



Canadian Automated Vehicle Initiative

CAV Update

February 2025

From the Editors

The **Senate of Canada's Transportation and Communication Committee** 78-page report on *Driving Change: Technology and the future of the automated vehicle* has some excellent analyses and recommendations. CAVI supports Recommendation #1 (and others) from the report:

RECOMMENDATION 1:

Transport Canada and **Innovation, Science and Economic Development Canada** expeditiously create a joint policy unit to coordinate federal efforts and implement a national strategy on automated and connected vehicles.

CAVI's recently-published White Paper on a CAV Strategy for Canada makes the same recommendation. The White Paper points out:

*Canada's approach has been fragmented, unlike those of its peer countries. The United Kingdom, for example, has successfully implemented a coordinated national approach through organizations like **Zenzic** and the **Centre for Connected and Autonomous Vehicles (CCAV)**.*

*In Australia, the **Centre for Connected and Automated Transport (CCAT)** is hosting a National Future Transport Summit in September 2025. This will bring together senior leaders from Australian governments, industry, academia, and business to define a national pathway for the future use of CAVs.*

In the UK, **CCAV** is a joint unit made up of the **Department for Transport** and the **Department for Business and Trade** -- which is what the Senate Committee had in mind for Canada. CCAV's web site says:

Our mission is to promote the safe development, production and use of connected and automated mobility technologies in the UK to deliver societal and economic benefits. Since 2015, we have jointly funded over £600 million in over 100 research and development projects with industry, involving over 200 universities and companies.

Senator Dennis Dawson was the Deputy Chair of the Senate of Canada Committee. He and Barrie Kirk followed up on the report by organizing and co-chairing a summit meeting in Kanata ON for an early-stage discussion about CAVI. Unfortunately, Transport Canada declined the invitation to attend.

CAVI continues to encourage Transport Canada and ISED to expeditiously implement the Senate Committee's Recommendation #1.

Canadian CAV News

Toronto-based automated trucking developer **Waabi** has been collaborating with **Volvo** since 2023. Specifically, Waabi has been working with the autonomy division of Volvo known as the *Volvo Autonomous Solutions*. This division is charged with manufacturing a vehicle purpose-built for autonomous driving, a virtual driver (supplied by Waabi), required infrastructure, operations, and uptime support as well as a cloud solution that controls the transport system and manages logistics flows. In its latest iteration, Waabi and Volvo have signed a strategic alliance to incorporate Waabi's latest technology into Volvo's autonomous products. Waabi has so far raised US\$282.6 million in venture funding from various investors. *Volvo Group Venture Capital* has invested an undisclosed sum in Waabi in both of its funding rounds. **Uber** and **Nvidia** have also invested in Waabi. More information is at [this link](#).



It is no secret that almost all robotaxi services and experimental AV deployments have occurred in warmer climates devoid of harsh winter conditions. Automated driving under inclement conditions such as snow, ice and heavy rain are very challenging. For this reason, there has been very little or no deployment of such services in colder climates such as Canada's. To address this very issue, on February 18, 2025, an article titled *Automated Driving in Winter Conditions* was published by Andrew Miller of Toronto-based **Paladin Consulting**. The article is based on an interview with Prof. Steven Waslander of **University of Toronto's Institute for Aerospace Studies**; whose expertise is in autonomous robotics, including self-driving cars and multirotor drones. In this interview, Prof. Waslander explains the main challenges and possible solutions for automated driving under winter conditions. The article can be viewed at [this link](#).



ITS Canada has announced the details of its *2025 Annual Conference & Expo* to be held in Ottawa in collaboration with the **City of Ottawa, Transport Canada** and the **National Research Council Canada**. The conference theme is dedicated to the future of ITS: *Unlocking Policy, Playbooks & People*. ITS Canada says that as the demand for mobility grows across all modes, sectors and in urban and rural areas, and as technological advancements continue to accelerate, the need for cohesive strategies in transportation becomes increasingly critical.



Barrie Kirk and Andrew Miller will be on-stage describing CAVI's White Paper on a *CAV Strategy for Canada*.

More information on the conference is [here](#).

