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International Road Safety Seminar and
Workshop AGEPAR/PIARC
Improving the Safety of Road Infrastructure
Togo, Lomé, 11th - 13th October 2006

The Importance of Good Accident Data

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Danish Road Directorate

Ministry of Transport – Denmark

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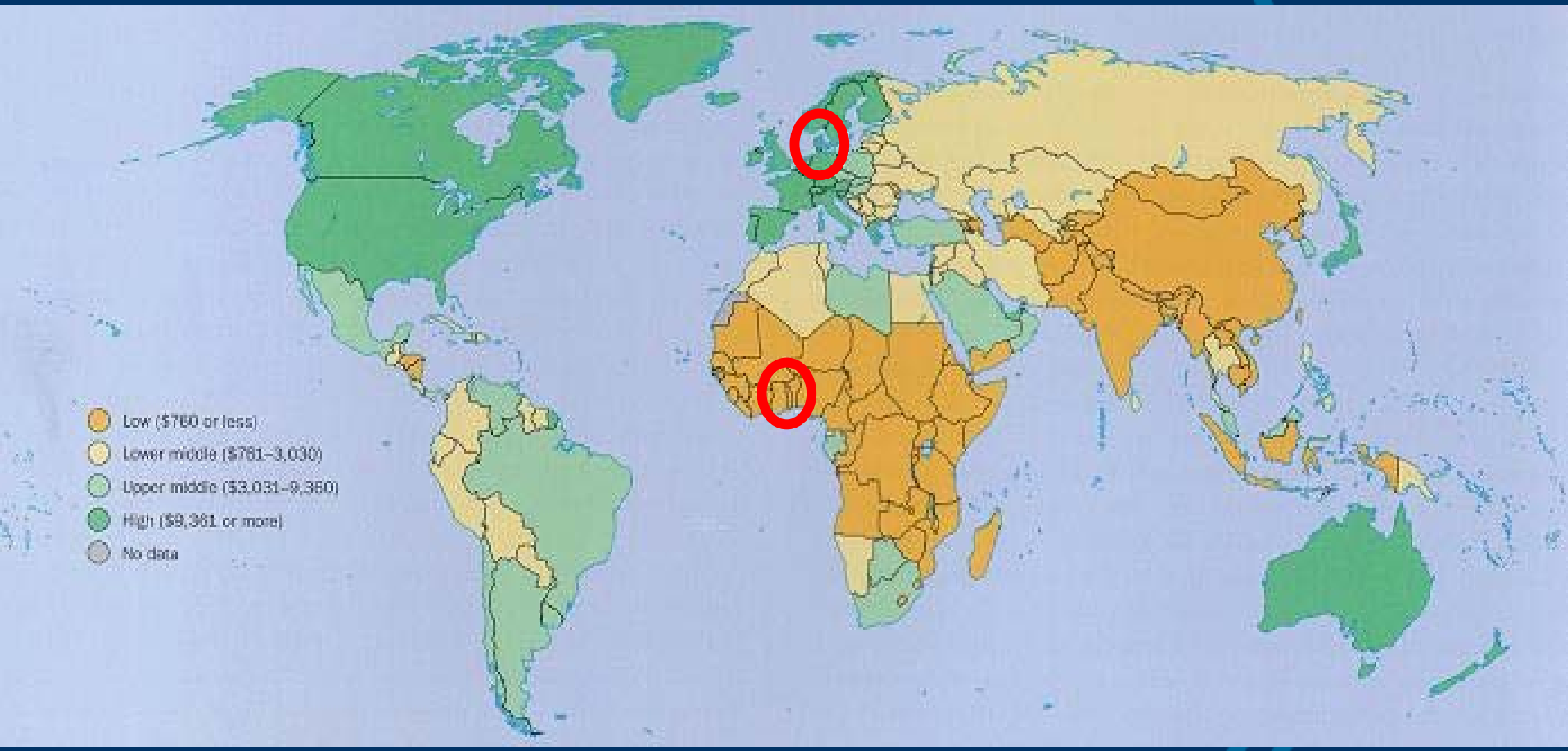

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Where is Denmark ?

