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Transformative and automated technologies affecting transportation systems the focus of UTTRI's new centre

Faculty of Applied Science and Engineering Dean Cristina Amon has approved three years of funding from the Dean's Strategic Fund for the new **iCity Centre for Automated and Transformative Transportation Systems (iCity-CATTS)**. The centre is the first at UofT mandated to study how 'smart' transportation technologies, such as automated vehicles and e-sharing, will affect people's transportation choices, how businesses provide transportation as a service, and how cities should plan for those changes to achieve the best results for society.

iCity-CATTS will assemble a multidisciplinary team to create analysis tools, methods, models and decision support systems to quantify the impacts of transformative transportation technologies on transportation demand, system performance, health, the environment and society at large.

Timely and significant

iCity-CATTS opens its doors at a crucial point in the development of smart transportation technologies.

Professor Baher Abdulhai, Director of UofT's Intelligent Transportation Systems Centre and Testbed, notes that "all three levels of government are interested in securing positive outcomes to technological change. Manufacturers and service providers are eager to exploit the business opportunities brought about by new technology. Travellers are excited about how technology will ease their day."

"And," he adds, "much of the current research interest focuses on the technology. iCity-CATTS will address the mobility, social, economic, and environmental implications of rapidly emerging transportation options, including automated vehicle (AV) technologies, e-sharing (ride hailing, car sharing, ride sharing), electrification, robotics, and the new paradigms of multimodality. We want our research to show how the new technology will affect individual behaviours and impact city-wide systems and our quality of life."

Evidence-based decision-making will maximize positive outcomes

If smart transportation technologies alter people's attitudes toward travel, will they also change their travel patterns? Will the results be positive or negative for society?

On one hand, the new technologies make possible a transportation system that is automated, multimodal, green and shared, representing a brighter future for our transportation systems and our cities.



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On the other hand, the convenience of technologies and the diversity of stakeholder interests may promote unsustainable land use, travel patterns and increases in congestion, resulting in negative social and environmental impacts.

Smart transportation, on its own, may bring about positive transformation; but unplanned, it could also bring about negative outcomes.

iCity-CATTS creates an opportunity for researchers, policy makers, planners and the transportation industry to work together to provide analysis and decision tools, frameworks and platforms with which to prepare for the adoption of new technologies to ensure positive outcomes.

The knowledge and tools will guide the design, adoption and governance of transportation technologies in the new era of automation, electrification, multimodality and e-sharing, particularly in large metropolitan areas where congestion, system-wide performance and environmental sustainability are primary concerns.

About UTTRI

The [University of Toronto Transportation Research Institute \(UTTRI\)](#) brings the considerable depth and breadth of UofT research to bear on real-world urban transportation problems. It fills a critical gap between traditional academic research, professional consulting and public sector transportation planning and operations. Building upon research expertise and working relationships with both the public and private sectors, UTTRI offers innovative ways to improve urban transportation system performance and design efficient, sustainable cities for the well-being of individuals and society.

UTTRI was established by Professor Cristina Amon, Dean of the University of Toronto's Faculty of Applied Science and Engineering in June 2013 with support from the Dean's Strategic Fund. It is led by Director Eric J. Miller, Professor in the Department of Civil Engineering.

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