



“I only looked away for a split second ...”:

The role of distraction in driver and rider crashes in rural and remote North Queensland

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Acknowledgements

Government Agencies

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Regional Communities

Mt Isa

Townsville

Cairns

Charters Towers

Mareeba

Atherton

University Partners

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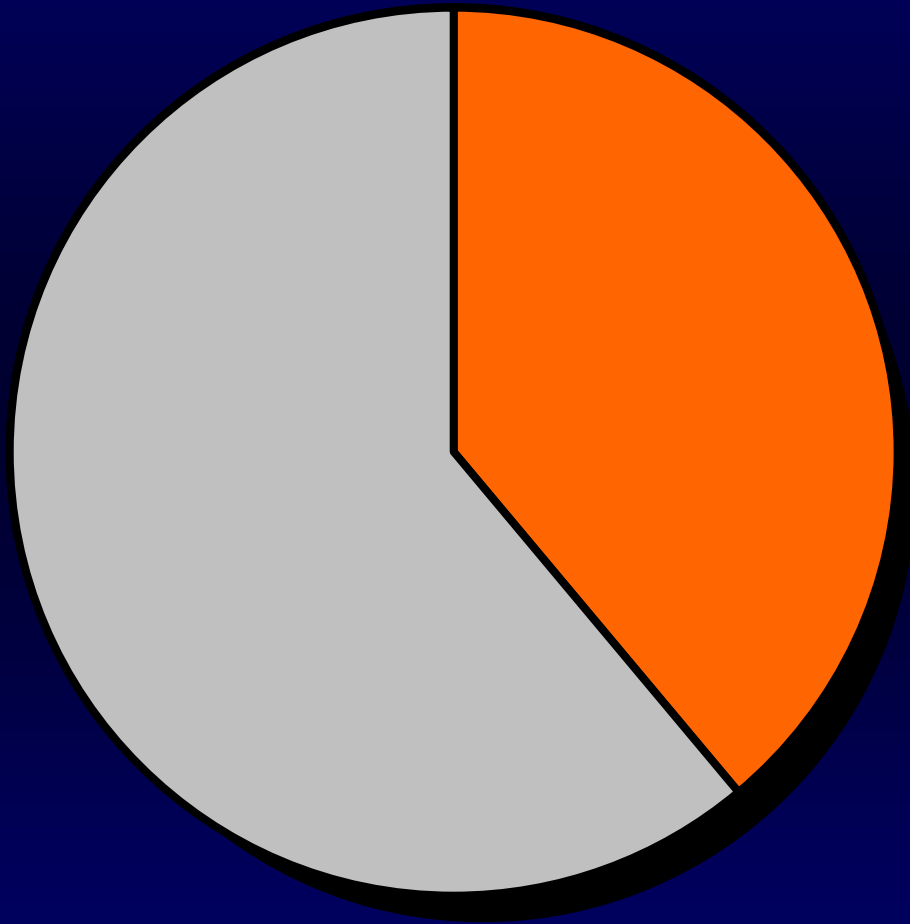
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The overall *program goal* is to reduce the incidence and economic, medical and social costs of road crashes in rural and remote Queensland



Why rural road safety?



21% of the population of Queensland live in rural areas.

39% of serious road crash injuries occur there.

Study aims:

- Understand behavioural and social factors contributing to crashes
- Develop, identify and trial targeted interventions

Study area:

- North and west of Bowen excluding urban areas of Townsville and Cairns
- 40% of Queensland's land area



Hospital data collection (March 04 – June 07)

- **Criteria for interview:**
 - Hospitalised following a road crash (LOS > 24 hours) at Cairns, Townsville, Mt Isa and Atherton facilities
 - Over 16 years of age
 - No fatalities resulting from the crash
 - Gave written consent
- **Interviews with 404 people:**
 - 307 drivers/riders
 - 76 passengers
 - 11 pedestrians
 - 10 cyclists
- **Additional data collected:**
 - Comparison samples
 - Ambulance data (emergency response)
 - Medical/hospital records
 - Queensland Transport Road Crash Database details
 - Coroner's report data for fatal crashes ($n = 130$ fatalities from 119 crashes)

Characteristics of drivers and riders

Variable	Hospital (n=307)	North Qld (n=478,249)
Median Age (years)	35.0	33.9
Gender		
Male	82%	51%
Female	18%	49%
Highest Education Level		
Year 10 or less	38%	-
Year 12	14%	-
Trade, Apprentice, Cert, Dip	36%	22% (cert/dip only)
Bachelor or higher	8%	9%
Occupation		
Tradesperson	18%	14%
Clerical, Sales and Service	16%	29%
Labourer and Related	23%	11%
Production and Transport	17%	10%
Manager and Professional	26%	34%

Key research findings

- Motorcyclists are a high-risk road user group (one-third of all serious transport-related casualties)
- Seatbelt use is a major factor influencing crash severity (fatalities three times more likely to have been listed as not wearing a seatbelt)
- Patients who had been booked for a drink driving offence in the past five years were six times more likely to report driving after drinking more than two drinks in an hour in the month before the crash
- Courtesy buses to and from pubs/clubs identified as the most effective road safety initiative
- Common causal factors in rural and remote crashes:
 - Driving/riding too fast for the conditions (not necessarily faster than the posted speed limit)
 - **Distraction (both inside and outside the vehicle)**
 - Alcohol
 - Human error
 - ‘Idiot’ factor