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

Key Figures

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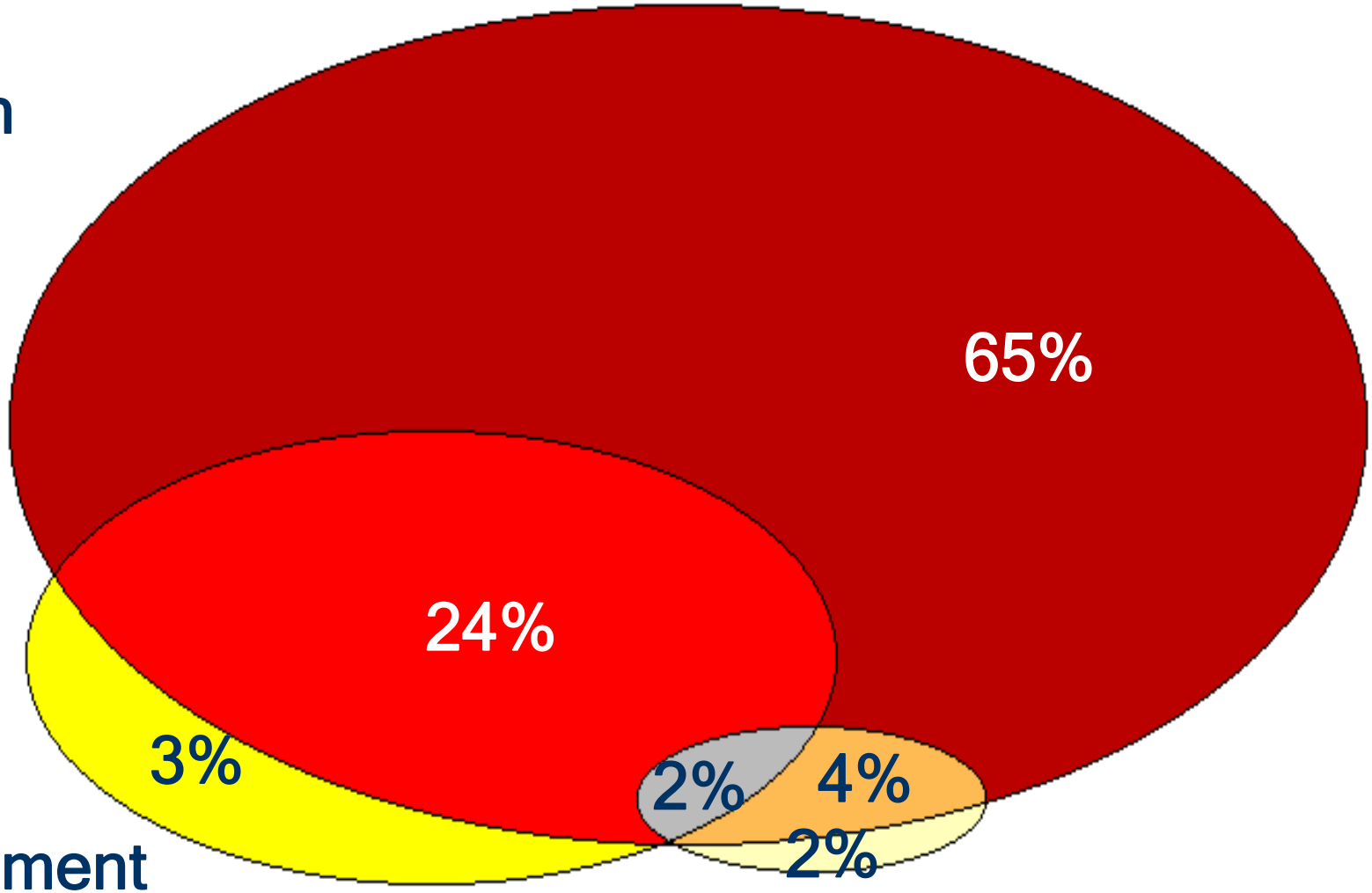
Data

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

If we know better, we should do it

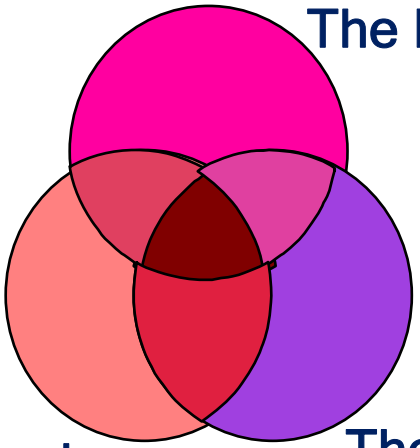
If we don't know, we should acquire knowledge

Accident Factors

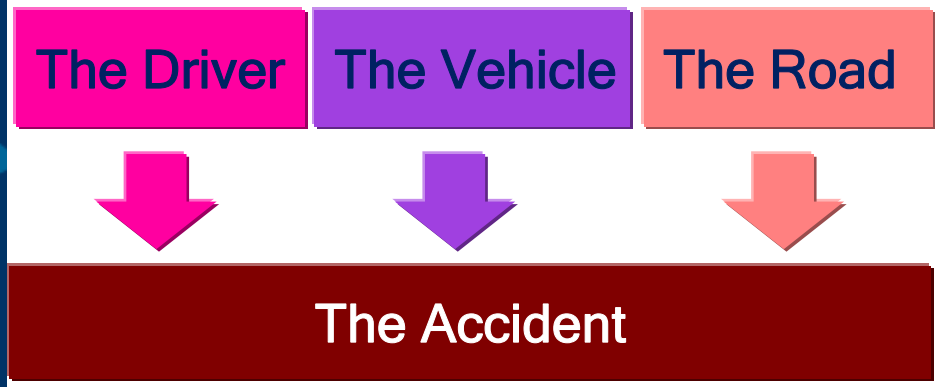


Accidents are not Caused

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”



