



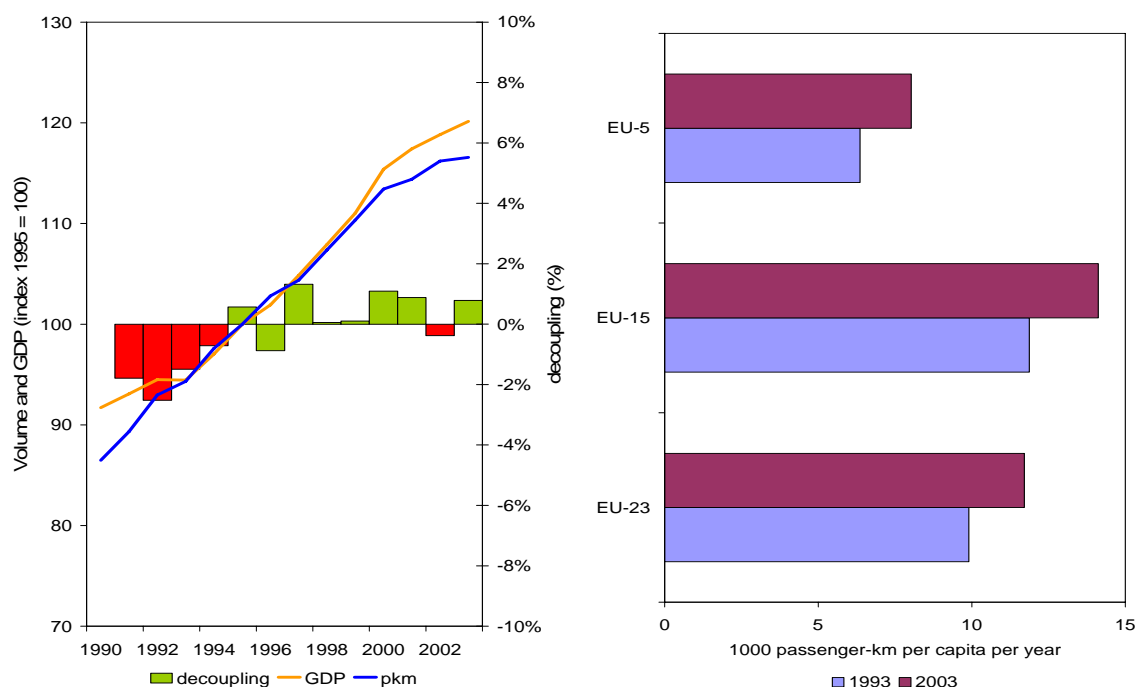
## Indicator Fact Sheet

### TERM 2006 12a Passenger transport volume by mode and purpose

Indicator code / ID	
Analysis made on (Assessment date)	June 2006
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☺ **Passenger transport volumes have grown in most Member States. Relative decoupling has been achieved in most EU Member States. Notably, the decoupling in the new Member States is higher than in the old Member States. It is, however, likely that with time, developments in the EU-10 will parallel those in the EU-15.**

