



CARRS-Q QUT Smart Train Forum
***Road Safety Solutions for a Safer
Community***

Associate Professor Andry Rakitonirainy
Mr Colin Edmonston, PhD Candidate
Ms Gayle Sticher, PhD Candidate

Overview

- **Mr Colin Edmonston, Rural and Remote Road Safety in North Queensland**
- **Ms Gayle Sticher,**
- **ASPRO Andry Rakitonirainy, Advanced Driver Simulator**
- **Panel Discussion and Questions from Audience**

Moderated by Mr Bruce Woolley, ABC Radio



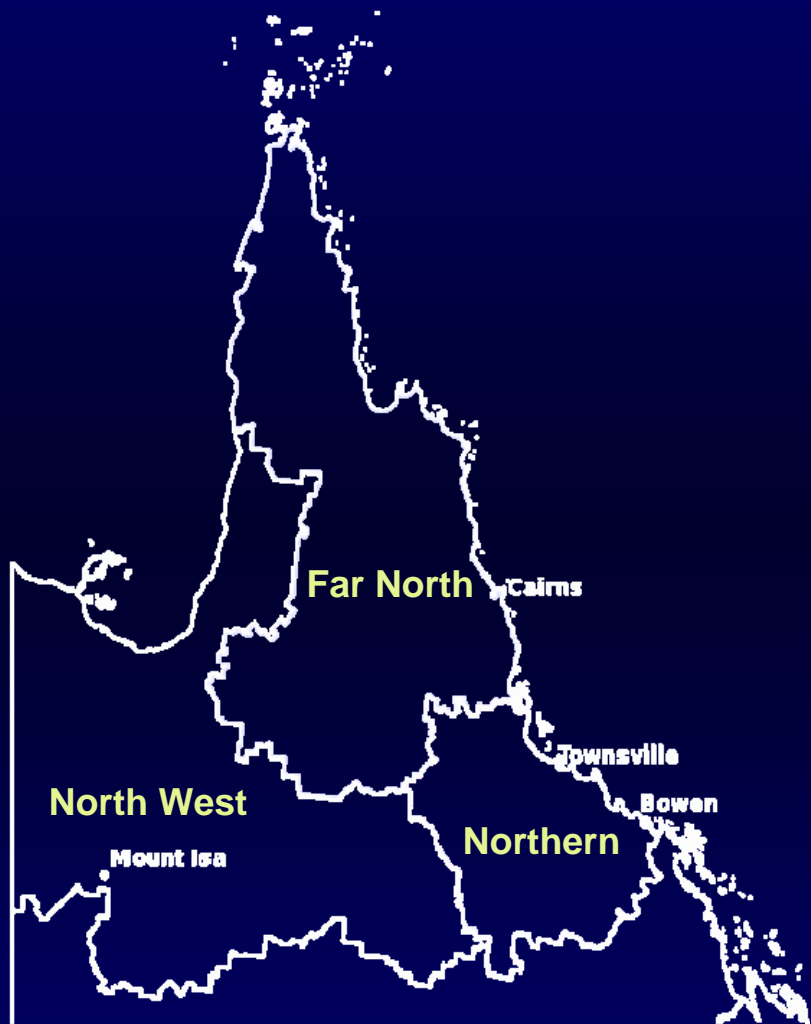
Rural and remote road safety in North Queensland: *"It's not all black and white ..."*



Mr Colin Edmonston
QUT Smart Train – Cairns
June 2008



Rural and Remote Road Safety Study



Study aims:

- Understand behavioural and social factors contributing to crashes (Indigenous/non-Indigenous comparisons)
- Inform road safety policy and practice for rural and remote Queensland

Study area:

- North and west of Bowen excl. urban areas of Townsville and Cairns (40% of Queensland's land area)
- Cairns, Cape York, Charters Towers, Innisfail, Mt Isa, Tablelands, Torres Strait and NPA, and Townsville Health Service Districts



RURAL & REMOTE



ROAD SAFETY STUDY

Help save lives on
North Queensland
roads and earn \$20

Call Colin Edmonston
(Queensland University of
Technology) on

1800 682 022

(free call) to talk privately
about your crash



Content of interview:

