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FINANCIAL MEASURES ARE NECESSARY BUT NOT EFFICIENT

Abstract

The key to changing staff commuting travel choices lies in the reorganisation of parking facilities at both the destination and the origin of journeys to work.

Keywords: Human behaviour, parking organisation.

1. The complexity of technical systems

One of the problems facing modern societies is the complexity of the system that technology has given them the means to build. The behaviour of this system can no longer be observed directly, nor does it readily lend itself to analysis. It is an open system that is dependent on flows of materials and energy. The behaviour of individual elements within this system is completely non-linear and is starting to change over time, in other words, the system has become dynamic and now behaves like a natural system in terms of its complexity.

Why do natural systems work so perfectly?

The reason is that they have had enough time to develop – over four billion years in fact. The length of this optimisation process made it possible for us to think in terms of “sustainability” and “quality”, since these were the attributes we could recognise in our own environment.

In contrast to this gradual development, however, modern technology and economic requirements are evolving at such a pace that there is no time for us to wait until the system has reached a sustainable stage. Nor do we have the time needed to gain sufficient experience to be able to say that a given solution is the best one for the future; in many cases, a solution is considered to be acceptable if it is simply good enough for today -- or even yesterday. The credo of the current period is one of constant acceleration. It is highly unlikely that either quality or sustainability can develop within such an accelerated process; in fact, the chances are virtually nil.

European systems have been based on American principles for decades.

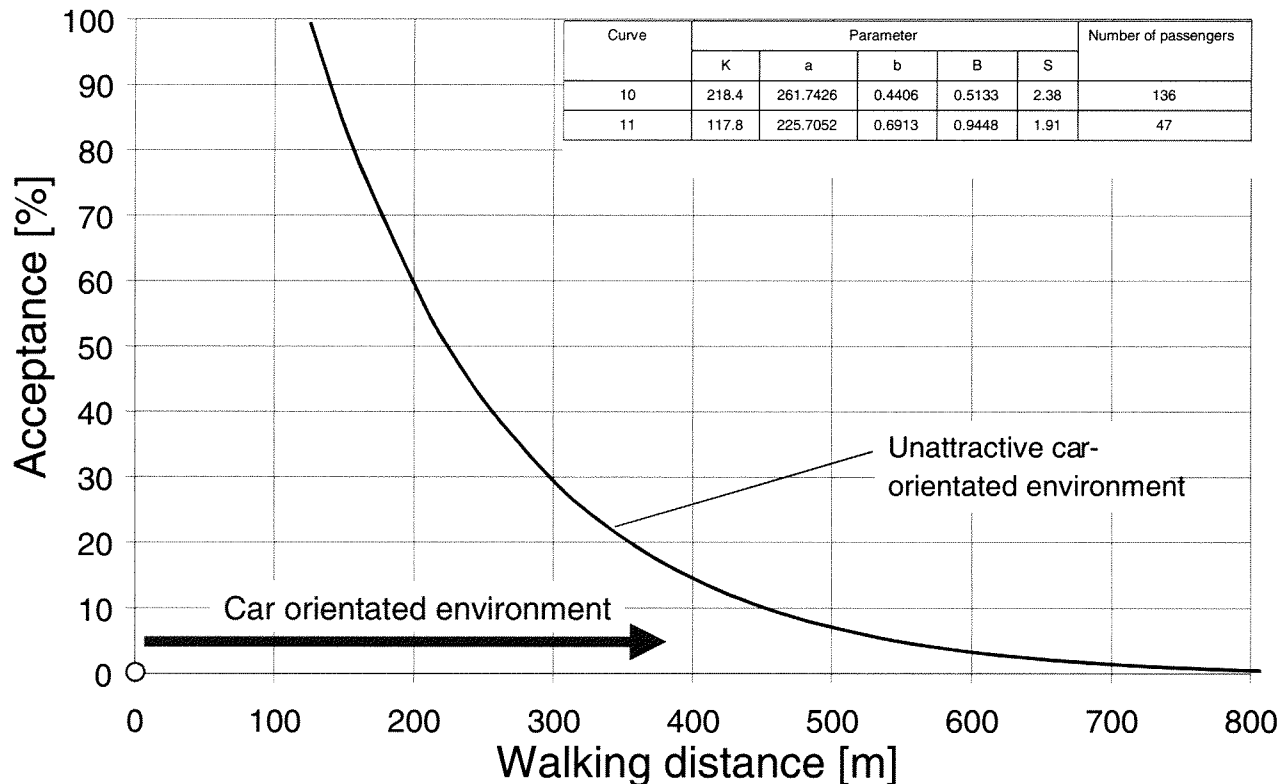
2. Solving the problem

2.1 What is the answer?

If the underlying structure responsible for system behaviour remains unchanged, no effective and sustainable solution is possible.

