



# Choose how you move

## Exploring Sustainable Transportation in Nova Scotia

A Companion Document to the  
Sustainable Transportation Strategy

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**Exploring Sustainable  
Transportation in Nova Scotia  
A Companion Document to the  
Sustainable Transportation Strategy**

April 2013



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The Sustainable Transportation Strategy and its companion document  
*Exploring Sustainable Transportation in Nova Scotia* are both available  
online at [www.novascotia.ca/sustainabletransportation](http://www.novascotia.ca/sustainabletransportation)

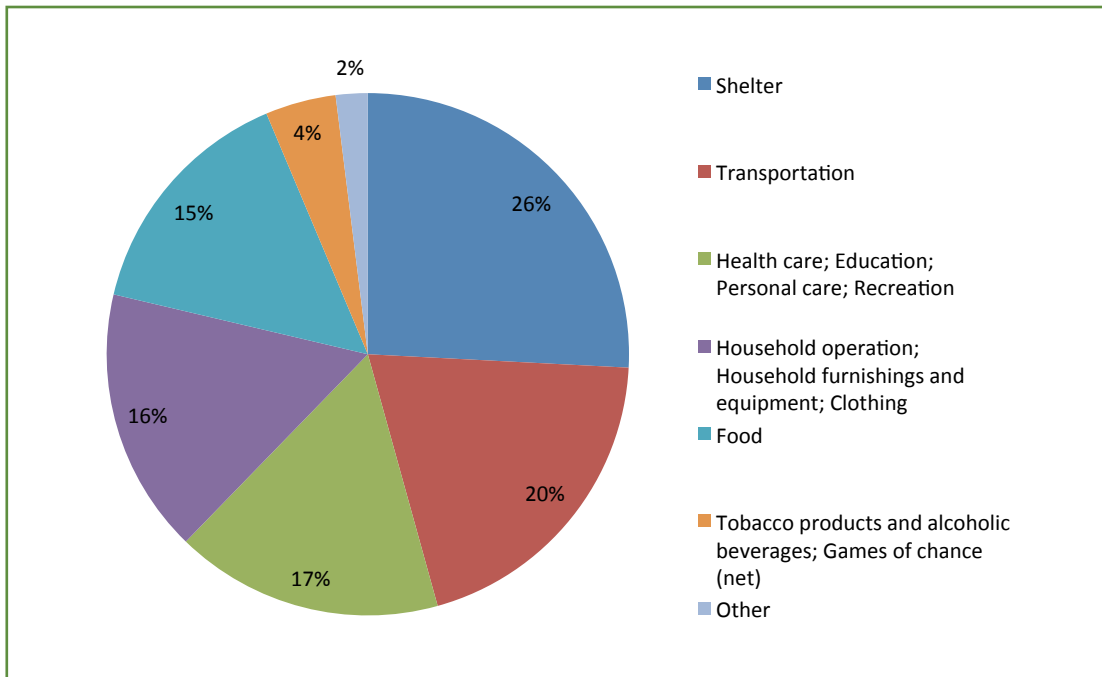
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# Spending

Figure 1.  
Average Household Consumption in Nova Scotia, 2009

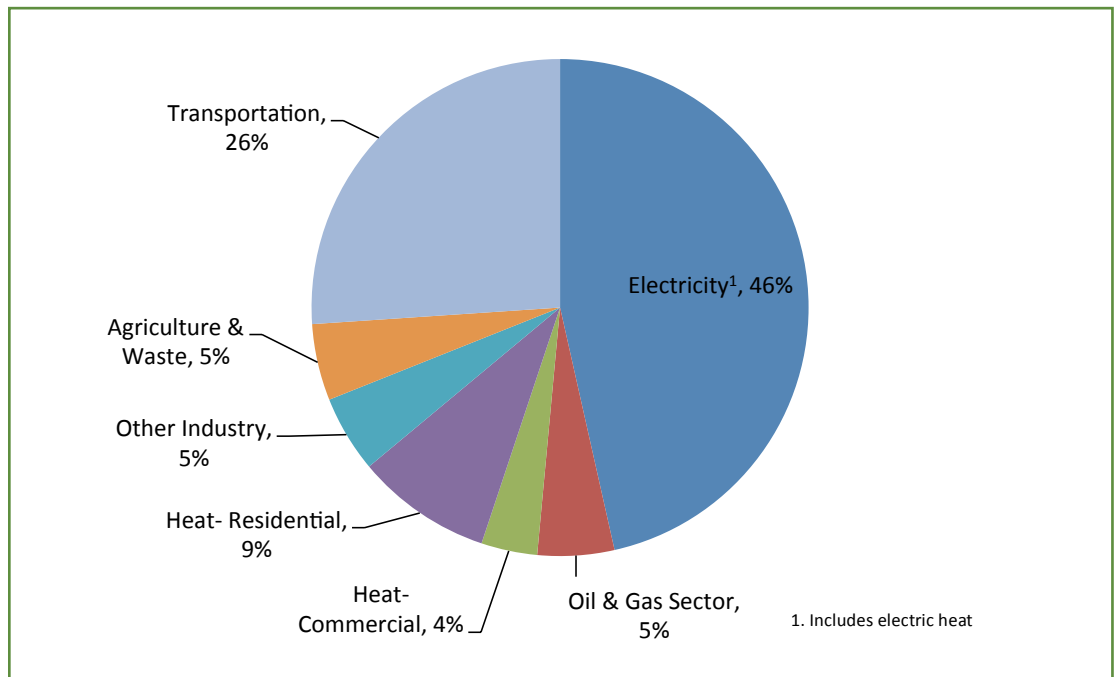


(Statistics Canada, 2009A)

Nova Scotia households spend a lot on transportation, second only to shelter. About 20% of what we consume goes towards paying for transportation which is, on average, about \$8,900 per year. For those with a car, this number is likely higher.

