



Trucking & A Made in Canada “Clean Air Act”

Recommendations
of the
Canadian Trucking Alliance

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Canadian Trucking Alliance/Alliance canadienne du camionnage
Butterworth House
324 Somerset Street West
Ottawa, Canada K2P 0J9
Tel: (613) 236-9426
E-Mail: info@cantruck.com
www.cantruck.com

Introduction

Background

The Canadian Trucking Alliance (CTA) is a federation of Canada's provincial and regional trucking associations who collectively represent more than 4,500 motor carriers. CTA commends the Government of Canada for seeking to create a Made in Canada "Clean Air Act," and welcomes the opportunity to provide input into the development of the act. CTA has a long history of promoting effective and practical measures for reducing emissions from freight transportation. CTA has served, or continues to serve, on Transport Canada's Transportation Table on Climate Change and its National Advisory Group for the Development of a Sustainable Transportation Strategy. CTA is partner to a memorandum of understanding (MOU) with Natural Resources Canada (NRCAN) to jointly explore ways to reduce emissions from trucking. CTA sits on the Board of Directors of the Office of Energy Efficiency. CTA is a promoter of the US Environmental Protection Agency's (USEPA) *Smartway* Program, an initiative designed to encourage shippers and manufacturers to utilize the services of environmentally sensitive freight transportation providers. We also played a key role in the development of the USEPA's model regulation on anti-idling. And, CTA helped to bring NRCAN and USEPA together in an MOU on information sharing.

Purpose of this Paper

This paper highlights the environmental opportunities and challenges of the trucking industry. It also provides a comprehensive set of practical measures designed to reduce both smog emissions and the production of greenhouse gases (GHG's) from and by trucking. The relationship between transportation and the environment is very complex. Freight transportation, including trucking, is a derived demand industry. The demand for transportation fuel, including truck diesel fuel, and the resulting emissions of air pollutants (smog) and GHG's (climate change) is a function of many factors – economic activity, vehicle technology, driver behaviour, infrastructure, geography, weather, fuel costs, etc. – all of which combine to make decisions as to how to reduce emissions from the sector very challenging.

Jurisdiction over Transportation & the Environment

In the Canadian trucking industry, the regulatory governance over trucking and the environment is more complex (some might say more disjointed) than that experienced by most other industries, reflecting the fact that the regulation of extraprovincial trucking is a shared responsibility between the federal government and the provinces. So too with regard to environmental regulation, where in addition to the federal and provincial governments, municipal governments also have an important role to play. Even with the federal government, several departments lay claim to some aspect of jurisdiction over transportation and the environment – Environment Canada, Transport Canada, Natural Resources Canada and of course the Department of Finance.

The Industry

The Canadian trucking industry is the backbone of commercial transportation in Canada, providing flexible, time sensitive services that allow Canadian manufacturers to compete in the North American marketplace. Trucks presently dominate the freight distribution marketplace, handling 90% of all consumer products and foodstuffs and two-thirds (by value) of Canada's trade with the United States. It is a very diverse industry, made up of a few large companies, but dominated by small and medium sized businesses and independent owner-operators, employing somewhere in the order of 400,000 people overall. The industry consumes about 8.8 billion litres of diesel fuel per year in its 600,000 vehicles. Class 8 trucks (those weighing more than 15,000 kg) or the typical tractor-trailer unit account for 277,000 vehicles.

Trucking & the Environment

Trucks, like all modes of transportation rely on hydrocarbon-based fossil fuels for motive energy and to heat or cool the cabs. And, since trucking is the dominant mode of freight transportation, the industry does produce emissions:

- **Greenhouse Gas** -- According to Transport Canada's Transportation Annual Report 2005, GHG levels for on-road freight increased by 60% between 1990 and 2003. However, the report cautions that this increase should be viewed in the context of a rise of 120% in freight activity levels during the same period, indicating that *"while (on-road) freight is accounting for increasing levels of GHG ...it is also becoming more efficient by decoupling GHG emissions from activity. This has been achieved in a number of ways, including the adoption of better operating practices and the use of more efficient equipment."*
- **Air Pollution** -- The most visible impact of air pollution emissions is smog, which is composed of two main ingredients – (1) ground level ozone which is created when nitrous oxides (NO_x) and volatile organic compounds (VOC's) react together, and (2) particulate matter (PM). Since 1990, the trend in the emission of these pollutants has been downward, reflecting major advances in engine and fuel technology and regulated emission standards.

