Abstract

Tourist mobility is situated at the juncture of the transport and tourism sectors - two sectors caught in the full blast of the wind of change.

This study therefore looks at the features of these two sectors and their probable development. Its purpose is to focus on certain aspects of the demand for tourist mobility, namely its specificity, its quantitative projections (modelling), its qualitative forecasts (an analysis of the deciding factors and the probable development of certain of these), a case study carried out at the Belgian coast, a reminder of the repercussions on the environment for which this mobility is responsible, and the presentation of some initiatives to reduce them.

Transport

For almost a century the transport sector has benefited from an impressive speeding-up of technological progress. This progress has made it possible to bring about an increasing reduction in travel time and cost while offering greater comfort and security.

Together with the appearance of telematics, this development has given a powerful boost to the growth and globalisation of the economy. In return, these two phenomena have caused an explosion in demand for transport both for goods (e.g. the relocalisation of production facilities and "just in time" (JIT) deliveries, etc.,) and for persons (e.g. the concentration of recruitment and shopping areas as opposed to peri-urbanisation, rurbanisation and the proliferation of leisure activities and long-haul tourist destinations, etc.).

In this context, certain social habits and various factors determining the supply of passenger transport can be identified. These include the EU's annual investment in transport infrastructure (roads, railways and airports), of which 60% has hitherto been devoted to the road network. As for the different types of passenger transport, social usage favours flying and the use of private cars which, in the future, should further reinforce their dominant position in relation to the railways.

Tourism

As for the tourist sector, this has also undergone considerable expansion underpinned by progress in the transport field and an overall upswing in economic and social well-being.

Forecasts for the coming years should confirm this tendency since, in volume and revenue, world tourism should continue to outstrip the overall growth of the economy until 2020 at least.

Agreement must also be reached on the understanding of the word "tourism". Our study only deals with leisure activities (between 56% and 82% of foreign travel depending on the part of the world), while other authors combine tourism and business travel in one and the same analysis. Furthermore, most analyses of the subject do not deal with excursions and “non-commercial tourism” (invitations, private rentals and second homes, etc.) that we have endeavoured to include in our study.

In recent years a number of changes have taken place on the tourist scene in connection with both social habits and the factors determining the supply of tourism and transport.

Holidaymakers are now tending to travel further afield and to do so several times a year, but for short periods only. The sedentary summer-holiday tourist is giving way increasingly more frequently to the collector of experiences and discoveries. As far as organisation and supply are concerned, increasing cooperation has been observed with the transport sector so as to offer a range of all-inclusive formulae.

As far as the tourists themselves are concerned, their propensity to set off on holiday depends very much on their countries of origin. Apart from the purchasing power differentialand social well-being, the climate seems to be a decisive factor in justifying the greater participation of the Nordics in the grand annual migration.

Tourist mobility

We therefore examined the problems of tourist mobility while limiting ourselves to travellers' journeys from their points of origin to their destinations.

Data on this subject are so scarce as to be virtually non-existent. It was only by matching up the results of inquiries into holidays with the general statistics on transport that it became possible to estimate the amount of tourist mobility in terms of our definition (leisure travel and mobility from point of origin to destination)

If the numerous excursions are discounted, our calculations show that in 1997, the EU seems to have been the scene of 435 million tourist journeys by car, 233 million by air and 75 million by rail. On the other hand, the data at our disposal did not enable us to ascertain with any degree of certainty the average distances covered in a tourist context by the three modes of transport under discussion.

The analysis carried out for Belgium is more advanced in this respect.

Limiting the analysis to Belgium and to 1998, we estimate that **transit traffic apart**, the minimum level of tourist mobility from point of origin to destination accounted for **more than** 5% of private' road traffic in the case of cars[1] (i.e. some 8,5 billion passenger-kms). If the tourist traffic of Netherlanders travelling to and from France is taken into account, the percentage rises to a minimum of 5,5%. As far as Brussels-National airport is concerned, tourist mobility between point of origin and destination seems to account for **at least** 26,5% of the passenger-kms, registered **excluding transfer traffic** (i.e. some 5,5 billion passenger-kms). In the case of the Belgian railways, in 1997 tourist mobility seems to have accounted for **at least** 11% of the SNCB's passenger traffic **excluding transit traffic**.

One of the questions arising is to know how the demand for mobility will develop over the coming years. We endeavoured to analyse this development by means of a quantitative analysis of the projections (modelling) before falling back on a less demanding approach, namely a qualitative analysis of the factors determining demand.

