27 May 2016

Mr Geoff Howard MP
Chairperson
Law Reform, Road and Community Safety Committee
Parliament House
Spring Street, East Melbourne VIC 3002

Dear Mr Howard

RE: INQUIRY INTO LOWERING THE PROBATIONARY DRIVING AGE IN VICTORIA TO SEVENTEEN

Thank you for your invitation to Transport and Road Safety (TARS) Research at The University of New South Wales to respond to this inquiry. I write on behalf of TARS Research and note the following terms of reference:

(1) the impacts of lowering the probationary driving age in Victoria to 17, including —
   (a) reviewing the licence structures in other Australian States, particularly the probationary driving age;
   (b) assessing the links between the existing 18 year old probationary driving age and high youth unemployment in regional areas;
   (c) reviewing the impacts of separating the legal driving age and legal drinking age;
   (d) considering relevant international licensing models and the positive and negative impacts of such; and
   (e) assessing the correlation between a reduced probationary driving age and the road toll;

(2) the adequacy of current transport infrastructure and services available to people of non-driving age, particularly in regional Victoria;

(3) strategies to remove barriers for people of non-driving age to access employment, study and training.

This response addressed (1)(a)(d)(e) and (3).

As the author of the first of several comprehensive research reports on the effectiveness of graduated licensing systems and their components in Australia and internationally, I am recognised as Australia’s leading academic on graduated licensing. The first report was commissioned by the Victorian Government in 2002 and was followed by commissioned reviews for the Western Australian Government (2004-05) and Northern Territory Government (2008-09). I have delivered invited presentations and policy reviews to parliaments in Queensland, New South Wales, the Australian Capital Territory, Pennsylvania in the United States, and Buenos Aires in Argentina. Most recently (2013-15), I provided a comprehensive review for Austroads, the association of road transport and traffic agencies in Australia and New Zealand. I provide the Austroads report as an attachment, which includes further detail on Australian and international graduated licensing systems and components, in particular, for New Zealand, the United States and Canada. Key points relevant to reducing the probationary licensing age are addressed within this letter.
I start by addressing (1e) directly, to emphasise unequivocally that lowering the minimum probationary licensing age in Victoria to 17 years will increase young driver crashes and related road deaths and serious injuries. At a basic level, this is true simply by increased "exposure" of young novice drivers on the road; that is, by having an additional cohort (i.e. 17-year-olds) driving on-road. As novice crash risk is influenced by age not just inexperience, lowering the driving age to 17 would not simply shift the crash risk of otherwise 18-year-old drivers to one year earlier.

There is an increasing body of literature that demonstrates important brain development changes are initiated from an average age of 16 years that impact on the ability to drive safely. These changes impact on the ability to regulate impulses, override emotional arousal and anticipate outcomes, with particular implications for anticipating hazards and managing distractions when driving. In addition, the timing of the onset of recuperative sleep is shifted to later at night (11pm) and more hours of sleep are needed (9-10 hours) and therefore adolescents are prone to fatigue including during the day, not only late at night. These changes do not stabilise until the early-to-mid 20s. The older the new driver, the more advanced into this developmental stage, and therefore also the more advanced in ability to manage these influences.

The relationship between age at first independent licence (i.e. the probationary "P1" licence in Victoria) and crash risk over time is illustrated in Figures 1 and 2. Figure 1 is based on data from the Netherlands, where the minimum driving age is also 18 years. As clearly shown, even when controlling for the amount of driving undertaken (i.e. exposure), while crash risk for all new drivers is highest when first licensed, the later the starting age, the lower the initial risk.

For the Netherlands data, it might be argued that there is some other factor(s) influencing crash risk that is inherent to drivers who are eligible to drive at 18 years but delay licensing. The same has been argued for data from the United Kingdom, where those who gained their independent licence at age 18 had a 9% lower crash risk than those licensed at the minimum age of 17 years. However, Figure 2 provides a similar pattern of findings for casualty crashes (i.e. those resulting in fatalities and/or serious injuries requiring hospitalisation) from New Zealand at a time when probationary driving could commence from as young as 15.5 years if an accredited driver education course was completed or otherwise from age 16.5 years. As shown for the 12 months of the "Restricted

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Licence", first-year probationary drivers in age groups younger than 18.5 years had substantially higher risk of a casualty crash including a marked increase for the 15.5-16.49 age group compared to the 16.5-17.49 age group. Moreover, this increased casualty crash risk was sustained in the second year of licensing.

It is also worth highlighting that it is not just the young drivers who are casualties in their crashes. National research in the United States has explored who dies in the fatal crashes of novice teenaged drivers. Only 36% of fatalities in crashes of US 15-17-year-old drivers are the actual teen drivers; 32% are their passengers, with the remaining 32% other road users. In Queensland it had been found that, of casualty crashes involving young drivers aged 17-24 years, 60% of fatalities and 45% of serious injuries were the young driver, while 22% of fatalities and 20% of serious injuries were their passengers. Therefore, 18% of fatalities and 35% of serious injuries in crashes of 17-24 year-olds in Queensland were other road users.

There is only one known published international study regarding a reduction in the minimum probationary driving age, which relates to changes made in Canada in 1962. When Canada reduced the minimum age from 18 to 16 years, there was a 24% increase in fatalities for new drivers, with additional serious injuries and fatalities of others involved in new driver crashes (not quantified). It is notable that such decisions to lower the minimum independent driving age are extremely rare globally, including across Europe, Asia, South America and Africa where the predominant minimum age is 18 years. The crash data findings of the Canadian study indicate that the age should remain at 18 for good reasons.