The trucking industry has a good story to tell. Over the years, it has greatly improved its fuel efficiency performance. In the fall of 2006, a new generation of smog-free truck engines and ultra-low sulphur diesel fuel will be introduced by law into the marketplace. This is in comparison to the other freight modes who receive no regulatory control over their engine emissions and limited, in comparison to trucking, oversight regarding the sulphur content of their fuel. However, with regards to the trucking industry, CTA believes there are further opportunities to be had and challenges that can be overcome by industry and government working together.

Action

CTA proposes a series of measures which it feels should be incorporated into a new, *Made in Canada Clean Air Act and Action Plan*.

Environmental Benefits of CTA Proposals						
CTA Proposed Measures	Annual Reductions Per Truck²			Total Annual Reductions (Canada)		
	NO_x (kg)	PM (kg)	GHG (tonnes)	NO_x (kg, millions)	PM (kg, millions)	GHG (tonnes, millions)
Smog Free Trucks ³	817	33	-	28.6	1.2	-
Encourage Anti-Idling Devices	134	2	19	37.5	.560	5.3
Reduce/Control Truck Speeds	195	4	10	54.6	1.1	2.8
Encourage Wide-Base Tires	28	0.6	4	7.8	.168	1.1
Aerodynamic Improvements	42	0.9	5	11.8	.252	1.4
Expand ELDT Network ¹				1.7	.04	.3
Total Reductions	399	7.5	38	142	3.32	10.6
Equivalent # of Trucks Removed from Air Quality Perspective				90,967	100,606	45,638
¹ Preliminary data from a pending joint NRCAN/CTA study for Ontario only based on an expanded network between Quebec & Ontario. The final study will also show GHG savings from Western & Maritime Canada LCV network. ² The calculations used to create the emission savings were generated from USEPA emission factors for Class 8 trucks; US EPA Smartway and/or NRCAN data. PM/NOx emissions reflect emission factors for Class 8, pre-October2002 trucks. ³ Based on sales of 35,000 Class 8 2010 model year trucks.						

Combined CTA's proposed measures would contribute to a:

- 142 million kg reduction in NO_x emissions or the equivalent of impact of removing almost 90,000 pre-October 2002 model year trucks;
- 3.3 million kg reduction in PM emissions or the equivalent impact of removing over 100,000 pre-October 2002 model year trucks;
- 10.6 million metric tonne reduction in GHG emissions or the equivalent impact of removing over 45,000 trucks.

The specific measures are summarized as follows:

To accelerate the penetration of smog-free trucks (Appendix A)

- Capital cost allowance (CCA) rates for 2007-10 trucks should be accelerated to recognize their environmental benefits similar to Class 24/27 manufacturing equipment under the Income Tax Act, and cogeneration equipment used for converting forest biomass to energy (2006 federal budget). As a starting point CCA rates for 2007-10 trucks should be equalized with US rates where carriers typically replace a tractor every 3-5 years, compared to every 5-7 years in Canada. A sunset clause to encourage rapid introduction of the new technology could form part of the strategy. Alternatively, or in addition, other financial incentives could include a one-time rebate program on the purchase of 2007-10 vehicles, investment tax credits, etc.;

- Provide a tax advantage for new truck ultra-low sulphur diesel fuel (ULSD) either by reducing the federal excise tax on truck diesel or increasing the excise tax on rail and marine diesel which contains significantly higher sulphur content;
- Encourage the Council of Ministers of Transportation & Highway Safety to allow a weight allowance on a truck's maximum gross vehicle weight of up to 181 kg (400 lbs) on 2007-2010 trucks to eliminate the payload penalty associated with particulate traps and avoid the increase in the number of trucks that would be required to haul the same amount of freight.