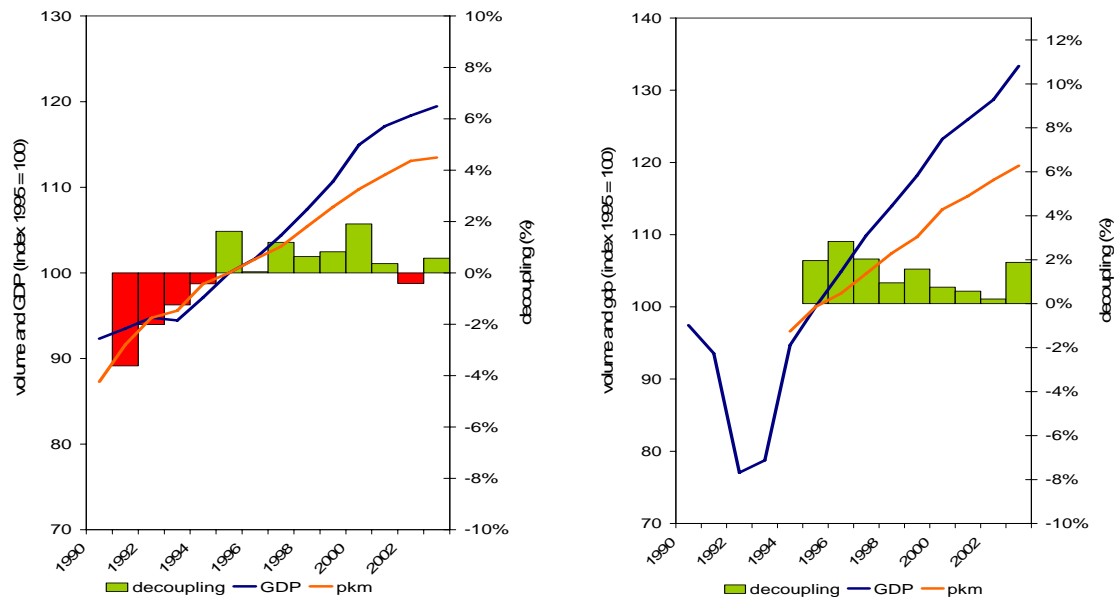
**Figure 1: a) Trends in passenger transport volume and GDP in EEA-23 countries and b) growth in passenger transport volume per capita**



**Note:** Figure a covers 23 EEA countries: the EU15, 5 new Member States (Czech Republic, Slovakia, Slovenia, Poland and Hungary) plus Norway, Iceland and Turkey. The EEA-23 accounts for 92 % of the population in the EEA-32. GDP in euro at constant 1995 prices. Passenger transport (passenger-km) includes car, bus/coach, rail and air. The decoupling indicator in figure a is calculated as the annual growth factor of GDP divided by the annual growth factor of passenger transport volume. Green bars represent decoupling, whereas red bars indicate a lack of decoupling (transport growth exceeds GDP growth). Data for air in 2003 are estimated, since these data was not available – see 'Meta data'. See tables 1-3 for supplementary data. EU-5 data are rough estimates – see 'Meta data'.

**Source:** Eurostat, 2006 and European Environment Agency, 2005 (air travel data)

**Figure 2: passenger transport volume and GDP in old and new EU Member States**  
**a) EU15** **b) five new Member States**



Note: The figure illustrates the sharp contrast between developments in the EU-15 and 5 new Member States (Czech Republic, Slovakia, Slovenia, Poland and Hungary). Data for passenger-km for the five new Member States 1990-1993 is omitted due to lack of reliable data.

Source: Eurostat, 2006 and European Environment Agency, 2005 (air travel data).

## Results and assessment

### Policy relevance:

The European Commission has set itself the objective to disconnect mobility from its negative side effects. The focus of transport policy is moved away from decoupling the economic growth and passenger transport volumes.

### Policy context:

The objective of disconnecting mobility from its negative side effects was introduced in the Mid-term review of the European's Commissions's 2001 Transport White Paper (European Commission, 2006). As a result of this objective, future policies will have to optimise each mode's own potential to become more environmentally friendly, safe and energy efficient.

By choosing for a policy of disconnecting mobility from its negative side effects, transport policy is moving away from the objective of decoupling transport volumes and economic growth. However, decoupling transport volumes and economic growth will contribute to the disconnection of mobility and its negative side effects. Therefore, monitoring the rate of decoupling will continue to be important. The objective of decoupling was first defined in the Transport & Environment (T&E) integration strategy (European Council, 1999) that was adopted by the Council of ministers in Helsinki. Also in the sustainable development strategy (European Commission, 2001a), that was adopted by the European Council in Gothenburg, the objective decoupling is mentioned in order to reduce congestion and other negative side-effects of transport.

In the review of the T&E integration strategy in 2001 and 2002 (European Council 2001; European Council, 2002a), the objective of decoupling was reaffirmed.

In the Sixth Community Environmental Action Programme (European Council, 2002b), decoupling of economic growth and transport demand is mentioned as a key action in order to deal with climate change and to alleviate health impacts from transport in urban areas.