International CAV News

Moove is a fintech company that provides vehicle financing and financial services to mobility entrepreneurs, particularly those working in the gig economy, such as ride-hailing and delivery drivers. The company was founded in 2019 and is headquartered in Lagos, Nigeria, with operations spanning Africa, the Middle East, Europe, and Asia. Moove has recently partnered with **Waymo** to take responsibility for fleet operations, facilities and charging infrastructure, ensuring the smooth operation of Waymo's all-electric AV fleet. This includes all Waymo vehicles in its flagship city, Phoenix, Arizona. Furthermore, Moove will provide similar services for Waymo's expansion into Miami in 2026. More information is at [this link](#).



The **National Highway Traffic Safety Administration** (NHTSA) has published a 265-page document titled *ADS-Equipped Vehicle Safety, Transparency and Evaluation Program* (AV STEP). The purpose of AV STEP is to

ease the regulations governing the deployment of vehicles equipped with *Automated Driving Systems* (ADS). The regulations has two tiers. One is for



ADS vehicles with conventional controls such as the steering wheel and brake/accelerator pedals, and those without, eg. vehicles designed by Zoox that lack traditional controls. Such vehicles, must obtain an exemption from NHTSA under the rules, whereas ADS vehicles with conventional controls do not. Controversially, Amazon-owned **Zoox** claims that it has self-certified and does not need an exemption from NHTSA. This issue is

under investigation by the agency. More information is at [this link](#). The AV STEP document can be viewed/downloaded from NHTSA's site at [this link](#).

2024 was a banner year for **Waymo's** robotaxi business. According to the company, it provided 4 million driverless rides in 2024. The customers were in Phoenix, San Francisco and Los Angeles who collectively spent about 1 million hours in Waymo's robotaxis. Riders often give it high marks for the ability to customize their rides, such as playing their own music and setting the temperature to their liking. Despite these impressive figures, Waymo's robotaxi business is still a money loser due to high cost of robotaxis themselves and all the operational, support and maintenance required. According to Waymo, the top three destinations in these cities were the *Sky Harbor International Airport* in Phoenix, the *Ferry Building* in San Francisco, and *The Grove shopping center* in Los Angeles. Airport destinations are a major source of revenue for companies such as Uber and Lyft. Waymo has been trying to establish its service to San Francisco International Airport. As of this writing, the necessary permits have not been issued yet. It is interesting to note that back in 2018, Waymo predicted deploying 20,000 Jaguars and 60,000 Chrysler Pacificas. At present, the total fleet size of Waymo's fleet is about 700 vehicles. More information is at [this link](#). Unfortunately, it has not all been smooth sailing for Waymo. Waymo vehicles have been targeted for harassment and vandalism. One of the latest incidents occurred in Los Angeles on January 25, 2025 where vandals attacked an empty Waymo robotaxi stopped at a red light, ripping off its door and smashing windows. Details about this incident are at [this link](#).



