

## **Comparison of moped, scooter and motorcycle crash risk and crash severity**

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### **Abstract**

A sustained increase in moped and scooter use in Australia and elsewhere has contributed substantially to the greater use of powered two-wheelers (PTWs) as a whole. As moped and scooter use has increased, so too has the number of reported crashes involving those PTW types, but little research has compared their safety with that of motorcycles, as well as with each other. This study compared moped (<50cc), scooter (50cc>) and motorcycle (all engine capacities) crash risk and crash severity in Queensland, Australia. Police-reported crash data and official registration data covering five years to 30 June 2008 were analysed. The crash rates per registered vehicle of motorcycles and scooters combined were similar to those of mopeds over this period, although the moped crash rate showed a stronger downward trend. However, the crash rates per distance travelled were nearly four times higher for mopeds than for motorcycles and scooters. More comprehensive exposure data are needed to confirm these findings. Overall severity of moped and scooter crashes was lower than motorcycle crashes but further analyses showed that severity outcomes related to differences in crash characteristics, circumstances and usage patterns rather than differences between PTW types per se. The findings can be used to inform potential crash and injury countermeasures tailored to users of different PTW types.