Figure 1. Willingness to travel by foot is inversely proportional to distance

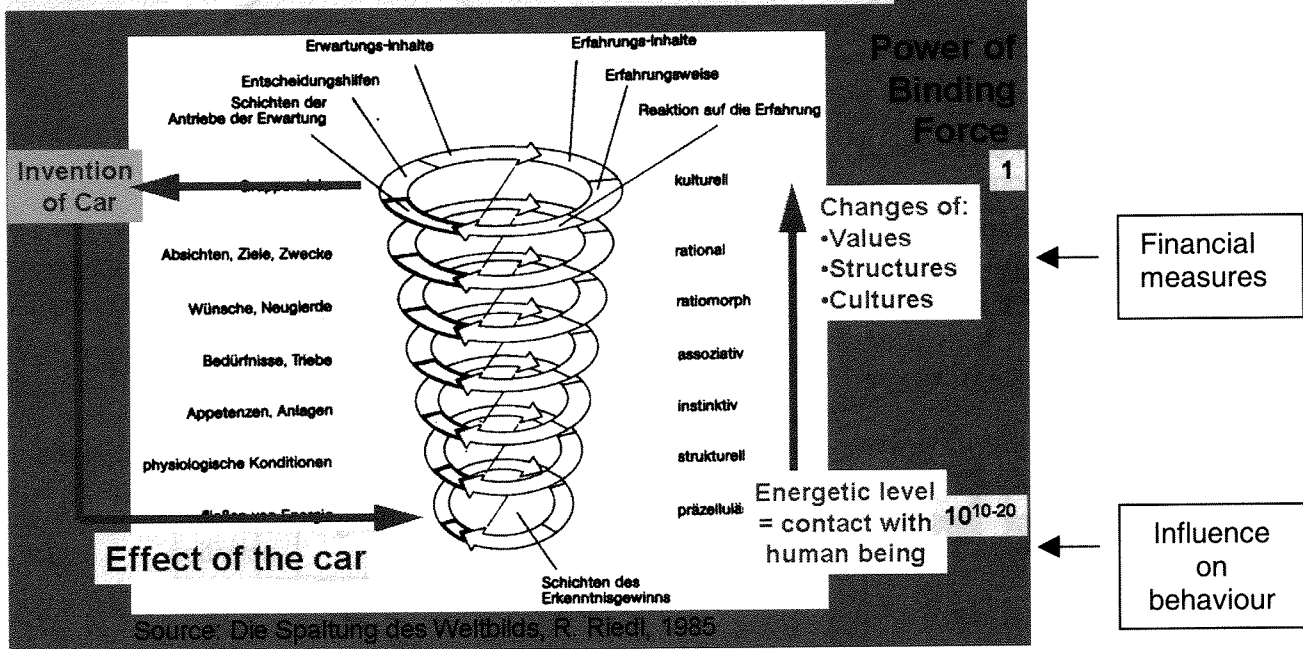
What is the functional relationship?



Evidence of the inverse relationship between acceptable mobility and distance has been found not only in human behavioural patterns but also in the communication system used by bees (Frisch, 1965). The reason for this homology was found to lie in the perception of body energy (Knoflacher, 1981). This explains the tremendous power and influence that cars have over patterns of behaviour, societal values and basic structural changes in all economic and land-settlement patterns. The car, as a product of our civilisation, appeals to people at the most basic level of human evolution, namely, that of body energy.

Figure 2

Fatal Consequences: Inventions from last evolutionary level have effects on lowest and most powerful levels of our behaviour!



If the cause lies in the energy structure, then any remedial measure must be administered at the same level if it is to be effective. While measures which do not take effect at the level of human body energy may be able to alleviate the problem or not, as the case may be, they cannot solve it.

