The Importance of Good Accident Data

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Where is Denmark?
Population: 5,397,640 inhabitants
Area: 43,084 square kilometres
Density: 1.25 per square kilometre
85% of the population lives in towns. Greater Copenhagen accounts for 1.1 million inhabitants.

Average Life Expectancy: 74.5 years for men and 79.2 for women
Data

- Good value for money
- Quality accident data
- Recorded by the police
- God Road Safety work
- Examples

If we know better, we should do it

If we don’t know, we should acquire knowledge
Accident Factors

Human factors (95%)

Road Environment factors (29%)

Vehicle factors (8%)
Accidents are not Caused

The old perception: "65 percent of accidents are caused by the driver"

The new approach: “For 95 percent of accidents the driver was a contributing factor”

The Driver  The Vehicle  The Road

The Accident
Data Collection

• Police collects data for legal prosecution

• The road Engineer:
  - identifies dangerous spots in the road network
  - has to know where the accident happened
  - makes campaigns
Gathered Accident Information

- Location of the accident
- Involved parties
- Number of injuries
- Vehicle data
- Accident cause
- Sketch of the accident situation
- Statements of witnesses

- Date and time of day
- Collision type
- Road type and condition
- Weather and visibility
Accident types - Pictograms

• A set of pictograms has been designed to describe common accident situations.
• The police will register these situations to describe how the accident happened.

Rear end accident
Who is to Blame?

• The Road Authorities need an accident registration that focus on factual information and not on who might be guilty in a legal sense.
Dataflow

POLICE

Location

Road Center

Statistical Bureau

DATABASE
Police use of Accident Data

• Target spots for police enforcement
Accident Database

- For analytical reasons.
- Sometimes the police and sometimes the road authority compiles the database.
- Quality control of the data, to make sure that the recording of e.g. the place the accident happened is correct.

Two Girls burnt to Death in Car
Improving Safety

The road authorities are responsible for:

• Improving the safety of the road
• Reducing the number and/or
• Reducing the seriousness of accidents.
Example

- Accident Data for Denmark

- General accident statistics
- Action plans for road safety
- Analyses of Dangerous Locations
- Road safety audit
- Accident inspections
- Evaluation of road safety projects
- Define target groups for road safety campaigns
- Target locations for police enforcement.
New Road?

Yes: Road Safety Audit

No: Do you have Accident Data?

Yes: Accident Site Investigation

No: Road Safety Inspection

Road Safety Audit Guidelines

Road Safety Manual

Road Safety Inspection Guidelines
The Number of Killed
1947 - 2004
Action Plans for Road Safety

Road Safety Action Plans dealing with
• Engineering Measures
• Campaigns
• Police Enforcement.
Road Accidents 2000 - 2012

Danish Road Safety Commissions goal:
- 40% less fatalities
- 40% less serious causalities
Road Safety in the Road Directorate

Safety in Planning
- Road Standards
- Accident Database
- Accident Prediction Models
- Action Plan for Road Safety
- Highway Investment Model
- Safety Audit

Safety in Maintenance/Construction
- Black Spot Works
- Road Safety Inspections
- Road Accident Investigations
- Safety at Worksites
Analyses of Dangerous Locations
Analysis of Dangerous Locations

- Collision Diagram and analysis of data
- Site visit
- Remedial measures
Road Safety Audit

A safety audit identifies the dangerous spots before the opening of the road.

Prevention is better than cure.
Road Safety Inspection

• On existing Roads
Danish Road Accident Investigation Board

- Precise impression of the accidents and
- Gather more knowledge about the accident and injury factors than can be done in traditional accident analysis
- Interdisciplinary in-depth investigations of frequent serious accident types within a chosen theme
Define Target Groups for Road Safety Campaigns

- Age groups
- Male/female
- Occupation

- Risky driving all the time: 3%
- Risky driving once in a while: 10%
- Safe driving (almost) all the time: 87%
Target Locations for Police Enforcement

- Where do the accidents happen?
- When do the accidents happen?
  - Time of day
  - Day night
  - Weekends
- Why do the accidents happen?
  - Speed
  - Red light running
  - Right of way
  - Seatbelts
  - Running lights