#### Environmental context:

Transport is one of the main sources of greenhouse gases and also gives rise to significant air pollution, which can seriously damage human health and ecosystems. Furthermore it is the most significant cause for noise nuisance, and transport infrastructure is a major contributor to soil sealing and the fragmentation of habitats, causing depletion of biodiversity. Though some of these environmental impacts (like air emissions) do not necessarily follow transport volume, there still is a strong link between transport growth and CO<sub>2</sub>, noise and damage on biodiversity.

#### Assessment:

Transport of goods and passengers is connected with most economic activities such as production, distribution and purchasing of goods and services, wherefore policies aimed at increasing economic activity generally result in greater transport volumes. The objective of decoupling is therefore seldom directly linked to concrete actions.

#### *Transport volumes grow*

Over the past decade the passenger transport volume has grown steadily in the EEA-23, This growth makes it increasingly difficult to reduce the environmental impacts of transport.

Most countries faced a steady transport growth every year, but there are a few exceptions, notably Germany, where the transport volume has remained stable since 1999.

Passenger transport volumes *per capita* also increased during the nineties to above 10 000 km in the EEA-23 in 2003. There are several factors underlying the strong relation between passenger transport demand and economic growth and hence the continuing growth of passenger-km. Moreover, there also exist factors on the supply side of the passenger transport market that induce volume growth.

#### Demand-factors

1. The main factor is growing incomes combined with the fact that people spend more or less the same share of their disposable income on transport, around 11 to 12 % (WBCSD, 2001 – see also TERM 24 – Transport expenditures). Additional travel budget allows more frequent, faster, farther and more luxurious travelling. Indeed, the average daily distance travelled by EU citizens has increased (from 32 km in 1991 to 37 km in 1999), and passenger car and aviation (both fast and luxurious in comparison to bus and train, and at the same time getting relatively cheaper) are the fastest growing modes of transport.
2. Second, population growth also contributes to growth in transport demand and GDP. From 1993-2002, population grew about 4.1 % in the EEA-23.
3. The development towards smaller households contributes to more demand for social contacts outside the home and consequently to more leisure traffic (Umweltbundesamt, 2005). Additionally, friendships are less and less restricted to local areas, since fast and good transport options are available. There is also a tendency to live further away from family members, while on the other hand family connections remain important.

#### Supply-factors

4. A principal supply-factor is that greater speed of transport increases the distance that can be travelled on a given time, and it appears that people have a roughly stable travel time budget (has been stable at roughly 1 to 1.5 hour per day for several decades). Travel speeds have risen as a result of improvements in technology and infrastructure. However, road traffic may be nearing saturation where greater speeds are no longer achievable. Greater speeds have allowed increased travel distances to destinations like work, shops, schools and leisure activities. Additionally, greater speeds have not only allowed greater

travelling distances, but also induced additional transport since more distant destinations can be reached within the same amount of time.

5. Another factor is the price of transport. Although the overall transport price is a result of supply and demand factors, the cost price of transport can be viewed as a supply factor. Efficiency improvements, such as more fuel efficient cars, or fast-return flights, reduce the cost price of transport and thus may increase the demand. See for instance the TERM 21 fact sheet for more on prices.

EU-wide data on travel purposes is not available. However, based on national mobility surveys 40 % of passenger transport demand was for leisure in the nineties. For the Netherlands, the distribution of travel over different purposes is shown in Box 1.

Tourism is an important travel motive, and most of the trips attributed to tourism are long-distance trips. The importance of tourism in air traffic is stressed by the presence of Palma de Mallorca, Tenerife and Malaga in the top-20 of airports handling most passengers (European Commission, 2002). See also Box 2.

#### *An end to decoupling?*

The development in passenger transport volumes has been very similar to the development in GDP throughout the nineties in the EEA-23; however, as is shown in figure 1a, there appeared a small relative decoupling. The peak of this trend was in 2000 (about 2% decoupling), after which the percentages measured were lower or even negative – notably in 2002. Therefore, whether the decoupling is a temporary phenomenon or the beginning of a new trend is open. At all times, transport volumes in the EEA-23 continued to grow, albeit slower than GDP. The decoupling is therefore only relative so far. In Germany, a stabilisation of transport volumes manifested after 1999 and contributed to the apparent decoupling, but the decoupling tendency is seen for more countries. A likely factor is a sharp increase in prices of gasoline and diesel after 1999 (see TERM 21— Fuel prices and taxes). Moreover, there is a tendency that the countries with the higher increases in fuel prices showed more decoupling. The increase in road fuel prices is largely due to increased oil prices, as fuel taxes changed only little in those years. Consumer behavior is guided only partly by present price signals. The expectation of future price levels also plays a role. It is likely that price shocks, rather than the long-term price level, influence the transport volumes. Thus a price-oriented decoupling policy would need to combine long-term price signals with shorter term signals such as the sharp increase in fuel prices seen in 2004 up to 2006.

