

# What is sustainable transportation?

For Transport Canada, this means that the transportation system, as well as transportation activities in general, must be viable environmentally, economically and socially.

Economic and population growth has resulted in **greater transportation activity in Canada.**

Unfortunately, transportation as we know it today has many harmful **effects** on the environment.

Here is a quick summary of some of the environmental **problems** linked to transportation.

## Moving around ecologically: a few things to consider

- If you drive, respect the **speed limits!** Did you know that driving at 100 km/h instead of 120 km/h saves 20% in the amount of fuel you use? Lower fuel consumption means a reduction in atmospheric pollutants.
- Have you considered the possibility of **telecommuting** from time to time? A day without using your car is one day fewer that the environment receives harmful emissions from your automobile.
- If you absolutely have to buy a car, consider its **fuel** consumption. This will help you save money as well as reducing the environmental impact of your movements. Are you familiar with the Fuel Consumption Guide issued by Natural Resources Canada?  
<http://oee.nrcan.gc.ca/vehicles>
- Have you had your car **inspected** lately? Did you know that an engine in poor condition may increase your fuel consumption by as much as 50%? Add to that an air filter clogged with dirt, and your fuel consumption has just gone up an additional 10%!<sup>1</sup>

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SUSTAINABLE TRANSPORTATION

# Day-to-Day Impacts

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Canada

## Exhaust gas from vehicles

The use of fossil fuels (petroleum, natural gas and liquid propane) in the transportation sector generates emissions of various pollutants, including carbon dioxide, nitrogen oxides, volatile organic compounds and toxic substances.

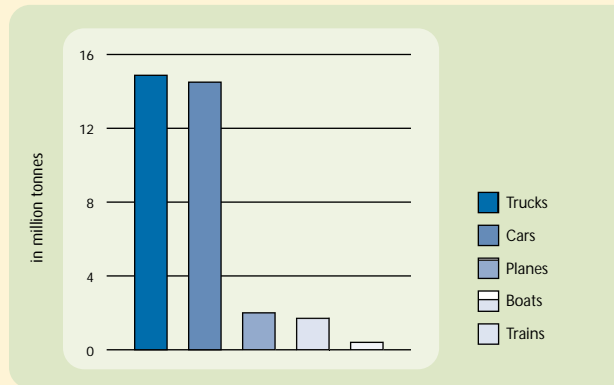
Carbon dioxide accumulates in the atmosphere with the burning of fossil fuels and contributes to global warming (**the greenhouse effect**). In 1997, the transportation sector was responsible for about 25% of total greenhouse emissions in Canada<sup>1</sup>. Some experts predict that global warming will have serious consequences, such as a greater number of floods and the disintegration of permafrost (permanently frozen ground layers) in northern Canada.

In addition, transportation today contributes enormously to the creation of **smog**. In 1995, transportation was responsible in Canada for 52% of all nitrogen oxide emissions, 40% of carbon dioxide emissions, 20% of volatile organic compound emissions and 5% of suspended particles<sup>1</sup>. These substances are the main components of smog. Smog has many harmful effects on the respiratory system, including wheezing bronchitis and asthma.

Transportation also plays a role in reducing the **ozone layer**, our natural shield against the sun's ultraviolet rays. Many air conditioners in motor vehicles contain CFCs, substances that contribute to thinning the ozone layer. Among the consequences are higher risks of skin cancer and cataracts.

Did you know that air conditioners represent the third biggest source of CFCs in the atmosphere and that it is estimated there are 8.4 million kilograms of CFCs in vehicles currently operating on Canadian roads<sup>2</sup>?

## Emissions of contaminants by means of transport (Canada, 1997)



Source: Environment Canada and the Ministère de l'Environnement du Québec

## Land use

Expansion of the road network often takes place at the expense of farmland and green spaces. This expansion often triggers urban sprawl, which increases our dependence on cars in getting around.

Did you know that about 35% of trips made by people living in Montreal or Toronto are taken to get between their workplaces and their homes<sup>3,4</sup>?

## Energy use

Most means of transport we are familiar with today (road vehicles, aircraft, ships and trains) use fossil fuels that are **non-renewable** resources. The world's known reserves of conventional oil reserves peaked in the early 1960s. It is expected that petroleum demand will continue to rise, intensifying the environmental impacts linked to the transportation sector and requiring us inevitably to look toward other forms of energy.

## The automobile's contribution

Though it is true that most means of transport have harmful effects on the environment, we have written these leaflets to encourage you to use your car less. If most means of transport cause some harm, why are we focusing our efforts on the automobile? Here are three reasons among many:

- More than 60% of the oil products sold for transportation purposes are used by automobiles<sup>5</sup>.
- Road transportation is the sector that emits the most contaminants in Canada. Trucking produces slightly more than cars.
- We believe you can make a difference!

Cars are by far the most widely used means of transport in Canada. In fact, there's a very good chance you own one. There is about one car for every two people living in Canada<sup>1</sup>. In 1995, cars accounted for 88.6% of passenger-kilometres during the year.

How can you minimize the environmental impact of automobiles? Simply by examining your movements more carefully and using one of the means of transport described in the leaflet titled "Sustainable transportation – Different Ways to Get Around".

1. Transport Canada, Sustainable Development Strategy 2001-2003.
2. Environment Canada, Exhaustion: A Guide to Transportation Emissions.
3. Agence Métropolitaine de Transport, Enquête Origine-Destination 1998 (origin-destination study).
4. Richard Gilbert, Centre for Sustainable Transportation, Sustainable Mobility in the City.
5. Transport Canada, T-FACTS.
6. Natural Resources Canada, AutoSmart Guide.