### Title: The Traffic Conflicts Methodology revisited

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Accident statistics may have an important general monitoring function and form a basis for detecting specific traffic safety problems, but the information available from it is inadequate for analyzing and diagnosis, defining remedial measures, and evaluating effects. Systematic observations of road user behavior, combined with knowledge of human information processing capabilities and limitations, offer wider perspectives in better understanding the causes of safety problems and come up with solutions that work. The processes that result in traffic conflicts have much in common with the processes preceding actual collisions, only the final outcome is different. The analysis of road user behavior in critical encounters may not only offer a better understanding of the processes that ultimately result in accidents, but, perhaps even more efficient in the long run, also provides us with knowledge on road users’ abilities of turning a critical situation into a controllable one.

In the past, several Traffic Conflict Techniques (TCT) have been extensively discussed in the literature. Since the late seventies, an international cooperation on TCTs started that resulted in the international calibration study of traffic conflict techniques in Malmö in 1983. Eight teams from different countries simultaneously made their conflict observations at three intersections to enable a sound comparison. A comparison with video-taped conflicts and accidents at that time indicated that conflict severity scores by the individual teams were mainly correlated to Time-To-Collision (TTC) and type of encounter. Based upon the results of the Malmö study, the DOCTOR (Dutch Objective Conflict Technique for Operation and Research) technique has been developed.

Both the Swedish Traffic Conflicts Technique and the DOCTOR technique, that are largely based on TTC measures, are regaining popularity, due to both recent technical developments in observation and analysis methods and needs for specifying and identifying critical events for future in-car systems developments.

This presentation will briefly review the past of TCTs, developments and recent applications of DOCTOR, now mainly based upon judgments afterwards by human observers from video recordings instead of direct observations in the field. These include a long-term video observation study on both collisions and traffic conflicts, a study into the mutual behavior of bicyclists on bicycle paths, an evaluation of attention-increasing measures for crossing bicyclists at a black-spot intersection, and a before-and-after study on counter measures at three high-collision locations in Bangladesh. Moreover, the value and feasibility of adding site-based observations to naturalistic in-vehicle observations, as conducted in the EU-project PROLOGUE, will be discussed. The EU-proposal InDeV (In-Depth understanding of accident causation for Vulnerable road users) will focus on the applicability of, among other things, (automated) TCTs to better understand the processes of accident causation for vulnerable road users.