



ROAD ACCIDENT INVESTIGATION GUIDELINES

Vojtech Eksler
on behalf of **Josef Mikulík**

- Centrum dopravního výzkumu
- Consultant
- mikulik@cdv.cz



AUTHORS STATEMENT

RAI guideline has been prepared by PIARC Technical Committee - 3.1 "Road Safety", within the frame of activity for working group 1 "Making cost – effective road safety investment".

The team consisted of:

Team Leader: Josef Mikulík, CDV

Deputy Team Leader: Péter Holló, KTI

Members: Sabine Degener, Tawandar W.M. Mdawarima
Krzystof Kowalski, Peter M.W.Elsenaar and others

The RAI guideline is based on findings compiled in the Road Safety Manual (PIARC, 2003)

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1. DEFINITION

ROAD ACCIDENT INVESTIGATION (RAI)

It is a set of procedures carried out on existing roads, which includes:

- a collection of information about accidents and about all the facts linked with them
- an assessment of accident distribution on the road network
- a detailed data analysis of accidents in the targeted spots/sections of roads
- a detection of the road related deficiencies
- an elaboration of suggestions for their suppression or treatment

1. DEFINITION

RAI is considered as the last step in a road safety improvements system

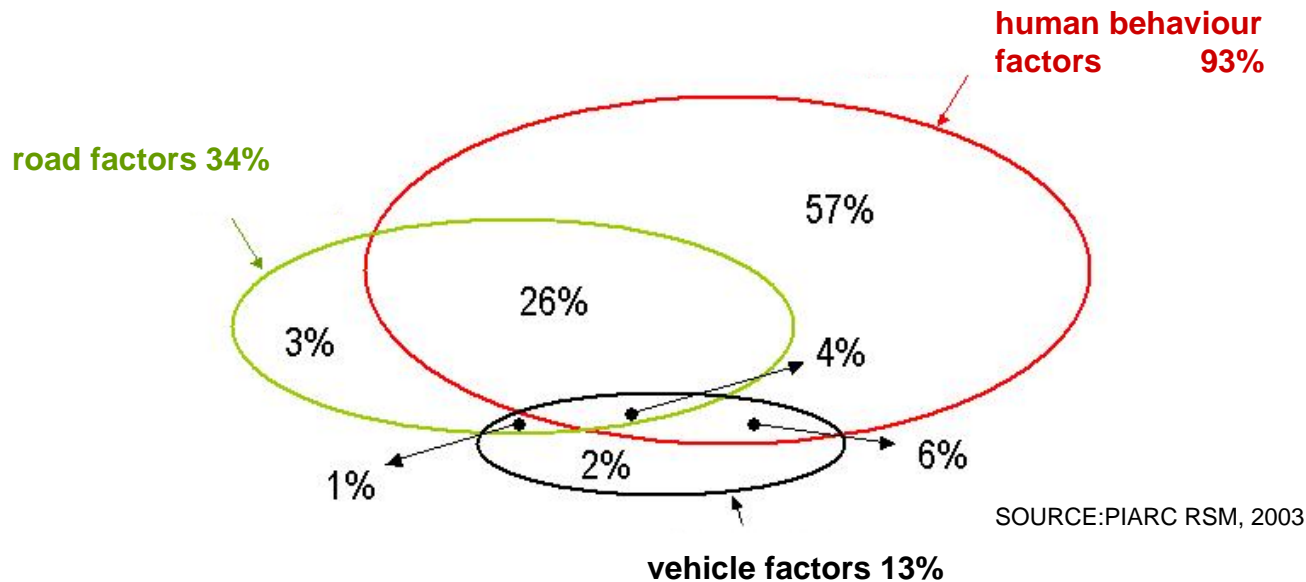
NEW ROADS ◀ ▶ EXISTING ROADS

ROAD SAFETY IMPACT ASSESMENT	ROAD SAFETY AUDIT	ROAD SAFETY INSPECTION	ROAD ACCIDENT INVESTIGATION
strategic comparative analysis of impacts on safety performance	project review identifying road/traffic safety concerns	site review of hazardous conditions, fails and deficiencies	accident assessment linked to real road traffic conditions

PREVENTIVE ◀ ▶ REACTIVE

RAI is the reactive tool. It reflects the real occurrence and distribution of accidents and their circumstances and has a high potential for the identification of a tailor-made safety measures and their implementation

2. ROAD



The particular road environment instigates inappropriate driver responses or provides misleading stimuli to driver perception that create confusion and/or delayed reactions. Because of RAI it is possible to identify these dangerous spots/sections and to suggest the targeted treatment.



3. ACCIDENT DATA

3.1. NEED OF ACCIDENT DATA

3.2. DATA PARAMETERS AND THEIR QUALITY

3.3. MINIMUM DATA

3.4. ROAD AND TRAFFIC DATA

3.5. ADDITIONAL DATA



3.1. NEED OF ACCIDENT DATA

The availability of road accident data is prerequisite for each efficient road safety management system.

Accident data is the crucial element for any road safety intervention. But it is not only the description of the accident circumstances that is needed. Contributing factors like road and traffic characteristics, vehicle parameters, and information about the people involved in the accident have to be registered as well



3.2. DATA PARAMETERS, QUALITY

To effectively analyse, compare and make informed conclusions from the data it is necessary to fulfil the following basic requirements:

- Accuracy (to describe exactly the individual parameter)
- Complexity (to include all features within the system)
- Availability (to be accessible for all users)
- Uniformity (to apply the standard definitions)

3.3. MINIMUM DATA

A minimum set of data can provide relevant information necessary for basic accident investigation.

The minimum data can be identified as follows:

- Accident identification (unique system-based number)
- Time (date, hour, minute, day of week)
- Location (described in chapter 4)
- Accident type (described in chapter 6)
- Vehicles involved (number, type)
- Accident consequences (fatalities, injuries, damage)

3.4. ROAD AND TRAFFIC DATA

This set of data provides road engineers with relevant road infrastructure information linked with the location of the accident and other circumstances and factors contributing to the accident occurrence.

The set of data can include features as follows:

road description, specific places/objects, road alignment
road surface, road signing and marking,
roadside obstacles, visibility conditions,
weather conditions, traffic control, position of accident
main causes of accident

3.5. ADDITIONAL DATA

This set of information contains features related to the vehicles and persons involved in the accident

The data to be gathered are as follows:

Driver, impairment of driver, condition of driver, use of restraint devices, condition of pedestrian, behaviour of pedestrian, license plate number, brand make of vehicle, vehicle operator, year of production of vehicle
emergency service involvement

4. ACCIDENT LOCATION

Accurate localization system should enable:

- exact localization of road feature according to localization data stored in database
- storage of recorded data to appropriate location in database

Described accident location methods:

- Route – km post; stationing
- Node network
- GPS



THANK YOU FOR YOUR ATTENTION

Josef Mikulík
email: mikulik@cdv.cz