2014

# Transportation and the Environment

Task Force Report

October 1, 2014



#### **EXECUTIVE SUMMARY**

To advance the Strategic Vision for Transportation in Canada, the Task Force on Transportation and the Environment identified initiatives for reducing emissions from the transportation sector as well as initiatives that enable the transportation sector to adapt to a changing climate.

The findings reveal that many different ministries deliver transportation emissions mitigation initiatives, whereas ministries responsible for transportation and highway safety are overwhelmingly the primary delivery agents of adaptation initiatives. It was found that ministries responsible for transportation and highway safety deliver 51% of mitigation initiatives and 93% of adaptation initiatives.

It was also found that emissions reduction initiatives delivered by ministries responsible for transportation and highway safety involve:

- O *Commuter programs* (26% of mitigation initiatives), including activities such as transit improvements, carpool programs and infrastructure improvements such as high occupancy vehicle (HOV) lanes, roundabouts and cycling infrastructure;
- O Fuel efficiency programs (16%) including long combination vehicles (LCVs), idle control, paving methods and strategies/plans for various modes;
- O Awareness initiatives (13%) including infrastructure development guides, greenhouse gas emission reduction strategies, signage programs and driver training/information;
- O Monetary incentives (7%) including mode switching, rebates and vehicle retrofits;
- O Alternative fuels (6%) including electrification and liquefied natural gas; and
- O *Inspection and maintenance programs* (6%) including vehicle emissions testing.

Adaptation initiatives delivered by ministries responsible for transportation and highway safety involve:

- O Research and assessment (54% of adaptation initiatives) including risk assessments, vulnerability assessments, pilot projects, best practice development, climate projections, research projects and workshops.
- O *Planning and design* (25%) including adaptation plans, risk reduction strategies, risk mapping, decision tools, emergency plans and infrastructure design policies.
- O Building and repairing assets (13%) including flood proofing transportation corridors, protecting shorelines, expanding culverts and raising bridges.
- O Awareness and outreach activities (8%) including policy reviews and developing information on weather and infrastructure practices.

More collaboration between and within jurisdictions is taking place on adaptation initiatives versus mitigation initiatives. Collaboration was reported in 80% of adaptation initiatives versus 40% of mitigation initiatives. Jurisdictions note that a variety of information-sharing forums on mitigation initiatives exist - most notably, the Mobile Sources Working Group of the Canadian Council of Ministers of the Environment. Jurisdictions also note that collaboration on adaptation initiatives takes place in many Transportation Association of Canada (TAC) committees, where experts share local practices and knowledge.

The next steps in advancing the Strategic Vision for Transportation are to continue the collaborative work of this Task Force and to share the information developed for this report with key policy and planning practitioners within and outside transportation departments, including with researchers and experts external to government.

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#### 1. INTRODUCTION

The transportation sector is one of the largest sources of air pollution and greenhouse gases (GHG) in Canada. In 2012, the sector accounted for 24% of Canada's total greenhouse gas emissions. Transportation is also linked with the emission of air pollutants such as carbon monoxide, nitrogen oxide, sulphur oxides, volatile organic compounds and particulate matter. While pollutant emissions have fallen significantly in recent years, more action is required to ensure this trend continues in the transportation sector. Reducing emissions from this sector has positive effects on air quality, smog and climate change, benefiting public health, the economy and the environment. While reducing GHG emissions is a key goal of governments, enabling transportation stakeholders to adapt to a changing climate is an emerging priority.

To support these priorities, the Council of Ministers responsible for Transportation and Highway Safety (COMT) share a Strategic Vision for Transportation in Canada, as follows:

#### A Vision for Canada's Economic Growth and Prosperous Communities:

In 2030, Canada will continue to maintain, promote and enhance safe, competitive, viable and sustainable transportation networks that enhance economic prosperity and quality of life.<sup>1</sup>

In advancing the Strategic Vision for Transportation in Canada, the Council of Ministers Responsible for Transportation and Highway Safety (COMT) established an intergovernmental Task Force on Transportation and the Environment.

