

Autonomous vehicles: Canada's readiness for the future

December 06, 2021

Introduction

The world is in the early stages of transition, where a vehicle's driver will one day become the passenger. Our previous article, "[Autonomous vehicles: Cross jurisdictional regulatory perspectives](#)" highlighted the state of the autonomous vehicle (AV) regulatory landscape across various jurisdictions including Canada, Japan, the United Kingdom, the European Union, the United States, and China. This month we take a closer look at Canada's regulatory framework surrounding autonomous vehicles.

Our summary addresses some uniquely Canadian considerations, including what Canada's complex legal landscape holds for industry and consumers as this revolutionary shift in technology hits the road.

Canada's legal framework

The regulation of vehicles, particularly AVs, faces a number of unique legal challenges and distinctions in Canada. This is due in large part to the country's federalist structure and the inherent complications a multi-layered government framework can create. Industry and customers alike must be aware of the extent and degree to which each of Canada's levels of government may facilitate the entry of AVs into the market.

A. International influence

Prior to discussing Canada's domestic framework, it is important to note the impact of autonomous driving technology on the international stage. The [United Nations Economic Commission](#) for Europe (UNECE) has noted the impact AVs will have on the environment, sustainability initiatives and population mobility. The UNECE is committed to [designing transport legislation](#) to ensure the safe introduction of AV and sensor technology. UNECE resolutions and guidelines will likely be influential in Canada, as they establish broad principles and priorities globally.

Canada is the second-largest country in the world and shares the world's single largest land border with the United States. The number of land border crossings with our southern neighbour will require substantial co-operation for AV transportation.

Cybersecurity guidance [published in May 2020](#) states that Canada “will continue to align efforts” with the U.S. Department of Transportation “given the integrated nature of the North American automotive marketplace and transportation networks.”

Transport Canada notes the impact of best practices of both the UNECE and the U.S., particularly American guidelines, in the publication [Cybersecurity Best Practices for Modern Vehicles](#), which provides recommendations to the automotive industry for improving systems and reducing cyber vulnerabilities.

B. Federal legislation and guidelines

Following Canada's Motor Vehicle Safety Act (MVSA) is the first step in transporting any vehicle into Canada or across intra-provincial boundaries. The MVSA is the legislation responsible for determining when and what type of vehicles can be imported to Canada.

In the case of AVs, the MVSA and associated regulations were recently amended to allow for the import of AVs strictly for testing purposes. While this is limited to the testing phase for AVs, any consumer vehicles using self-driving technology will need to comply with the MVSA. This includes all technical standards, licensing requirements and standards on how an AV would interact with first responders and law enforcement.

The bulk of Canada's policy directions related to pilot testing are summarized in Transport Canada's [Guidelines for Testing Automated Driving Systems in Canada Version 2.0](#) (the Guidelines), which replaces the regulator's previous edition.

Our previous article “[Transport Canada: 2021 Guidelines for Testing Automated Driving Systems in Canada](#)” details key changes to Version 2.0 of the Guidelines and the four pillars of safety, security, accessibility and co-ordination with stakeholders. The Guidelines reference numerous materials published by Transport Canada and other administrative bodies that facilitate the deployment and testing of AVs, with the Society of Automotive Engineers (SAE) levels 3 to 5 including:

[Canada's Safety Framework for Automated and Connected Vehicles:](#) Outlines Canada's vision based on current and future levels of automation. This document summarizes how Canada plans to ensure the safety of roadways and passengers.

[Safety Assessment for Automated Driving Systems in Canada:](#) Functions as a policy checklist for the automotive industry to deploy AVs on Canadian roads. This document contains practical guidance on how manufacturers can meet requirements on safety assessments, vehicle safety, design, validation and data management. Safety assessment reports must be completed as specified in this document.

[Canadian Jurisdictional Guidelines for Safe Testing and Deployment of Highly Automated Vehicles:](#) Published by the Canadian Council of Motor

Transportation Administrators, these guidelines cover a broad range of AV considerations. These include the roles and responsibilities of government, testing and deployment of AVs, deployment, law enforcement, safety, and research.

C. Provincial legislation

Broadly speaking, where federal legislation determines the requirements for the entry of a vehicle into Canada, provincial legislation by comparison is responsible for determining whether that vehicle is safe for driving on a given public road. Provincial and territorial governments regulate the safe operation of motor vehicles, including **licensing, registration, insurance, maintenance standards and traffic laws**.

