0	1.6	76.7	2.3	4.7	26.3	4.2	13.0	18.3	14.0	550.5	36

D : includes D-E : 1970=138.0, 1980=142.2, 1990=163.2

Source : UIC, data relate to main railways (UIC members)

Note : in addition tramcars ca. 12000, metro cars ca. 17000

Sea

EU Merchant Fleet**3.10**

Ships of 1000 grt and over

Data as at January 1st, 1999

	B	DK (a)	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	as at 1.1. 1998
	Total fleet controlled																
Number	132	572	1737	3067	219	207	37	519	2	553	44	52	150	390	645	8 326	7 970
mio dwt	7.5	13.0	26.1	127.3	3.5	4.4	0.14	11.0	0	4.0	0.6	1.0	3.4	21.1	19.2	242.0	227.0
	National flag																
Number	1	352	570	796	123	121	27	392	2	419	22	39	102	155	229	3 350	3 286
mio dwt	0.003	6.7491	9.457	43.15	1.54	2.2708	0.11	6.817	0	2.452	0.1	0.51	1.108	1.653	5.51	81.4	80.7
	Foreign flag																
Number	131	220	1167	2271	96	86	10	127	-	134	22	13	48	235	416	4 976	4 684
mio dwt	7.513	6.2442	16.64	84.11	1.922	2.0891	0.03	4.147	-	1.504	0.48	0.52	2.261	19.42	13.7	160.6	146.3
	Share of foreign flag in total fleet																
Number	99%	38%	67%	74%	44%	42%	27%	24%	-	24%	50%	25%	32%	60%	64%	60%	59%
dwt	100%	48%	64%	66%	56%	48%	21%	38%	-	38%	83%	51%	67%	92%	71%	66%	64%

Source : ISL merchant fleet data bases; aggregates based on quarterly updates from the Lloyd's Maritime Information System

(a) including international registers like the Danish International Ship Register; including vessels registered at territorial dependenci

Goods Transport

Inland Waterways Inland Waterways Transport Equipment

3.11

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
Self-propelled goods vessels, tugs and pushers (units)																
1970	5 092		6 038			5 790		3 124	17	9 885	57		90		390	30 483
1980	3 107		4 464			4 254		2 347	18	6 966	64		113		381	21 714
1990	1 871		3 230			2 514		2 755	25	6 136	61		136		396	17 124
1993	1 665		3 135			1 829		2 847	36	5 755	51		157		403	15 878
1994	1 650		3 018			1 803		2 853	44	5 678	40		160		403	15 649
1996	1 566		3 538			1 640		2 850	44	5 345	47		164		277	15 471
1997			2 152			1 479					42		164		277	
Dumb and pushed barges (units)																
1970	455		2 200			1 591		393		1 523	225		70		1 610	8 067
1980	190		1 732			1 211		217		925	150		57		1 228	5 710
1990	164		1 566			768		372		937	171		23		411	4 412
1993	169		1 291			740		381		890	147		23		427	4 068
1994	171		1 313			775		390		900	130		23		427	4 129
1996	169		1 277			760		350		922	157		20		361	4 016
1997			1 273			694					141		23		361	

Source : Eurostat / ECMT / UN-ECE , national statistics

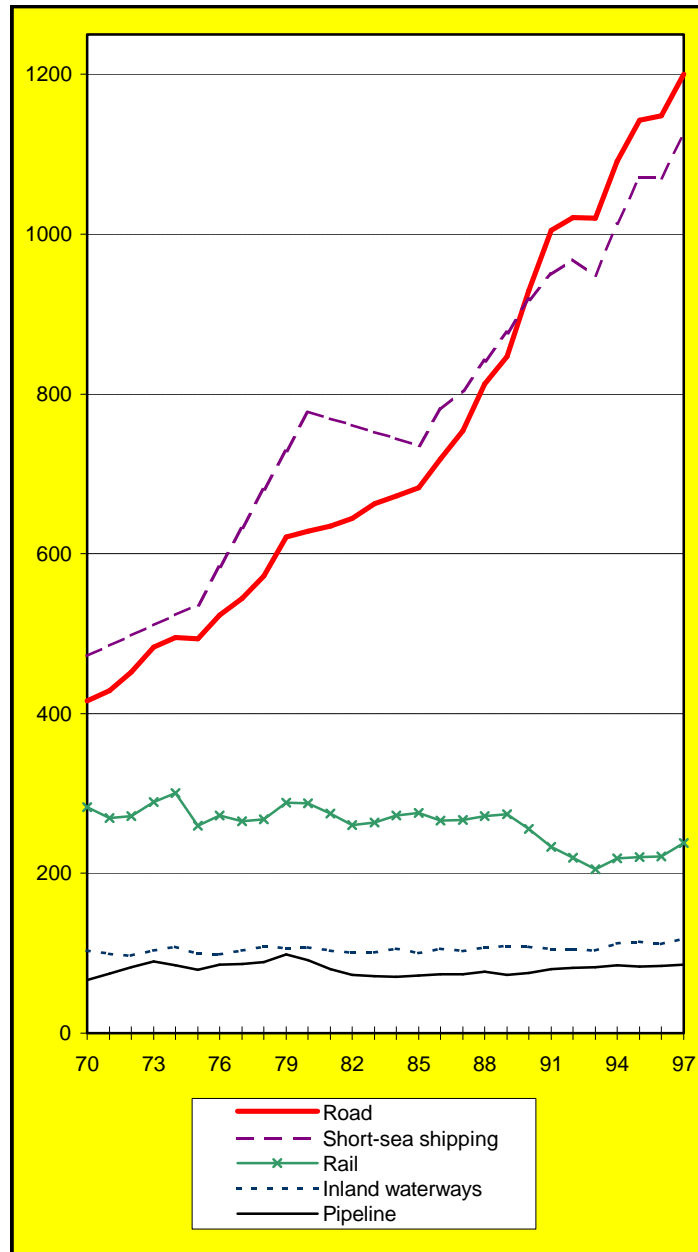
Note : figure for Italy includes large number (1993 : 1939) of small vessels (<10t) used in Venezia

Chapter 4

Goods Transport

Evolution 1970-97

billion tkm



Evolution 1970-97 Performance by mode

1000 mio tkm

	Road	Rail	Inland Waterways	Pipe-lines	Sea (intra-EU)	Total
1970	412	283	103	66	472	1 337
1980	626	287	107	91	778	1 889
1990	929	255	108	75	919	2 286
1994	1 092	219	112	84	1 012	2 519
1995	1 143	221	114	83	1 070	2 631
1996	1 148	220	112	84	1 070	2 634
1997	1 200	237	118	85	1 124	2 765
1990-97	+ 29 %	- 7 %	+ 10 %	+ 14 %	+ 22 %	+ 21 %

Source : EUROSTAT, ECMT, UIC, national statistics

Average annual change

% per year

	Road	Rail	Inland Waterways	Pipe-lines	Sea (intra-EU)	Total
1970-80	+4.3	+0.2	+0.3	+3.3	+5.1	+3.5
1980-90	+4.0	-1.2	+0.1	-2.0	+1.7	+1.9
1990-97	+3.7	-1.0	+1.3	+1.9	+2.9	+2.8
1997	+4.6	+7.8	+5.9	+1.1	+5.0	+5.0

Modal split

%

	Road	Rail	Inland Waterways	Pipe-lines	Sea (intra-EU)
1970	30.8	21.2	7.7	4.9	35.3
1980	33.1	15.2	5.7	4.8	41.2
1990	40.6	11.2	4.7	3.3	40.2
1994	43.3	8.7	4.4	3.3	40.2
1995	43.4	8.4	4.3	3.2	40.7
1996	43.6	8.4	4.2	3.2	40.6
1997	43.4	8.6	4.3	3.1	40.6

Note : for a modal split based on 4 modes, see table 4.4

Transport Distances and Groups of Goods General data EU15

1996	Road	Rail (1)	Inland water- ways	Pipe- lines	Sea intra- EU	Total
Tonnes transported (million)	10600	900	400	500	750	13150
Tonne-km (billion)	1150	220	110	85	1070	2635
Average n° of km per tonne	110	245	280	170	1430	200
% of int. traffic, tonnes (2)	4	20	50	50	55	10
% of int. traffic, tkm (2)	20	45	75	50	85	50
Modal Split of tonnes (%)	80	7	3	4	6	100
Modal Split of tkm (%)	44	8	4	3	41	100

(1) : avge km / tonne is ca. 300 km if international traffic is not counted twice

(2) : represents the % share of international transport compared to total transport for each mode, calculated in tonnes and tkm

Distance classes*

National transport (national traffic only)

km	Road		Rail		Inland waterways		Total	
	tonnes	tkm	tonnes	tkm	tonnes	tkm	tonnes	tkm
0-49	59	12	28	3	31	5	57	11
50-149	25	24	26	12	35	22	25	23
150- 499	15	44	36	50	30	54	16	44
500-	3	20	10	36	4	20	3	22
Total	100	100	100	100	100	100	100	100

Groups of goods* % of tkm

(NST/R classification groups in brackets)	Road	Rail	Inland water- ways	Total
Agricultural products (0, 1)	32	12	10	29
Coal, other solid mineral fuels (2)	1	10	19	3
Petroleum and petroleum products (3)	5	10	19	6
Ore and waste of ore and steel (4)	1	8	5	2
Metal products (5)	6	12	3	7
Cement, building materials (6)	21	12	34	20
Chemicals, fertilizers (7, 8)	8	10	9	8
Machinery, manufactured articles (9)	27	24	2	26
All goods	100	100	100	100

* : data refer mainly to the years 1994-96 depending on the country and mode

Modal Split by Country 1997

tkm in %

	Road	Rail	Inland Waterways	Pipelines
B	69.3	15.2	12.4	3.1
DK	73.2	8.1	0.0	18.7
D	67.1	16.2	13.8	2.9
EI	98.1	1.9	0.0	0.0
E	84.2	10.1	0.0	5.7
F	74.4	16.9	1.8	6.9
IRL	91.6	8.4	0.0	0.0
I	85.2	9.5	0.1	5.2
L	68.2	20.3	11.5	0.0
NL	47.1	3.6	43.0	6.3
A	39.3	35.4	5.2	20.1
P	85.7	14.3	0.0	0.0
FIN	71.2	27.6	1.1	0.0
S	63.4	36.6	0.0	0.0
UK	84.3	9.4	0.1	6.2
EU 15	73.1	14.5	7.2	5.2

Modal split for EU 15

%

	Road	Rail	Inland Waterways	Pipelines
1970	47.7	32.7	12.0	7.6
1980	56.3	25.9	9.6	8.2
1990	68.0	18.7	7.9	5.5
1994	72.5	14.5	7.4	5.6
1995	73.2	14.1	7.3	5.3
1996	73.4	14.1	7.1	5.4
1997	73.1	14.5	7.2	5.2

Goods Transport

Road Haulage on National Territory

4.5

	National and International															1000 mio tkm		
	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK (2)	EU15	Index 1970= 100	(1) modal share %
1970	13.5	7.0	90.2	4.9	27.9	63.6	4.0	58.7	0.3	16.3	6.8	7.2	12.4	17.8	81.6	412.2	100	47.7
1980	16.5	11.3	145.4	7.3	48.2	<u>98.1</u>	5.0	119.6	0.6	23.2	10.0	10.0	18.4	21.4	90.8	625.8	152	56.3
1990	25.0	13.7	182.8	10.9	78.9	190.5	5.1	177.9	1.3	31.8	13.3	12.2	26.3	26.5	133.0	929.2	225	68.0
1993	29.7	13.3	251.5	12.9	88.0	191.2	5.1	179.4	1.8	39.5	14.2	11.4	25.0	<u>25.9</u>	131.5	1020.4	248	72.3
1994	32.9	14.5	272.5	12.8	92.2	210.7	5.3	187.2	1.7	40.7	14.7	13.0	<u>25.7</u>	27.0	140.7	1091.6	265	72.5
1995	34.6	14.7	279.7	14.8	94.6	232.8	5.5	194.8	1.9	42.2	14.9	13.0	23.2	29.3	146.7	1142.7	277	73.2
1996	31.4	14.5	280.7	15.9	92.5	229.2	5.7	198.3	1.9	43.9	15.5	13.2	24.1	31.2	150.2	1148.0	279	73.4
1997	34.1	14.7	301.8	16.5	96.2	237.2	5.7	207.2	1.9	45.0	15.7	13.5	25.4	33.1	152.5	1200.5	291	73.1

Source : ECMT , national statistics. For DK, EL, E, L, NL and P calculations by NEA based on Eurostat statistics, estimates.

Notes : (1): road+railways+inland waterways+pipelines (oil) (2): vehicles with a payload over 3 tonnes
D : includes D-E : 1970=12.2, 1980=21.0, 1990=13.0

Goods Transport

Road**4.6****Haulage by Vehicles Registered in the Country**

1000 mio tkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
National haulage																
1994	17.5	9.5	197.4	10.8	77.2	124.1	4.4	146.9	0.5	25.7	10.9	11.2	19.3	25.2	137.8	818.3
1995	19.0	9.3	201.3	12.4	78.7	135.3	4.5	162.4	0.5	27.0	11.3	11.1	21.3	27.8	143.7	865.6
1996	17.2	9.4	199.2	12.5	76.3	136.5	4.7	163.6	0.4	27.6	11.7	11.3	22.2	29.8	146.2	868.6
1997	18.0	9.7	203.1	13.0	78.8	139.0	4.7	171.3	0.4	27.6	11.3	11.5	23.8	31.4	149.2	892.9
International haulage																
1994	22.9	11.4	33.7	0.6	20.7	20.7	0.2	10.1	3.0	37.2	15.1	1.8	2.0	1.7	14.4	195.4
1995	24.1	12.4	34.6	0.9	23.1	21.8	0.2	12.0	3.3	38.7	15.5	1.9	2.3	2.0	14.4	207.4
1996	21.2	11.3	34.9	0.8	25.9	21.7	0.2	11.9	2.7	38.1	16.6	1.9	2.6	2.9	15.5	208.3
1997	23.0	11.2	40.2	0.9	28.1	21.3	0.2	12.5	2.3	39.2	13.9	2.0	4.4	2.6	16.3	218.0

Source : ECMT, NEA (study for Transport DG)

Goods Transport

Railways

4.7

1000 mio tkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100	modal share % (1)
1970	7.9	1.9	113.0	0.7	9.7	67.6	0.5	18.1	0.8	3.7	10.0	0.8	6.3	17.3	24.5	282.8	100	32.7
1980	8.0	1.6	121.3	0.8	11.3	66.4	0.6	18.4	0.7	3.4	11.2	1.0	8.3	16.6	17.6	287.3	102	25.9
1990	8.4	1.7	101.7	0.6	11.6	50.7	0.6	19.5	0.6	3.1	12.3	1.5	8.4	19.1	15.8	255.5	90	18.7
1993	7.6	1.8	64.9	0.5	8.1	45.0	0.6	18.4	0.6	2.7	11.4	1.7	9.3	18.6	13.8	204.9	72	14.5
1994	8.1	2.0	69.9	0.3	9.0	48.8	0.6	20.5	0.6	2.8	12.6	1.6	9.9	19.0	13.0	218.8	77	14.5
1995	7.6	2.0	68.8	0.3	10.4	48.1	0.6	21.7	0.5	3.1	13.2	2.0	9.6	19.4	13.3	220.6	78	14.1
1996	7.2	1.8	67.7	0.3	10.4	49.5	0.6	21.1	0.5	3.1	13.3	1.9	8.8	18.8	15.1	220.2	78	14.1
1997	7.5	1.6	72.9	0.3	11.5	53.9	0.5	23.0	0.6	3.4	14.1	2.2	9.9	19.1	17.0	237.5	84	14.5
1998	7.6	1.7	73.6	0.3	11.8	54.0	0.5	22.5	0.6	3.8	15.5	2.0	9.9	19.2	17.4	240.3	85	

Source : UIC, ECMT, national statistics

D : includes D-E : 1970=41.5, 1980=56.4, 1990=39.8

Note : (1): road+railways+inland waterways+pipelines (oil)

Non-UIC railways are included (ca. 1% of market), transport of empty private wagons by main railways not included

