

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on Road Traffic Safety

Sixtieth session

Geneva, 27–30 September 2010

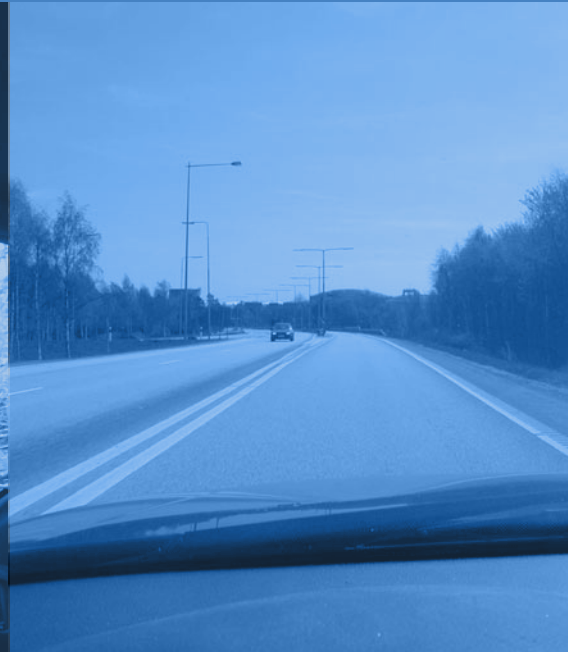
Item 6 (a) of the provisional agenda

Multi-disciplinary crash investigation
Information from Sweden



Vägverket

Swedish Road Administration



In-depth studies of fatal accidents help to save lives



A GOVERNMENT COMMISSION — In-depth studies began in 1997 as part of an initiative from the Swedish Road Administration. The government has since reinforced the importance of these by asking the Administration to carry out in-depth studies of all fatal accidents on Swedish roads.



Why carry out in-depth studies?

In Sweden, we do not accept that road traffic accidents cost human lives. This is why extensive work is being carried out to improve road safety. Part of these efforts includes in-depth studies by the Swedish Road Administration (SRA) of all fatal accidents on Swedish roads and streets. An in-depth study is a systematic approach to discover the cause of a tragedy like a fatal accident. The accident is not simply forgotten. It does not only become another road accident statistic.

Chain of events

In-depth studies offer an insight into why the accident was so serious that someone was killed. An important starting point for the in-depth studies is to map-out the series of events that resulted in the fatal injuries.

Where could the chain have been broken? In-depth studies began in 1997 as part of an initiative from the SRA. The government has since reinforced the importance of these by asking the Administration to carry out in-depth studies of all fatal accidents on Swedish roads. The in-depth studies have led to many improvements in road safety.

Confidentiality

All information that can be connected to individual people is classified confidential. The results of in-depth studies are reported in such a way that people and their vehicles cannot be identified.





Procedure for an in-depth study

Carrying out an in-depth study is similar to doing a jigsaw puzzle. A large quantity of information is compiled to provide as complete a picture as possible of events before, during and after the accident. The in-depth studies are carried out by investigators at the SRA's seven regions. When a fatal accident occurs, the SRA is informed, often by the police. SRA investigators also keep up to date via the media and other information channels, such as SOS Alarm.

Scene of the accident

Soon after an accident, SRA investigators begin a careful examination of the scene of the accident. Important documentation for the investigation includes evidence from the scene of the accident that shows where the vehicles collided with each other or which roadside obstacles the vehicle collided with. Brake marks and wildlife tracks could also provide vital clues.

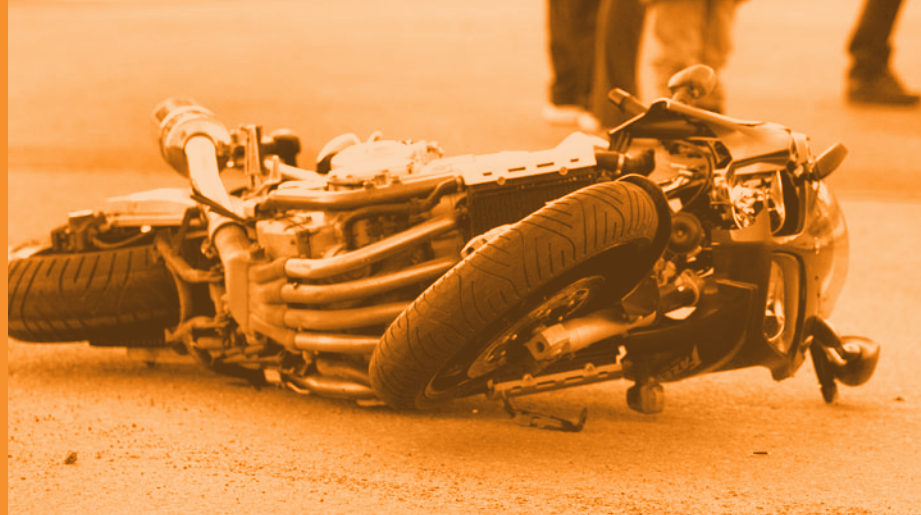
Road

SRA investigators document the design of the road or street, possible bends or hills, road width, surface, road signs, road markings, speed limits, if visibility is good, and if there are any trees or rocks near the road. The scene of the accident and the direction of travel of the vehicle is also photographed.

