

**iCity-CATTS
University of Toronto
IBI Group
June 28, 2018**



Defining the Cities of Tomorrow

IBI Group is a global team of industry leading architects, engineers, planners, designers, and technology professionals united by a common desire: to create livable, sustainable, technologically advanced urban environments.

- Founded in 1974
- Local – Toronto HQ
- Global – 63 offices in 11 countries
- 2,700 Employees



We are a Technology Driven Design Firm

This means we use technology to understand urban issues, improve efficiencies and better understand user needs.

While technology driven, we are human-focused.

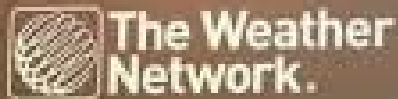
Regarding our transportation practice, we use technology to find innovative ways of:

- Improving public consultation, using in-house applications, such as interactive mapping and surveys
- Use technology to help visualize design
- Help our clients understand the value of new technologies to improve operating efficiencies and enhance the user experience

Smart City Sandbox

Smart City Sandbox

FOUNDING PARTNERS



Ontario Centres of
Excellence
Where Best Happens



TECHNOLOGY PROVIDERS



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CAV Related Work

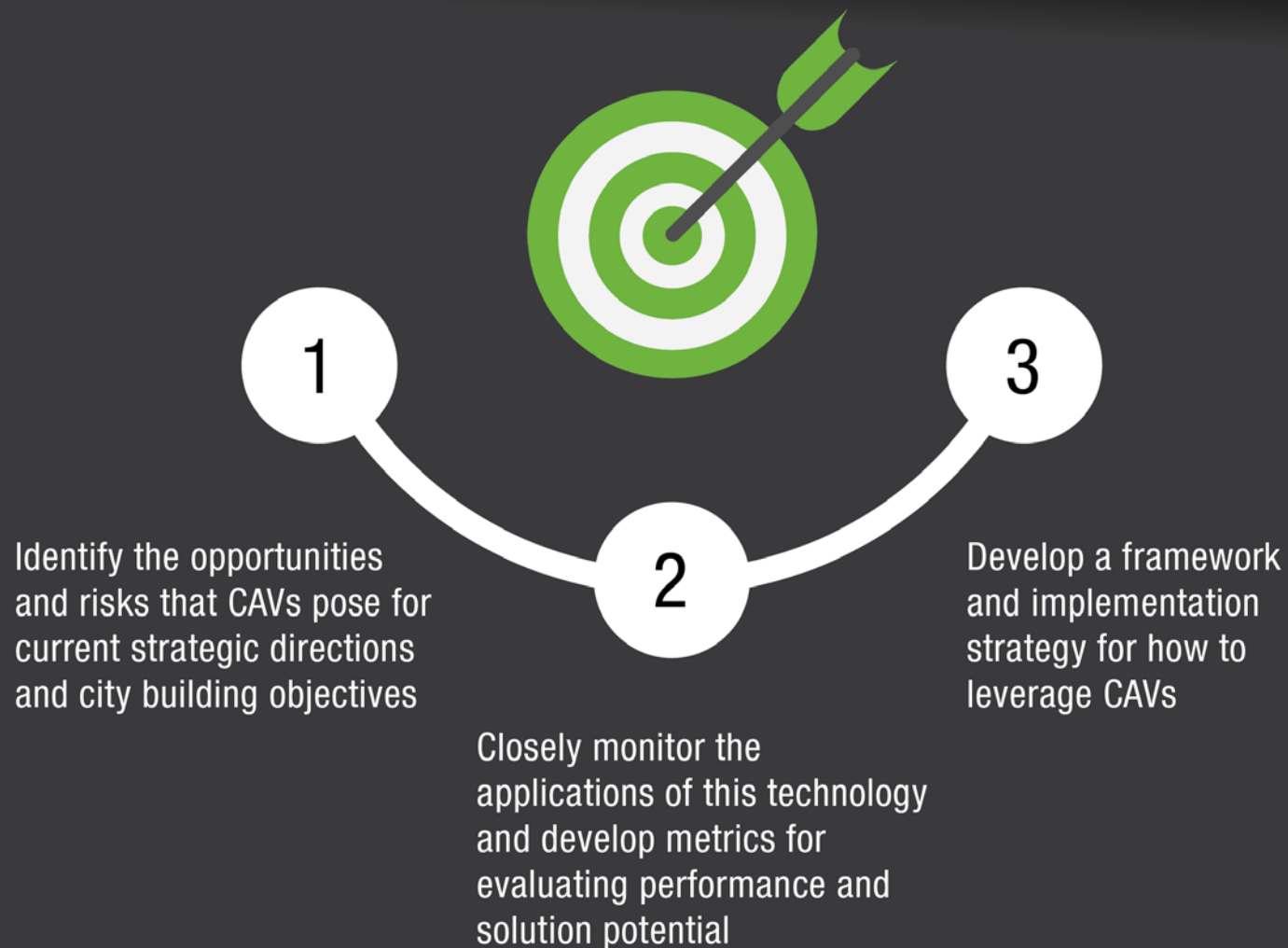
We recognized that Connected and Autonomous Vehicles (CAVs) represent a shift in the current transportation paradigm. This will impact all of our clients, at the buildings, neighbourhood, and regional levels.

