Workshop on Motorcycling Safety

WORKSHOP ON MOTORCYCLING SAFETY
held in Lillehammer (Norway) on 10-11 June 2008

ANNEXES TO THE FINAL REPORT
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ANNEX 1
TRENDS IN THE MOTORCYCLE FLEET WORLDWIDE
PRESENTATION BY NICK ROGERS
Factors influencing US market

- Motorcycles are a “discretionary income good” in the USA.
- Economic growth boosts sales.
- Baby Boomers are the largest population group (40-60). Have income and time to ride motorcycles, the “born-again bikers”.
- Motorcycling is now more accepted as a mode of transport.
- Increase in the number of female riders from 2% in 1990 to 10% in 2005.
**Sales: trends in Japan**

- **1978**
  - 6 million units produced
  - Less than 50 cc: 38%
  - 51 - 125 cc: 42%
  - Over 250 cc: 13%

- **1994**
  - 2.72 million units produced
  - Less than 50 cc: 32%
  - 51 - 125 cc: 38%
  - Over 250 cc: 20%

- **2006**
  - 1.7 million units produced
  - Less than 50 cc: 17%
  - 51 - 125 cc: 8%
  - Over 250 cc: 85%

*Increasing share of over 250 cc segment*

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**Factors influencing Japanese market**

- Mature motorcycle market
- Motorcycle sales have been falling since 1982
- Young population is shrinking (smaller potential market)
- Alternative lifestyles emerging, reduced interest in MCs.
- However, growth in enthuseast market (> 250 cc).
- Like Europe, shift from utility (mopeds) to leisure (motorcycles)
- Unlike Europe, congestion has not boosted sales

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**Sales: trends in China**

- Until 1990 (0.08 million)
  - ‘Less than 125 cc’ was the main segment (85%)
    - 45% ‘less than 50 cc’
- 2006 (20.5 million)
  - 50% of market ‘125 cc’
  - emergence of above 250 cc (1%)

*Growing Income levels. Increased use of two wheelers.*

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**Factors influencing Indian market**

- Infrastructure development, especially in rural areas
- Increase in disposable income
- Innovation- development and introduction of new products, new technology, etc.
- Product characteristics like greater utility (in terms of road space, parking space, low cost of acquisition, etc.)
- Current low penetration rate (MC/1,000 pop)

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**Reasons for Growth**

1. Ease
2. Efficiency / Economy
3. Employment / Entrepreneurship
4. Enjoyment
ANNEX 2
THE RIDERS AROUND THE WORLD
PRESENTATION BY HANS PETER STRIFELDT

1. Different types of Riders
Deconstructing the Stereotypes
The Lifestyle Bikers
(USA - Sturgis)

The Professional Rider
(Kansas Police)

The « Weekend Warrior »
(Trackday in the UK)

2. The Road Rider Community

The « ordinary » Rider
(Belgium)

Some riders are not organised…
On the other hand...

- **Clubhouse** (Belgium)
- **Roadside Cafe**
  - (ACE Cafe in London)
- **Meetings**
  - (FIM Rally in Sweden)
- **Roadside Cafe**
  - (Stammtisch in Germany)
- **National riders’ Rights Organisations**
  - (IG Motorrad – Zurich show)
Continental Organisation - Europe
(FEMA at MEP Motorcycle Ride)

Continental Organisation – USA
(AMA lobby in Washington – Secretary of Interior)

The Worldwide social and political
« motorcycling Network »
(Web Forum)

3. Safety Consciousness within the Motorcycling Community

Most Riders have little safety consciousness…

The philosophically founded anti-safety-armour attitude
The extreme «Risk taker»

But motorcycling can never be risk free...

The Safety Conscious Riders

4. Why some people «choose» to be vulnerable road users?

The Safety Dialogue
(Screening by MAG Belgium)

Most people do not have the choice between a motorcycle and a car
(Taiwan)
Three reasons for choosing to become a rider:
1. Commuting
2. Freedom
3. Mastering skills

How to improve motorcycle safety?

