Northern Ireland Motorcycle Fatality Report 2012

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- The report analyses No. 39 cases (41 motorcyclists) carried out by three investigators from the FSNI Road Traffic Collision Investigation Unit.

- These (41 fatalities) equal 36% of the total motorcycle fatalities in Northern Ireland between 2004 and 2010.

- There was a total of 114 motorcycle fatalities during this period.

Data collected on Scene

- **Vehicle data**
  - Information about the vehicle
  - Pre-crash and collision motions of vehicles involved
- **Collision scene data**
  - Road travelled, conditions of road, weather, defects
  - Cause factors; verification collision configuration
- **Human factors**
  - Collision avoidance performance
  - Helmet analysis

Time, Season, Weather

- 33.3% (n.13) occurred between morning and early afternoon; 46.2% (n.18) of the collisions occurred between afternoon and early evening; 17.9% (n.7) occurred in the evening.

- 46.2% (n.18) collisions occurred in Spring; 43.6% (n.17) in Summer and 10.3% (n.4) in Autumn.

- In 72% (n.28) of cases, the weather was fine; in n.4 cases the weather was either overcast or damp.

Location, Road Conditions

- n.28 (71.8%) collisions occurred in rural locations; n.6 (15.4%) occurred in urban locations.
  - the remainder occurred in a semi-rural location (n.2), on a duel carriageway (n.2) and one occurred on a motorway.
- In all cases, the condition of the roads was reported as “good”.
- In n.29/n.39 cases (74.3%), the surface of the road was “dry”.
  - In n.3 cases the surface of the road was “damp” and in one case there were loose stones on part of the road.

Vehicle factors

Defects:

- Overall 12.2% (n.5) of the vehicles presented defects
  - 7.3% (n.3) motorcycles had under-inflated tyres,
  - one of the motorcycles had the steering damper missing
  - A further motorcycle had “not for Highway Use” tyres.
  - the C and D pillars of one of the other vehicles involved appears to have restricted the view of the driver.

Violations

- There were four cases (10.3%) of speeding, but in all cases, the actions of the other vehicle driver precipitated the collision.

- There were four known cases (10.3%) in which the rider had levels of alcohol over the legal limit and or drugs in their blood.
  - Three of these collisions were single vehicle (no other vehicle involved) and the fourth ran a red light through an intersection with no headlights on and impacted a car crossing the intersection.

Group Riding

- There were n.9 cases (23%) in which the motorcyclists involved in a collision were either riding in a group or with another motorcyclist.
  - In three cases the second rider was involved in a collision.
  - In two cases, the riders were speeding above the national limit.
- In all these cases the total number of motorcyclists killed was n.11/n.41 (26.8%).

Road Infrastructure

Involvement of OV in the collision	
1	Motorcyclist impacts a concrete post and wooden fence
2	Motorcyclist impacts traffic monitoring box on pole
3	First motorcyclist is projected onto road and second motorcyclist hits wooden fence
4	Motorcyclist impacts wall (and is projected back under a bus)
5	Moped rider impacts “dragon tooth” wall
No involvement of OV in the collision	
6	Motorcyclist impacts lower part of telegraph pole
7	Motorcyclist impacts poles of a warning sign
8	Motorcyclist impacts outer support pole for a speed limit sign
9	Motorcyclist impacts rocks in a construction area (after passing over Armco barrier)
10	Motorcyclist impacts kerbstones
11	Motorcyclist impacts bank
12	Motorcyclist impacts wall

Braking

- In 63.4% of cases, (n.26/n.41) motorcyclists applied their brakes prior to the collision and n.18 (43.9%) applied their brakes severely.

- Of the n.17 (41.4%) motorcycles that slid after falling, n.10 (24.4%) fell onto their right side and the remaining n.7 (17.1%) fell onto their left side.

Other Vehicle Involvement

- There were n.17(43.6%) cases in which another vehicle was considered the primary cause of the collision.
  - N.4 of the other vehicle drivers performed a U turn in front of the motorcycle.
  - One driver was a hit and run (i.e. after the collision the car driver left the scene of the collision).
  - The remaining vehicles exited from a side road or private entrance in front of the motorcycle or turned across the road in front of motorcycle from the opposite lane.
- Of the seventeen cases, eight (47%) were cars, five (29.4%) were vans, two were trucks and one was a tractor.

