
POINTS OF VIEW

This section is intended to produce a forum for the exchange of ideas in which it is hoped to stimulate productive discussions.

A contributor to this section may nominate a commentator of his own choice and another commentator will be designated by the editorial committee. The contribution, which should not exceed one page of this journal, will appear on the juxtaposed pages with two commentaries. The authors' text may be edited slightly and the authors will not receive a proof for correction.

Herebelow is the first of this section.

TRAFFIC SAFETY CONCEPT AT THE SOURCE ORGANISED PARKING —A Measure For Further Traffic Safety—

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In the traditional approach to road safety, volume of traffic is accepted as an independent variable. Traffic accidents are regarded to be a product of the volume of motorised traffic and the accident rate. Reducing the second factor which is accident rate has been the traditional approach in the fields of traffic engineering, legislation, enforcement, etc. The results of this approach have so far, however, not really been encouraging.

If we try to reduce the first factor which is traffic volume, we have to come to the source of car use. This is a matter of mankind and its behavior. The behavior of car use has been studied in-depth by several researchers with quantitative results in recent years.

Accessibility to the parked car, compared with that to the transit stop at the origin and the destination of a trip is one of the most influential factors of modal choice. It has been indicated that at least the same walking distance to the transit stop and to the parked car at the trip origin and destination reduce the car use. The "attractivity" of a walking distance of 200 m - dependent on city size and environment on the way - is about 50% of the "attractivity" of a 100 m walking to the car.

The present environment of car use is such that the cars are parked very close to the doors of the car owners resulting in virtually negligible walking distance while public transit stops are much more dispersed resulting in much longer walking distances of access and egress. This man made environment is the major factor which encourages people to use their cars instead of other modes of transport such as walking, bicycle and public transit.

Suppose if we could provide the equal access walking distance to either cars or to public transit stops, the modal choice of people would be substantially affected. This is possible by means of allowing people to park their cars only at public transit stops, for example. We may need to build multi-storey car parks at the public transit stops instead of allowing private garages at the individual houses or on-road parking nearby the houses.

Research on human behavior shows that the overall car trips would be decreased down to 54% of the present number of car trips through the policy of equal access walking distance to either cars or transit. The rates of reduction of car trips are different depending on trip length. Longer trips would be less affected in modal choice than shorter trips. The equal access/egress walking distance policy would therefore result in more reduction of shorter car trips and less reduction of longer car trips.

Accident rates depend on trip length also. Longer trips tend to use safer roads such as motorways while a large portion of shorter trips have to use local streets which have higher accident rates.

There exists another factor which helps road safety that shorter trips comprise a larger portion in the trip length distribution. Based on a rough assumption on accident rates of different trip length it may be expected that accidents would be reduced down to 44% of the current figure. In urban areas even higher reduction could be expected. Approximately 40% of all accidents would take place in urban areas under the proposed policy while 60 to 64% of all accidents are now urban accidents.

There are several obstructions against the realization of the proposed policy such as legislation, financing and engineering. All three disciplines have been mainly engaged in moving car-traffic and have paid little attention to the effects of organised parking. Public investments for parking cars in all western countries have been made primarily along roads instead of for multistorey parking garages, although the people are "stored" in multi level houses instead.

This policy also has some other positive side-effects on the economy, occupancy rate of cars, environment, etc.

COMMENT ON Dr. KNOFLACHER'S PAPER BY DR. SAITZ

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With his thesis "Creating equal chances for individual and mass transport", Knoflacher challenges traditional traffic planning. Increasing the attractiveness of public transport to achieve a higher modal split rate is one of the central questions of traffic policy and traffic planning. Remarkably, neither are questions raised nor answers given when it comes to serious, restrictive measures against car traffic at the source of the trip. In most countries of the western society, such topics are quickly classified as an infringement of personal rights, and therefore immediately disqualified. Due to the lower degree of motorisation in socialist countries (CSSR, GDR about 200 Pkw per 1000 inhabitants and lower in the other socialist countries) the discussions on this problem are just beginning. At its 4th general assembly in 1987, the "System of representative traffic survey" (SrV) in the GDR confirmed the relationships explained by Knoflacher.