The motorcycle community gathers the real experts and can greatly contribute in improving motorcycle safety...
ANNEX 3 RESULTS OF THE MAIDS PROJECT
PRESENTATION BY JACQUES COMPAGNE

MCIDS
Motorcycle Accidents In-Depth Study
Jacques Compagne
Secretary General of ACEM

Decision
- To provide the scientific basis for the discussion of MC accidents in Europe:
  - ACEM organised the Motorcycle Accident In-Depth Study (MAIDS);
  - Created a Consortium of partners, namely:
    - DG TREN of the European Commission, who co-financed the project;
    - Other partners: BMF, CEA, CIECA, FEMA, FIM.

Who and Where?
- For data collection
  - France: CEESAR
  - Germany: MUH
  - Italy: Uni Pavia
  - Netherlands: TNO
  - Spain: REDES

- For statistical analysis
  - Uni Pavia (Italy)

Time to Decide
- Improvements in MC safety are essential:
  - Risks
  - Future of motorcycling
  - Positive contribution that motorcycling brings to society
- But not enough information was available to develop an integrated safety policy and action plan
- Need of in-depth accident study

Main Features
- OECD methodology
- Basic parameters of accidents
- In-depth data on human, vehicle and road side factors (about 2000 variables per case)
- Data on collision dynamics
- Data on injury types and severity
- Data on accident causation

MAIDS highlights
Discussion / What does MAIDS tell us?
Main Features

- All 921 accident cases reconstructed
- Allowing MAIDS teams to identify contributing factors

For each case:
- One single primary accident contributing factor
- Four additional accident contributing factors

- Attributed to:
  - Human
  - Vehicle
  - Environment

Main Figures

1. Distribution of cases and controls according to category:

<table>
<thead>
<tr>
<th>Accident data</th>
<th>Exposure data</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1 vehicle - mtoa</td>
<td>39</td>
</tr>
<tr>
<td>L1 vehicle - other</td>
<td>340</td>
</tr>
<tr>
<td>L3 vehicle</td>
<td>623</td>
</tr>
<tr>
<td>Total</td>
<td>921</td>
</tr>
</tbody>
</table>

   Less than 40%, over-represented (moped only)
   - L3 = 67%, no over-representation

2. Distribution of fatal and non-fatal cases:

   | University of Padua (Italy) | 14 | 109 | 206 |
   | TNO/INNO (Netherlands) | 35 | 105 |
   | ANL (Austria) | 37 | 109 |
   | ANU/MTU Germany (Germany) | 40 | 251 |
   | CIESA (Finland) | 36 | 140 |
   | Total | 921 | 818 |

   - Fatal 11%
     - L1 = 24%, under-represented
     - L3 = 76%, over-representation
   - Non-fatal 89%

3. Distribution of single and multi-vehicle accidents:

<table>
<thead>
<tr>
<th>Number of vehicles involved in the accident</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None (single vehicle accident)</td>
<td>143</td>
<td>35.5</td>
</tr>
<tr>
<td>One</td>
<td>758</td>
<td>20.3</td>
</tr>
<tr>
<td>Two</td>
<td>56</td>
<td>3.9</td>
</tr>
<tr>
<td>Three</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>921</td>
<td>100.0</td>
</tr>
</tbody>
</table>

   - Single 16%
   - Multi-vehicle 84%
Content

Presentation of the study

MAIDS highlights
- Vehicles factors
  - Accident causation
  - Vehicle population

Primary Accident Contributing Factors

- Vehicle factors: 0.3% of all cases

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>921</td>
</tr>
</tbody>
</table>

Additional Accident Contributing Factors

- Vehicle factors:
  - PTWs: 1.6% of all cases
  - OV's: 0.5%

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTW technical failure</td>
<td>32</td>
</tr>
<tr>
<td>OV technical failure</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>259</td>
</tr>
</tbody>
</table>

PTW Style

- Frequency
  - Scooters: 38%
  - Conventional street: 14%
  - No associated risk

PTW Gross Mass

- Frequency
  - < 100 kg: 43%
  - 101 - 200 kg: 21%
  - No associated risk
  - Except for PTWs over 250 kg under-represented

<table>
<thead>
<tr>
<th>Engine displacement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>921</td>
<td>100.0</td>
</tr>
</tbody>
</table>