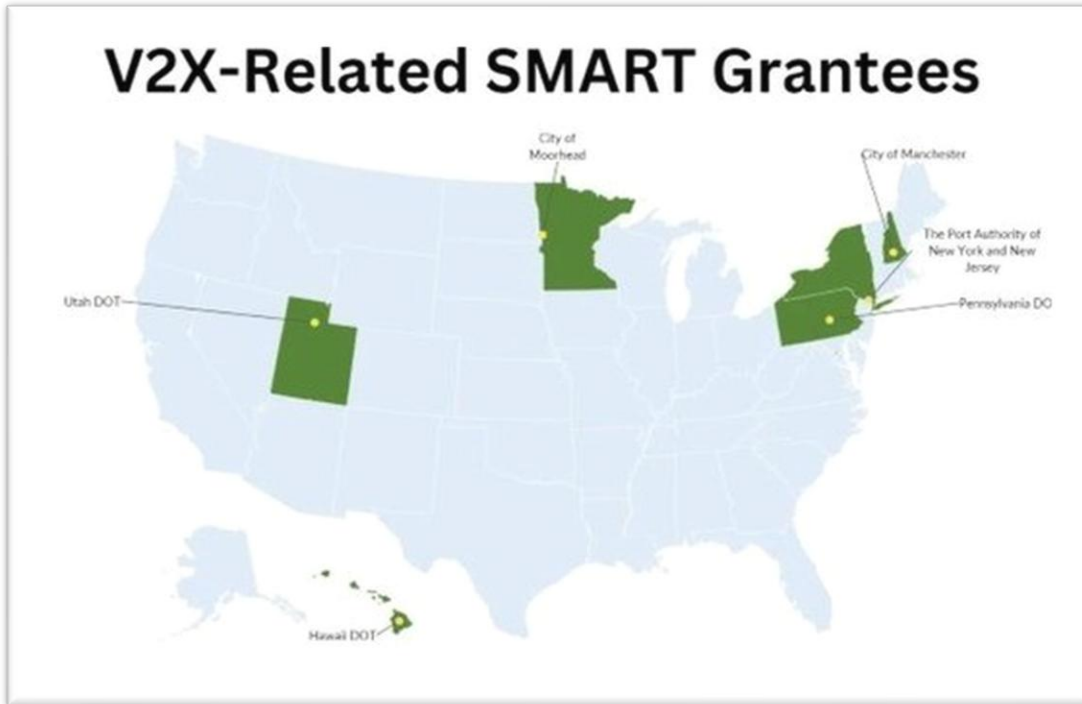
Many high-profile executives attended the annual **World Economic Forum** (WEF) in Davos, Switzerland. Among them this year was the CEO of the top ride-hailing company **Uber**. He was interviewed about the prospects of AVs over the coming decade. The interview was published by *Business Insider* under the title *Uber CEO addresses the elephant in the room: What happens to human Uber drivers once robotaxis arrive?* According to the CEO, the current human drivers working for Uber or its competitors are secure in their jobs for a few more years. He makes a distinction between progress in AV technology and the true commercialization of it. He thinks widespread commercialization is at least a decade away. In the meantime, Uber has partnered with a number of robotaxi companies to tap into their AV fleet in the cities that the robotaxi companies operate in. Uber has also invested significant sums in a number of AV startups including UK-based **Wayve** which raised US\$1 billion in funding in 2024. More information is at [this link](#).



In December 2024, the **U.S. Department of Transportation** (USDOT) announced over \$130 million in grant awards for 42 technology demonstration projects through its *Strengthening Mobility and Revolutionizing Transportation* ([SMART](#)) program. Six of the grants were awarded to state or city transportation agencies planning or deploying *Vehicle-to-Everything* (V2X) technology. Below are the agencies and a brief description of their V2X projects:



- The **Hawaii Department of Transportation** plans to use smart infrastructure, AI-driven video analytics sensing systems, and real-time V2X communication to help vehicles, pedestrians, and bicyclists avoid collisions.
- The **City of Moorhead, Minnesota**, plans to deploy transit signal priority applications as part of a multifaceted effort to enhance safety, boost transit-time reliability, and improve equity through systemwide resiliency.
- The **City of Manchester, New Hampshire**, plans to integrate connected vehicle technology with advanced traffic signal management and other innovative approaches to reduce delays and emissions while improving safety and communications in a disadvantaged neighborhood.
- The **Port Authority of New York and New Jersey** plans to deploy cellular V2X technology to address chronic safety issues and traffic congestion on New York City's Trans-Manhattan Expressway and George Washington Bridge.
- The **Pennsylvania Department of Transportation** plans to implement freight signal priority applications to address critical air quality issues and freight-related congestion in central Pennsylvania.
- In a Stage Two SMART project (deployment), the **Utah Department of Transportation** is testing connected intersections to verify that they will work with V2X safety applications in original equipment manufacturer (OEM) production vehicles in Utah, Georgia, Arizona, Texas, Florida, Michigan, and Ohio.



Companies developing *Electric Vertical Take-Off and Landing* (eVTOL) airtaxis have been making steady progress in commercializing their technologies. In United States, **Joby Aviation** and **Archer Aviation** are the leading companies in this nascent industry. Both indicate that they have orders for their aircraft from major U.S. airlines. In China, **Ehang Holdings** is the most high-profile developer of eVTOL designed for carrying passengers or goods. Ehang has selected China's most populace city – Shanghai (population 25 million) as proving ground for its *Urban Air Mobility* (UAM) services. This includes carrying passengers to/from city centre to various Shanghai area airports including Shanghai's main airport - *Pudong International Airport*, as well as flight services for tourism and sightseeing, emergency rescue and logistics. Ehang has based its operations at the general aviation *Longhua Airport*. The company claims to have identified up to 100 application areas where it can deploy its eVTOL technology. More information about Ehang's Shanghai activities at [this link](#) or [this one](#). Also, Archer Aviation has signed



The EH216-S debut flight over Shanghai

agreements with the United Arab Emirates for deploying its eVTOLs in that country in the near future. More information about Archer/UAE at [this link](#).