Goods Transport

Inland Waterways

4.8

1000 mio tkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100	(1) modal share %
1970	6.7		51.2			12.2		0.4	0.3	30.6	1.3		0.5		0.3	103.5	100	12.0
1980	5.9		53.6			10.9		0.2	0.3	33.5	1.6		0.7		0.4	106.9	103	9.6
1990	5.4		56.7			7.2		0.1	0.3	35.7	1.7		0.4		0.3	107.9	104	7.9
1993	5.0		57.6			5.9		0.1	0.3	32.1	1.5		0.5		0.2	103.1	100	7.3
1994	5.6		61.8			5.6		0.1	0.3	36.0	1.8		0.5		0.2	111.9	108	7.4
1995	5.8		64.0			5.9		0.1	0.3	35.5	2.0		0.4		0.2	114.3	110	7.3
1996	5.8		61.3			5.7		0.1	0.3	35.5	2.1		0.5		0.2	111.6	108	7.1
1997	6.1		62.2			5.7		0.2	0.3	41.0	2.1		0.4		0.2	118.2	114	7.2
1998	6.3		64.3			6.2		0.2	0.3	40.7	2.3		0.4		0.2	120.9	117	

Source : ECMT , Eurostat, national statistics

D : includes D-E : 1970=2.4, 1980=2.2, 1990=1.9

Note : (1): road+railways+inland waterways+pipelines (oil)

Finland :data published in national statistics include domestic sea traffic (results in table 4.8: without sea)

Goods Transport

Pipelines (Oil)

4.9

1000 mio tkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100	modal share % (1)
1970	0.3	0.0	17.3		1.0	28.2		8.8		4.1	3.6				2.7	65.9	100	7.6
1980	1.8	0.0	18.1		3.0	34.7		11.3		5.0	7.1				10.1	91.1	138	8.2
1990	1.0	1.7	15.0		4.2	20.5		11.1		4.9	5.3				11.0	74.7	113	5.5
1993	1.3	2.5	14.3		5.4	23.3		11.8		5.5	6.7				11.6	82.4	125	5.8
1994	1.4	3.0	15.1		5.5	22.2		12.1		5.6	7.0				12.0	83.9	127	5.6
1995	1.4	3.1	14.8		5.9	22.4		12.3		5.3	6.8				11.1	83.0	126	5.3
1996	1.5	3.5	14.5		6.1	21.9		12.1		6.0	7.1				11.6	84.2	128	5.4
1997	1.5	3.8	13.2		6.5	22.1		12.7		6.0	8.0				11.2	85.1	129	5.2
1998	1.5	3.9	14.8		6.9	21.6		13.2		6.0	8.2				11.2	87.3	132	

Source : ECMT, Eurostat

D : includes D-E : 1970=2.2, 1980=5.0, 1990=3.3

Note : (1): road+railways+inland waterways+pipelines (oil)
Only pipelines >40km are included

D: without oil products (1.8 billion tkm in 1995)

Port Traffic (Major Seaports)

million tonnes

Port, Country	1970	1980	1990	1996	1997	Change
						97/96 %
1 Rotterdam, NL	226	276	288	284	303	+6.7
2 Antwerpen, B	78	82	102	107	112	+5.0
3 Marseille, F	74	103	90	91	94	+3.9
4 Hamburg, D	47	63	61	71	77	+7.9
5 Le Havre, F	58	77	54	56	60	+6.3
6 Amsterdam, NL	21	34	47	55	57	+3.2
7 London, UK	64	48	58	53	56	+5.4
8 Tees & Hartlep., UK	23	38	40	45	51	+14.8
9 Trieste, I	27	38	34	41	46	+11.9
10 Genoa, I	53	51	44	46	46	+0.2
11 Forth ports, UK	:	29	25	46	43	-5.4
12 Algeciras, E	8	22	25	34	37	+9.1
13 Dunkerque, F	25	41	37	35	37	+4.6
14 Wilhelmshaven, D	22	32	16	37	36	-2.2
15 Milford Haven, UK	41	39	32	37	35	-5.5
16 Bremen/B'haven, D	23	25	28	32	34	+8.0
17 Southampton, UK	28	25	29	34	33	-3.3
18 Zeebrugge, B	8	12	30	28	32	+13.7
19 Tarragona, E	4	20	24	31	31	+0.0
20 Liverpool, UK	31	13	23	31	31	+0.1
Gothenburg, S	20	22	26	28	30	+8.4
Bilbao, E	11	21	25	22	22	+3.1
Lisbon, P	9	14	14	13	12	-9.5
Thessaloniki, EL	8	9	14	13	:	
Dublin, IRL	7	7	8	9	11	+25.6
København, DK	6	7	9	10	11	+2.7
Helsinki, FIN	4	5	8	10	11	+7.7
Sum of top 20 ports	861	1 068	1 088	1 192	1 250	+4.9
1970-1997 : + 1.4 % p.a.						

Source : Institute of Shipping Economics and Logistics, Bremen

Container Port Traffic

1000 TEU

Port, Country	1990	1995	1997	1998	Change 98/97 %
1 Rotterdam, NL	3 667	4 787	5 495	6 011	+9.4
2 Hamburg, D	1 969	2 890	3 337	3 547	+6.3
3 Antwerpen, B	1 549	2 329	2 969	3 266	+10.0
4 Felixstowe, UK	1 436	1 924	2 237	2 500	+11.8
5 Gioia Tauro, I	0	16	1 449	2 126	+46.7
6 Bremen/B'haven, D	1 198	1 524	1 538	1 826	+18.7
7 Algeciras, E	553	1 155	1 703	1 812	+6.4
8 Le Havre, F	858	970	1 185	1 319	+11.3
9 Genoa, I	310	615	1 180	1 266	+7.3
10 Barcelona, E	448	689	972	1 095	+12.7
11 Valencia, E	387	672	832	1 005	+20.8
12 Zeebrugge, B	342	528	648	776	+19.8
13 La Spezia, I	450	965	616		:
14 Southampton, UK	345	681			:
15 Piraeus, EL	426	600			:
16 Marseille, F	482	498			:
17 Gothenburg, S	352	458			:
18 Liverpool, UK	239	406			:
19 Livorno, I	416	424			:
20 Tilbury, UK	363	338			:
Sum of 1st 10 ports	11 987	16 899	22 065	24 768	+12.3
Singapore	5 224	11 846	14 100	15 100	+7.1
Hong Kong	5 101	12 550	14 385	14 900	+3.6

Container service maritime operators (1996)

	Carrier	Country	TEU in service
1	Maersk Line	Denmark	232257
2	Evergreen Line/Uniglory Marine Corp	Taiwan	228248
3	P&O / Nedlloyd	UK / NL	221531
4	Sea-Land Service	USA	215114
5	Cosco	China	201593
6	Hanjin Shipping Co.	Korea	174526
7	Neptune Orient Lines / APL	Singapore/USA	165582
8	Mediterranean Shipping Co	Switzerland/Italy	154185
9	NYK Line / TSK	Japan	128154
10	Mitsui-OSK Lines	Japan	115763

Source : Containerisation International Yearbook, Port of Rotterdam

Note : in 1999 Maersk and Sea-land merged

Sea

EU Port Hinterland Container Traffic

	Port container traffic 1996 1000 TEU	Port hinterland container traffic			
		1996 1000 TEU	of which :		
			Road %	Rail %	Inland waterway %
UK	5 304	4 549	84	16	0
NL	5 078	3 682	49	15	36
D	4 641	2 754	64	34	2
I	3 731	3 027	89	11	0
E	3 281	1 673	92	8	0
B	3 207	2 539	59	20	21
F	1 840	1 403	76	23	1
EL	814	682	98	2	0
S	758	647	54	46	0
FIN	649	567	83	17	0
IRL	761	746	89	11	0
P	512	452	93	7	0
DK	492	396	89	11	0
EU 15	31 068	23 117	71	17	8

Source : MDS Transmodal

Maritime (ISO) containers

	Length	Width	Height	Max laden weight
20 foot container (1 TEU) Avge weight 2.3t	20 ft 6.1 m	8 ft 2.435 m	8 - 9 ft 2.435 - 2.745 m	20.3t
40 foot container (2 TEU) Avge weight 4.2t	40 ft 12.2m	8 ft 2.435m	8 - 9ft 2.435 - 2.745 m	30.4t

Capacity

Ocean-going container ship	Several 1000 TEU	Inland ship	160 TEU
Feeder ship	600 TEU	Train	80 TEU
		Lorry	2 TEU

Note : largest container ship in 1998 : 6690 TEU

Goods Transport

Sea

4.13

Domestic Transport of Member States

1000 mio tkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
1970	0.1	1.8	0.9	2.4	24.5	8.0	0.3	26.2	-	-	-	0.8	2.4	6.9	23.0	97.3
1980	0.2	1.9	1.4	5.2	31.1	8.6	0.2	31.1	-	-	-	1.1	2.2	10.3	52.0	145.1
1990	0.2	1.9	0.3	6.6	33.0	6.7	0.2	35.7	-	-	-	1.9	2.0	8.3	51.7	148.6
1991	0.2	2.3	0.9	6.2	34.8	6.5	0.3	37.1	-	-	-	1.0	1.8	7.5	50.8	149.2
1992	0.2	2.0	0.9	6.6	32.7	6.3	0.3	34.8	-	-	-	1.2	1.7	7.1	48.9	142.7
1993	0.1	1.7	0.7	7.0	29.2	6.4	0.3	34.0	-	-	-	1.3	1.7	7.4	47.8	137.7
1994	0.1	1.7	0.7	6.1	30.8	6.4	0.3	34.7	-	-	-	1.4	2.1	7.7	50.7	142.6
1995	0.1	2.3	0.8	7.1	37.2	6.2	0.3	35.3	-	-	-	1.4	2.6	7.9	52.5	153.7
1996	0.1	2.4	0.8	7.3	36.3	6.2	0.3	37.9	-	-	-	1.3	2.9	8.0	53.0	156.5

Source : Transport DG (results from a study)

Goods Transport

Sea

4.14

International Intra-EU Transport

1000 mio tkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
1970	21.5	11.6	43.8	9.7	15.0	33.4	10.7	57.3	-	33.9	-	4.9	56.1	5.7	71.4	374.9
1980	36.9	12.5	59.6	43.6	40.6	74.5	6.1	97.2	-	67.5	-	17.0	70.3	11.1	96.0	632.8
1990	54.2	13.6	62.5	49.9	59.0	79.6	8.7	116.1	-	80.4	-	21.4	81.5	15.5	127.8	770.0
1991	54.9	15.6	60.3	50.2	63.1	82.8	8.9	127.3	-	83.3	-	21.1	83.3	16.2	133.4	800.5
1992	56.5	16.2	71.5	52.5	64.7	84.1	9.0	123.0	-	84.1	-	23.4	86.3	18.6	136.5	826.2
1993	53.0	16.0	72.6	45.2	63.3	82.7	9.6	120.2	-	79.1	-	22.0	86.7	19.0	141.1	810.4
1994	56.4	17.6	79.8	49.4	68.7	85.3	10.7	126.7	-	84.1	-	25.2	91.9	21.3	152.8	869.8
1995	57.5	18.1	83.8	56.0	76.6	86.1	11.3	132.5	-	89.1	-	27.1	98.6	21.7	158.1	916.5
1996	54.7	18.9	84.8	55.3	73.9	85.3	11.4	132.9	-	89.1	-	24.6	101.3	22.2	159.6	914.0

Source : Transport DG (results from a study)

D : includes D-E : 1970=2.8, 1980=4.2, 1990=5.5

Inland Ports
Freight loaded and unloaded
 Fluvial and fluvio-maritime traffic
 million tonnes

Port	Country	1996	1997	1998	Change 98/97 %	
1	Duisburg	D	44.4	49.3	49.7	+0.9
2	Liège	B	15.8	17.5	18.3	+4.3
3	Paris	F	18.5	17.0	18.1	+6.2
4	Strasbourg	F	9.3	9.3	9.4	+1.1
5	NV Zeekanaal, Brabant	B	8.6	8.7	8.7	-0.1
6	Köln	D	7.6	7.9	8.6	+9.2
7	Mannheim	D	7.9	7.8	8.6	+9.9
8	Ludwigshafen	D	7.7	8.0	7.5	-6.3
9	Karlsruhe	D	10.3	8.4	6.2	-25.5
10	Neuss	D	4.7	4.3	5.6	+30.0
11	Dortmund	D	4.8	5.4	5.5	+2.9
12	Heilbronn	D	5.2	4.9	5.4	+10.1
13	Ports Rhénans Alsace	F	4.5	4.8	5.0	+4.5
14	Frankfurt am Main	D	3.8	3.7	3.9	+3.6
15	Saarlouis / Dillingen	D	3.6	3.3	3.5	+6.5
16	Düsseldorf	D	3.0	3.2	3.5	+9.3
17	Bruxelles / Brussel	B	4.8	4.9	3.4	-29.9
18	Kehl	D	2.9	2.9	3.1	+7.3
19	Regensburg	D	1.9	2.0	3.1	+54.1
20	Vänerhamn	S	2.3	2.4	3.0	+28.5
	Magdeburg	D	2.2	2.8	2.8	-1.6
	Västerås	S	2.7	2.1	2.1	-1.1
	Wien	A	1.7	1.7	1.7	+0.7
	Arnhem	NL	1.7	1.7		
	Berlin	D	2.4	2.3	1.6	-30.8
	Saimaa	FIN	1.6	1.8	1.6	-6.4
	Mertert	L	1.4	1.4	1.5	+8.5
	Linz	A	1.2	1.0	1.0	-5.1
	Mantova	I	0.7	0.5	0.5	-8.3
	<i>for information :</i>					
	Rompormet Galati	RO	6.4	8.1	8.5	+5.5
	Basel	CH	7.2	7.8	8.1	+3.4

Source : European Federation of Inland Ports (EFIP)

Airport Traffic (Major Airports)

1000 tonnes

Airport, Country	1995	1997	1998	change
				98/97 %
1 Frankfurt Rhein/Main, D	1 297	1 373	1 465	+6.7
2 London Heathrow, UK	1 043	1 170	1 301	+11.3
3 Amsterdam Schiphol, NL	978	1 161	1 219	+5.0
4 Paris Charles de Gaulle, F	824	951	1 067	+12.3
5 Bruxelles, B	427	518	597	+15.1
6 Luxembourg, L	286	339	383	+12.7
7 Köln/Bonn, D	276	374	375	+0.3
8 Copenhagen, DK	n.a.	n.a.	374	
9 London Gatwick, UK	232	270	294	+8.9
10 Madrid Barajas, E	230	266	287	+7.8
11 Roma Fiumicino, I	257	243	262	+7.9
12 Paris Orly, F	276	223	217	-2.3
13 London Stansted, UK	93	131	192	+47.2
14 Milano Malpensa, I	126	123	170	+38.6
15 Liège, B	8	35	164	+362.5
16 Stockholm Arlanda, S	104	114	139	+22.8
17 East Midlands, UK	83	127	136	+7.5
18 Athens Hellenikon, EL	98	120	n.a.	
19 Munich, D	65	96	118	+23.6
20 Wien Schwechat, A	93	107	116	+8.1
21 Lisbon, P	89	100	111	+11.6
22 Manchester, UK	51	95	106	+12.3
23 Dublin, IRL	60	85	102	+20.2
24 Helsinki, FIN	78	85	100	+17.6
25 Oostende, B	82	106	88	-16.9
26 Barcelona, E	68	81	84	+4.0
27 Milano BGY, I	n.a.	n.a.	75	
28 Dusseldorf, D	56	69	67	-3.4
29 Milano Linate, I	68	61	63	+21.9
Total of these airports	7 348	8 420	9 673	+14.9

Source : ACI

Combined Transport Traffic

Traffic of UIRR companies Consignments* (thousands)					
Company	1996	1997	1998	change 98/97 %	
<u>International traffic</u>					
Kombiverkehr, D	335.6	347.2	358.7	+3.3	
Cemat, I	113.2	128.9	126.7	-1.7	
Ökombi, A	132.6	127.6	138.7	+8.7	
Novatrans, F	77.9	87.9	80.4	-8.6	
T.R.W., B	65.5	74.6	64.2	-13.9	
C.T.L., UK	22.1	32.4	32.7	+0.8	
Trailstar, NL	19.3	22.7	25.7	+13.2	
Skan Kombi, S/DK	12.8	14.4	12.1	-16.0	
Combiberia, E	9.6	13.5	13.9	+2.6	
Total	788.6	849.2	853.0	+0.4	
<u>National traffic</u>					
Kombiverkehr, D	250.3	266.4	260.9	-2.1	
Cemat, I	193.8	221.6	205.4	-7.3	
Novatrans, F	146.6	162.1	172.3	+6.3	
Ökombi, A	38.6	51.5	55.3	+7.3	
Skan Kombi, S/DK	19.9	5.7	3.9	-31.8	
T.R.W., B	1.0	2.3	2.8	+20.9	
Total	650.2	709.6	700.6	-1.3	
*Consignment = equivalent of an average road transport (= 2.3 TEU)					
Tonne-kilometres			traffic % of consignments		
Year	bio tkm	of which national	Semi-trailers	Rolling road	Swap bodies
1990	19	7	20%	18%	62%
1995	25	7	14%	19%	67%
1996	28	8	12%	20%	68%
1997	30	8	10%	19%	71%
1998	30	8	9%	20%	71%