PTW Engine Displacement

- Frequency
  - < 50 cc: 43%
  - 51 - 750 cc: 22% of all cases
  - No associated risk
  - Except for the over 1001 cc category under-represented

<table>
<thead>
<tr>
<th>Engine displacement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>921</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Content

Presentation of the study

MAIDS highlights
- Vehicle factors
  - Accident causation
- Environmental factors
  - Worsening factor

Primary accident causation factor

- Environmental factors: 8%

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>71</td>
<td>77.7</td>
</tr>
<tr>
<td>Total</td>
<td>921</td>
<td>100.0</td>
</tr>
</tbody>
</table>

- Weather: 2%
- Road maintenance defect: 2%
- Road design defect: 1%
- Traffic hazard: 1%

Worsening Factors

- Roadway and fixed objects: second collision partner with
  - 17% of MAIDS cases
    - L1 = 9%
    - L3 = 23%
- (Directive on Road Safety Infrastructure Management)

Content

Presentation of the study

MAIDS highlights
- Vehicle factors
- Environmental factors
- Human factors
  - Accident causation
  - Accident population
  - Collision dynamics
  - Injuries

Additional Accident Contributing Factors

- From the road environment: 15%

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>309</td>
<td>14.6</td>
</tr>
<tr>
<td>Total</td>
<td>2058</td>
<td>100.0</td>
</tr>
</tbody>
</table>

- Weather: 5%
- Road maintenance defect: 1%
- Road design defect: 2%
- Traffic hazard: 2%

Primary Accident Contributing Factors

- Human factors: 98% of all cases

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human-PTV rider failure</td>
<td>564</td>
<td>37.4</td>
</tr>
<tr>
<td>Human-OV other failure</td>
<td>450</td>
<td>30.6</td>
</tr>
<tr>
<td>Total</td>
<td>1014</td>
<td>68.0</td>
</tr>
</tbody>
</table>

- OV drivers: largely responsible for PTV crashes
  - 56% of all MAIDS cases (L1 + L3)
  - 61% of the multi-vehicle accidents
- PTV riders: responsible of 37% of PTV crashes
  - L1 = 39%
  - L3 = 36%
Primary Accident Contributing Factors

Fatal Cases

- Human factors: 50% of all cases
  - Motorcyclist failure
  - Motorcyclist failure
  - Other failure

- PTW riders: largely responsible for PTW fatal accidents
  - 80% of MAIDS fatal cases

- OV drivers: responsible of
  - 33% of all MAIDS fatal cases
  - 44% of the multi-vehicle fatal accidents

Primary Accident Contributing Factors

- 921 cases reconstructed
- Primary contributing factors classified
  - Perception
  - Comprehension
  - Decision
  - Reaction

Primary Accident Contributing Factors

- The most frequent: perception failure by the OV driver
  - Perception
  -L1 = 37% of all MAIDS cases
  - L3 = 69% of drivers’ failures

Primary Accident Contributing Factors

- The second most frequent attributable to PTW riders
  - Decision failure
  - 13% of all MAIDS cases
  - L1 = 53% of riders’ failures

Primary Accident Contributing Factors

- The third most frequent attributable to PTW riders
  - Perception failure
  - 12% of all MAIDS cases
  - L1 = 17% of riders’ failures
  - L3 = 9%
Additional Accident Contributing Factors

- Human factors: 72% of all cases

<table>
<thead>
<tr>
<th>Factor</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTW rider</td>
<td>900</td>
<td>43.7</td>
</tr>
<tr>
<td>GV driver</td>
<td>585</td>
<td>26.0</td>
</tr>
<tr>
<td>Total</td>
<td>2059</td>
<td>100.0</td>
</tr>
</tbody>
</table>

- PTW riders: major contributors to crashes
  - 44% of all additional contributing factors
    - L1 = 47%
    - L3 = 31%

Content

Presentation of the study

MAIDS highlights
- Vehicle factors
- Environmental factors
- Human factors
  - Accident population
  - Collision dynamics
  - Injuries

Alcohol and Drug

- Alcohol use by the PTW rider: 4% of all cases
  - L1 = 7%
  - L3 = 3%

<table>
<thead>
<tr>
<th>Substance</th>
<th>Frequency</th>
<th>Percent</th>
<th>Exposure data</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>902</td>
<td>42.6</td>
<td>902</td>
</tr>
<tr>
<td>Alcohol</td>
<td>36</td>
<td>1.6</td>
<td>14</td>
</tr>
<tr>
<td>Drug</td>
<td>5</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>Alcohol+drug</td>
<td>2</td>
<td>0.1</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>25</td>
<td>1.2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>921</td>
<td>100.0</td>
<td>923</td>
</tr>
</tbody>
</table>

Note: Drug use is defined as the use of illegal, non-prescription drugs (e.g., cocaine).

