AHEAD OF THE CURVE

ONTARIO'S AUTOMATED VEHICLE TESTING PILOT

CANADIAN ASSOCIATION OF ROAD SAFETY PROFESSIONALS ANNUAL CONFERENCE

June 12, 2018

Ontario

Context

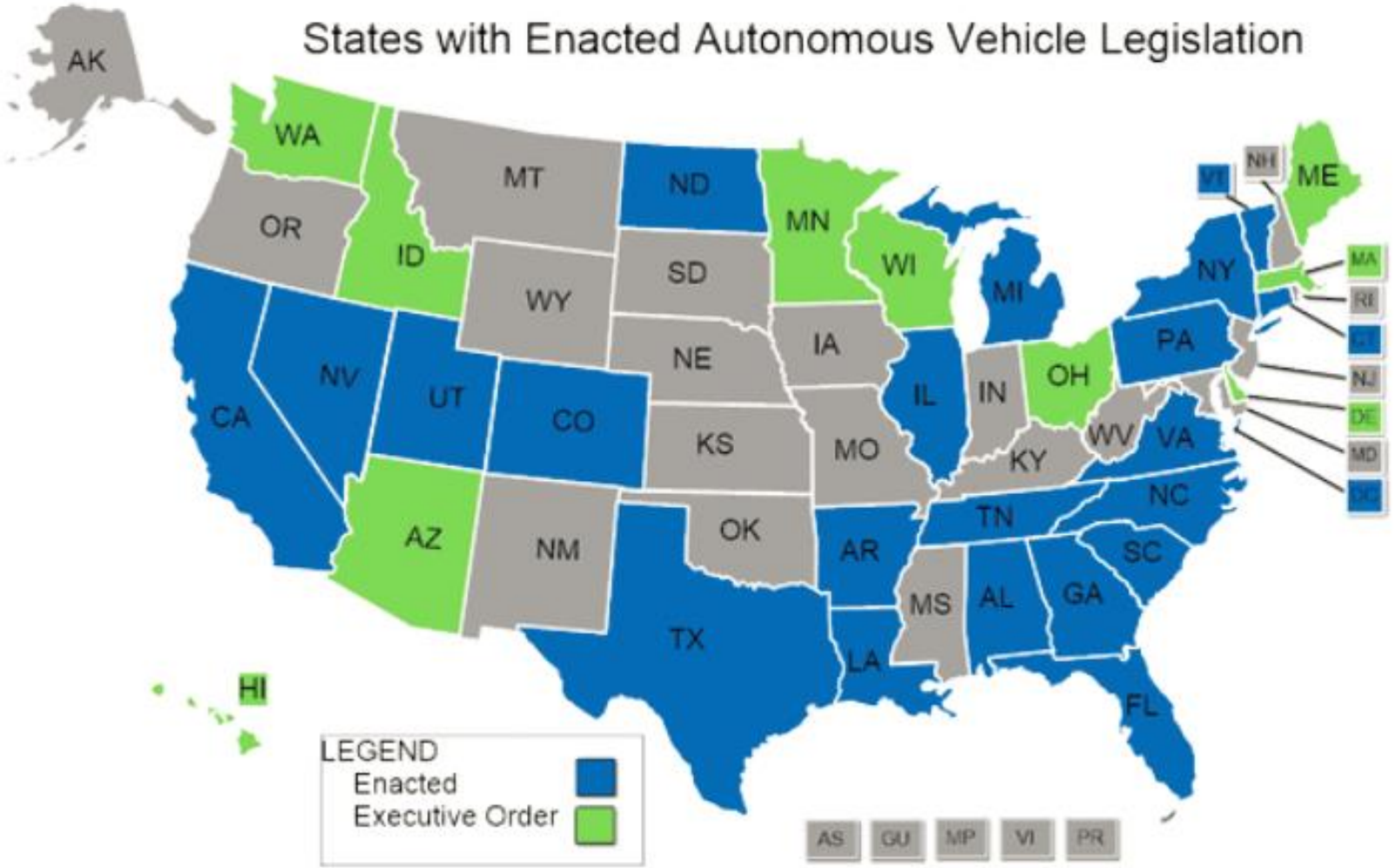
- On January 1, 2016, Ontario became the first Canadian jurisdiction to regulate the testing of automated vehicles on public roads.

