



Statens vegvesen

Norwegian
Public Roads Administration

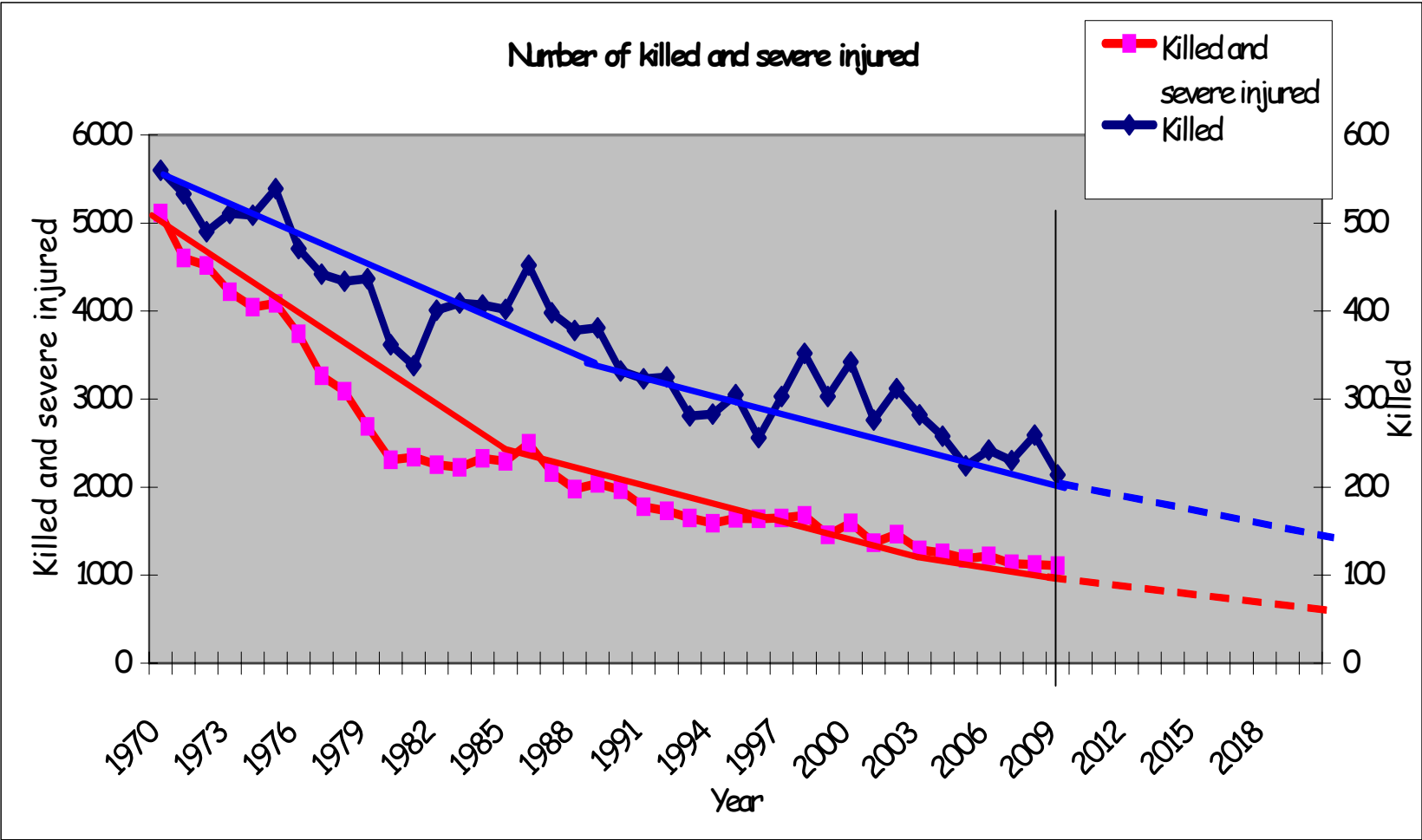
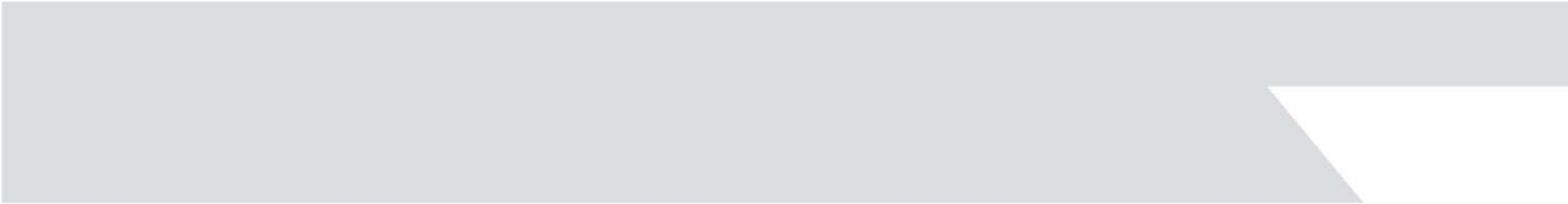