Rider Age

- 18-25 over-represented
- 41-55 under-represented

PTW Rider Licence

- 5% without licence (required)
- 13% with a licence, but for vehicles other than a PTW (equivalence)
- 11% licence was not required to operate the vehicle (mopeds)

<table>
<thead>
<tr>
<th>Licence Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTW licence required</td>
<td>95%</td>
</tr>
<tr>
<td>PTW licence equivalence</td>
<td>87%</td>
</tr>
<tr>
<td>PTW licence not required</td>
<td>89%</td>
</tr>
</tbody>
</table>

| Riders without licence are over-represented |

Other Vehicle Licence

- CV drivers who also have a PTW licence are much less likely to commit a perception failure
- CV drivers who only have a car licence are likely to commit a perception failure
PTW Rider Training

- L1 = 75% no training
- L3 = 77% have some pre-license training: 13% no training

<table>
<thead>
<tr>
<th>Training Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>75</td>
<td>75%</td>
</tr>
<tr>
<td>L2</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>L3</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>100%</td>
</tr>
</tbody>
</table>

Rider Experience on any PTW

- < 6 months: over-represented
- > 97 months: under-represented

Traffic Control Violation

- PTW riders: 24% of cases when traffic control present
- OV drivers: 41% of cases when traffic control was present

Collision Avoidance

- No manoeuvre: 27%
- Braking and swerving: 65% (Directive 2000/56)
- L1 = 82%
- L3 = 75%

Loss of Control

- No loss of control: 69% of all cases
- Loss of control: 31%
  - L1 = 66%
  - L3 = 64%
- Loss of control mostly related to braking: 13% of all cases (41% of all cases involving loss of control)
  - Single accidents
    - The most frequent: running off the roadway: 23%
Relative Injury Severity per Body Region

- Body regions affected by the most severe injuries:
  - Head
  - Thorax
  - Upper Extremity
  - Lower Extremity
  - Whole Body

Helmet Effect

- Positive: 69% (95% / helmet worn and contact in region)
- No effect: 4%

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No helmet, present injury to head occurred</td>
<td>63</td>
</tr>
<tr>
<td>Helmet worn, but no effect on head injury</td>
<td>55</td>
</tr>
<tr>
<td>Yes, coverage present and reduced injury</td>
<td>366</td>
</tr>
<tr>
<td>Yes, coverage present and prevented injury</td>
<td>327</td>
</tr>
<tr>
<td>No injury producing contact in region</td>
<td>162</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
</tr>
<tr>
<td>Unknown</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>921</td>
</tr>
</tbody>
</table>

Helmet Wearing

- L1 = 80% (Evolving regulation in IT)
- L3 = 99%

Discussion / What does MAIDS tell us?

- Human factors are predominant in accident causation:
  - Perception failures from DV drivers
  - Decision and perception failures from PTW riders
  - Additional accident contributing factors from PTW riders

- Environmental factors:
  - Are more worsening than contributing factors (excluding weather cond.)
  - An entry to engage with national/local authorities in PTW integration
  - Can potentially help riders and drivers (better decision, better perception)

- Vehicles factors:
  - Marginal accident causation linked to maintenance defect
  - Can potentially help drivers to better perceive
  - Can potentially help riders (avoidance)
ANNEX 4 MOTORCYCLE CRASHES IN THE UNITED STATES

Motorcycle Crashes in the United States, 2006

Carol H. Tan, PhD
Carol.Tan@dot.gov
Team Leader, Safety Management
Office of Safety R&D
Federal Highway Administration
U.S. Department of Transportation