#### 1.1 Purpose

The primary objective of this task force is to identify FPT initiatives (e.g. strategies, policies, programs, projects, research activities, etc) aimed at reducing GHG emissions from the transportation sector or enabling the transportation sector to adapt to a changing climate. Other objectives include:

- Identifying opportunities for collaboration among jurisdictions that can advance the Strategic Vision for Transportation in Canada;
- Providing a forum for jurisdictions to share information; and
- Build upon and leverage the work of other FPT and industry committees/working-groups that are undertaking similar work in transportation emissions reduction and climate change adaptation.

#### 2. METHODOLOGY

Two parallel surveys were undertaken to better understand the initiatives and priorities of jurisdictions – one survey on climate change mitigation initiatives in the transportation sector and one survey on climate change adaptation initiatives in the transportation sector. In completing both surveys, jurisdictions were asked to consider all modes of transportation for both passengers and freight. The surveys asked jurisdictions to describe their ongoing, completed and proposed initiatives (i.e. initiative

<sup>&</sup>lt;sup>1</sup> Connecting Now to the Future: **A Vision for Transportation in Canada – September 2013.** (<a href="http://www.comt.ca/english/strategic-vision.pdf">http://www.comt.ca/english/strategic-vision.pdf</a>) Jan. 2, 2014

description, objectives, costs, benefits, lead Ministry and current status), identify any opportunities for collaboration and discuss the lessons learned, if any. Each jurisdiction provided their own input into this process.

Prior to developing the survey instruments, the task force scanned various information sources to identify themes, determine whether baseline inventories already existed, and indentify those working groups / committees that are already active in the area of transportation emissions mitigation and/or adaptation in Canada. The scan of literature and information sources discovered that the Mobile Sources Working Group of the Canadian Council of Ministers of the Environment undertook an initial inventory of transportation emissions reduction initiatives in 2012, entitled "Clearing the Air: 2012 Canadian Vehicle Emissions Reduction Program Inventory". To leverage and advance this work by the Mobile Sources Working Group of the Canadian Council of Ministers of the Environment, the climate change mitigation survey asked jurisdictions to review the "Clearing the Air" report and to update it by confirming the status of the identified initiatives and build upon the inventory by identify any new initiatives.

A similar inventory on adaptation initiatives was not found to exist. This inventory of adaptation initiatives appears to be the first of its kind in Canada.

#### 3. FINDINGS

Information obtained from the jurisdictional survey was developed into an inventory of the climate change mitigation and adaptation initiatives of jurisdiction for all modes of transport in passengers and freight. Some caution should be used when interpreting the results, as the inventory is based solely on the information provided by jurisdictions to the survey questions and may not be an exhaustive list of jurisdictional actions. In total, jurisdictions identified 257 different initiatives - 182 climate change mitigation initiatives and 75 climate change adaptation initiatives. Detailed information on these initiatives is presented in **Appendix A** and **Appendix B**.

#### 3.1 Lead Ministry

For each initiative identified by jurisdictions, respondents were asked to identify the government ministry with lead responsibility for delivering the initiative. The results, depicted in Figure 1, suggest that the responsibility for delivering climate change initiatives in transportation will vary depending on whether the focus is on climate change mitigation or adaptation.

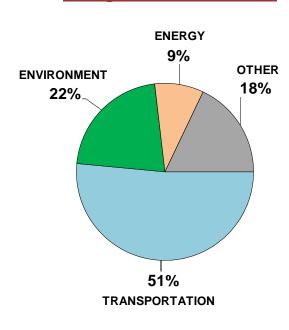
Jurisdictions report that many ministries are involved in delivering transportation emissions mitigation initiatives, with ministries responsible for transportation and highway safety delivering only about half of initiatives (51%). Environment ministries deliver almost one quarter (22%) of initiatives, followed by energy ministries, who deliver 9% of initiatives. Almost 20% of initiatives are delivered by a variety of other ministries and agencies, which include public insurance agencies, economy/jobs ministries, intergovernmental affairs ministries, finance ministries and a few initiatives are delivered by education and health authorities.