- ✓ **Crash experience/narrative; and**
- ✓ **Background and demographics**
- ✓ **Potential risky or illegal behaviour prior to the crash/interview (unlicensed, alcohol/drugs)**
- ✓ **Trip characteristics (eg. purpose and duration of journey, periods of fatigue and monotony, distractions, etc.)**
- ✓ **Vehicle characteristics and maintenance**
- ✓ **Self-reported crashes and traffic offences**
- ✓ **Road safety attitudes and practices (individual and community)**
- ✓ **Attitudes to enforcement**

Primary data collection (2004-07) 404 interviews (36 x Indigenous)

Expanded data collection* 167 interviews (45 x Indigenous)

• Mareeba/Dimbulah	22 interviews	(4 x Indigenous)
• Mt Isa	10 interviews	(3 x Indigenous)
• Thursday Is (Torres)	7 interviews	(6 x Indigenous)
• Richmond/Normanton	5 interviews	(3 x Indigenous)
• Chillagoe	2 interviews	(1 x Indigenous)
• Innisfail	14 interviews	(2 x Indigenous)
• Coen	6 interviews	(3 x Indigenous)
• Wujal Wujal	2 interviews	(1 x Indigenous)
• Croydon	1 interview	
• Napranum	2 interviews	(2 x Indigenous)
• Bamaga	6 interviews	(4 x Indigenous)
• Hopevale	3 interviews	(2 x Indigenous)
• Mossman	13 interviews	(3 x Indigenous)
• Weipa	6 interviews	(2 x Indigenous)
• Cooktown	3 interviews	(2 x Indigenous)
• Babinda	2 interviews	
• Pormpuraaw	3 interviews	(2 x Indigenous)
• Aurukun	3 interviews	(2 x Indigenous)
• Atherton	19 interviews	
• Tully	4 interviews	(1 x Indigenous)
• Lockhardt River	2 interviews	(1 x Indigenous)
• Laura	1 interview	
• Charters Towers	2 interviews	
• Cairns Base	28 interviews*	(1 x Indigenous)
• Private Doctor	1 interview	



Preliminary research findings:

- ***It's local people who are crashing!*** (> 85% live in NQ)
- ***It's not the other driver!*** (> 80% single vehicle crashes)
- ***Motorcyclists are overrepresented in crashes!*** (about one-third of all serious casualties)
- ***Seatbelts do save lives!*** (fatalities were three times less likely to have been wearing a seatbelt)
- ***Road safety problems are a product of 'remoteness'!*** (eg. high unlicensed rates for both Indigenous and non-Indigenous people in remote Queensland; riding in the back of utes is not solely an Indigenous issue)

- **Indigenous people are more likely to be injured as passengers and pedestrians ... Non-Indigenous people are more likely to be injured as drivers/riders**
- **The big issues:**
 - Driving/riding too fast for the conditions (not necessarily faster than the posted speed limit)
 - Distraction (inside + outside the vehicle) – > 33% prior to crash
 - Inexperience for the vehicle type
 - Very familiar or not at all familiar with the route
 - Not wearing seatbelt / helmet / protective clothing
 - Alcohol
 - Human error and (in some cases the 'idiot' factor)
- **We want courtesy buses and better roads!** (externlising the blame and solution)

Aboriginal and Torres Strait Islander Driver Licensing Program

- Improved licensing protocol for remote areas (18mth trial)
- Mobile driver licensing unit (7 Indigenous officers) – \$1.2M pa
- Ongoing process and outcome evaluation (targeted service delivery)
- Updating novice driver materials
- Delivered in correctional and school settings
- Industry/mining initiatives
- Diversionary option for young offenders (trial soon)



11 7 2007



Which Way YOU for your DRIVER LICENCE ?



the **LICENSING MOB**
will be in YARRABAH

when:

Put your name down **TODAY** with
them ladies at the **WORKS OFFICE.**

Artwork by Jason Eberidge "JJ"