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

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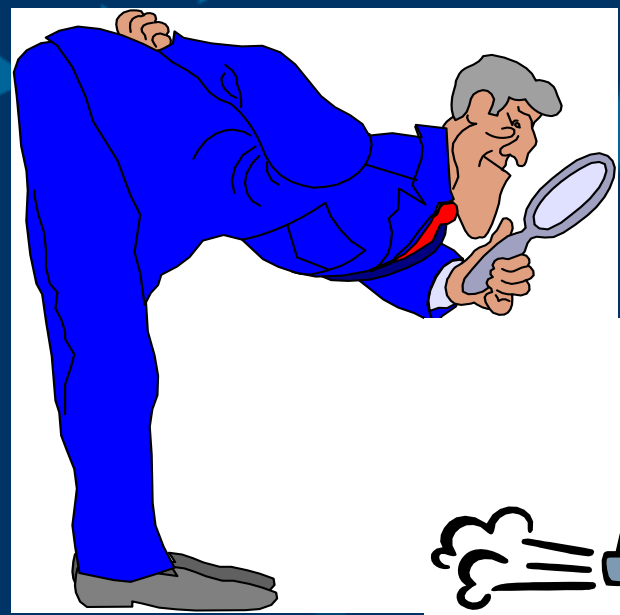
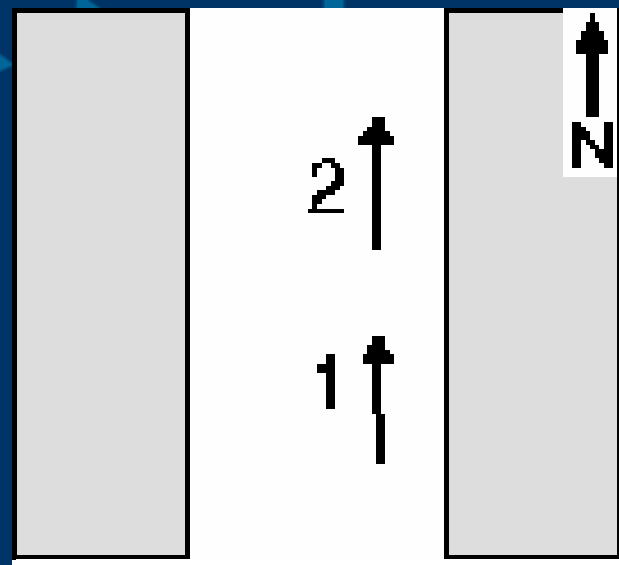
Gathered Accident Information

- 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

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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.

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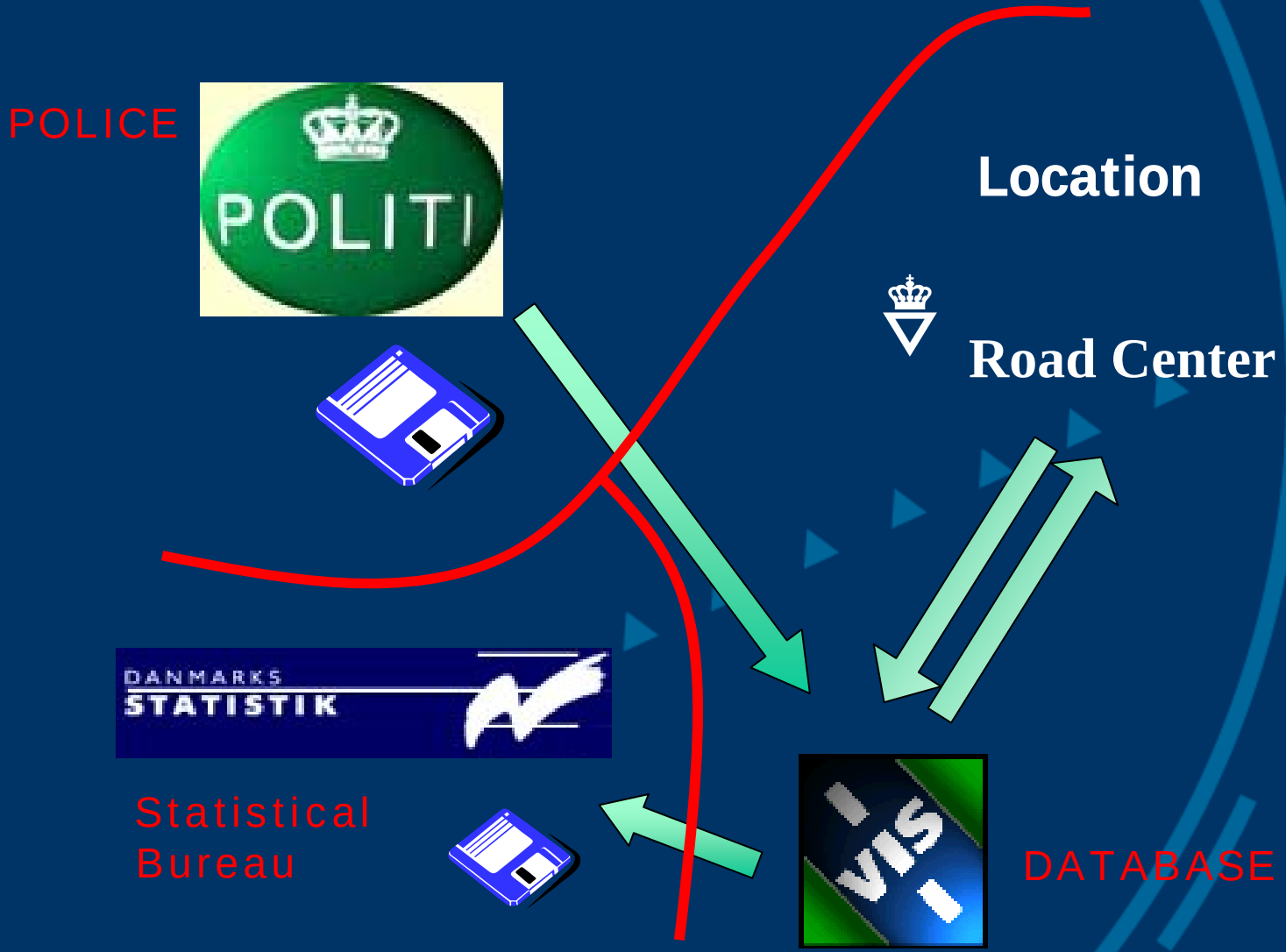
Dataflow



