

Rockerbie, Kirk TRAN:EX

From: Steele, Bob D TRAN:EX
Sent: Tuesday, September 5, 2017 3:31 PM
To: Miska, Ed TRAN:EX; Rockerbie, Kirk TRAN:EX
Subject: FW: CoM Materials on Automated Vehicles
Attachments: s.13,s.16

Discussion Topic 4 - Automated & Connected Vehicles Placemat.pdf

Gents

In addition to the three Agenda 6 items I sent you Friday afternoon, please also find attached a summary placemat on Automated and Connected Vehicles provided by the PPSC Task Force for the DM's summer meeting in July. This new attachment may also be of relevance as you prepare the CoM Note.

Thx.
Bob

From: Steele, Bob D TRAN:EX
Sent: Friday, September 1, 2017 4:52 PM
To: Miska, Ed TRAN:EX
Cc: Rockerbie, Kirk TRAN:EX
Subject: CoM Materials on Automated Vehicles

Gents

As you prepare the CoM note next week for connected and automated vehicles, please review the attached background documents that were just sent out earlier today by John Pearson.

Thx.
Bob

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s.16;s.13

Page 044

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s.16;s.13

Rockerbie, Kirk TRAN:EX

From: Gilmour, Lori TRAN:EX
Sent: Friday, September 1, 2017 10:54 AM
To: Steele, Bob D TRAN:EX
Cc: Bruniski, Michelle TRAN:EX
Subject: s.13,s.16
Attachments:

Follow Up Flag: Follow up
Flag Status: Flagged

From: John Pearson [<mailto:jpearson@comt.ca>]

Sent: Friday, September 1, 2017 10:50 AM

To: Barry Day; Bram Strain (Bramwell.strain@leg.gov.mb.ca); Comeau, Mike (JPS/JSP); Darren Chaisson; Fred Antunes (Fred.Antunes@gov.sk.ca); Main, Grant TRAN:EX; Kelly Cain; Marc Lacroix; Michael Keenan; Paul Guy; Paul LaFleche; Paul McConnell; Sean Dutton; Sherri Rowe; Stephen Rhodes; Tracy King

Cc: Ann Marie Williams; Armande Martine; Camille Flann; Craig Hutton; Dora Paravan; Doris Burandt; Ernestine Doucet; Heather Stutely; Helena Borges; Karen Hughson; Laura Peasey; Lena Ellsworth; Lisa Jarvis; Gilmour, Lori TRAN:EX; Lucie Thériault; Madonna Pitcher; Marie-Suzanne Gauthier; Maxine Fisher; Ninnera Channer; Pierre Leblond; Sarah Mahoney; Stacey Martin; Tina Qaunirq; Verwoord, Cindy TRAN:EX

Subject: Council of DM's Teleconference September 8 - Background Documents

In support of the Council of DM's teleconference next week, please find attached currently available background documents for the September 28 Council of Ministers meeting as follows (highlighted in yellow):

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Thank you for your attention – more to follow.

John Pearson

Secretary

(613) 247-9347

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Page 064 to/à Page 107

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Rockerbie, Kirk TRAN:EX

From: Pope, Danielle GCPE:EX
Sent: Friday, August 25, 2017 4:14 PM
To: Miska, Ed TRAN:EX; Rockerbie, Kirk TRAN:EX
Cc: Chambers, Craig GCPE:EX
Subject: Updating IN - Autonon
Attachments: s.13

Hi Kirk and Ed,

s.13

Thanks so much,
Danielle

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BRIEFING NOTE FOR INFORMATION

DATE: June 15, 2017
PREPARED FOR: Grant Main, Deputy Minister
ISSUE: Connected and Autonomous Vehicles

SUMMARY:

- **MoTI has an Autonomous Vehicle Working Group which is monitoring progress in the Autonomous and Connected Vehicle field and is active on working groups and committees with PPSC, Transport Canada and the Transportation Association of Canada (TAC) and Intelligent Transportation Systems Canada.**
- **The PPSC Working Group (led by Transport Canada and Province of Ontario) is preparing a draft report for the fall Council of Ministers (CoM) meeting which will provide an overview of the short-, medium- and long-term policy implications of the introduction of autonomous vehicles on public roads. The report will also identify gaps, opportunities, and ways to encourage cooperation across Canada and internationally.**
- **Ontario is the first and to date only jurisdiction in Canada that has introduced legislation permitting testing of Automated Vehicles on highways.**

s.13,s.16

BACKGROUND:

Autonomous Vehicles (AVs) are driverless or self-driving vehicles capable of detecting the surrounding environment using artificial intelligence, sensors and global positioning coordinates.

