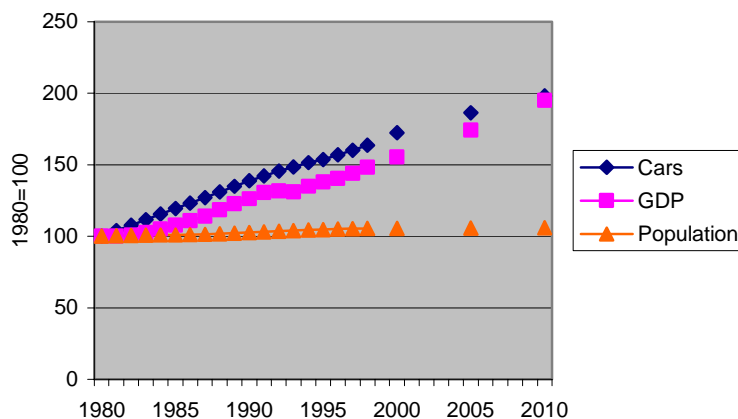


Indicator: Vehicle ownership

The level of car ownership is rising rapidly, especially in countries with relatively low car ownership levels. Motorcycle ownership is dropping.

Figure 1: Car ownership in the EU and GDP, 1980-2010



Source: DG TREN, 2000 ; projectiojns: ETC/AE, 2000 ; European Commission, 1999

Objective

Reduce the growth in passenger car and powered two wheeler ownership; increase the bicycle fleet size.

Definition

Number of passenger cars, powered two wheelers (PTW, including both mopeds and motorcycles) and bicycles per person, generally expressed as a number per 1 000 inhabitants.

Policy and targets

The level of car ownership is closely related to car use (so to the volume of mobility) and - especially in urban areas - also to traffic congestion.

There are no EU or Member State objectives or targets relating to vehicle fleet size.

Findings

Passenger cars

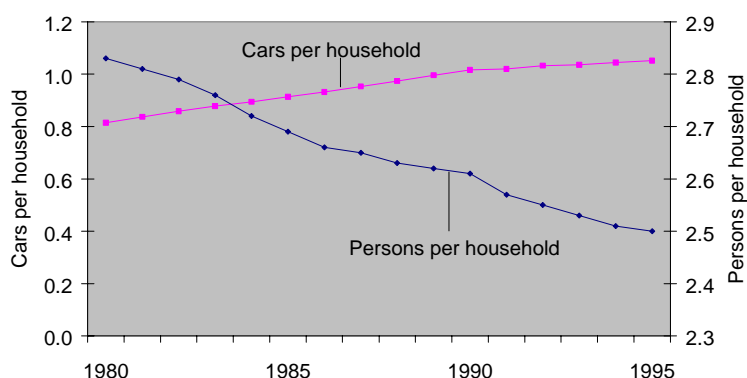
Car ownership has increased dramatically in recent decades. In the EU it grew from 291 to 451 cars per 1 000 inhabitants between 1980 and 1998, an average of 2.5 % per year (outstripping the 2.2 % annual growth rate of GDP). The main factors underlying this strong growth are:

- Decreasing number of persons per household (see figure 3). This decrease results in a higher growth in the number of households than explained by the growth of the population. Since many households depend on cars for shopping and other transport needs, the result is higher car ownership;
- Increasing number of cars per household (see figure 3). Even though the number of persons per household is decreasing, the number of cars per household is increasing. Increased personal income stimulates this development (see #Transport prices);
- Both these developments are further stimulated by growing incomes, increases in the average travel distance (#Access to basic services), decreased accessibility by public transport (see #Access to transport services), changes in lifestyle patterns (double incomes, choice of leisure activities).

The strong growth is slowing, however, in countries that already have relatively high numbers of cars per capita, which can be explained by the fact that households may need one or two cars, but generally not more. In contrast, countries with lower numbers of cars per capita show rapid increases in vehicle ownership: in 1980, the lowest levels of car ownership were found in Greece and Portugal (84 and 94 cars per 1 000 inhabitants, respectively). These countries had the highest increases in car ownership between 1980 and 1998 (68 % in Portugal and 46 % in Greece). In 1998, Greece was still the country with lowest car ownership. It can thus be expected that the increase in Greece will continue (see also figure 4).

