



Multi-disciplinary crash investigation

The Danish approach



Multi-disciplinary crash investigation

- Three Danish accident investigation agencies
 - The Accident Investigation Board for Civil Aviation and Railway
 - The Division for Investigation of Maritime Accidents
 - The Road Traffic Accident Investigation Board





The Danish AIB

- The Danish Road Traffic Accident Investigation Board (AIB) was created in 2001
- The purpose of the AIB is to:
 - compile knowledge of road traffic accidents
 - utilise the compiled knowledge to set up recommendations, which can improve road safety – both in terms of policy and targeted towards road users
 - raise awareness of specific types of road traffic accidents
- The work of the AIB is used by other institutions and policymakers in order to undertake preventive action against road traffic accidents
- The object is not to determine the question of guilt or innocence in a legal sense



Reports published by the AIB

- The AIB publishes comprehensive reports, each focusing on a specific type of accident or "theme"
- The AIB has published six reports:
 - Motorcycle accidents (2009)
 - Road traffic accidents between cyclists and motor vehicles at road junctions (2008)
 - Road traffic accidents involving lorries turning right and cyclists travelling straight on (2006)
 - Road traffic accidents involving vans (2005)
 - Road traffic accidents on motorways (2003)
 - Single vehicle accidents with drivers under the age of 25 (2002)
- Each report is based upon a thorough analysis of 30-40 individual accidents
- The contents of these analyses are confidential



Choosing themes for AIB reports

- Considerations when choosing themes for reports
 - Accident statistics
 - Need for further knowledge
 - Media focus
 - Coordination with ongoing research



A multi-disciplinary composition

- The composition of the AIB is genuinely multi-disciplinary including professional analysis by
 - police officers
 - medical professionals
 - road engineers
 - psychologists
 - vehicle inspectors
 - researchers

Methodology related to inspection of accident sites



- Analyses of individual accidents include
 - "On the scene" inspection by the police and vehicle inspector
 - "On location" inspection by the AIB inspection team



Methodology related to in-depth analysis of accidents



- The analyses of each individual accident include:
 - Police reports with interviews of the involved persons and witnesses
 - On-site analysis of the site of the accident
 - Traffic and road information
 - Photos of the accident site and measurements of brake tracks
 - Photos of vehicles involved in the accident
 - Inspection documents from car inspectors in site
 - Interviews of involved parties by the AIB
 - Information gathered from the Drivers Licence Register and the Criminal Register
 - Reports on autopsies and blood screenings



AIB report on motorcycle accidents

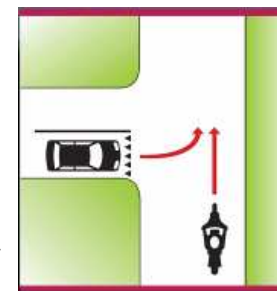
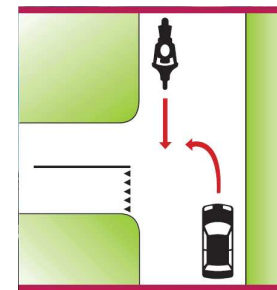
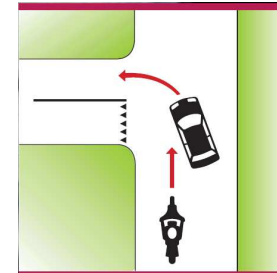
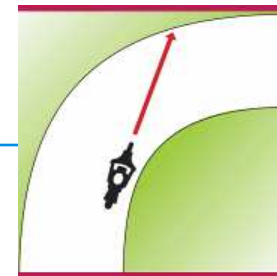
- AIB report no. 6, 2009
 - Analysis of 41 accidents involving motorcycles
 - 15 fatalities, 12 seriously injured, 21 suffered minor injuries
 - The majority of drivers were male
 - The majority of the accidents occurred during leisure trips



