

# Driverless cars could lead to more traffic congestion

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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.

**More information:** Jon Kellett et al, How Might Autonomous Vehicles Impact the City? The Case of Commuting to Central Adelaide, *Urban Policy and Research* (2019). [DOI: 10.1080/08111146.2019.1674646](#)

Provided by University of Adelaide

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