Traffic of Intercontainer-Interfrigo 1000 TEU				
Type of transport	1995	1996	1997	change 97/96 %
Combined transport	1296.3	1349.3	1286.3	-4.7

Source : UIRR; Intercontainer

Note : TEU : twenty foot equivalent unit (corresponds to 10-12 tonnes)

Goods Transport

4.18

Combined Transport

1000 mio tkm

	Rail		Inland waterways		Short sea shipping	All modes		
	International (1)	Domestic	International (2)	Domestic (3)	International (4)	International	Domestic	Total
1990	21.4	12.0	2.4	0.3	80.8	104.6	12.3	116.9
1991	21.9	11.3	2.6	0.3	85.7	110.2	11.6	121.9
1992	23.3	11.5	2.4	0.3	90.3	116.0	11.8	127.8
1993	26.6	10.6	2.9	0.4	97.9	127.4	10.9	138.4
1994	29.7	12.5	3.4	0.4	107.0	140.1	12.9	152.9
1995	32.7	13.8	3.5	0.5	120.2	156.4	14.2	170.7
1996	36.0	17.7	4.2	0.5	140.7	180.9	18.2	199.1
Combined transport share of total tonne-km (% of tkm)								
1996	36	15	5	2	13	14	1	8

Source : Transport DG (result of a study)

Notes : (1) : based on UIRR distances

(2) : Rhine = 500km and Rotterdam-Antwerp = 100km / 1 TEU = 10 tonnes

(3) : average distance inland waterways = 200km / 1 TEU = 10 tonnes

(4) : average distance short sea 800 km, 1 TEU = 10 tonnes

Traffic through the Alps

Internal, import, export and transit traffic
(Alpine Arc : Mt. Cenis/Fréjus to Brenner)

Rail

million net-tonnes

	Switzerland		Austria	France	Total
	St. Gotthard	Simplon/ Lötschberg	Brenner	Mont-Cenis	
1985	11.2	2.8	4.7	7.5	26.2
1990	13.6	4.3	5.5	7.2	30.6
1992	12.4	5.0	8.2	6.8	32.4
1993	11.7	4.3	7.6	7.0	30.6
1994	13.2	4.7	8.3	7.7	33.9
1995	13.6	4.4	8.4	8.0	34.4
1996	11.7	4.0	7.9	9.7	33.3
1997	13.7	4.3	7.8	10.1	35.9
1998	15.0	4.3	8.6	9.3	37.2
annual growth					
85-90	4.0	9.0	3.2	-0.8	3.2
90-97	0.1	0.0	5.1	5.0	2.3
1998	9.5	0.0	10.3	-7.9	3.6

Road

million net-tonnes

	Switzerland		Austria	France	Total
	St. Gotthard	Simplon G.St. Bernard St. Bernardino	Brenner	Fréjus Mont-Blanc	
1985	1.9	0.8	14.3	12.3	29.3
1990	3.1	1.1	13.6	21.8	39.6
1992	3.9	1.2	16.5	23.1	44.7
1993	4.5	1.1	17.1	24.7	47.4
1994	5.1	1.1	17.6	26.5	50.3
1995	5.5	1.1	20.0	25.8	52.4
1996	5.9	1.2	19.0	25.0	51.1
1997	6.0	1.0	20.1	25.3	52.4
1998	6.5	1.2	22.5	26.3	56.5
annual growth					
85-90	10.3	6.6	-1.0	12.1	6.2
90-97	9.9	-1.4	5.7	2.1	4.1
1998	8.3	20.0	11.9	4.0	7.8

Source : GVF

4.19.a

Pyrenee Crossing Traffic and Channel Tunnel

Pyrenees : Rail goods transport

Million tonnes	West coast Hendaye - Irun	East coast Cerbère / Port Bou	Toulouse - Barcelona La tour de Carol	Total
1997	2.0	2.8	0.0	4.8

Pyrenees : Road goods traffic

Goods vehicles crossing the French/Spanish border

Vehicles / day	West coast Briatou (inc. A63)	East coast Perthus (inc. A9)	Other crossings	Total
1997	5 657	6 729	880	13 266

Road goods traffic

Between France and Portugal/Spain 1997 : 22.2 mio t
 Between France and Morocco 1992 : 0.3 mio t
 Transit traffic through France 1992/1993 20 mio t

Pyrenees : Road passenger car traffic

Vehicles / day	West coast Briatou (inc. A63)	East coast Perthus (inc. A9)	Other crossings	Total
1997	30 200	19 400	27 800	77 400

Source : Observatoire des Trafics au travers des Pyrénées, Ministère de l'Équipement, France

Channel Tunnel

	Number of vehicles		Passengers 1000	Through-train freight 1000 tonnes
	Passenger 1000	Freight 1000		
1995	1 246	391	7 081	1 411
1997	2 383	268	14 611	2 925
1998	3 448	705	15 266	3 141

Source : DETR, United Kingdom

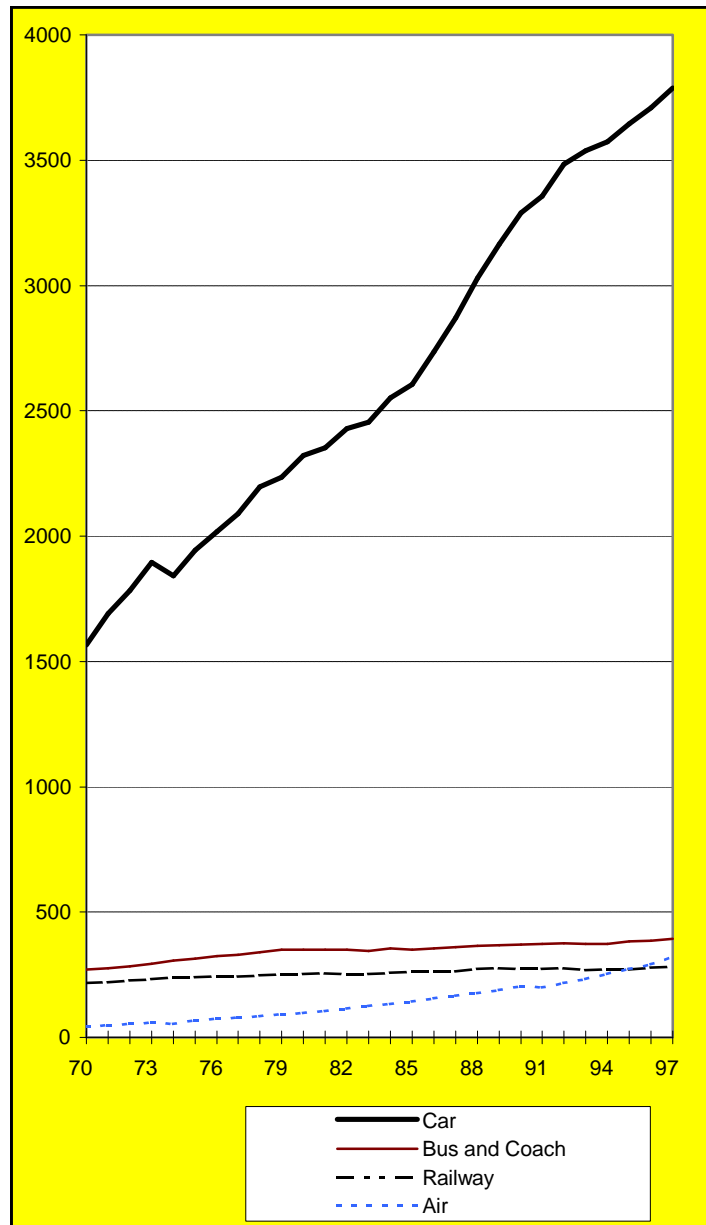
Note : The Channel Tunnel opened in 1994

Chapter 5

Passenger Transport

Evolution 1970-97

billion pkm



Main Modes of Transport Performance by mode

1000 mio pkm

	Passenger cars	Buses & Coaches	Tram + Metro	Railway	Air (1)	Total
1970	1 583	270	38	217	43	2 151
1980	2 333	347	40	253	96	3 069
1990	3 302	369	48	274	204	4 197
1994	3 584	374	47	270	254	4 529
1995	3 656	384	47	270	274	4 630
1996	3 710	386	47	279	290	4 713
1997	3 787	393	48	282	322	4 833
1990-97	+ 15 %	+ 6 %	+ 1 %	+ 3 %	+ 58 %	+ 15 %

Source : tables 5.5, 5.7, 5.8, 5.9; for air transport see note (1)

Notes : (1) European traffic, Source : AEA, IACA and estimates

Worldwide traffic of EU carriers was over 600 bio pkm in 1997

Average annual change

% per year

	Passenger cars	Buses & Coaches	Tram + Metro	Railway	Air	Total
1970-80	+4.0	+2.6	+0.4	+1.6	+8.4	+3.6
1980-90	+3.5	+0.6	+1.8	+0.8	+7.8	+3.2
1990-97	+2.0	+0.9	+0.1	+0.4	+6.7	+2.0
1997	+2.1	+1.8	+1.7	+1.3	+10.8	+2.5

Modal split

%

	Passenger cars	Buses & Coaches	Tram + Metro	Railway	Air
1970	73.6	12.5	1.8	10.1	2.0
1980	76.0	11.3	1.3	8.2	3.1
1990	78.7	8.8	1.1	6.5	4.9
1994	79.1	8.3	1.0	6.0	5.6
1995	79.0	8.3	1.0	5.8	5.9
1996	78.7	8.2	1.0	5.9	6.2
1997	78.4	8.1	1.0	5.8	6.7

All Modes of Transport

Performance by mode

1000 mio pkm

	Powered two-wheelers	Cycling	Walking	Water-borne transport	Main modes	All modes
1970	98	60	155	13	2 151	2 477
1980	112	67	165	20	3 069	3 433
1990	110	71	149	26	4 197	4 554
1994	116	69	161	27	4 529	4 902
1995	118	70	163	27	4 630	5 008
1990-95	+ 7 %	-2 %	+ 9 %	+4 %	+10 %	+ 10 %

Source : UITP : Transport demand study for Transport DG

Note : Main modes : see table 5.1.b

Average annual change

% per year

	Powered two-wheelers	Cycling	Walking	Water-borne transport	Main modes	All modes
1970-80	+1.4	+1.0	+0.7	+4.1	+3.6	+3.3
1980-90	-0.2	+0.7	-1.0	+3.0	+3.2	+2.9
1990-95	+1.4	-0.4	+1.8	+0.8	+2.0	+1.9

Modal split

%

	Powered two-wheelers	Cycling	Walking	Water-borne transport	Main modes
1970	4.0	2.4	6.3	0.5	86.8
1980	3.3	1.9	4.8	0.6	89.4
1990	2.4	1.6	3.3	0.6	92.2
1994	2.4	1.4	3.3	0.6	92.4
1995	2.4	1.4	3.2	0.5	92.5

Modal Split for Land Transport

by Country (pkm) in % for 1997

	Passenger cars	Powered two-wheelers	Bus	Urban rail (tram & metro)	Railway
B	81.7	1.3	10.3	0.7	6.1
DK	79.0	1.0	13.7	-	6.3
D	82.1	1.6	7.5	1.6	7.1
EI	66.0	10.1	21.2	0.8	1.9
E	81.4	3.2	10.2	1.1	4.0
F	84.5	1.5	5.2	1.2	7.6
IRL	86.3	0.5	10.5	-	2.7
I	76.1	6.4	10.6	0.6	6.3
L	86.7	0.7	7.2	-	5.3
NL	82.0	1.6	7.9	0.8	7.8
A	73.7	1.7	13.7	1.7	9.1
P	83.1	3.0	10.0	0.4	3.5
FIN	80.2	1.4	12.5	0.6	5.3
S	83.5	1.2	8.4	1.2	5.7
UK	87.7	0.6	6.0	0.9	4.8
EU 15	81.8	2.6	8.5	1.0	6.1

Passenger Transport

Passenger Cars

5.5

1000 mio pkm

Year	B	DK	D	EL (2)	E (3)	F	IRL (4)	I	L (4)	NL	A (5)	P	FIN	S	UK	EU15	index 1970= 100	modal share % (1)
1970	49.3	33.3	394.6	8.6	64.3	304.7	15.3	211.9	2.1	66.3	32.9	17.5	23.7	55.4	303.5	1583.4	100	73.6
1980	65.4	38.1	513.7	27.6	188.9	452.5	27.9	324.0	2.7	107.1	47.8	41.0	33.9	66.7	396.0	2333.3	147	76.0
1990	80.7	53.7	683.1	48.8	282.0	586.0	36.3	522.6	4.0	136.2	62.4	65.0	51.2	90.0	600.2	3302.2	209	78.7
1992	84.6	56.6	719.5	50.6	305.2	618.0	38.7	602.2	4.3	138.6	69.3	71.6	50.5	91.7	595.2	3496.6	221	
1993	86.9	57.4	729.8	53.5	311.8	634.6	40.0	603.1	4.5	140.5	67.9	82.9	49.7	90.7	596.2	3549.4	224	
1994	89.5	59.1	720.7	56.0	318.6	651.2	41.2	600.3	4.6	146.9	68.2	90.0	49.6	84.0	603.7	3583.6	226	79.1
1995	91.2	61.0	730.5	58.8	328.3	664.3	42.4	614.5	4.7	146.8	68.1	99.5	50.1	87.0	609.0	3656.1	231	79.0
1996	92.4	63.5	730.8	61.7	339.3	674.3	43.8	617.8	4.7	145.9	65.7	105.0	50.4	92.7	622.1	3710.0	234	78.7
1997	94.0	65.5	740.5	64.4	350.0	685.1	45.0	633.2	4.8	151.2	67.0	109.0	51.5	93.6	632.5	3787.3	239	78.4

passenger-km per person per year

1997	9236	12395	9025	6132	8901	11689	12293	11010	11401	9686	8300	10960	10020	10581	10738	10125	(218)
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Source : ECMT, national statistics, estimates, studies

D : includes D-E : 1970=24.5, 1980=56.0, 1990=90.3

Note : (1) : Passenger cars +buses and coaches + tram + metro + railways+ air

(2): result from an Energy and Transport DG study

(3): Spain : 1980-96 estimate based on vehicle stock and vehicle-km data

(4): estimate based on results of Energy & Transport DG studies

(5): Austrian Ministry for Environment

Passenger Transport

Powered Two Wheelers

5.6

1000 mio pkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	1.1	1.3	19.8	1.0	9.3	20.0	0.2	29.4	0.02	4.1	1.8	4.1	0.8	0.8	4.2	97.9	100
1980	1.3	1.1	19.6	2.1	11.6	17.4	0.2	39.9	0.03	3.7	1.5	4.2	0.8	1.0	8.1	112.4	115
1990	1.2	0.8	15.3	4.9	12.4	14.2	0.3	44.2	0.03	2.8	1.5	4.7	0.8	1.3	5.9	110.1	113
1994	1.3	0.8	12.0	7.9	13.7	13.2	0.3	52.0	0.04	2.7	1.5	3.9	0.9	1.2	4.4	115.8	118
1995	1.4	0.8	12.8	8.6	13.7	12.4	0.3	53.1	0.04	2.8	1.6	4.0	0.9	1.2	4.4	117.8	120
1996	1.4	0.8	13.4	9.2	13.8	12.2	0.3	53.0	0.04	2.9	1.6	4.0	0.9	1.3	4.5	119.2	106
1997	1.4	0.8	14.4	9.8	13.9	12.2	0.3	53.0	0.04	2.9	1.6	4.0	0.9	1.3	4.3	120.8	110
passenger-km per person per year																	
1997	133	144	156	819	347	212	71	923	95	179	193	397	175	136	75	315	

Source: national statistics, studies

D : includes D-E : 1970=8.29, 1975=8.52, 1980=8.14, 1985=7.47, 1990=6.30

Note : results for DK, D, I, FIN, UK from national statistical publications; for A from Austrian Ministry for the Environment. Other countries : studies for Energy and Transport DG and estimates based on these studies.