- Ministry of Transportation (MTO) is:
  - actively considering how CV/AV technology can help us meet our broader transportation goals, including policy and regulatory tools, as well as supporting infrastructure that may be required.
  - continuing to assess data and information from on-road testing, engage stakeholders and make amendments to the pilot framework, as required.

Government Responsibility

Federal	Provincial/ Territorial	Municipal
• Setting and enforcing compliance with Motor Vehicle Safety Standards for new motor vehicles. • Investigating and managing the recall and remedy of non-compliances and safety-related motor vehicle defects nationwide. • Public education on motor vehicle safety issues. • Setting and enforcing compliance with technical standards related to wireless technologies integrated in vehicles and roadside infrastructure	• Testing/licensing human drivers and registering motor vehicles. • Enacting and enforcing traffic laws and regulations (including trials). • Conducting safety inspections. • Regulating motor vehicle insurance and liability. • Public education on motor vehicle safety issues. • Adapting infrastructure to support AV deployment.	• Enacting and enforcing bylaws. • Managing public transportation. • Advocating for and accommodating testing. • Enforcing traffic laws and regulations. • Adapting infrastructure to support AV deployment. • Public education on motor vehicle safety issues.

Other Jurisdictions are Invested



Ontario

CURRENT Automated Vehicles Pilot Program
Ontario Regulation 306/15: Pilot Project – Automated Vehicles

- Level 0 – no automation
- Level 1 – driver assistance
- Level 2 – partial automation
- **Level 3 – conditional automation**
- **Level 4 – high automation**
- **Level 5 – full automation**

Pilot Structure and Requirements

GENERAL REQUIREMENTS	❑ Effective January 1, 2016 ❑ 10-year pilot program ❑ Restricted to testing purposes only ❑ Applicants must complete & submit AV application to MTO and keep an approved copy in the vehicle as this constitutes acceptance into the pilot program	❑ Driver must remain seated in the driver's seat at all times monitoring the safe operation of the AV and be capable of taking over immediate manual control ❑ Current *Highway Traffic Act* (HTA) rules of the road and penalties apply ❑ Penalties in HTA s. 228(8) also apply to violations of the pilot regulation (fine of $250 – $2,500)
ELIGIBILITY/ DRIVER QUALIFICATION	❑ Only vehicles manufactured and equipped by recognized parties permitted: ✓ Original Equipment Manufacturers ✓ Technology Companies ✓ Academic/Research Institutions ✓ Component and Systems Manufacturers ❑ Driver must hold a valid licence for the class of vehicle (A, B, C, D, E, F or G), a valid licence from another jurisdiction, or a valid international driver's permit ❑ Participant must have insurance of at least $5,000,000	
VEHICLE TECHNOLOGY/ EQUIPMENT	❑ **Permitted**: passenger, street cars and commercial vehicles | **Not Permitted**: motorcycles and motorized bicycles ❑ Prohibited from being used for a road test for licensing purposes ❑ Must be in good working order | registered and plated | equipped with an alert to notify the driver when AV system disengages ❑ Vehicles must comply with SAE Standard J3016 and any requirements of the Canadian *Motor Vehicle Safety Act* that apply to AV driving systems for the vehicle's year of manufacture	
DATA REQUIREMENTS	❑ Must report collision involving an AV no later than 10 days afterward to the Registrar ❑ Must provide the Ministry will an up to date list of vehicles participating in the pilot at all times	