Our approach is based on human-focused design:

- Define the best-case use of this technology from the perspective of human-focused design
- Understanding the opportunities and risks to achieving this
- Identifying strategies now, that can help cities leverage this technology in anticipation of its wide-scale adoption



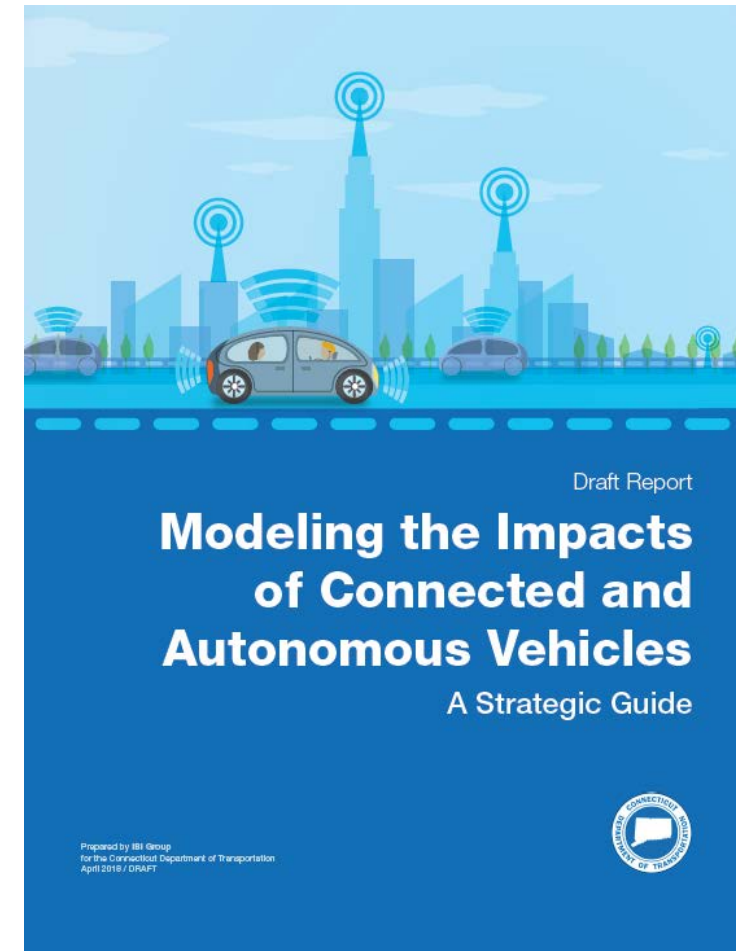
CAV Related Work



CAV Related Consulting Work

Modeling the Impacts of Connected and Autonomous Vehicles

- Connecticut DOT
- A strategic plan for representing CAVs in forecasting models
- Modeling Goals:
 - Prepare for a range of impacts
 - Inform long-term infrastructure planning
 - Test policies
 - Build on growing CAV technical expertise



CAV Related Consulting Work

Innovative Transportation Technologies in Rural Areas

- Transport Canada Study
- Engaged private sector industry to determine barriers to adoption of emerging transportation services and technologies in rural Canada
- Included interviews with CAV researchers and TNCs

