Discussion of road safety related trends influencing the Qld 2010 road toll:
The lowest since 1952
Background

• Qld 2010 road toll:
  - Statistically significant 26.3% fatality reduction vs. 2009
  - 249 fatalities vs. 331

• Qld 2010 fatality rate:
  - 5.63* / 100k pop
  - Lowest since 1952

• No major widespread road safety intervention circa 2010

• However, a number of earlier significant road safety interventions:
  - 2007 Graduated Licensing System enhancement
  - 2008 speed camera program enhancement

• The Global Financial Crises 2007-2012

* Revised 2/7/2012 based on new ABS population estimates (formerly 5.53).
Previous research

• Causes of road crashes and severity of injury are multi-factorial (Haddon, 1980; Peden et al., 2008):
  – Person related
  – Vehicle related
  – Environment related
  – Before, during & after crash (for example, speed)
• Crashes inherently random (Hauer, 1997)
Aims and rationale

• Preliminary investigation of key road safety related factors identified in the literature that culminated in the 2010 road toll, and for which routinely collected data was available
Method

• Annual data spanning 1999-2010 period
• Trends converted to annual percentage change scores from the index year/period to allow comparison between variables
• Routinely collected data:
  - Crash
  - Licensing & infringement
  - Exposure (Average Annual Daily Traffic [AADT] counts)
  - Enforcement activity (e.g., speed camera hours, RBTs)
  - Road infrastructure spending
  - ABS unemployment & alcohol sales
Annual fatalities 1999-2010

- Total
- Non-alcohol / speed
- Alcohol or speed
- 17-24yrs old
- Motorcycles
- Hvy freight veh.

Fatalities: 0, 50, 100, 150, 200, 250, 300, 350, 400

Involving:
Fatalities per Vehicle Kilometre Travelled (VKT), 1999-2010

- Speed / VKT
- Drink driving / VKT
- Total / VKT
- Non-alcohol or speed / VKT
Annual fatalities per licence holder age group involving young, adult and older adult controllers, 1999-2010
Annual change in total Queensland unemployment, fatalities, and fatalities per VKT, 1999-2010
Annual change in Vehicle Kilometres Travelled (VKT), 1999-2010

*Preliminary data only for 2008-2010. Recent data (10/07/2012) suggests reduction closer to 1%
Annual change in the apparent consumption of alcohol and drink driving related fatalities per VKT, 1999-2010

% change alcohol consump.

% change drink driving fatalities / VKT

Year

Total per capita (litres)  Drink driving fatalities / VKT
Annual change in speed camera hours, camera tickets and speed related fatalities per VKT, and camera tickets issued per vehicle monitored, 1999-2010.
Annual change in fatalities per VKT, with the estimated effects of vehicle safety and road infrastructure improvements, 1999-2010
Limitations

- Causal links cannot be determined
- Data from different time periods
- Limited number of factors examined
Conclusion

• 2010 road toll = culmination of changes in person, vehicle and environment related factors over time
• Drink driving, and especially speeding = major challenging and influential factors
• Economic changes likely to have been influential
• Greater than average reduction over time for young driver/riders
• Increased enforcement (relative to VKT) leading up to 2010
• Fatality reductions underpinned by vehicle and road infrastructure improvements
• Expect regression to the mean
Next steps

Formal evaluation of the Queensland road safety strategy
Thank you

Acknowledgements
The author acknowledges the support of the Queensland Police Service for the provision of data that enabled this research

Disclaimer
Views expressed are those of the author and not to be considered official Transport & Main Roads or Qld Police Service opinion or policy.

www.rsrpe2013.com.au
References


