

## Are young adults' choice of travel mode changing?

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### Abstract

Changes in travel mode choices among young adults have been observed in Europe and North America with marked declines in the percentages of those with drivers' licences. Declines in licensing rates have the potential to affect future transportation needs, preferences for non-driving transport modes, vehicle purchases, road safety and the environment. This study aimed to identify any changes in population-based driver and motorcycling licensing rates among young adults in Victoria, Australia. Licensing data for all Victorian adults from 2001-2014 was tabulated with ABS population data to examine age-related trends in licensing rates. The results indicated that driver licensing rates among Victorians aged 18-30 years have declined since 2001. In 2014, over 40% of 18-21 year old Victorians did not have a driver's licence. This licensing decline was accompanied by substantial increases in the proportions of licensed drivers aged over 50 years, indicating that the decline is specific to young adults. The licensing data also revealed that motorcycling licensing rates have increased during recent years across most age groups in Victoria. However young adults aged 18-25 years have the highest rates of motorcycle only licences, with motorcycling only licensing rates increasing most notably among 22-25 year olds. Potential implications of such changes in travel modes include reduced road infrastructure revenue and costs, reduced traffic congestion, environmental benefits and reduced road deaths and injuries, but also a need for safer infrastructure for motorcycling and other travel modes.

### Introduction

Changes in travel mode choices among young adults have been reported in several countries including the United States, Canada, Sweden, Norway, the United Kingdom and Germany (Sivak & Schoettle, 2012; van Dender & Clever, 2013), but also Australia (NSW) (Raimond & Milthorpe, 2010) with marked declines in the proportion holding a driver's licence. These declines are unique to young adults as they occur alongside increased proportions of licensed drivers of other ages. Common reasons given by young adults for not holding a driver's licence include that they are too busy to get a licence; owning and maintaining a vehicle is too expensive; they are able to get transport from others; and that they prefer walking, cycling or public transport to driving as travel mode choices (Davis et al., 2012; Dutzik et al., 2014; Foss et al., 2014; Le Vine & Polak, 2014; Sivak & Schoettle, 2013).

There are likely to be many inter-linked, societal-level factors influencing whether or not and, if so, when to obtain a licence, as well as choice of alternative travel modes. These factors include:

- transport planning policies, economic circumstances and market forces restricting access to and usage of cars (Metz, 2013; Sivak, 2014; van Dender & Clever, 2013);
- a delayed transition from teenage to adult lifestyles (Aretun & Nordbakke, 2014; van der Waard, et al., 2014);
- increased use of bicycle and car-sharing schemes (Strang & Mead, 2013; van der Waard, et al., 2014);
- a devaluing of car ownership and car use as a lifestyle characteristic (Delbosc & Currie, 2013; Kronenberg, 2010).

Also, public transport is becoming an increasingly more attractive choice among the young (at least for those who have good access to it) due to convenience, shorter travel times and that it facilitates sustained use of technological equipment such as smartphones and laptops (Davis et al., 2012; TransitCenter, 2014). Many jurisdictions explicitly ban young drivers from using hand held mobile phone technologies, thus providing a further incentive to travel as a passenger. In addition, many young people prefer to work from home or other convenient locations rather than physically travel to business premises (Pirdavani et al., 2014).

The present study explored evidence of driver licensing decline among young people in Victoria, Australia. Declines in licensing rates have the potential to affect future transportation needs, preferences for non-driving travel modes, vehicle purchases, and could have road safety and environmental consequences. As motorcycling has enjoyed increased popularity in Australia during recent years (e.g. Weissenfeld et al., 2011), motorcycle licensing rates were also examined to determine whether young adults might be using them as an alternative mode of transport. This study focussed on the potential road safety implications of changing travel mode choices of young adults because much of the existing research has been conducted from sociological and public transport planning perspectives, with very little attention paid to potential road safety implications.

## Method

The total number of licensed drivers (probationary and full combined) at each age from 18 to 90 years for the years 2001 to 2014 were obtained from VicRoads. The driver licence numbers by age were tabulated alongside respective ABS population data for Victoria, and the percentage of licensed drivers then calculated for each age category across 2001-2014.