Vehicle

The vehicles involved are carefully investigated. How old was the vehicle? What was its condition? Were the tyres of good quality? Were seat belts used? Was the vehicle equipped with airbags and had these inflated? Was the vehicle equipped with anti-lock brakes? How had the vehicle been damaged? How did the collision forces impact the vehicle occupants and any pedestrians hit by the vehicle?

A PUZZLE — Carrying out an in-depth study is similar to doing a jigsaw puzzle. Information from many different sources is compiled to provide a picture of the chain of events. What happened before, during and after the accident?



Other sources of information

SRA investigators obtain further information about the fatal accident and the victims through cooperation with the police, emergency services, health services and emergency breakdown companies. Questions that could be answered include: What was the course of events? When did the accident take place and when were the emergency services contacted? Were alcohol or drugs involved?

Information on weather and road condition at the time of the accident, and about other accidents that have occurred at the same location, is obtained internally at the SRA.

It is also important to find out what happened after the crash. When did SOS Alarm receive a call? When did the police, ambulance, and emergency services arrive at the scene? How was the rescue operation carried out?

Analysis

All information about the chain of events before, during and after the crash is compiled and analysed by SRA experts skilled in vehicle mechanics, road design, traffic engineering and behavioural science. Investigators could also call on experts from the health services, police, emergency services and local authorities.

Report on in-depth study

The summaries and analyses produced by the in-depth studies are used as basic data for road safety measures at the SRA at both a regional and central level. The in-depth studies also provide information and knowledge that can be used by other authorities and organisations. The fatal accidents are presented at management level in the regions. This increases awareness, responsibility and commitment among management and makes an important contribution to promote active road safety efforts.



RESULTS — In-depth studies have increased knowledge about the protection offered by seat belts and other protective equipment. The findings have also resulted in measures to reduce drunk driving, such as through the use of alcohol-ignition locks. The studies have also made the road environment safer. Central safety barriers and guard rails near dangerous roadside areas are common and effective solutions.



Improvements resulting from in-depth studies

In-depth studies often lead to immediate changes to the road environment. Guard rails are erected near dangerous roadside areas. Forest areas are thinned on roads with poor visibility. Rocks and trees near roads are removed. Central safety barriers are erected. Road signs that impair visibility are moved. Speed limits are reduced at junctions.

The in-depth studies are also used as basic data for long term work in road design and vehicle development, as well as by the police in traffic surveillance and other road safety efforts.

However, in-depth studies not only offer improvements to roads and streets. One important result of the in-depth studies has been the documentation of the effects of alcohol and drugs. Previously, there had only been suspicions that many drivers were under the influence of alcohol or drugs. The in-depth studies provided concrete proof that about a quarter of drivers involved in accidents are under the influence of drugs or alcohol. In single accidents this proportion is almost half. This has led to an increase in efforts to stop drunk driving and to encourage the use of alcohol-ignition locks. The in-depth studies have increased awareness of the degree of protection offered by belts and other safety equipment in vehicles.

The studies have also convinced local authorities to make tougher demands on safety in their transport procurement. Several local authorities now require school buses to be equipped with belts for all seats.

Excerpts from in-depth studies are used as part of information projects for schools. This helps to increase understanding among pupils of the sometimes tragic consequences of accidents. There is also an opportunity to discuss attitudes to road safety among young people.

In-depth studies are in addition used as basic data for a systematic collaboration between authorities, business and organisations to influence road safety. This approach involves individual responsibility for implementing improvements. The working method is called OLA, which is a Swedish acronym for Objektiv Fakta [Objective facts], Lösningar [Solutions] and Avsikter [Intentions].

There are many examples of how in-depth studies have improved road safety. More information is available on the SRA website, www.vv.se, click on road safety. Coordinators for the regional in-depth studies can be reached on +46 771 119 119. This brochure can be ordered from the Vägverket, Butiken, SE-781 87 Borlänge, fax +46 243 755 50, e-mail vagverket.butiken@vv.se.



SE-781 87 Borlänge
Tel +46 771-119 119, Fax +46 243-758 25. Text telephone +46 243-750 90.
E-mail: vagverket@vv.se / Internet: www.vv.se