



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

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

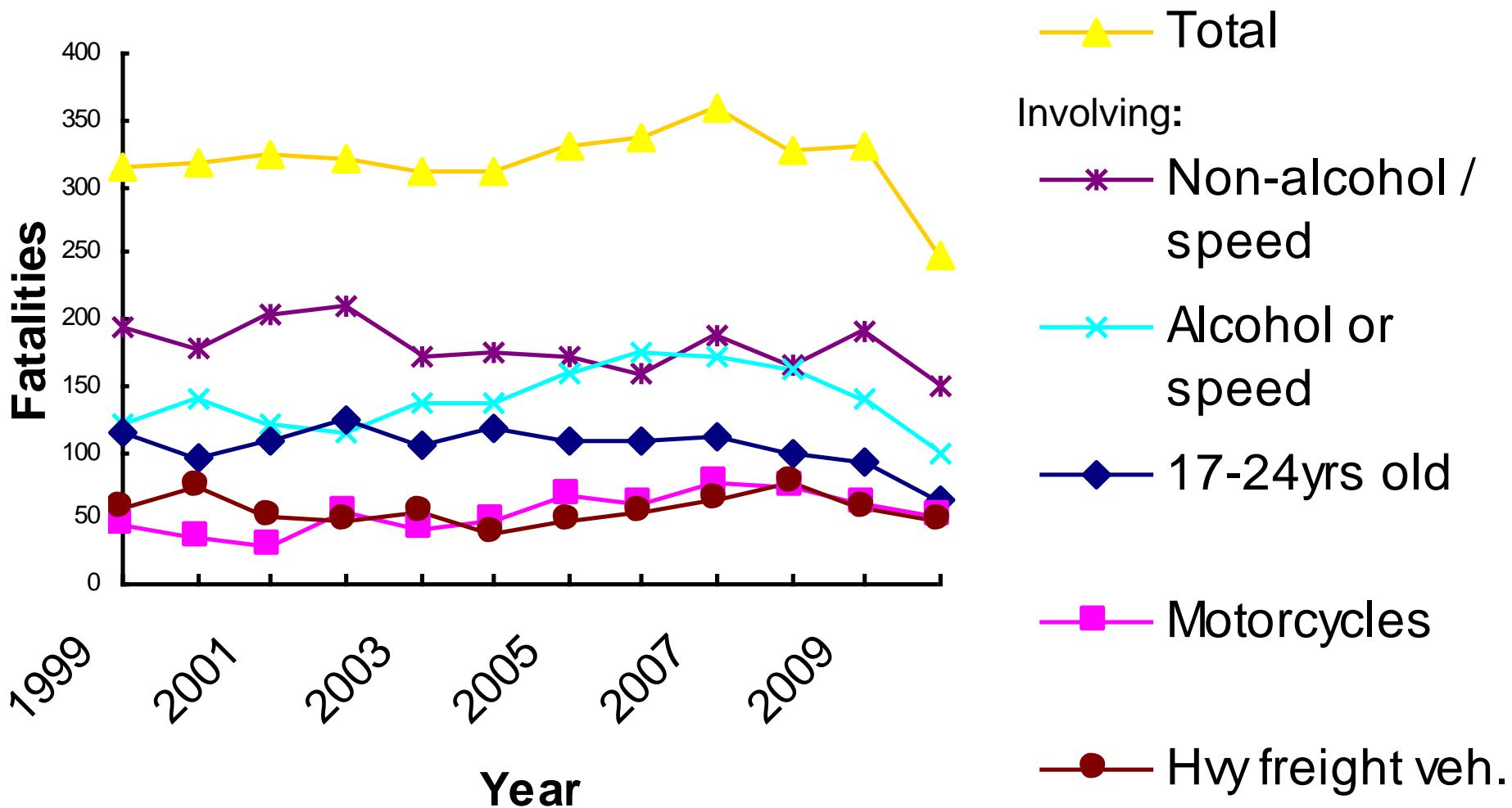
- Preliminary investigation of key road safety related factors identified in the literature that culminated in the 2010 road toll, and for which routinely collected data was available



