

## Measure 71: Promotion of good urban transport practices

### First page:

Policy package:

#### 6: Urban transport package

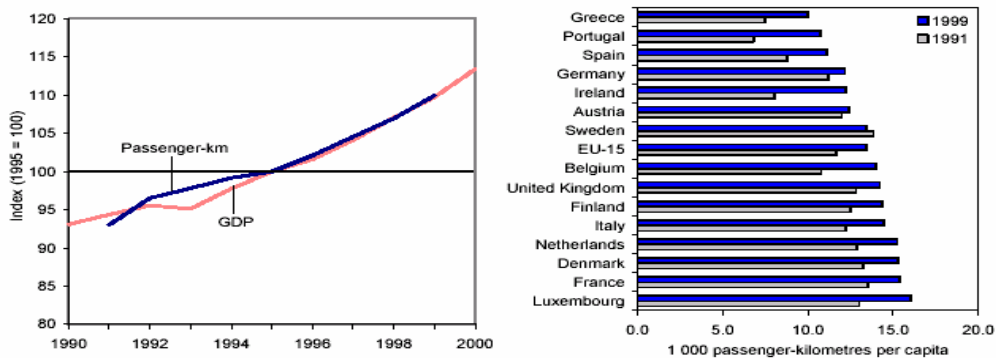
Measure 71:

Identification and dissemination of best urban transport system practice, including urban and regional rail services, and best practice in management of the relevant infrastructure

What is the problem being addressed ?

Passenger transport (in terms of passenger-kilometres) grew at the same pace as GDP between 1991 and 1999 and has therefore not yet moved towards the objective of decoupling economic development and passenger transport demand:

Figure 1: Passenger transport demand and GDP (EU)

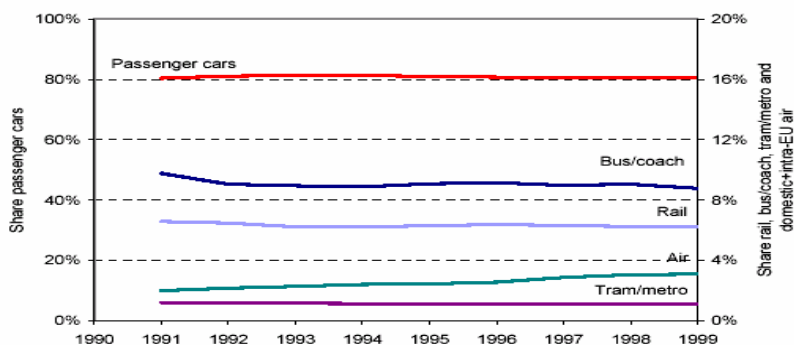


NB: Passenger transport (passenger-kilometres) includes car, bus/coach, rail, tram/metro and domestic, intra- and extra-European aviation. GDP based on US dollars in constant 1995 prices.

Source: Eurostat, 2002.

The total number of passenger-kilometres travelled in the EU15 increased from 4268 billion in 1991 to more than 5000 billion in 1999, an 18% increase or an average of 2,1% per year, outstripping that of GDP (1,9% increase per annum). Instead of growing more rapidly than GDP, passenger transport growth has been in line with economic growth since 1995. This data both inter-urban and urban transport, including passenger cars, bus/coach, rail, tram/metro, and domestic, intra- and extra-European aviation. However, they exclude motorcycles, waterborne, walking and cycling. Therefore, the data cannot be taken as representative of urban transport alone, but it is clear that urban transport play a major role into the volume of passenger cars and bus/coach transport, and tram/metro is a form of urban transport itself:

Figure 2: Modal shares of passenger transport demand (EU) — including domestic and intra-EU aviation



NB: Shares based on passenger-kilometres. Air includes domestic and intra-European only, since no mode shift on a European level is reasonably possible on extra-European flights.

Source: Eurostat, 2002.