The media gives wide coverage to **Tesla** and its CEO Elon Musk. One such event occurred on January 29, 2025 at Tesla's earnings call with analysts and journalists. Musk spoke about Tesla's upcoming plans for launch of its robotaxi service in Austin, Texas in June 2025. The way he described it; Tesla's robotaxi model is akin to the way **Airbnb** operates. Once Tesla's robotaxi system is launched with its own fleet, starting in 2026, it will be possible for Tesla owners to add or subtract their personal Tesla vehicles from the robotaxi fleet, much as people are doing now by adding a room or a house to Airbnb's inventory or taking it out of the inventory. Tesla is currently testing its robotaxi technology at its own facility in Fremont, California. More information is at this [link](#). A short video of Tesla vehicles in action at the Fremont facility at the same link.


T E S L A

Staying with **Tesla**, its planned fleet of so-called *Cybercabs* will need to be cleaned regularly. An Internet site reports on a Tesla-developed cleaning robot specifically designed for cleaning the interior of the Cybercabs. According to this report, a robotic arm will use various attachments to pick up objects left in the Cybercab such as plastic water bottles or cans, vacuum the seats and clean some of the interior surfaces such as the door handles, door buttons, windows, and interior of the windshield using the robotic arm, the appropriate attachment and using microfiber cloth. More information is at [this link](#). A short video showing the robotic Cybercab cleaner in action can be viewed at the same site.



And finally, among all the many media reports about the hot technologies at the 2025 **Consumer Electronics Show** (CES) in Las Vegas, the **BBC** had a report on a new unique hotel in Las Vegas called **Otonomous**. This hotel has taken automation to the next level by deploying AI in almost all of its operations. The hotel guests can have as much or as little interaction with the hotel staff as they want, from the check-in process to the innovative *E-butler* system for delivering anything the guests desire to their room without any human interaction. All the advanced functions are controlled through the hotel app and the control panel in the





room. Based on the success of this concept in Las Vegas, the company has global ambitions. The BBC video report can be viewed on YouTube at [this link](#).

CAVI Speakers' Bureau

CAVI provides speakers for many different types of events across Canada, the US and overseas. On the one hand, our keynotes and presentations have core messaging on the status of CAVs, their deployment scenarios, and the impact on business plans, government regulations, and almost all aspects of society. On the other hand, each presentation is customized for the audience and the time available.

To inquire about a speaker for your event, please write to speakers@cavi-icva.ca

Upcoming CAV-Related Events

March 19-20, 2025	Connected Places Summit , London, England
April 16-17, 2025	DiscoveryX , organized by the Ontario Centre of Innovation, Toronto, Ontario
May 20-22, 2025	ADAS and Autonomous Vehicle Technology Expo Europe , Messe Stuttgart, Germany
May 21, 2025	CSA Group and SAE International will host a workshop on the development of a North American Digital Standard aimed at supporting the performance of connected and automated vehicles and infrastructure. To be held in conjunction with the ITS Canada conference – see below
May 21-23, 2025	ITS Canada 2025 Conference & Expo , Ottawa, ON
June 3-5, 2025	AutoTech 2025 , Novi MI
June 9-11, 2025	CCMTA Annual Meeting , Regina SK
June 15-18, 2025	UITP Summit , Hamburg, Germany
June 24-26, 2025	Autonomous Ship Conference , Amsterdam, Netherlands (call for speakers)
June 25-26, 2025	Last Mile Delivery Conference & Expo , Las Vegas
August 27-28, 2025	ADAS & Autonomous Vehicle Technology Summit North America , San Jose CA
October 5-8, 2025	TAC Conference & Exhibition , Quebec City



About CAV Update

CAV Update is a free, monthly summary of news and analysis in the world of connected and automated vehicles, and their impact on the private sector, government, and society.

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We welcome all comments; please send them [here](#)

The Canadian Automated Vehicle Initiative (CAVI) is an association for all stakeholders in industry, government and academia involved in any aspect of the ever-increasing automated vehicles ecosystem.

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