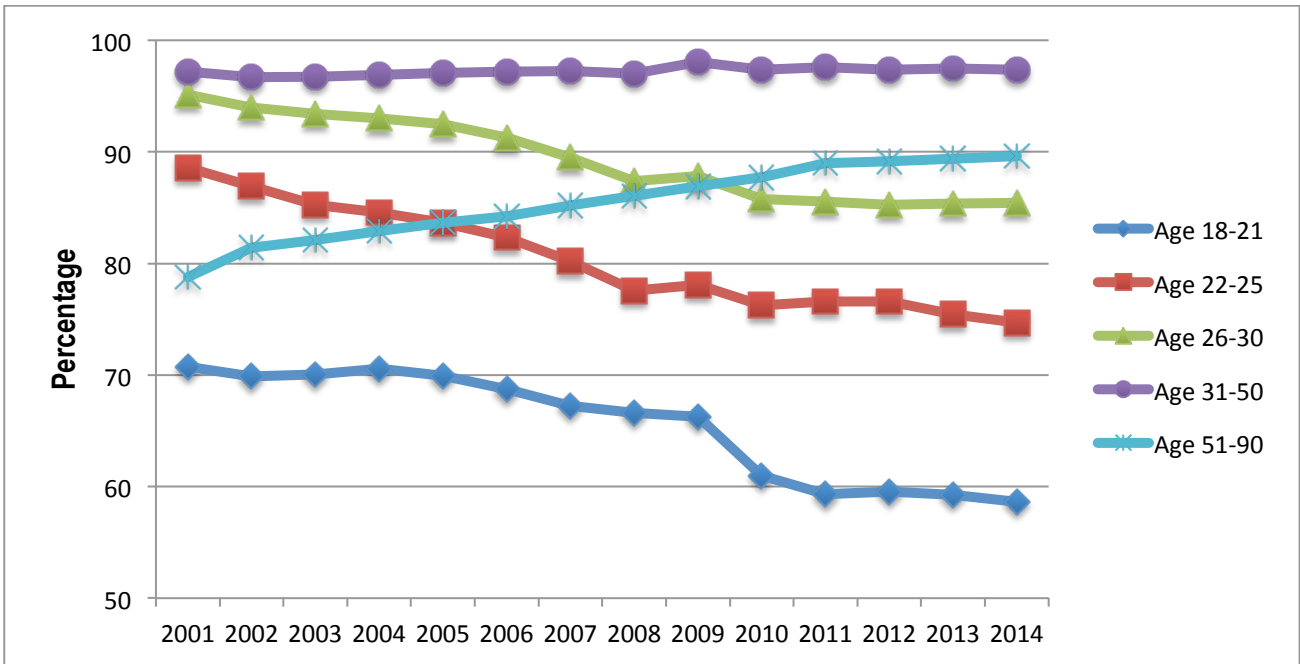
Motorcycle licensing data was also obtained from VicRoads. Data was examined for the years 2011 to 2014 concerning the numbers of motorcycle (BIKE class) only licences held, as well as numbers of motorcycle endorsements to car licences. The time frame was limited due to data availability but allows for examination of recent trends, particularly since the introduction of the Victorian motorcycle GLS in 2010. As with the driver licensing data, the percentage of licensed motorcycle riders by age group was calculated based on ABS population data.

## Results

### *Driver licensing rates in Victoria*

Figure 1 shows the licensing rates of Victorian drivers over time by age group. Between 2001 and 2014, there was an overall decline in the proportion of Victorians aged 18-21 years who were licensed with only 59% of 18-21 year olds holding a driver's licence in 2014. The most marked decline was seen for 18 year olds, with 53% holding a driver's licence in 2001, dropping to 40% by 2014. Licensing rates among those aged 22-25 years also decreased, from 89% in 2001 to 75% in 2014 and for those aged 26-30 years (95%: 2001 - 85%: 2014). For further details concerning licensing rates by age see the full report: Bailey et al, 2015. It is possible that the decrease in licensing for those aged 18-21 years in 2010 was partly attributable to the introduction of a number of changes to the Victorian Graduated Licensing Scheme (GLS) in 2007 and 2008 (see discussion).