AIB report on motorcycle accidents



- Most common accident scenarios:
 - 11 accidents occurred in curves
 - 8 accidents occurred between a motorcycle overtaking a vehicle turning left
 - 6 accidents occurred between a motorcycle driving straight forward and a vehicle driving in the opposite direction, turning left
 - 6 accidents occurred between a motorcycle driving straight forward and a vehicle entering from a side road





AIB report on motorcycle accidents

- The division of accident factors

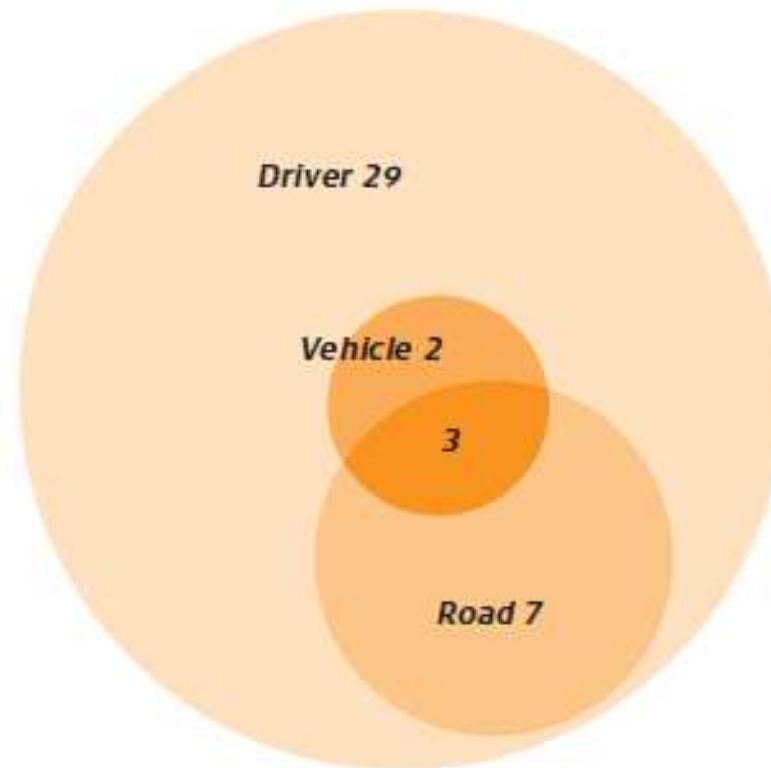


Table 3.1: Division of accident factors in the 41 accidents



AIB report on motorcycle accidents

- AIB recommendations for motorcyclists:

10 recommendations for motorcyclists:

1. Be aware of the small signals of other road users, especially of those driving ahead and coming from the side.
2. Drive defensively when there are other road users. Reduce speed when there are doubts on the intentions of other road users.
3. Observe the speed limit.
4. Avoid fast acceleration and high speeds when there are other road users. You are difficult to see in time.
5. Be especially careful and position yourself visibly when overtaking one or more cars.
6. Never drive with alcohol in your blood, not even small amounts.
7. Consider the weakest when driving in groups and do not allow yourself to be pressurised.
8. Ensure you maintain your driving abilities, especially braking, avoidance and curving manoeuvres. Attend a driving course.
9. Always wear all of the protective clothing, regardless of whether you are going on a short or long trip.
10. Ensure you are visible and that you have visible lights in your headlamps.



AIB report on motorcycle accidents

- Additional AIB recommendations:
 - Other motorists should be more aware of powered two-wheelers in traffic
 - Vested police checks of motorcyclists on smaller roads
 - Adapt roads and surroundings in order to increase safety for PTWs
 - Sufficient marking and overview at a distance
 - Specific “PTW-routes” should undergo road safety inspection
 - More powerful driving lights on PTWs in the daytime
 - Motorcycles should be fitted with ABS brakes and anti-tilt functions
 - Fitting of ISA on motorcycles
 - Fitting of alcohol locks on motorcycles
 - Introduction of electronic driving license for motorcycles



Where to find the Danish AIB

- Website in English: www.hvu.dk/hvu_engelsk.asp
- For inquiries contact Chairman of the AIB Mr Sven Krarup Nielsen via e-mail skn@vd.dk