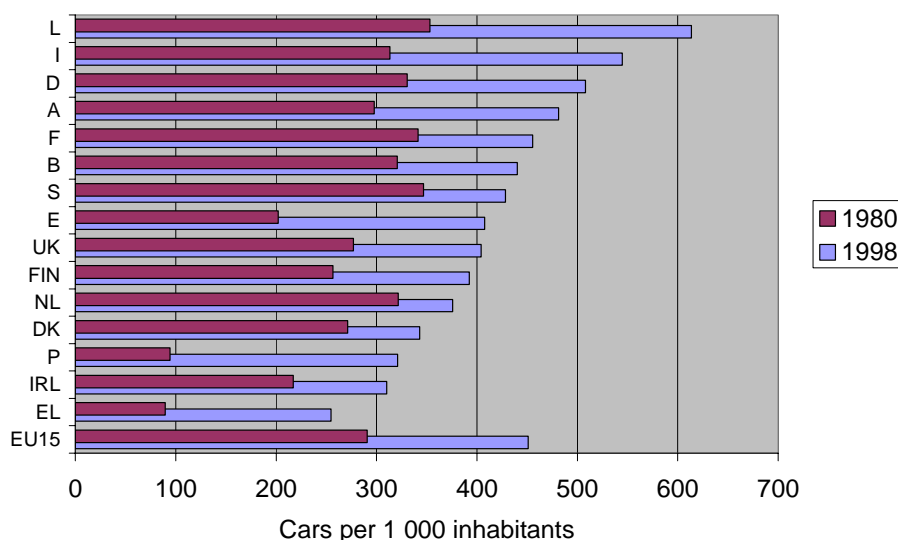
The total number of passenger cars is expected to continue to grow up to 2010. However, the average annual growth rate will gradually slow to around 1.4 % per year between 2000 and 2010.

Figure 2: Average number of cars per household and the number of households in the EU, 1980-1995



Source: DG TREN, 2000; EEA, 2000

Figure 4: Number of passenger cars per 1 000 inhabitants in EU Member States in 1980 and 1998



Source: DG TREN, 2000

Motorcycles The average level of motorcycle ownership in the EU fell by 4 % between 1990 and 1998. However, the differences between the Member States are large:

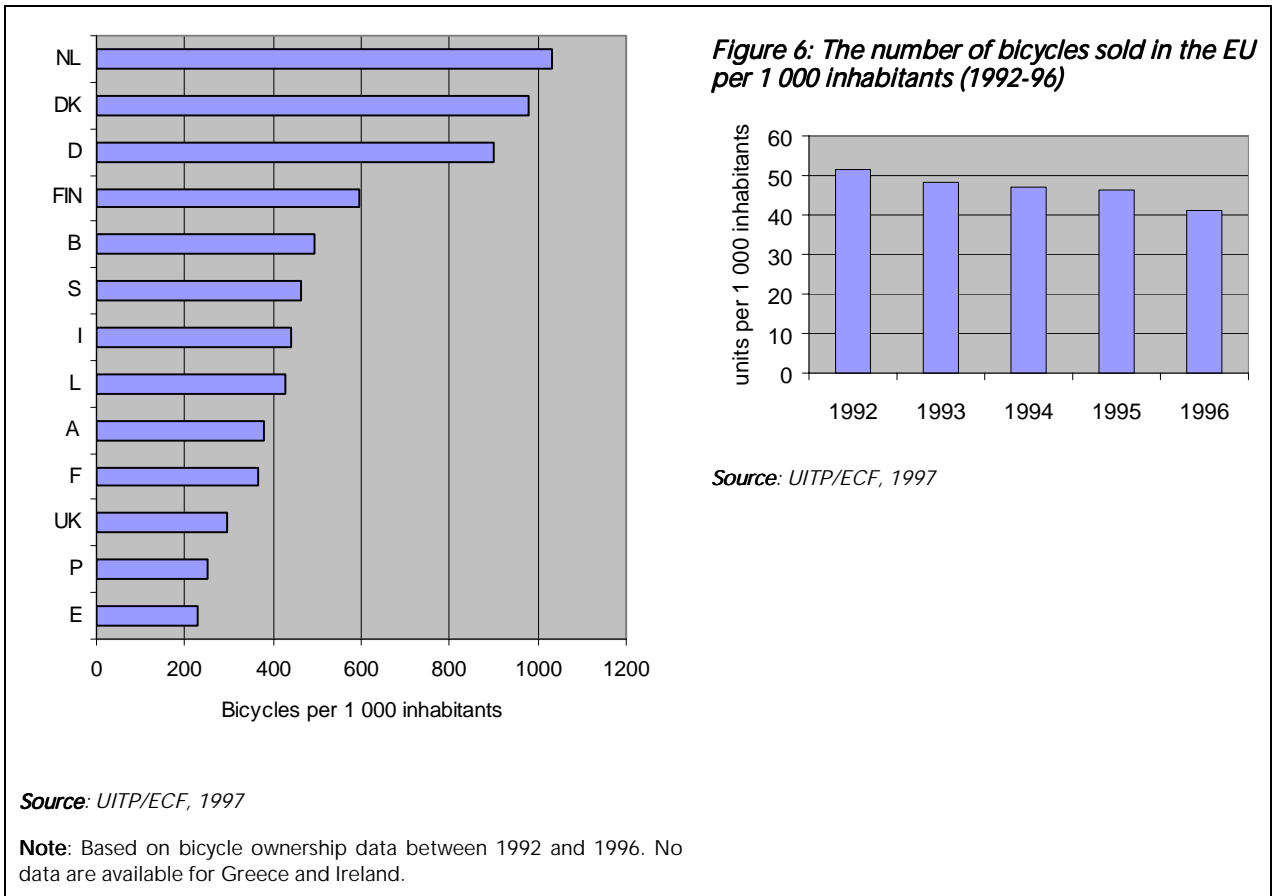
- The highest *increases* were in Greece and Luxembourg (118 and 116 %, respectively).
- The highest *decreases* were in Germany and France (34 and 25 %, respectively);

Box: Number of bicycles in the EU

Figure 5: Number of bicycles per capita in EU, 1992-96

The number of bicycles in the EU varies widely between Member States. The highest number per capita is in the Netherlands - more than one bicycle per person. Greece and Portugal have relatively low ownership levels (see Figure 5).

Bicycle sales are gradually dropping (see Figure 6). It seems that bicycle popularity is decreasing. However, bicycle stocks and sales may have no direct influence on bicycle use. Different types of bicycles are used for different purposes (e.g. sports-bikes, children-bikes and all terrain bikes). Hence, the number of bicycles is an indicator of the popularity of cycling and of cycling potential, but not (directly) an indicator of its potential to change the modal shares of passenger transport demand.



Box 2: Reduction of numbers of vehicles

DHL International (UK) Ltd. has an action plan to improve fuel efficiency by 15 %, which will save GBP 358 000 in a three-year period. Achieving this target is linked to driver training and initiatives such as its 'team buses'. Instead of using individual courier vans, DHL has begun to use 'team buses' for journeys from Heathrow to central London. Couriers sort the consignments on the bus en route and deliver the goods on foot. The area covered by these 'foot deliveries' is very similar to the norm for postal services. This has reduced the number of vans travelling in and out of London from 18 to 2 per day and speeded up customer services and delivery times, which is good for business.

Source: European Commission, 2000

Future work

- The number of passenger cars per type of household should be further analysed to improve knowledge about the interaction between household types and car ownership. Statistics on the number of cars per type of household are only available for 1 year (1994). Analysing this kind of data can give valuable insights in household transport needs.
- Statistics on the number of powered two wheelers need to be improved. The main problem in this category lies in the stock of mopeds, because in some countries mopeds are registered in a different way from other vehicles (LAT/TÜV/KTI, 1999).
- The size of the fleet and the ownership of other vehicles – e.g. heavy goods vehicles, buses – should also be investigated.