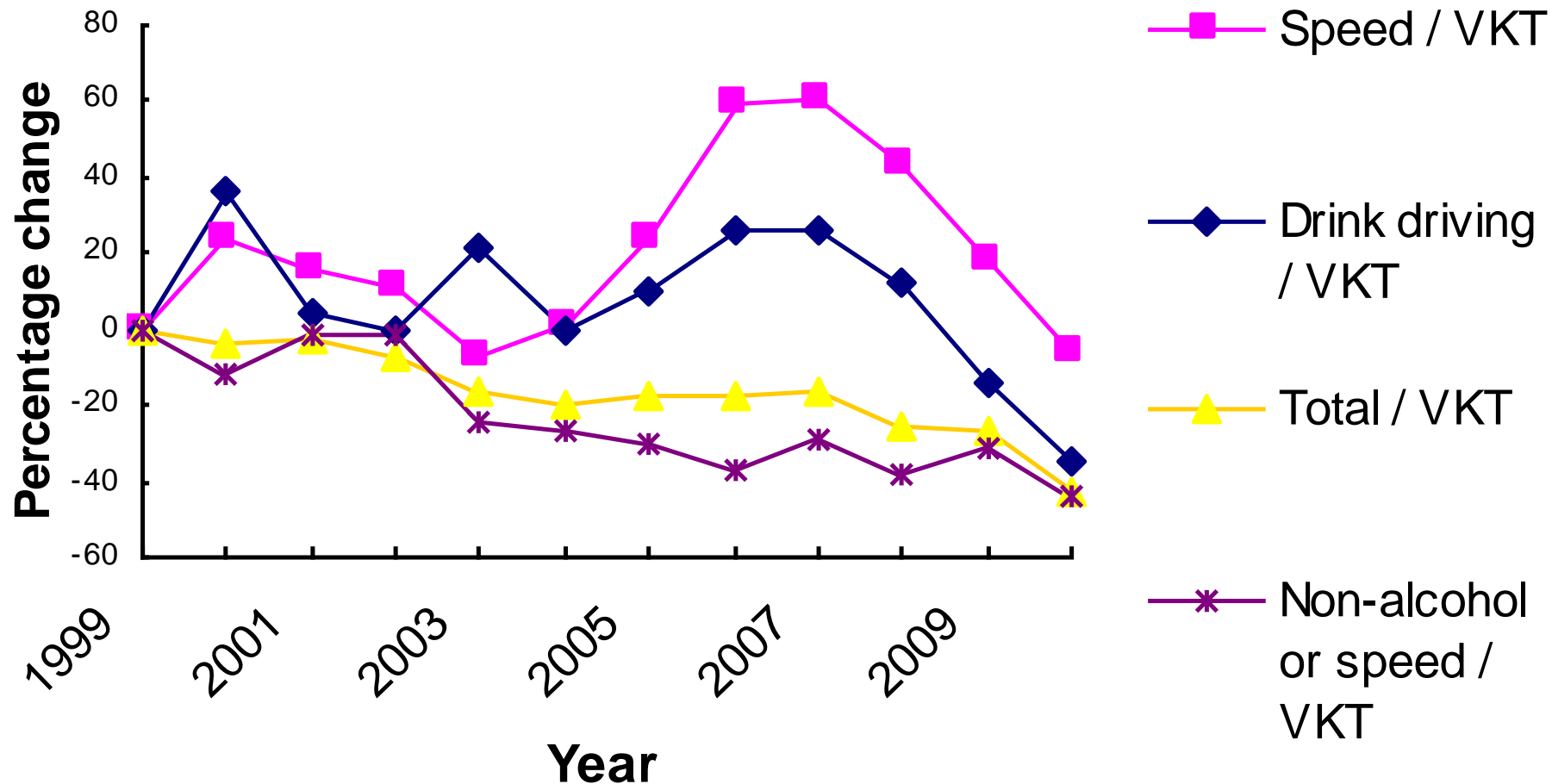
Method

- 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

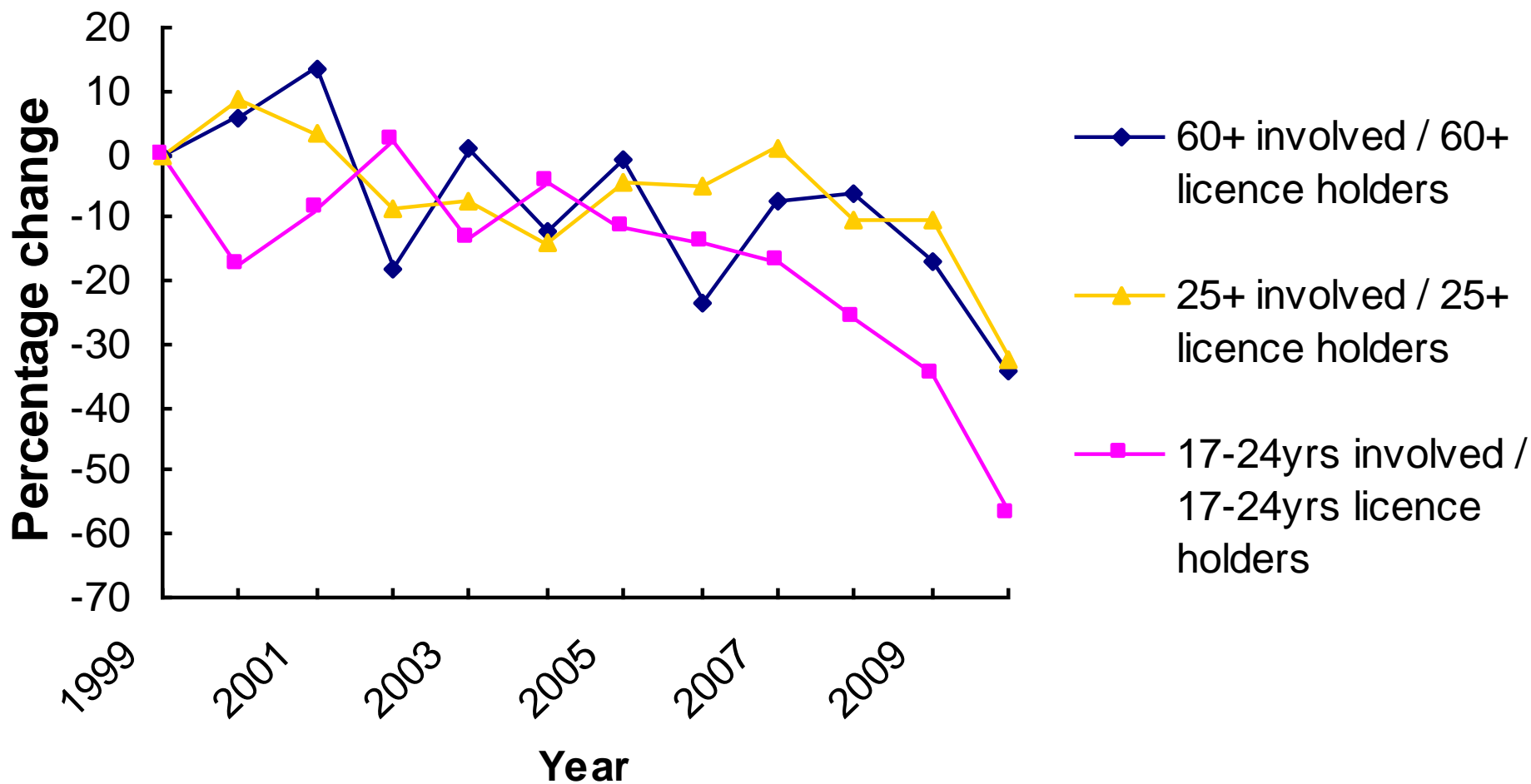