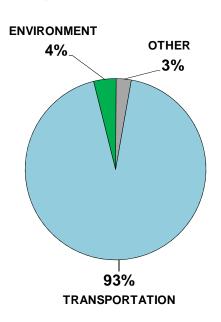
# FIGURE 1: LEAD MINISTRY

Q2. Please identify the Ministry with primary responsibility for delivering this initiative?

### **Mitigation Initiatives**

## **Adaptation Initiatives**





Transportation emissions mitigation may involve several ministries because the targets are not homogeneous groups – for example, the driving public and commercial enterprises, where numerous and diverse factors influence their behavior and decision-making. A wide, multi-disciplinary lens is required when undertaking behavior-changing initiatives targeting users and businesses. This is an important finding as it showcases one of the many challenges of transportation emissions mitigation – how widely dispersed the ownership of these initiatives are across government affects how well suited an initiative is for inter-jurisdictional collaboration.

Conversely, when it comes to climate change adaptation initiatives, ministries responsible for transportation and highway safety are overwhelmingly the primary delivery agents – 93% of adaptation initiatives are implemented by transportation departments. This is because managing transportation assets and adapting them to a variety of changing circumstances is a core function of ministries responsible for transportation and highway safety. In some cases, environment ministries play a support role.

Collaboration efforts among ministries responsible for transportation and highway safety are likely to be most successful if the topics of collaboration focus on those initiatives that these ministries are already leading. These findings suggest that adaptation initiatives are a good candidate for collaboration among ministries responsible for transportation and highway safety.

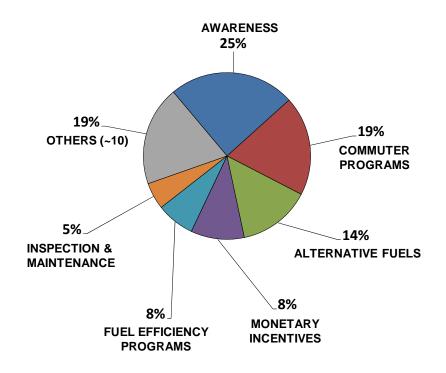
#### 3.2 Mitigation Initiatives

Jurisdictions were asked to identify and describe the emissions mitigation initiatives they are delivering for the transportation sector. Figure 2 below identifies the types of initiatives that are currently being delivered in Canada (i.e. it excludes those initiatives that were identified as "completed/concluded").

Many initiatives in this emissions mitigation inventory were initially identified by the Mobile Sources Working Group in their 2012 inventory report "Clearing the Air...". In the MSWG report, a number of classifications were developed in order to categorize the breadth of emissions reduction initiatives that were identified. To maintain consistency with the MSWG efforts, the classification system developed by MSWG is adopted and applied in this Report of the Task Force on Transportation and the Environment.

# FIGURE 2: MITIGATION INITIATIVES

Q1. Please identify and describe the climate change MITIGATION initiatives of your jurisdiction?



Among all current initiatives across jurisdictions, awareness programs are the most common type of programming (25% of current initiatives). Awareness programs inform the public on vehicle use, maintenance and operation and the effects these have upon emissions and the environment. The second most common type of initiative currently in practice among jurisdictions are commuter programs (19%), which target users to make changes to commuting practices. This is followed closely by alternative fuel programs (14%), which includes a range of programs aimed at developing and increasing access to alternative fuels by users and businesses.

Collaboration among members of the Council of Deputy Ministers Responsible for Transportation and Highway Safety is likely to be more effective if efforts focus on initiatives that ministries responsible for

transportation and highway safety are already undertaking. These ministries deliver only about half of emissions mitigation initiatives, which are depicted in Table 1.

The most common program area for transport/highway safety departments is commuter programs (26% of emissions mitigation initiatives). Within this program area, transport/highway safety departments are undertaking transit improvements / incentives, carpool programs, and various infrastructure improvements such as developing high-occupancy-vehicle lanes, roundabouts and cycling infrastructure.