Connected Vehicles (CVs) enable safe, interoperable networked wireless communications:

- Among vehicles to enable crash prevention;
- With the infrastructure to enable safety, mobility and environmental benefits; and
- With other wireless devices to provide continuous real-time connectivity to users.

The Society of Automotive Engineers (SAE) has categorized different levels of automation, from Level 0 (No automation) to Level 5 (fully automated). Many cars today are available with Level 1 (driver assist features such as blind spot monitoring), or Level 2 (collision avoidance). Automated Driving (AD) is the new 'catch phrase' used in the AV industry, when a driver is present in an AV, but the vehicle is in AD mode.

Rapid progress has been made in the Japanese, European and U.S. automotive industries to the point where these vehicles exist today but are driven by vehicle manufacturers for testing purposes in jurisdictions outside Canada; however, insufficient testing has taken place for driving in winter conditions that exist in much of Canada. Google, Amazon and Uber are also road testing the use of autonomous vehicles under strict conditions. Prominent vehicle manufacturers plan to release AVs to the public in the next five years in North America.

Federal regulatory issues that need to be addressed include: manufactured motor vehicle safety, commercial vehicle safety, radio frequency allocation for connected vehicles and infrastructure communications, personal privacy protection, ownership and control of passenger and vehicle data, as well as cyber security to prevent electronic hacking of vehicles and infrastructure.



s.13

Positions of other Provinces/Territories:

- Ontario is the first and to date only province to enact legislation (1 Jan 2016) to allow on highway testing of AVs. In November 2016, the first automated vehicles started operating on Ontario roads in a pilot project involving cars developed by the University of Waterloo and BlackBerry. There are three test vehicles currently operating.

International:

- A number of companies, including Waymo (a Google company), Volvo, etc., are in the process of testing AVs, with each vehicle containing a safety driver to take over if required.
- Michigan is the first state to allow operations of AVs where other states only allow the testing of autonomous vehicles.
- Uber is the first Transportation Network Company to utilize AVs in the U.S. to pick up passengers, with its fleet of self-driving Ford Fusions in its test program in Pittsburgh. An Uber Engineer sits in the driver's seat and is able to take control of the vehicle if required.

Position of Transport Canada:

- Transport Canada has been assessing the foundational components of CV/AV, conducting research and testing on automation to support the development of safety guidelines, standards, regulations and other crash counter-measures.
- Transport Canada is funding a TAC project to gather information and consult stakeholders regarding the update of the Canadian Intelligent Transportation Systems Architecture to ensure interoperability of AVs and CVs. Phase I was completed by in March 2017. The project report and next steps were discussed at the TAC Meetings in Ottawa in April 2017.
- As part of Budget 2017, under Modernizing Canada's transportation System, Canada proposes to provide Transport Canada with \$76.7m over five years, starting in 2017-18, for:
 - Developing regulations for the safe adoption of connected and autonomous vehicles and unmanned air vehicles.
 - Working with industry, provinces, territories and municipalities to establish pilot projects (e.g., to evaluate new unmanned air vehicle technology at a new test centre).
 - Increasing Transport Canada's ability to establish and provide the standards and certifications that industry will need to safely use these new technologies.
- Transport Canada is engaging and working with jurisdictions on CV/AV through a number of mechanisms:
 - Canadian Council of Motor Transport Administrators (CCMTA);
 - Policy and Planning Steering Committee Working Group;
 - Transportation Association of Canada;
 - Canadian Institute of Transportation Engineers;
 - United Nations World Forum for the Harmonization of Vehicle Regulations; and,
 - International Standards Organization.
- As part of federal government's *Transportation 2030* strategic plan, there are a number of commitments related to AVs and CVs, including supporting the safe and rapid deployment of connected and automated vehicles on our public roads to improve road safety; reduce congestion; increase mobility; protect the environment; and support economic development for businesses.