To encourage auxiliary heating/cooling systems to eliminate truck idling (Appendix B)

- Re-instate the NRCAN rebate program for truck idling reduction technology and increase the amount of the rebate to 50% from 19%;
- Encourage the Council of Ministers Responsible for Transportation & Highway Safety to reach an agreement whereby all provinces and territories would grant a weight exemption of up to 181 kg (400 lbs.) for trucks equipped with an auxiliary power unit (APU). In the US, the Bush Administration recognized this issue and included in its recent energy bill (HR6), which is now law, a 400-lb per vehicle weight exemption for trucks equipped with APU's.

To reduce/control truck speeds (Appendix C)

- Endorse the activation of speed limiters on all trucks that operate into, out of and within Canada at a maximum speed of no more than 105 km/hr and encourage the Council of Ministers of Transportation & Highway Safety to adopt this measure.

To increase the use of wide-base, single truck tires (Appendix D)

- Encourage the Council of Ministers of Transportation & Highway Safety to allow the use of the new generation of wide-base single truck tires at the same allowable weights as dual tires. All provinces should grant same weight allowances for single-based tires and duals.

To develop viable alternative fuels for commercial trucks (Appendix E)

- Develop a precise definition of what it means when government refers to biodiesel and the blend amount required to meet the definition of biodiesel;
- Conduct pilot programs to ensure operational concerns are addressed with regard to existing and 2007-10 truck engines before any national biodiesel blend can be considered;
- Introduce and enforce stringent biodiesel quality, manufacturing and testing standards for all blends and biodiesel sources.

To eliminate barriers to fuel efficient vehicle designs (Appendix F)

- Encourage the Council of Ministers of Transportation & Highway Safety to allow flexibility within the provincial truck weights and dimensions standards to add non-payload aerodynamic improvements to their equipment;
- The Government of Canada should live up to its commitment to work with the trucking industry and complete the extra-length double-trailer study. The study, which involved a considerable amount of resource commitment from carriers, examined the environmental benefits of expanding the ELDT network. (The approximate cost to do this is less than \$10,000) and armed with the study encourage the Council of Ministers of Transportation & Highway Safety to proceed with ELDT network expansion.

To reduce emissions from all modes (Appendix G)

- All modes of freight transportation should be required to meet regulated emissions reductions of the same order of magnitude as trucking;
- One department of the federal government should have regulatory authority over the fuel and engine emissions from all modes.

Appendix A:

Accelerate Penetration of the New Generation of Smog Free Trucks

Opportunity: Emissions from truck engines have been regulated for over 30 years by Environment Canada (EC) and the US Environmental Protection Agency (USEPA). The 2007 model year truck engines (which hit the market this fall) will usher in the era of the smog-free truck by virtually eliminating emissions of particulate matter (PM) and nitrous oxides (NO_x). A 90% reduction in PM is mandated for the 2007 trucks. By the 2010 model year, NO_x emissions must be reduced by 95%. The USEPA calls this “a *historic program comparable to the advent of the catalytic converter on cars.*” If the Canadian trucking fleet was composed exclusively of 2007 engine technology, the air quality impact would be the equivalent of removing more than 90% of today’s trucks from the roads.

Challenges: Concerns over the increased costs and payload penalties associated with the new equipment are contributing to a “pre-buy” mentality, which will delay the penetration of the new vehicles and delay the environmental benefits. (1) The 2007 trucks will cost C\$7,500-C\$12,000 per unit more to purchase. The 2010 model year technology is expected to cost even more. (2) Although it is unknown if the 2007 model will introduce a fuel efficiency penalty, the 2004 model year, which introduced NO_x reductions of 40%, caused a loss in fuel efficiency of between 3-8%. On October 15, 2006, by law the sulphur content of all truck diesel fuel will be reduced from the current allowable maximum of 500 ppm to 15 ppm. The ultra low sulphur diesel (ULSD) is needed to fuel the new smog-free engines. However, ULSD will have a reduced energy content (of 1%-2%) compared to existing diesel and will cost about 2.7 cents per litre more to manufacture. (Only truck diesel will have to meet the new standards. Rail, marine will continue to be able to use higher sulphur grade diesel blends); (3) To meet the PM emission reduction requirements, engine manufacturers will introduce a particulate filters in the 2007 truck engine. The filter acts as a trap by collecting particles in diesel exhaust before they enter the atmosphere. However, the particulate traps weigh up to 136 kg (300 lbs.) when they are clean and as much as 227 kg (500 lbs.) when filled with PM, which eats directly into vehicle payload. Truck weights and dimensions standards are presently administered by the provinces.