The questions raised by Knoflacher concern not only the possible applications of cars, but also the structure of residential areas and the perspectives of energetics and urban ecology; in other words, questions concerning our entire future lifestyle are raised. Knoflacher's ideas are therefore extremely political. They pertain directly to many families owning a car. In my opinion, this is only possible if questions concerning future lifestyles are publicly discussed, and if it is possible to establish a climate in which restrictive measures are socially accepted.

Knoflacher offers only general ideas about the possibility to realize his thesis. As a practitioner of city planning in a socialist country, I primarily have to accept the fact the European cities are not at point zero in their development, but are basically completed. Due to a decrease in the population of most European countries, urban expansion is improbable. In fact, most cities are becoming smaller.

In most of the socialist countries, great attempts were made in the past few years to solve the housing problem. The newly created suburbs have a more or less traditional structure. Great parts of the national income are concentrated on these projects, and therefore they possess only minimal infrastructural reserves.

The practical way to realize the Knoflacher-thesis is a reconstruction of the city and in socialistic countries also the reconstruction of a relatively young city structure (less than 20 years).

A close relationship exists between the reconstruction of a city and changes in lifestyle. Our experience in the GDR shows, that changes in urban life are only accepted by the public if they are understandable. Each modification of a city has to be accepted by the people, it has to become embedded in their thinking. In this sense I think it would be important to create experimental cities with the structure of Knoflacher-thesis for research as well as for agitation. In socialist countries the conditions are insofar good for such experiments as the priority of public transport is higher, and the costs of real estate irrelevant.

The realisation of the Knoflacher-thesis is not only a question of garages, it is also a question of the structure and the reconstruction of road-systems aimed at a real reduction in traffic. To reach these aims, the available resources are not sufficient.

In my personal opinion the Knoflacher-thesis are: (1) necessary, (2) principally correct, (3) the realisation is highly improbable.

They provoke and support the way to a more socially oriented infrastructure planning for urban traffic.

COMMENT BY PROFESSOR OHTA

Dr. Katsutoshi OHTA
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I found the proposed idea of "Organized Parking" rather stimulating when new approaches are desperately searched for to stop the re-increase of traffic accidents in Japan after many conventional countermeasures have extensively tried. He suggests the need of a wider and more basic approach, i.e., demand management, in order to reduce traffic accidents further. Since it is a capital intensive, physical measure, I think the following two points should be clarified.

One is a question of its effectiveness. Various studies indicate the equal walking access by itself does not assure a major reduction of car use since lots of other service characteristics like total travel time, comfort and fare level affect the modal choice. Previous experiences shows that some major improvements of transit service are required to induce car users to transfer to public transport.

Secondly, the appropriateness of the idea should be also examined since many other potential measures are available to reduce car use. For example, instead of multistorey car parks at transit stop for equal access, it may be more cost-effective and acceptable to bring public transport services nearer to houses by demand responsive feeder bus operation, rather than by forced lowering of accessibility to the car park.

Professor Knoflacher reminded us that we should now explore seriously some new approaches to tame our "beloved monster" for more civilized use in the urban environment.

Dr. KNOFLACHER'S FINAL COMMENT

I appreciate both comments. Prof. Ohta mentions in his comments that "comfort" has been discovered as the key factor in analysing human behaviour. Since traffic is every kind of movement of persons, goods, and information, comfort has to be balanced between pedestrians, cyclists, public transport users and car drivers.

My thesis is based on the balance of sensations, positive and negative. One important part of the sensation is the subconscious calculation of individual energy consumption. If it is possible to organize public transport in such a way, that the sum of resistances for a car trip are greater than for other modes, the system is working properly. Upright walking is energy consuming. Therefore the walking distance plays an important role. In Dr. Saitz's comments, cities are mentioned. Cities are always, today more than in former times, a dynamic system. They have changed quickly during the last 40 years and they are still in motion. One of the powers which changes the structure of a city is the (car) traffic. We have to choose between cities for men and cities for machines.

Realising a city based on my thesis would give public space back for human use or social contacts, where children can play in front of the houses and nobody has to fear for them or their dogs when they leave the house. This system is safer, better balanced between different transport modes, and less energy consuming (artificial energy), but we have to give up some of our privileges as car drivers.

Due to his own evolutionary "equipment", man is not able to escape from the car by himself if we don't help him by changing the man made environment in the right manner.