2.2 Existing structure

Under present conditions, car owners have absolutely no incentive to walk to the nearest public transport pick-up point or to local shops. They are imprisoned within their cars and completely isolated from both the community and the structural fabric of the city (Figure 3). Local neighbourhoods are losing their appeal and the quality of city centres and traditional residential areas is deteriorating (Figure 4). The reason for this does not lie in the size of traffic flows but in the organisation of car parking facilities!

Figure 3: Existing structure

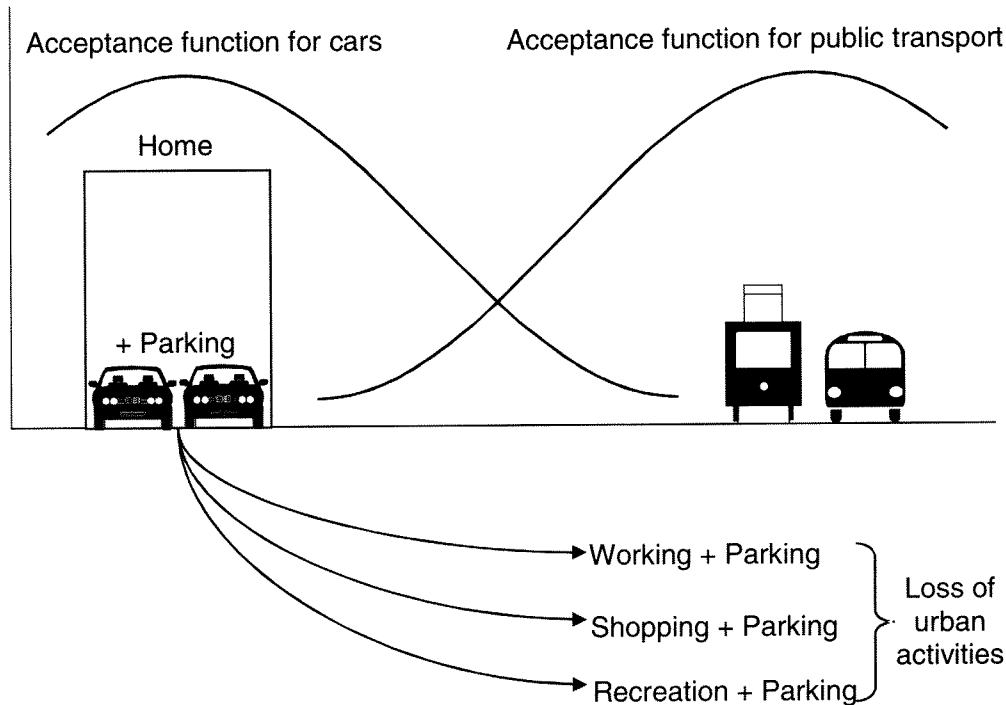
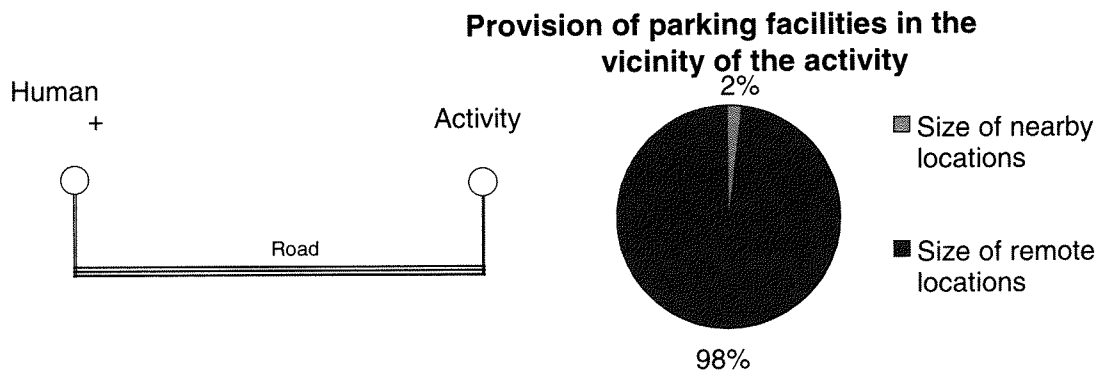


Figure 4. Effects on existing structure



2.3 The basic solution

It is only by changing the organisation of parking facilities that the system can be stabilized without any loss of mobility or accessibility -- for anybody! The distance to the place where a private car is parked must be at least as great as the distance to the nearest public transport pick-up point! Cars must be parked in garages or parking spaces located beyond the nearest public transport pick-up point (Figure 5).