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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

To unge indebrændt i bil i morges.
Den 18-årige, mandlige fører af bilen er hårdt kvæstet overført til Rigshospitalet.

Af Marianne Knudsen

RUDBJERG - To unge piger omkom ved en voldsom trafikulykke i morges kort før klokken 8 ved Rudbjerggård på Vestlolland.

Pigerne sad på bagsædet af en rød 3-dørs Fiat Uno, der blev ført af en ung mand.

På den smalle vej Hovvasen, hvor der står store vejtræer på begge sider, var bilen på vej fra Rudbjerggård mod nord.

Hastigheden har formentlig været for høj, hvilket bremsesporene på stedet også kan indikere. I en kurve på vejen kørte bilen nærmest frontalt ind i et vejtræ i højre side, hvorefter den brød i brand.

Det lykkedes den unge mand at slippe ud af bilen, hvorimod de to piger indebrændte. Kun de forkullede skeletter var tilbage, da redningsmandskabet nåede frem.

Den unge mand, som selv blev alvorlig forbrændt ved ulykken, har formentlig liget et stykke tid udenfor bi-

ren. Samtidig blev den kraftige brand opdaget af Rudbjerggårds skytte, Mogens Larsen, der løb til stedet, og på vejen mødte bilens fører.

Bilen var på det tidspunkt omspændt af flammer, og den unge mand, der formentlig også havde kvæstelser i hovedet sagde, at der ikke var andre i bilen. Han var på vej til Rudbjerggård, hvorfra der blev slået alarm om bilbranden.

De to forkullede lig på bagsædet blev først opdaget af politiet, der kom før Falck nåede frem med brandsprøjte og ambulance.

På Rudbjerggård blev den unge mand kølet ned med vand, og det viste sig, at han er alvorlig forbrændt.

Da pigerne på bagsædet af bilen blev fundet tilkaldtes flere ambulancer.

De forkullede lig skal undersøges på Retsmedicinsk Institut.

Fra morgenstunden var den nærliggende Rudbjergvej ellers smykket med flagallé, da Rudbjerg Kommune i eftermiddag er vært ved generalforsamlingeni Kommuneforeningen i Storstrøms Amt.

Da nyheden om den tragiske ulykke bredte sig, besluttede borgmester Tom Larsen, at falgalleen skulle tages ned igen.

Samtidig gik flaget ved Rudbjerghallen og på de andre store flagstænger i Rudbjerg på halv.

De to indebrændte piger blev først opdaget, da brand og ambubulancemandskabet nåede frem til ulykkesstedet. Den unge billist var så svært kvæstet og i chok, at han fortalte at der ikke var flere i den brændende bil. Foto: Jan Knudsen

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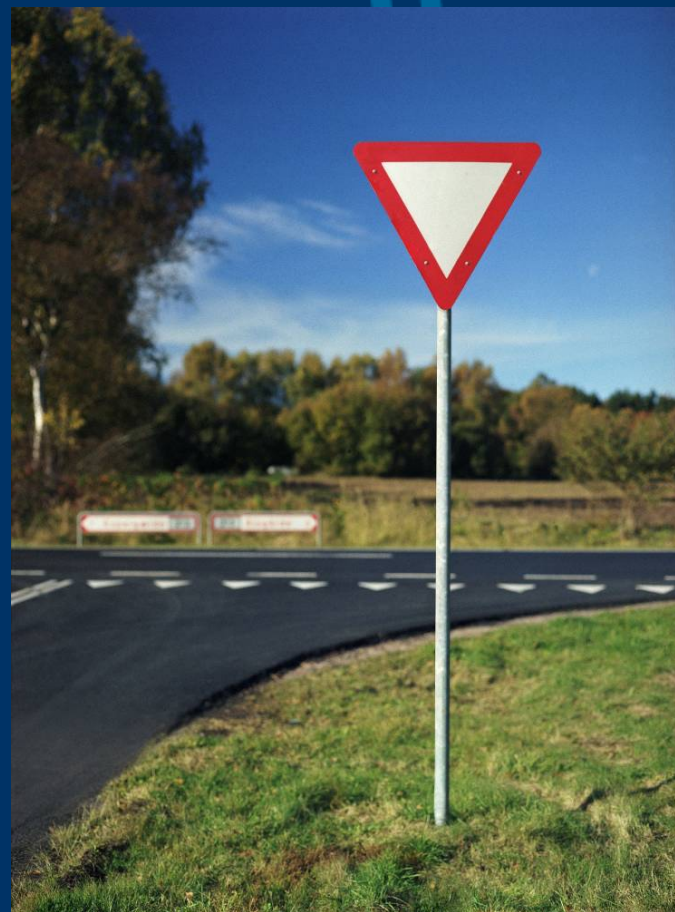
Improving Safety