Passenger Transport

Buses & Coaches

5.7

1000 mio pkm

Year	B	DK	D	EL (2)	E (3)	F	IRL	I	L	NL	A	P	FIN	S	UK (4)	EU15	index 1970= 100	modal share % (1)
1970	9.3	4.6	67.7	9.4	20.9	25.2	3.3	32.0	0.3	11.1	9.1	4.4	7.0	5.5	60.0	269.8	100	12.5
1980	9.1	7.3	90.0	15.6	28.1	36.0	4.5	57.8	0.3	13.2	9.8	7.6	8.5	7.3	52.0	347.1	129	11.3
1990	10.9	9.3	73.1	17.7	33.4	41.3	3.9	84.0	0.4	13.0	8.7	10.3	8.5	9.0	46.0	369.4	137	8.8
1992	11.6	9.3	69.9	18.5	35.5	41.1	4.3	87.8	0.4	14.0	9.4	11.4	8.0	9.3	43.0	373.4	138	
1993	11.6	9.2	70.2	18.9	37.1	42.0	4.5	81.5	0.4	13.7	10.3	11.8	8.0	9.3	44.2	372.7	138	
1994	12.0	9.5	68.6	19.6	38.1	42.6	5.0	79.3	0.4	13.9	10.8	12.6	8.0	9.2	44.3	373.8	139	8.3
1995	12.5	10.6	68.5	20.2	40.2	41.0	5.2	85.9	0.4	14.5	10.5	13.1	8.0	8.8	44.3	383.6	142	8.3
1996	11.4	11.4	68.2	20.4	37.7	41.6	5.3	88.1	0.4	14.4	12.5	13.5	8.0	9.3	44.2	386.4	143	8.2
1997	11.9	11.4	68.0	20.7	44.0	42.0	5.5	88.1	0.4	14.5	12.7	13.5	8.0	9.4	43.2	393.2	146	8.1
passenger-km per person per year																		
1997	1169	2157	829	1971	1118	717	1502	1531	950	929	1573	1357	1556	1063	733	1051	(133)	

Source : ECMT, national statistics

D : includes D-E : 1970=19.1, 1980=24.4, 1990=16.5

Note : (1) : Passenger cars + buses and coaches + tram + metro + railways + air

(2) : result from an Energy and Transport DG study

(3) : Spain : from 1995, old series was extrapolated to avoid break

(4) : data for Great Britain only until 1992

Passenger Transport

Tram + Metro

5.8

1000 mio pkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100	(1) modal share %
1970	0.86	-	14.63	0.63	3.67	6.50	-	2.21	-	1.24	0.75	0.93	0.10	1.44	5.20	38.16	100	1.8
1975	0.76	-	14.06	0.71	3.83	6.90	-	3.05	-	1.22	0.80	0.75	0.10	1.70	4.80	38.68	101	
1980	0.77	-	13.84	0.68	3.88	7.70	-	3.66	-	1.35	0.82	0.74	0.12	1.97	4.30	39.83	104	1.3
1985	0.78	-	15.37	0.76	3.47	9.20	-	4.14	-	1.39	1.04	0.64	0.34	1.86	6.30	45.29	119	
1990	0.74	-	<u>15.10</u>	0.83	4.38	10.20	-	4.57	-	1.26	1.11	0.67	0.35	1.86	6.50	47.57	125	1.1
1994	0.79	-	14.47	0.72	4.15	10.00	-	5.10	-	1.39	1.34	0.58	0.37	1.51	6.50	46.92	123	1.0
1995	0.80	-	14.43	0.74	4.25	9.00	-	5.23	-	1.38	1.53	0.53	0.39	1.42	6.80	46.50	122	1.0
1996	0.80	-	14.47	0.74	4.49	9.50	-	5.20	-	1.39	1.56	0.50	0.40	1.40	6.65	47.10	123	1.0
1997	0.80	-	14.50	0.75	4.57	9.80	-	5.20	-	1.40	1.56	0.50	0.42	1.40	7.00	47.90	126	1.0

passenger-km per person per year

1997	79		177	71	116	167		90		90	193	50	81	158	119	128	(114)
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Source : 1970-95: UITP, 1996-97: national statistics, estimates D : includes D-E : 1970=4.83, 1975=5.06, 1980=5.34, 1985=7.07, 1990=6.50

Note : (1) : Passenger cars + buses and coaches + tram + metro + railways+ air

Passenger Transport

Railways

5.9

1000 mio pkm

	B	DK	D	EL	E	F (2)	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100	modal share % (1)
1970	7.6	3.6	56.9	1.5	15.0	41.0	0.8	34.9	0.2	8.0	6.4	3.5	2.2	4.6	30.6	216.6	100	10.1
1980	7.0	4.5	63.0	1.5	14.8	54.7	1.0	42.9	0.2	8.9	7.6	6.1	3.2	7.0	30.4	252.8	117	8.2
1990	6.5	5.1	62.1	2.0	16.7	63.8	1.2	48.3	0.2	11.1	8.7	5.7	3.3	6.0	33.4	274.0	127	6.5
1993	6.7	4.8	58.7	1.7	16.5	58.2	1.3	49.9	0.3	15.2	9.5	5.4	3.0	5.8	30.6	267.5	124	
1994	6.6	5.1	62.4	1.4	16.1	58.7	1.3	51.7	0.3	14.4	9.4	5.1	3.0	5.9	29.0	270.5	125	6.0
1995	6.8	5.0	63.5	1.6	16.0	55.3	1.3	52.4	0.3	14.0	9.8	4.8	3.2	6.2	30.2	270.3	125	5.8
1996	6.8	4.9	64.7	1.8	16.3	59.5	1.3	52.8	0.3	14.1	9.9	4.5	3.3	6.4	32.3	278.8	129	5.9
1997	7.0	5.2	64.0	1.9	17.3	61.8	1.4	52.1	0.3	14.4	8.3	4.6	3.4	6.4	34.4	282.5	130	5.8
1998	7.1	5.6	62.7	1.8	18.3	64.3	1.4	49.9	0.3	14.8	8.2	4.6	3.4	7.1	35.4	284.8	131	
passenger-km per person per year																		
1997	686	981	780	179	441	1054	379	906	701	924	1031	459	657	723	584	755	(119)	

Source : ECMT , UIC and national statistics

D : includes D-E : 1970=17.7, 1980=22.0, 1990=17.5

Notes : (1) : Passenger cars +buses and coaches + tram + metro + railways+ air

(2) : railway strike in 1995

Non-UIC railways are included (ca. 2% of market)

Passenger Transport

Waterborne Transport

5.10

1000 mio pkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970=100
1970	0.9	1.8	0.3	1.6	0.1	0.3	0.4	1.1		0.2	0.0	0.1	0.9	3.6	1.8	13.0	100
1975	0.8	1.8	0.6	1.9	0.1	0.6	0.5	1.4		0.3	0.0	0.1	1.5	4.4	2.1	16.1	123
1980	0.7	1.8	0.7	2.7	0.2	1.1	0.7	2.0		0.4	0.0	0.1	1.7	4.5	3.0	19.5	150
1985	0.6	1.8	0.6	3.0	0.2	1.3	0.9	2.6		0.5	0.0	0.1	2.1	4.3	3.6	21.6	166
1990	0.5	1.8	0.9	4.1	0.2	1.8	0.9	3.3		0.6	0.0	0.1	3.0	5.0	4.1	26.2	201
1994	0.4	1.8	1.1	4.7	0.2	2.1	1.1	3.2		0.5	0.0	0.1	2.9	4.4	4.8	27.2	209
1995	0.4	1.8	1.1	4.8	0.2	2.0	1.1	3.5		0.4	0.0	0.1	2.9	4.5	4.5	27.3	209

passenger-km per person per year

1995	36	340	13	454	5	34	311	62		28	4	10	568	514	77	73
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Source : UITP

Passenger Transport

Bicycle Transport

5.11

1000 mio person-km

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	4.0	4.5	17.0	0.3	0.7	4.5	0.65	8.0	0.02	11.0	1.6	0.3	1.7	1.6	4.4	60.3	100
1975	3.85	4.5	18.2	0.3	0.7	4.5	0.70	8.2	0.02	11.6	1.6	0.3	1.9	1.4	4.4	62.2	103
1980	3.7	4.5	22.3	0.3	0.7	5.0	0.80	8.5	0.02	9.9	1.6	0.3	2.2	1.6	5.1	66.5	110
1985	3.55	4.1	24.0	0.3	0.8	4.8	1.07	8.7	0.02	11.8	1.6	0.3	1.9	2.2	6.1	71.2	118
1990	3.4	4.9	23.8	0.3	0.8	4.5	0.75	9.0	0.02	13.0	1.4	0.3	1.5	2.2	5.3	71.2	118
1994	3.3	4.6	23.6	0.3	0.8	4.4	0.67	9.0	0.02	13.0	1.2	0.3	1.3	2.4	4.5	69.4	115
1995	3.3	4.7	23.8	0.3	0.8	4.4	0.67	9.0	0.02	13.2	1.15	0.3	1.3	2.4	4.5	69.8	116
1996		4.4	23.7							12.6				2.1	4.3	68.3*	
1997		4.6	23.8							13.5				2.4	4.4	69.9*	

person-cycling-km per person per year

1995	324	889	290	29	20	75	183	156	38	846	142	30	253	271	76	187
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Source : results from Transport DG studies and national statistics from 1996

D : includes D-E : 1970=5.0, 1975=5.2, 1980=5.4, 1985=5.6, 1990=5.7

Note : * assumption : no change in countries for which data not available

Bicycle Transport

Modal Share by Country and Town

Country	Cycling as a % of all trips	Year	Selected cities	Cycling as a % of all trips	Year
The Netherlands	27	1991/93	Groningen	39	1990
			Utrecht	32	1995
			Amsterdam	28	1990
Denmark	18	1993	Nakskov	35	1995
			Odense	21	1995
			Copenhagen	20	1995
Sweden	12.6	1994/95	Västerås	33	1981
			Malmö	20	1985
			Göteborg	7.5	1992
Germany	10	1994	Münster	34	1990
			Erlangen	30	1990
			Freiburg	22	1996
Belgium	10	1995	Brugge	20	1994/95
			Gent	12	1991
			Brussels	1	1991
Finland	7.4	1992	Oulu	25	1995
			Helsinki	9	1995
Ireland	7	1995	Dublin	5	1995
Austria	5	1995	Salzburg	19	1993
			Graz	13	1993
			Vienna	3	1993
Italy	4	ca 1995	Ferrara	31	1995
			Parma	19	ca 1995
			Padua	19	ca 1995
France	3	1995	Strasbourg	12	1991
			Avignon	10	1980
			Paris	0.7	1991
United Kingdom	2	1995	Cambridge	34	ca 1995
			York	22	1991/93
			London	1	1991/93
Luxembourg	1.5	1995	Luxembourg	1	1995
Greece	1	1995	Volos	12	1995
			Athens	0.5	ca 1995
Portugal	1	1995	Lisbon	0	1995
Spain	0.7	1995	San Sebastian	1.8	ca 1995
			Valencia	1.5	ca 1995
			Madrid	0	ca 1995
EU 15	5	1995			
Switzerland	9	1989	Basel	20	1990
USA	0.7	1995	Gainesville, FL	33	ca 1995
Japan	14	1992	Tokyo	17	1990

Source : European Cyclists Federation (ECF), Japanese Bicycle Promotion Institute, City administrations and Energy and Transport DG calculations/estimates based on ECF data on pkm and average trip length. FP4 Research project 'Walcynq'.

Note : bold: outstanding cities for cyclists (in NL: also Delft, in USA: Davis, CA)

Passenger Transport

Air Traffic Between Countries

5.13

reporting country (from and to)		1997														million passengers
	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15
B		0.38	1.37	0.46	2.45	1.32	0.25	1.45	0.06	0.35	0.28	0.40	0.17	0.39	2.34	11.67
DK	0.44		1.33	0.43	1.06	0.68	0.14	0.53	0.05	0.55	0.21	0.10	0.40	1.88	1.67	9.45
D	1.36	1.28		4.48	15.55	4.49	0.44	3.99	0.22	2.16	2.02	1.63	0.58	0.73	7.18	46.11
EL	0.46	0.43	4.48		0.19	0.98	0.06	1.14	0.04	1.00	0.88	0.02	0.28	0.90	3.78	14.64
E	2.28	0.67	14.88	0.19		3.83	0.75	3.05	0.25	2.40	0.80	0.97	0.69	1.27	19.57	51.61
F	1.26	0.63	4.19	0.98	3.60		0.64	3.95	0.11	1.49	0.59	1.25	0.21	0.50	6.47	25.86
IRL	0.17	0.14	0.46	0.06	0.74	0.60		0.19		0.28	0.03	0.12	0.01	0.03	7.81	10.65
I	1.50	0.55	4.18	1.14	3.23	4.11	0.20		0.07	1.24	0.52	0.43	0.13	0.25	5.24	22.78
L	0.06	0.05	0.20	0.04	0.25	0.10		0.07		0.06	0.01	0.09	0.00	0.00	0.19	1.12
NL	0.29	0.44	2.07	1.00	2.44	1.58	0.28	1.19	0.06		0.42	0.60	0.21	0.64	5.78	17.01
A	0.28	0.20	2.02	0.88	0.80	0.62	0.03	0.50	0.00	0.43		0.10	0.07	0.16	1.15	7.24
P	0.41	0.15	1.76	0.02	0.94	1.30	0.12	0.41	0.09	0.62	0.09		0.07	0.12	2.91	9.01
FIN	0.16	0.40	0.56	0.28	0.74	0.20	0.01	0.10		0.21	0.05	0.04		1.13	0.60	4.49
S	0.39	2.30	0.74	0.90	1.37	0.50	0.03	0.26	0.00	0.64	0.18	0.09	1.17		1.59	10.15
UK	2.22	1.50	7.05	3.78	19.49	6.59	7.60	4.95	0.19	5.82	1.72	3.22	0.49	1.58		66.19
EU15	11.31	9.10	45.30	14.64	52.86	26.91	10.55	21.79	1.15	17.24	7.79	9.06	4.47	9.58	66.27	308.00

Source : Eurostat

Notes : table is meant to be read vertically (i.e. B states that from B to D + to B from D = 1.36)

bold = 20 most important relations

Air Transport

Airports : total passenger movements

million passengers

Airport	Country	1970	1980	1990	1997	1998	Change 98/97 %	
1	London Heathrow	UK	15.6	27.5	43.0	58.0	60.7	+4.3
2	Frankfurt Rhein-Main	D	9.4	17.6	29.4	40.3	42.7	+6.1
3	Paris Ch. de Gaulle	F	2.2	10.1	22.5	35.3	38.6	+9.5
4	Amsterdam Schiphol	NL	5.2	9.4	16.5	31.6	34.4	+9.0
5	London Gatwick	UK	3.7	9.7	21.2	27.0	29.2	+8.2
6	Madrid Barajas	E	4.8	10.1	16.2	23.6	25.5	+7.0
7	Rome Fiumicino	I	6.5	11.4	17.7	25.0	25.3	+1.0
8	Paris Orly	F	10.4	15.7	24.3	25.1	25.0	-0.4
9	München	D	3.6	6.0	11.4	17.9	19.3	+8.0
10	Bruxelles Zaventem	B	2.8	5.1	7.1	15.9	18.5	+16.0
11	Palma de Mallorca	E	4.8	7.3	11.3	16.6	17.7	+6.7
12	Manchester	UK	1.9	4.3	10.1	16.2	17.6	+8.3
13	Copenhagen Kastrup	DK	6.5	8.6	12.1	16.8	16.7	-1.0
14	Stockholm Arlanda	S	2.6	4.3	14.0	15.2	16.4	+8.0
15	Barcelona	E	4.0	5.8	9.0	15.1	16.2	+6.2
16	Düsseldorf	D	3.6	7.2	11.9	15.5	15.8	+1.4
17	Milano Linate	I	2.9	6.2	9.5	14.3	13.6	-4.6
18	Athens Hellenikon	EL	3.7	9.2	10.1	11.1	11.5	
19	Dublin	IRL	1.9	2.6	5.5	10.3	11.6	+12.6
20	Vienna	A	1.5	2.7	5.5	9.7	10.6	+9.3
Total of these airports			97.6	180.8	308.3	440.3	466.8	+6.0
Average annual growth rate			1970-1998 :+ 5.8 %					

Source : ACI , ICAO

Note : München airport moved from Riem to Erding in 1991

Air Transport**Major EU airlines**

Scheduled services, international + domestic

1000 million pkm

Airline	Country	1980	1990	1997	1998	Change 98/97 %	in Europe 1998
British Airways	UK	16.08	44.66	105.70	116.00	+9.7	17.16
Lufthansa	D	21.06	42.10	71.35	75.44	+5.7	15.61
Air France	F	25.40	36.62	69.99	74.54	+6.5	8.03
KLM	NL	14.06	28.17	55.39	57.28	+3.4	6.98
Alitalia	I	12.88	19.13	35.99	35.56	-1.2	7.45
Iberia	E	14.85	20.49	27.63	32.52	+17.7	7.52
SAS	DK/N/S	7.53	11.52	20.33	20.82	+2.4	8.77
Sabena	B	4.85	5.91	11.27	15.34	+36.1	5.68
Finnair	FIN	2.12	4.71	9.63	10.71	+11.2	5.96
Olympic Airways	EL	5.06	7.76	9.26	8.56	-7.6	3.27
TAP-Air Portugal	P	3.43	6.84	8.77	9.36	+6.7	3.48
Austrian Airlines	A	1.12	2.82	6.23	7.28	+16.9	2.44
Aer Lingus	IRL	2.05	3.14	5.89	6.47	+9.8	2.41
Luxair	L	0.03	0.20	0.45	0.45	+0.9	0.45
Total of companies		130.50	234.05	437.88	470.33	+7.4	95.21
<i>Average annual growth rate 1980-1998 : +7.4%</i>							