Modelling

The difficulties encountered due to the scarcity of relevant studies and data on tourist mobility in terms of our definition are even more glaring when the question of modelling is tackled.

[1] Private road traffic represents the distance covered in Belgium by all types of transport, both Belgian and foreign. Among the types of transport concerned are private cars, small pick-up trucks, taxis and ambulances.

Quantitative Analysis

We studied two types of approach, i.e. purely econometric models, and sequential and behavioural models as applied to transport.

The purely econometric approach contains a number of disadvantages when applied to the tourism-transport sector. In fact, it is based on hypotheses from classical economic and consumer theory which cannot always be verified in the case of tourist mobility. The theory of characteristics makes it possible to edge around this difficulty, but it generally runs up against a lack of available data.

A second approach to modelling consists of adapting transport models, and particularly the sequential and behavioural ones: generation, distribution and choice of mode of transport. However, these models not only require a very large amount of information that is rarely available, particularly on tourist mobility, but are also heavily skewed in their representation of tourist behaviour. The models presuppose that the "choice of destination" and the "choice of the main type of transport" are successive. In fact, these choices are linked.

If the quantitative projections (or modelling) of the demand for mobility pose numerous problems from the point of view of adapting models or collecting data, the qualitative analysis of its development (or the analysis of the factors determining demand) appears to be more accessible. On the basis of the models studied, the factors that we identified during this part of our study are :

- the price and journey time per mode of transport, the associated comfort, the cost of the transport infrastructure and the total outlay for the chosen destination (the econometric model of the demand for tourist transport);
- income, interest rate i, individual preferences, the total budget available for consumer activities, the agreed holiday budget,, the relative prices of the different services, the relative cost of domestic and foreign tourism, the demography of countries of origin, the climate, the amount of holiday available (TRIP, the micro approach to the econometric model).

Qualitative Analysis

Generally speaking, the study was based on inquiries and looked into the motivations and factors determining decisions whether to go or to stay, into choices of destinations, into the distribution of domestic and foreign tourism and into the choice of transport, etc. The study thus made it possible to draw up typologies of tourists and their lifestyles. These constructions identify categories of specific tourist behaviour and associate each category with the socio-economic and personal (factors determining demand) characteristics of the persons involved. They are therefore related to the "analysis of social habits" aspect of the report.

The analysis of the tendencies associated with these deciding factors enables the probable development of the demand for tourist mobility to be estimated.

A number of the deciding factors identified in the "modelling" section suggest that the demand for tourist mobility is far from having peaked.

Factors likely to modify the demand for tourist mobility

As far as social habit is concerned, even if the flexibilization and reduction of working hours do not seem to have any short-term influence, other factors play a non-negligible role in this respect. Cultural changes have labelled tourism as an unavoidable part of life. The globalisation of the economy, the forthcoming introduction of the Euro and the extension of the EU to Eastern Europe are also so many incentives to travel and to roll back the "frontier effect" of an increasingly more scattered population rich in potential tourists (cf. the increasing percentage of senior citizens who are sufficiently well-off and in good health).

In the context of the factors determining the supply of transport, a number of novel aspects will probably modify - at least in part - the distribution of tourists' choice of transport in favour of the railways when average distances are concerned (the HST network) or will engender extra international mobility thanks to attractive fares (the low-cost airlines) or to a saving in travelling time (the HST network and the Channel Tunnel).

In addition, tourist mobility depends on the overall context of people's mobility. Young people's almost symbolic attachment to their cars, most people's acquisition of a driving licence or a vehicle, and the influence of town and country planning of people's mobility behaviour are also deciding factors. The way in which the authorities will treat these phenomena in the future will have a definite effect on tourist mobility. The direction taken by this influence will be a function of the efficiency of initiatives taken and policies implemented.

Lastly, telematics inundates users with all kinds of information and largely facilitates "spontaneous" tourism. It is also a happy hunting-ground for creating artificial needs by means of advertising campaigns and increasing the tourist mobility of those who can afford it.

All these elements should be compared with a practical approach.

Case study

We carried out an inquiry amongst Belgian tourists going to the Belgian coast, the purpose of which was to check whether the theoretical and statistical points mentioned above corresponded to reality and to add to our remarks through a comparison with a practical situation.

The data were subjected to statistical processing in this context.

Among the factors determining the choice of transport it also appears that if car ownership is an essential element in the choice of this type of transport for tourism, other factors such as the availability of a company car and arrivals with young children or for longer stays also play non-negligible roles.