Data

Table 1: Number of passenger cars per 1 000 inhabitants (EU-15), 1980-1998

Unit: Cars per 1 000 inhabitants

	EU15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
1980	291	321	271	330	89	202	341	217	313	353	322	298	94	257	347	277
1990	393	388	309	447	171	309	415	227	483	480	368	387	187	389	421	360
1992	409	400	310	471	177	336	418	241	518	512	373	410	205	384	414	360
1993	414	408	312	479	189	344	423	249	520	523	376	421	224	370	409	366
1994	422	413	312	488	199	351	430	262	524	540	383	433	242	368	409	372
1995	426	422	319	495	211	362	432	265	529	559	364	447	258	372	411	374
1996	434	427	331	500	223	376	437	272	531	558	370	458	277	379	413	388
1997	442	434	337	504	238	389	445	310	535	562	372	469	297	379	419	398
1998	451	440	343	508	254	408	456	310	545	613	376	481	321	392	428	404

Source: DG TREN

Meta data**Technical information***Data sources:*

- All data on passenger cars are from DG TREN Pocketbook (DG TREN);
- Data on population are extracted from Eurostat Statistical Compendium (Eurostat);
- Data on household size and persons per household are extracted from Signal fact sheet YIR01HH03 - Household number and size (EEA, 2000);

Description of data:

Eurostat's data on passenger cars is less up to date than that of DG TREN. Therefore, DG TREN data is used.

File: Vehicle ownership.xls

Original measure units:

Total number of cars, number of households and population

Original purpose:

Unknown

Geographical coverage:

EU-15 (Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom).

Temporal coverage:

- Car ownership data: 1980-1998;
- Household data: 1980-1995.

Methodology and frequency of data collection:

–

Methodology of data manipulation:

- Number of cars: 1981-1989 calculated by fitting a straight line between 1980 and 1990; 1991 calculated by fitting a straight line between 1990 and 1992;
- Cars per household calculated by dividing total number of passenger cars EU by total number of households EU;
- Projection of number of cars: for 1980-1998 historical data from DG TREN Pocketbook have been used (DG TREN). ForeMove (ETC/AE, 2000) has been used for number of cars in 2000, 2005 and 2010.

Qualitative information*Strength and weakness (at data level):*

–

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

–

Further work required (for data level and indicator level):

–

References

DG TREN, 2000: *EU Transport in figures – statistical pocketbook 2000*. European Commission, Directorate-General for Energy and Transport in cooperation with Eurostat, 2000, Luxembourg 2000. {version July 2000}

EEA, 1999: *Are we moving in the right direction? Indicators on transport and environment integration in the EU*. TERM 2000. European Environment Agency, Copenhagen, Denmark, 1999.

EEA, 2000: *Indicator fact sheet Signals 2001 - Chapter households*. YIR01HH03 Household number and size. PM

ETC/AE, 2000: *Comparison between National and Central Estimates for Air Emissions from Road Transport for TERM*. Final draft topic report. Copenhagen, Denmark, November, 2000.

European Commission, 1999: *The Shared Analysis Project - Economic Foundations for Energy Policy. Special issue*, Directorate General for Energy, European Commission. Brussels, Belgium, December 1999.

European Commission, 2000: *Good Practice in freight transport – A sourcebook*. European Commission. Office for Official Publications of the European Communities. Luxembourg.

Eurostat, 2001: *Transport and Environment: Statistics for the Transport and Environment Reporting Mechanism (TERM) for the European Union, data 1980-1999*. European Commission in cooperation with Eurostat, Luxembourg 2001. {version 12/9/00}

LAT/TÜV/KTI, 1999: *Study on transport-related parameters of the European road vehicle stock - Final report*. Laboratory of Applied Thermodynamics (LAT), Thessaloniki - Greece, Institut für Umweltschutz und Energietechnik (TÜV, Cologne - Germany, Institute of Transport Sciences Ltd. (KTI), Budapest - Hungary. Thessaloniki, December 1999.

UITP/ECF, 1997: *Transport Demand of Modes not covered in International Transport Statistics - Annex 5. ECF Report on Cycling*. Study commissioned by the European Commission, DG VII. UITP / European Cyclists' Federation (ECF), December 1997.