Action: (1) Accelerate capital cost allowance (CCA) rates for 2007-10 trucks to recognize their environmental benefits similar to Class 24/27 manufacturing equipment under the Income Tax Act, and cogeneration equipment used for converting forest biomass to energy (2006 federal budget). As a starting point CCA rates for 2007-10 trucks should be equalized with US rates where carriers typically replace a tractor every 3-5 years, compared to every 5-7 years in Canada. A sunset clause to encourage rapid introduction of the new technology could form part of the strategy; (2) Alternatively, or in addition, other financial incentives could include a one-time rebate program on the purchase of 2007-10 vehicles, investment tax credits, etc. (3) Provide a tax advantage for ULSD either by reducing the federal excise tax on truck diesel or increasing the excise tax on rail and marine diesel; (3) The Government of Canada should encourage the Council of Ministers of Transportation & Highway Safety to allow a weight allowance on a truck’s maximum gross vehicle weight of up to 227 kg (500lbs.) on 2007-2010 trucks to eliminate the payload penalty associated with particulate traps.

Appendix B:

Auxiliary Heating/Cooling Systems to Eliminate Truck Idling

Opportunity: The primary cause of idling in long-haul trucks is cab comfort -- heating and/or cooling, when the driver is resting or sleeping in the vehicle. Long-haul trucks can often idle at least six hours per day, or 1,830 hours per year. Several auxiliary power unit (APU) technologies are available that can reduce idling by as much as 90%. The USEPA estimates that fuel savings of up to 7,200 litres per year – which would translate into a GHG emissions reduction of 19 metric tonnes, 2.8 kilograms of PM and more than 134 kilograms of NO_x .

Challenge: (1) APU's are costly – up to \$12,000 per unit to purchase and to repair. The successful NRCAN Commercial Transportation Energy Efficiency Rebate program was suspended in March 2006 even though the 19% rebate encouraged the purchase of 13,280 APU's which eliminated on average, 2,200 idling hours per year per truck. This contributed to reductions of about 186,000 tonnes of GHG, more than 47 million grams of PM and more than 4.5 billion grams of NO_x. The total investment on the part of the federal government was \$6.2 million. The investment on the part of truck owners was \$31.3 million; (2) The weight of an APU can be as much as 181 kg (400 lbs.) -- which for many trucks eats directly into their allowable payload. A report from the US Department of Energy's Argonne Laboratories found that a trucking company's overall revenue could be reduced by as much 0.6% by having to cut payload to accommodate APU's. Truck weights and dimensions standards are presently administered by the provinces.

Action: (1) Re-instate the NRCAN rebate program for truck idling reduction technology and increase the amount of the rebate to 50% from 19%; (2) The Government of Canada should encourage the Council of Ministers Responsible for Transportation & Highway Safety to reach an agreement whereby all provinces and territories would grant a weight exemption of up to 181 kg (400 lbs.) for trucks equipped with an APU. In the US, the Bush Administration recognized this issue and included in its recent energy bill (HR6), which is now law, a 400-lb per vehicle weight exemption for trucks equipped with APU's. The truck operator must prove to weight compliance officials that a truck's idle reduction technology is fully functional at all times and that the 400-lb gross weight allowance is not used for any other purpose.