The road authorities are responsible for:

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



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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

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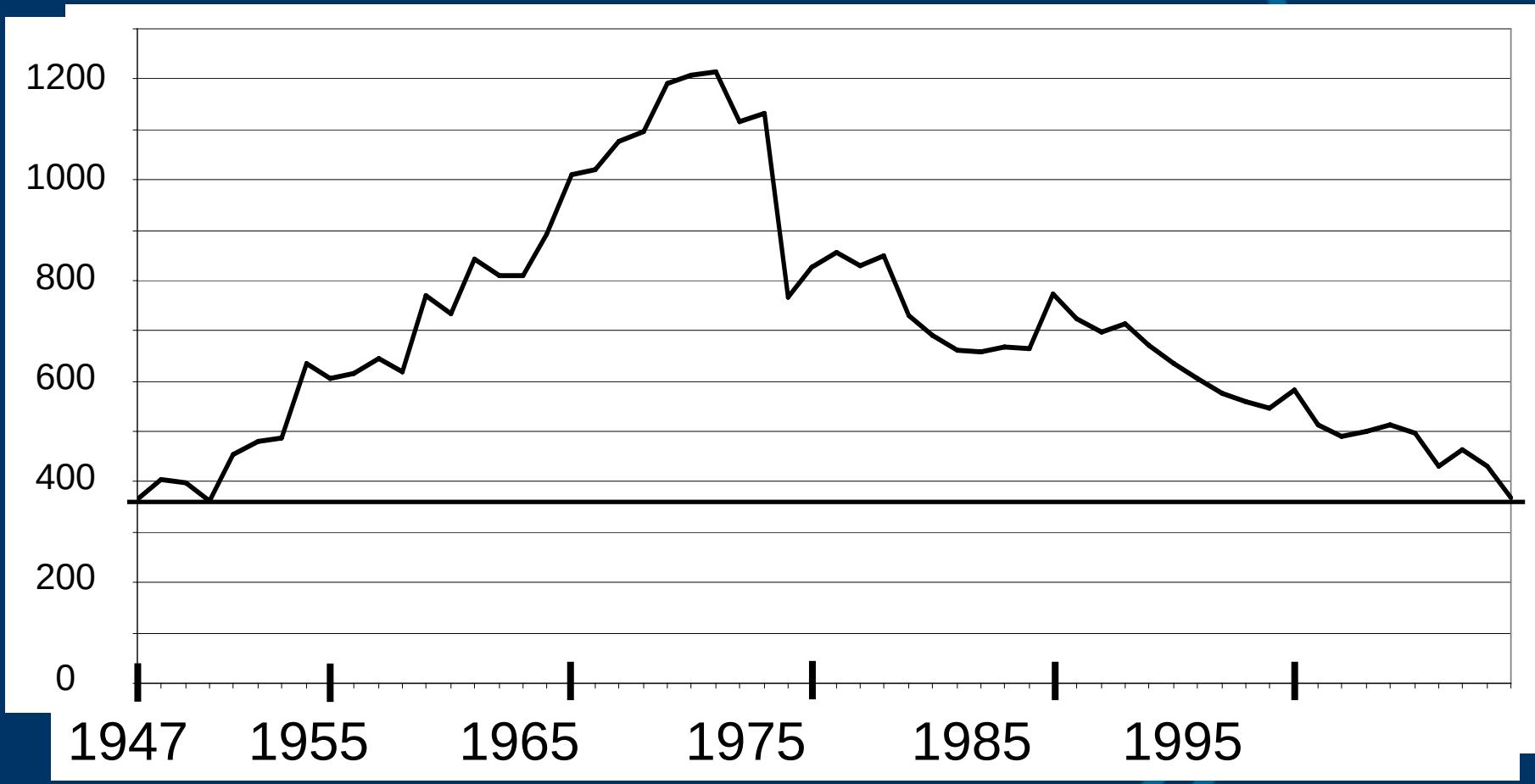
The Number of Killed 1947 - 2004



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Action Plans for Road Safety