Source : AEA, IATA

Chapter 6

Safety

Road Fatalities

6.1

persons killed

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	Index 1991= 100
1970	2950	1208	21332	931	4197	15090	540	10208	132	3181	2238	1417	1055	1307	7770	73 556	
1980	2396	690	15050	1225	5017	12540	564	8537	98	1997	1742	2262	551	848	6240	59 757	
1990	1976	634	11046	1737	6948	10289	478	6621	71	1376	1391	2321	649	772	5402	51 711	
1991	1873	606	11300	2112	8836	10483	445	8083	80	1281	1551	3218	632	745	4753	55 998	100
1992	1672	577	10631	2158	7818	9900	415	8014	73	1253	1403	3084	601	759	4379	52 737	94
1993	1660	559	9949	2159	6378	9867	431	7163	76	1235	1283	2700	484	632	3957	48 533	87
1994	1692	546	9814	2253	5615	9019	404	7091	74	1298	1338	2504	480	589	3807	46 524	83
1995	1449	582	9454	2411	5751	8891	437	7020	68	1334	1210	2711	441	572	3765	46 096	82
1996	1356	514	8758	2531	5483	8541	453	6676	72	1180	1027	2730	404	537	3742	44 004	79
1997	1364	489	8549	2199	5604	8444	472	6712	60	1163	1105	2521	438	541	3743	43 404	78
1998	1500	449	7792		5596	8918	429		57	1066	963		400	482	3581		

Source : UN-ECE and ECMT up to 1990, CARE / Energy and Transport DG / Eurostat from 1991, national statistics for 1997 and 1998

D : includes D-E : 1970=2139; 1980=2009; 1990=3140

Note : Persons killed are all persons killed within 30 days of the accident. For Member States not using this definition [France (6 days), Italy (7 days), Portugal (1 day), Greece (3 days) and Spain] corrective factors were applied from 1991 (France 1.09 up to 1993 and 1.057 from 1994, Italy 1.078, Portugal 1.3, Greece 1.18, Austria 1.12 for 1991, Spain 1.3 up to 1992). In this table, until 1990, Spanish figures only include those killed within 1 day and Austrian figures within 3 days.

Road Accidents
Number of accidents involving personal injury
1 000

6.2

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	77.0	19.8	377.6	18.3	58.0	228.1	6.4	173.1	1.6	58.9	51.6	22.7	11.4	16.6	267.5	1 388.5	100
1980	60.8	12.3	379.2	18.2	67.8	241.0	5.7	163.8	1.6	49.4	46.2	<u>54.1</u>	6.8	15.2	257.3	1 379.5	99
1990	62.4	9.2	340.0	19.6	101.5	162.6	6.1	161.8	1.2	44.9	46.3	45.1	10.2	17.0	265.6	1 293.5	93
1993	54.9	8.5	385.4	22.2	79.9	137.5	6.4	153.4	1.0	40.2	41.8	48.6	6.1	15.0	228.9	1 229.9	89
1994	53.0	8.3	392.8	22.2	78.5	132.7	6.6	170.7	1.2	41.4	42.0	45.8	6.2	15.9	234.1	1 251.4	90
1995	50.7	8.4	388.0	22.8	83.6	132.9	8.1	182.8	1.1	42.6	39.0	48.3	7.8	15.6	244.0	1 275.7	92
1996	48.8	8.0	373.1	23.6	85.6	125.4	8.7	190.1	1.1	41.4	38.3	49.3	7.3	15.3	235.9	1 251.8	90
1997	49.8	8.1	380.8	24.7	86.1	125.2	8.5	190.0	1.0	40.3	39.7	49.4	7.0	15.7	240.1	1 266.3	91

Source : United Nations (Statistics of road traffic accidents), Eurostat

Note : about 1.7 million persons were injured in road accidents in 1997

Railway Fatalities

6.3

Persons killed in accidents involving railways including at railway crossings

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970= 100
1970	90	26	599	50	75	273	5	296	2	84	110	200	65	40	129	2044	100
1980	52	18	338	38	74	203	20	228	4	27	75	186	24	49	59	1395	68
1990	20	6	249	34	30	188	14	204	2	43	54	131	36	18	78	1107	54
1995	20	10	275	33	23	129	7	12	3	35	68	95	17	9	28	764	37
1996	26		252	42	21	136	8	106	3	36	47	122	12	16	25	852	42

Source : Eurostat

D : includes D-E : 1970=50, 1980=50, 1990=51

Number of passenger fatalities

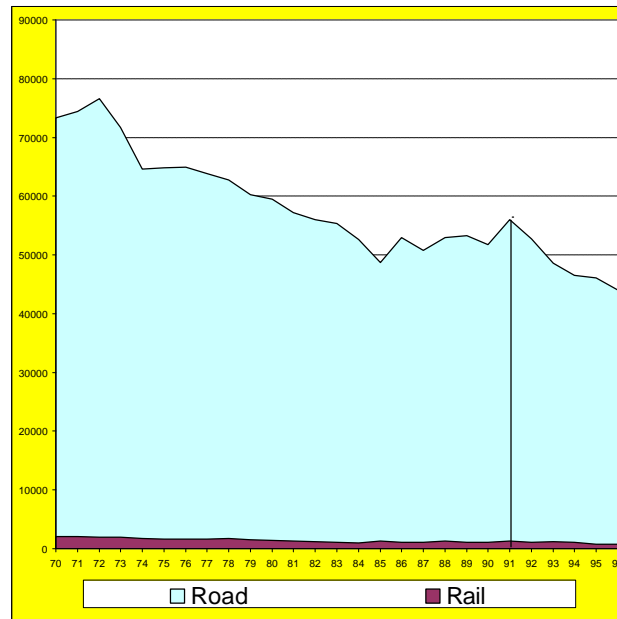
1970	3	7	151	1	17	54	0	41	0	10	26	19	5	6	41	381	100
1980	4	3	74	1	17	33	16	48	1	8	9	29	4	25	46	318	83
1990	0	1	50	0	4	30	1	9	0	2	6	22	0	3	37	165	43
1995	3	0	34	3	0	22	0	4	0	0	7	12	1	2	10	98	26
1996	6	0	35	0	0	14	0	1	0	1	3	10	3	0	17	90	24

Source : UIC (UK from 1990 : national statistics)

D : includes D-E : 1970=5, 1980=5, 1990=5

6.4

Traffic Safety EU 15 Number of Persons Killed



Note : Road : change in time series from 1991

Fatalities per 1000 million pkm

	Fatalities 1997	billion pkm 1997	Fatalities per billion pkm
Pedestrians	6 442	163	40
Bicycles	2 412	70	34
Powered two-wheelers	6 769	121	56
Passenger cars	23 275	3 787	6
Buses and coaches	173	393	0.4
Goods vehicles	2 017	468	4
Other road vehicles	451	n.a.	
Rail passengers *	98	270	0.36
Air passengers *	73	274	0.27

Source : for road fatalities: UN-ECE

Notes : Greece : 1995. * : 1995

Road fatalities include drivers and passengers of vehicles. Results for road traffic represents non-harmonised data (harmonised results ca. 5 % higher).

Goods vehicles: load factor was estimated at 1.1 person/vehicle-km

6.5

Air and Sea Fatalities

Air fatalities

	EU15*	World
	Average per year	Average per year
1970-79	244	1 614
1980-89	107	1 312
1990-95	69	1 151
1996	18	2 284
1997	1	1 172
1998	27	1 167

Source : Airclaims

Notes : scheduled services only

* : any nationality of aircraft over EU15 territory

Fatalities per billion pkm (1990-1997) : World 0.4; EU 15 0

Lives lost at sea

by type of ship

World	1991	1992	1993	1994	1995	1996
Oil	48	2	15	70	2	3
Bulk dry	154	28	41	148	84	50
General cargo	217	78	219	149	192	168
Passenger / general cargo	39	-	-	145	2	-
RoRo cargo	-	-	5	51	28	1
Passenger / RoRo cargo	608	1	58	876	-	342
Passenger	17	9	-	-	3	4
not specified	121	128	166	113	68	122
Total	1204	246	504	1552	379	690

Source : Lloyd's Register : World Casualty Statistics

Chapter 7

Environment

Emission Standards

7.1

Heavy Duty Vehicles (lorries)							
grams per kWh							
	as from :	test cycle	CO	THC	NMHC	NO _x	Particulate matter
EURO I	1.10.1993	13-mode	4.5	1.10	-	8	0.612 <85 kW 0.36 >85 kW
EURO II	1.10.1996	13-mode	4.0	1.10	-	7	0.15(a)
EURO III	1.1.2000	ESC(c)	2.1	0.66	-	5	0.10 0.13(b)
		ETC(d)	5.5	0.78	1.6	5	0.16 0.21(b)
EURO IV	1.10.2005	ESC(c)	1.5	0.46	-	3.5	0.02
		ETC(d)	4.0	0.55	1.1	3.5	0.03
EURO V	1.10.2008	ESC(c)	1.5	0.46	-	2	0.02
		ETC(d)	4.0	0.55	1.1	2	0.03
Notes : (a) : until 30/11/1998 the particulate limit for engines <700 cc per cylinder and with a rated power speed of more than 3000 rpm was 0.25 g/kWh (b) : for engines <750 cc per cylinder and with a rated power speed greater than 3000 rpm (c) : measured on the European Steady Cycle (ESC) (d) : measured on the European Transient Cycle (ETC) "Euro I and II" : Directive 91/542/EEC; "Euro III, IV and V" : Council position December 1998 and agreed with the European Parliament							

Passenger Cars (1)						
grams/km						
Petrol		as from (2) :	CO	HC	NO _x	
EURO I*		1.7.1992	4.05	0.66	0.49	
EURO II*		1.1.1996	3.28	0.34	0.25	
EURO III		1.1.2000	2.30	0.20	0.15	
EURO IV		1.1.2005	1.00	0.10	0.08	
Diesel		as from (2) :	CO	HC	NO _x	PM
EURO I*		1.7.1992	2.88	0.20	0.78	0.14
EURO II*		1.1.1996	1.06	0.19	0.73	0.10
EURO III		1.1.2000	0.64	0.06	0.50	0.05
EURO IV		1.1.2005	0.50	0.05	0.25	0.025
Notes : * : as measured on new test cycle for application in year 2000 (1) "Euro III and IV" (Directive 98/69/EC) : standards also apply to light commercial vehicles (<1305 kg) (2) the above dates refer to new vehicle types; dates for new vehicles are 1 year later						

7.2

Emissions by Type of Pollutant

		Total emissions EU 15	of which : transport	of which : road transport
Pollutant		1000 tonnes	1000 tonnes	1000 tonnes
NOx	1990	13 257	7 080 53%	5 549 42%
Nitrogen oxyde	1996	11 932	6 255 52%	4 791 40%
Trend 1990-96		-10%	-12%	-14%
CO	1990	51 218	33 265 65%	31 394 61%
Carbon monoxyde	1996	40 964	25 449 62%	23 124 56%
Trend 1990-96		-20%	-23%	-26%
VOC	1990	15 950	6 287 39%	5 726 36%
Volatile organic compounds	1996	13 807	4 785 35%	4 267 31%
Trend 1990-96		-13%	-24%	-25%
SO₂	1990	16 459	693 4%	467 3%
Sulphur dioxide	1996	9 386	557 6%	371 4%
Trend 1990-96		-43%	-20%	-21%

Source : Eurostat; "EEA Data Service, compiled by ETC/AE, October 1999"

Emissions of greenhouse gases

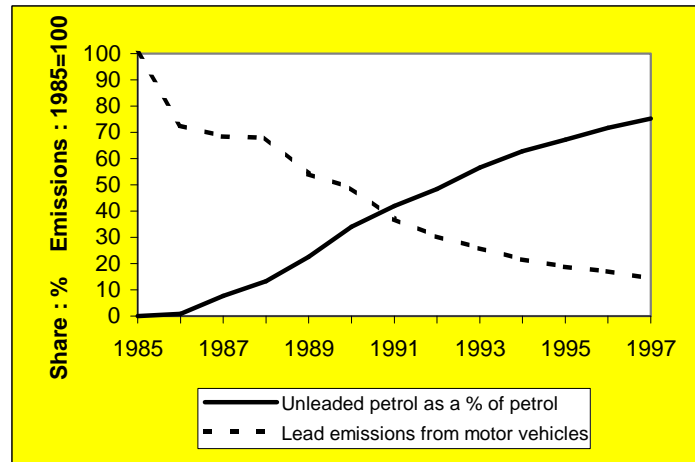
1995	Total emissions	Emissions in CO ₂ equivalent	of which from transport
	Mio t	Mio t	Mio t
CO₂	3037	3037	804
Methane (CH₄)	4.46	93.7	4
N₂O	0.17	52.7	15.5

Notes : other greenhouse gases (HFC, PFCs, SF₆) : 66 Mio tonnes CO₂ equivalents, of which a negligible part from transport

The European Union is committed to reducing the emissions of the 6 greenhouse gases by 8% by 2008-2012 (Kyoto agreement) compared to 1990

Road Vehicles Lead Emissions

7.3



Share of Unleaded Fuel

Percentage share : 2nd quarter 1998

	Diesel	Unleaded petrol	Leaded petrol
B	66	28	6
DK	49	51	0
D	42	58	0
EL	45	26	29
E	57	20	23
F	63	21	16
IRL	43	48	10
I	48	29	23
L	56	40	4
NL	56	44	0
A	63	37	0
P	57	23	20
FIN	47	53	0
S	34	66	0
UK	40	46	13
EU 15	50	38	12

1000 tons of fuel used in 2nd quarter 1998

EU 15	29293	22658	6901
--------------	-------	-------	------

Source : Eurostat

Notes: leaded fuel was phased out in most of the EU on 1/1/2000, except Italy, Greece and Spain (31/1/2001) and the overseas territories of France (Reunion, Guadeloupe, Martinique, Guyane) (1/1/2005)

In 1997 lead emissions in EU 15 = 4200 tonnes

Sulphur content (Directive 98/70/EC) :

Petrol : 150 ppm from 2000, 50 ppm from 2005
 Diesel : 350 ppm from 2000, 50 ppm from 2005

7.4

Energy Consumption

	1990	1995	1996	Growth per year 1990-96
	million tonnes oil equivalents			
Gross Inland Consumption	1 314.2	1 362.6	1 411.0	1.2%
minus Losses and Final Non-Energy Consumption	452.8	463.8	474.0	0.8%
Final Energy Consumption	861.4	898.8	937.0	1.4%
of which :				
- Industry	264.9	258.4	260.9	-0.3%
	30.8%	28.7%	27.8%	
- Services / households / agriculture	342.6	364.7	392.9	2.3%
	39.8%	40.6%	41.9%	
-Transport	253.8	275.7	283.3	1.8%
	29.5%	30.7%	30.2%	
of which :				
- Rail (1)	6.9	7.4	7.6	1.6%
- Road	212.5	229.0	234.5	1.7%
- Air	27.8	32.5	34.4	3.6%
- Inland navigation	6.7	6.7	6.9	0.5%
Sea (2)	34.85	35.8		

Source : Eurostat

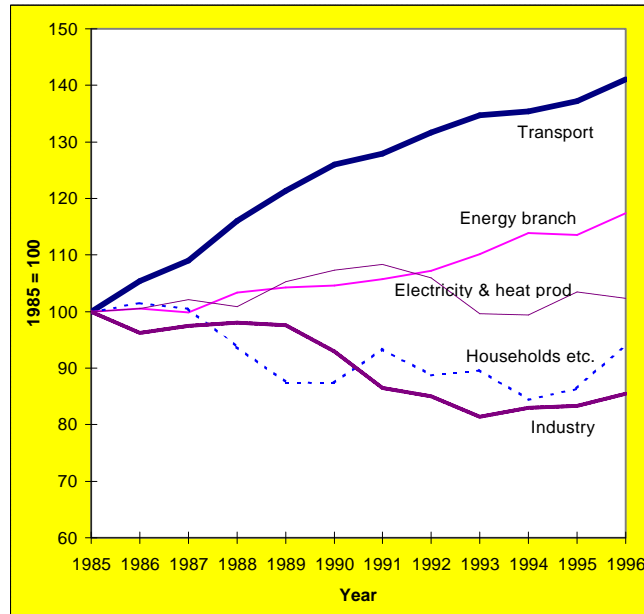
Note :