Appendix C: **Reduce/Control Truck Speeds**

Opportunity: There is an indisputable correlation between truck speed and truck fuel efficiency. The Canadian Trucking Alliance (CTA) with support from environment groups like Pollution Probe and safety groups like the Canada Safety Council, the Traffic Injury Research Foundation and SmartRisk, is calling upon all provincial governments to pass a law which would require all trucks which operate into, out of and within Canada, regardless of domicile to activate the speed limiter on their trucks' engines so that no truck could operate at more than 105 km/hr. A speed limiter is an electronic microchip that already exists on virtually all truck engines manufactured in North America since the early 1990's. Most fleets have already voluntarily activated the speed limiters on their company-owned trucks. Commercial vehicles traveling excessively over posted speed limits are not a wide spread problem in the industry. However, there is a segment of the industry that travels too fast --- wasting fuel and unnecessarily contributing to negative air quality conditions and GHG inventories (not to mention posing a safety hazard). Tests show that a 4-5 km/hr decrease in average truck speed, translates into fuel savings of similar magnitude. CTA estimates that a typical tractor-trailer unit could save as much as 10,500 litres of diesel fuel per year by limiting its maximum speed to no more than 105 km/hr. By reducing a truck's highway-driving speed from 112 km to 105 km could eliminate nearly ten metric tonnes of greenhouse gas emissions per year; 4 kilograms of PM per truck; and, and 195 kilograms of NO_x. The Transportation Table on Climate Change had also listed speed control as a measure to reduce GHG. To date two provinces have shown some level of political support for the CTA recommendation - -- Ontario and Quebec. In Ontario a private members bill, Bill 115, passed second reading and received support from all three parties. In Quebec, the measure also forms part of Quebec's Action Plan on Climate Change announced on June 15, 2006.

Challenge: (1) Speed compliance on Canadian highways is a provincial responsibility; (2) Some truck operators are resistant to change and further oversight of their businesses.

Action: The Government of Canada should endorse the activation of speed limiters on all trucks that operate into, out of and within Canada at a maximum speed of no more than 105 km/hr and encourage the Council of Ministers of Transportation & Highway Safety to adopt this measure.

Appendix D: **Wide-Base, Fuel Efficient Truck Tires**

Opportunity: Tire rolling resistance accounts for nearly 35% of the fuel consumed by a truck. Most tractor-trailer units have dual tire assemblies on the drive and trailer axles, with two sets of wheels and tires at each end of an axle. This configuration increases rolling resistance compared to if single wide-base tires and wheels could be used. Furthermore, single wide-base tires and wheels are lighter than standard dual tires and wheels. Total weight savings for a typical combination truck using single wide-base tires (instead of duals) on its drive and trailer axles ranges from 800 to 1,000 lbs -- increasing carrying capacity per vehicle and improving fuel consumption per load. Recent tests of tractor-trailers using the new generation of wide-base single truck tires indicate a potential fuel economy savings of 2%-4% compared to units using conventional duals tires. This amounts to an annual savings of 1,520 litres of diesel fuel for a typical tractor-trailer unit, a reduction of 4 metric tonnes of GHG emissions, 0.6 kilograms of PM and over 28 kilograms of NO_x emissions.

Challenges: Wide-base single tires have been the preferred tires on trailers in Europe for many years. They have also been used to a limited extent in North America for several years, though their use is now on the increase and some forecast they will become the tire of choice in the trucking industry. The major factor inhibiting their use is that at the present time: (1) The maximum allowable vehicle weights for many Canadian tractor-trailer configurations units (in all provinces except Quebec) are lower when equipped with wide-base single tires than for the same vehicles equipped with conventional dual tires; and (2) There are differences in the allowable weights between the various provincial governments. . The allowable weight differential between wide-base single and conventional dual tires reflects provincial government concerns over the impact on pavement from older-generation wide-base tires. Current “national” standards are contained in a 1988 Memorandum of Understanding between the provincial and territorial governments and the Government of Canada. Recent research indicates that the new generations of wide-base tires have no more impact on the infrastructure than standards dual tires. If the weight restrictions on their use were eliminated so that tractor-trailers equipped with wide-base tires could be operated at the same weights as those equipped with dual tires, their use would increase. Recently, Quebec became the first provinces to harmonize the allowable weights for dual and single wide-base tires, while some other provinces (e.g., Ontario) are studying the matter. The issue is presently under review at the National Task Force on Vehicle Weights and Dimensions Policy, which reports directly to the Council of Deputy Ministers on Transportation and Highway Safety. However, decisions cannot be taken by the task force – that will be up to each provincial/territorial government.

Action: The Government of Canada should encourage the Council of Ministers of Transportation & Highway Safety to encourage the increased use of the new generation of wide-base single truck tires by allowing them to be used at the same maximum allowable weights as the current standards for conventional dual tires.