Also common for transport/highway safety departments are fuel efficiency programs (16%). Within this category, activities related to long combination vehicles (LCVs) make up about half of reported programs. Of note, jurisdictions report that inter-jurisdictional collaborative effort is already taking place regarding LCVs within the Vehicle Weights and Dimensions (VWD) Committee of the Council of Deputy Ministers Responsible for Transportation and Highway Safety. The VWD Committee works toward regional harmonization of LCV standards, which is viewed by jurisdictions as an opportunity to mitigate climate change. Also reported within the fuel efficiency programming area are idle control programs, greener paving methods and developing strategies/plans for various modes.

TABLE 1: TRANSPORT MINISTRY-DELIVERED INITIATIVES	
Commuter Program	26%
Fuel Efficiency Program	16%
Awareness	13%
Monetary Incentives	7%
Alternative Fuel	6%
Inspection/Maintenance	6%
Emission Standards	4%
Idle Control	4%
Vehicle Technology Test and Evaluation	4%
Fleet Tools	3%
Heavy Duty Vehicle Retrofit	3%
Anti-Tamper Legislation	2%
Driver Education Program	2%
Alternative Fuel Standards	1%
Public Report System	1%
TOTAL	100%

About as common as fuel efficiency programs are awareness initiatives (13%) where transport/highway safety departments are establishing infrastructure development guides, greenhouse gas emission reduction strategies, signage programs and driver training/information.

Monetary incentives (7%) provide tax and/or other monetary support to encourage mode switching and to cost-share vehicle retrofits. Inspection and maintenance programs (6%) test vehicles for emissions. Finally, on alternative fuels (6%) transport departments are leading government-wide efforts in electrification and liquefied natural gas.

Collaboration efforts among ministries responsible for transportation and highway safety are likely to be most successful if the topics of collaboration focus on those initiatives that transport ministries are already leading. These findings suggest that initiatives related to commuters, fuel efficiency and awareness are the most likely candidates for collaboration on climate change mitigation. LCVs, in particular, are reported to be a mitigation initiative of interest among ministries responsible for transportation and highway safety where collaboration is already taking place.

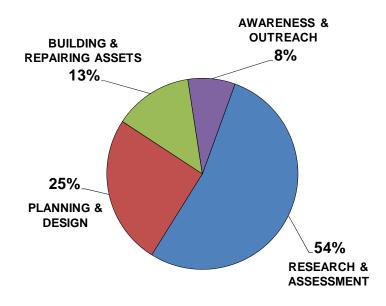
- ✓ <u>Collaboration Opportunity:</u> Jurisdictions to consider a national webinar(s) to present and discuss key initiatives in relation to commuters, fuel efficiency and awareness.
- ✓ <u>Collaboration Opportunity:</u> Determine level of demand for webinar(s)/forums to discuss potential programs related to incentives, alternative fuels and inspections.
- ✓ <u>Collaboration Opportunity:</u> The Vehicle Weights and Dimensions Committee be encouraged to proceed with their efforts toward harmonizing LCV standards.

#### 3.3 Adaptation Initiatives

Jurisdictions were asked to identify and describe the climate change adaptation initiatives they are delivering for the transportation sector. Figure 3 below identifies the types of initiatives that are currently being delivered across Canada.

FIGURE 3:
ADAPTATION INITIATIVES

Q1. Please identify and describe the climate change ADAPTATION initiatives of your jurisdiction?



More than half of all initiatives in transportation adaptation are in the category of research and assessment (54%). This includes risk assessments, vulnerability assessments, pilot projects, best practices development, climate projections, research projects and workshops. In this category, jurisdictions are taking a long-term view of their assets by researching and understanding climate change. They are developing and testing various tools and methods. Much of the focus and activity is on the northern regions of provinces and the territories, where transportation infrastructure and assets are experiencing the effects of permafrost degradation and changing weather conditions. The large volume of work taking place within this category suggests there is still much we don't fully understand about climate change.