Transportation Master Plans

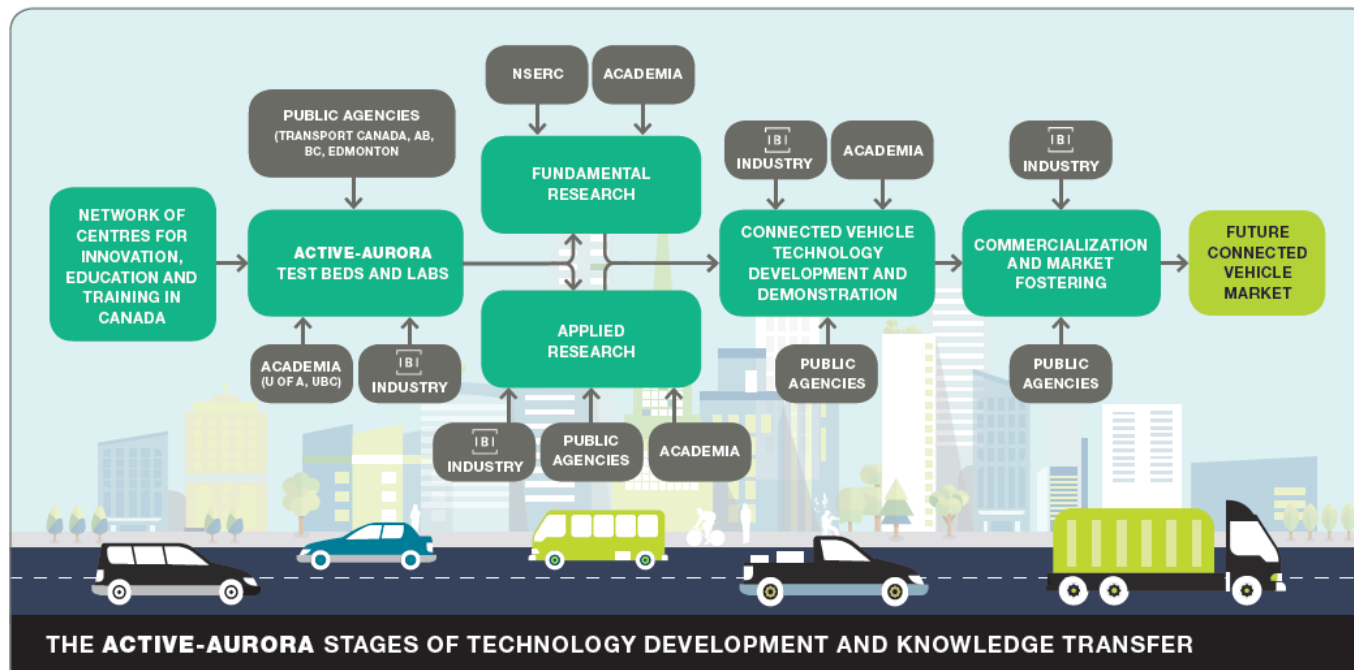
CAVs and New Mobility solutions are now integrated into our strategies at the Master Plan level:

- Waterloo Region
- City of Cambridge
- Niagara Region

Ongoing CAV Related Engagements

ACTIVE AURORA Test Bed

- A test bed for testing real-world application of connected vehicle technologies in Edmonton.
- IBI Group is an industry partner, involved in knowledge sharing, applied research, and development.



Ongoing CAV Related Engagements

Social Car

- Ridesharing research and innovation project in the UK
- IBI Group is an industry partner
- The project seeks to assimilate carpooling into existing mobility systems by means of powerful planning algorithms and integration of big data