Passenger transport continues to be dominated by cars, with 81% of total passenger-kilometres in EU15. One of the underlying factor of the steady increase of passenger transport by car is the process of “urban sprawl” which lead to increasing travel distances to destinations like work, shops, schools and leisure activities. These distances are increasing because origins and destinations are being located further apart due to ill spatial planning while, at the same time, people are able to live further apart from these locations. Additionally, easy accessibility has not only reduced travelling times, but also induced additional transport, since more distant destinations can be reached within the same amount of time. These far away origins and destinations are often primarily linked with roads.

In this context, investments are directed mainly towards roads as a response to traffic bottlenecks, occurring possibly because of urban sprawl. Walking and cycling facilities are often less developed or ill-adapted to newly emerging urban patterns. Even though public transport is often well developed in the central parts of urban areas – and competitive with cars – this is generally not the case in the outskirts, where public transport is much less accessible. As a consequence, accessibility to basic services, work etc. by public transport, cycling or walking decreases. This leads to more car usage and subsequent traffic bottlenecks. As a response, more road infrastructure is developed, which closes the vicious circle. To broken this vicious circle by promoting good practice of alternative transport schemes in the towns of Europe is therefore the aim of Measure 71.

*Measure’s costs and/or benefits:*

Costs and benefits of transferring good practices can be only assessed on a case by case basis.

*Legislative implementation at EU level:*

Support to the exchange of good practices between cities is not regulated by a specific legislation, but it is part of several networking programmes finalised to enhance social cohesion. The EU Commission funds several initiatives concerning dissemination of dissemination of best urban transport system practice. One of the most important is the Citizen’s Network initiative, which grew out of the 1995 Green Paper (European Commission 1995). This is a programme specifically aimed at promotion and development of alternative means of transport. The ELTIS database (European Local Transport Information Service), an interactive guide to current transport measures, policies and practices, is one of the results of this citizen’s network ([www.eltis.org](http://www.eltis.org)). A further initiative which promotes urban transport benchmarking includes BEST – Benchmarking European Sustainable Transport - a thematic network funded by the European Community under the Fifth Framework Programme (Growth Programme, Key Action 2). The project ran from May 2000 to April 2003. Besides BEST, which is specific for urban transport, it is worth to mention INTERREG IIIC, a programme which supports networks of local authorities in the context of the European regional development policies.

*What are the objectives ?*

The work programme firstly established to realise the citizen’s network consists of four pillars:

- information exchange through the European local transport information service (ELTIS);
- benchmarking based on self-assessment;
- establishing the right policy framework (e.g. support for more fair and efficient pricing in urban transport and promotion of integrating mobility aspects into spatial planning policies);
- financial instruments used in demonstration projects and in supporting sustainable local and regional transport through the Structural Funds.

*Interactions with other WP measures:*

Measure 69: Support (using Community funds) for pioneering towns and cities, with each Member States remaining responsible for coming up with national plans.

## Second page:

### *Output indicators:*

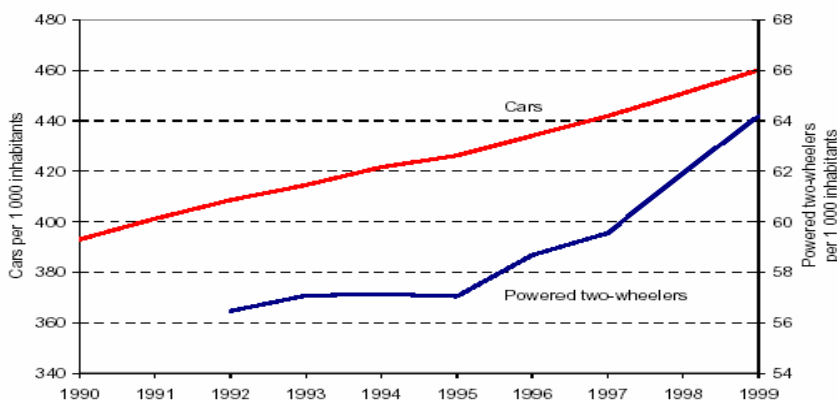
A significant output indicator of the benchmarking initiative may be the “number of visitors to the ELTIS web-site” and the number of good practices documented therein.

