

Driverless cars could lead to more traffic congestion

Date: October 23, 2019

Source: University of Adelaide

Summary: New research has predicted that driverless cars could worsen traffic congestion in the coming decades, partly because of drivers' attitudes to the emerging technology and a lack of willingness to share their rides.

FULL STORY

New research from the University of Adelaide has predicted that driverless cars could worsen traffic congestion in the coming decades, partly because of drivers' attitudes to the emerging technology and a lack of willingness to share their rides.

Using the City of Adelaide in Australia as a test model, researchers surveyed more than 500 commuters, including a mix of those who travel to work by car and public transport, and modelled the potential impacts. The results are now published in the journal *Urban Policy and Research*.

"Autonomous or driverless vehicles are likely to have profound effects on cities. Being able to understand their impact will help to shape how our communities respond to the challenges and opportunities ahead," says study co-author Dr Raul Barreto, from the University of Adelaide's School of Economics.

This multidisciplinary research -- conducted by the University's School of Architecture and Built Environment, School of Economics, and the Australian Institute for Machine Learning, in collaboration with researchers from the City of Adelaide -- investigated commuters' views on autonomous vehicle ownership and use, vehicle sharing, and their attachment to conventional vehicles.

The research team then explored potential vehicle flow, with a mix of autonomous and conventional vehicles, and land use change in the Adelaide CBD under different scenarios.

"Our findings show that Adelaide has the potential to significantly reduce the number of vehicles on the roads and improve traffic flows, however these benefits may not be achieved in the near to medium term for many reasons," Dr Barreto says.

"The key factors affecting the transition to autonomous vehicles are commuter attitudes to car ownership and wanting to drive themselves, rather than have technology do it for them, as well as the price of new technology, and consumer attitudes to car sharing.

"Our evidence suggests that as riders switch to autonomous vehicles, there will be an adverse impact on public transport. With most commuters not interested in ride sharing, this could increase peak period vehicle flows, which is likely to increase traffic congestion over the next 30 years or so.

"Under both scenarios we tested, the number of vehicles overall will eventually drop. However, total vehicle trips may increase, and some of the predicted benefits of autonomous vehicles may not eventuate until a lengthy transition period is complete.

"Our findings have policy implications for how the transition to autonomous vehicles is managed, not just within the City of Adelaide but for other cities around the world," Dr Barreto says.

Story Source:

Materials provided by **University of Adelaide**. *Note: Content may be edited for style and length.*

Journal Reference:

1. Jon Kellett, Raul Barreto, Anton Van Den Hengel, Nik Vogiatzis. **How Might Autonomous Vehicles Impact the City? The Case of Commuting to Central Adelaide.** *Urban Policy and Research*, 2019; 1 DOI: 10.1080/08111146.2019.1674646
-

Cite This Page:

MLA	APA	Chicago
-----	-----	---------

University of Adelaide. "Driverless cars could lead to more traffic congestion." ScienceDaily. ScienceDaily, 23 October 2019. <www.sciencedaily.com/releases/2019/10/191023104558.htm>.

RELATED STORIES

Driverless Cars Working Together Can Speed Up Traffic by 35 Percent

May 19, 2019 — A fleet of driverless cars working together to keep traffic moving smoothly can improve overall traffic flow by at least 35 percent, researchers have ... **read more** »

New Driverless Car Technology Could Make Traffic Lights and Speeding Tickets Obsolete

Oct. 26, 2018 — New driverless car technologies could lead to a world without traffic lights and speeding tickets. Researchers also hope the innovations will bring about the development of driverless cars that use ... **read more** »

A Few Self-Driving Cars Can Dramatically Improve Traffic Flow, Experiments Show

May 10, 2017 — The presence of just a few autonomous vehicles can eliminate the stop-and-go driving of the human drivers in traffic, along with the accident risk and fuel inefficiency it causes, according to new ... **read more** »

In-Car Cow Avoidance

Apr. 7, 2017 — Driverless cars are hitting the headlines across the globe but for the foreseeable future we will still have drivers. The pressure then is how might some of the safety features of driverless cars be ... **read more** »