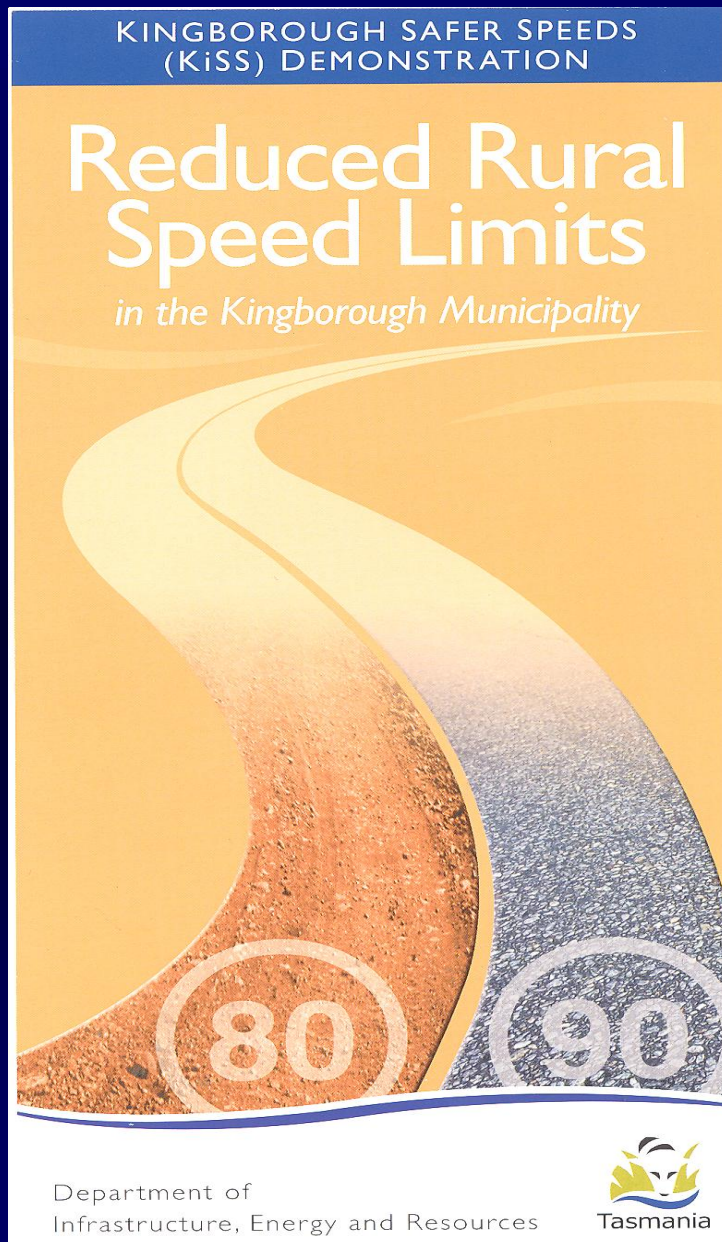
OPPORTUNITIES:

- Expanding service delivery to other remote communities
- Building supervision of novice drivers into work schedules
- User-friendly resources and reporting systems
- Building road safety into the 'licensing product'
- Increased focus on motorcycle safety practices and protective gear
- Role for "mates helping mates" philosophy (balancing 'punitive' and 'protective')
- Local involvement in campaign development



Appropriate speed for the conditions





OPPORTUNITIES:

- Reduced speed limits on gravel and unsealed roads in rural areas (challenging the default)
- Regulated (rather than advisory) speed limits
- Community education re: driving to the conditions (not the posted limit)
- Crash mapping complemented by community involvement in identifying problems and problem areas (asking the ‘why’ questions)
- Run-off-road crashes as a priority:
 - * road alignment and curve design
 - * tactile edge lining

Questions?