DISCUSSION:

MoTI is a member (represented by Ed Miska and Kirk Rockerbie) of the PPSC Working Group on Connected and Automated Vehicles. Membership includes representation from the CCMTA, TAC, ERSC, Transport Canada, and four provinces. The objective of the Group is to facilitate targeted discussions on opportunities, challenges and related policy and regulatory implications around AVs and CVs.

Deliverables included (1) an Interim report for the CoDM April 2017 with a final draft report for the summer 2017 CoDM meeting, and (2) a presentation to Ministers at the 2017 CoM meeting. MoTI has provided input into the interim report. See Appendix for further information on the report.

MoTI also has an AV Working Group monitoring progress in the industry and participates in the University of British Columbia's on-road AURORA (Automotive Test-bed for Reconfigurable and Optimized Radio Access) Network which will develop, test, demonstrate and commercialize innovations with particular emphasis on wireless communications for freight security and efficiency.

MoTI is a member of the Transportation Association of Canada Joint CV/AV Working Group and the Intelligent Transportation Systems Canada AV Technical Committee.

The Insurance Corporation of British Columbia (ICBC) is also closely monitoring this issue and is directly involved in industry discussions surrounding best practices regarding liability.

ICBC has a co-chair role for the CCMTA Working Group on Autonomous Vehicles who developed the CCMTA White Paper on Autonomous Vehicles. MoTI concurs with the White Papers' findings.

CCMTA participates in the American Association of Motor Vehicles Administrators (AAMVA) Autonomous Vehicle Best Practices Working Group. The group provided input in the US Department of Transportation's National Highway Transportation Safety Administration's (NHTSA) *Federal Policy for Safe Testing and Deployment of Automated Vehicles* (released September 2016)

FINANCIAL IMPLICATIONS:

- None

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Transportation Policy and Programs
Deborah Bowman, ADM
Transportation Policy and Programs Department

INITIALS

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Rockerbie, Kirk TRAN:EX

From: Steele, Bob D TRAN:EX
Sent: Tuesday, September 12, 2017 11:03 AM
To: Groot, Jeff PSSG:EX; Kirby, Katherine PSSG:EX; Wood, Jeremy PSSG:EX; Miska, Ed TRAN:EX; Rockerbie, Kirk TRAN:EX
Subject: FW: US Reports - Cannabis & AV/CV's
Attachments: NHTSA Report to Congress 2017 - Marijuana impaired driving.pdf; TRB - Strategies to Advance Automated and Connected Vehicles.pdf

All
FYI if you have not already seen, as per the e-mail below and attached.
Thx.
Bob

From: Gilmour, Lori TRAN:EX
Sent: Tuesday, September 12, 2017 10:47 AM
To: Filmer, Cam A TRAN:EX; Bowman, Deborah TRAN:EX
Cc: Steele, Bob D TRAN:EX
Subject: US Reports - Cannabis & AV/CV's

From: John Pearson [<mailto:jpearson@comt.ca>]
Sent: Tuesday, September 12, 2017 10:46 AM
To: Barry Day; Bram Strain (Bramwell.strain@leg.gov.mb.ca); Comeau, Mike (JPS/JSP); Darren Chaisson; Fred Antunes (Fred.Antunes@gov.sk.ca); Main, Grant TRAN:EX; Kelly Cain; Marc Lacroix; Michael Keenan; Paul Guy; Paul LaFleche; Paul McConnell; Sean Dutton; Sherri Rowe; Stephen Rhodes; Tracy King
Cc: Ann Marie Williams; Armande Martine; Camille Flann; Craig Hutton; Dora Paravan; Doris Burandt; Ernestine Doucet; Heather Stutely; Helena Borges; Karen Hughson; Laura Peasey; Lena Ellsworth; Lisa Jarvis; Gilmour, Lori TRAN:EX; Lucie Thériault; Madonna Pitcher; Marie-Suzanne Gauthier; Maxine Fisher; Ninnera Channer; Pierre Leblond; Sarah Mahoney; Stacey Martin; Tina Qaunirq; Verwoord, Cindy TRAN:EX
Subject: US Reports - Cannabis & AV/CV's

As referenced by the Chair on last Friday's teleconference, please find attached two recent reports from the US which may be of interest:

- NHTSA Report to Congress: Marijuana-Impaired Driving
- Transportation Research Board (TRB) – Briefing Document: Strategies to Advance Automated and Connected Vehicles

Thank you for your attention.

