

OTC

Autonomous Vehicles and Connected Cities

Symposium



8-9 March 2021

Register online at:
www.otc.org/events





Although autonomous vehicles and connected cities may seem to be years away, this symposium will showcase how innovation and technology are driving change today.

The way multimodal transportation is planned, designed, and engineered will change rapidly. Don't be left behind.

VIRTUAL SYMPOSIUM PROGRAM

SYMPORIUM MC	 Jillian Britto, P.Eng. Transportation Engineer WSP
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Monday, March 8, 2021

8:45–8:50 AM	Welcome/Opening Remarks
	 Autonomous Mobility: 5 Back/ 5 Ahead/ Ontario's Wedge Ross McKenzie Managing Director, WatCAR University of Waterloo Centre for Automotive Research
8:50–9:30 AM	<i>Technology is rapidly accelerating the evolution of autonomy in the mobility sector around the globe. This presentation provides an introductory overview of autonomous vehicles, driverless shuttles and contactless delivery. A review of advancements and setbacks in the last 5 years sets the stage for a preview of 5-year road ahead, citing examples of industry collaboration and competition along the way. The presentation closes with a rapid-fire summary of autonomous vehicle activity across the province. Activities highlighted include testing, research, production and development from Windsor through Ottawa to Kapuskasing.</i>



9:30–10:10 AM	<p>MTO Insights on Intelligent Transportation Systems</p> <p>Susan Boot MTO</p>
10:10–10:30 AM	Break (20 mins)
10:30–11:10 AM	<p> The Path to Autonomy: A Proven Methodology</p> <p>Marie-France Laurin, MBA, TDM-CP <i>Director of Business Development, Generation AV</i> <i>Stantec</i></p> <p><i>Implementing a new technology comes with inherent risk. Many times, there isn't a clear path to managing that risk in an efficient manner. The Stantec GenerationAV™ will present its Playbook, a process and toolbox designed to accelerate the journey to safe AV deployment, no matter how ready you are, the use case or vehicle platform.</i></p>
11:10 AM –11:50 PM	<p> Integrating AVs into TMPs and ATMPs</p> <p>Jason Neudorf <i>Project Manager-Transportation Planning & Advisory</i> <i>WSP</i></p> <p><i>Automated vehicles and related technologies present a significant challenge for transportation and active transportation master planning process. On the one hand there is potential for this technology to transform mobility in the coming decades, while on the other hand, the timeline and implications of these technologies remain highly uncertain. This presentation will identify strategies and actions that municipalities can integrate into their master planning processes to help achieve sustainable mobility goals and become more future-ready.</i></p>

**Tuesday, March 9, 2021****Autonomous Supply Chain: Shaping the Future of Goods Movement**

Saiedeh Razavi, PhD

*Chair in Heavy Construction**Associate Professor, Department of Civil Engineering**Director, McMaster Institute for Transportation and Logistics*

8:30–9:00 AM

With recent disruptions of COVID-19 Pandemic, the shift from supply chain cost-efficiency and globalization has moved to resiliency and creating capabilities to improve visibility and agility. This new vision has accelerated changes in technology, consumer behaviour and policy for more digitization, automation, and intelligence to respond to the continuous uncertainty in supply and demand. The future of goods movement will have low-degree of human intervention to transport goods and to generate the intelligence required for efficient, resilience and agile supply chains. Autonomous vehicles, robots, AI, and machine learning are the key enabler of autonomous supply chains of the future.

**Smart Mobility and the Future of Transportation Engineering, Technician and Planning Careers**

Dua Abdelqader, MSc

*Research and Insight Specialist, Automotive and Mobility Innovation**Ontario Centre of Innovation*

9:00–9:45 AM

The mobility industry is experiencing a significant transformation with the rise of smart vehicles and innovative solutions. This is transforming the way we plan and develop mobility systems, infrastructure, services, and associated regulations and guidelines. As a result, this shift is influencing the future of work, reshaping many jobs, and facilitating the emergence of new roles which require new and more advanced skillsets.

This presentation focuses on highlighting how the emerging mobility technologies, especially autonomous vehicles can influence and reshape occupations and in-demand skills in the sector, particularly for transportation engineering, technician and planning careers.