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This Inquiry is not the first time that such a question has been raised for Victoria. The potential to reduce the minimum age to 17 (or even 16) to be in line with other states was explored in 1986. The analyses in 1986 estimated that lowering the Victorian minimum probationary age from 18 years to 17 years would result in 30-50 additional fatal crashes and 650-700 additional injury crashes. These numbers were calculated at a time when road trauma was significantly higher than at present; however, these were calculations of crashes and not the (higher) number of actual fatalities and injuries.

More recently, modelling analyses in South Australia in 2011 to evaluate the potential effect of raising the minimum provisional age from 17 to 18 years, estimated a 20% reduction in serious road injuries and fatalities for drivers aged 16-24 years and a 5-6% (60-70 in number) reduction in all serious road injuries and fatalities; that is, an absolute reduction in South Australia’s road toll.

There is therefore no doubt that lowering Victoria’s minimum probationary age will increase Victoria’s road toll. This then leads to the terms of reference (3) on strategies to address potential barriers for Victorians aged younger than 18 years to access employment, study and training. The nature and extent of such barriers in Victoria needs to be established, which other submissions might address more directly. It can be argued that barriers are more likely in areas where there are limited transport alternatives, such as public transport and taxi services; particularly in low population density or remote areas. In terms of population by geographical size, Victoria is more densely populated that other Australian jurisdictions, which reduces issues regarding access to services and facilitates Victoria’s ability to set the driving age to the safer minimum of 18 years.

For example, the Australian Bureau of Statistics’ National Regional Profile (2006-2010) data identifies Victoria’s density as 24.4 persons per square kilometre compared to only 0.2 in the Northern Territory, the only jurisdiction where the minimum age falls to 16.5 years (with New South Wales at 9.0 with a minimum provisional age of 17 years). There is no area in Victoria classified as “very remote” by the Australian Bureau of Statistics, unlike all other Australian jurisdictions besides Tasmania.

This does not preclude that lack of a driver licence is a barrier to education and employment, and barriers to licensing are not necessarily limited to remote areas. A collaborative study involving TARS Research published this month identified that Aboriginal and Torres Strait Islander people in urban as well as rural areas of New South Wales and South Australia experienced challenges in acquiring a driver licence. Moreover, those who had a driver licence were four times more likely to be employed full-time, almost twice as likely to have a certificate or trade qualification, and four times more likely to have a degree.

Should significant barriers to employment, study and training exist for 17-year-olds in Victoria, “extraordinary” licences could be considered, which restrict holders to driving to and from these activities only, but should not be used as evidence to lower the probationary driving age for all Victorians. While there is no evaluated precedent for this approach, it is noteworthy that officially the legal driving age in the United States is 18 years with parental permission given to drive

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8 Drummond AE (1986). Driver licensing age and accident involvement rates of young drivers. Road Traffic Authority, Hawthorn VIC.
at younger ages with restrictions, which can include no driving at night (from as early as sunset through to sunrise) or with any passengers. If considered for Victoria, such extraordinary licences should include the same requirements and restrictions as Victorian probationary P1 licences. New South Wales is currently trialling a Restricted P1 licence for work education and medical appointments in remote areas for drivers who otherwise meet the provisional licence requirements (including a minimum age of 17 years) but with only 50 hours of logged learner driving experience rather than 120 hours; due to the recognised significant barriers to gaining the 120 hours for drivers in those communities. Options for such extraordinary licences also exist in jurisdictions such as Western Australia and Queensland for licensed drivers who would otherwise be suspended from all driving (due to traffic offences or demerit point infringements, including non-driving-related offences such as state debt fine defaults). There is limited research regarding extraordinary licences; however, an early Queensland study of a cohort of over 1,700 drink drivers found that, even among this seemingly high risk driver group, those allowed to drive on restricted work licences appeared to have a lower rate of recidivism or at least a rate not statistically different from those disqualified.

It is also important to caution that there is a significant body of international research demonstrating that traditional driver training or, more broadly, driver education, cannot compensate for lowering the driving age. Figure 2 demonstrates this specifically for New Zealand; where the licensing age was subsequently raised by one year and the driver education discount was changed to six months of the otherwise 18-month probationary period so that full licensure is now from a minimum age of 18 years or 17.5 years following driver education. There is currently no known driver training program with demonstrated ability to reduce crash risk for inexperienced drivers of any age. There is even some evidence of counterproductive higher post-training crash risk for young males in particular; those at highest crash risk. This is thought to occur when training increases participants' judgment of their driving skills as greater than their actual skill level (i.e. "miscalibration"), to which young novices are particularly prone due to their developmental stage, as noted earlier.

In summary, there is undisputable evidence that reducing the minimum probationary licensing age from 18 to 17 years for all Victorians will increase the road toll – not only of young novice drivers but also of their passengers and other road users with whom they share the roads. This risk cannot be attenuated by any known driver education or training program. If barriers to employment, study and training are found to exist for some Victorian 17-year-olds sufficient to warrant needing to drive independently, "extraordinary" licences that restrict holders to driving to and from these essential activities could be considered but retaining all other requirements and restrictions for probationary P1 drivers.

Yours sincerely

Teresa Senserrick, PhD
Associate Professor

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13 See Appendix A of the attached TARS Research Report to Austroads for a summary of all United States (and Canadian) graduated licensing models.
16 See section 5.5 of the attached TARS Research Report to Austroads.
17 See footnote (1).