2006 US Motor-Vehicle Fatal Crashes

- Data from Fatality Analysis Reporting System (FARS)
- Fatality – death resulting from a motor-vehicle crash within 30 days of the crash
- Police accident reports
- > 42,000 motor-vehicle related fatalities per year
Motorcycle rider fatalities increased 9th year in a row
- compared to 1997, an increase of 127%
- accounted for 11% of total fatalities
- surpassed pedestrian fatalities for the first time since 1975

Motorcycle Riders Killed, by Year

Proportion of Total Fatalities, by Role and Year
Motorcycle rider fatalities increased to 11.3% of all motor vehicle traffic crash fatalities compared to 5.0% in 1997
### Roadway Geometry and Classification

<table>
<thead>
<tr>
<th>M.A.I.D.S.</th>
<th>US FARS 2006 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>70% straight roadway alignments</td>
<td>46% Urban</td>
</tr>
<tr>
<td>52% minor arterials</td>
<td>50% Rural</td>
</tr>
<tr>
<td>21% major arterials</td>
<td>60% Non-intersection</td>
</tr>
<tr>
<td>4.2% motorway</td>
<td>24% Intersection-related</td>
</tr>
</tbody>
</table>

### Accident Types

<table>
<thead>
<tr>
<th>M.A.I.D.S.</th>
<th>US FARS 2006 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>No dominant configuration</td>
<td>40% OV turning left MC straight, passing, overtaking</td>
</tr>
<tr>
<td></td>
<td>26% both V straight</td>
</tr>
<tr>
<td>60% collision w/ PC</td>
<td>51% collision w/ other V in transport</td>
</tr>
<tr>
<td>Obstacles – roadside barriers infrequent</td>
<td>25% collided w/ fixed object: ~4% guardrail faces, 5% curbs, ~3% trees</td>
</tr>
</tbody>
</table>
## Alcohol, Helmets, Age

<table>
<thead>
<tr>
<th>M.A.I.D.S.</th>
<th>US FARS 2006 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% Alcohol</td>
<td>27% MC riders BAC ≥ 0.08 g/dL</td>
</tr>
<tr>
<td>9.6% No helmets</td>
<td>41% MC riders, 55% passengers no helmets</td>
</tr>
<tr>
<td>18-25 overrepresented</td>
<td>16-24, 16%</td>
</tr>
<tr>
<td>41-55 underrepresented</td>
<td>25-40, 27%</td>
</tr>
<tr>
<td></td>
<td>41-59, 27%</td>
</tr>
</tbody>
</table>

## Traffic Violations, Licenses

<table>
<thead>
<tr>
<th>M.A.I.D.S.</th>
<th>US FARS 2006 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>8% PTW riders</td>
<td>37% MC speeding</td>
</tr>
<tr>
<td>18% OV drivers</td>
<td></td>
</tr>
<tr>
<td>Unlicensed PTW riders</td>
<td>25% operating w/ invalid licenses</td>
</tr>
<tr>
<td>have increased risk of</td>
<td>1.4 times more likely than PC drivers</td>
</tr>
<tr>
<td>being involved in crash</td>
<td>to have previous license suspension/revocation</td>
</tr>
</tbody>
</table>
### Contributing Factors

<table>
<thead>
<tr>
<th>M.A.I.D.S.</th>
<th>US FARS 2006 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6% Roadway maintenance</td>
<td>3.5% Wet pavement</td>
</tr>
<tr>
<td>3.8% Traffic hazard</td>
<td>2% Fallen cargo</td>
</tr>
<tr>
<td>7.4% Weather related</td>
<td>1% Police pursuit</td>
</tr>
</tbody>
</table>

### Countermeasures

<table>
<thead>
<tr>
<th>Behavioral (NHTSA)</th>
<th>Roadway (FHWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helmet usage</td>
<td>More accommodating infrastructure</td>
</tr>
<tr>
<td>Alcohol</td>
<td>More forgiving roadside</td>
</tr>
<tr>
<td>Driver training &amp; awareness</td>
<td></td>
</tr>
<tr>
<td>MC training &amp; licensing</td>
<td></td>
</tr>
</tbody>
</table>
Motorcycle safety OECD
10-11 of June Lillehammer

Örjan Ellström
Senior advisor Road Safety

The Road Safety situation for motorcyclists in Sweden

• Development of the use of motorcycles
• New results from indepth-studies
• Future actions
MC fleet development

![Graph showing fleet development over time with 'New' and 'In use' markers.]