Once the risk has been identified and the research completed, the next step is implementation, which begins with planning and design – a signal that climate risks are understood and adaptation decisions are being made and incorporated into activities. In short, at this stage, action is initiated. Initiatives in planning and design make up one quarter (25%) of all initiatives in transportation adaptation. This category includes activities related to adaptation plans, risk reduction strategies, risk mapping, decision tools, emergency plans and infrastructure design policies.

The current activities in building and repairing assets make up 13% of transportation adaptation initiatives. In many cases, an activity in this category is in response to some extreme weather event that has taken place. Most commonly, the extreme weather event is related to flooding – whether its overland flooding, coastal flooding or storm surges, many southern areas of jurisdictions are implementing changes to their transportation infrastructure as a result of an extreme event related to excess water. Adaptation activities taking place to protect against risks of excess water include flood proofing transportation corridors, protecting shorelines, expanding culverts and raising bridges. In northern regions, the data show that work is now underway to stabilize rail and winter road beds that are experiencing the effects of permafrost degradation and changing weather conditions.

Awareness and outreach activities make up 8% of adaptation initiatives. This category includes activities like policy reviews and developing information on weather and infrastructure practices.

Collaboration efforts among ministries responsible for transportation and highway safety are likely to be most successful if the topics of collaboration are related to initiatives that these ministries have prioritized and on which resources are already focused. These findings suggest that initiatives related to research & assessment and planning & design, which comprise about three-quarters of activities on transportation adaptation, are good candidates for collaborative efforts among jurisdictions.

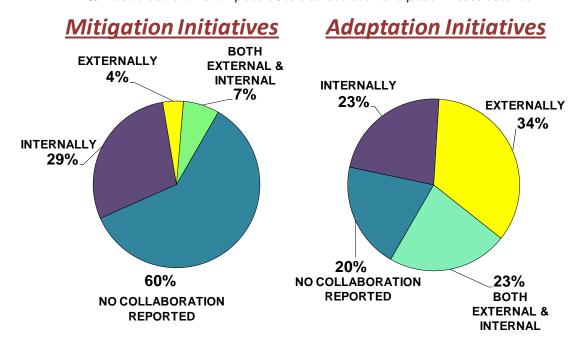
- ✓ <u>Collaboration Opportunity:</u> A national forum/webinar/peer exchange mechanism on adaptation research may present an opportunity for enhanced collaboration and information sharing among adaptation researchers and practitioners across all jurisdictions and between governments and academia.
- ✓ <u>Collaboration Opportunity:</u> Transport Canada and Natural Resources Canada are undertaking a national assessment of the state of knowledge and adaptation practices in the transportation sector. Providing this inventory on adaptation initiatives into the process could contribute to the national assessment, which may advance the Strategic Vision for Transportation in Canada.

#### 3.4 Current Collaboration Activities

Jurisdictions were asked to identify and describe the collaboration that has taken place, or could take place, when developing or delivering mitigation or adaptation initiatives. The data were classified into four categories, depending on the nature of their reported collaboration. Initiatives in which jurisdictions reported collaboration within their own governments or with local (provincial / territorial) stakeholders only, were classified as having collaborated "internally". Conversely, initiatives in which jurisdictions reported collaboration with other provincial/territorial governments or with experts and stakeholders outside of the jurisdiction only were classified as having collaborated "externally". If collaboration was reported to have occurred with governments and stakeholders both inside and outside the jurisdiction, the initiative was classified as benefiting from "both internal and external" collaboration. If no collaboration activity was discussed, the initiative was classified as "no collaboration reported". This last category does not mean that collaboration did not occur; just that none was reported by the jurisdiction. The results are depicted in Figure 4.

FIGURE 4: COLLABORATION

Q5. Has collaboration taken place?/Could collaboration take place? Please describe.



The results suggest that much more collaboration is taking place on adaptation initiatives versus mitigation initiatives. In 60% of mitigation initiatives, no collaboration was reported to have taken place at all, whereas the same was reported in only 20% of adaptation initiatives. In more than half of adaptation initiatives, ministries responsible for transportation and highway safety report that they are already collaborating with their colleagues across Canada.

Common topics of external collaboration on mitigation initiatives reported by jurisdictions include long combination vehicles (LCVs), alternative fuels, policy development, and technology development.