Conspicuity

- Overall, conditions for riding were generally optimal and during daylight.
- there were n.17 cases (43.6%) in which another vehicle was considered the primary cause of the collision.
- In thirteen of these cases (76.5%), the evidence highlighted that the motorcycle's lights were switched on and therefore the other vehicle driver was in a position to see them.

Style of MC	Type of Collision	Lights on	Brake light used
Sports 400cc	Van pulls out in front of MC	Yes	Yes
Super sports 1000cc	Car performs U turn in front of MC	Yes	Yes
Cruiser 650cc	Car driver pulls out in front of the MC	Yes	Yes
Super sport 1100cc	Van performs U turn in front of MC	n/a	Yes
Sports Tourer 800cc	Car pulls out in front of the MC	Yes	Yes (CBS)
Super sport 600cc	Car performs U turn in front of MC	No	Yes
Super sport 600cc	Car pulls out in front of the MC	Yes	Yes
Super sport 900cc	Car pulls out in front of the MC	n/a	Yes
Super sport 1200cc	Tipper truck pulls out from entrance to quarry	Yes	Yes
Naked 600cc	Car pulls out in front of the MC	Yes	Yes
Super Sports tourer 1100cc	Car pulls out in front of the MC	n/a	n/a
Sports 1000cc	Car turns right in front of MC	Yes	n/a
Tourer 1300cc	Van performs U turn in front of MC	Yes	n/a (ABS)
Super sport 1000cc	Truck pulls out in front of MC	Yes	Yes
Super sport 1000cc	Tractor pulls out in front of MC	Yes	Yes
Super sport 1000cc	Van driver cuts the corner in front of the MC's path	Yes	Yes
Super sport 600cc	Van driver pulls out in front of MC	Yes	n/a (LED)

Time frame for collision

- The time frame from the perceived hazard to the conclusion of the impact either with another vehicle or with road infrastructure is typically **between 2 and 3 seconds.**
- Within this time frame, although there is time to react, there may be insufficient time to avoid the collision.
- This time frame should be considered in any research regarding motorcycle accident causation.

Focus Group

Nine participants:

- Trainers (Initial and Advanced)
- DOE Road Safety and Vehicle Regulation Division
- DVA Examiner
- Road Traffic Policing

Focus Group Discussion (1)

- Technology
  - Panic braking by motorcyclists was an important factor in the cause of the fatalities. Anti-lock braking systems (ABS) may become mandatory shortly through proposed legislation from the European Union, however as indicated, this technology is relevant in some circumstances, but not all. At this point in time, the effectiveness of ABS is mainly limited to straight sections of the road.

Focus Group Discussion (2)

- Initial Training
  - Emphasis is needed in car driver training to include more focus on scanning for Vulnerable Road Users.
  - However as mentioned by the representative of the DVA, it is difficult to test awareness out on the road unless the novice driver or rider is presented with a situation which requires them to apply the skills acquired during training.
  - A possible solution could be simulator training/testing whereby situations which include the unexpected may help to avoid panic situations, or prepare the novice to take more care and give more attention

Focus Group Discussion (3)

- Advanced Training
  - suffers from the pipe and slippers image. Cost is a major factor for both trainers and students.
  - Different tactics are needed to get riders involved.
  - Access to advanced training requires the assistance of those with resources, i.e. government owned car park or a piece of land to use at the weekend, which is what happens in mainland Europe in some countries.

Focus Group Discussion (4)

- Awareness Campaigns
  - were considered useful, but there is no method to measure their efficacy.
  - However the consensus was that different avenues should be used to get the safety message out to the target audience, such as using the internet, social media, race meetings and specific road signage.

Conclusion

- The best solution to avoid road traffic collisions is anticipation and hazard awareness training.

- The consensus was that the only reliable way to prevent motorcyclist injuries and deaths is to prevent the collision in the first place.

  – This means the rider needs to get his/her eyes up and scanning ahead, and then taking evasive action when a potential collision is still several seconds from happening.

Thank you!

Any questions?