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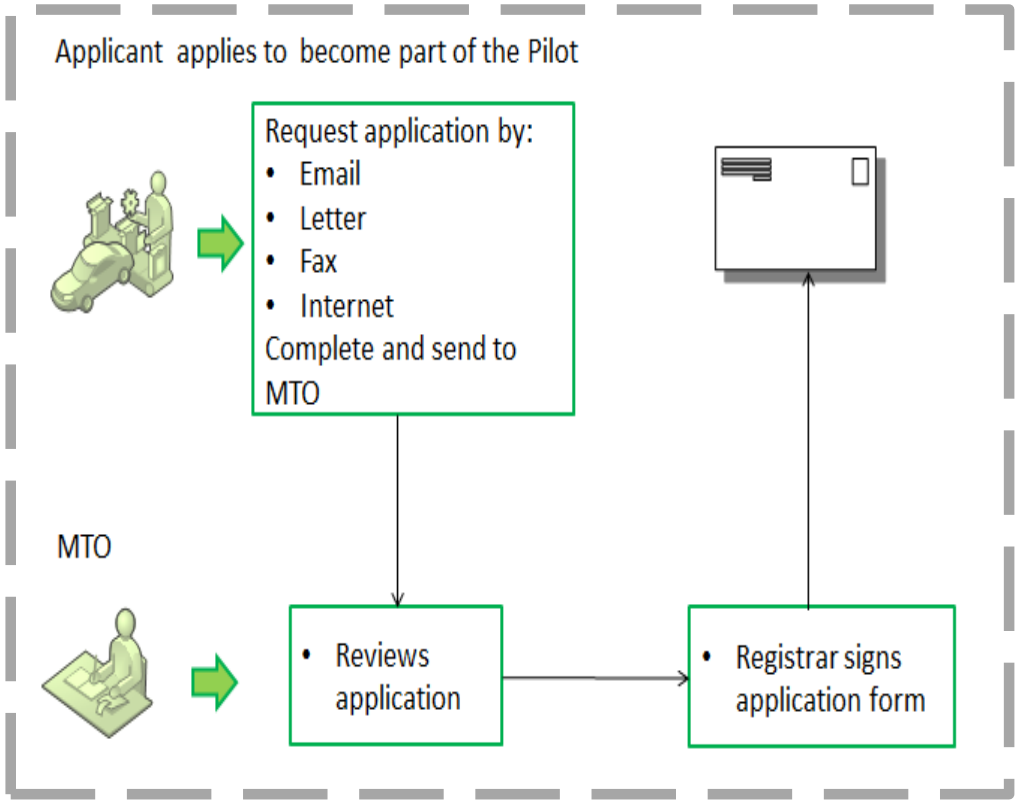
AV Pilot – Application & Registration Process

Overview
❑ Auto manufacturers, software companies, academic and research institutions are eligible for participation
❑ The pilot is designed to allow vehicles manufactured with automated technology and retrofitted vehicles (e.g. adding operating systems) to be tested on Ontario's roads
❑ To participate, an application form must be received and approved by MTO ❑ The application form is available through MTO's website ❑ Participants will be able to add or remove vehicles in the pilot
❑ A copy of the approved application must be kept in the vehicle(s) being tested at all times
❑ Vehicles will either be eligible for a manufacturer plate or regular series plate

Ontario

Pilot Participation – Approval Process



MTO Webpage: http://www.mto.gov.on.ca/english/vehicles/automated-vehicles.shtml

Ontario Regulation 306/15: http://www.ontario.ca/laws/regulation/r15306

QUESTIONS:

Application Form/Registration Process – Vehicle Programs Office (416) 235-3600 or VPO@ontario.ca

AV Pilot – Safety Policy and Education Branch (416) 235-3585 or SPEB@ontario.ca

Autonomous Vehicle Innovation Network (AVIN)

- The Province is investing $80 million over five years to create the Autonomous Vehicle Innovation Network, in partnership with Ontario Centres of Excellence.

- The network will capitalize on the economic potential of CV/AVs and help the province's transportation systems and infrastructure adapt to CV/AV technology.

- Central Hub + Key programs:

1. AV Research and Development Partnership Fund;
2. Talent Development;
3. Demonstration zone;
4. Regional technology development sites.

Changing landscape

- Vehicles with SAE level 3 technology (conditional automation) will be commercially available in the near future – likely by 2020.

- Driverless shuttles are being tested in other jurisdictions. These vehicles provide a potential transit solution.

  - Currently, Ontario's AV pilot does not permit driverless testing.

- Cooperative truck platooning is being tested in other jurisdictions.

  - Currently, Ontario's "follow too close" law prohibits close following distances to enable fuel economy benefits from cooperative truck platooning.

Considerations for the AV Pilot

- Over the past few months, MTO has engaged stakeholders on four potential amendments to the AV pilot regulation.

- These considered enhancements include:

1. Exclude from the pilot automated vehicles with Society of Automotive Engineers (SAE) Level 3 technology, if they are originally manufactured with a driving automation system, and eligible and commercially available for sale in Canada;

2. Allow the testing of driverless AVs as part of the pilot, under specific conditions to ensure safety;

3. Allow the testing of cooperative truck platoons as part of the pilot, under strict conditions to ensure safety; and

4. Amend the data reporting requirements of the pilot.

Resources

- For more information on Ontario's AV pilot, please visit:
  - http://www.mto.gov.on.ca/english/vehicles/automated-vehicles.shtml
- For more information on AVIN, please visit:
  - https://www.avinhub.ca/

Contact Information

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