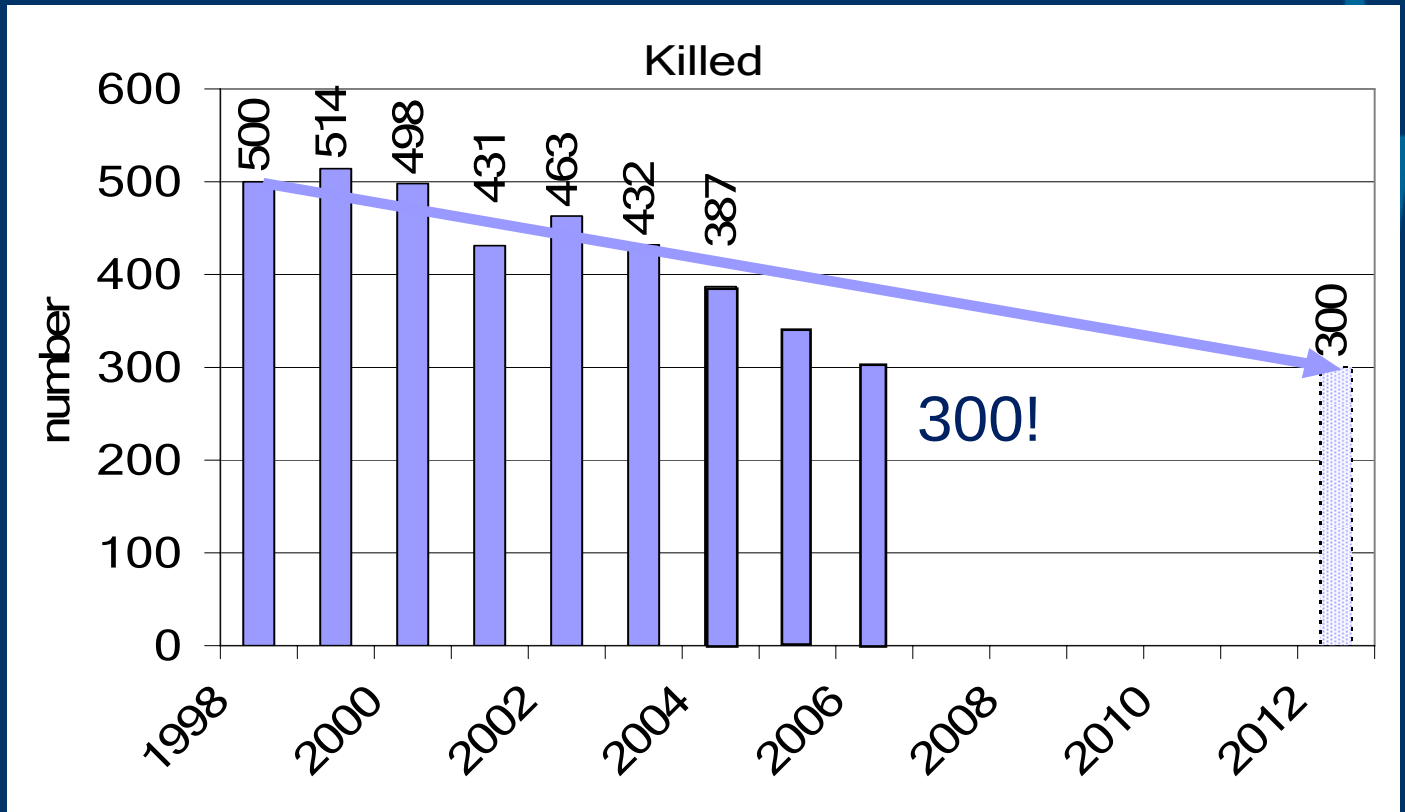
Road Safety Action Plans dealing with

- Engineering Measures
- Campaigns
- Police Enforcement.

Road Accidents 2000 - 2012

Danish Road Safety Commissions goal:

- 40% less fatalities
- 40% less serious causalities



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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