Self-reported distraction among drivers/riders

- Of the 307 drivers/riders, 111 (36%) reported being distracted “just prior to the crash”
- **70** distracted by an object/event outside the vehicle, with the most common external distractions being livestock/other animals ($n = 27$), road and/or weather conditions ($n = 20$) or another vehicle ($n = 13$)

“Riding a motorbike with dogs walking behind me ... I looked backwards at my dogs and hit the fence and injured my leg” (Male Rider)

“I was riding towards home when I noticed cows on both sides of the road ... slowed down and the cow on the left hand side of the road started crossing ... picked my line to go around it, but the cow started running ... I hit it and landed on the ground about 30m away ... Blokes in the car behind me said they had never seen a cow run so fast” (Male Rider)



“Going home from work – about 5kms from home ... Few trees and a bit of longish grass ... A kangaroo jumped out in front of me ... I didn’t see him until he was on the road. I hit him ... I’d seen a car before me going over the rise, so I didn’t think there would be roos around. I was up and walking before the ambulance got there. I got my bike off the road and kicked the kangaroo a couple of times” (Male, Rider)

“I was going to my other job – I’m a farmhand ... I have been driving cars and tractors for years so I know what I’m doing ... My mate was following behind on a tractor – he’s new to the game ... I looked around to check he was OK and lost control ... The tractor flipped on me ... I’ve never had any sort of licence” (Male, Driver - Tractor)

■ **26 distracted by an object/event inside the vehicle**, with the most common external distractions being livestock/other animals ($n = 27$), road and/or weather conditions ($n = 20$) or another vehicle ($n = 13$)

“[Driver] was taking the CD out of the player and wandered into the next lane ... tried to straighten up the car but drove onto the gravel and rolled” (Male, Passenger)

“My girlfriend was driving ... I put my hand on her leg and she looked over at me. We swerved off the road and I tried to correct it, but it was too late ... I was not wearing my seatbelt and was thrown out ... My girlfriend had her seatbelt on and was not thrown out or injured”
(Male, Passenger)

■ Other distractions (eg. emotion)

“I had been drinking with my family the night before ... I was driving to work about lunch time and I was thinking about a fight I had ... I drive that road everyday ... I wasn't thinking and ran off the road into a tree”
(Female, Driver)

“At me mates house – having an argument because we'd been drinking all day. My mate started hitting his girlfriend – we continued to argue then I left. Hopped on motorbike – I was followed by his girlfriend in her car. I went down through the bush and come out on this little street on top of a hill ... back on town roads ... looked down at motorbike – can't remember what for ... When I looked up there was a 4WD on the road. I hit the back of it ... I went through the bush to avoid the police” (Male, Rider)

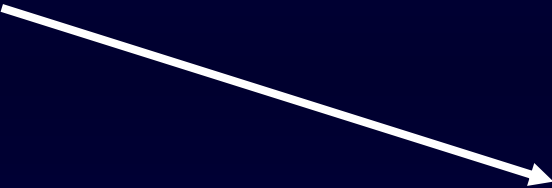
Increased Crash Risk



Driving/Riding Task
Safe level of attention and vigilance



Distraction



Some attention displaced

- “Distraction disrupts performance by diverting attention to an engaging cognitive context other than one immediately associated with driving” (Strayer & Johnston, 2001, p.462)
- Distraction is a factor in about 25% of all vehicle crashes

Relationship between distraction and other variables

- Age
- Gender
- Familiarity with the vehicle
- Familiarity with the route/road
- Felt tired prior to the crash **
 - 17.1% of those distracted felt tired vs 8.2% of those not distracted
- Driving/riding on/off road
- Alcohol use in last 24 hours
- Drug use in last 24 hours
- Travelling speed
- Time of day and day of week
- Purpose of journey **
 - 35.1% of those distracted were driving/riding as part of their job/to or from work vs 22.6% for those not distracted
 - 36.0% of those distracted were driving/riding for leisure/holiday vs 49.7% of those not distracted
- Vehicle type
- Crashed in last 5 years
- Lost licence in last 5 years
- Wearing helmet (riders)
- Wearing seatbelt (drivers) *
- Fatalistic attitudes ** $p < .05$

CARRS-Q's Human Behaviour and Technology Domain

International program of distraction, monotony and hypovigilance research (5 PhD scholarships)

- **Monotony and it's effects on driver's vigilance: A new model (Gregoire Larue)**
- **An examination of monotony, fatigue and hypovigilance (Rebecca Michael)**
- **Merging perception from the environment and driver behaviour for the characterisation of a vigilance level (Jeremy Vrignon)**
- **Context-aware software to reduce driver distraction (Chad Brooks Vrignon)**
- **Assessing crash risks on road curves with ubiquitous data mining techniques (Samantha Chen)**

Discussion and Feedback

