ENGAGING AUTOPILOTS

Olivia Da Silva

As the auto industry continues to advance autonomous vehicles, some experts are wondering about their operational impact on traffic congestion.

Last week, University of Toronto's **Transport Research Institute** hosted a panel of experts exploring how automation will affect tomorrow's traffic management decisions.

City of Toronto ITS capital delivery manager and panelist **Gregg Loane** spoke to *NRU* about some of the problems currently affecting traffic management in Toronto.

"It is volume, and it is the ... intensity of development within the City of Toronto. We have essentially the same road system that we've had for the last 20 years, and it's also true of our rapid transit system," Loane said. "Yet there has been a significant amount of development ... over that same time period, so it's the growing pressure of development within the city. We're somewhat a victim of our own success."

Keynote speaker Dr. **Markos Papageorgiou**, who is internationally known for his research on traffic management, told participants that autonomous vehicles could in fact contribute to further congestion problems. For example, the adaptive cruise control function, which adjusts the amount of space between vehicles, while convenient, can exasperate congestion depending on the distance each vehicle is set to maintain.

"If the gaps are bigger, you're not using the road space efficiently, because if you could be fitting more cars into the same amount of space then ... isn't it a dumb system?"

Canadian Automobile Association government and community relations director and panelist **Teresa Di Felice** told *NRU*. "Just because you have technology doesn't mean you're getting the most benefit."

While automation could help ease traffic management issues in the future, Papageorgiou explained that autonomous vehicles and road systems should not be expected to replace human efforts to control congestion.

"There is a school of thought out there that, what's called VACS [vehicle automation and communications systems] could actually mean we don't need to pay for traffic management or we don't need to have a whole body of work just around traffic management," Di Felice said. "Even if you get to that point where you have a lot of this communication where the cars can talk to other cars and different sensors on the road can talk to the cars, there's still various inputs into that, and all of that technology doesn't necessarily mean the ultimate intelligence, because it may be missing a few factors."

Currently, an entirely automated road system is not an option, as the technology hasn't been fully developed and the costs are too high. However, Di Felice said that once the transition to automated roadways begins, motorists will need a clear understanding of the new paradigm.

"We're going to have this communication all around us that's supposed to make mobility a whole new world, and yet, again, users are relatively outside of this conversation unless they're just reading about the latest autonomous vehicle crash somewhere," Di Felice said. "We need to find an easier way to explain it ... we do have to make it understandable."

U of T professor and **Toronto Intelligent Transportation Systems Centre** director **Baher Abdulhai** moderated the panel and **Ministry of Transportation** intelligent transportation systems head **Stephen Erwin** also participated on the panel.