This will make it possible for people to choose between modes and will attract many activities back into the city (Figure 6). It amounts to reintroducing market principles into urban transport systems that in the West have operated on a different basis for the past 100 years. Car traffic has in

many ways been spared the rigours of market economy principles. The main factor to be considered here is the organisation of parking facilities, and not the traffic flows on which many so-called experts in traffic engineering and economics have focused their attention. Once this principle is understood, it is clear to see why any attempt to introduce road pricing will ultimately be doomed to failure.

Figure 5. The basic solution

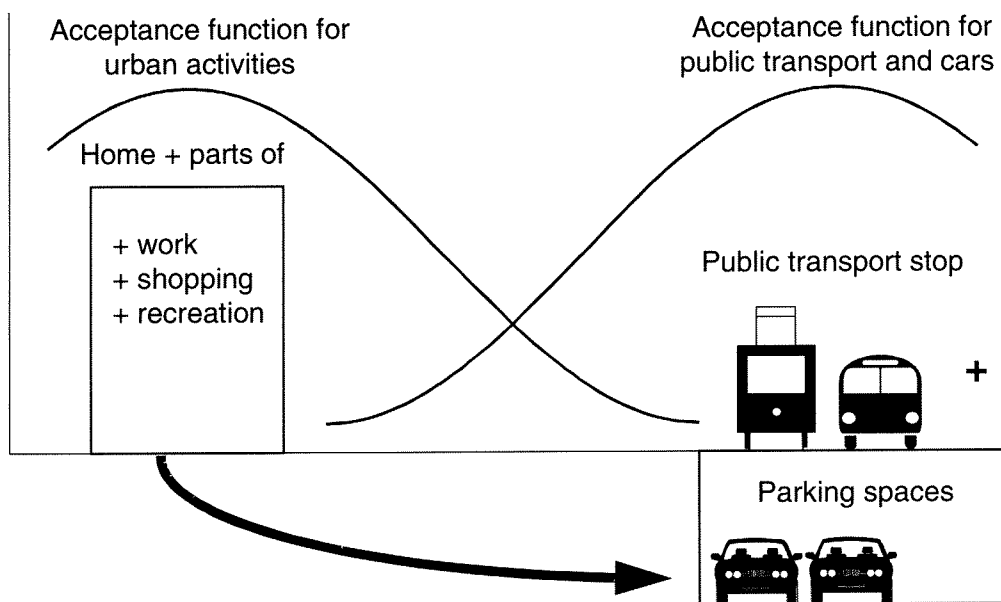
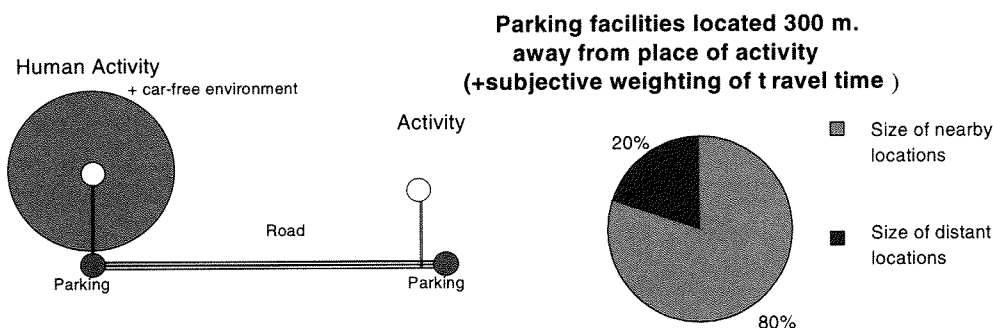


Figure 6. Impact on parking organisation

Outcome: Actual impacts including those on human nature



Real impacts, taking into account human behaviour:

80% of the city is revitalised

2.4 Conclusion

While the use of financial measures to influence choice of mode is a step in the right direction, the impact that physical structures have on commuters' decisions remains far greater. It is only by ensuring that the distance to parking facilities is the same as that to the nearest public transport pick-up point that there is any real possibility that commuters (and other car users) will choose to use another mode of transport.

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