Annual fatalities 1999-2010



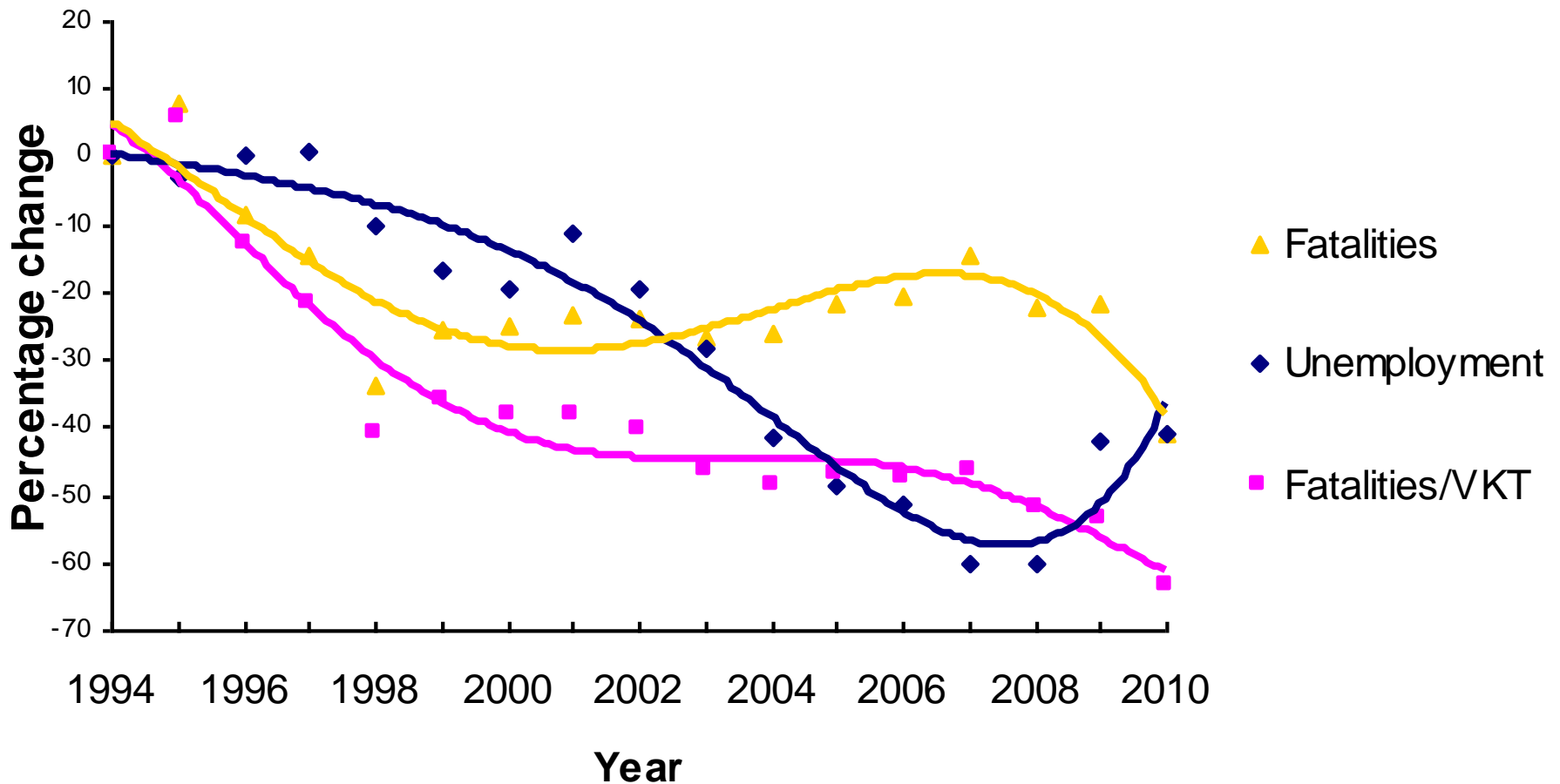
Fatalities per Vehicle Kilometre Travelled (VKT), 1999-2010