The decoupling does not show a uniform development. Figure 2 shows that a larger decoupling has taken place in the new Member States. In these countries, passenger transport demand has grown about as fast as in the EU-15, but GDP has grown much faster producing the remarkable decoupling. The causes for this uncoupling remain unclear. Earnings in those countries have increased as much as GDP, leaving more money to spend on transport, but this did not correspond with the increase in number of passenger-km. Car ownership has also grown along with GDP. The length of motorways has increased twice as much as the number of passenger-km, which also contributed to transport growth.

#### *Development by modes*

The passenger car and air transport have had the highest growth, an undesired trend considering the objective of promoting alternative modes and considering that these two modes are the biggest polluters in the passenger transport sector. The by far most important mode (in share of passenger-km), the passenger car, has seen a demand growth of 38% in the EEA-23 from 1990 to 2003. As Box 2 illustrates, much of the increase may be due to increased distances for commuting to work and school and more leisure-related travel. However, higher fuel prices in recent years appear to have dampened the growth.

Air traffic is the fastest growing transport mode with demand doubling during 1990 – 2000. An important reason for the strong growth in aviation is the rapidly growing tourism industry (see Box 1) mainly due to the high growth of low-cost airlines (see Box 3).

Transport volumes of other modes have changed little, possibly as a result of sharper competition from car and air transport (See TERM 20 EU Transport prices).

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## Data

**Table 1 Passenger transport demand by mode (2003)**

Unit: billion pkm

	cars	bus	rail	air	tram and metro	powered two- wheelers	cycling	walking
Austria	81	15	8	14	2,8	1,6	1,1	3,4
Belgium	110	14	8	3	0,9	1,1	3,3	3,9
Bulgaria		13	3	0,1				
Cyprus				3				
Czech Republic	69	9	6	4	14,8			
Denmark	61	9	6	7	0,1	0,8	5,0	2,3
Estonia		2	0,2	0,3	0,1			
Finland	60	8	3	9	0,5	0,9	1,3	2,0
France	739	43	72	115	11,4	12,3	4,4	23,8
Germany	854	76	71	124	14,8	17,9	23,9	30,6
Greece	64	23	2	9	1,4	22,4	0,8	4,1
Hungary	47	19	10	3	2,5			
Iceland	4	1		3				
Ireland	24	7	2	19		0,4	0,7	1,4
Italy	711	98	45	34	5,9	69,8	8,9	23,7
Latvia		3	1	0,2	0,3			
Lithuania	19	3	0,4	0,4				
Luxembourg	6	1	0,3	0,4		0,1	0,0	0,2
Malta				2				
Netherlands	146	8	14	69	1,5	0,9	13,5	6,0
Norway	50	4	2	11				
Poland	172	30	20	5	4,5			
Portugal	97	11	4	12	0,8	8,0	0,3	3,5
Romania		9	9	2				
Slovakia	21	3	1	1				
Slovenia	25	8	2	0,1	0,3			

Spain	346	49	19	54	5,6	14,6	0,8	14,7
Sweden	96	11	9	12	2,0	1,0	2,4	3,4
Turkey	94	95	6	17				
United Kingdom	632	46	41	157	8,3	5,0	4,5	21,2
EU15	4027	415	304	637	55,9	156,7	70,9	144,2
EEA 23	4510	585	352	680				
EU-5	334	70	40	13				

Note: For cycling and walking the data are for 2000, but the values for these modes change little from year to year. The data for powered two-wheelers are for 2002. Empty cells indicate missing data, except in the case of 'trams and metro' where it may also indicate that the modes are not used in that particular country. In some cases, values have been estimated, see 'Meta data'.

