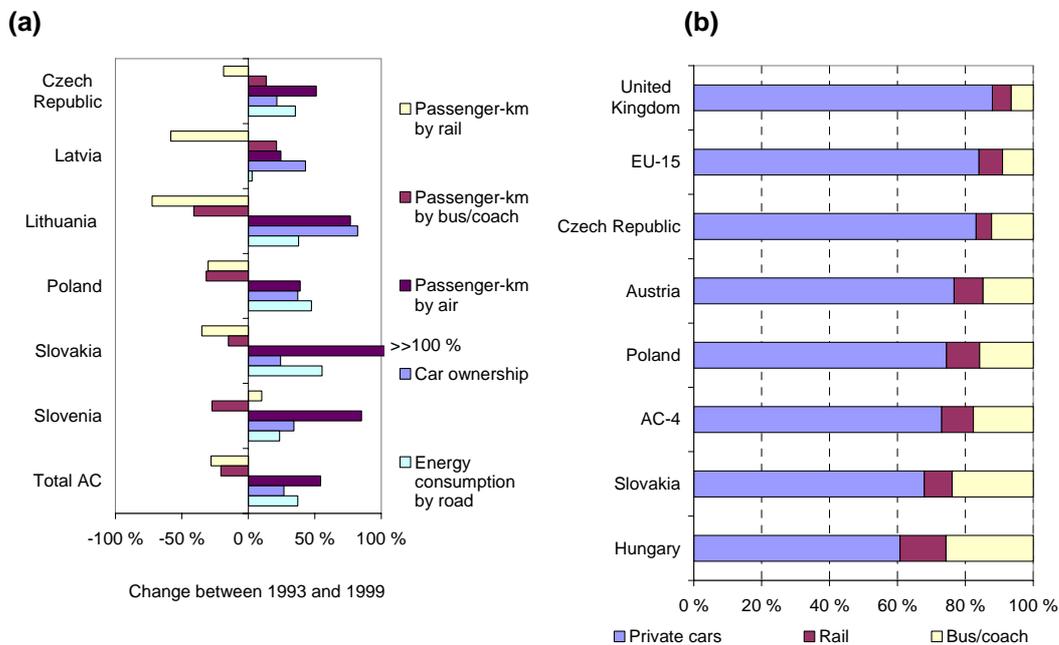


Indicator fact sheet

TERM 2003 12b AC+CC — Modal split in passenger transport

⊗ Rail and bus/coach transport, which historically dominated the transport system, have lost a great deal of their shares during the period of transition in the acceding (AC) and candidate countries (CC). The share of rail and bus/coach transport is still higher in most AC/CCs than in the EU, but this difference is becoming smaller. Private car transport dominated passenger transport with around 73 % in 2000. The distribution of passenger transport over the main modes is diverging from the CTP policy objectives on the preservation of bus/coach and rail transport.

Figure 1: (a) Change in passenger-kilometres by bus and rail, car ownership and energy consumption by road between 1993 and 1999 in selected countries and b) modal split in passenger-kilometres in 2000 for selected ACs



NB: (a) Total AC refers to AC-10, except for bus/coach transport. For bus/coach transport Total AC refers to Slovenia, Slovakia, Poland, Lithuania, Latvia and the Czech Republic. The change in car ownership and the change in passenger-km by rail apply to the 1993–98 period.

(b) EU-15, UK and Austria have been added for comparison. Austria and the United Kingdom are the EU-15 countries with the lowest and the highest private car share respectively. Air traffic is not included since a shift towards other modes is not reasonably possible and national air transport only plays a very limited role.

Source: UNECE, 2001; IEA, 2003; Eurostat, 2003; UNSD, 2003, ECMT, 2003(b).

Results and assessment

Policy relevance

The European Commission has set itself the following objectives to achieve more sustainable transport (reduction of congestion and other negative side effects):

- Bring back the shares of alternative modes (rail, water and public passenger transport) to their 1998 levels by 2010 and thus make for a shift of balance from 2010 onwards (CTP);
- Shift in transport use from road to rail, water and public passenger transport (SDS).

In the context of enlargement, the primary objective is to improve current infrastructure and to benefit from the extensive and dense rail network available in the ACs.

