Education and Training Requirements for Drivers of Automated Vehicles in Australia and New Zealand

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Abstract

This paper documents the outcomes of Stage 1 of an Austroads-commissioned research study designed to examine what roles, if any, registration and licensing agencies and other stakeholders in Australia and New Zealand should be undertaking to ensure that licence applicants and licensed drivers are competent in the safe operation of advanced driver assistance systems and emerging automated driving features. The key findings from Stage 1, which involved a review of the literature, web search and consultation with members of the project international Expert Advisory Group, are reported in this paper.

Introduction

New technologies are entering the vehicle market capable of (a) supporting drivers to perform functions performed traditionally by humans (known as Advanced Driver Assistance Systems [ADAS]; SAE, 2018) and (b) automating the performance of some or all of these functions (known as Automated Driving Features [ADF]; SAE, 2018).

With increasing automation, driving tasks performed by drivers will change. Education and training will need to be adapted to facilitate the development of the knowledge, skills and behaviours required to perform these changing tasks (Spulber, 2016).

In 2018, Austroads commissioned UNSW Research Centre for Integrated Transport Innovation (rCITI) to examine what roles registration and licensing (R&L) agencies and other stakeholders in Australia and New Zealand should be undertaking to ensure that drivers are competent in the safe operation of ADAS and ADF. This paper documents the key findings from Stage 1 of the study.

Method

The project involves four stages:

- *Stage 1: Literature review and web search* – to review what ADAS/ADF exist, what skills and knowledge required to operate them, and who is currently providing education, training and assessment in the safe operation of automated vehicles (AV).
- *Stage 2: Stakeholder consultations* – with industry and government in Australia and New Zealand to discuss current strategies to integrate ADAS/ADF in driver education and training
- *Stage 3: Training Needs Analysis* – to systematically determine the knowledge, skills and behaviours required to safely operate ADAS/ADF
- *Stage 4: Assessment of key Issues* – to highlight areas where R&L agency actions may be required to facilitate AV driver education and training.

Findings

The following are some key findings that emerged from Stage 1:

- control of ADAS/ADF vehicles requires a different set of driving skills than that needed now
- consumers knowledge around limitations of ADAS/ADF is poor
- most consumers prefer to receive training through dealerships, at point of sale and delivery
- some dealerships provide consumers with information about ADAS/ADF, but it has been demonstrated to be limited, incomplete and sometimes inaccurate
- whilst descriptions of ADAS/ADF (what they are, how they function and their intended safety benefits) are available on numerous stakeholders' websites, almost no online information relating to the safe and appropriate use of ADAS/ADF was found. This was true for owners/users of *new* and *used* vehicles
- there were few driver testing programs (both locally and internationally) which assessed competency in the use of ADAS/ADF
- Any type of driver knowledge, education and/or training using ADAS/ADF systems prior to driving has been demonstrated to improve driving performance and trust compared to no training at all.

Conclusion

Driver education and training can facilitate the development of new knowledge, skills and behaviours required to drive vehicles equipped with ADAS/ADF. Future stages of the project will determine, whether there is a need for education and training, and if so, what roles R&L agencies and other stakeholders might play in preparing drivers for safe interaction with these vehicle features.

References

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Spulber, A. (2016). Impact of automated vehicle technologies on driver skills. Report for Michigan Department of Transportation. Michigan, USA: Centre for Automotive Research