Identification of traffic conflicts using the Delphi method

Usually, traffic conflicts are identified using a time-based indicator, e.g. the time-to-collision or the post-encroachment time (Johnsson et al., 2018). Since time-based indicators only take the nearness in time and space into account, they do not include other aspects that may be relevant for defining a traffic conflict. An alternative option to overcome this issue is to use expert assessments, which allow for judgements that also consider other aspects such as age or head turning movements. For instance, the Delphi method (Hsu & Sandford, 2007; von der Gracht, 2012) can be used to find conflicts based on expert assessments. The idea behind the Delphi method is that a group of experts (e.g. of traffic safety) give their opinion on the topic to be studied in multiple rounds. For each round, they are provided with a summary of the responses from the previous round. The assessment continues until the experts have reached consensus regarding an answer (i.e. the majority agrees that it is a minor conflict, a serious conflict or not a conflict) and that their answers do not change from one round to another. While this allow for the inclusion of other aspects than the time, the method is unfortunately very time consuming due to the use of multiple rounds to reach consensus.

In the presentation, the Delphi method will briefly be described and an example of its use for conflict studies will be given to lead up to a discussion on the Delphi method and its advantages and disadvantages, its usability for traffic conflict studies and other ideas to include other aspects than time-based indicators. Potentially, the discussion can also lead to new ideas on how to improve or modify the method.

References