# Greenhouse Gas Emissions

Figure 2.  
Greenhouse Gas Inventory for Nova Scotia, 2010

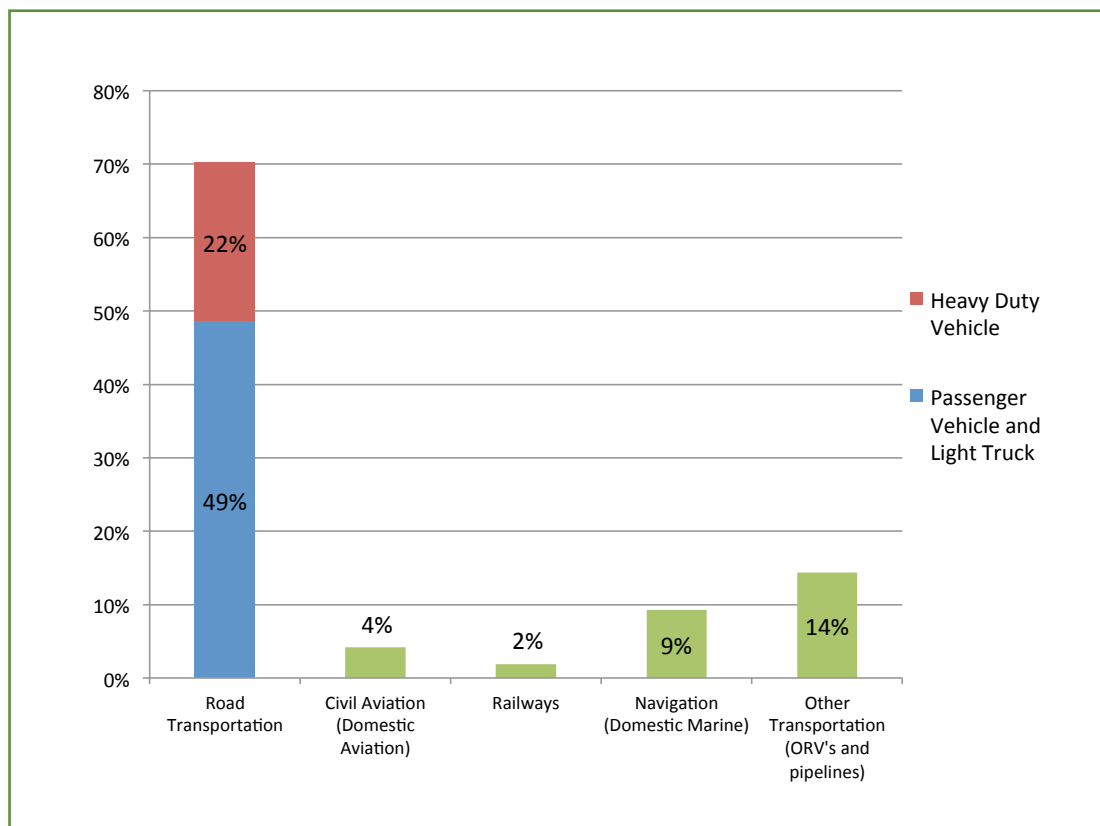


(Environment Canada, 2012)

Transportation is one of the largest contributors of greenhouse gas (GHG) emissions in Nova Scotia, second only to electricity production. Transportation accounts for approximately 26% or 5310 kt CO<sub>2</sub> eq<sup>1</sup>. Nova Scotia already has stringent regulations for the electricity sector that are spurring emissions reductions. Transportation initiatives will play an important role in helping meet our obligation to reduce overall GHG emissions to 10% below 1990 levels by 2020.

<sup>1</sup> Kilotonnes of carbon dioxide equivalent

**Figure 3.**  
**Nova Scotia Transportation Sector**  
**Greenhouse Gas Emissions, 2010**

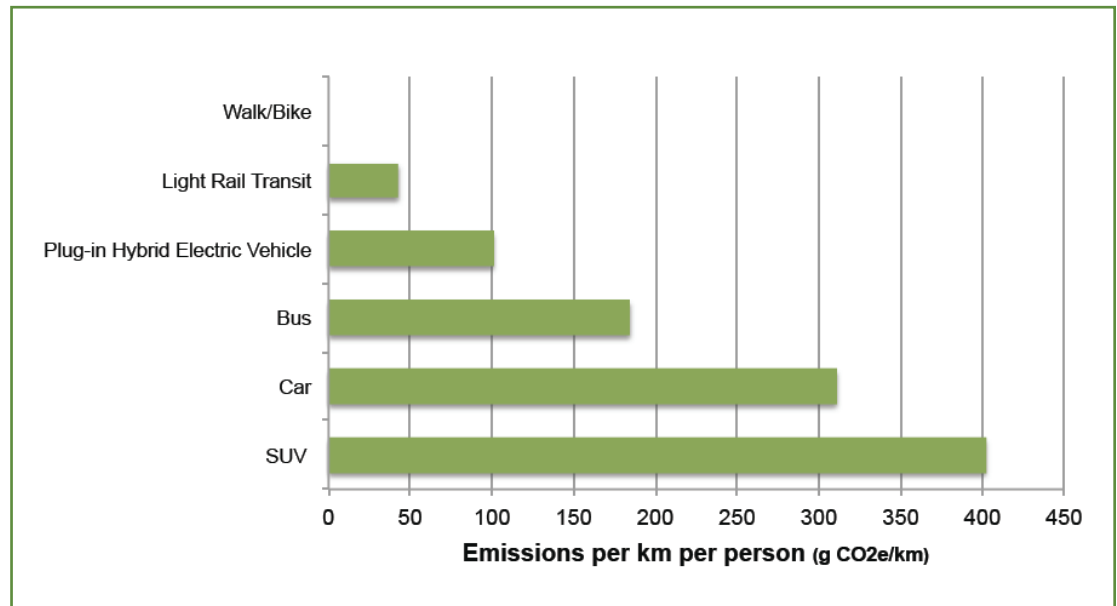


(Environment Canada, 2012)