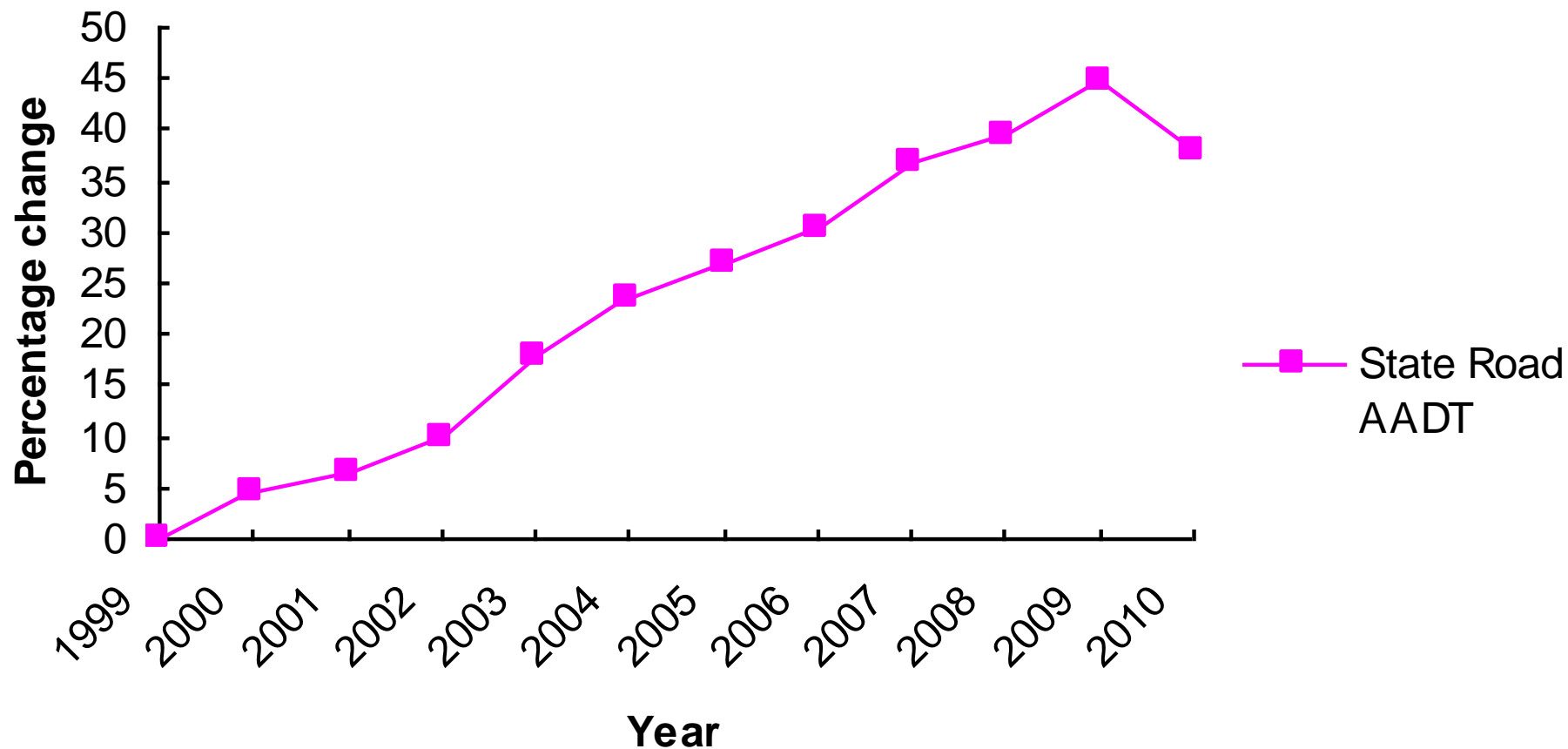
Annual fatalities per licence holder age group involving young, adult and older adult controllers, 1999-2010