2008.09.23

Development of fleet milage

![Graph showing the development of fleet mileage with index values and markers for 'Motorcycle' and 'Passenger car'.]

2008.09.33
Development of risk

![Graph showing the development of risk over time with categories for 'In use', 'Killed', and 'Risk'.]

Development of riders age

![Graph showing the development of riders age over time with categories for '25-44' and '45+'.]
Killed barrier crashes – single accidents

Killed, age - speeding
Number of killed with/without any illegal element

The potential

- Only 13% of the fatalities were without any illegal elements
- Roads and road equipment are in general designed for cars
- Problem groups of motorcyclists has to be better defined
- Description of problems and actions has to be more specific for each group of motorcyclists
The end

www.vagtrafikinspektionen.se
kontakt@vagtrafikinspektionen.se
Växel: 0243-780 00
Fax: 0243-783 30
ANNEX 6 TRENDS IN MOTORCYCLE CRASHES IN EUROPE
PRESENTATION BY SASKIA DE CRAEN
Comparison of modes: Relative high risk per kilometre

Vehicle fleet in the EU: More motorcycles → more crashes
Shift in age

Literature study:
Frequent crash scenarios

• About 50% of crashes in non-built up areas
• In about 70% of all crashes the motorcyclist was responsible (64% loss of control)

• About 30% single vehicle crashes
• About 50% collision with a car:
  • In 70% of these collisions the car driver had seen the motorcycle too late or not at all
Session 3:
Motorcycling safety policies

*The motorcyclists’ views*

Aline Delhaye
FEMA General Secretary

*On behalf of motorcyclists worldwide*
Overview

- Putting motorcycle safety into the right context
- Improving motorcycle safety: key safety aspects
- Motorcycle safety policies around the world
- Towards motorcycle safety strategies

Most riders are safety conscious

- Most riders are fully aware of the fact that they are vulnerable road users and that motorcycling requires specific skills and a focused, alert behaviour.
- It should not be constantly claimed that motorcyclists are a "careless" group of road users!

Putting motorcycle safety into the right context

For the debate to be balanced, it is a fundamental prerequisite to put the absolute figures within the appropriate context. It is also important to look into the causes of motorcycle accidents, in order to identify valid remedies.

The extreme ‘high-risk takers’

- Motorcycling sometimes attracts "high risk takers" with extreme behaviour.
- Give motorcycling a bad public reputation!
- Doubtful whether any road safety initiative will change the attitude and behaviour of these individuals
- Regular motorcyclists should not have to pay the consequences of these few extremists

Motorcycling cannot be made risk-free

- Motorcyclists are vulnerable and have a high risk of injury (this is also true for walking or cycling).
- No road safety initiative – whether from Governments or riders themselves - can ever make motorcycling risk-free.
Motorcycle accident statistics: reliability and lack of useful data

- Road safety targets should reflect casualty rates, not only casualty numbers;
- Police accident reporting and discrepancies comparing data;
- Need to monitor the effects of various road safety initiatives;
- Statistical information is generally a problem when talking about motorcycle safety.

Motorcycle accident research:

- Motorcycle casualties are often the focus of research, with many reports highlighting the perceived risk-taking of motorcyclists and the dangerousness of motorcycles.
- Lack of understanding of motorcycles and motorcyclists: the majority of researchers do not ride motorcycles and do not understand the social issues surrounding two-wheeled transport.

Accident prevention vs injury reduction?

- Vision Zero’s concept = injury reduction
- Always some kind of injury in a mc accident
- Riders’ Organisations (RO) are more focused on accident prevention than injury reduction:
  - good initial rider training
  - motorcycle awareness campaigns
  - predictable road infrastructure

Improving motorcycle safety: key safety aspects

Riders Associations around the world have been working at improving motorcycle safety for decades.
Their thorough knowledge of motorcycling and motorcyclists have provided them with a true expertise not to be overlooked.