The transportation sector can be broken down into five segments: road transportation, civil aviation (domestic aviation), railways, navigation (domestic marine), and other (including off-road vehicles and pipelines). The road transportation segment is by far the largest source of GHG emissions, accounting for approximately 70% of the transportation sector's emissions. Passenger vehicles and light trucks account for almost half of the sector's total emissions.

## Greenhouse Gas Emissions (cont'd.)

**Figure 4.**  
**Emissions per Kilometre by Transportation Mode<sup>1</sup>**



(Pembina Institute, 2012)

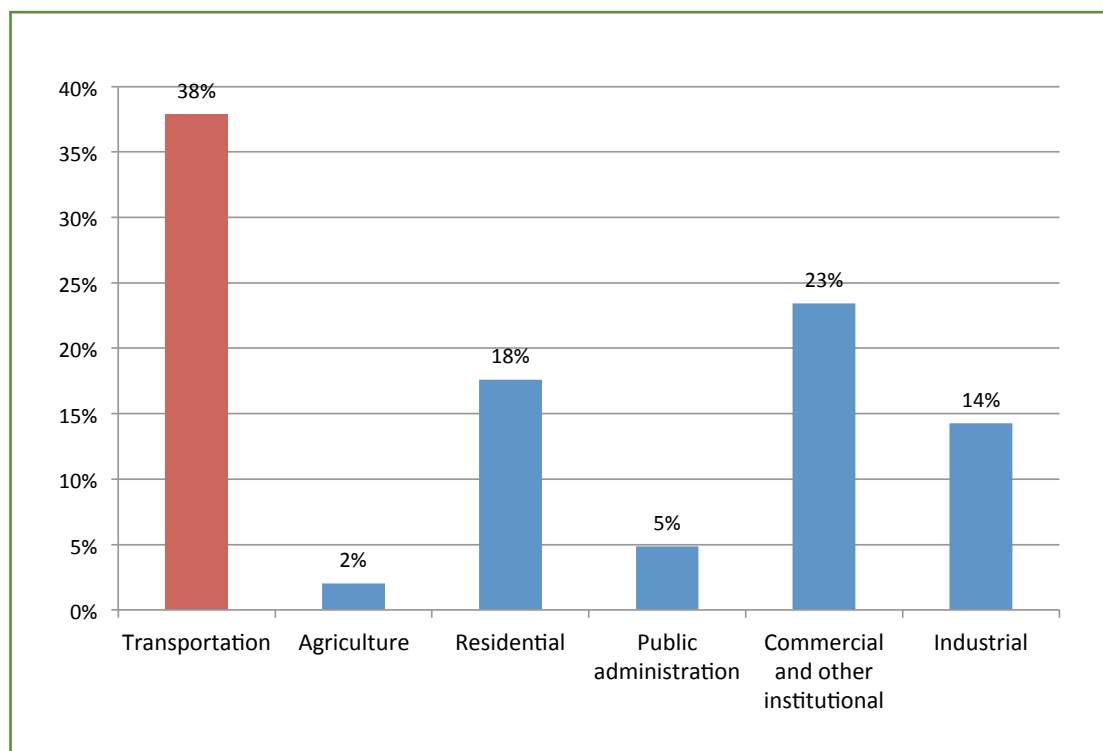
Different modes of transportation contribute different amounts of GHG emissions. Across North America, consumer preferences show a trend towards larger vehicles, such as sport utility vehicles (SUVs), pick-up trucks, and minivans. Larger vehicles produce more GHG emissions than smaller vehicles. Busses produce fewer GHG emissions per passenger than most types of passenger vehicles. Walking and cycling produce no GHG emissions at all.

<sup>1</sup> Emissions are for a typical vehicle in each category. Bus is assumed to have 10 passengers, light rail transit to have 23.6 passengers. Emission factors based on those from Transport Canada, *Urban Transportation Emissions Calculator*. Available at: <http://www.wapps.tc.gc.ca/prog/2/UTEC-CETU/Menu.aspx?lang=eng>

Note: Plug-in Hybrid vehicle emissions may vary depending on electricity fuel source.

