



Inspire and influence the evolution of Integrated Urban Mobility.

Speaking Notes: Autonomous Vehicles

Speech delivered at the Senate of Canada during Transit Awareness Days
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by Patrick Leclerc, President and CEO of CUTA

Chair, honorable Senators,

First, I would like to thank the Standing Senate Committee on Transport and Communications for this opportunity to address technical and regulatory issues related to the emergence of connected and automated vehicles. I am Patrick Leclerc, President and Chief Executive Officer of CUTA, the Canadian Urban Transit Association.

Your study is of vital importance, with the Canadian government launching an investment plan in urban transport infrastructure on a scale never seen before. Indeed, the government has announced direct investments of nearly 30 billion dollars in the public transportation sector over the next decade.

These investments will completely transform our communities for generations to come. The end goal, as we like to say, is not to build public transit; it is to build sustainable communities. To that end, public transit is the cornerstone around which active transportation and shared-mobility form a vast network of efficient and sustainable mobility options.

The Canadian Urban Transit Association has been exploring the impact of autonomous vehicles for several years already. If deployed right, AVs will greatly contribute to improving mobility across the country. However, they can also have very negative effects if we simply approach them as the silver bullet that can fix all urban mobility challenges.

But let's start with the positive side. We believe that the advent of autonomous vehicles is a great opportunity to improve and complement the transit service offerings, most notably where mass transit is not optimal, in low density or low demand areas. In those cases, small autonomous vehicles would transport residents, on demand or on a fixed schedule, to a common main transit hub, fast and efficient. Such an approach will make the system more efficient and optimize the use of resources. This technology will also be easy to implement to service places like a university campus, a general hospital or a retirement home.

Now, here's what's missing from the AV debate so far: remember I said that the end goal is not to build transit, it is to build sustainable communities. The same goes here: the goal is not to deploy AVs, it is to use AVs in a way that will improve our transportation networks and lead to sustainable community building. If we deploy AVs in conjunction with mass and community transit, then we optimize the potential of the technology. However, if we focus the development and deployment of AVs mainly for private use or to serve the purpose of moving one to two people at a time, like taxis, then we will definitely miss the sustainability objective.

Turning all personal vehicles into autonomous vehicles will not address one of the major issues we're facing in cities, namely scarce urban space. An autonomous car with one person onboard doesn't take less urban space than a traditional vehicle with a driver. The issue of traffic congestion, road capacity and bottlenecks will remain the same. While some say that autonomous cars will reduce traffic congestion by increasing the efficiency of traffic flow, several studies indicate that AVs will actually increase overall day-long traffic – for instance, if they return home to spare parking requirements or if they go and pick up other passengers. This would create a new type of traffic called zero-occupancy vehicles. In such cases, vehicle-kilometres travel and two-way traffic would actually increase.

Which brings us to the sustainability element. Currently, most discussions and analyses around environmental sustainability is focused on GHG emissions and climate change. However, to assess the overall environmental impact of electric autonomous vehicles, we need to perform a complete environmental life-cycle assessment.



Autonomous cars basically are computers on wheels. They don't have much in common with the traditional cars as we've known them. Now, think of the life expectancy of your smart phone and imagine what it may mean for an autonomous vehicle. In a report published by Goldman Sachs earlier this year, entitled Rethinking Mobility, the authors mentioned that a private autonomous car would cost about \$50k. However, the life expectancy of the vehicle, still according to the report, would only be three years with zero residual value after the three years. When we know the amount of non-renewable minerals required in the production of a computer, it is hard to see how private autonomous cars could increase the environmental sustainability of the auto sector.

That is why the federal government should show leadership and capitalize on its many programs to support demonstration projects of autonomous transit vehicles. Finally, the government should work with the provinces to make sure that regulations governing the use of autonomous vehicles is harmonized across the country and take into account the realities of the transit systems.