Human factors

Licensing/Education/Training/instructor training
Human factors

- Licensing/Education/Training
- Crash Avoidance Skills
- Braking
- Hazard Awareness
- Panic Management

Human factors

- Licensing/Education/Training
- Crash Avoidance Skills
- Braking
- Hazard Awareness
- Physical/Alcohol/Substance impairment

Human factors

- Licensing/Education/Training
- Crash Avoidance Skills
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Human factors

- Licensing/Education/Training
- Crash Avoidance Skills
- Braking
- Hazard Awareness
- Physical/Alcohol/Substance impairment
- Personal Protective Equipment
Human factors

- Licensing/Education/Training
- Crash Avoidance Skills
- Braking
- Hazard Awareness
- Panic Management
- Physical/Alcohol/Substance impairment
- Personal Protective Equipment
- Crash reports
- Crash research
- Concurrent Exposure Data Collection

Vehicle factors

- Brakes
- Intelligent Transport Systems

Vehicle factors

- Brakes
- Intelligent Transport Systems
- Motorcycle conspicuity

Vehicle factors

- Brakes
- Intelligent Transport Systems
- Motorcycle conspicuity
- Passenger/loads
Vehicle factors
- Brakes
- Intelligent Transport Systems
- Motorcycle conspicuity
- Passenger/Loads
- Vehicle design

Environmental factors
- Road infrastructure planning
- Road Hazards

Vehicle factors
- Brakes
- Intelligent Transport Systems
- Motorcycle conspicuity
- Passenger/Loads
- Vehicle design
- Vehicle Equipment
- Vehicle Modifications
- Motorcycle Performance
- Vehicle Safety Equipment

Environmental factors
- Road infrastructure planning
- Road Hazards
- Road maintenance

Environmental factors
- Road infrastructure planning
- Road Hazards
- Road maintenance
- Other vehicle design
Social factors
Motorist awareness
Insurance/VAT incentives
Advertising
Motorcycle Magazines Attitude

Social factors
Motorist awareness
Insurance/VAT incentives
Advertising
Motorcycle Magazines
Rider Peer Pressure
Statistics
Transport policies

Motorcycle safety policies around the world
Policies based on "bikism" and ignorance
only creates resistance and counter pressure
from the motorcycling community
**Some positive examples**

- **Europe**: Initial Rider Training
  - [Image: The Initial Rider Training Project]

- **Norway**: In-control project
  - 'In-control' booklet 2002 (riding techniques, machine control)
  - 'Good thinking' booklet (effective traffic strategies)

- **United Kingdom**
  - **The SHARP project**
    - New helmet safety scheme for motorcyclists
    - Rating reflects the performance of each helmet model following a series of advanced tests
    - Information made available to the public as a simple five star rating

- **France**: Powered two wheelers charters
  - FFMC/Nantes
  - FFMC/Paris
  - Provides guidelines for a proper road sharing

- **Australia**: « Positioned for Safety »
  - Developed by rider organisations, with input from a professional independent researcher
  - Funded by the New South Wales Motor Accidents Authority

- **Australia**
  - [Image: Drinking and riding don't mix]

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45
Some positive examples

- **United States**: the SAFETEA-LU Bill
  - Specific funding provided to states to be used by NGOs on rider education and awareness campaigns only
  - $8 million per year for 3 years, then $7 million for the forth year. Total: $25 million
  - Creation of the Federal Highway Administration Motorcycle Advisory Council (FHWA-MAC)

Some negative examples

- **Switzerland**: Via Secura Plan
  - Pack of repressive measures including additional restrictions, bans and controls;
  - ignores motorcyclists' real safety needs;
  - no consultation of the motorcycle sector;
  - use of inaccurate data;

Some positive examples

- **Canada**: Insurance discounts for novice & advanced training
  - reduced insurance premiums if the rider has taken basic training
  - financial benefit to take training
  - powerful incentive to the rider to engage in training.