As to the AV-specific provincial regulatory framework, Ontario, Québec, and Manitoba have regulatory frameworks that contemplate the testing of AV technology. Saskatchewan has introduced recent amendments to its Traffic Safety Act to now **include automated driving systems**. Similarly Nova Scotia's [Traffic Safety Act, Bill No. 80](#) received royal assent in 2018 (not yet in force) and explicitly contemplates the use of AV on public roads, including clarifications on the term distracted driving to reflect use of autonomous vehicles. The Nova Scotia legislation uses a broad definition of "autonomous mode" and "autonomous vehicle" in order to easily modify and define how the use of AV are governed through related regulations. Alberta and British Columbia do not have specific regulations introduced, but have instituted a special process to obtain permits for pilot testing.

Both provincial and federal legislation addresses privacy and privacy concerns in Canada. PIPEDA (the Personal Information Protection and Electronic Documents Act) is federal umbrella legislation that applies to how private corporations collect, use and disclose personal information in the course of commercial activities. Provinces may enact legislation that is substantially similar, thereby opting out of the federal PIPEDA framework. Therefore AV ecosystem players will need to consider how best to [comply with privacy legislation](#) as a vehicle crosses provincial boundaries.

D. Municipal bylaws

Municipalities create bylaws and exercise de facto control over public transportation, infrastructure and vehicle movement. This level of government deserves significant **consideration within the scope of Canada's AV potential**. The municipal level of government is integral to developing a framework for the practical implementation of every vehicle, autonomous or not.

Consumer AV use must include discussions on zoning for charging stations, parking, designated roadways or lanes, permissions and traffic flow considerations. Currently, local governments play an important role during pilot programs and testing in Canada.

Partnerships front and centre in Canada

Pilot projects across Canada are seeing broad stakeholder participation with significant governmental support. On November 2, 2021, the Ontario government launched a [flagship program](#) in partnership with the Ontario Centre for Innovation's Ontario Vehicle

Innovation Network (OVIN) to help grow the electric, connected, and autonomous vehicle sector in Ontario. In Alberta, a program studying commercial truck “platooning” is using a pair of autonomous commercial vehicles to allow close proximity for the vehicles while travelling Alberta highways. More than \$2 million in funding has been allocated to the project “as a part of Transport Canada’s Transportation Sector Regulatory Review Roadmap. [It] involves industry and research partnership with Bison Transport, Pronto, the University of Alberta, Solaris Fatigue Management, Tantus, PMG Technologies, Esso Commercial Cardlock and support from Alberta Transportation.”

Additional ongoing Canadian pilot projects include:

Toronto, Ont.: The [West Rouge Automated Shuttle Trial](#) involving the City of Toronto, the Toronto Transit Commission and Metrolinx;

Hamilton, Ont.: Creation of Hamilton’s [Connected and Autonomous Vehicles Test Bed](#) as a regional testing site for the Centre of Integrated Transportation and Mobility and Ontario’s Autonomous Vehicle Innovation Network;

Candiac, Que.: Autonomous shuttle service resulting from a partnership between Navya and Keolis, said to be Canada’s first fully autonomous vehicle on Canadian roads; and

Stratford, Ont.: Development of the AVIN Technology Demonstration Zone, where “Ontario-based companies can use the [zone] to showcase advanced automotive and smart mobility solutions to potential customers, such as automotive suppliers, manufacturers and original equipment manufacturers.”

Residents of and visitors to Whitby, Ont. can be among the “first in North America” to ride in an AV on public roads when they [board the WAVE](#). The six-kilometre route currently allows a public transportation shuttle to operate at low speed and under the supervision of an operator who is able to step in to control the shuttle if needed.

Riding in a public transport vehicle at low speeds along a pre-determined route may not feel as glamorous as the self-driving concepts portrayed in science fiction. But, like all modern technologies, we are seeing pockets of real-world application that will quickly become the new normal. Airbags only became standard on vehicles in 1998. This feature was revolutionary at the time, yet the thought of buying a vehicle without them today seems incomprehensible.

Takeaway

With continued advancement in levels of automation, we expect activity throughout 2022 and beyond at the municipal, provincial and federal levels as Canada continues to get ready to adopt higher-level AVs on public roads.

BLG's Autonomous Vehicles Group

With broad industry experience and particular expertise in regulatory frameworks to assist with the adoption of autonomous vehicles, [BLG’s Autonomous Vehicles Group](#) is here to help clients navigate the associated opportunities and challenges. For more

information on AVs or anything discussed in this article, please reach out to one of the key contacts below.

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