

# Influencing factors on safety-enhancing interaction processes between bicyclists and car drivers

E. Füssl<sup>1</sup>

<sup>1</sup> Factum Chaloupka & Risser OG  
Danhausergasse 6/4, 1040 Vienna, Austria  
e-mail: elisabeth.fuessl@factum.at

## ABSTRACT

Bicyclists face a higher accident risk than other road users. The accident statistics reflect the safety problem: Between 2001 and 2010 the number of fatally injured cyclists was reduced by just 38% compared to the 43% overall reduction of road death in the same countries [1,2]. The question therefore is which factors have to be adapted to improve the traffic safety for bicyclists? The improvement of traffic safety can be considered as a combination of various elements: the individual, society, vehicle features, infrastructure and interactions between individual road users [3,4]. The current study focuses on the element 'interaction'. The assumption is that interaction is essential in traffic in order to make encounters between cyclists and car drivers process smoothly. Accordingly, accidents can be considered as the effect of failed interaction processes and traffic conflicts are indicators of the risk of such a break-down [5]. The aim of the research work therefore is to analyse interaction processes between bicyclists and car drivers in detail and to identify relevant influencing factors in order to obtain a better understanding of these processes and their meaning. As theoretical background the model of Hatakka et al. [6] is used, which argues that, in addition to behaviour and interaction in the field, the driving behaviour is heavily influenced by the context of driving (e.g. peer pressure) and the goals and skills for living (e.g. life style). Therefore, in addition to field observations, interviews are applied, which enable to focus on these levels. In-depth interviews and focus group interviews with bicyclists and car drivers, provide data about how these road users experience interactions and what they outline as rationale for their own behaviour. The expected results of the study provide knowledge about different forms of interaction processes. Safety-enhancing interaction behaviour and influencing factors will be identified.

**Keywords:** bicyclists, car drivers, traffic safety, interaction processes, influencing factors

## REFERENCES

- [1] M. Steriu, European Transport Safety Council, Pedalling towards safety, Bike PAL Project, 2012.
- [2] DaCoTa-Project, Traffic safety basic facts 2011 – cyclists. In E. R. S. Observatory (Ed.), 2011
- [3] R. Risser, Gut zu Fuß. Fußgänger als Verkehrsteilnehmer 2. Klasse, Mandelbaum Verlag, Wien, 2002.
- [4] M. Dozza, J. Werneke, "Introducing naturalistic cycling data: What factors influence bicyclists' safety in the real world?", in Transportation Research Part F **24** (2014), pp. 83-91.
- [5] C. Hydén, "The Development of a Method for Traffic Safety Evaluation: The Swedish Traffic Conflicts Technique", Department of Traffic Planning and Engineering, Institute of Technology, Sweden, 1987.

- [6] G. Bartl et al., "Description and Analysis of Postlicence Driver and Rider Training", EU ADVANCED Project, FINAL REPORT, 2002, 218pp.