John Pearson
Secretary

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Automated Vehicles

ITEM

CCMTA activities on Automated Vehicles (AVs) in Canada.

BACKGROUND

In June 2014 the CCMTA Board approved a process to assist jurisdictions in addressing how and in what ways automated vehicles would impact their work and their operations. In fall 2014 an AV Working Group was formed comprised of CCMTA government members from its Drivers and Vehicles and Road Safety Research and Policies Program Committees. One of the Working Group's first activities included undertaking a two-day workshop in November 2015 to help members understand the implications of the new technology. Workshop attendees consisted of participants from all provinces, territories, and the federal government as well as representatives from the Policy and Planning Support Committee (PPSC), Transportation Association of Canada and vehicle manufacturers. The group heard presentations on regulatory developments in several U.S. jurisdictions, updates on technological changes in the vehicle intelligence industry, the progress in the vehicle manufacturing industry, as well as the experiences of early adopter jurisdictions during their testing phase.

The AV Workshop generated a set of actions and priorities for the CCMTA AV Working Group. These have included the development of practical tools and communication materials to ensure consistency of messaging on issues related to AVs. The material has since been shared with all jurisdictions. One of the tools included is a Jurisdictional Checklist for Piloting AV's. The checklist assists provinces/territories in identifying issues that they should consider before they start the process of allowing pilot testing of AV's in their jurisdiction.

Since 2014, CCMTA has collaborated on various partner stakeholder committees to address AVs and to share best practices. This has included participation with the PPSC Task Force on AVs and Commercial Vehicles, as well as participation in the American Association of Motor Vehicles Administrators (AAMVA) Autonomous Vehicle Best Practices Working Group. The AAMVA group's collective input, which included two CCMTA representatives, supported the development of the U.S. Department of Transportation's National Highway Transportation Safety Administration's (NHTSA) *Federal Policy for Safe Testing and Deployment of Automated Vehicles*. The paper was released in September 2016.

In November 2016, CCMTA produced a comprehensive White Paper on Automated Vehicles (attached) that provides a general overview of the subject, key challenges and what other leading countries are doing to support the new technology. The paper was shared with CCMTA membership and the PPSC in February 2017.

Automated Vehicles

CURRENT STATUS

CCMTA and the CCMTA AV Working Group continues to monitor AVs for both non-commercial and commercial vehicles, through jurisdictional scans, literature review and analysis on emerging AV related issues, including AV regulations, technology and testing results.

In order to stay current, informed and knowledgeable on the AV file, CCMTA members and staff continue to participate in the following sessions:

- Transport Futures – Mobility Pricing and Automated Vehicles Conference
- Automated Vehicle Safety Regulation World Congress – Michigan
- US Department of Transport – FMCSA – ITE Commercial Motor Vehicle Workshop
- Transport Canada - Transforming Road Transportation in Canada: A Knowledge Building Workshop

NEXT STEPS

CCMTA will develop a vehicle policy framework with respect to the administration, regulation and control of automated vehicles. An important source for this work will be the *AAMVA Guidelines for the Regulation of Autonomous Vehicles*.

The CCMTA AV Working Group plans to review the AAMVA guidelines to ensure reciprocity for Canadian jurisdictions as it develops its own set of guidelines. It is anticipated the AAMVA guidelines document will be released in 2017.



WHITE PAPER

AUTOMATED VEHICLES IN CANADA

CCMTA | CCATM

Canadian Council of Motor Transport Administrators
Conseil canadien des administrateurs en transport motorisé

NOVEMBER 30, 2016

ISBN: 978-1-927993-25-5

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