# Energy

**Figure 5.**  
**Nova Scotia Energy Demand by End-Use Sector, 2009**



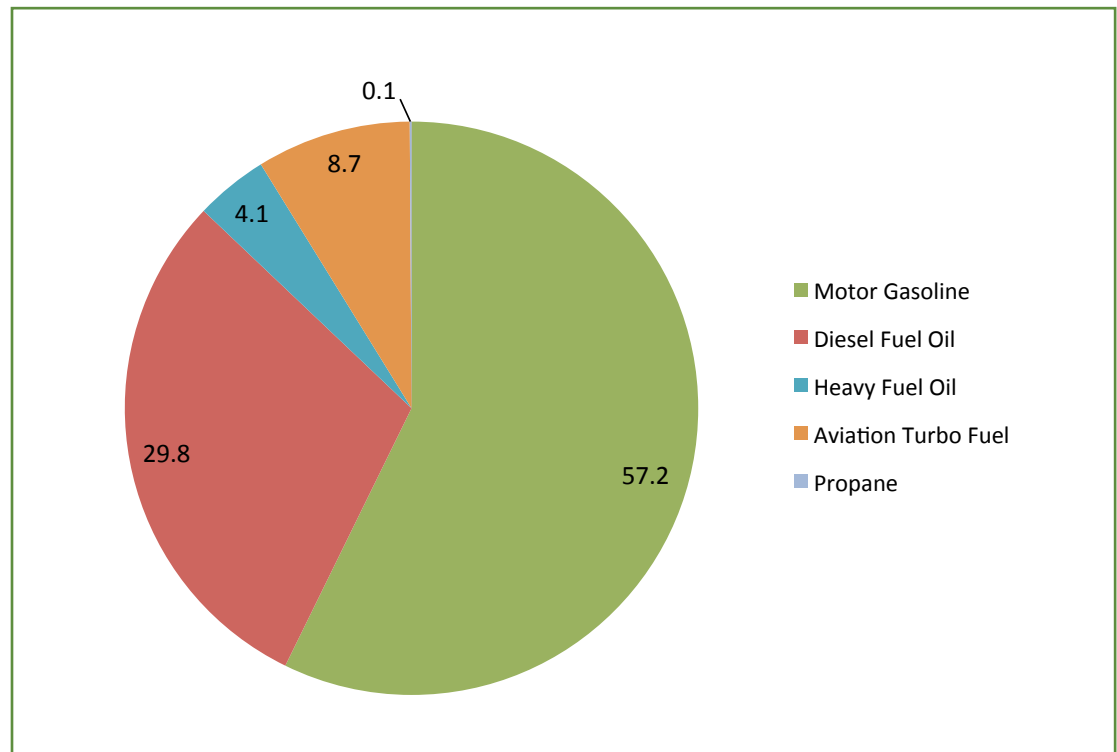
(Statistics Canada, 2011)

Transportation is the largest energy consuming sector in Nova Scotia, accounting for 38% (62.4 Petajoules) of Nova Scotia's total energy use. That's more than the commercial and industrial sectors combined.



## Energy (cont'd.)

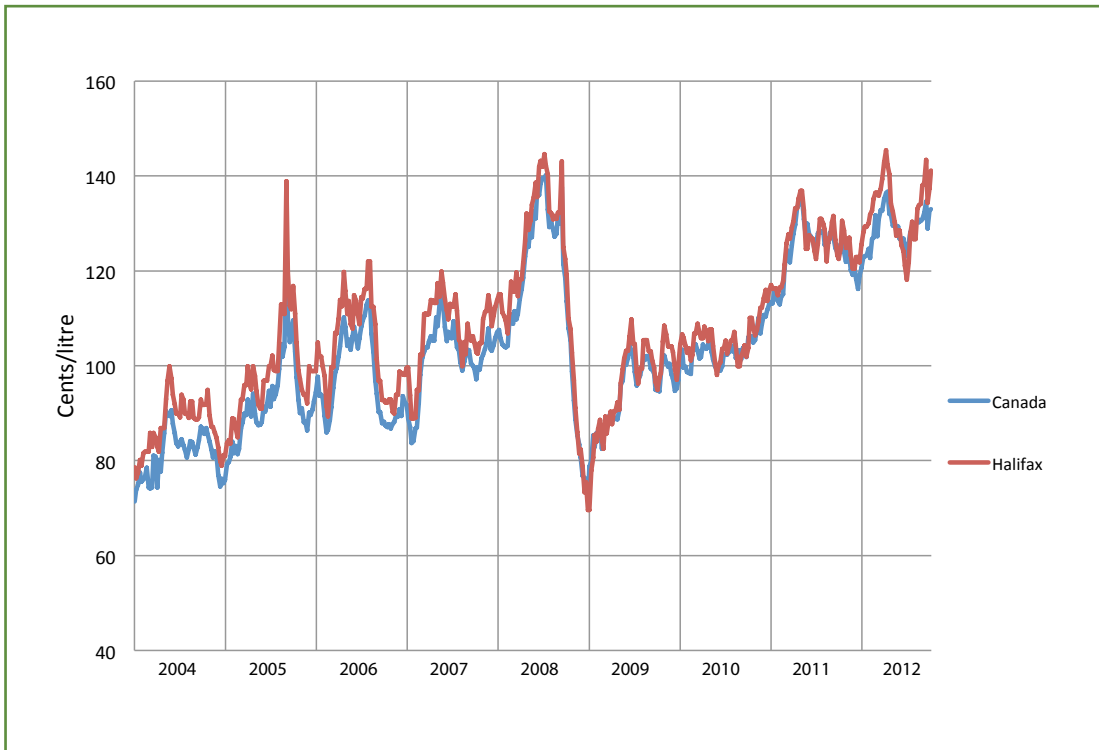
**Figure 6.**  
**Transportation Energy Use by Fuel Source, 2010**



(Natural Resources Canada, 2012A)

Not only is the transportation sector the largest energy consuming sector in Nova Scotia, but it is also completely dependent on refined petroleum products. In 2010, 87% of the fuel used in transportation was either motor gasoline or diesel fuel.

