



Considerations for Robotaxi Deployment

Some Canadian perspectives on North American activities to date



Transport
Canada

Transports
Canada

Canada

Canada's federal system of governance makes road safety (including ADS regulation) a shared responsibility.



FEDERAL AREAS OF RESPONSIBILITY	PROVINCIAL/TERRITORIAL AREAS OF RESPONSIBILITY	MUNICIPAL AREAS OF RESPONSIBILITY (to varying degrees)
<ul style="list-style-type: none">▪ Regulation of imported vehicles and motor vehicle equipment (e.g. tires, child seats)▪ Regulation of interprovincial motor carrier operations▪ Enforcing vehicle regulations and remedy of safety related defects (information gathering, compliance testing, defect investigations and recalls)▪ Conducting safety research to evaluate new technologies▪ Conducting collision investigations and managing the National Collision Database to inform regulatory development/road safety policy▪ Promoting a coordinated national approach to road safety issues including public education▪ Promoting capacity building and a coordinated national approach to roadway infrastructure codes and standards development	<ul style="list-style-type: none">▪ Enacting and enforcing traffic laws and regulations, including rules to authorize on-road testing▪ Enacting and enforcing provincial/territorial motor carrier regulations▪ Driver licensing▪ Vehicle registration▪ Conducting safety inspections▪ Regulating motor vehicle insurance and liability▪ Maintaining roadway infrastructure▪ Public education on motor vehicle safety issues	<ul style="list-style-type: none">▪ Enforcing traffic laws and regulations▪ Enacting and enforcing by-laws▪ Maintaining roadway infrastructure▪ Managing passenger transportation (including public transit, ridesharing or taxi/robotaxi operations)▪ Parking▪ Traffic management▪ Public education on motor vehicle safety issues

Current federal legislation (*Motor Vehicle Safety Act*) and associated regulatory framework can accommodate ADS deployment today leveraging existing safety standards; regulatory flexibilities (e.g. exemptions); defect provisions; information gathering authorities; and non-regulatory guidance. Provincial/territorial government approval and sometimes municipal government approval is also required to allow ADS-equipped vehicles on public roads.

In Canada, regulatory approval of taxi operations is often delegated to the municipal level by provinces and territories. Facilitating robotaxi operations will require a coordinated approach among all three orders of government in Canada.

North America's self-certification regulatory regime

- Companies are responsible for self-certifying that they meet all applicable regulations and standards for their vehicle.
- This includes carrying out any necessary testing to verify that their vehicles are compliant with applicable standards.
- Under self-certification, new vehicle technologies, including ADS are permitted at federal level, provided the vehicle meets all applicable safety standards (or company has secured applicable exemptions)
- Regulatory oversight actions can be taken in response to a safety defect being observed (e.g. compel a recall) even in absence of a safety standard being adopted for that specific technology (like ADS currently).
- In the interim, non-regulatory guidance (e.g. voluntary safety assessments, testing guidelines, and other tools) provide further direction to industry on how to develop their systems and manage their operations safely

Domestic efforts to date to support early ADS testing and deployment



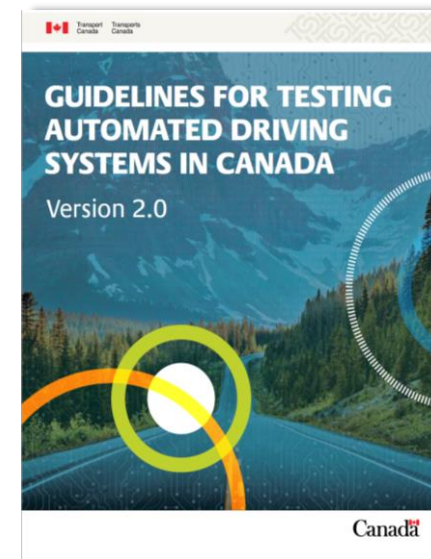
Amendments to the
Motor Vehicle Safety Act
March 2018



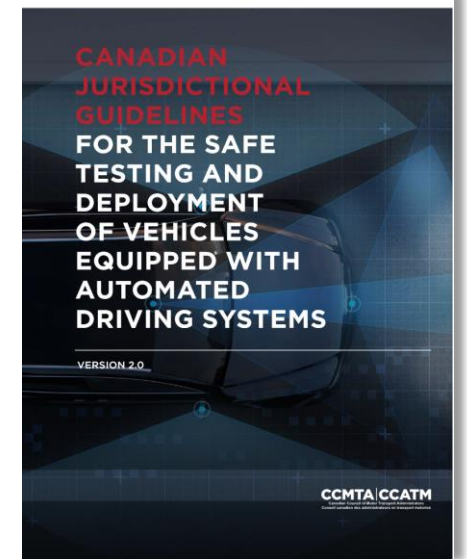
Transport Canada
Safety Framework
February 2025