Annual change in total Queensland unemployment, fatalities, and fatalities per VKT, 1999-2010

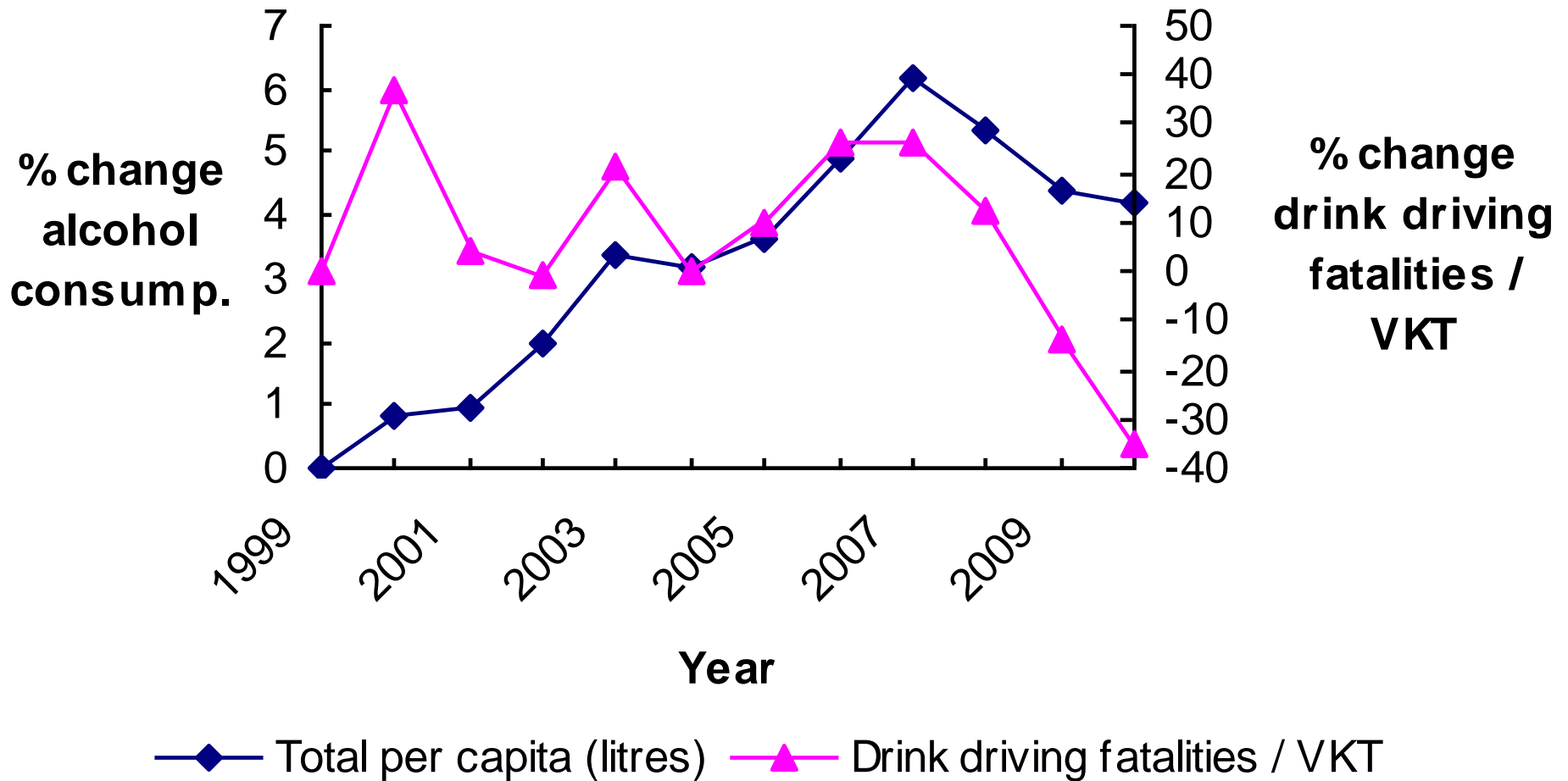


Annual change in Vehicle