



Senior Drivers & Automated Vehicles: Knowledge, Attitudes & Practices

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Previous research

- > Advanced safety features and automated vehicle technology offer great potential to improve road safety and the mobility of older drivers.
- > Older drivers have lower levels of trust in automated vehicle technologies.
- > They are least likely to rely on and adopt these technologies to improve their safety on the road (Robertson et al. 2016).



Current research

> Objectives:

- » Knowledge, attitudes & practices of aging Canadian drivers regarding limited self-driving vehicles (LSDV)
- » How knowledge and beliefs about LSDVs affects the likelihood that older drivers will rely on this technology

> Data:

- » National online survey (N=2,662)
- » Focus groups with older drivers (N=38)



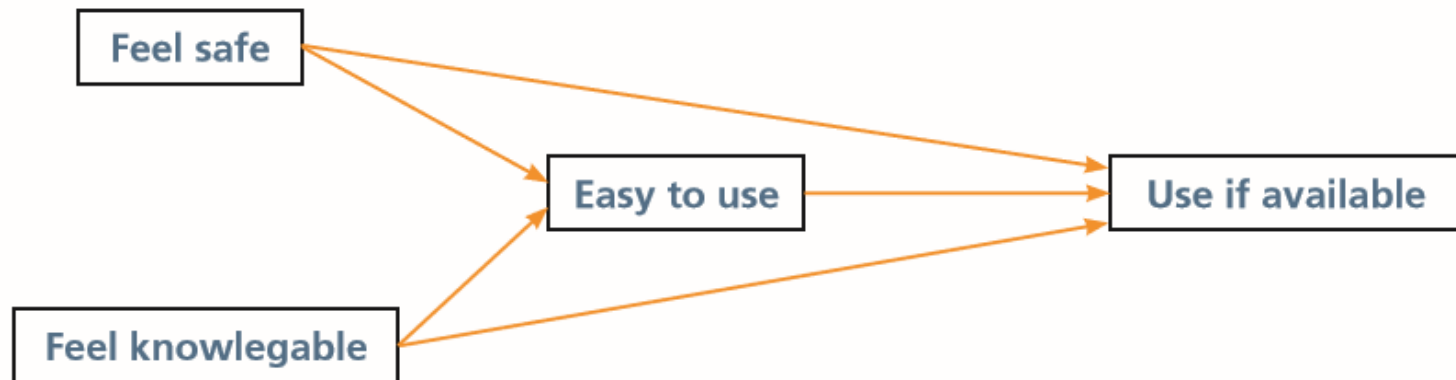
Analyses

- > Quantitative: Structural equation modelling (SEM)
 - » Perceptions of, trust in, and behavioral adaptation to LSDVs and their possible association with the intention to use and adopt this technology.
- > Qualitative: Knowledge, Attitudes and Practices (KAP) theoretical framework & thematic analysis of content.
 - » KAP framework: practices can be modified by adjusting attitudes through knowledge and awareness.
 - » Thematic analysis



Online survey results

- > Feelings of safety and knowledge are positively related to perceived ease of use and adoption of LSDVs.



- > Older drivers are less likely to engage in risky driving behaviours with LSDVs or to become over-reliant on these technologies.



Focus group results

- > Older drivers are interested in learning about LSDVs.
- > Receptive to strategies and tools to help them maximize their safety benefits.
- > Educational strategies that specifically address knowledge gaps, safety concerns, and perceptions that technology would be difficult to use.
- > Hands-on, practical, more intensive education would meet their needs.

Seniors as Safe Early Adopters of Self-Driving Vehicle Technology*

Older drivers have one of the lowest crash risks of all ages. While they see Limited Self-Driving Vehicles (LSDVs) as a challenge to learn to use, they are also most receptive to education.

Demographics

2018: 1/7 Canadians is 65+ 2038: 1/4 of Canadians will be 65+

Knowledge

Approximately one-half are aware that LSDV testing/development is underway

BUY NOW One-quarter (25%) believe LSDV technology is already available

Educational opportunities for senior drivers

Motivation to learn

- Improved driver safety
- Increased driver confidence
- Greater mobility/independence

Topics of Interest

- Learn to use new features
- Avoid distraction and other risks
- Prevent over-reliance on technology

• Performance and ease-of-use

• Reduced traffic congestion

• Public/commercial transport

• Prepare for possible technology failure

• Functionality of technology in Canadian weather

• Practice in a safe environment before road-testing

Senior drivers agree that while LSDV technology will be more difficult to use, they are more willing to learn than younger drivers. This openness to education, combined with their extensive driving experience, means that seniors are poised to become the safest early adopters of LSDV technology.

Learn more about LSDVs and driver safety at brainonboard.ca

Sponsored by the Toyota Canada Foundation

*Source: Study with Canadian senior drivers about their learning, attitudes, and practices regarding limited self-driving vehicles (LSDVs) conducted by the Traffic Injury Research Foundation in 2018.





Conclusion

- > Drivers 65+ are one of safest cohorts and less likely to engage in risky driving behaviours with LSDVs.
- > Very receptive to tailored education/tools that address their concerns and needs.
- > Well-suited to become safest early adopters of LSDVs.
- > Use of LSDVs by older drivers can:
 - provide insight into optimal strategies and conditions to safely integrate AVs into vehicle fleet.
 - help set standards regarding level of education and skills for all drivers using LSDVs.



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