Appendix E:

Alternative Fuels for Commercial Trucks

Opportunity: The trucking industry supports the exploration and eventual use of alternative fuels that are efficient, effective and practical from an operating and environmental perspective. In other words, alternative fuels that: (1) Contain the energy content needed to propel the high horsepower engines required to move heavy manufactured goods and raw materials; (2) Is readily available in all markets; (3) Do not void engine warranties; (4) Fit within the economics of the established fuel market; and (5) Meet all emissions reduction requirements. The trucking industry has no problem with reducing its dependence on oil-based product, if these conditions can be met. There is presently much interest in biodiesel, so we will concentrate our discussion there. However, as for other alternative fuels, many fleets within the trucking industry are currently running pilots with such fuels as liquefied natural gas and hydrogen hybrids. These tests are taking place across the country and throughout the United States by major fleets moving freight from coast-to-coast.

Challenges: Much fanfare has surrounded biodiesel -- an alternative fuel derived from vegetable oils or animal fat that can be used in compression ignition engines and is commonly blended with ordinary diesel (e.g., a B5 blend contains 5% pure biodiesel and 95% petroleum diesel). So, when we talk about biodiesel, what do we mean? What blend? According to the Engine Manufacturers Association (EMA) biodiesel blends up to a maximum of B5 should not cause engine or fuel system problems. However, independent studies show biodiesel could clog fuel filters and freeze in truck gas lines and tanks, especially in colder climates such as Canada's, due to a lower freeze threshold than conventional diesel. This appears to have been validated in December 2005, when the State of Minnesota suspended its 2% mandatory biodiesel blend (B2) regulation after trucks experienced clogged fuel filters or engine failure. Poor biodiesel blends were sourced as the reason for the suspension. Biodiesel fuel standards are not controlled by a manufacturing standard. While biodiesel blends may in time prove to be a viable option in the face of rising world oil prices, today's market still does not make biodiesel a competitive alternative. The Canadian Petroleum Products Institute (CPPI) has indicated that unblended biodiesel will cost \$1.05 US/gallon more than on-road diesel.

Action: (1) Environment Canada needs to develop a precise definition of what it means when it refers to biodiesel; (2) Environment Canada in cooperation with CTA, truck engine manufacturers and biodiesel producers should conduct pilot programs to ensure operational concerns are addressed with regard to existing and 2007-10 truck engines before any national biodiesel blend can be considered; (3) Environment Canada should introduce and enforce stringent biodiesel manufacturing and testing standards.

Appendix F:

Eliminate Barriers to Fuel Efficient Vehicle Designs

Opportunity: (1) Truck and trailer manufacturers are exploring ways to improve fuel efficiency and reduce GHG emissions by using components made of aluminum or other lightweight materials. The weight of tractors can be reduced by using components such as cast aluminum alloy wheels and aluminum axle hubs. By using lightweight components such as aluminum roof posts, upright posts and floor joists the weight of trailers can be reduced. Lightweight components can reduce truck weight by as much as 1,360 kilograms, contributing to fuel savings of 760 to 1,900 litres of diesel and reducing GHG emissions by 2-5 metric tonnes per truck annually. (2) The introduction of non-payload aerodynamic improvements such as (roof fairing, cab extenders and side fairings) could result in per unit reductions of almost 2,300 litres of diesel fuel, 5 metric tonnes of GHG, 900 grams of PM and over 42,300 grams of NOx emissions. (3) An expansion of Canada's extra-length double-trailer (ELDT) network would also pay environmental dividends. For example, an expanded network between Quebec and Ontario could, according to the draft of a joint NRCAN/CTA study for which federal funding was recently pulled at the report writing stage, annually save in Ontario 94 million litres of diesel fuel and reduce GHG emissions by 255 kilotonnes, PM by 37 million grams and 1.8 billion grams of NOx emissions. (The NRCAN/CTA study will also illustrate dramatic GHG savings and potential for the ELDT network in western Canada). The expansion of ELDT use was deemed to be the number one action in terms of combined environmental and economic benefit that could be taken to reduce GHG emissions in trucking according the federal Transportation Table on Climate Change.