Kilometres Travelled (VKT), 1999-2010

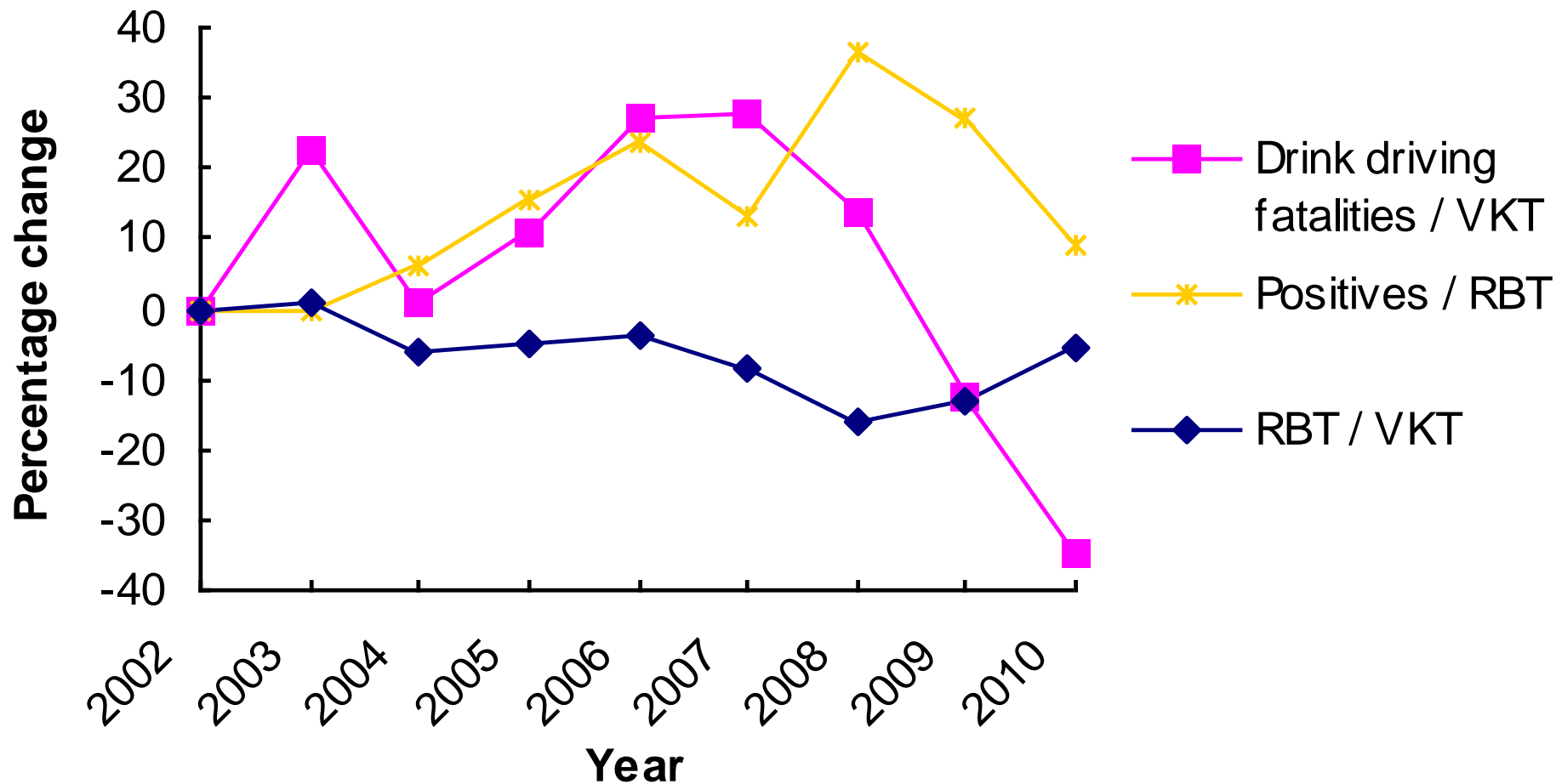


* Preliminary data only for 2008-2010. Recent data (10/07/2012) suggests reduction closer to 1%