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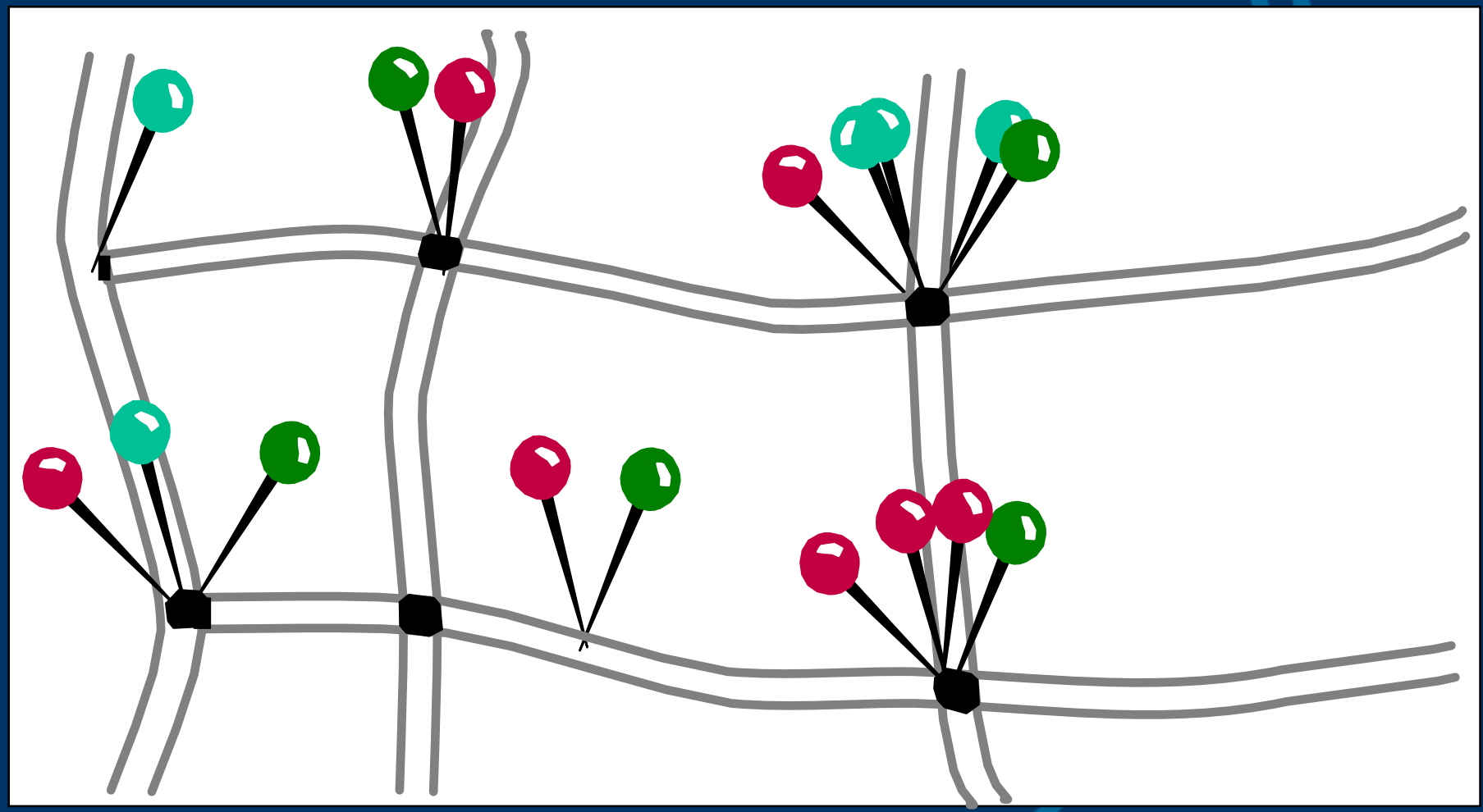
Analyses of Dangerous Locations



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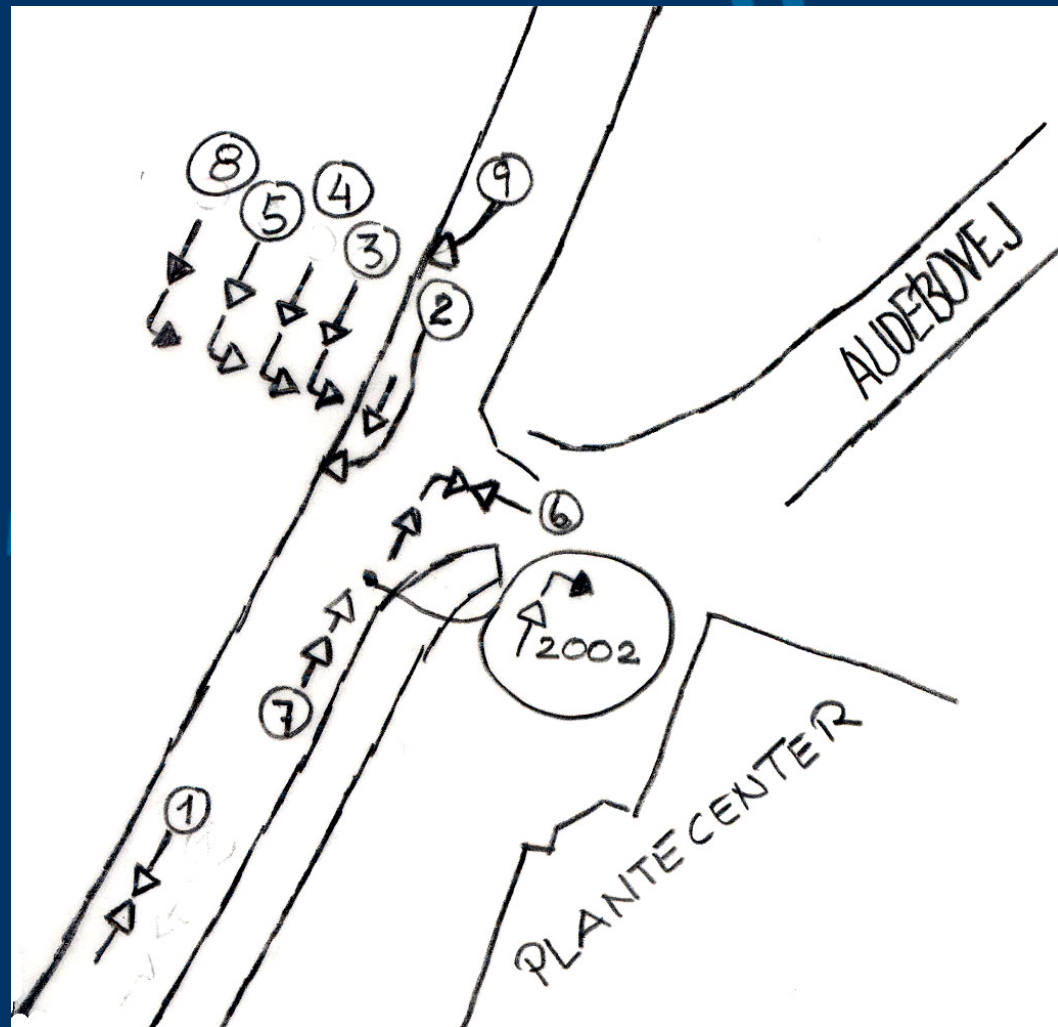
Analysis of Dangerous Locations