(1) : of which petroleum products (million tonnes) 1990: 2.9, 1996: 2.7

(2) : Sea (fuel from maritime bunkers) not included in final consumption

CO₂ Emissions (EU 15)

CO₂ Emissions from Fossil Fuels



Emissions From Fossil Fuels

Mio tonnes CO₂

	1985		1990		1996	% of EU
		90/85 % p.a.		96/90 % p.a.		
EU 15 (14% of world)	2998.3	+0.6	3088.5	+0.3	3149.0	100
Electricity and heat prod.	926.2	+1.4	994.2	-0.8	948.2	30
Energy branch	127.1	+0.9	132.9	+1.9	149.2	5
Industry	625.8	-1.4	581.8	-1.4	534.7	17
Households, commerce	733.9	-2.6	641.8	+1.3	691.5	22
Transport	585.3	+4.7	737.8	+1.9	825.4	26
<i>of which :</i>						
Railways (1)	11.7	-4.9	9.1	-1.3	8.4	0
Road transport	499.7	+4.6	626.1	+1.7	693.9	22
Air transport	61.5	+5.9	82.0	+3.7	101.7	3
Inland navigation (2)	12.4	+10.7	20.6	+0.4	21.1	1

Source : Eurostat

Notes : (1) : without fossil fuel for electricity production

(2) : including passenger transport and leisure boating

7.6

CO₂ Emissions (World)

Mio tonnes CO₂

Emissions from fossil fuels	1985	90/85 %p.a.	1990	95/90 %p.a.	1995	% of World	tons per person
World	19491	1.9	21400	0.7	22150	100	4.0
EU 15	2997.3	0.6	3087.7	-0.3	3047.6	14	8.2
USA	4608	1.3	4908	1.3	5229	24	19.9
Japan	910	3.2	1065	1.6	1151	5	9.2
ex-USSR	3534	-1.5	3275	-5.4	2483	11	8.5
China	1871	4.9	2374	4.8	3007	14	2.5
India	427	7.1	602	5.9	803	4	0.9

Source : IEA

Specific Emissions of CO₂ by mode

EU average 1995 (estimate)

grams/passenger km		grams/tonne km	
Passenger car (1)	125	Road freight	190
Bus	45	Railway (2)	30
Railway (2)	65	Inland navigation	30
Air	175	Sea (intra-EU)	20
		Pipeline	7

Source : Energy and Transport DG

Notes :

(1) occupancy 1.7 persons/car

(2) The % of railway lines which are electrified represent approximately 75 % of train-km. More than 50% of electrical energy for railways are produced by non-fossil fuels (nuclear, hydro, etc.).

	Fuel density Kg/l at 15°C	Carbon content %	CO ₂ emissions (kg)	
			per l	per kg
Petrol	0.75	85	2.34	3.20
Diesel	0.86	86	2.71	3.15

Noise Emission Limits 7.7 for selected vehicles db(A)

Motor vehicles

Vehicle category	YEAR			
	1972	1982	1989-90	1995-96
Passenger car	82	80	77	74
Urban bus	89	82	80	78
Heavy lorry	91	88	84	80

Method of measurement described in Council Directive 92/97/EEC of 10 November 1992

Two and three wheelers

Motorcycles	YEAR		
Engine size	1980	1989	1997
< 80 cm ³	78	77	75
>80 cm ³ and < 175 cm ³	80-83	79	77
>175 cm ³	83-86	82	80

Motor assisted cycle	YEAR	
Speed		1997
< 25 km/h		66
> 25km/h		71

Directive 97/24/EC of 17 June 1997

Note : dB (A) : A-weighted decibels , logarithmic scale

0 dB=10⁻¹² watt/m² 10 dB=10⁻¹¹ watt/m², etc

+3 dB(A) = doubling of sound pressure level

+10dB(A) = tenfold increase in sound pressure level (perceived as a doubling of loudness)

Aeroplanes

ICAO, Annex 16 classification	Aeroplanes registered in EU Member States* 1998		
Chapter I	2	0.1%	phased out since 1988
Chapter II	224	8.4%	to be phased out by 1.1.2002
Chapter III	2 448	91.5%	

Source : Airclaims

Note : * not including 13 Concorde

Waste and Recycling 7.8

a) Arisings of old tyres by Member State 1998

Country	Weight of tyres in tonnes	Country	Weight of tyres in tonnes
Belgium	70 000	Luxembourg	2 000
Denmark	38 500	Netherlands	65 000
Germany	650 000	Austria	41 000
Greece	58 500	Portugal	19 825
Spain	115 000	Finland	45 000
France	480 000	Sweden	65 000
Ireland	7 640	United Kingdom	400 000
Italy	360 000		
Total EU : 2 417 465 tonnes = c.a. 250 million tyres			

Source : European Tyre Recycling Association

Note : average weight per tyre : passenger car : 6.5 kg, light utility vehicle 11kg, long distance truck 55-80 kg

b) Past consumer tyre use in the EU 1998

	% of total arisings	EU landfill Directive
Reuse / export	11	
Retreading	12	25
Material Recycling / size reduction	9	60
Civil engineering applications	9	
Energy Recovery (combustion)	20	15
Total Reuse	60	100
Landfill or other	40	0
Total	100	100

Source : European Tyre Recycling Association

Note : a passenger car tyre's life is between 35000km and 45000km. Annual mileage is about 14000km per car.

c) Composition of a passenger car by weight

	1975	1995
Iron / steel	75.0 %	64.0 %
Aluminium	2.5 %	7.0 %
Other metals	3.0 %	3.0 %
Plastics	2.5 %	7.5 %
Other materials	5.0 %	13.0 %

Notes : by weight up to 75% of a car are recycled today
EU proposed Directive : 85% in 2005 and 95% in 2015

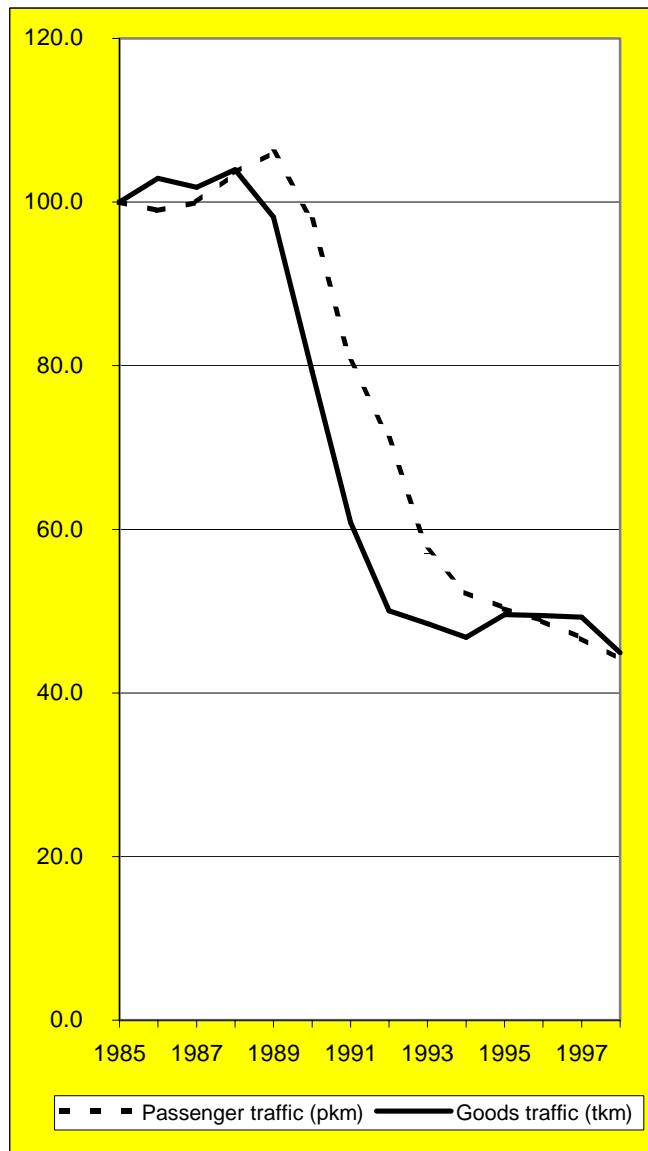
Chapter 8

Central and Eastern European Countries (CEC)

BG	Bulgaria
CS	Czechoslovakia (till 1992)
CZ	Czech Republic (from 1993)
EST	Estonia
H	Hungary
LT	Lithuania
LV	Latvia
PL	Poland
RO	Romania
SLO	Slovenia
SK	Slovak Republic (from 1993)

8.1

CEC : Railway Transport
Passenger and goods traffic
1985 = 100



CEC : Evolution 1970-97**Performance by mode of transport**

1000 mio tkm

	Road	Rail	Inland waterways	Pipelines	Total
1970	55	274	10	16	355
1980	122	364	13	37	537
1985	134	341	13	37	525
1989	145	336	15	39	534
1990	144	270	12	32	458
1994	124	159	6	24	313
1995	143	169	9	23	344
1996	152	168	9	25	355
1997	175	168	10	24	376
1989-97	+ 20.6 %	- 50.1 %	- 32.2 %	- 37.4 %	- 29.5 %

Source : national statistics, ECMT , UIC

Note : Road : 1997 : break in time serie

Average annual change

% per year

	Road	Rail	Inland waterways	Pipelines	Total
1970-80	+8.4	+2.9	+3.0	+8.7	+4.2
1980-89	+1.9	-0.9	+1.0	+0.4	-0.1
1989-97	+2.4	-8.3	-4.7	-5.7	-4.3
1997	+14.6	-0.4	+5.9	-3.6	+6.0

Note : Road : 1997 : break in time serie

Modal split

%

	Road	Rail	Inland waterways	Pipelines
1970	15.4	77.3	2.8	4.6
1980	22.8	67.8	2.5	6.9
1985	25.6	64.9	2.4	7.0
1989	27.1	62.9	2.7	7.3
1990	31.5	58.9	2.5	7.1
1995	41.7	49.0	2.5	6.8
1996	42.9	47.4	2.6	7.1
1997	46.4	44.5	2.6	6.4

Goods Transport

Road**8.3****Transport on the territory**

1000 mio tkm

	BG	CS	CZ (1)	SK	EST	H	LT	LV (1)	PL (1)	RO	SLO	CEC	index 1985 = 100	% of all tkm
1970	7.0	10.1			2.4	5.8	3.4	2.9	15.8	5.2	2.1	54.6	41	15.4
1980	13.1	21.3			4.2	11.4	6.9	5.1	44.6	11.8	3.9	122.3	91	22.8
1985	13.5	21.5			4.4	12.7	7.4	5.9	36.6	27.9	4.7	134.5	100	25.6
1989	15.1	23.2			4.8	14.5	8.1	6.0	38.4	30.0	4.6	144.8	108	27.1
1990	13.8	23.3			4.5	15.2	7.3	5.9	40.3	29.0	4.9	144.1	107	31.5
1991	8.0	17.4			3.8	14.0	7.0	4.9	39.6	20.7	4.3	119.8	89	33.1
1992	7.0	14.0			1.5	12.8	5.0	2.5	42.0	15.7	2.8	103.3	77	33.7
1993	8.5		13.0	5.5	1.1	13.4	6.9	1.3	40.7	15.4	2.8	108.5	81	36.1
1994	10.0		22.7	4.9	1.4	13.0	4.6	1.4	45.4	18.3	2.4	124.1	92	39.6
1995	11.0		31.3	5.2	1.5	14.2	5.2	1.8	51.2	19.7	2.4	143.5	107	41.7
1996	15.5		30.1	5.2	1.9	14.7	4.2	2.2	56.5	19.8	2.3	152.3	113	42.9
1997	14.1		40.6	5.2	2.8	15.0	5.1	3.4	63.7	21.8	2.9	174.6	130	46.4

Source : ECMT, national statistics, Eurostat, studies for Energy and Transport DG

Note : (1) : national and international transport of vehicles registered in the country (in CZ from 1997)

Goods Transport

Railways

8.4

1000 mio tkm

	BG	CS	CZ	SK	EST	H	LT	LV	PL	RO	SLO	CEC	index 1985 =100	% of all tkm
1970	13.9	55.9			5.1	19.8	13.6	15.5	99.3	48.1	3.3	274.3	81	77.3
1980	17.7	66.2			5.9	24.4	18.2	17.6	134.7	75.5	3.9	364.2	107	67.8
1985	18.2	66.1			6.5	21.8	20.9	19.9	118.9	64.1	4.3	340.6	100	64.9
1989	17.0	66.2			9.6	19.3	21.8	21.1	109.6	67.1	4.2	335.9	99	62.9
1990	14.1	59.4			7.0	16.5	19.3	18.5	81.8	48.8	4.2	269.5	79	58.9
1991	8.7	45.8			6.6	11.6	17.8	16.7	64.0	32.5	3.3	207.0	61	57.2
1992	7.8	44.0			3.4	9.8	11.3	10.1	57.0	24.2	2.6	170.2	50	55.5
1993	7.7		25.2	13.9	3.7	7.1	9.9	9.9	63.3	21.9	2.3	164.8	48	54.8
1994	7.8		22.8	12.3	3.3	6.8	8.0	9.5	64.7	21.6	2.3	159.1	47	50.8
1995	8.6		22.6	13.7	3.6	7.5	7.7	9.8	68.2	24.0	2.9	168.5	49	49.0
1996	7.5		22.2	11.9	3.9	8.0	8.1	12.4	67.4	24.2	2.6	168.2	49	47.4
1997	7.4		20.7	12.4	4.8	7.3	8.6	14.0	67.7	22.0	2.6	167.5	49	44.5
1998	6.1		18.3	11.7	5.8	7.4	8.3	13.0	60.9	18.6	2.6	152.7	45	

Source : UIC, ECMT

Goods Transport

Inland Waterways

8.5

	1000 mio tkm											index 1985 =100	% of all tkm	
	BG	CS	CZ	SK	EST	H	LT	LV	PL	RO	SLO	CEC		
1970	1.83	2.43			0.01	1.76	0.12	0.05	2.30	1.35		9.9	77	2.8
1980	2.61	3.59			0.01	2.15	0.15	0.09	2.33	2.35		13.3	104	2.5
1985	2.00	4.36			0.01	2.14	0.17	0.30	1.41	2.35		12.7	100	2.4
1989	1.95	5.10			0.01	2.11	0.17	0.30	1.19	3.70		14.5	114	2.7
1990	1.61	4.42			0.00	2.04	0.16	0.29	1.03	2.09		11.6	91	2.5
1991	1.02	3.89			0.00	1.72	0.14	0.34	0.74	2.03		9.9	78	2.7
1992	0.84	2.98			0.00	1.60	0.05	0.40	0.75	1.89		8.5	67	2.8
1993	0.46		1.26	0.84	0.00	1.62	0.05	0.00	0.66	1.59		6.5	51	2.2
1994	0.36		1.19	0.85	0.00	1.35	0.03	0.00	0.79	1.90		6.5	51	2.1
1995	0.73		1.32	1.23	0.00	1.26	0.02	0.00	0.88	3.11		8.5	67	2.5
1996	0.63		1.10	1.60	0.00	1.34	0.01	0.00	0.85	3.77		9.3	73	2.6
1997	0.68		0.74	1.52	0.00	1.64	0.01	0.00	0.93	4.33		9.9	77	2.6

Source : ECMT, national statistics

Goods Transport

Pipelines (Oil)

8.6

	1000 mio tkm											CEC	index 1985 =100	% of all tkm
	BG	CS	CZ	SK	EST	H	LT	LV	PL	RO	SLO			
1970	0.0	6.4				1.0			7.0	1.8		16.2	44	4.6
1980	0.8	9.8				4.4			17.1	5.2		37.2	102	6.9
1985	1.0	9.0				4.9			17.0	4.8		36.7	100	7.0
1989	0.9	8.5				5.0			17.7	6.7		38.7	106	7.3
1990	0.6	7.5				5.3			13.9	5.1		32.4	88	7.1
1991	0.5	6.2				5.0			10.4	3.2		25.2	69	7.0
1992	0.3	5.3				4.3			11.9	2.6		24.4	67	8.0
1993	0.3		2.0			4.1			12.2	2.5		21.1	57	7.0
1994	0.4		2.2			4.2			14.3	2.8		23.8	65	7.6
1995	0.4		2.3			4.1			13.5	2.9		23.3	63	6.8
1996	0.4		2.3			4.5			15.3	2.7		25.2	69	7.1
1997	0.3		2.1			4.6			15.0	2.3		24.3	66	6.4