### *Outcome indicators: intermediate impacts on transport markets*

Promotion of good practice and benchmarking activities may help to improve the overall efficiency of the urban transport systems, reversing the current trends towards increasing usage of passenger cars, congestion etc.. In this respect, key outcome indicators that could be used to monitor urban transport at a strategic level are:

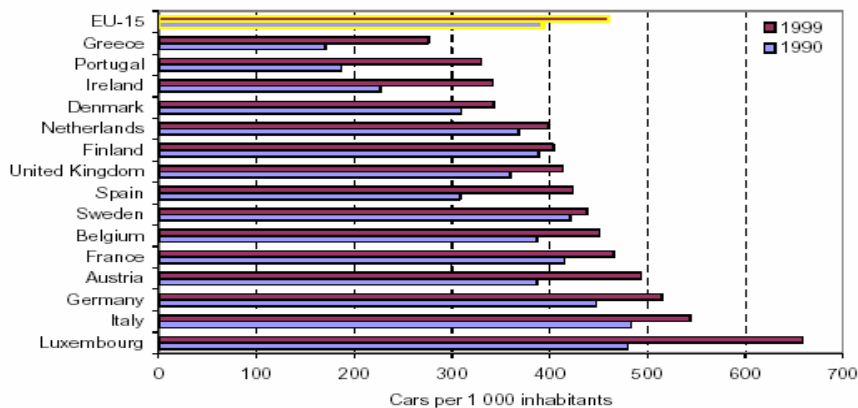
- **Car and powered two-wheeler ownership:** the level of car ownership is closely related to car use (and thus to the volume of mobility) and – especially in urban areas – traffic congestion. Car ownership has increased dramatically in recent decades. In the EU15 it grew from 393 to 460 cars per 1000 inhabitants between 1990 and 1999, an average of 1,8% per year. The average level of powered two-wheeler (including motorcycles) ownership in the EU grew by 14% between 1992 and 1999. This might be a result of people buying them for pleasure rather than everyday travelling, like commuting. However, increasing congestion might also be a reason for buying motorcycles, which are then specifically used for commuting.

**Figure 1: Car and powered two-wheeler ownership in the EU, 1990–99**



Sources: European Commission, 2001; Eurostat, 2002a.

**Figure 2: Car ownership by country in 1990 and 1999**



Sources: European Commission, 2001; Eurostat, 2002a.

