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Traffic Engineering
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The Swedish Traffic Conflict Technique Observers' Manual

General

The conflict study has to be conducted corresponding to an observation plan with especially trained observers. When studies are carried out with several observers at the same site the observation areas must be well defined in advance.

It is not recommendable that the observer is the same person who has planned the countermeasures because of the risk of self-fulfilling results. It is also recommendable to change observer or observation teams with some intervals to keep their attention.

Experimental arrangement

Every conflict situation is recorded on a conflict recording sheet, by using the definition based on the estimates of speed and distances from where a TA-value can be calculated.

Distances at the location should be recognised by either measuring or stepped out for making the estimations easier.

Also speed estimations should be carried out in connection the actual location to familiarise the observer to the vehicle speeds on the site. This can be done with a hand held radar gun.

Recording of conflicts

According to the definition a serious conflict occur when two road users with crossing courses would have collide if they have continued with unchanged speed and directions, but some of the road users make an evasive action.



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All conflict situations over and to the left of the "border line" in the TA-graph have to be recorded. In order, not to miss any serious conflicts, situations just below the borderline should also be recorded.

Location of the observer

When the observer arrives to the study location, one should familiarise oneself with it. Is this the intersection to be studied? Which part or how is the observation area to be decided on for the conflict study.

A good observation point is selected next. The main objective is to select a location that offers the observer a clear view of the decided observation area. For conflict observations, a location approximately 10 - 25 meters from the inter-section area is usually the best. If there is some elevation from the ground level it is favourable for a better overview. The location of the observation point should be noted on the conflict form, especially if the study will be used in a before and after study for the intersection.

To obtain accurate conflict recordings, it is essential that the observers not influence passing road users. Ideally, the observer and the recording folder should be invisible. The best practise is to blend into the natural life of the intersection to become inconspicuous, i.e. to look like the observer is waiting for someone.

It is recommended that the conflict observations are conducted at the spot in the free air, (not from inside a vehicle or a café) because a lot of useful information and communication as gestures between road users otherwise can be lost.

Observer comfort and, of course, safety are also important factors. For this reason the observation can be made of a team of observers. Suitable clothing and for example coffee or water for the breaks can be brought in personal equipment.

For uniformity in the field study, observations should always start at the pre-scribed times, and observation periods should always be of the prescribed length. To start on time, the observer will have to arrive at the site at least 15 minutes before the observation period start. An important preliminary activity is to watch the traffic for a couple of minutes or more to be familiar with the major traffic movements, the signalisation or traffic control characteristics, and any unusual activities.



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Time scheduling

Whether the survey lasts for several hours or several days, the observation process normally consist of 1-hour observation periods. It is determined during the planning of the study how many days and observation periods per day are to be used for the conflict recordings.

Instruction for the recording sheet

The upper part of administrative character can be prepared in advance or when a change in the condition occurs.

For each conflict situation should be recorded:

- 1) Time of day
- 2) Road user I and II, the primarily involved in the situation. These are stated and described in the sketch. If there are some other road users secondary involved they should also be mentioned.
- 3) Speed at the moment of the evasive action is taken. The speed can be estimated for both of the road users or only one, the one who make the evasive action.
- 4) Distances to the imaginary collision point, where the road users would have collide if they continued with unchanged speed and directions.
- 5) TA-value, calculated from the speed and distance via the table.
- 6) Evasive action: The most common evasive action for vehicles is breaking or swerving and for pedestrians stopping or running.
- 7) Sketch in which the road users movement and directions are shown. It is important to give such details in the sketch that it easily can be recognised in the evaluation phase. Some extra identification of the site is always worth-wile, typical geographical landmarks or localisation of different shops or professional activities around in the intersection.
- 8) Description of the course of events. Besides the sketch the observer should give a short description of the events and how it was grasped. From the sketch and the description it should be evident the causes to the conflict situation.



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During the observation periods the observer should make notes of violence's to the rules of the site, hazardous behaviours, long waiting times and other factors of interests from a safety point of view.

Preparations for a study:

- Information of the location, how to go there, map of the sites for the study will be presented the observer/s
- Folder with a complete set of conflict recording forms and the TA-table/graph, extra paper for additional information
- Pencils
- Watch
- Suitable clothing's for personal comfort
- Personal identification card
- Telephone number to the supervisor of the study

Observation procedures includes to detect, record, estimate speed and distances, make a sketch and a figure of the situation, try to find the causes of the conflict occurred.

Additional information such as activities going on at the location, vendors, work shops or other socialising which generates traffic. Sight conditions can be of interest also visibility of traffic light or signs.

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