Income is generally cited as one of the basic explanatory variables in the study of the factors determining the demand for tourism and tourist mobility. According to our analysis it would be more sensible to use the average income per member of the household rather than a household's overall income.

Lastly, the inquiry has enabled us to state that Belgian tourists do not consider that the marginal cost of the car journey comes under the heading of tourist outlay. In fact, a car is considered to be an indispensable tool for everyday life and it uses for tourist mobility is seen as an extra.

It also merges from an analysis of the results that it is vital to adapt the collection of statistical data on tourism in Belgium so as to take account of day trips (more than 40% of those questioned) and of the "non-commercial aspect" of domestic tourism (about a third of the sample with respect to accommodation and 10% regarding transport).

Repercussions on the environment

Tourist mobility gives rise to problems of volume given the size of its "market" and the problems of intensity caused by the concentration in space and time of most tourist travel. These problems have repercussions on the environment particularly through the use of energy resources, atmospheric pollution, land use and the fragmentation of the environment.

The distribution of the modes of transport selected by holidaymakers and trippers is heavily in favour of cars and flying.

Now, within the sector these two modes of transport are characterised as being the greatest consumers of non-renewable energy, with low levels of energy efficiency. In addition, they are the cause of almost all the CO2 emissions in the transport sector (85% and 12% respectively) and of the bulk of NOx emissions, including a large proportion deriving from tourist mobility.
Lastly, road transport is the principal source of non-methane COV, and flying lads to the formation of high-level clouds, the environmental repercussions of which appear to be worrying.

The specificity of tourist mobility in terms of the transport infrastructure is mainly linked to the massive use of the road network. This network is not only fragments the environment but gobbles up land, and this is all the more so in the case of tourism in frequently sensitive regions (the coast, the mountains, etc.).

When the concept of “externality” is considered, another important effect that must be taken into account in addition to the environmental repercussion quoted above is congestion and the time wasted in traffic jams. This effect appears to represent 2% of the EU's GNP out of a total of 4% for all the EU's external transport costs (1998). Once again, the share of tourist mobility is not identifiable simply on the basis of the data obtained.

The varieties of the studies and the results obtained for the monetarisation of the externalities of the modes of transport bear witness to the complexity involved in the methods deployed (a macro or micro approach, the selection of the repercussions or the modes of transport studied and the choice of methodology for the process of monetarisation etc.) and in the collection of the necessary data, even on a more general level.

One thing is certain, however, and that is that there is an increasing gap between the growth rate of tourist mobility on the one hand, and the rhythm of certain environmental improvements on the other.

It is therefore no longer enough to rely on technological progress alone to solve the problem of repercussions on the environment and to reconfigure tourist mobility under the heading of sustainable development. Political action and initiatives on the part of those involved in the sector have become indispensable

Challenge of sustainable development

Sustainable development consists of uniting the economic, social and environmental aspects of society in the same overall vision so as to ensure the needs of today's citizens without compromising those of future generations.

During the course of this study we have been able to observe that the tourist-transport sector is a very important source of wealth and employment, particularly for the countries of the OECD, but that at the same time its present development is in direct conflict with the environmental aspects of sustainable development.

Certain choices therefore have to be made.

If this is decided to tackle the environmental problems, numbers of measure can be envisaged that involve both the public authorities and those actively engaged in the sector.

Those engaged in the sector can adopt guidelines for good practice and, more than anything else, they can set up an ISO 14001 or EMAS environmental management system adapted to their sphere of activity.

The public authorities have the choice of putting forward recommendations or of imposing technical norms and standards on producers.

Furthermore, the authorities could decide to internalise the external costs of the transport sector to a particularly radical extent by following the principle, advocated by the EU, that he who pollutes pays. However, this type of radical measure must be carefully studied before being applied because it may easily accentuate certain social inequalities, distort competition between the different modes of transport if it is incomplete, or create problems of capacity in the case of a large-scale transfer of mobility from one mode of transport to another (the railways, for example). A tax on fuel, even if the rate is high, would only bring a slight decrease given, amongst other things, the low price elasticity in the sector.

A second way of internalising external transport costs consists of sensitising users. The most efficient measures in this field would be to involve tourists in practical experiences carried out into both environmental problems and alternative behaviour patterns.

Finally, the effectiveness and efficiency of the measures adopted can be monitored thanks to the development of a set of appropriate indicators.

There is therefore a considerable number of possible steps and the combination of various of them is necessary to curb the development of the gap between the growth rate of tourist mobility and the development of certain environmental improvements.

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