**Figure 7.**  
**Gasoline Prices in Canada and Halifax, 2004-2012**

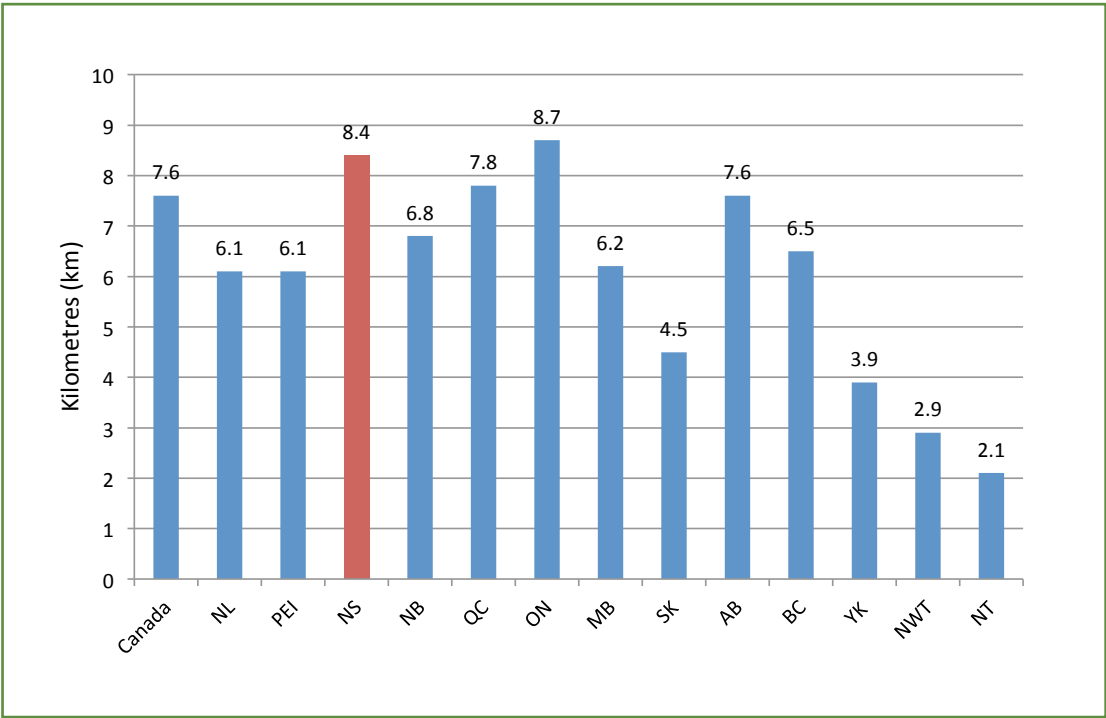


(Natural Resources Canada, 2012B)

The last eight years alone have seen significant fluctuation in the price of gasoline. With our transportation system's high level of dependence on fuels, price volatility can severely impact Nova Scotians.

# Travel, Modes, and Kilometres

Figure 8.  
Median Commuting Distance, 2006



(Statistics Canada, 2006A)

Nova Scotians commute some of the longest distances to work compared to other provinces. Only Ontario commuters travel further to get to work.

**Figure 9.**  
**Fuel costs and emissions for various vehicles in Nova Scotia**

	2008 Ford Escape	2012 Hyundai Elantra	2012 Ford F150 4WD	2013 Toyota Prius	2010 Honda Civic
Fuel economy <sup>1</sup> (L/100 km) city/combined/highway	13/11.8/9.8	8.4/7.4/6.2	16.8/15.7/13	4.6/4.7/4.9	9/8.1/6.9
Avg. annual km driven in NS	17400	17400	17400	17400	17400
GHG emissions (t CO <sub>2</sub> eq/year)	4.8	3.0	6.4	1.9	3.3
Annual fuel cost <sup>2</sup>	\$2567	\$1610	\$3415	\$1022	\$1762

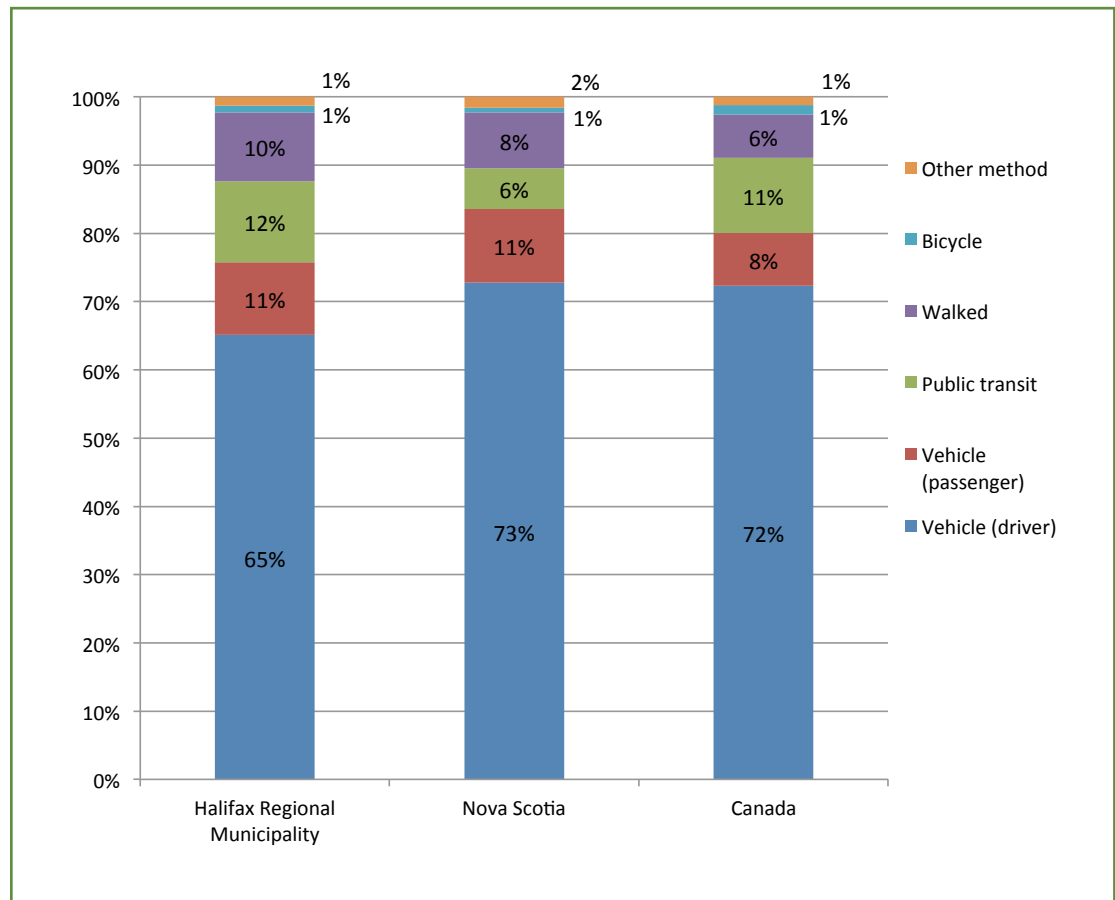
The types of cars we drive can significantly impact how much we pay for fuel and the amount of GHG emissions (as well as other air pollutants) we produce.