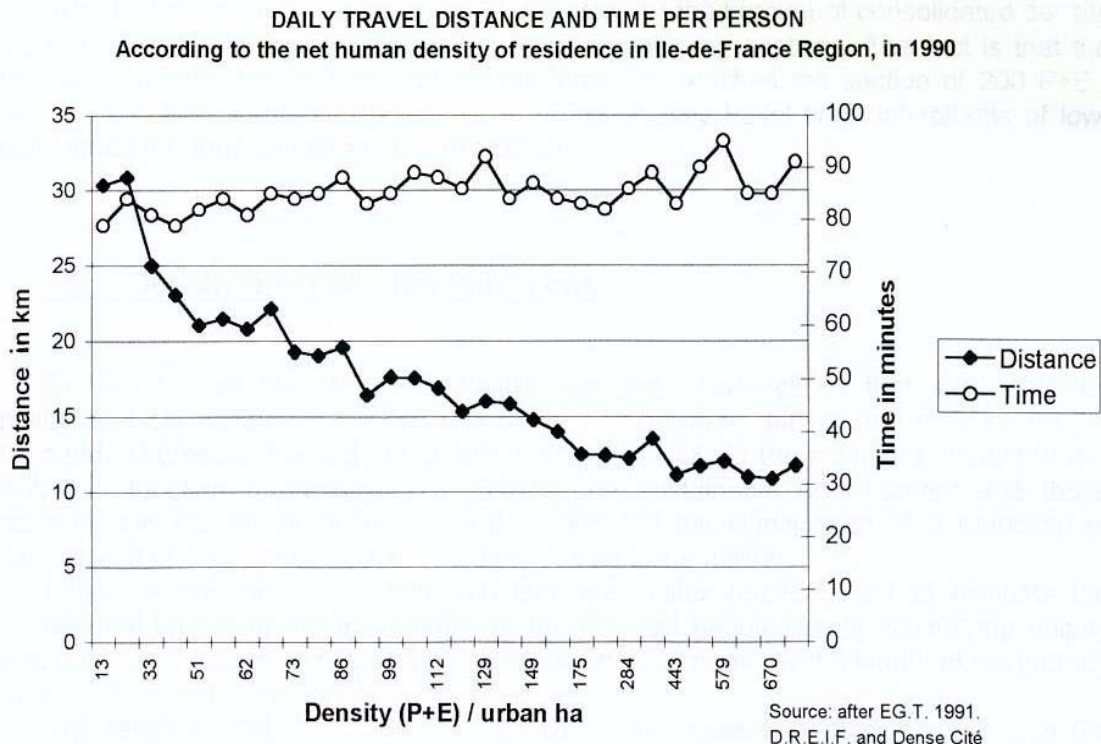
The main factors underlying this strong growth are: i) decreasing number of persons per household; ii) increasing number of cars per household (increased personal income stimulates this development); iii) increases in the average travel distance (TERM 2002 – Size and composition of the vehicle fleet indicator fact sheet). In spite of the generally strong link between car ownership and passenger transport by car, growing car ownership does not entail more car usage in all countries: in Finland, the Netherlands and Spain, car

ownership grew substantially faster than passenger-kilometres by car. In Austria and Sweden, passenger-kilometres by car even decreased with growing car ownership.

- Net human density in urban areas: population density is obviously higher in urban areas. However, population density measured as the number of inhabitants per Km<sup>2</sup> is a too simple indicator. Firstly, it is essential to distinguish instead between “gross” and “net” density. Gross density refers to the total area, including everything such as agricultural land, forests, lakes, etc. Net density takes into account only the built-up area, and it is computed as the ratio of population by the built-up area (if the built-up area is not known, net density can be estimated from gross density, dividing it by an estimate of the % of the urbanised area). Secondly, the notion of human activity density, obtained by adding up population and employment (and also students, tourists, clients, whenever relevant – in other terms the daily population), provides a more faithful description of the use of urban space. Therefore, the right density measure should be: “Net human density = (Number of inhabitants + number of jobs)/urban surface”

The net density indicator has been considered in a recent study of density and transport patterns in the Paris Region (Cfr. Vincent Fouchier, Urban Densities and Mobility in Ile-de-France Region, in United Nations, 8<sup>th</sup> Conference on Urban and Regional Research), whose results provide a good example of what insights could be achieved by using this indicator. To mention them shortly: i) the higher the net human density is, the less the motorised households. A statistical proof of this assertion has been obtained computing average car ownership rates for 20 classes of density: this shows that car ownership per inhabitant is strongly decreasing when density grows until 200 P+E/urban ha, then the pattern is more erratic, ending with low levels in the more dense Paris districts; ii) similarly, the percentage of households without a car grows regularly when density increase;