Source: Eurostat, 2006 (car, rail, bus); European Environment Agency, 2005 (air); European Commission, 2002 (cycling and walking), European Commission, 2006 (tram and metro) and European Commission, 2005 (powered two-wheelers).

**Table 2 Trends in passenger transport demand by car, bus/coach, rail and air in the EEA-23**

*Unit: billion passenger-km*

	car	bus	rail	air
1990	3275	571	343	347
1991	3457	561	340	330
1992	3604	561	331	382
1993	3661	553	326	409
1994	3812	538	321	449
1995	3871	556	324	496
1996	3946	566	325	556
1997	4020	570	330	555
1998	4124	577	335	597
1999	4224	574	346	645
2000	4313	575	359	705
2001	4393	567	361	681
2002	4486	573	357	680
2003	4519	578	352	

Note: EEA-23 refers to the EU15 , 5 new Member States (Czech Republic, Slovakia, Slovenia, Poland and Hungary) plus Norway, Iceland and Turkey. The EEA-23 accounts for 92 % of the population in the EEA-32. In some cases, values are estimates; see 'Meta data' for more information.

Source: Eurostat, 2006 and European Environment Agency, 2005 (air travel data)

**Table 3 Trends in passenger transport demand of various modes in the EU15**

*Unit: billion passenger-km*

	Powered two-wheelers	cycling	walking	tram/metro	air
1990	126			49	327
1991				49	312
1992		71	137	48	361
1993		70	137	49	385
1994		70	138	48	423
1995	127	71	140	48	467
1996	130	69	140	49	525
1997	134	71	141	50	521
1998	140	70	142	50	561
1999	146	71	143	52	607
2000	148	71	144	54	662
2001	153			54	639
2002	157			55	637
2003				56	



	Powered two- wheelers	cycling	walking	tram/metro	air
1990	126			49	327
1991				49	312
1992		71	137	48	361
1993		70	137	49	385
1994		70	138	48	423
1995	127	71	140	48	467
1996	130	69	140	49	525
1997	134	71	141	50	521
1998	140	70	142	50	561
1999	146	71	143	52	607
2000	148	71	144	54	662
2001	153			54	639
2002	157			55	637
2003				56	

Note: no data for the EU-10.

Source: European Environment Agency, 2005 (air travel data), European Commission, 2002/2005/2006.

## Meta data

### Web presentation information

#### 1. Abstract / description / teaser:

Passenger transport demand keeps growing; however, since GDP grows at a higher rate than transport volume, there appeared a small relative decoupling. The peak of this trend was in 2000, after which the decoupling declines. The decoupling is more likely linked to higher fuel prices than to a successful policy.

#### 2. Policy issue / question:

Are we achieving an uncoupling of transport growth and economic growth?

#### 3. EEA dissemination themes:

Transport

#### 4. DPSIR: D

### Technical information

#### 5. Data source: Term 2006 12 data (sec draft).xls

Main source: Eurostat, 2006, Free data available on the web site:

<http://www.europa.eu.int.comm/eurostat/>. Assessment based on unpublished electronic update from the Structural Indicators data set. Supplied by Boryana Milusheva (Eurostat), May 2006

Supplementary data from DG Tren Pocketbook: (European Commission 2002), (European Commission 2005), (European Commission 2006) and the EIONET data service (European Environment Agency, 2005).

GDP and population from Eurostat, 2006 .

6. Description of data:

Data contains the number of passenger-km by private cars, buses and coaches, rail, tram/metro, and aviation (national plus international). Volume data for cars is expressed as 'km's by national territory', while data for buses/coaches, tram/metro and rail are expressed as 'km's on national territory. Data on powered two-wheelers, walking and cycling are limited available. Passenger-km: unit of measure representing the transport of one passenger over one kilometre (the distance to be taken into consideration is the distance actually run).

GDP: Gross Domestic Product in constant 1995 prices (billion Euros).

7. Geographical coverage:

Original data covers 32 EEA countries, but for nine of these only very limited data is available (Romania, Malta, Lithuania, Latvia, Cyprus, Bulgaria, Estonia, Liechtenstein, Switzerland).