Jurisdictions note that a variety of information-sharing forums on mitigation initiatives exist - most notably, the Mobile Sources Working Group of the Canadian Council of Ministers of the Environment. Some members of this task force are also members of the MSWG and communication between the two groups have occurred.

Common topics of external collaboration on adaptation initiatives reported by jurisdictions include materials properties, vulnerability assessments, development and testing of decision tools, and research, among others. Jurisdictions note that collaboration on adaptation initiatives takes place in many Transportation Association of Canada (TAC) committees, where experts share local practices and knowledge. For on-road transportation, TAC is often recognized as a lead national forum for developing and advancing infrastructure and facility design guidelines and standards, and transportation engineering innovations – the core function of many transportation ministries. Various TAC committees operate as information-sharing forums on topics such as climate change and the environment and transportation adaptation practices in urban, rural and remote contexts. In addition, the Climate Change and Northern Infrastructure Subcommittee of the Engineering and Research Support Committee of the Council of Deputy Ministers Responsible for Transportation and Highway Safety is also a recognized forum for developing knowledge and expertise related to transportation adaptation.

Adaptation practices are being developed and implemented by a variety of operations practitioners, ranging from transportation engineers, to emergency management planners. There could be value in sharing the inventory with practitioners in our own departments or through various TAC committees.

Collaboration efforts among ministries responsible for transportation and highway safety are likely to be successful if the topics focus on initiatives which these ministries report some collaboration. Sharing the information contained within the adaptation inventory with practitioners could advance the Strategic Vision for Transportation.

✓ <u>Collaboration Opportunity:</u> the inventory on adaptation initiatives could be shared with practitioners across ministries responsible for transportation and highway safety and with the appropriate committees of the Transportation Association of Canada.

Most climate change mitigation initiatives appear to be managed by policy units in various departments. Given the wide dispersion across governments of mitigation activities, there is value in sharing this information with climate change policy experts in jurisdictions.

National policy forums focused on transportation emissions reduction provide opportunities for macro-level information sharing and collaboration. The Mobile Sources Working Group of the Council of Ministers of the Environment is a recognized national body for policy discussions related to transportation emissions reduction. Sharing the findings of this task force's work with the MSWG would serve to advance and validate the work of MSWG.

✓ <u>Collaboration Opportunity:</u> the inventory on mitigation initiatives could be shared with the climate change branches across jurisdictions and with the Mobile Sources Working Group of the Council of Ministers of the Environment.

#### 4. CONCLUSIONS AND NEXT STEPS

Collaboration efforts among transport ministries are likely to be most successful if the topics of collaboration focus on those initiatives that ministries responsible for transportation and highway safety are already leading and on which they are already collaborating. A key observation in this inventory-development process is that transport ministries are leaders in adaptation – we are developing and implementing new ways of delivering transportation services and sharing our experiences with colleagues. A core function of transportation/highway safety departments is to assess and mitigate the risks from climate change to the assets for which they are responsible. These findings suggest that adaptation initiatives are a good candidate for collaboration among ministries responsible for transportation and highway safety. Collaboration on transportation adaptation is already occurring among jurisdictions and this should be encouraged to continue.

When it comes to mitigation techniques, multi-disciplinary, national policy forums exist for information-sharing and collaboration. Contributing to the efforts of existing groups would serve to validate this work, strengthen understanding by climate change practitioners of the transportation sector's needs and advance the Strategic Vision for Transportation.

Mitigating and adapting to climate change is complex, requiring a multi-disciplinary approach to policy and practice. Collaboration with experts within and across jurisdictions on these issues would serve to advance local and national priorities. From the perspective of this task force, the next step for advancing the Strategic Vision for Transportation is to determine the most appropriate means for sharing the information developed in this report with key policy and planning practitioners, researchers and experts both inside and outside of government.

✓ <u>Next Step:</u> search for suitable means of sharing the information in this report and the
inventory of climate change mitigation and adaptation initiatives to policy and planning
practitioners within and outside transportation/highway safety departments and to various
experts across Canada.