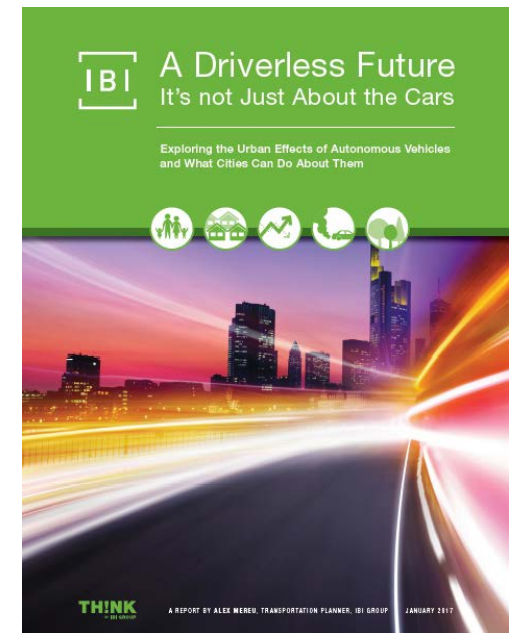


IBI THINK is IBI's bottom-up R&D unit.

The intent of IBI THINK is to allow all IBI staff to explore big ideas and uncover new opportunities that will help us define the cities of tomorrow.

Some past and on-going CAV related projects include:

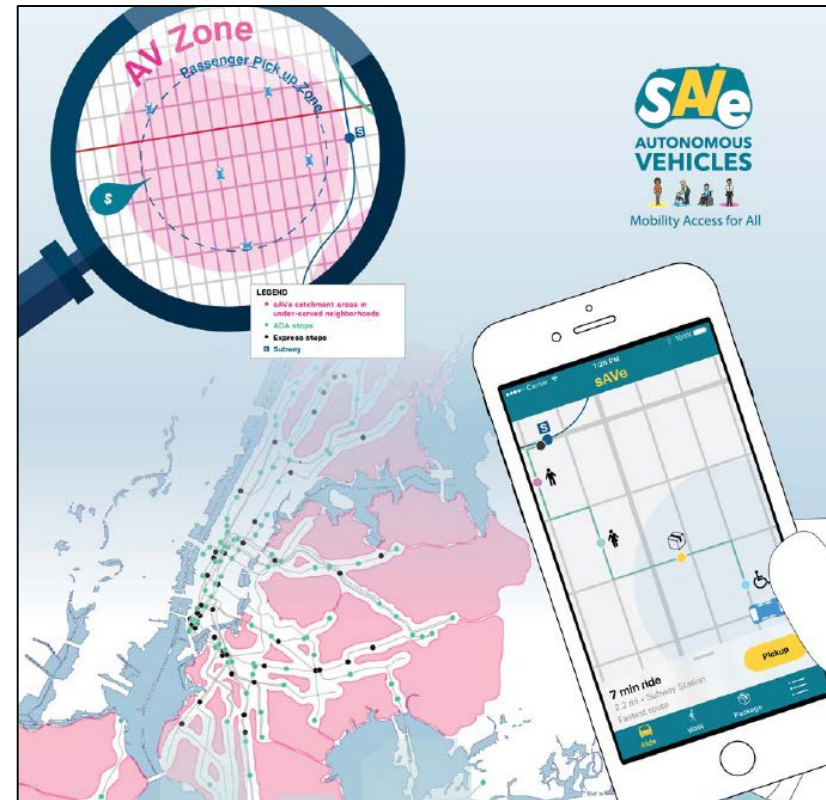
- Exploring the Urban Effects of Autonomous Vehicles
- Curbs of the Future: Optimizing the urban curbside
- AVS from Hype to Reality: Identifying corridors for AV use



CAV Concepts

sAVe

- sAVe is a concept for a community centred, universally accessible and multi-modal MaaS platform that addresses the first-last mile dilemma in areas underserved by transit by using autonomous vehicles to provide shared rides.
- It is a human-focused application.
- IBI Group staff in our NYC office are currently perusing local partnerships to implement.



CAV Concepts

17CP

- Submission to NYC's Driverless Future Competition
- 17CP is a concept for how NYC can plan now for a more prosperous CAV future.
- Visualizes how much road space could be repurposed if CAV services are integrated with existing mobility options and rides are shared.



CATTS Aligns with our Direction and Goals

- ✓ Becoming a technology driven design firm
- ✓ Foster a culture of innovation
- ✓ Contribute to a community of knowledge and intelligence
- ✓ Be an industry leader in the field of urban mobility and smart cities
- ✓ Build on the momentum of our Smart City Sandbox