- Collision Diagram and analysis of data
- Site visit
- Remedial measures



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Road Safety Audit

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

Prevention is better than cure

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Road Safety Inspection

- On existing Roads

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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

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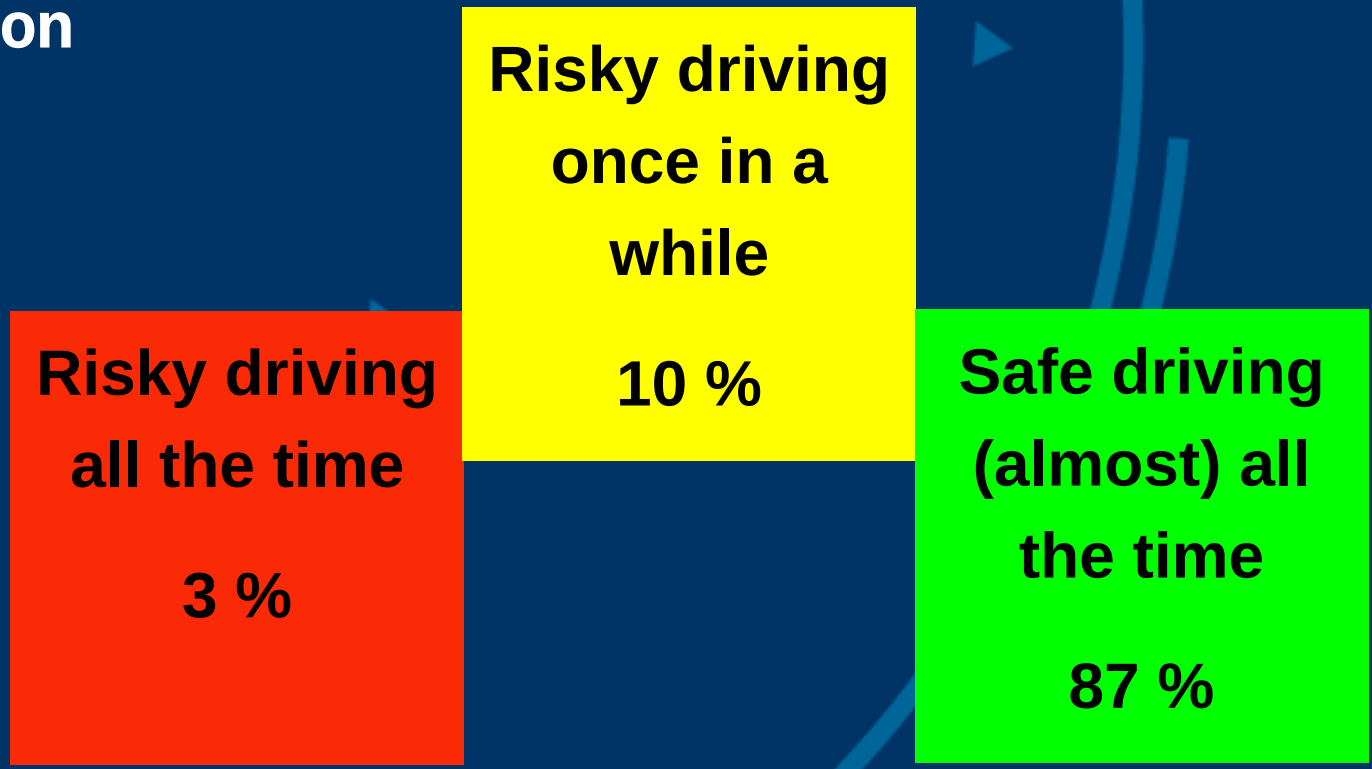
Define Target Groups for Road Safety Campaigns

- Age groups
- Male/female
- Occupation



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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

Accident Statistics on the WEB

http://vd.dk

http://webapp.vd.dk/uheld/UhAarStat.asp?page=document&objnr=105608&portal=vd