<sup>1</sup> Fuel economy figures are based on the US. EPA's Fuel Economy Guide, available at <http://www.fueleconomy.gov/>

<sup>2</sup> Annual fuel cost based on \$1.25 cents/litre, the average price of gasoline in Halifax in 2011.

## Travel, Modes, and Kilometres (cont'd.)

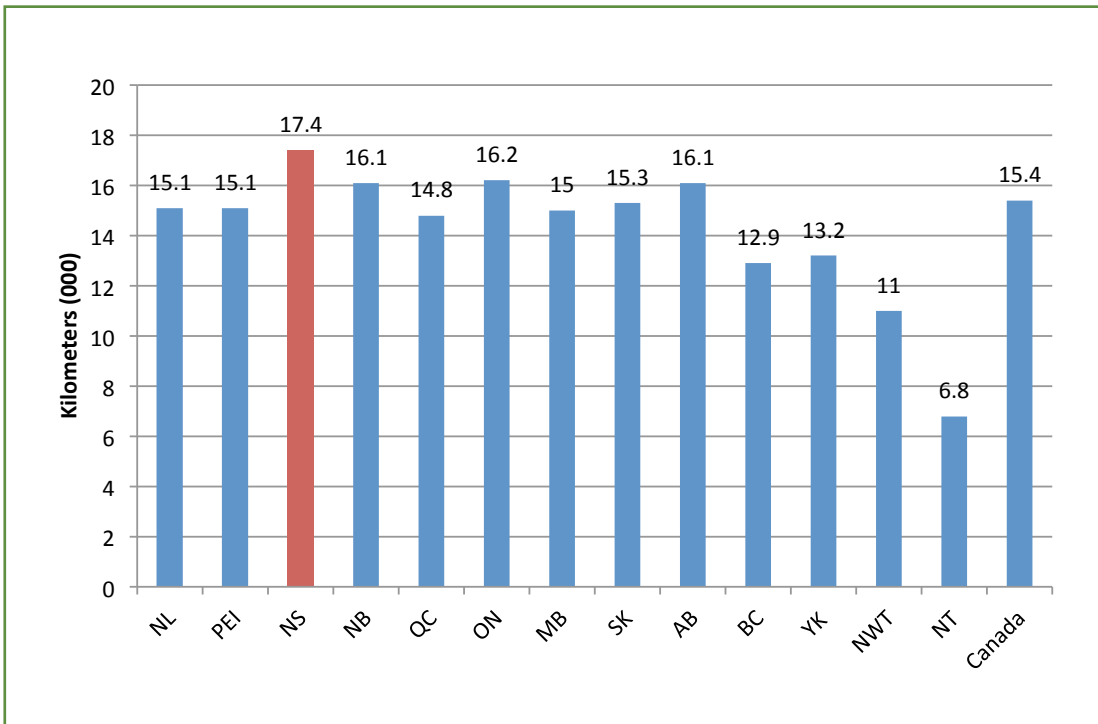
**Figure 10.**  
Percentage of commuters by mode, 2006



(Statistics Canada, 2006B)

In Nova Scotia, the vast majority (73%) of commuters drive to work by themselves in a car while 11% get a ride in a vehicle as a passenger. 15% take transit, walk or ride a bicycle to work. Commuters in Nova Scotia drive alone more than the national average (73% compared to 72%), used public transit less than the national average (6% compared to 11%), and either walked or bicycled slightly more than the national average (9% compared to 7%).