Challenges: There are cost and regulatory obstacles to improving truck fuel efficiency. (1) Using lightweight materials in tractors and trailers is more expensive; (2) Provincial regulations governing truck weights and dimensions can be a barrier to streamlining trucks through aerodynamic devices as sometimes the addition of these improvements can put a tractor-trailer combination in violation of vehicle length standards, for example, even though the carrier does not benefit from any increased payload capacity; (3) Longer combination vehicles are presently allowed on a controlled basis (e.g., specific routes, times of day, weather conditions, etc.) in Alberta, Saskatchewan, Manitoba and Quebec. New Brunswick is presently piloting their use. The major impediment to the expanded use of these fuel-efficient vehicles is Ontario, which does not presently allow their use under any conditions.

Action: (1) The Government of Canada should encourage the Council of Ministers of Transportation & Highway Safety to allow flexibility within the provincial truck weights and dimensions standards to add non-payload aerodynamic improvements to their equipment; (2) The Government of Canada should live up to its commitment to work with the trucking industry and complete the study, which involved a considerable amount of resource commitment from carriers, of the environmental benefits of expanding the ELDT network. (The approximate cost to do this is less than \$10,000) and armed with the study encourage the Council of Ministers of Transportation & Highway Safety to proceed.

Appendix G;

Reduce Emissions from All Modes

Opportunity: Trucking is the only mode of freight transportation in Canada whose engine emissions are regulated. In 1998, the USEPA introduced modest regulatory controls (compared to trucks) over railway locomotive smog emissions. (Canadian locomotives operating in the US are exempt from this regulation). In February 2006, in a move supported by the American Lung Association, Greenpeace, the Natural Resource Defense Council, Sierra Club and several state environmental agencies, the State and Territorial Air Pollution Program Administrators (STAPPA) and Association of Local Air Pollution Control Officials (ALAPCO), called upon the USEPA to introduce NO_x and PM regulations for locomotives similar to those governing truck engines. According to STAPPA/ALAPCO a typical locomotive, meeting current minimal USEPA standards, will emit as much PM over its lifetime as nearly 500 2007 model year trucks. In Canada, where there is no regulation whatsoever, the impact could be even greater. In 2001, a study for Environment Canada found that *“with the introduction of new, higher powered, more fuel efficient locomotives (are) replacing the older units on a two-for-three basis plus the adoption of other efficiency measures which together yield a reduction in the annual fuel consumed. However, despite consuming less fuel for the power produced, the newer diesel engines produce more emissions per unit of fuel consumed.”* Another 2001 study conducted for the North American Commission for Environmental Cooperation (NECEC) on the impact of increased trade on emissions concluded that *“in all corridors, because of the decline in truck emissions, rail will contribute a much larger share of trade-related NO_x and PM₁₀ emissions.”* In 2003, a report for the Greater Vancouver Regional District found that, in 2020, marine vessels are expected to be the largest source of area pollution, due to increased activity as well as regulations that are reducing emissions from on-road vehicles such as trucks and cars. Moreover, whereas the sulphur content of truck diesel fuel will be reduced from 500 ppm to 15 ppm in October 2006, marine and railway diesel fuel can have a sulphur content of 5,000 ppm. (In 2005, Environment Canada proposed regulations to bring rail and marine diesel fuels to 500 ppm as of June 2007 and to 15 ppm by no earlier than June 2012).

Challenges: In Canada, locomotive engine emissions are monitored under a voluntary agreement with Transport Canada. In 2001, a study for Environment Canada found that the railway industry was underreporting its emissions. A singular federal focus on GHG emissions, and not to consider air quality has created a disjointed approach to emission reductions in the various modes. This is exacerbated by the fact regulatory oversight of modal emissions is also disjointed. Truck emissions regulations are the domain of Environment Canada while fuel efficiency programs come under the purview of NRCAN. Transport Canada is responsible for freight sustainability and freight efficiency programs, excluding trucking under its Environmental Affairs Branch. However, regulation of rail locomotive emissions for some reason come under the purview of the department’s Railway Safety Branch, not Environmental Affairs.

Action: (1) All modes of freight transportation should be required to meet regulated air quality emissions reductions of the same order of magnitude as trucking; (2) One department of the federal government should have regulatory authority over the fuel and engine emissions from all modes.