EEA-23, as used in this fact sheet includes the EEA-32 countries minus the nine above.

EU-15 includes the 15 EU Member States before 2004: Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom.

EU-10 includes the new EU Member States: Cyprus, Czech Republic, Lithuania, Latvia, Estonia, Hungary, Poland, Slovenia, Slovakia, Malta.

EU-5 as used in this fact sheet includes five new Member States the EU in 2004: Czech Republic, Slovak Republic, Slovenia, Poland, and Hungary.

EEA-32 includes EU15, plus the EU10 and Norway, Iceland, Bulgaria, Romania, Liechtenstein, Switzerland and Turkey.

8. Temporal coverage:

1990-2003, in some cases for fewer years.

9. Methodology and frequency of data collection: EU15: annually collected by a Common Questionnaire developed jointly by Eurostat, UNECE and ECMT. EU-5: Also collected by Eurostat; data previously very incomplete, but now improving. Data for less used modes have in some cases come from individual studies. Data is frequently, particularly for passenger cars, estimated rather than recorded, and not by a harmonised method. For example, rail transport includes transit transport for some countries; bus transport sometimes, but not always include taxis, trolleybuses, private sector vehicles, or small enterprise data; car data may or may not include foreign vehicles and taxis. See TERM 12 data sheet for details.

10. Methodology of data manipulation, including making 'early estimates':

Since no volume data for air was available for 2003, these data are assumed to be equal to volume data for air for 2002. To a limited extent, missing values were guessed to allow for a better analysis. This was done using linear extrapolation based on nearby years (EX) or linear interpolation based on nearby years (IN), or assuming similar development as in an indicative neighbouring country (SD)

*Passenger cars.* UK: 1990 (EX); CZ: 1990-1992 (SD: Poland); PL: 1991-1994 (IN), 2001 (EX); SK: 1990-1992 (SD: Poland); TR: 1997-1998 (IN), 2000-2002 (EX); IS 1991-1994 (IN).

*Buses and Coaches.* D: 1990 (EX); CZ: 1990-1992 (SD: Poland); SK: 1990-1992 (SD: Poland); IS 1991-1994 (IN).

*Rail.* NL, UK: 1990 (EX); CZ: 1990-1992 (SD:Poland); NO, 2003 (EX)

*Air.* EE, LT, LV, SK, SI 1990-1991 (assumed equal to 1992). Any error arising from this will have minimal effect on the EEA-23 average.

#### Quality information

##### 11. Strength and weakness (at data level):

The data on passenger-km is often estimated rather than directly recorded. However, since the same methodology has been used for many years, the trends generally give a good indication of the developments in passenger transport demand.

Data for transport by ferries is not available, but its share is small. Large data gaps have made it necessary to exclude some countries from the analysis

Reliability, accuracy, robustness, uncertainty (at data level):

Data is considered to be fairly reliable and consistent for the EU15. For central and Eastern European countries the data are generally much less reliable and much less comparable as data updates often result in significant revisions of historical time series.

##### 12. Overall scoring (give 1 to 3 points: 1=no major problems, 3=major reservations): 2

Relevancy: 2 (vehicle-kilometres data should be available to complement the passenger-kilometre data in order to reveal developments of occupancy rates and create better links between transport activity and environmental problems)

Accuracy: 3 (passenger-kilometre figures are estimated rather than measured – more uncertainty for cars than for bus/trains, etc.

Comparability over time: 1

Comparability over space: 2 (particularly relevant for new Member States).