**Figure 11.**  
**Average distance driven, 2009**

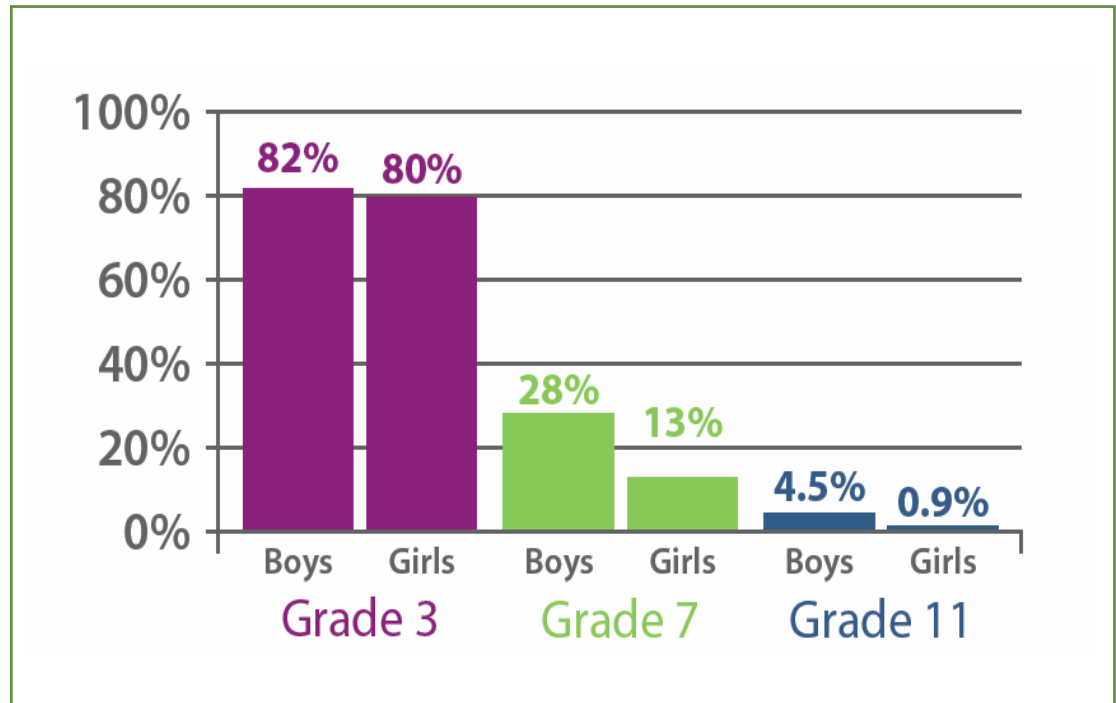


(Transport Canada, 2010)

In 2009, passenger vehicles and light trucks in Nova Scotia drove on average 17,400 km, the most in Canada.

# Health

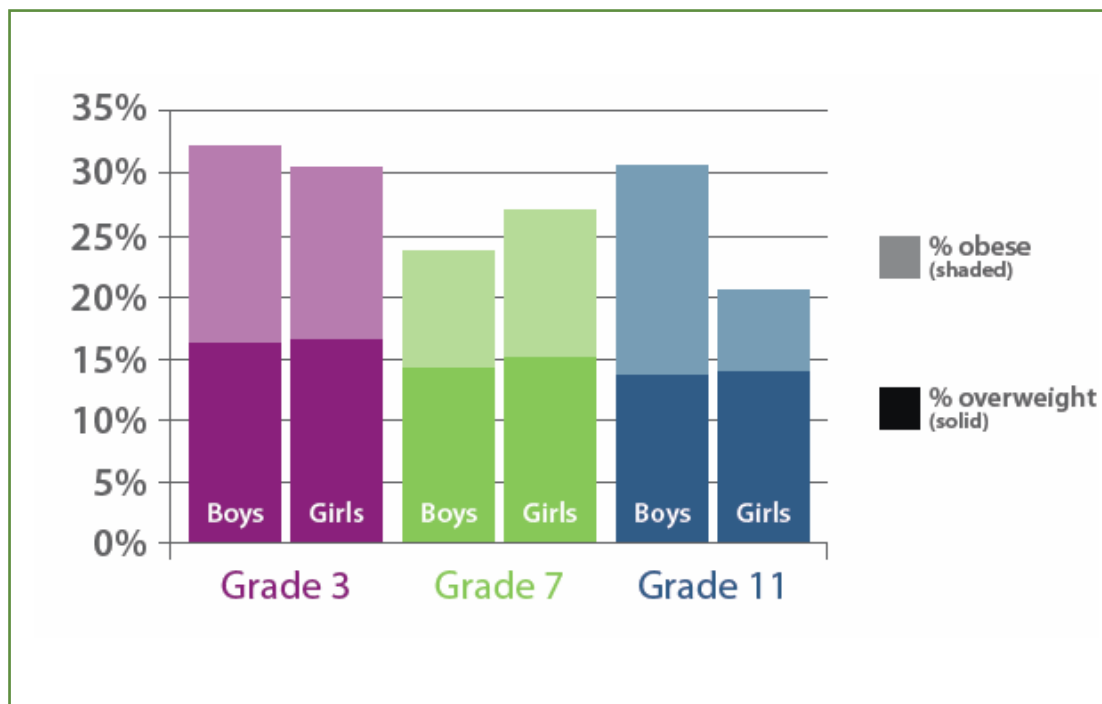
Figure 12.  
Proportion of Students meeting minimum  
physical activity guidelines, 2009-10



(Government of Nova Scotia, 2012A)

In Nova Scotia, physical activity levels have been on a downward trend. Less than 30 per cent of grade 7 students and 5 per cent of grade 11 students (and less than 1 per cent of grade 11 girls) now meet the minimum guidelines. The decline in activity from grades 3 to 7 appears to be growing, especially for girls. (Government of Nova Scotia, 2012B)

