"Car, will you drive my Baby?" - Community attitudes towards autonomous vehicles and associated technologies

Jodi Page-Smith[a], David Young[a] , Julie Young[b] and Jenny Castillo[b]

[a]Transport Accident Commission, [b]Ipsos

Abstract

While Automated Vehicle (AV) research and development can be tracked back to the 1920s, it is only in recent time that significant effort and milestones in technology have led to a belief that automated driving is possible. Driverless cars and new technologies have the potential to positively affect a significant proportion of road trauma (Austroads, 2017). However, adoption of this technology is highly dependent on obtaining the trust and confidence of the general public (Kaur & Rampersand, 2018). This study investigates the changes in community acceptance of AVs and associated technologies since 2014.

Background and Methods

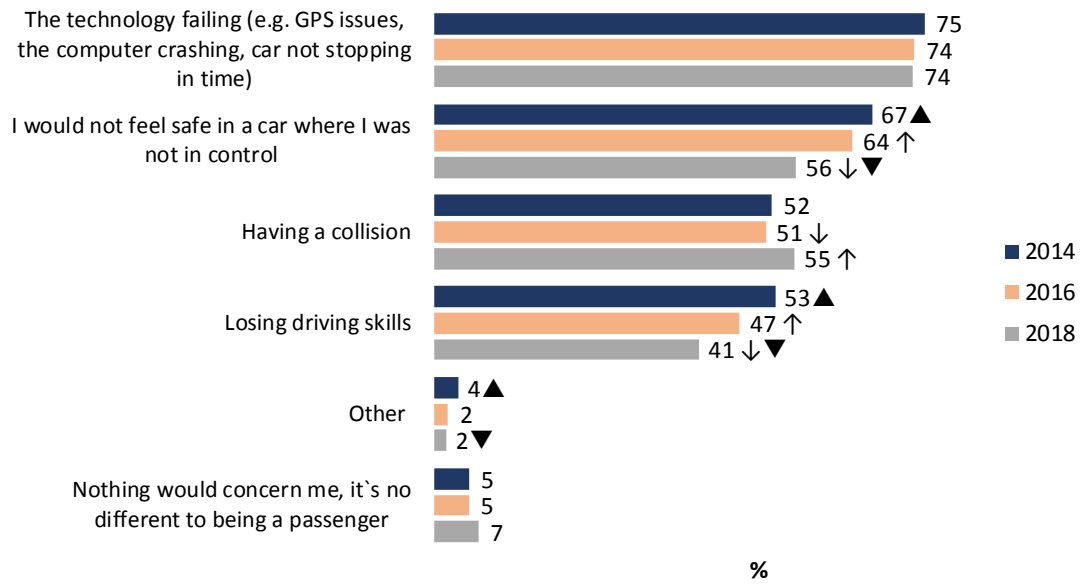
More in-car, and between car and infrastructure technologies are becoming available, with vehicles getting closer to low levels of automation (Austroads, 2017). Since 2010, the TAC has conducted a regular survey of Victorian road users to determine the acceptability of a variety of driving and non-driving behaviours (for example - acceptability of low level speeding, acceptability of selling drugs). In 2014 and again in 2016, the TAC asked participants about their awareness of a number of new and existing vehicle technologies, and participants were also asked their opinion about AVs. In 2018, this research was replicated, with 1,509 participants were recruited via an online panel, with responses weighted back to the Victorian population by location, age and gender. Significance testing was completed and reported where appropriate.

Results

The proportion of drivers who either somewhat agreed or strongly agreed that they would be comfortable to let the car take on some aspects of the driving process is unchanged since 2014 (58%). However, the proportion of people who agreed that they would be comfortable in a car that would completely drive itself increased from 26% in 2014 to 30% in 2018. There was a slight increase in the number of people who thought self-driving cars would be good for older drivers (57% in 2018 compared to 54% in 2016), with older drivers (50%) themselves significantly *less* likely to agree[1].

Respondents were also asked about their attitudes and concerns around self-driving cars. Overall, participants in 2018 generally had less concerns about AVs than in previous years, however, concerns about technology failing remained constant at 74%; with older participants aged 60+ years of age the most concerned about technology failing (79% compared to 68% of 18-50 year old drivers).

[1] This result is statistically significantly different to 95% confidence



Which of the following would concern you about driving a self-driving car?
Weighted; Base n = 1952 (2014); 1017 (2016); 1509 (2018)
↓↑ Indicates significantly higher/lower compared to 2016
▼▲ Indicates significantly higher/lower compared to 2014

Figure 1: Concerns about self-driving cars – Total (%) – 2014, 2016 and 2018 comparisons

In 2018, participants were asked if they intended to look for a vehicle with a selection of new and upcoming technologies. Results were very consistent from the previous waves; albeit that the strength of the level of agreement increased slightly. Interest in Auto-Emergency Braking has increased from 48% in 2014, to 80% in 2018. Interestingly, while older drivers are least keen on the idea of an AV, they are consistently the most interested in the individual technologies.

Conclusion

Before the community will fully embrace AVs, they need to fully develop complete trust in the technology and confidence in the safety and reliability of all aspects of these systems. Fear of the technology failing is still the highest element of concern of Victorian Drivers. Over the last four years, Victorians have gradually increased their willingness to consider an AV as an option. In addition, their willingness to accept and embrace the individual technologies is still quite high. This indicates that, over time, and as they embrace increasingly more of the advanced vehicle technologies, Victorian drivers may be prepared to contemplate an AV.

References

Austroads (2017), Safety Benefits of Cooperative ITS and Automated Driving in Australia and New Zealand, Publication No: AP-R551-17

Kaur, K., & Rampersand, G. (2018). Trust in driverless cars: Investigating key factors influencing adoption of the driverless car. Journal of Engineering and Technology Management, 28, 87–96.