#### **Further work required**

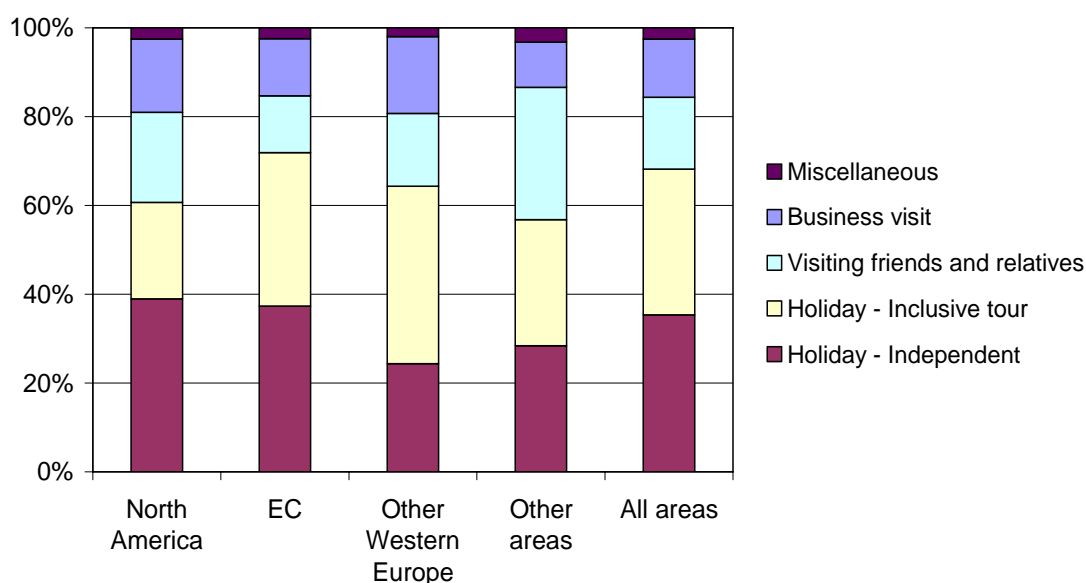
Data coverage should be improved. For some transport modes, no data is available for the most recent three years, and for some countries there is either no data at all, or large gaps. A lack of data was mainly found in RO, MT, LT, LV, CY, BG, LI, CH and EE.

The decoupling indicator could be improved. Currently, it helps to understand developments in the passenger transport sector (transport's 'magnitude'), which in turn partly shows the impact that transport has on the environment. For a more complete picture of transport volumes and the environmental problems that arise from it, it would be valuable to complement data on passenger kilometres with vehicle-kilometres, since it is vehicles that cause the problems. However, only limited and low-quality data is available for the number of vehicle-kilometres. Data availability of the number of passenger kilometres by foot and bicycle is also limited. Such data would further complement the information presented here, in particular when such data can be combined with passenger transport statistics at the urban level, where the non-motorised modes play a significant role in everyday transport. For a primer see Box 1 in TERM 12b.

### Box 1: Purposes of air travel by United Kingdom residents

Air travel plays a large role in reaching tourism destinations from the United Kingdom. 70 % of all overseas UK air travel (by number of visits) is dedicated to tourism purposes. In 15 % of all cases the purpose of travel is for business. Another 15 % of all trips are made for visits to friends or relatives. A country within the European Community is the destination in 65 % of all cases, other countries in Western Europe in 15 % of all cases. 11 % of all passengers travel to North America. Figure 3 presents the purposes and destinations of UK air travels.

**Figure 3 Overseas air travel by UK residents: travel purposes and destinations in 2004**



Note: In the survey above, 65 % of the destinations were in the European Union, 11 % in North America, 9 % in other Western Europe, and 15 % in other areas.

Tourism is the major purpose of air travel in the UK, as evident from figure 3. Business travel plays a much smaller role — probably because only a small share of the population frequently go on business trips and private travel has a higher price elasticity and reacts on reduced ticket prices (see box 3).

Source: UK Department of Transport, 2003; WTO, 2000

### Box 2: Leisure travel

Leisure is the most important motive of mobility. In the Netherlands, for instance, it accounts for almost two-fifths (38%) of all trips and almost half (44%) of all kilometres travelled. This is considerably more than the travel generated by commuting to and from work. The numbers presented do not include holiday trips. When they are taken into account as well, the share of leisure mobility would be even higher. The situation in other European countries is comparable to the example shown.

The main purposes of leisure travel are visits to friends and family, recreational trips, and 'fun shopping'. Leisure mobility is to some degree synonymous with automobility – cycling, and walking are much less frequent, especially in terms of kilometres travelled. Public transport plays a marginal role in leisure travel; if used at all, it is primarily used to reach destinations in metropolitan areas, or to cover long distances (rail).