9:45–10:15 AM	 <p>Improving Autonomy and Vehicle Safety with Advanced Near Field Sensing</p> <p>Paul Drysch CEO <i>PreAct Technologies Inc</i></p> <p>No matter how much advanced technology we put in our vehicles, car crashes are inevitable.</p> <p>But injuries and deaths from those crashes are not.</p> <p>At PreAct, we've built technology that can prevent over 85% of injuries and fatalities from car crashes by detecting these crashes before they happen and taking action during those precious milliseconds.</p> <p>Our sensors and software make it possible to angle car seats away from the impact of a crash, deploy airbags earlier, and even raise the suspension just before the moment of impact, all of which can save hundreds of thousands of lives.</p> <p>This type of technology has been considered the holy grail of car safety for decades, and at PreAct we have finally developed it by leveraging \$100M of DARPA-funded military technology and adapting it for the 60 million cars sold every year.</p> <p>And we can do all of this without adding a dollar to the price of the car because we create cost savings for the OEMs in other areas.</p> <p>This same sensing technology can also be used to enhance existing ADAS and Self-Driving use cases as well as enable a number of use cases that have stumped the industry for decades.</p>
10:15–10:30 AM	Break (15 mins)

**PANEL SESSION: AV Shuttles**Panel Moderator:**Jillian Britto, P.Eng.**
Transportation Engineer
*WSP*Panelists:**Omar Choudhry**
Project Lead, Transportation System Management
City of Ottawa

10:30–11:30 AM

Ottawa's AV Shuttle Deployment Evolution

Since late 2018, the City of Ottawa in partnership with Invest Ottawa's Area X.O have been active in the planning and testing of automated shuttles. Using a measured and systematic approach, this work recently yielded the first on-road automated shuttle demonstration project in Ontario. This presentation will highlight the AV shuttle work in Ottawa.

**Josh De Boer**
Project Engineer, Traffic Engineering & Operations
*Regional Municipality of Durham***CAV Shuttle Pilot Project – Integration into Existing Operations**

The Region of Durham is the largest geographical jurisdiction in the GTA and is expected to nearly double in population by 2031. Substantial changes to the Region's transportation sector are anticipated as well. To prepare for this transition, the Region, the Town of Whitby and SmartCone Technologies have initiated a CAV shuttle pilot project. Slated to begin operations in the spring of 2021, the shuttle will be the first in Canada that is fully integrated into an existing transit service. The presentation seeks to illustrate the opportunities and challenges with bringing this innovative technology into existing operations.

**PANEL SESSION: AV Shuttles (cont.)**Panelists:**Amir Khajepour, PhD, P.Eng.**

Professor and Canada Research Chair in "Mechatronic Vehicle Systems"

Senior NSERC/General Motors Industrial Research Chair in "Holistic Vehicle Control"

*Department of Mechanical and Mechatronics Engineering
University of Waterloo*

Enabling Autonomous Shuttle Bus for Public Transportation

Autonomous shuttle buses greatly benefit public transportation. In this presentation, we are pleased to introduce WATonoBus - Waterloo All Weather Autonomous Shuttle bus, operating on the University of Waterloo's Ring Road, a 2.7km curvy road with many intersections that represents an urban driving environment with pedestrians, cyclists, and vehicles. WATonoBus is a project with the objective to make automated shuttle buses safe, reliable, and affordable for public transportation in any weather condition.

**Why the Middle Mile Matters**

Richard Steiner

*Head of Policy and Communications
Gatik*

11:30 AM
–12:00 PM

Gatik was founded in 2017 by veterans of the autonomous technology industry and has established offices in Palo Alto and Toronto. The company's mission is to deliver goods safely and efficiently using autonomous vehicles. With its fleet of light to medium duty trucks, Gatik is leading the way in autonomous middle mile delivery. The company focuses on short-haul, B2B logistics for Fortune 500 retailers such as Walmart and Loblaw. Gatik enables its customers to optimize their hub-and-spoke supply chain operations, enhance inventory pooling across multiple locations, reduce labour costs and meet an unprecedented demand for contactless delivery.

12:00 PM

Symposium Wrap-up