In-depth accident analyses in Norway

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- In Norway we have carried out systematic in-depth analyses of all fatal road accidents since 2005.



Pilot studies in 1999-2000

- Pilot studies with in-depth accident analyses teams were carried out in ten different counties in 1999-2000.
- One team investigated accidents with motorcycles, one studied accidents with bicycles, one team studied accidents involving pedestrians, one team studied head-on accidents, and several teams studied fatal accidents.



Recommendation from SINTEF - 2002

- We find that the pilot study has been positive and conclusive. It will in the future represent an interesting tool for the systematic road safety work at the Public Roads Administration.
- SINTEF recommends that the activity in the accident investigation teams continue their activity. It must, however, be decided how this activity can be incorporated in the ongoing road safety work.



Public Roads Administration - 2003

- It was decided to establish one accident analyses team in each of the five regions, and one data collection group in each county
- It was decided that these accident analyses teams should analyse all fatal accidents

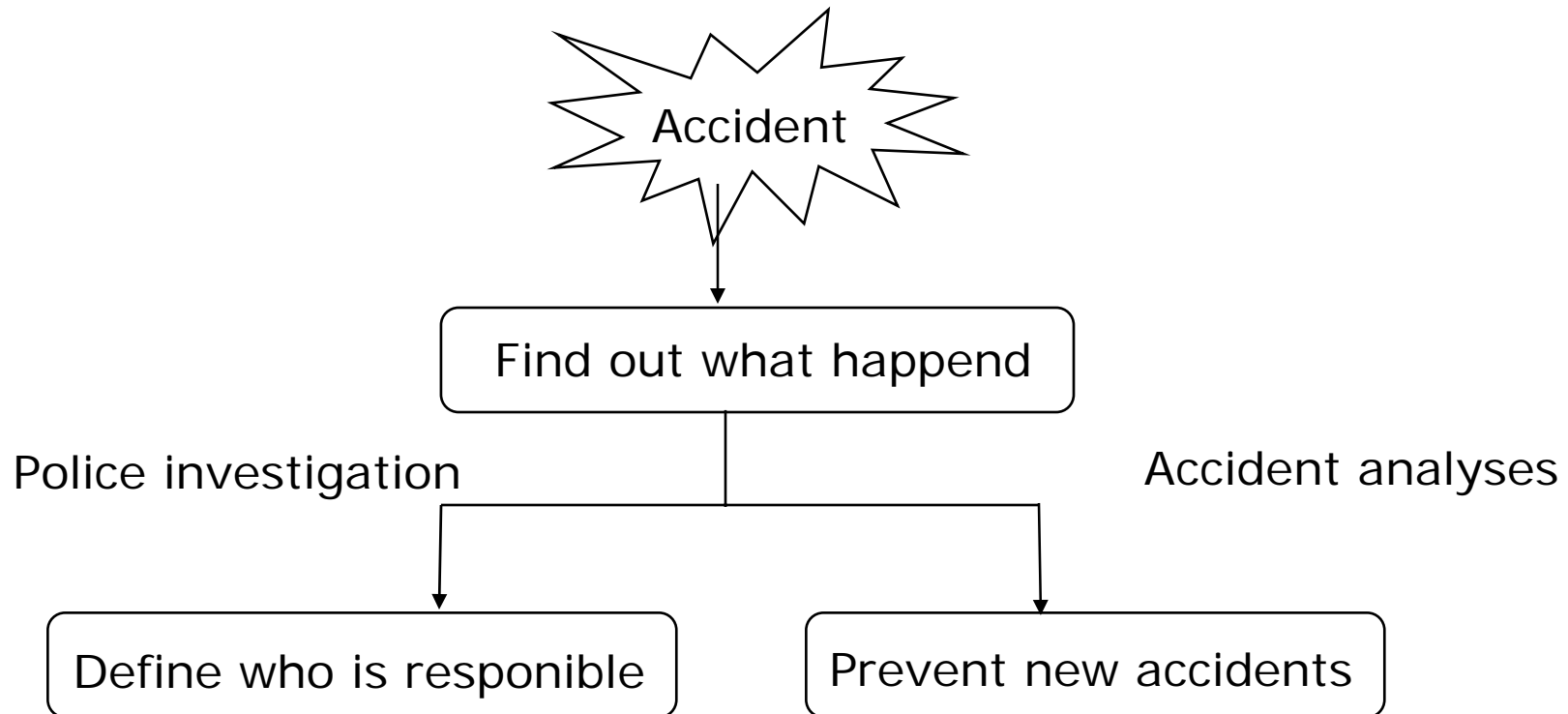


Analyses from 2005

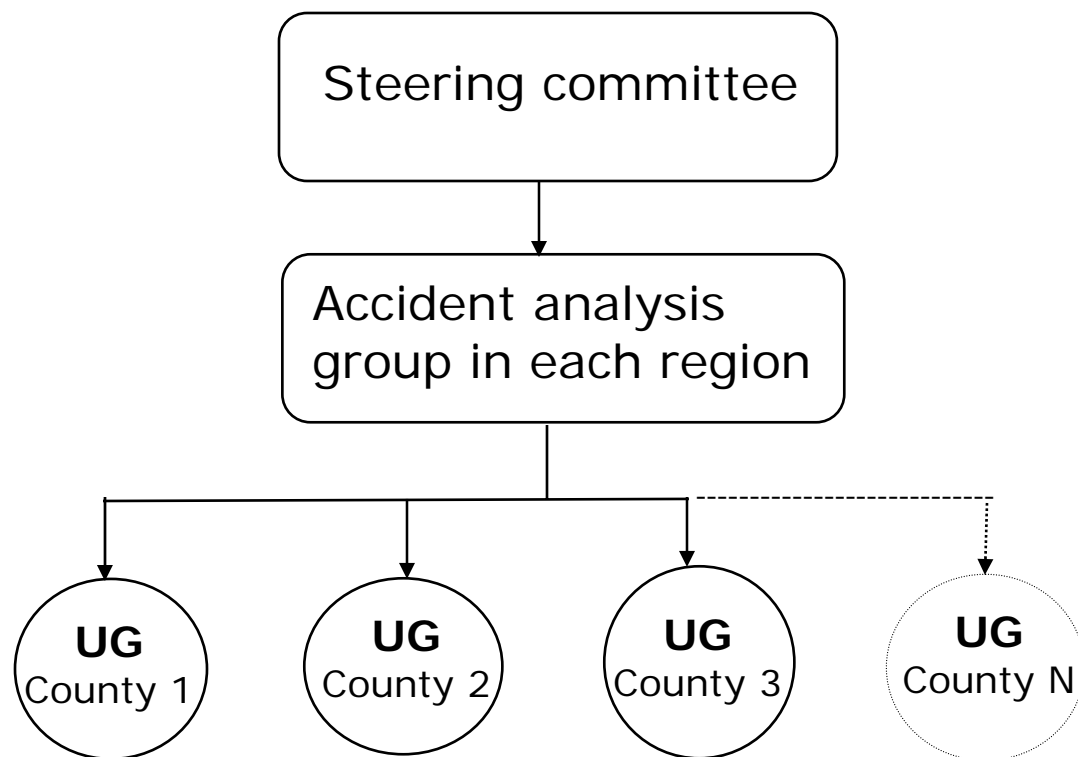
- Guidelines were developed in spring 2004
- People were identified and trained in the autumn 2004
- Data collection and analyses started in January 2005