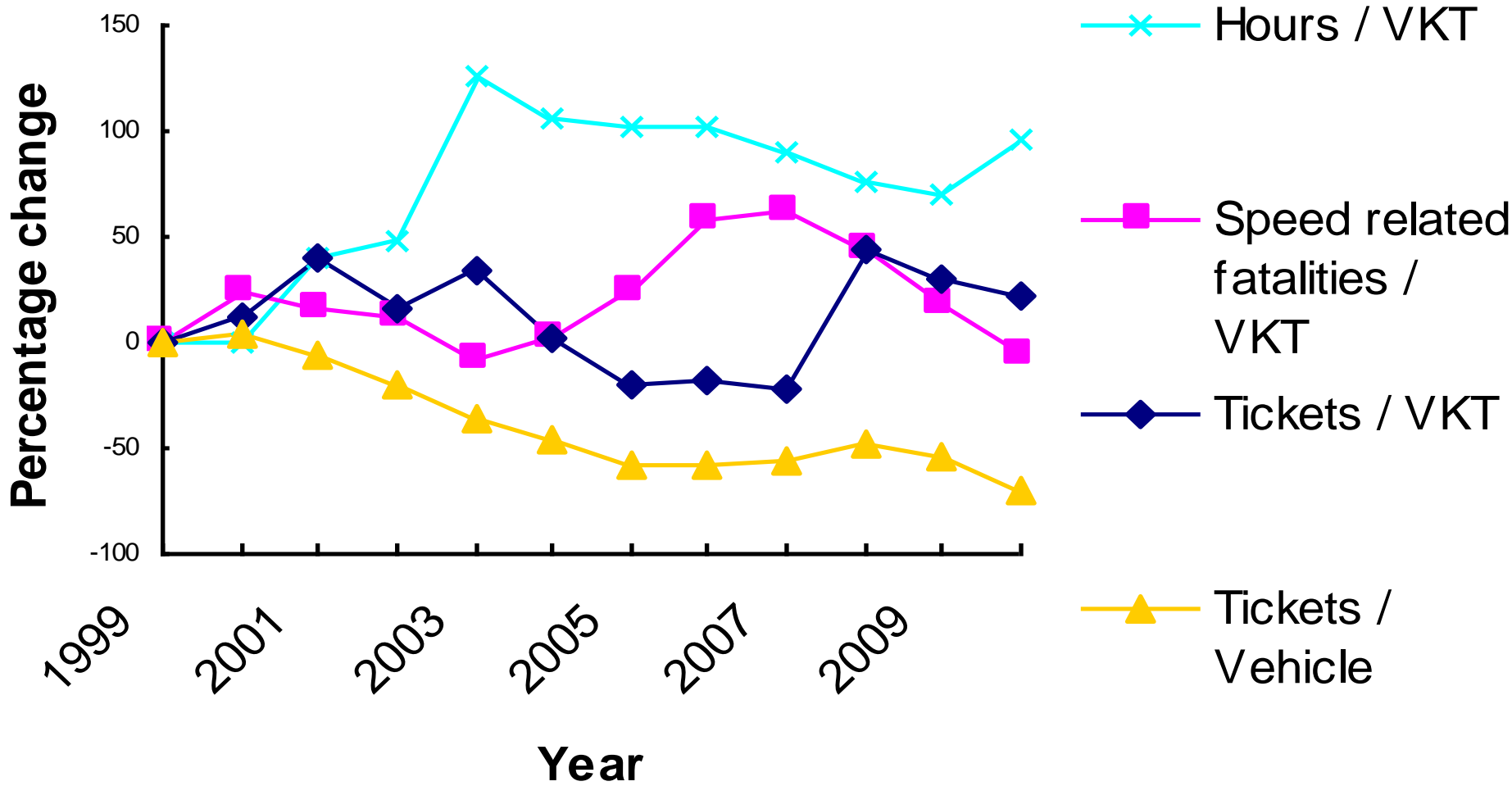
Annual change in the apparent consumption of alcohol and drink driving related fatalities per VKT, 1999-2010