Source : ECMT, national statistics

Notes : LV: 6 100 mio tkm transit traffic in 1996

LT: 2 000 mio tkm transit traffic in 1995

Passenger Transport

Railways

8.7

	1000 mio pkm											index 1985 =100	
	BG	CS	CZ	SK	EST	H	LT	LV	PL	RO	SLO	CEC	
1970	6.2	20.5			1.2	15.2	2.1	3.8	36.9	17.8	1.5	105.2	80
1980	7.1	18.0			1.6	13.7	3.3	4.8	46.3	23.2	1.4	119.4	90
1985	7.8	19.8			1.6	9.6	3.4	5.2	52.0	31.1	1.7	132.2	100
1989	7.6	19.7			1.6	9.6	3.5	5.6	55.9	35.5	1.4	140.3	106
1990	7.8	19.4			1.5	9.2	3.6	5.4	50.4	30.6	1.4	129.3	98
1992	5.4	16.9			1.0	6.9	2.7	3.7	32.6	24.3	0.5	94.0	71
1994	5.1		8.5	4.5	0.5	6.4	1.6	1.8	21.8	18.3	0.6	69.1	52
1995	4.7		8.0	4.2	0.4	6.2	1.1	1.4	21.0	18.9	0.6	66.5	50
1996	5.1		8.1	3.8	0.3	6.4	0.9	1.2	19.8	18.4	0.6	64.5	49
1997	5.9		7.7	3.1	0.3	6.5	0.8	1.1	19.9	15.8	0.6	61.7	47
1998	4.7		7.0	3.1	0.2	6.8	0.7	1.1	20.6	13.4	0.6	58.3	44
passenger-km per person per year													
1997	708		748	575	179	641	207	465	515	701	310	588	

Source : UIC, ECMT (1970-1980 results)

Buses and Coaches

1000 mio pkm

	BG	CS	CZ	SK	EST	H	LT	LV	PL (1)	RO	SLO	CEC	index 1985=100
1970	12.2	21.4			2.6	13.6	4.9	3.3	29.1	7.9	2.6	97.7	52
1980	21.6	33.8			3.7	26.4	6.7	4.6	49.2	24.0	4.9	174.8	94
1985	24.7	36.6			4.3	28.0	7.4	5.0	52.1	21.7	6.5	186.3	100
1990	25.9	43.4			4.5	24.1	6.7	5.9	46.3	24.0	6.6	187.2	100
1991	18.9	43.1			3.8	22.3	6.5	4.5	41.7	20.6	4.4	165.8	89
1992	16.8	35.0			3.0	19.4	5.2	2.6	39.0	25.3	3.4	149.7	80
1993	14.0		21.9	11.5	2.5	19.2	3.7	1.7	37.8	19.8	2.8	134.9	72
1994	12.1		16.0	10.9	2.4	18.6	3.8	1.8	34.3	25.0	2.6	127.4	68
1995	11.5		11.0	11.2	2.1	19.1	3.3	1.8	34.0	22.9	2.5	119.5	64
1996	9.2		9.7	11.1	2.1	19.0	2.9	1.6	32.0	26.6	2.4	116.6	63
1997	8.4		8.8	10.6	2.2	18.8	2.6	1.7	33.1	26.6	2.2	115.1	62
passenger-km per person per year													
1997	1 011		854	1 967	1 532	1 853	702	697	857	1 180	1 108	1 096	

Source : ECMT, 1997 results for CZ, SLO : national statistics 1996/97 results for RO : transport ministry

Notes : other modes, billion pkm 1997: air 17.8, ship: 0.55, tram/metro: 15, private car: 312 (results from Energy and Transport DG study)

(1) : without urban bus transport

Vehicle Stock : Passenger Cars

8.9

	million											
	BG	CZ	SK	EST	H	LT	LV (1)	PL	RO	SLO	CEC	index 1985 =100
1970	0.16	0.69	0.16	0.03	0.24	0.04	0.04	0.48	0.04	0.15	2.0	18
1980	0.82	1.78	0.55	0.13	1.01	0.25	0.17	2.38	0.24	0.42	7.7	69
1985	1.06	2.07	0.72	0.18	1.44	0.34	0.22	3.67	0.95	0.50	11.1	100
1990	1.32	2.41	0.88	0.24	1.94	0.49	0.28	5.26	1.29	0.58	14.7	132
1991	1.36	2.48	0.93	0.26	2.02	0.53	0.33	6.11	1.43	0.59	16.0	144
1992	1.41	2.58	0.97	0.28	2.06	0.57	0.35	6.51	1.59	0.61	16.9	152
1993	1.51	2.83	1.01	0.32	2.09	0.60	0.37	6.77	1.79	0.63	17.9	161
1994	1.59	2.92	0.99	0.34	2.18	0.65	0.25	7.15	2.02	0.66	18.8	168
1995	1.65	3.04	1.02	0.38	2.28	0.72	0.33	7.51	2.20	0.70	19.8	178
1996	1.71	3.19	1.06	0.41	2.27	0.79	0.38	8.05	2.39	0.73	21.0	188
1997	1.77	3.39	1.16	0.43	2.30	0.88	0.43	8.53	2.61	0.77	22.3	200
1998		3.49	1.14	0.45	2.22	0.98	0.48		2.82			
Cars per 1000 inhabitants :												
1997	213	329	215	293	226	238	175	221	116	385	212	

Source : Study for Transport directorate-General

Notes : (1) change in vehicle register, vehicle stock overestimated before 1994;

CEC passenger car traffic in 1997: ca. 400 bio pkm

Vehicle Stock : Commercial Vehicles

8.9.a

1000

	BG	CZ	SK	EST	H	LT	LV	PL	RO	SLO	CEC	index 1980= 1000
Buses and Coaches												
1980	21.0	20.3	10.0	6.4	22.2	10.5	9.0	66.4	25.0	2.5	193.3	100
1990	25.3	26.0	14.3	7.9	26.1	15.2	12.1	92.0	28.3	3.1	250.3	129
1995	41.0	19.3	11.8	7.0	20.2	17.1	5.8	85.0	42.0	2.5	251.7	130
1996	40.8	20.1	11.3	6.8	19.1	15.5	5.8	85.0	43.2	2.4	250.0	129
1997	40.0	20.3	11.2	6.5	18.6	14.9	6.0	82.0	44.1	2.4	246.0	127
1998		19.6	11.3	6.3	18.5	15.2	11.5		45.5			
Goods vehicles												
1980	100.0	130.0	86.2	61.5	197.0	65.7	56.0	454.0	250.0	32.6	1 433.0	100
1990	116.0	156.0	123.0	67.7	262.0	83.0	67.0	892.0	259.0	48.3	2 074.0	145
1995	203.0	203.0	85.7	65.6	324.0	101.0	69.0	1030.0	354.0	58.4	2 493.7	174
1996	207.0	226.0	81.8	71.3	322.0	81.3	73.0	1430.0	380.0	63.2	2 935.6	205
1997	210.0	247.0	89.0	76.6	342.0	84.7	77.0	1490.0	402.0	66.1	3 084.4	215
1998		260.0	99.0	80.6	295.0	89.9	85.0		437.0			

Source : Study for Energy and Transport DG

Transport Infrastructure

8.10

1996	BG	CZ	SK	EST	H	LT	LV	PL	RO	SLO	CEC
Motorways	314	423	215	65	365	404	0	258	113	310	2 467
State roads	3030	55088	3073	15303	6487	20717	7037	45376	14570	1370	172 051
Provincial/local roads	33943	66449	3921	58800	23197	39161	44618	329315	58477	13189	671 070
All Roads	37287	121960	17867	44168	30049	60282	51655	374949	73160	14869	826 246
Railway lines	4293	9435	3673	1020	7715	1997	2413	23420	11385	1201	66 552
of which electrified	2710	2859	1516	132	2353	122	271	11626	3960	499	26 048
Inland waterways	470	630	172	320	1373	369	347	3812	1613	0	9 106
Oil pipelines	578	736	0	0	2071	399	766	2278	3546	0	10 374
Area (1000 km2)	110.9	78.9	49.0	45.2	93.0	65.3	64.6	312.7	238.6	20.3	1 079
Railway lines density (length of lines/area) m/km ²	39	120	75	23	83	31	37	75	48	59	62

Source : UN-ECE

Note : The railways of Estonia, Latvia and Lithuania are broad gauge (1524 mm). The other railways are standard gauge

8.11

Airports and Seaports

Traffic at selected major airports

	Million passengers			Change 98/97 %
	1995	1997	1998	
Prague CZ	3.21	4.36	4.63	+6.2
Budapest H	2.94	3.62	3.94	+8.9
Warsaw PL	2.38	3.52	3.82	+9.5
Bucharest RO	1.46	1.47	1.60	+8.7
Sofia BG	1.00	1.08	1.25	+15.3
Ljubljana SLO	0.64	0.71	0.79	+9.3
Riga LV	0.51	0.54	0.55	+3.7
Tallinn EST	0.37	0.50	0.56	+12.1
Vilnius LT	0.35	0.41	0.46	+12.4
Bratislava SK	0.21	0.30	0.33	+10.9

Source : Airport Council International

Traffic at selected seaports

	Million tons loaded/unloaded			Change 97/96 %
	1993	1996	1997	
Constanta RO	27.8	34.8	32.2	-7.5
Ventspils LV	22.4	35.7	36.8	+2.9
Gdansk PL	23.0	16.5	17.5	+6.1
Szceczin PL	14.4	16.3	15.5	-4.4
Bourgas BG	13.6	15.6	15.0	-4.0
Klaipeda LT	15.9	14.8	16.1	+8.8
Tallinn EST	12.5	14.1	17.1	+21.4
Gdynia PL	7.8	8.6	8.9	+4.0
Riga LV	4.7	7.5	11.2	+50.2
Koper SLO	5.2	6.5	7.3	+12.2

Source : ISL, national statistics

8.12

External Trade EU 15-CEC

1000 tonnes

EU 15 imports from	1992	1995	1996	1997	1998
Estonia	922	3 921	4 436	6 827	8 265
Latvia	3 714	7 702	6 543	7 486	9 009
Lithuania	3 712	4 350	3 636	4 227	4 073
Poland	36 473	43 673	40 235	42 349	42 144
Czech Rep.	24 358	22 279	22 136	22 397	21 892
Slovak Rep.	<i>inc CZ</i>	6 575	6 002	6 159	6 097
Hungary	6 912	8 332	8 490	8 771	9 778
Slovenia	1 286	2 512	2 413	2 665	2 789
Romania	2 243	4 741	4 326	4 540	4 389
Bulgaria	1 813	3 923	3 664	4 883	3 897
Total 10 countries	81 434	108 009	101 880	110 303	112 332

EU imports by mode from CEC (1998) : sea 36%, road 29%, rail 25%, inland waterway 6%, pipeline 0%

EU 15 exports to	1992	1995	1996	1997	1998
Estonia	628	1 203	1 537	2 047	2 224
Latvia	602	1 179	1 212	1 650	1 654
Lithuania	779	576	765	1 135	1 060
Poland	9 332	10 798	14 633	17 001	17 718
Czech Rep.	4 508	5 655	6 885	8 516	9 575
Slovak Rep.	<i>inc CZ</i>	1 559	2 111	2 256	2 619
Hungary	2 223	3 538	3 666	4 892	6 281
Slovenia	1 738	3 404	3 356	4 281	4 680
Romania	3 186	2 776	3 478	2 942	3 071
Bulgaria	967	1 053	725	1 101	1 365
Total 10 countries	23 962	31 740	38 367	45 821	50 247

EU exports by mode to CEC (1998) : road 51%, sea 29%, rail 16%, inland waterway 2%, pipeline 1%

Source : Eurostat

8.13

European Countries not in EU

	Pop-ulation	GDP	GDP (PPP) / capita	EU Trade with :	
				EU Export	EU Import
	1997	1997		1998	
	million	ECU billion	EU=100	ECU billion	
Poland	38.7	126.3	38	28.1	16.2
Romania	22.5	30.9	30	6.3	5.1
Czech Rep.	10.3	45.9	65	17.2	14.7
Hungary	10.2	40.4	48	16.8	14.6
Bulgaria	8.3	9.0	23	2.4	2.2
Slovak Rep.	5.4	17.2	46	5.7	5.4
Lithuania	3.7	8.5	30	2.4	1.4
Latvia	2.5	5.0	27	1.8	1.4
Slovenia	2.0	16.1	68	6.8	5.2
Estonia	1.5	4.1	36	2.7	1.7
CEC	105.0	303.2	42	90.2	67.9

Russia**	147.3	394.2	17	21.0	23.1
Turkey	63.7	167.4	32	22.1	13.6
Ukraine	50.7	43.8	n.a.	3.5	2.2
Belarus	10.3	20.0	n.a.	1.2	0.5
Switzerland	7.1	225.1	115	57.1	49.4
Norway	4.4	135.2	110	25.1	29.1
Cyprus (1)	0.66	7.4	75	2.1	0.4
Malta	0.38	2.8	55	2.0	0.8
Iceland	0.27	5.0	105	1.2	1.2
Liechtenstein*	0.03	1.0	n.a.	0.7	0.6

Source : Eurostat European Commission: Agenda 2000, UN, World Bank, OECD

Notes : PPP = Purchasing Power Parities

**, * : GDP expressed in PPP, * : 1996, ** : 1998

(1) : figures refer to the Republic of Cyprus

Chapter 9

**Comparison
EU
with
USA and Japan**

USA : Evolution 1970-96
Performance by mode of transport
 1000 mio tkm

	Road (1)	Rail (2)	Inland waterways	Pipelines	Total
1970	602	1 117	343	629	2 691
1975	663	1 101	363	740	2 868
1980	810	1 342	422	859	3 433
1985	891	1 280	410	824	3 405
1990	1 073	1 510	516	853	3 951
1995	1 345	1 906	534	878	4 663
1996	1 440	1 980	518	904	4 842
1990-96	+ 34.1 %	+ 31.1 %	+ 0.5 %	+ 6.0 %	+ 22.5 %

Average length of haul (km)

1996	685	1 355	767	1 224	1 068
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Source : US Department of Transport

Notes : (1) Intercity truck traffic

(2) Class 1 railways (91% of rail freight traffic, total traffic 1996 : 2175 bio tkm)

(3) Average length of haul : Air : 2027 km, Water coastwise : 2455 km, Water lakewise : 817 km, Pipeline : petroleum products : 634 km

Average annual change

% per year

	Road	Rail	Inland waterways	Pipelines	Total
1970-80	+3.0	+1.9	+2.1	+3.2	+2.5
1980-90	+2.8	+1.2	+2.0	-0.1	+1.4
1990-96	+5.0	+4.6	+0.1	+1.0	+3.4
1996	+7.1	+3.9	-3.0	+3.0	+3.8

Modal split

%

	Road	Rail	Inland waterways	Pipelines
1970	22.4	41.5	12.8	23.4
1975	23.1	38.4	12.7	25.8
1980	23.6	39.1	12.3	25.0
1985	26.2	37.6	12.0	24.2
1990	27.2	38.2	13.1	21.6
1996	29.7	40.9	10.7	18.7

USA : Evolution 1970-96

Performance by mode of transport

1000 mio pkm

	Car *	Railway	Bus	Tram + Metro	Air	Total
1970	3 258	17	81	18	189	3 563
1980	3 926	18	111	18	352	4 424
1985	4 208	18	153	17	467	4 863
1990	4 867	21	196	19	577	5 681
1995	5 701	22	219	18	667	6 627
1996	5 841	22	219	20	716	6 818
1997	6 085	21	233	21	745	7 106
1990-97	+ 25.0 %	+ 0.8 %	+ 19.1 %	+ 8.6 %	+ 29.0 %	+ 25.1 %

Source : US Department of Transport

Notes : * : Passenger car (1997: 3812 bio pkm) and other 2-axle 4-tyre vehicles (1997: 2243 bio pkm)

Air : includes general aviation (1996 : 20 bio pkm)

Motorcycles : 1997 : 19 bio pkm

Average annual change

% per year

	Car	Railway	Bus	Tram + Metro	Air	Total
1970-80	+1.9	+0.2	+3.2	+0.1	+6.4	+2.2
1980-90	+2.2	+1.8	+5.9	+1.0	+5.1	+2.5
1990-97	+3.2	+0.1	+2.5	+1.2	+3.7	+3.2
1997	+4.2	-2.2	+6.3	+5.3	+4.0	+4.2

Modal split

%

	Car	Railway	Bus	Tram + Metro	Air
1970	91.4	0.5	2.3	0.5	5.3
1980	88.7	0.4	2.5	0.4	8.0
1985	86.5	0.4	3.2	0.4	9.6
1990	85.7	0.4	3.4	0.3	10.2
1997	85.6	0.3	3.3	0.3	10.5

