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TRENDS IN MOBILITY AND TECHNOLOGY

By George Liu

When it comes to the future of the car, there is no easy consensus except to acknowledge that technological advances are increasing transportation options. Meanwhile, fundamental questions about city building remain as policymakers consider the impact of technology on future mobility trends.

To address the challenge of transportation in the GTA, transportation minister **Steven Del Duca** urged participants at the September 17 Transportation Futures conference to consider the ingrained behavioural instincts of the people that travel in the GTA.

“In a province that is currently home to more than 12-million registered vehicles, 7-million of which are cars… It is simply not good enough to pretend cars, and those that own and drive them, are the enemy… To me, the really exciting news is that solving our gridlock challenge, and as a result unlocking our regional economic potential, while at the same time improving our quality of life, does not require that public policy makers wage a war on the car.”

In fact, large automakers such as Nissan and Ford have promised autonomous vehicles as early as 2020. Transportation planners and operations leaders, such as City of Toronto transportation services general manager **Stephen Buckley**, are preparing for their arrival. Working with researchers at the University of Toronto to forecast future traffic scenarios with autonomous vehicles, Buckley hopes the city will have a plan to anticipate their arrival.

But University of California at Berkeley research engineer Dr. **Steven Shladover** presents a contrasting, much less optimistic timeline for autonomous vehicle technology. He says fully driverless vehicles are at least five decades away and there are still challenges to overcome to make them safe.

“Everybody likes to talk about the 95 per cent of the crashes due to human error] that will go away, but nobody likes to talk about the new crashes that will be caused by the automation system.”

Shladover cautions that there will always be an infinite set of novel circumstances that programmers and software developers cannot predict, so fully autonomous vehicle functions in the near future will likely be restricted to operating on limited-access expressways and in very low-speed environments.

Metrolinx regional planning director **Antoine Belaieff** told *NRU* that collaboration will be critical in a future driven by technological advancement.

“The lesson from the Pan Am games in Toronto is that traffic is everybody’s business. In future, rapid technological progress [will] necessitate strengthened collaboration [among] the government, the public and the private sector.”

Today, car sharing and ride sharing rely on existing technological infrastructure, such as smartphones and the internet to enable drivers and passengers to effectively coordinate transportation services. A heated discussion ensued among **AutoShare** founder **Kevin McLaughlin**, **Uber Canada** general manager **Ian Black**, **RideCo** founder **Prem Gururajan**, and **Beck Taxi** operations manager **Kristine Hubbard** concerning their views on new trends in the sharing economy.

According to Black, Uber offers more reliable services than traditional for-hire transportation services by coordinating the supply of drivers with passenger demand.

“In the City of Toronto, there are 5,000 taxi cabs. Having a fixed supply [doesn’t make sense] when we know demand goes up and down. We know that at 2 a.m. on Saturday night, there is a huge rush of people to get home safely.”

Hubbard disagrees. Making a distinction between technology and service, she argues that when it comes to service, there is no fundamental difference between traditional taxis and ridesharing services.

“If we are all being honest with each other… a person, in a car, driving you from one place to another, driving you to somewhere else, ready to pick up another person, is a taxi. … We want to ensure that [the ride] is safe.”

Gururajan is an entrepreneur who sees opportunity in providing a service that rivals the price of public transportation while delivering the door-to-door convenience of a taxi. There is a very large pricing and service gap between the personal automobile and public transportation, especially in the suburbs, and currently there are no flexible transit options.

RideCo is trying to fill that gap in Milton by offering door-to-door bus services through a partnership with GO Transit. “RideCo, through personalized transit, is the middle option [between travelling in a personal automobile and on public transit],” says Gururajan.

In spite of all the technological advances, Michigan University urban design lecturer **Kit Krankel McCullough** warns that fundamental questions about city building will remain. The purpose of transportation is to bring people together. While future shared-mobility technologies will offer people multiple travel options, it is cities that must provide attractive destinations worth living and working in, as well as visiting.

“We have to be deliberate about what kind of city we want, and what future we want. Do we want the city to fi t our transportation system or for our transportation system to fit the city?”