Policy context

The need for action with respect to the split among transport modes can be derived from the Transport & Environment (T&E) integration strategy (European Council, 1999) that was adopted by the Council of Ministers in Helsinki. In its sustainable development strategy (SDS) (European Commission, 2001a), endorsed by the European Council meeting in Gothenburg (European Commission, 2001a), the EU has set itself the objective to shift passengers from road to alternative modes.

In the review of the T&E integration strategy in 2001 and 2002 (European Council 2001; European Council, 2002), the Council states that the modal split should remain stable for at least the next ten years, even with further traffic growth.

In the White Paper on the Common Transport Policy (CTP) 'European transport policy for 2010: Time to decide' (European Commission, 2001b), the Commission subsequently proposes 60 or so measures to reach this objective. The proposed action programme aims mainly at stabilising the modal shares at 1998 levels by 2010.

In the context of enlargement, the Commission aims to benefit from the extensive and dense railway network present in the accession countries to rebalance the modal split in an enlarged Europe, first of all by investing in the trans-European network (TEN-T) to eliminate bottlenecks and modernise rail (see TERM 2002 19 AC — Transport infrastructure investment). This should be combined with measures to reform the rail sector and introduce fair competition between rail and road (European Commission, 2001b).

Additionally, the European Commission provides funding for cities pioneering with the innovative development of (sustainable) urban transport. This initiative, known as Civitas (city–vitality–sustainability) will support the best-integrated and innovative proposals for the development of urban transport put forward by committed European cities (European Commission, 2000a). In this way, the Commission wishes to encourage competitive alternatives to the use of cars in city centres and combat the growing congestion and pollution of European cities. Participation by cities in accession countries is particularly encouraged (European Commission, 2000b). The cities from the accession countries that take part in the CIVITAS project are Gdynia (Poland), Prague (Czech Republic), Bucharest (Romania), Pécs (Hungary) and Kaunas (Lithuania).

Several countries have developed policies and targets concerning the promotion of urban passenger transport. Instances are indicated below.

- The Polish national transport policy for the period 2000–15 for sustainable country development aims, amongst others, to tackle the emerging transport problems in cities and metropolitan areas. The State will assist municipalities through participation in financing the most important capital-intensive investment in public transport projects (first of all rail systems in large agglomerations) and for disseminating information on and promoting best practices in urban transport, including walking and cycling. Additionally, new legislation will provide municipalities with measures for generating financial resources for development, maintenance and operation of transport systems (e.g. parking charges, tolls for using bridges and entering city centres). Finally, the Ministry of Transport will be provided with elaborated measures for reforming local transport management systems and organising cooperation in the planning of metropolitan transport systems (Suchorzewski, 2000).
- The Hungarian transport policy of 1996 (OECD, 2000) sets several objectives that address the environmental performance of the transport sector. Concerning modal split, an objective of the transport policy is to halt the decline of public transport and limit car traffic in historic and recreational areas as well as in inner cities.

- The State environmental policy of the Czech Republic (Ministry of the Environment of the Czech Republic, 1999) sets out objectives for the integration of environmental concerns into sectoral policies, and means for their implementation. As a consequence, the transport policy should implement measures in land use planning documents and transport strategies to decrease transport demand; support and give preference to the development of public transport; improve the conditions and create facilities for bicycle transport, including bike-and-ride (B + R) schemes in combination with public transport.

Environmental context

The relevance of the modal split policy in passenger transport comes from differences in environmental performance (resource consumption, GHG emissions, pollutant and noise emissions, land consumption, accidents etc.) of transport modes. These differences are gradually becoming smaller, which makes it more and more difficult to determine the direct and future overall environmental effects of modal shifting. The total environmental effect of modal shifting must in fact only be determined on a case-by-case basis, where local circumstances and specific local environmental effects can be taken into account (e.g. transport in urban areas or through sensitive areas).

The magnitude of environmental effects from modal shifting is limited, as modal shift is only reasonable for small market segments, e.g. transport in or between city centres.

Assessment

Overall picture

Since there is hardly any data available for private car passenger kilometres for the period 1991 to 2000 and only limited data for other modes, a detailed picture of the developments in the shift between modes cannot be made. Therefore, an analysis based on proxy-indicators is presented.