9.3

Comparison EU 15 - USA - Japan - World

	EU 15	USA	JAPAN	World	EU % of World
General data					
Population					
million 1997	374	268	126	5 860	6%
Population growth					
% 1997	0.3	1.0	0.2	1.4	1%
Area				(1)	
million km ² 1997	3.24	9.36	0.38	136.26	2%
Population density					
1997	115	29	334	43	267%
GDP (nominal)					
ECU billion 1997	7 164	6 900	3 710	26 600	27%
GDP per capita (in PPP)					
ECU 1997	19 100	28 600	22 300	5 500	347%
Exports (without intra-EU)					
ECU billion 1997	721	606	371	3 116	23%
Imports (without intra-EU)					
ECU billion 1997	672	792	299	3 201	21%
Vehicle stock and production					
Passenger cars stock					
million 1997	170	134	47	498	34%
Motorization					
cars / 1000 persons 1997	454	501	373	85	534%
Commercial vehicles		(2)			
million 1996	19	77	22	179	11%
Car production					
million 1997	14.1	5.9	8.5	38.5	37%
Com. Vehicles production					
million 1997	2.0	6.2	2.5	16.0	13%
Bicycle production					
million 1997	11.4	6.0	6.0	94	12%

Sources : UN, World Bank, Eurostat, IRF, Interbike

Notes : (1) This figure for the world's area does not include Antarctica. The Earth's surface is 510 million km², of which land accounts for 149 million km²

(2): many private vehicles (pick-ups, light vans) are classified as commercial

PPP : Purchasing power parities

9.4

Comparison EU 15 - USA - Japan - World

		EU 15	USA	JAPAN	World	EU % of World
Transport infrastructure						
Road network						
1000 km	1996	3 500	6 460	1 160	28 000	13%
Motorway network						
1000 km	1996	47	88	6	208	22%
Railway network						
1000 km	1996	166	240	26.5	1 250	13%
Electrified railway lines						
1000 km	1996	77	1.7	17	250	30%
Navig. inland waterways						
1000 km	1996	30	41	0	520	6%
Oil Pipelines						
1000 km	1996	21	276	0.4	580	4%
Transport impact						
Road fatalities						
1000	1997	43.4	42.0	11.3	500	9%
Transport CO₂ emissions						
million tonnes	1995	804	1580	249	4467	18%
Passenger transport (billion pkm)						
Passenger car (3)	1997	3 787	6 085	780	16 000	24%
Bus / coach	1997	393	233	93	7 000	6%
Railway	1997	282	21	364	1 900	15%
Tram + metro (4)	1997	48	21	31	250	19%
Air (domestic / intra-EU)	1997	322	745	73	2 800	(2)
Freight transport (billion tkm)						
Road	1996	1 148	1 440	306	7 000	16%
Rail	1996	220	2 175	25	6 450	3%
Inland navigation	1996	112	520	0	1 500	7%
Oil pipeline	1996	85	904	0	2 000	4%
Sea (domestic / intra EU)	1996	1 070	596	242	40 000	(2)

Source : UN, UNCTAD, Eurostat, UIC, IRF, CIA

Notes :

World pkm and tkm totals represent Energy and Transport DG estimates
 Transport CO₂ emissions do not include marine bunkers (=410 mio tonnes)

(1): Navigable inland waterways in USA: figures excluding Great Lakes

(2): World indicates total (domestic + international) traffic

(3): Including light trucks/vans in the USA and light vehicles (149 bio pkm) in Japan

(4): Japan: results for tram+metro have been subtracted from the official railway figure

Conversion factors used for tables 9.1 - 9.4

1 Statute mile	= 1.609 km
1 nautical mile	= 1.852 km
1 US ton	= 0.907 tonnes
1 ton-mile	= 1.459 tonne-km
1 Dollar	= 1.134 ECU (1997)
1 tonne Carbon (C)	= 3.667 tonnes CO ₂

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- *Environment Statistics*
- *Population Statistics*
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Contact points: the Eurostat data shops (see Eurostat web site) :

<http://europa.eu.int/eurostat.html>

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2. International Statistical Sources

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Economic Commission for Europe (UN-ECE)

Palais des Nations, CH-1200 Genève, Switzerland

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Fax +41 22 917 0039

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European Conference of Ministers of Transport (ECMT)

24, rue Louis David, F-75755 Paris Cedex 16, France

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<http://www.oecd.org/cem/>

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Airports Council International (ACI)

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- *Yearbook*

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European Bicycle Manufacturers Association (EBMA)

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European Automobile Manufacturer's Association (ACEA)

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European Federation of Inland Ports (EFIP)

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European Tyre Recycling Association (ETRA)

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http://www.icfonline.ch/

Institute for Shipping Economics and Logistics (ISL)

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http://www.isl.org/ subscription@isl.org

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International Air Transport Association (IATA)

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- *World Air Transport Statistics*

International Civil Aviation Organisation (ICAO/OACI)

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<http://www.irfnet.org/>

- *World Road Statistics*

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Union Internationale des Sociétés de Transport Combiné Rail-Route (UIRR)

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<http://www.ine.pt> ine@ine.pt

- *Estatísticas dos Transportes e Comunicações*

Suomi/Finland

Statistics Finland

Työpajakatu 13, FIN-00022 Helsinki, Finland

Tel +358 9 1734 1 Fax +358 9 173422 91

<http://www.stat.fi> webmaster@stat.fi

- *Transport Statistical Yearbook for Finland*

Sverige

Statistics Sweden

SCB, Karlavägen 100, Box 24300, S-10451 Stockholm, Sweden

Tel +46 8 783 40 00 Fax +46 8 661 52 61

<http://www.scb.se> swestat@scb.se

Swedish Institute for Transport and Communication Analysis (SIKA)

P.O. Box 17 213, S-104 62 Stockholm, Sweden

Tel +46 8 506 206 00 Fax +46 8 506 206 10

<http://www.sika-institute.se/> sika@sika-institute.se

- *Yearbook Transport & Communications*

United Kingdom

Office for National Statistics

1 Drummond Gate - London SW1V 2QQ, United Kingdom

Tel +44 171 533 5676 Fax +44 171 533 5689

<http://www.ons.gov.uk> gloria.ryan@ons.gov.uk

Statistical Sources

Department of the Environment, Transport and the Regions (DETR)

76 Marsham Street, GB-London W1P 4DR, United Kingdom

Tel +44 171 271 3745

<http://www.detr.gov.uk>

- Transport Statistics Great Britain

Other European Economic Area (EEA) and in EFTA

Norway

Central Office for Statistics

Kongens gate 6, Oslo

Tel +47 2286 4500

Fax +47 2286 4973

<http://www.ssb.no>

Iceland

Statistics Iceland

Skuggasundi 3, IS-150 Reykjavik

Tel +354 560 9800

Fax +354 562 8865

<http://www.statice.is>

Other European Free Trade Association (EFTA)

Switzerland

Office fédéral de la statistique

Espace de l'Europe 10, 2010 Neuchatel, Switzerland

Tel +41 032 713 6011

<http://www.admin.ch/bfs>

Information@bfs.admin.ch

Generalsekretariat EVED, Dienst für Gesamtverkehrsfragen

Kochergasse 10, CH-3003 Bern, Switzerland

- Alpenquerender Güterverkehr auf Strasse und Schiene

Statistical Sources

Other European countries

Bulgaria

National Statistical Institute of Bulgaria

2, "Panaiot Volov" Str., 1504, Sofia, Bulgaria

Tel +43 401 818483

<http://www.nsi.bg/>

Btdorova@NSI.BG

Czech Republic

Czech Statistical Office

Sokolovska no. 142, 186 04 Praha 8 - Karlín, Czech Republic

Tel +420 2 7405 2725

<http://www.czso.cz/>

Slovak Republic

Statistical Office

Bratislava, Slovak Republic

Tel +421 7 50236 400

<http://www.statistics.sk/>

Estonia

Statistical Office of Estonia

Endla 15, 15174 Tallinn, Estonia

Tel 62 59 202

<http://www.stat.ee/>

stat@stat.ee

Hungary

Hungarian Central Statistical Office

H-1024 Budapest, II. Keleti Karoly u. 5-7, Hungary

Tel +36 1 212 5722

<http://www.ksh.hu/eng/>

Lithuania

Statistics Lithuania

31 Gedimino av., 2746 Vilnius, Lithuania

Tel +370 2 624963

<http://www.std.lt/>

rv@senna.std.lt

Latvia

Central Statistical Bureau

1, Lacplesa Street, Riga, LV-1301, Latvia

Tel +371 7366803

<http://www.csb.lv/>

Statistical Sources

Poland

Central Statistical Office

Niepodleglosci 208, 00-925 Warszawa, Poland

Tel +48 22 608 38 04

<http://www.stat.gov.pl/english/>

w.lagodzinski@stat.gov.pl

Romania

National Commission for Statistics

16, Libertatii Avenue, Sector 5

RO-70542 Bucharest, Roumania

Slovenia

Statistichni urad Republike Slovenije

Vozarski pot 12, 61000 Ljubljana, Slovenia

Tel +386 61 216951

<http://www.sigov.si/zrs/eng/>

Other countries

USA

Bureau of Transportation Statistics (BTS)

400 7th Street, S.W., Room 3430, Washington, DC 20590, USA

Tel +1 800 853 1351

<http://www.bts.gov>

statistics@bts.gov

- *National Transportation Statistics*

- *Pocket Guide to Transportation*

Japan

Government of Japan

Management and Coordination Agency of Japan

Statistics Bureau & Statistics Center

19-1 Wakamatsu-cho, shinjuku-ku Tokyo 162-8668 Japan

Tel +81 3 3202 111

<http://www.stat.go.jp>

Nomenclatures

NST/R
NACE
NUTS

Nomenclatures

1. NST/R : Standard goods classification for transport statistics / revised

List of groups of goods by NST/R groups

Groups of goods	NST/R Chapter	NST/R groups	Description
1	0	1	Cereals
2		02, 03	Potatoes, other fresh or frozen fruit and vegetables
3		00, 06	Live animals, sugar beet
4		5	Wood and cork
5		04, 09	Textiles, textile articles and man-made fibres, other raw animal and vegetable material:
6	1	11, 12, 13, 14, 16, 17	Foodstuffs and animal fodder
7		18	Oil seeds and oleaginous fruits and fats
8	2	21, 22, 23	Solid mineral fuels
9	3	31	Crude petroleum
10		32, 33, 34	Petroleum products
11	4	41, 46	Iron ore, iron and steel waste and blast furnace dust
12		45	Non-ferrous ores and waste
13	5	51, 52, 53, 54, 55, 56	Metal products
14	6	64, 69	Cement, lime, manufactured building materials
15		61, 62, 63, 65	Crude and manufactured minerals
16	7	71, 72	Natural and chemical fertilizers
17	8	83	Coal chemicals, tar
18		81, 82, 89	Chemicals other than coal chemicals and tar
19		84	Paper pulp and waste paper
20	9	91, 92, 93	Transport equipment, machinery, apparatus, engines, whether or not assembled, and parts thereof
21		94	Manufactures of metal
22		95	Glass, glassware, ceramic products
23		96, 97	Leather, textile, clothing, other manufactured articles
24		99	Miscellaneous articles

Nomenclatures

2. NACE (extract)

Nomenclature of economic activities

60 Land transport; transport via pipelines

- 601 Transport via railways
 - 6010 Transport via railways
- 602 Other land transport
 - 6021 Other scheduled passenger land transport
 - 6022 Taxi operation
 - 6023 Other land passenger transport
 - 6024 Freight transport by road
 - 602A NACE 6021 + 6022 + 6023
- 603 Transport via pipelines
 - 6030 Transport via pipelines

61 Water transport

- 611 Sea and coastal water transport
 - 6110 Sea and coastal water transport
- 612 Inland water transport
 - 6120 Inland water transport

62 Air transport

- 621 Scheduled air transport
 - 6210 Scheduled air transport
- 622 Non-scheduled air transport
 - 6220 Non-scheduled air transport
- 623 Space transport
 - 6230 Space transport

63 Supporting and auxiliary transport activities; activities of travel agencies

- 631 Cargo handling and storage
 - 6311 Cargo handling
 - 6312 Storage and warehousing
 - 631A NACE 631+632+634
- 632 Other supporting transport activities
 - 6321 Other supporting land transport activities
 - 6322 Other supporting water transport activities
 - 6323 Other supporting air transport activities
- 633 Activities of travel agencies and tour operators; tourist assistance activities n.e.c.
 - 6330 Activities of travel agencies and tour operators; tourist assistance activities n.e.c.
- 634 Activities of other transport agencies
 - 6340 Activities of other transport agencies

64 Post and telecommunications

- 641 Post and courier activities
 - 6411 National post activities
 - 6412 Courier activities other than national post activities
- 642 Telecommunications
 - 6420 Telecommunications

Nomenclatures

3. NUTS 1999 : Nomenclature of Statistical Territorial Units

part 1

Correspondence between the NUTS levels and the national administrative units (NUTS 1-4: 1998; NUTS 5: 1991 (UK 1998))

Country	NUTS 1	N°	NUTS 2	N°	NUTS 3	N°	N° NUTS 4	N° NUTS 5
B	Régions	3	Provinces	11	Arrondissements	43		589
DK	(whole country)	1	(whole country)	1	Amter	15		276
D	Länder	16	Regierungsbezirke	40	Kreise	441		16176
EL	Groups of development regions	4	Development regions	13	Nomoi	51	150	5921
E	Agrupacion de comunidades	7	Comunidades Autonomas + Ceuta y Mellila	17 1	Provincias + Ceuta y Mellila	50 2		8077
F	Z.E.A.T + DOM	8 1	Régions + DOM	22 4	Départements + DOM	96 4		36664
IRL	(whole country)	1	n.a.	2	Regional Authority Regions	8	34	3445
I	Gruppi di regioni	11	Regioni	20	Provincia	103		8100
L	(whole country)	1	(whole country)	1	(whole country)	1	12	118
NL	Landsdelen	4	Provincies	12	COROP regio's	40		672
A	Gruppen von Bundesländern	3	Bundesländer	9	Gruppen von Politischen Bezirken	35		2351
P	Continente + Regioes autonomas	1 2	Comissaoes de coordealcao regional + Regioes autonomas	5 2	Grupos de Concelhos	30	305	4208

Nomenclatures

3. NUTS 1999 : Nomenclature of Statistical Territorial Units

part 2

Correspondence between the NUTS levels and the national administrative units (NUTS 1-4: 1998; NUTS 5: 1991 (UK 1998))

Country	NUTS 1	N°	NUTS 2	N°	NUTS 3	N°	N° NUTS 4	N° NUTS 5
P	Continente + Regioes autonomas	1 2	Comissaoes de coordeação regional + Regioes autonomas	5 2	Grupos de Concelhos	30	305	4208
FIN	Manner-Suomi / Ahvenanmaa	2	Suuralueet	6	Maakunnat	20	85	455
S	(whole country)	1	Riksområden	8	Län	21		286
UK:		12		37		133	443	11206
England	Government Office Regions	9	Counties (some grouped); Inner and Outer London	30	Upper tier authorities or groups of lower tier authorities (unitary authorities or districts)	93	354	8512
Wales	Country	1	Groups of unitary authorities	2	Groups of unitary authorities	12	22	865
Scotland	Country	1	Groups of unitary authorities or LECs	4	Groups of unitary authorities or LECs (or parts thereof)	23	41	1247
N. Ireland	Country	1	Country	1	Groups of districts	5	26	582
EUR 15		78		211		1093	1029	98544

European legal acts on transport statistics

Council Regulation (EEC) No 1108/70 of 4 June 1970
introducing an accounting system for expenditure on infrastructure in respect of transport by rail, road and inland waterway (O.J. L 130 of 15.6.1970)

Council Directive (80/1119/EEC) of 17 November 1980
on statistical returns in respect of carriage of goods by inland waterways (O.J. L 339 of 15.12.1980)

Council Directive (80/1177/EEC) of 4 December 1980
on statistical returns in respect of carriage of goods by rail as part of regional statistics (O.J. L 350 of 23.12.1980)

Council Decision (93/704/EC) of 30 November 1993
on the creation of a Community database on road accidents (O.J. L329/63 of 30.12.1993)

Council Directive (95/64/EC) of 8 December 1995
on statistical returns in respect of carriage of goods and passengers by sea (O.J. L 320 of 30.12.1995) and rules for implementation : Commission Decision (98/385/EC in O.J. L174 of 18.6.1998)

Draft Council Regulation (EC)
on statistical returns in respect of carriage of passengers, freight and mail by air (COM (95) 353 final of 14.09.1995)

Council Regulation (EC) No 1172/98 of 25 May 1998
on statistical returns in respect of carriage of goods by road (O.J. L163 of 6.6.1998)
(replaces Council Directive (78/546/EEC) of 12 June 1978 and Council Directive (89/462/EEC of 18 July 1989)