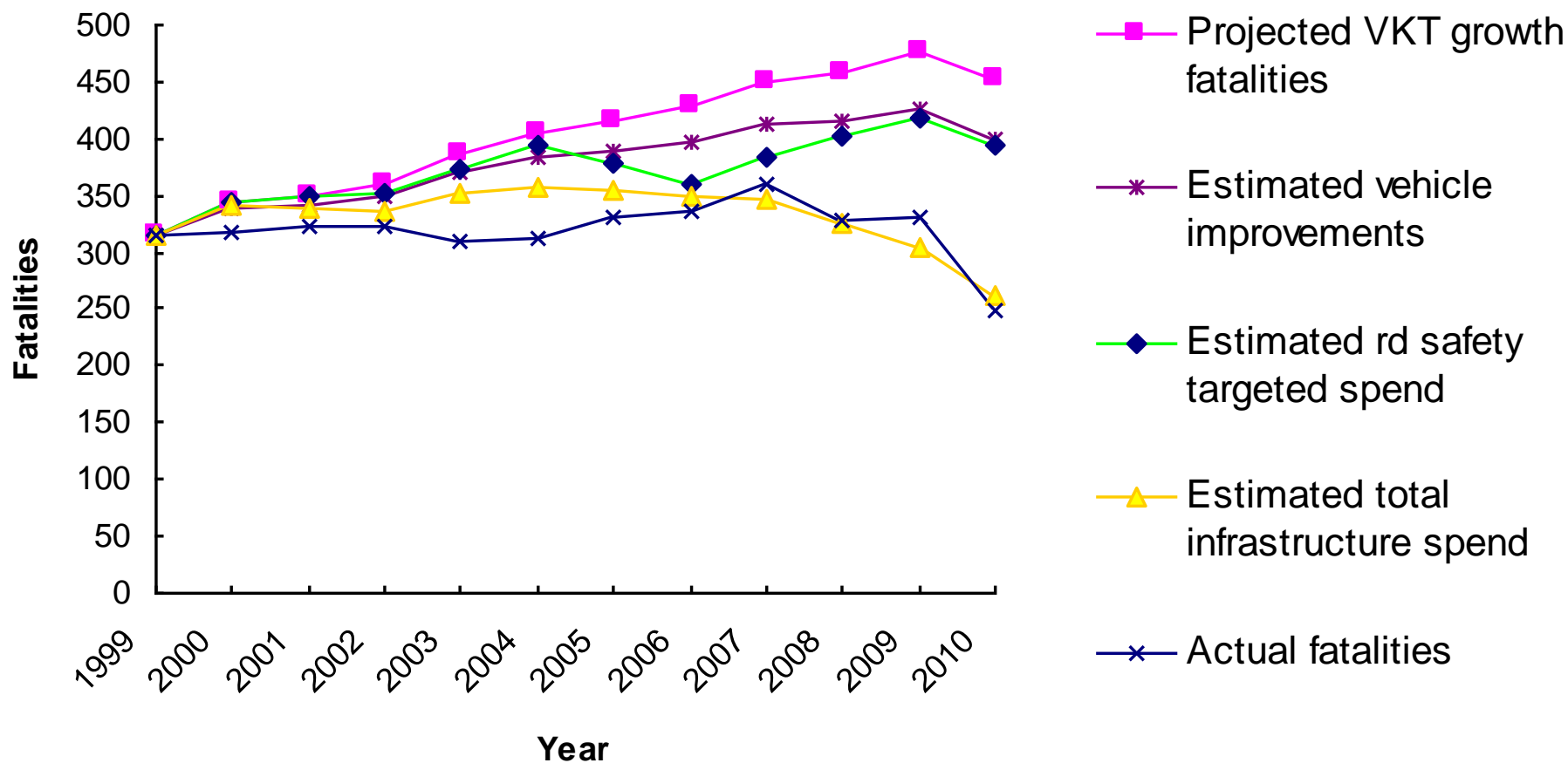
Annual change in drink driving fatalities / VKT, Positive readings / RBT, RBT / VKT, 1999-2010.



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

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Disclaimer

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



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