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## **The Value Of Time**

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Originating in the field of economics, the analytical principle of the value of time is an old one [Becker, 1965]. It is based on the idea that individuals have limited resources in terms of time and money, and therefore they need to make the best use of them. So, a rational view of how economic agents behave assumes that they will maximize the benefits of their consumption of goods and services by optimising their allocation of time and money. The time savings achieved on compulsory activities (especially travelling) can thus be spent on non-compulsory activities (leisure, for example): it's the principle of substitutionality of activity.

### **Minimising travel time**

As far as transport is concerned, the idea is that people try to save time on journeys in order to use it elsewhere for other activities: leisure, trips or work (earning time) [Beesley, 1965]. In this regard travel is considered as a compulsory activity and an intermediate consumption. By definition, the time spent travelling, and its cost, must be minimized. "Yet journey time itself is judged in economic terms as wasted time" [Lyons & Urry, 2005].

This microeconomic approach assumes that choices of modes of transport are based purely on comparisons between generalised costs. These compound the cost of use and the cost in time (amount of time multiplied by the value of that time). So the rational homo economicus would choose the mode of transport with the lowest generalised cost. This leads to a preference for speed, assuming that the cost of use is constant: the faster the means of transport the better it is; the shorter the journey the better it is.

So people's willingness to pay in order to save time then depends on the individual. Not everyone, for example, is ready to pay €15 to save an hour. The most important

factor from this point of view is income: the higher the level of wealth, the greater the value of a person's time. Another determining factor is the reason for travel, the cost in time being greater, for example, in a work context than in a private, leisure context.

Aside from this microeconomic perspective, the value of time is widely used in the economic assessment of transport infrastructures. Thus, local authority expenditure has long been directed towards the fastest modes of transport, in the belief that saving time improves the collective sense of wellbeing. Journey times, and their equivalent in monetary terms, have been a cornerstone in the development of transport infrastructural networks, directing and justifying investment decisions through "cost-benefit" models [Wardman & Mackie, 1997; Boiteux & Baumstark, 2001].

## **Points of detail and discussion**

The economic approach holds that each individual compares the generalised transport costs in order to decide which mode he or she will use. While that appears to simplify a complex situation, does it actually give a distorted view of the modal choice?

### **Assessing the economic view of time**

It's important to point out that giving time a value does not imply an unambiguous desire for greater speed. Indeed, time values used in economic models generally come from stated preferences. That means that journey times estimated by the actors involved do not necessarily show the true picture, and that the differences between declared journey times and actual times reflect -at least in part -the quality of the journey [Crozet, 2005]. The more comfortable the journey and the greater the sense of wellbeing, the quicker it passes in the mind of the passenger. The more uncomfortable the journey, the longer it seems to take. In this way, economic models take account of the experience of the journey as well as the cost and the time taken. A system of weighting also estimates the discomfort or difficulty of a journey. This is applied particularly to the length of time needed to change modes of transport, or for walking, etc. [Boiteux & Baumstark, 2001].

### **The limits of the time-value approach**

Transport options can be assessed by a comparison of journey times for different modes of transport. But this approach doesn't take account of the built-environment aspects (amenities, density, the esthetics of the surroundings and also walkability [Lavadinho & Abram, 2005]), which also play a part in the choice of transport. "... The systematic components of utility expressions weigh generalised costs of getting between points A and B as well as the characteristics of trip-makers; rarely, however, do equations account for the influences of points A (origins) and points B (destinations) themselves in explaining mode choice" [Cervero, 2002: 266]. For this writer, the choice of mode of transport must take into account the 3 'Ds': density, diversity and design.

There are other kinds of reasoning and logical activity that are also largely discounted by the declared time value approach. The image associated with different modes of transport can play an important role in individual choices [Flamm, 2004]. This can even lead in some cases to a refusal to use a given means of transport because of what it represents to the user in question.

It seems, too, that most people are inclined to underestimate journey times in private cars, while they generally overestimate the times taken in public transport, reflecting a cultural preference for the car [Kaufmann, 2002]. Force of habit and resistance to change tend to reinforce and embed behaviour over time. Thus, if another type of transport is put into service - even if it is faster - it may not have much effect in the short term, because many people prefer to stick to familiar routines for their journeys.

Another limitation of the economic time value approach comes from the idea of substitutable activities. Indeed the hypothesis that people will spend the time saved by faster transport on leisure or work is open to doubt. Zahavi's theory [Zahavi & Talvitie, 1980] shows that people tend to keep the same travel time budget, despite increased speeds. This means that time saved by faster modes of transport is generally used to travel longer distances (and not for non-compulsory activities). "Rather than uniformly trying to minimise travel, people seek to decrease their travel if it exceeds the desired optimum, but seek to increase travel if it falls short of their ideal amount" [Mokhtarian & Salomon, 2001].

This refers back to the reconfigurations over time of contemporary urban sprawl. The supposed stability of time budgets has even been called into question in recent

years, with indications pointing to an increase... [Joly, 2005]. Therefore, there are two opposing positions on public transport policy: either to increase speeds or to limit them. The latter position has brought the return of tramways to French cities (slower than underground trains) [Crozet, 2005]. This thinking goes beyond simple considerations of speed, and concentrates instead on a better integration of transport flows throughout the areas covered.

## **Research and public policy prospects**

Paradoxically, in the economic approach, giving a value to journey times has always been expressed as a devaluing of that time, which always had to be kept to a minimum. G. Lyons and J. Urry [2005] suggest thinking about time by distinguishing between its volume, value and use. That allows them to highlight the importance of uses and their suitability for passengers, and then to test their potential impact on changing the mode of transport.

The challenge is to look beyond the separation between journey time and activity time and to call into question the principle that demand for transport comes solely from a demand related to activities [Mokhtarian & Salomon, 2001]. This different way of looking at transport and journeys is especially necessary in the light of the developing Information and Communication Technologies (ICT) [Lyons, 2003].

### **Is slow travel really returning to cities?**

While, in public policy-making, a wholly functionalist view of journeys encouraged a confinement and separation of traffic flows (to speed them up), the trend today is different. Transport bodies are working to improve the conditions for travelling, making it easier for passengers to engage in en-route activities (reading, access to information networks via smart phones, etc), and modifying traffic flows (speeds and modes) to the districts served.

The challenge is huge, too, for walking, with the focus on the quality of the routes (whether from a visual, urban environment or safety perspective). In any event, if slow travel is returning to towns, that doesn't mean just any slowness; and it doesn't involve all urban areas or all residents...

So if we return, finally, to the variability of the values of time linked to people's incomes (higher time values for the better-off), it emerges that basing the construction of transport infrastructures on time savings gives most benefit to the wealthiest people, who have the most to gain from such savings [Adams, 1999; Crozet, 2005]. The issue of changing the speed model is therefore not just a social one but a political one, too.

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