A Brief Intervention Trial to Reduce Rural and Remote Road Crashes arising from Driver Behaviours and Attitudes

- Student : Gayle Sticher
- Supervisors: Principal - Prof M. Sheehan
 - Associates - Adpro. V. Siskind
 - Prof Narelle Haworth
- Sponsored by NRMA Insurance and QUT

Project Brief

- *Project* - Develop and trial a prevention strategy for hospitalised patients who have been involved in a road crash in North Queensland.
- *Aims* - Reduce rural and remote road crashes
 - - Identify barriers to receptivity for road safety information

Five Steps

- **Develop Intervention strategy**
 1. What we know, what we need to know
 2. Producing the strategy
- **Trial Intervention strategy**
 3. How to measure change (is it effective?)
 4. Pilot intervention
 5. Full trial of intervention

Develop Intervention strategy

1. What we know.....

- Research data
 - high rural road tolls
 - poorer compliance with fatal four

- Remote and Rural Road Safety project
 - contemporary information on road crashes in FNQ
 - types of vehicle, age of drivers, single vehicles, fatal four, contributing factors.

What we need to know.....

- Why ??????
- Attitudes towards rural road safety / fatal four
- Knowledge of rural driving risks
- “Readiness to change”
- Acceptance of intervention strategies

Focus Groups / Data Review

- Compare opinions of remote and rural drivers (focus groups) with data from crash involved drivers (and roadside controls)
- Rural road safety knowledge
- Who is having crashes ?
- What is causing crashes (incl. Fatal Four) ?
- Self-appraisal of driving, need for change

What intervention modes would be effective?

- What intervention strategies should be used?
(eg: brief intervention)
- When should intervention occur?
- Who should receive intervention?
- What medium of intervention would be acceptable? (eg: written, visual, computer based)



Findings

- Poor road safety knowledge regarding causes of crashes
- Five myths
 - Safer in the country
 - Crashes are caused by “other bloody idiot”
 - Age groups of crash involved persons
 - Role of road conditions
 - “Bloody tourists / city drivers”

Findings

- Generally positive attitudes towards road safety and fatal four
 - Very positive self-appraisal of own skills and fatal four compliance
 - Saw others as main problem

Findings (Intervention)

- Positive attitudes towards intervention – for others
- Low intention to participate in intervention – for self
- Need to be “compulsory” – low personal input
- Visual (not written) format

Develop Intervention Strategy

2. Develop Intervention

- Five myths
 - Safer in the country
 - Crashes are caused by “other bloody idiot”
 - Age groups of crash involved persons
 - Role of road conditions
 - “Bloody tourists / city drivers”
- Attitudes towards fatal four
- Behaviour of fatal four

Trial Intervention Strategy

3. How to measure change

- Targets for change –
 - - rural road safety knowledge
 - - self-appraisal of skills / risks
 - - readiness for change
 - - attitudes towards each of fatal four
 - - self-reported behaviour for fatal four



Advanced Driving Simulator for Injury Prevention Research

A/Prof Andry Rakotonirainy

r.andry@qut.edu.au

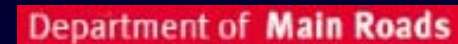


Aims

- Use a world leading advanced driving simulator for experimental studies
- Conduct
 - world-leading road safety research program that will ultimately reduce the high death toll on Australian roads.
 - high quality human factors and road safety research focusing on driver-vehicle-road interactions including driver impairment, driver workload, and adaptation to emerging Intelligent Transportation Systems

Participants

- A/Prof Rakotonirainy (ITS)
- Prof Jull (Physiotherapy)
- Prof Pettitt (Mathematics)
- Prof Wood (Optometry)
- Prof Sheehan (Road Safety)
- Prof Haworth (Injury Prevention)
- A/Prof Davey (Fleet safety)
- Prof Troutbeck (Traffic engineering)
- Dr Treleaven (Physiotherapy)
- Dr King (Policy)



OKTAL simulator (hardware)



Projects to be conducted on the driving simulator

- Impaired behaviour analysis
 - Older drivers behaviour
 - Behaviour with Whiplash Associated Disorder
 - Conspicuity vulnerable road users perception
 - Drug driving
- Impacts of Intelligent Transport Systems on Road Safety
 - Impact of new in-vehicle technology on vigilance and distractions
 - Simulator stimuli for testing hypovigilance in monotonous driving conditions
- Driver behaviour modelling and prediction
 - Vigilance decline prediction in Monotonous conditions
 - Fleet safety
 - Interaction between Road Engineering and Human Factors
 - Cross validation studies between naturalistic and simulated experiments