

A N A L Y S I S O F
P E D E S T R I A N - C Y C L I S T - I N T E R A C T I O N S
E X P E R I E N C E S W I T H
A N I N V E S T I G A T I O N I N V I E N N A

SUMMARY

By example of our experiences in a study on conflicts between pedestrians and cyclists in commission of the municipal administration of Vienna (RISSER, SCHMIDT, SNIZEK, HULMAK & SCHEIDL 1990) I shall present you some reflections on and some results of the application of traffic conflict techniques for the interaction between pedestrians and cyclists.

For those, who are especially interested in further details of our study, it shall be mentioned, that it will be published in 1992 in the publication series "Fahrrad und Umwelt" from the ARGUS, the austrian cyclists representation.

1. WHY INVESTIGATE PEDESTRIAN-CYCLIST-CONFLICTS?

In connection with growing environmental problems, e.g. energy consumption, global climate change, ozon hole, and cities respectively landscapes, which can stand no longer the consequences of an uncontrolled growing private motorized traffic, the different modes of traffic participation are discussed with respect to their social and ecological compatibility. An evaluation according to these criteria aims at giving pedestrians the highest priority, followed by cyclists, public transportation in train, trams and buses. Driving private cars receives the last position in this hierarchy of social and ecological desirability (see in more detail SCHMIDT 1988, 1989).

From a psychological point of view these two modes of non motorized individual mobility have a further advantage: they can satisfy important motives of choice of travel mode, which are especially relevant for automobilists: independancy and joy of movement. Therefore walking and cycling are capable to guarantee individual mobility in future in towns which need to prevent private car movements in their inner districts.

2. SPECIAL CONDITIONS OF THIS TARGET GROUPS WITH RESPECT TO THE USE OF TRAFFIC CONFLICT TECHNIQUES

The application of the traffic conflicts' technique, which has originally been developped and elaborated for the observation of automobile interactions, implies special characteristics and problems, if one wants to observe the following special conditions:

- o Pedestrians and cyclists move with lower speeds than car. That means one has a better opportunity to observe the development of conflicts
- o Pedestrians and cyclists are less limited in their movement directions than cars are. Locations of potential conflict areas are more difficult to preview. That means more time is necessary for pretest.
- o The interaction between pedestrians and cyclists is more perceived as a social interaction than that between cars. (On the contrary to the car traffic, where one talks about the "BMW", "Mercedes", "Mazda", "Golf GTI" etc., that made a dangerous overtaking maneuver, one speaks of the "cyclist on the racing cycle", "mountain biker"). The other traffic participant is more looked at as a person, than as a vehicle if he uses a cycle instead of a car. Because of the lower speeds and because they are not hidden in a "steel cave" cyclists and pedestrians can perceive each other as persons with special gestures, mimics and other nonverbal communication signals.
- o Due to the social relationship and the directness of meeting each other the interactions between pedestrians and cyclists have a stronger emotional touch. That means, traffic climate can still be influenced in a safety threatening way without any traffic conflicts being observable. Therefore additional interviews with the observed traffic participants to explore their subjective perception of the situation are especially important.

3. OUR INVESTIGATION METHODS

The investigation consisted of the following methods:

- group discussions
- behavioural observations including traffic conflict techniques elements
- personal interviews in traffic situations

In my present contribution I shall refer especially to our behavioural observations. Some of our experiences are included in an recently published Austrian Handbook on Traffic Conflict Techniques (RISSE et al. 1991).

We developed an observation scheme, which included the description of the behaviour of the interacting pedestrians and cyclists.

We distinguished:

- interpersonal/social conflicts
- mistakes /
- traffic conflicts (according to the definition in ASMUSSEN 1984)

Apart from the direct personal observation we used video tapes for the behavioral analysis. Each of our assistants was trained both as an observer and as an interviewer. Partly he had one of

these tasks, partly the other. We payed attention, that everybody taking part in data collection knew both roles of traffic participation by his own experience, to be sure, that their observations and interviewing was as valid as possible.

Our assistants got a comprehensive instruction:

- they took part in pretests on the traffic sites in question
- they had to be very familiar with the observation categories and the questionnaires.

4. RESULTS

- o Pedestrians are very much adapted to a passive, "suffering" role, they do not complain as much as the cyclists
- o There are great differences in frequencies and seriousness of traffic conflicts depending on the construction of the traffic site
- o The following criteria support the genesis of conflicts between pedestrians and cyclist:
 - narrow footpath
 - narrow cycle track
 - high speed of cyclists
 - bad visability of the other traffic participant
 - considerable age differences between cyclist and pedestrianonly few conflicts were very dangerous. Danger will become more serious, if several of these criteria are combined
- o The most servere observed conflicts were those between cyclists and cars.

5. CONCLUSIONS

Guideline for a future-orientated traffic planning should be the promotion of the "original" modes of individual traffic participation: the promotion of walking and cycling.

Because of its optimal social and ecological compatibility walking should have highest priority. That means, the safety and fluency of pedestrian movements should be the leading goal (see EGER & RETZKO 1986).

The dividing of traffic space, but also the organization of traffic lights and the formulation of traffic rules should guarantee, that the most important motives for traffic-mode choice like independence, comfort, time saving, but also safety will be best for walking and cycling, not for driving a car.

Cyclists have different claims concerning speed and subjective safety, which for instance are connected to experience in traffic (REITER et al. 1987). Planning for cyclists should take care of the fact, that "fast" cyclists want to use the road, even when there exists a separate cycle track.

Cycle tracks marked directly on the road or combined lanes for busses, taxis and cyclists can help to avoid a lot of conflicts, accidents and other urban traffic problems, if they are carefully implanted (see e.g. ANGENENDT 1989).

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