Public Awareness, Understanding and Acceptance of Automated Vehicles: An International Survey of Australian and New Zealand Respondents

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Abstract

This paper reports the findings of a large-scale online survey, undertaken under the auspices of the Australian Driverless Vehicle Initiative (ADVI), to gauge Australian and New zealand public awareness, understanding, and likely acceptance of automated and driverless vehicles. The 90-item survey, developed by the ADVI Survey Working Group, was administered to 5,102 Australian and 1, 049 New Zealand respondents. The items sought community feedback on a number of issues including public concerns with AVs and perceptions towards automated and connected-automated public transport. This paper presents the aims, methods and findings from the survey and the implications of the findings for policy development.

Background

Public acceptance of automated vehicle (AV) technology is critical in order to ensure that drivers utilise the technology and, hence, realise its predicted safety and other benefits. This paper reports the findings of a large-scale (6,152 respondents) online survey, undertaken under the auspices of the Australian Driverless Vehicle Initiative (ADVI), to gauge public awareness, understanding and acceptance of automated and driverless vehicles in Australia and New Zealand.

To date, there have been very few surveys conducted internationally to gauge community opinion about automated vehicles (e.g. Payre, Cestac & Delhomme, 2014; Schoettle and Sivak, 2014) and, to the knowledge of the authors, only three such surveys have been conducted focusing on Australian respondents (Eastlink, 2017; RAC, 2017; Regan, et al., 2017). None, to our knowledge, have been repeated over time to track changes in community opinions. The repeated cross-sectional survey described in this paper was almost identical to the one administered in 2016 by Regan et al (2017; to 5263 repondents) and included a sample of New Zealand respondents. This paper presents the aims, methods and findings from the survey. It contrasts changes in community opinion from this survey and the earlier survey, and between Australian and New Zealand respondents. The implications of the findings for policy development are discussed.

Method

The 90-item survey was developed by the ADVI Survey Working Group, with members from academia, government and industry. Design of the survey is discussed in the conference paper. The items sought community feedback on the following key issues:

- Level of awareness of AV technology
- Sources, and degree, of concern regarding AV-related issues (e.g. cyber security)
- In what driving scenarios and conditions drivers would be most likely to use AVs
- Public perceptions regarding automated and connected-automated vehicles and public transport

The survey was distributed to over 6,152 respondents across Australia and New Zealand through the online survey platform, Qualtrics.

Results

High-level findings included (but were not limited to):

- there was very little change in community opinions over time;
- most Australians and New Zealanders are aware of automated vehicle functions, but very few have experienced them;
- both communities have concerns about many issues relating to fully-automated vehicles (e.g. data privacy); and
- most Australians and New Zealanders are comfortable with automated cars controlling most driving functions. However, many express discomfort with automated cars changing lanes by themselves and following lead vehicles too closely.

Conclusion

This is the second iteration of the ADVI nation-wide survey assessing public opinion and acceptance of AVs in Australia, and the first iteration using New Zealand respondents. It is envisaged that the outputs of this survey will be used by government (e.g. to inform future planning and investment decisions based on awareness levels), industry (e.g. to help tailor their products to the needs of users based on identification of public concerns with automated cars) and academia (e.g. to point to areas for future research).

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