

The experiences of older drivers can help design cleaner and safer cars

November 10 2023, by Brenda Vrkljan



Credit: Pixabay/CC0 Public Domain

The current pace of technological change in automobile technology rivals the period about a century ago when cars were moving from the exotic fringes of transportation into the lives of [ordinary people](#).

The automobile has [reshaped the world](#), giving rise to new freedoms and greater access to distant places, creating jobs and wealth and changing the physical landscape with roads, service stations, dealerships and suburbs.

Cars have brought incredible convenience, but their proliferation has also resulted in traffic jams, oppressive freeways, pollution and high-speed [crashes](#). And, cars have played a [big part](#) in accelerating [climate change](#).

Car transformations

Automobile design is undergoing massive shifts. Cars are moving away from gasoline-powered [internal combustion engines](#) and toward [electric vehicles](#) that generate far less pollution and noise. Cars are getting safer, too, with sensors and cameras that can help drivers avoid collisions.

Self-driving cars don't seem too far off either, but until then, automobile design should consider the changing needs of drivers.

For all drivers, but especially those who are older and more experienced, cars that can do more without involving the driver present both an opportunity and a threat. This presents an opportunity to support safe, independent driving for longer, in keeping with [extended lifespans](#), and address the social and practical needs of seniors to move around.

The threat is that a more autonomous car may lull drivers into feeling safer and make it harder to understand when drivers with health-related changes should no longer remain on the road. In fact, with added technology, [driving can require more advanced skills](#).

Safer for older drivers

In my research, I work closely with older drivers, branches of government and automakers to ensure cars are as safe as can be.

I discussed these issues when I was invited to address [Canada's Standing Senate Committee on Transport and Communications](#) in 2017. My colleagues and I continue to do research in partnership with older drivers and others, including [Transport Canada](#) and the [Canadian Automobile Association](#).

An important goal of my research and teaching is to help everyone—including seniors—understand that aging drivers are a growing yet varied group with a wide range of physical and cognitive abilities—and that, statistically speaking, [seniors are involved in fewer crashes than their middle-aged counterparts](#). In other words, age alone does not determine who is safe or unsafe to be behind the wheel.

Declining health

We need to plan as humanely and responsibly as we can for the fact that, especially in the upper range of this demographic group, health-related declines and medical changes can happen [quickly](#) and are not always readily [apparent](#).

For example, working with an advisory group of people with lived experience with dementia, my colleagues and I developed the [driving and dementia roadmap](#). This is a free online resource to help health professionals, caregivers and individuals living with this disease be safer on the road.

As cars change, it is critical that manufacturers, engineers and regulators consider how drivers, particularly those in their later years, will respond to and engage with emerging technologies. It is also important to ensure new technology is created with older drivers in mind as much as anyone

else, in keeping with the principles of [universal design](#).

That includes making sure that getting in and out of a car, orienting oneself on the road and controlling all the systems of a vehicle are friendly to all drivers.

Informed and transformed design

My research team is embarking on a project in conjunction with our engineering colleagues and students at the [McMaster Automotive Resource Center](#), where we are inviting older drivers to volunteer and share their driving-related experiences. The aim is to inform the design of a 2023 Cadillac LYRIQ, an electric SUV, as part of the North American [EcoCar EV Challenge](#).

The mandate of this contest is not just to make vehicles that are as efficient and as easy on the environment as possible, but also to optimize their safety and accessibility for [drivers](#) of different ages and abilities.

A modern car with fully loaded safety features and powered without gas will only be a great success if it's designed for those who will use it. By involving [older drivers](#)—the most experienced on today's roadways—in their research and development, the cars of tomorrow can be made clean, safe and accessible for all.

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: The experiences of older drivers can help design cleaner and safer cars (2023, November 10) retrieved 27 April 2024 from <https://techxplore.com/news/2023-11-older-drivers->

cleaner-safer-cars.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.