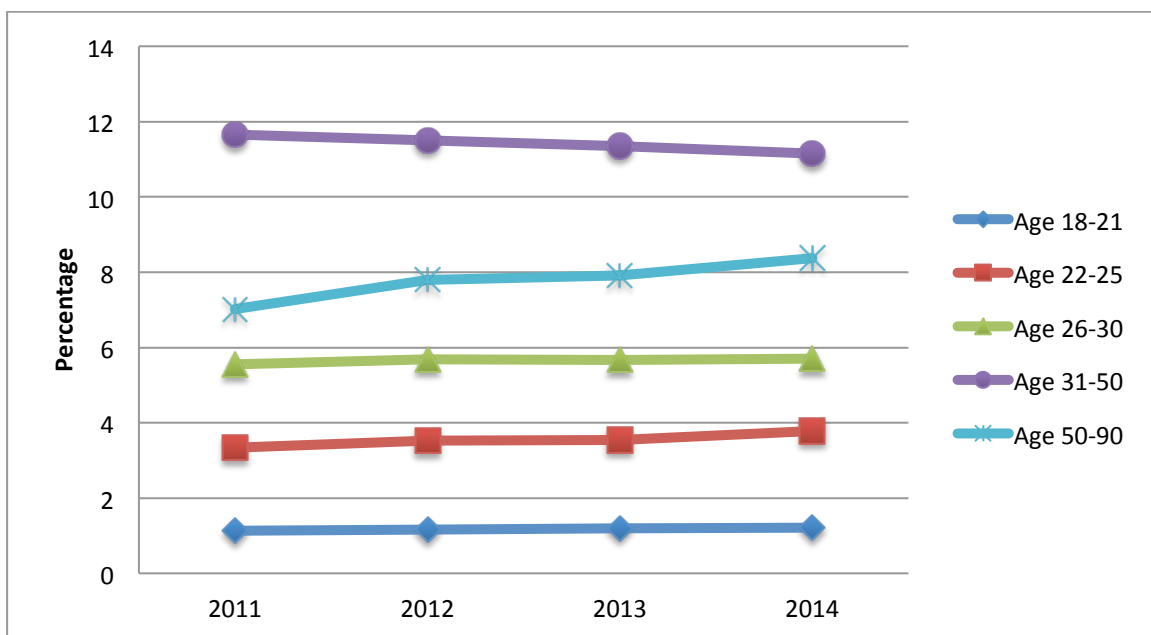
By contrast, the licensing rate for ages 31-50 years showed an overall pattern of little change. However, the age group 51-90 years experienced a steady increase in licensing across 2001-2014, with the steepest rates found among those aged over 60. Importantly, these trends for drivers aged 30-90 years are inconsistent with the declining patterns found for drivers aged under 30, demonstrating that the declining licensing rates of young drivers constitute a unique phenomenon not part of a broader licensing pattern.



**Figure 1. Licensing rates as percentages of Victorian population, by age, 2001-2014**

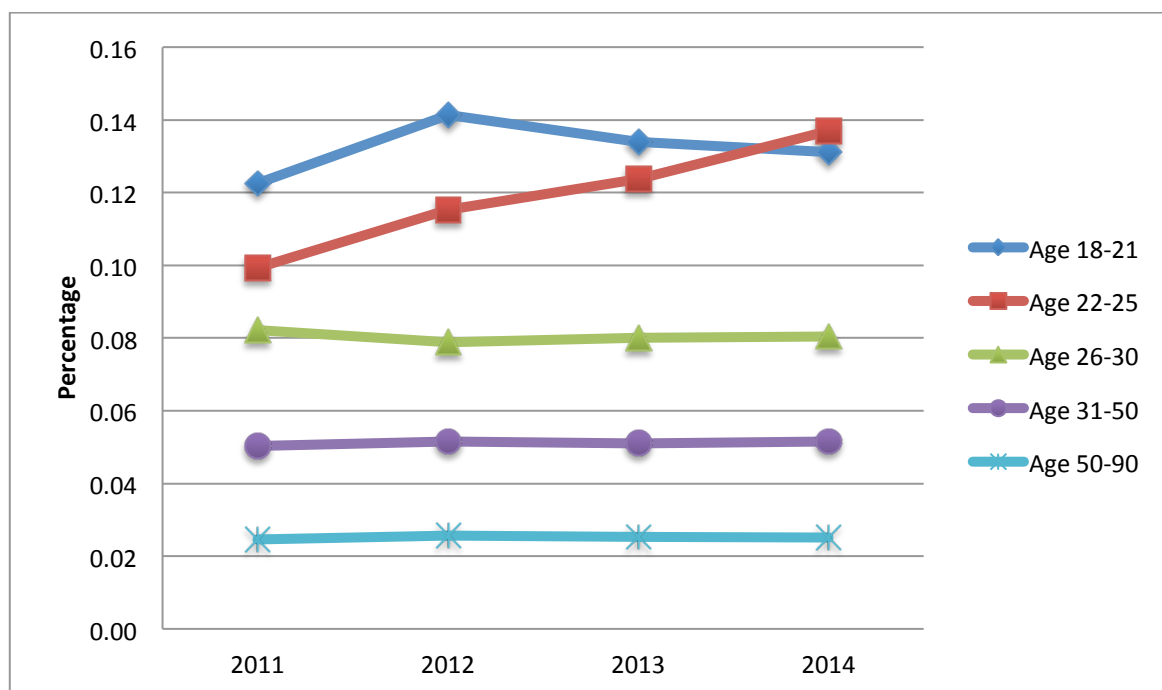
**Motorcycle licensing rates in Victoria**

In Victoria from 2011 to 2014, there was an overall increase in motorcycle licensing from 8.7% to 9.1% of the population for riders aged 18-70 years. Figure 2 presents the licensing rate by population for Victorian motorcycle riders from 2011 to 2014 by age group. These rates include motorcycle only licences and motorcycle endorsements on class car licences. All age groups, with the exception of riders aged 31-50 years, experienced an increase in motorcycle licensing rates across the period. Riders aged 51 years and over had the greatest increase (19%) in rates, followed by riders aged 22-25 years (13% increase). People aged 31-50 years recorded the highest rates of motorcycle licensing.