As is shown in figure 1a, the demand for transport by bus and rail has decreased considerably. Bus transport decreased by 21 % in AC-6 ⁽¹⁾ in the 1993–99 period. Rail transport decreased by 28 % in AC-10 in the 1993–98 period. At the same time, car ownership and energy consumption by road have increased with the same magnitude. From these developments one can conclude that the share of private car transport is generally increasing at the cost of bus and rail transport. It is, however, not possible to indicate the exact magnitude of the shift towards private car transport. From figure 1b, it can be concluded that private car transport dominated passenger transport in the AC-4 ⁽²⁾ in 2000, with 73 %. The average share of private car in passenger transport is probably somewhat lower in the entire AC region, as the countries presented in the figure are amongst the richer countries in the group of acceding and candidate countries.

The general conclusion can be underpinned by the information on modal shift developments in the 1996–2000 period that is available from the European Conference of Ministers of Transport (ECMT, 1999). In that period, the share of private car transport remained stable at 61 % in Hungary. In the Czech Republic, the share of private car transport increased from 76 to 83 % in that period (ECMT, 2003) (see also Box 1).

The shift towards private car transport in the ACs can be explained by the high competitiveness of private cars, which are also seen as a symbol of the higher standard of living experienced in the EU. Additionally, as a consequence of both urban sprawl and degrading public transportation systems accessibility by public transport is generally decreasing (European Commission, 1999b).

It can be concluded that the distribution of passenger transport over the main modes is diverging from the CTP policy objectives on the preservation of bus/coach and rail transport.

Private car transport

In the AC region, a shift towards private car transport can be observed during the nineties. In 2000, the share of private car transport was 61 % in Hungary, 68 % in Slovakia, 74 % in Poland and 83 % in the Czech Republic. The share of private car transport is even larger in

⁽¹⁾ AC-6 refers to Slovenia, Slovakia, Poland, Lithuania, Latvia and the Czech Republic.

⁽²⁾ AC-4 refers to Hungary, Slovakia, Poland and the Czech Republic.

the Czech Republic than in Austria, which has the lowest share of private car transport in the EU-15 region ⁽³⁾. Since the Czech Republic has relatively high car ownership levels compared with other ACs, it can be expected that the share of private cars in the other accession countries, for which data is lacking, is at least the same, but probably lower. This applies probably not to Cyprus and Malta, where private car transport takes the vast majority of total transport volumes due to the absence of railways.

Public transport (bus/coach and rail)

Despite the change towards private car transport, public transport (at least in some ACs) still plays a greater role in moving people than in EU countries. This is illustrated in figure 1b. Public transport (bus/coach and rail) had a share of 12 % in 2000 in AC-4. As is indicated in figure 1a, bus and rail transport decreased at the cost of private car transport, indicating a decrease of their modal share. In Latvia and Lithuania, the decrease in demand for rail transport was around 60–70 % between 1993 and 1999. Also Poland and Slovakia show considerable decreases in rail (30 and 35 % decrease in demand respectively) and bus/coach transport (32 and 15 % respectively). In all countries for which data on public transport was available, car ownership and energy consumption increased, underpinning a shift towards private car transport.

Air transport

The role of air transport is getting more important in accession countries. In the AC-4 ⁽⁴⁾, the share of air transport (national + international) was 2.7 % in 2000. Seeing that the number of passenger-km has increased considerably, by 54 % between 1993 and 1999 in AC-10, one can conclude that the share of air transport is increasing.

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⁽³⁾ Taken into account private car transport, bus and rail transport.

⁽⁴⁾ AC-4 refers to Hungary, Slovakia, Poland and the Czech Republic.

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Data

Table 1: Change between 1993 and 1999 in passenger transport demand (rail, bus/coach, air), car ownership and road energy consumption.