Safety Assessment for
Automated Driving Systems
February 2019



Testing Automated
Driving Systems in
Canada (2.0)
August 2021



CCMTA Jurisdictional
Guidelines
February 2022

UPDATE UNDERWAY

Documents can be accessed at www.Canada.ca/automatedvehicles



WP29's ADS regulatory work will be important for advancing a coordinated regulatory approach in Canada for robotaxis and other ADS deployments





Development of a Global Technical Regulation/UN Regulation on ADS Safety

- Other levels of government in Canada consider future federal regulatory standards as very important for informing their own regulatory work to support large scale commercial deployments of ADS
- Transport Canada continues to brief other levels of government on the scope and key requirements of the draft ADS GTR/UN text under development
- Plan to create a "jurisdictional guide" to support ongoing domestic discussions and facilitate a coordinated regulatory approach for ADS deployment – including on topics not covered by the GTR/UN Regulation.

World Forum for Harmonization of Vehicle Regulations (WP.29)

Chair: Italy 
Vice-chair: Japan 

Working Party on Automated and Connected Vehicles (GRVA)

Chair: Germany 
Co-chairs: China  US 
Japan 

Informal Working Group on Automated Driving Systems Global Technical Regulation and UN Regulation

Co-sponsors:
China 
Japan  EU 
UK  CAN 
US 

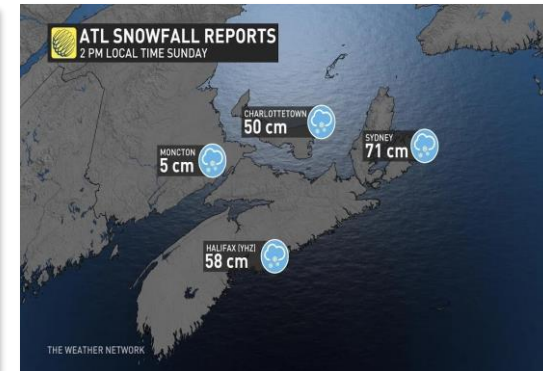
State of play of robotaxi operations in North America

- Commercial deployments in numerous U.S. cities (mostly in regions with temperate weather conditions).
- Winter weather remains a key challenge for wide-scale robotaxi deployment in Canada
- Still, industry signaling strong interest in some targeted Canadian markets in the coming years
- Canada actively monitoring worldwide experience to help inform our own approach in collaboration with provinces/territories and municipalities

How soon will this.....



...be ready for this?



Some considerations for robotaxi deployment

Preliminary Observations

- Engagement with local law enforcement and first responders will be important before deployment and during operations. ADS developers should consider developing interaction plans or other guidance for these parties to support safe engagement (e.g. in response to an incident).
- Collaboration with local government (even if they are not responsible for authorizing robotaxi operations) is important to gain further insight into local operational safety risks and to manage potential disruptions to traffic/traffic congestion on an ongoing basis.
- Transparency about system design and safety (e.g. publishing safety assessments, safety cases, and making safety incident data publicly available) can help the public and regulators at all levels make informed decisions about using robotaxi fleets, approving deployments, and expanding existing robotaxi operations.
- Industry should proactively share information and best practices with regulators and local government on issues like:
 - The process and factors considered for determining safe service areas of operation (and expansion of these areas over time). What decision gates/thresholds will this involve before deciding to operate in new areas?
 - The conditions that must be met during validation testing before a company proposes to allow members of the public on board as passengers. How will major system updates during the vehicle lifecycle be managed in this regard? (i.e. updated systems to run without passengers for a period?)
 - What factors are considered as part of the system's route selection? How are safety and other factors, (e.g. traffic congestion) factored into this?
 - How does the system determine safe areas for passenger pick up/drop off?
 - What measures will be taken to adapt fleet operations during large-scale, special events (e.g. in response to road closures, high congestions of pedestrians and other vehicles etc.)
 - How will safe operations at road worksites be facilitated?
 - How will support be mobilized if a vehicle encounters a problem and can no longer proceed on its journey? (e.g. remote support; deployment of physical teams etc.). What are the response times envisioned?
 - What measures are in place to support passenger security?
 - What measures will be taken to inform the public about the fleet's operation and any safety guidance for other road users on how the vehicle is expected to behave?⁷