**Figure 2. Motorcycle licensing rates as percentages of Victorian population, by age, 2011-2014**

The rates per population for Victorians holding motorcycle *only* licences, as seen in Figure 3, indicate that young adults aged 18-25 years have the highest licensing rates of all age groups. Importantly, there was a 40% increase in motorcycle only licensing from 2011 to 2014 for 22-25 year olds. There were few notable changes for other age groups. Note that generally there were very low rates of motorcycle licensing in each age group so these results should be interpreted with caution.



**Figure 3. Motorcycle only licensing rates as percentages of Victorian population, by age, 2011-2014**

### Discussion: Implications for Road Safety

Consistent with previous research (e.g. Raimond & Milthorpe, 2010; Sivak & Schoettle, 2012), the findings from this study point to a continuing pattern of driver licensing decline among young adults in Victoria. A small increase in motorcycle licensing was also found. In particular, it appears that young adults aged 22-25 are increasingly obtaining a motorcycle licence only and not a car licence. It is possible that the higher level of motorcycle licensing only among this age group is partially attributable to riders waiting until they are over 21 years so that they might avoid the probationary licensing requirement to complete 12 months under P1 conditions (applicable to <21 years, no car licence). However, this possibility does not necessarily explain the increase from 2011 to 2014 as these conditions were present before 2011. Further analyses of motorcycling data over time is needed to establish any trends.

One specific external factor may have contributed to the more marked declines in licensing found among the youngest drivers. On 1 July 2007, Victoria introduced a new GLS requiring a minimum 12 months on a learner's permit (previously 6 months) and a minimum 120 hours of supervised driving experience for those aged under 21 at the time of licensing. The change also included a ban on mobile phone use while driving and restrictions on high-powered vehicles for probationary licence drivers. In the following year, the probationary period was extended from 3 to 4 years, with other restrictions imposed such as a maximum number of peer-age passengers and a requirement for a good driving record before graduation from a P1 to a P2 licence and from P2 to a full licence (Healy, Catchpole & Harrison, 2012). In addition a new drive test was introduced on 1 July 2008

which resulted in a lower pass rate than the previous test (Healy, Catchpole & Harrison, 2012). Consequently, the numbers gaining licences would have dropped in the short term and may have deterred some drivers from getting a probationary licence. It seems likely that the requirement for 12 months on a learner's permit would have directly reduced the numbers of learner drivers gaining licences from 2007 for the following year or two, but this alone does not explain the continuing pattern of licence decline among young adults.

It is not certain to what extent these findings might be indicative of trends over the coming decades. In particular, it is not known if the present generation of young adults who do not drive will tend to maintain this choice as they get older, or if they will adopt transport mode choices more traditionally associated with middle adulthood and raising a family (Dutzik et al., 2014; Sigurðardóttir et al., 2014), which are often more car-reliant. Added to this is evidence of a declining need to travel from the rising popularity of working from home among the young (Pirdavani, et al., 2014).

Assuming that such licensing and population trends persist into the future, several implications for road safety can be suggested, fortunately mainly positive ones. A trend for fewer young adults being licensed, along with preferences for other travel modes such as increased use of public transport in Australia (Richardson & Elaurant, 2013), will mean reduced overall young driver exposure to the road, which potentially could bring fewer crashes involving young drivers and their passengers (Dutzik et al., 2014). However, these benefits may be limited by the extent to which these young people become vulnerable road users in other transport modes, such as motorcycling. Consequently, there will be an ongoing need for infrastructure measures that support safe motorcycling, cycling, and walking (Richardson & Elaurant, 2013).

## Conclusion

Patterns of licensing decline among Victorian 18-30 year olds have existed since at least 2001, which means the declines were evident well before the more stringent GLS introduced around 2007-8. By 2014, over 40% of 18-21 year old Victorians were not licensed to drive, although some of these may have been delaying a decision to obtain a licence. By contrast, motorcycling licensing rates have increased slightly during recent years across most age groups in Victoria. Young adults aged 18-25 years have the highest rates of motorcycle only licences, with motorcycling only licensing rates increasing most substantially among 22-25 year olds although numbers are still low. While this was an exploratory study of licensing data, further research could employ statistical modelling and investigate whether these trends continue over time.

## Acknowledgements

This study was funded by the Royal Automobile Club of Victoria through a Project Grant to CASR. CASR is supported by both the South Australian Department of Planning, Transport and Infrastructure and the South Australian Motor Accident Commission. The views expressed in this article are those of the authors and do not necessarily represent those of the University of Adelaide or the funding organisations.

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