Unit: %

	Rail	Bus/coach	Air traffic	Car ownership	Energy consumption by road
Total AC	-28 % (1993 – 98)	-21 % (AC-6)	54 %	27 % (1993 – 98)	37 %
Bulgaria	-35 %	-42 %	-33 %	27 %	30 %
Cyprus	-	#N/A	23 %	26 %	28 %
Czech Republic	-19 %	13 %	51 %	21 %	35 %
Estonia	#N/A	#N/A	165 %	45 %	12 %
Hungary	13 %	#N/A	93 %	8 %	26 %
Latvia	-58 %	21 %	24 %	43 %	3 %
Lithuania	-72 %	-41 %	77 %	82 %	38 %
Malta	-	#N/A	86 %	20 %	-19 %
Poland	-30 %	-32 %	39 %	37 %	47 %
Romania	-37 %	#N/B	-3 %	66 %	7 %
Slovak Republic	-35 %	-15 %	1068 %	24 %	55 %
Slovenia	10 %	-27 %	85 %	34 %	23 %
Turkey	#N/A	#N/A	78 %	#N/A	1 %

NB: AC-6 refers to Slovenia, Slovakia, Poland, Lithuania, Latvia and the Czech Republic. For data on private car transport, see TERM 2003 12a AC — Passenger transport demand by mode and purpose.

Road energy consumption is based on MTOE, road, rail and air passenger transport based on passenger-kilometres. Car ownership is based on absolute numbers.

Sources: IEA, 2003; UNECE, 2003; Eurostat, 2003; UNSD, 2003

File: TERM 2003 12 AC — Passenger transport.xls

Metadata

Technical information

1. Data sources:

Rail, bus/coach and cars: UNECE, 2003. Air: UNSD, 2003

Additional data source used for car, rail and bus/coach: ECMT 'Trends in the transport sector 1970–2001' and ECMT 'Trends in the transport sector 1970–97'.

For comparison with EU-15, the *Eurostat statistical compendium* has been used (Eurostat, 2003).

2. Description of data: Passenger transport demand for various modes (private car, bus/coach, rail and air).

File: TERM 2003 12 AC Passenger transport.xls

Original measure units: Passenger-kilometres.

3. Geographical coverage:

AC-10 (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia), Turkey, Romania and Bulgaria

4. Temporal coverage: 1993–99 (maximum, for many tables only limited temporal coverage available).

5. Methodology and frequency of data collection:

Data from UNECE is collected by a common questionnaire developed jointly by Eurostat, UNECE and ECMT. Data is collected annually.

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

Passenger-kilometres by rail: Czech Republic 1991 and 1992 calculated by fitting a straight line between known values.

Quality information

7. Strength and weakness (at data level):

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

The passenger transport statistics are not very reliable, except for rail. In particular, the large differences between the various sources (UNECE, Eurostat and ECMT) make it clear that all data should be interpreted with care.

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

Relevancy: 2 (Vehicle-kilometres provide a better unit of measurement, since they are more directly linked to environmental impact of transport movements.)

Accuracy: 3 (Passenger-kilometre figures are estimated (more uncertainty for cars than for bus/trains, etc.) rather than measured and vary by source (Eurostat, ECMT, UNECE, etc.).)

Comparability over time: 3 (Many gaps in the data, but trends still come out rather clearly, except for passenger transport by car: this (nowadays most important) mode is completely lacking.)

Comparability over space: 3 (gaps in the data.)

Further work required

Data exchanges and verification systems in place for delivery of transport demand statistics to various international organisations are not fully operational, as can be seen from the limited statistics available. International bodies like Eurostat, UN/ECE and ECMT are addressing the issue and working on better coverage of passenger (and freight) transport demand in their databases. Such data is needed in order to improve the assessment made in this fact sheet. Efforts should also be made to improve timeliness of transport statistics, as 1999 data is now the most recent data available, which is already four years old now.

Work is needed to ensure harmonisation of statistics on passenger transport from UN/ECE, ECMT and Eurostat. Transposition of the EU transport acquis should ensure that a large part of the transport statistics are collected regularly and harmonised across the ACs.

Further work is needed to develop reliable and comparable statistics on vehicle-km used for passenger transport, since such data is closer connected to the environmental consequences of transport and might reveal evolution of occupancy rates.

Box 1: Modal split of urban trips

An analysis of the modal split of trips in central and east European municipalities (AC-13, excluding Cyprus, Malta and Turkey) in the years 1995 and 1997, based on data following from a questionnaire, clearly shows that motorised private traffic in all municipalities has increased considerably. In 1997, on average, 45 % of all daily journeys in the AC-10 were made by private motorised vehicles, while two years before the share of motorised private traffic was only 39 %. Accordingly, the average proportion of daily journeys by public transport has fallen in these two years from 38 % to 33 %. Walking and cycling decreased slightly from 23 % to 22 %

Source: European Commission, 1999a.