The difference between the police and the accident analyses groups



Organisation



UG = Data collection group in each country



Data collection groups

- ***Competence***
 - Road, vehicle, road user
- ***Tasks***
 - Visit the accident site (first one, then the group)
 - Collect data
 - Fill in forms
 - Send preliminary data to the Region and Directorate (24h)
 - Start describing the facts
 - Send preliminary report to de regional analyses team



Accident analyses teams

- ***Competence***

- Road, vehicle, road user, medical expert (from 2010)

- ***Tasks***

- Receive preliminary report
- Carry out in-depth analyses
- Prepare final report, with suggested countermeasures
- Send final report to the Steering committee and the Directorate
- Prepare a yearly report



Accident analysis

- Descriptive statistics at three levels; accident, vehicle and road user
- What causes the accidents?
 - **Causes leading to the fatal accidents**
 - **Causes leading to the fatalities**
- Different factors are available (about 70) related to
 - **The road users**
 - **The road and road environment**
 - **The vehicle**



Accident analysis

- One accident could have several factors that made the accident occur as well as several factors that influenced the severity
- All factors are rated 1-3; Each number is multiplied by itself and cannot exceed the total sum of 15



Reports

- Regional reports each year (since 2005)
- One national report each year summarising the data from the regions
- In 2009 all data were registered in a national database
- It was then possible to analyse data from 2005-2008



Results from four years with in-depth analyses (2005-2008)

- 875 fatal accidents with 955 killed
- 40% are killed in head-on collisions
- 33% are killed in run-off-the-road accidents
- 13% of the killed are pedestrians



Number of fatal accidents (2005 – 2008) where factors related to the road users, road conditions, vehicles or external condition have contributed to the accident

Contributing factors	Number of	Share of all
	accidents	accidents
Factors related to the road users		
Lack of driving skills	482	55 %
Excessive speeds related to the road/well above the speed limit	438	50 %
Intoxication	192	22 %
Tiredness/falling asleep	119	14 %
Illness	81	9 %
Suspected suicide	45	5 %
Factors related to road and road environment	246	28 %
Factors related to vehicles involved	160	18 %
Factors related to weather and road conditions	129	15 %



Factors leading to fatal accidents

- Wrong road user actions 55%
- Too high speed 50%
- Intoxication 22%
- Tiredness 14%
- Factors related to the road 28%
- Factors related to the vehicle 18%
- Factors related to the weather 15%



Factors leading to fatality

- Not used seat belt 43% (of car occupants)
- Not used helmet 64% (of cyclists)
- High speed 49%
- Factors related to the road 29%
- Factors related to the vehicle 38%



Measures by NPRA central

• Road user	32 (18+7)
• Vehicle	22 (1+5)
• The road and road environment	70
– Run-off-the-road accidents	22 (9+13)
– Head-on collisions	7 (4+1)
– Cross sections	6 (1+5)
– Pedestrians/bicyclists	9 (2+7)
– Work at the road	8 (0+8)
– Road	18 (5+13)



Implementing measures

- District level: considering local measures; long-term investments or quickly made measures (acute situations)
- Region level: Common measures across districts that need to be coordinated, e.g., revisions, inspections and controls, developing tools and methods etc.
- Road directorate: Common national measures are implemented in Handbooks, function contracts, communication work, change of external and internal teaching



2009 -

- The established electronic database with all national data, provide an opportunity to focus on particular themes
- Present research:
 - Fatal accidents with motorcycles
 - Fatal accidents with bicycles
 - Fatal accidents with heavy vehicles