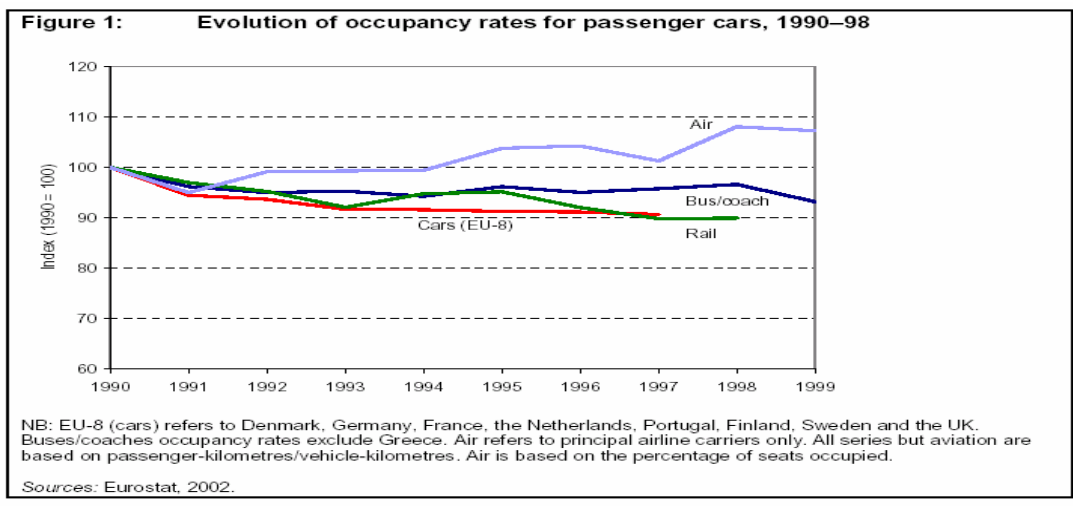
- Average travel distance/time for commuting trips: the most interesting insight of the mentioned analysis undertaken for the Ile-de-France region concerns the average distance and travel times per person computed according to net human density, showed in the diagram below.



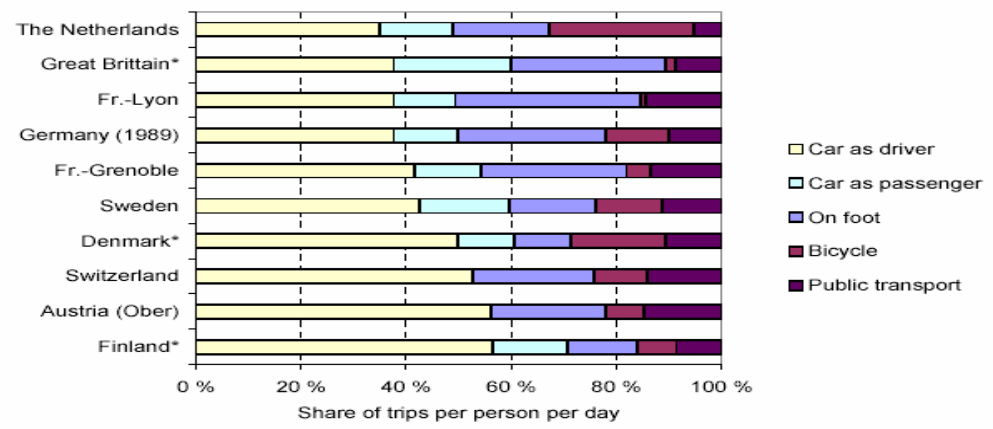
The average distance travelled is clearly higher in the less dense areas than in those with high densities. However, it is important to consider the average time used to travel as well. The latter, due mainly to

congestion in the dense areas, is even higher in these areas than in the rural ones. Thus, inhabitants of high-density areas spend slightly more time travelling much shorter distances, than inhabitants of low-density areas do. This helps to explain the well know trend – which is confirmed also in the Paris Region – towards increasing sub-urbanisation: the share of people living in the suburbs and travelling longer distances is increasing, but their behaviour appears rational, because escaping from dense and congested areas means that their are still (slightly) saving time. In any case, the resulting transport pattern is less sustainable, because longer distances imply growing fuel consumption, pollution etc..

- Occupancy rates of passenger vehicles: occupancy rates for passenger cars are decreasing in most Member States, as a result of increasing car ownership, increased use of cars for commuting and a continued decline in household size. Commuting trips are generally much less occupied than family trips and leisure trips. Occupancy rates for buses and coaches vary widely between Member States. For example, in the United Kingdom a bus carries, on average, around 9 persons while in France this figure is around 25. The differences between Member States can be explained by different organisation of public transport, concerning fares, frequency, accessibility etc. (TERM 2002 – Occupancy rates of passenger vehicles indicator fact sheet).