Understanding the role and priorities of transportation/highway safety departments in mitigating and adapting to climate change is a key step in managing transportation's impact on the environment. During the inventory review process, a number of jurisdictions identified both commonalities and differences among the priorities and operational scope of transport/highway safety departments across the country. Deputy Ministers further reinforced these observed commonalities and differences and directed the Task Force to continue exploring the practices identified in this report and document the lessons learned. To this end, the Task Force on Transportation and the Environment aims to continue the collaborative and information sharing activities that have led to this report.

✓ <u>Next Step:</u> the Task Force will continue to discuss issues of interest among members so as to identify and share lessons learned among jurisdictions.

#### **APPENDICES**

**APPENDIX A\*: EMISSIONS MITIGATION INITIATIVES** 

**APPENDIX B\*: CLIMATE CHANGE ADAPTATION INITIATIVES** 

<sup>\*</sup> The appendices containing detailed inventories of mitigation and adaptation initiatives are available as a separate publication (in English only) on the website <a href="www.comt.ca">www.comt.ca</a>.

#### **APPENDIX C: TERMS OF REFERENCE**

## Task Force on Transportation and the Environment Terms of Reference

#### **Background**

The transportation sector is one of the largest sources of air pollution and greenhouse gases (GHG) in Canada. Reducing emissions from this sector has positive effects on air quality, smog and climate change, benefiting public health, the economy and the environment. While reducing GHG emissions is a key goal of governments, enabling transportation stakeholders to adapt to a changing climate is an emerging priority.

To support meeting these challenges, the Strategic Vision for Transportation's plan for collaboration proposes to establish an intergovernmental Task Force on Transportation and the Environment. The task force will identify strategies for reducing GHG emissions from the transportation sector and consider adaptation strategies to mitigate the impact of climate change on the sector.

#### Context

Past and present Federal-Provincial-Territorial (FPT) and industry working-groups have considered these issues. In some cases, significant work has been undertaken in developing inventories of policies and programs related to transportation emissions reduction and/or climate change adaptation. For example, the Mobile Sources Working Group hosted by Environment Ministers and the Transportation Working Group on Energy and Efficiency hosted by Energy Ministers have a focus on mitigation measures, while the Transportation Association of Canada has focused on adaptation. A key consideration of this Task Force on Transportation and the Environment is to determine how transportation ministries could complement and benefit from the current efforts of various FPT and industry groups, avoid unnecessary duplication and maximize outcomes.

#### **Purpose**

The primary objective of this task force is to identify FPT initiatives (e.g. strategies, policies, programs, projects, research activities, etc) aimed at reducing GHG emissions from the transportation sector or enabling the transportation sector to adapt to a changing climate. Other objectives include:

- Identifying opportunities for collaboration among jurisdictions;
- Identifying the shared benefits resulting from climate change mitigation or adaptation initiatives;
- Providing a forum for jurisdictions to share information;
- Building upon and leveraging the work of other FPT and industry committees/working-groups that are undertaking similar work in transportation emissions reduction and climate change adaptation.

#### **Expected Results**

As needed, the task force will develop, review and update inventories of initiatives (e.g. strategies, policies, programs, projects, research activities, etc) in all federal, provincial and territorial jurisdictions as they relate to GHG emissions reduction and climate change adaptation in the transportation sector for both passengers and freight. The task force will use the inventory to identify where synergies across jurisdictions exist. Where practical, case studies will be used to identify lessons learned.

#### **Deliverable**

The deliverable from this review will be a report that identifies the initiatives of jurisdictions, areas of suggested inter-jurisdictional cooperation, lessons learned from case studies, and options to assist decision-makers.

#### Membership

The task force is chaired by Manitoba. Members will work with the necessary experts within and outside their respective jurisdictions to conduct the analysis and prepare the report. Members may designate alternates. Administrative support will be provided by Manitoba.

#### Meetings

The task force will meet by teleconference and communicate by email as needed to coordinate activities with other jurisdictions and groups, complete the analysis and prepare a report.