**Figure 13.**  
**Proportion of Students with Body Mass Index classified**  
**as overweight or obese**



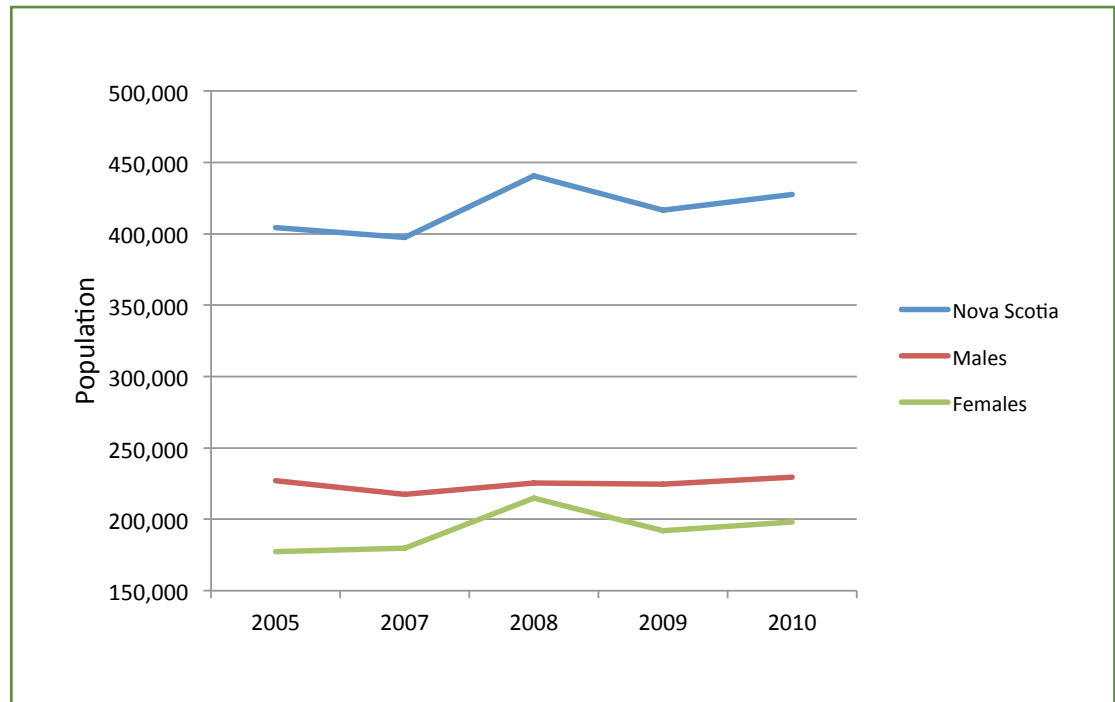
(Government of Nova Scotia, 2012A)

The rise in childhood obesity and preventable chronic disease is a global issue. In Nova Scotia today, one in three children and youth is overweight or obese, and rates of unhealthy eating, sedentary behaviour, and inactivity are much higher. Our rates of chronic disease are among the highest in the country. It is unclear whether rates of overweight and obesity may be leveling off in Nova Scotia, as seen in some other places. In any case, rates are unacceptably high. (Government of Nova Scotia, 2012B).



## Health (cont'd.)

**Figure 14.**  
**Self-Reported Overweight and Obesity Rate of Adults**  
**in Nova Scotia, 2010**



(Statistics Canada, 2010)

Overweight and obesity rates have increased over the 2005-2010 time periods in adults as well. Our transportation behaviours contribute to sedentary lifestyles and encourage living further from work, making people more dependent on vehicle travel. Sustainable transportation offers the opportunity to address this trend by encouraging less dependence on private automobiles and more physical activity.

# References

Environment Canada (2012) National inventory report: greenhouse gas sources and sinks in Canada 1990-2009.

Retrieved from <http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=A07097EF-8EE1-4FF0-9AFB-6C392078D1A9>

Government of Nova Scotia (2012A) Keeping Pace: Physical activity and healthy eating among children and youth, key findings from the 2009-10 study.

Retrieved from <http://www.gov.ns.ca/hpp/pasr/KeepingPaceReport.pdf>

Government of Nova Scotia (2012B) Thrive! A Plan for a Healthier Nova Scotia.

Available at <http://thrive.novascotia.ca>

Natural Resources Canada (2012A) Comprehensive energy use database.

Retrieved from [http://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/tablestrends2/tran\\_ns\\_1\\_e\\_4.cfm?attr=0](http://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/tablestrends2/tran_ns_1_e_4.cfm?attr=0)

Natural Resources Canada (2012B) Fuel Focus.

Retrieved from <http://www.nrcan.gc.ca/energy/1374>

Institute (2012) Behind the Wheel: Opportunities for Canadians to drive less, reduce pollution and save money.

Retrieved from <http://www.pembina.org/pub/2379>

Statistics Canada (2006A) 2006 Census of population- Median commuting distance of workers (in kilometres), Canada, provinces and territories, 1996, 2001 and 2006.

Retrieved from <http://www12.statcan.ca/census-recensement/2006/as-sa/97-561/table/t2-eng.cfm>

Statistics Canada (2006B) 2006 Census of population- topic based tabulations, mode of transportation- Nova Scotia.

Retrieved from <http://www12.statcan.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?TABID=0&LANG=E&A=R&APATH=3&DETAIL=0&DIM=1&FL=A&FREE=0&GC=01&GID=855643&GK=1&GRP=1&O=D&PID=95839&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=0&Temporal=2006&THEME=76&VID=13608&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=0&D4=0&D5=0&D6=0>

## References (cont'd.)

Statistics Canada (2009A) Spending patterns in Canada.

Retrieved from [http://www5.statcan.gc.ca/access\\_acces/alternative\\_alternatif.action?l=eng&loc=http://www.statcan.gc.ca/pub/62-202-x/62-202-x2008000-eng.pdf&t=Spending%20Patterns%20in%20Canada](http://www5.statcan.gc.ca/access_acces/alternative_alternatif.action?l=eng&loc=http://www.statcan.gc.ca/pub/62-202-x/62-202-x2008000-eng.pdf&t=Spending%20Patterns%20in%20Canada)

Statistics Canada (2010) Body mass index, overweight or obese, self-reported, adult, by sex, provinces and territories. Statistics Canada, CANSIM, table 105-0501.

Retrieved from <http://www40.statcan.gc.ca/l01/cst01/health82a-eng.htm>

Statistics Canada (2011) Report on energy supply and demand in Canada.

Retrieved from <http://www.statcan.gc.ca/pub/57-003-x/57-003-x2009000-eng.pdf>

Transport Canada (2010) Transportation in Canada: Addendum and figures.

Retrieved from <http://www.tc.gc.ca/media/documents/policy/addendum2010.pdf>