- Modal shares of passenger transport: this indicator is available for the total urban and interurban passenger transport. However, more specific estimates may be found also for urban transport alone. For instance, the following figure show the modal split in some EU countries estimated by the “shares of trips per person per day”:



The average European makes about three trips per day. In most countries, the average number of walking trips is between 0,5 and 1 trip per day, and cycle trips between 2 and 2,5. Most trips are 1 km or less for walkers and 3-5 km for cyclists, although this differs between countries. The share of cycling in Europe is around 5-

10% of all trips, with much higher rates in the Netherlands (29%) and Denmark (17%). Many car trips are quite short; a change from car to walking or cycling for trips shorter than 3-5 km could take replace half of all car trips in many European cities. On the other hand, congestion has the potential to shift passengers from road to public transport, especially in urban areas, provided that public transport is sufficiently available and is not affected by congestion (TERM 2002 – Passenger demand by mode and purpose indicator fact sheet).

*Outcome indicators: final impacts on transport users and non users*

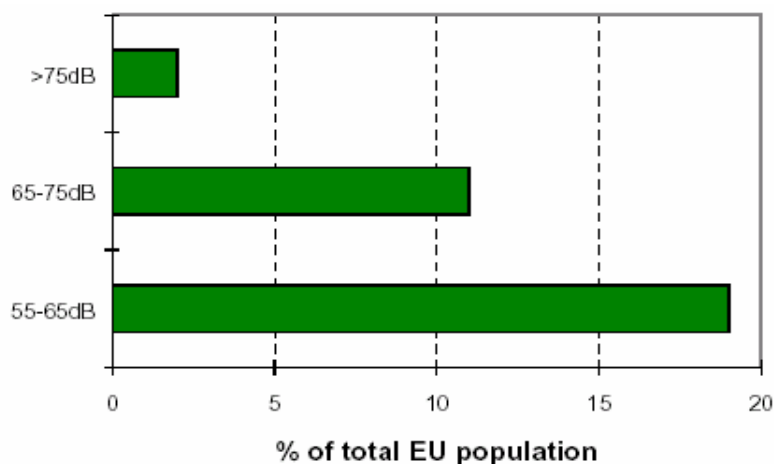
The ultimate aim of promoting good practice is to improve the quality of the services rendered to the citizens and therefore their standard of living, especially through a general reduction of travel time spent in commuting or other purpose trips. The shift towards modes of transport alternative to the private car will have also positive impacts in terms of energy consumption, CO<sub>2</sub> emissions, emission of air pollutants and possibly noise emissions in the urban environment.

Therefore, the key final outcome indicators are:

- Travel time savings due to urban transport improvements
- Reduction of energy consumption and CO<sub>2</sub> emissions due to a more rational use of passenger cars
- Reduction of air pollutant emissions (especially due to the adoption of cleaner vehicles and fuels)
- Reduction of accidents on urban roads (as a consequence of the shift of traffic to public transport)
- Reduction of respiratory diseases (if available from hospital records, this indicator is useful to monitor human health improvements consequent to air quality improvements)
- Reduction of the exposure to noise of urban population.

Concerning in particular exposure to noise, according to the EEA TERM 2002 – Noise Indicator Fact Sheet, about 120 million people in the EU (more that 30% of the total population) are exposed to road traffic noise levels above 55 L<sub>dn</sub> dB. More than 50 million people are exposed to road traffic noise levels above 65 L<sub>dn</sub> dB. People exposed to these noise levels is obviously mostly concentrated in the urban areas.

**Share of population exposed to different road traffic noise levels (EU-15)**



Source: EEA, 1999

Note: the category 45<55 dB is not included because of lack of data.