The distances travelled show a twofold character: short distances for visits to regular destinations (sports, going out, walking the dog, etc.) and increasingly longer distances for occasional activities and day trips. An exception to this dichotomy are social visits, which can be regular in nature, but often involve longer journeys. Although leisure travel has remained quite constant as a proportion of total mobility in the last decades, the total volume has grown. This is likely due to an increasing population and to longer distances travelled for occasional activities and day trips. Holiday travel was not included in the survey used for this text box, but plays an increasingly dominant role in travel volumes: the intercontinental holiday flights and short air trips contribute most to the growing volumes.

Source: Social and Cultural Planning Office in the Netherlands (SCP, 2006 and personal communication)

### **Box 3: The impact of low-cost-airlines on overall traffic growth**

The market share (based on the number of operated flights) of low-cost operators in the CRCO 88<sup>1</sup> area has increased from 0.2 % in 1991 to 6 % in 2001 and to 10 % at the end of 2003. This extensive growth of the market share of low-cost carriers is result of a) an increased traffic volumes that they generate and b) reduction in traffic by traditional aircraft operators. About 24 000 new flights (up from 63 000) have been added by low cost carriers between the first quarter of 2001 and the first quarter of 2002, whereas the number of operated flights of conventional carriers decreased with 2 % over the same period (down from 2.6 million).

In the longer run, and without additional policy measures, the overall amount of air traffic is expected to grow because the low airfares make aviation affordable for more and more people.

On the one hand, the low cost carriers cause additional traffic because they offer tickets at lower prices. On the other hand, low-cost carriers generally achieve larger load-factors, 80 % versus 70 % for flag carriers. An increase in passengers is thus achieved at a reduced growth in flights.

Source: Statfor, 2002, Statfor, 2003

### **Box 4: E-business and dematerialisation**

Modern and forthcoming information and communication technology (ICT) obviously can create transport savings, either by substitution of physical transport or by the more sophisticated organisation of transport. However, ICT's potential to generate transport savings should not be overestimated. On the other hand ICT can also lead to more traffic due to reduced average order quantity and more frequent delivery services. Whether it will lead to transport savings or more transport is not clear yet and may depend on a range of framework conditions. For e-business analysed by the Wuppertal Institute, the main results included:

**Teleshopping** only has the potential to generate small transport savings. This is because shopping travel represents only a small portion of the overall distances travelled; and while it saves travel for the shopper, it generates additional delivery transports, bigger potential for additional transport due to possible compensating passenger transport and rebound effects (money or time saved will be spent on something else that also requires transport at some level.

<sup>1</sup> CRCO 88 includes: Belgium/Luxembourg, Germany, France, UK, Netherlands, Ireland, Switzerland, Austria, Spain, Canaries, Lisbon FIR, Santa Maria FIR.

**Home-based telework** offers relatively clear possibilities for small transport savings (up to about 1.6 %). While for some individuals much higher savings can be realised it must be kept in mind that teleworking is only a realistic option for certain kinds of jobs, and usually for no more than one or two days a week. Teleworking may also generate some additional transport (up to about 2.5 % of passenger kilometres travelled, based on transport activity), depending upon rebound effects.

**Mobile Telework** (working on the laptop while travelling) appears to generally stimulate transport by increasing the acceptance of trips with longer duration. The transport savings generated by mobile telework are difficult to determine quantitatively.

**Teleconferencing** provides a relatively high theoretical potential for transport savings. The savings can be up to about 10 % of passenger kilometres travelled for business, based on present transport activity. However, teleconferencing also allows intensive business relations over a larger geographical area thus generating additional travel, though it is hard to quantify how much.

Practical experience will cover a broad range in any of the fields due to the individual conditions. This will include a variety of examples, but they may not become generalised.

Looking to the future, the outcome may follow different paths. On the one hand, the spread of any of the e-services will depend on their cost and comfort. It is highly likely that a continuation of the present trend will lead to significantly widespread use. On the other hand, transport habits will largely depend on cost and speed of transport; as long as costs continue to fall (in relation to average income) and speed continues to increase (especially by the availability of cheap air transport), reducing the distance travelled is not a very likely possibility.

Source: Wuppertal Institute, 2003