Some negative examples

- **France**: Negative awareness campaigns
  - Communication on motorcycle users depicting road delinquents
  - Counter productive
  - Does not help mutual understanding

Some negative examples

- **Europe**: Driving Licence Directives
  - Limiting access without safety reasons
  - No monitoring of the effects of the previous directives
  - Decision taken without taking the motorcycle community's advices into account

Some negative examples

- **Australia**: « Eyes on the Road Ahead »
  - in 2004, Australian Motorcycle Safety Strategy
  - Single measure: re-introduction of the front number plate
  - MC Safety Strategy = front number plate!
Some negative examples

- **Canada**: Subprimes for sport motorcycles
  - over representation of sport motorcycles accidents in Quebec's statistics
  - new subprime adopted for this type of bikes
  - Hurt/MAIDS reports highlighted problems with modified bikes, not sport bikes
  - To avoid subprime, tampering of more and more non-sport bikes, the most dangerous ones

Motorcycle Safety Policies

- Based on reliable statistics and sound research conclusions
- Including monitoring of policy effects
- Involving all stakeholders
- Focus on an integral solution of the problem
- Respecting of motorcycling characteristics
- Fair compared to other means of transport

Motorcycle Safety Policies: Conclusions

- Based on facts or prejudices?
- Accident prevention or Injury reduction?
- Positively driven or « bikeism »?
- Taking into account motorcycling characteristics (in consultation with motorcyclists) or derived from car safety policies?
- Hidden ban or real consideration?

Towards Motorcycle Safety Strategies

Riders strongly believe that road safety is a basic right of all road users, and that it should be improved through shared responsibility and concerted actions, while taking the needs of motorcyclists into account.

Thank you for your attention
ANNEX 8 THE UK MOTORCYCLING STRATEGY
PRESENTATION BY ANDREW COLSKI

The Government’s Motorcycling Strategy
Andrew Colski, Road User Safety Division, DfT

Advisory Group on Motorcycling
- Established 1999
- Brought together key stakeholders
  Users, industry, police, central and local government
- Considered full range of issues affecting motorcycling, not just safety
- Reported 2004
The Government's Motorcycling Strategy

- Published 22nd February 2005
- Government's response to AGM report
- Mainstreaming motorcycling
- Continuing to work together on implementation, through National Motorcycle Council

Two Wheeled Motor Vehicle users
Killed or Seriously Injured GB 1994-2006
TWMV Casualty rates: GB 1994 - 2006 (KSI per 100 million vehicle kilometres)

TWMV KSI in urban areas by size of motorcycle and age of rider: GB 2006
TWMV KSI(s) in rural areas by size of motorcycle and age of rider: GB 2006

TWMVs involved in accidents: common contributory factors: GB 2006

- Failed to look properly
- Loss of control
- Failed to judge other person's path or speed
- Careless, reckless, in a hurry
- Poor turn or manoeuvre
- Learner or inexperienced driver/rider
- Travelling too fast for conditions
- Slippery road (due to weather)
- Sudden braking
- Exceeding speed limit
- Following too close
- Impaired by alcohol
Other vehicles in TWMV accidents:
common contributory factors: GB 2006

Traffic Management and Infrastructure

- The Institute of Highway
  Incorporated Engineers (IHIE)
  guidelines on the provision for
  motorcyclists on the highway

- Highways Agency including
  motorcycles in its Safety Action
  Plan for trunk roads & motorways

- HA implementing motorcycle
  friendly crash barriers

- New DfT guidance on allowing
  motorcycles in bus lanes
Technical and Engineering

- SHARP - New scheme for improved consumer information on motorcycle helmets
- Diesel spills – information for diesel vehicle users and petrol retailers as well as motorcyclists
- User survey on brakes, tyres, mirrors, to inform policy development

Training and Testing

- Driving Standards Agency’s Post-Test Trainer Registration Scheme – voluntary from Feb 07
- Insurance discounts linked to post-test training – Enhanced Rider Scheme
- 3rd EU Driving Licence Directive – consulting with industry and users on implementation by 2013
Road Safety and Publicity

- DfT’s ‘Think!’ road safety campaign sponsors British Super Bikes championships since 2004 – The Think Motorcycle Academy
- TV advert aimed at car drivers warns them to ‘take longer to look for bikes’
- Research programme to increase understanding of motorcycle accidents and how to address them, including fatigue, training and drivers’ attitudes to motorcyclists.

New Action Plan and Strategy

- The NMC has agreed a new action plan to update what was published three years ago.
- Refreshes actions so they are better focussed on current priorities
- Next step will be to update the strategy itself by 2010
Further details
