



# Are there realistic alternatives to the automobile?

d'aucun outil. (...) Il est une machine thermodynamique plus rentable que n'importe quel véhicule motorisé, et plus efficace que la plupart des animaux: à cette allure, il s'est établi dans le monde et il a fait son histoire.» Alors posons-nous la question: qu'a-t-on gagné à se déplacer en voiture? ♦

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By STÉPHANE GAGNÉ

**S**o much of our lives seems to revolve around the automobile that we often forget that there are other ways of getting from Point A to Point B. Alternatives somehow manage to be overlooked, even though, in many cases, they are environmentally-friendlier and more energy-efficient.

A case in point: In Canada, mass transit systems transport 15 % of people commuting between home and workplace while accounting for only 2 % of the energy consumed in the transportation sector. This is due to the fact that mass transit vehicles (buses, subway systems, streetcars etc.) are 2 to 6 times more energy-efficient than the automobile. During rush-hour they are 7 to 15 times more energy-efficient.

In a society, however, where time is money, many feel that the savings gained through automobile use are considerable. In reality, nothing could be further from the truth. In his book *Energy and Equity*, Ivan Illich has calculated the costs of automobile ownership:

"The typical American male devotes more than 1,600 hours a year to his car. He sits in it while it goes and while it stands idling... He earns the money to put down on it... He works to pay for petrol, tolls, insurance, taxes and tickets... The model American puts in 1,600 hours to get 7,500 miles: less than five miles per hour." (from *Energy and Equity* by Ivan Illich, Calder & Boyars, 1974, p.30). This is somewhat faster than walking, somewhat slower than biking and much slower than using public transit. Rare, however, are the drivers who actually calculate the time they devote to their cars.

The widespread perception exists that technology will be able to offer a "quick fix" to the problems that have resulted from excessive use of the private automobile (i.e. traffic congestion, pollution, noise etc.) The electric vehicle (EV), alternative fuels, and intelligent vehicles and highway systems (IVHS), all promise to make the automobile more environmentally-friendly. Let's examine this claim on a case-by-case basis beginning with the electric vehicle. This would only be a viable alternative where hydro power, solar power or wind power is plentiful. Although these energy sources are all "cleaner" than the traditional ones, they do little to relieve problems of traffic congestion or urban sprawl. On the contrary, they actually contribute to these problems by making private automobile use more acceptable. A better solution would be to use this same technology on transit vehicles and to encourage people to use mass transit.

In addition, electric vehicles, like the traditional automobile, have the disadvantage of contributing to the depletion of natural resources, since 77% of the average vehicle's weight (1989 figure) is made up of various non-renewable metals (they are, in fact, recyclable, though this would necessitate further energy consumption). The energy used in the production of electric vehicles, usually fossil fuels, is also a factor to consider. According to Environment Canada, 20% of the energy that a vehicle uses up during its lifetime goes into its production.

What about alternative fuels such as ethanol, methanol, natural gas, propane and hydrogen? Among them, only hydrogen does

not produce polluting emissions (the only by-product being water). Hydrogen production could be viable in Quebec since it requires only water and electricity, both of which the province has in abundance. However, we are still a long way from the production of hydrogen on a large scale.

Although the use of methanol, natural gas and propane reduces the levels of certain polluting emissions, it raises the levels of others, making their use of little advantage. The production and combustion of ethanol produce 20% more pollution than the production and combustion of regular fuel, according to *Clean Fuels Report*, a publication that specializes in alternative energy sources. Furthermore, the production of ethanol from corn grown through the use of fertilizers and herbicides remains very controversial in Quebec.

Finally, research is being conducted into the development of IVHSs. This technology would help to alleviate traffic congestion by displaying the shortest and least congested routes on a computer screen located inside the vehicle.

Is it realistic to expect technology to solve our traffic congestion problems? According to Worldwatch, a renowned American research institute, even the most advanced technology will not be able to effectively deal with the rise in automobile traffic.

Are we deluding ourselves by thinking that the solution lies in improving private transportation? That's what the facts would lead us to believe. Realistically, the solution is more global in nature and involves completely rethinking our pattern of urban development, which was designed with the automobile in mind. Our society favours bungalow-style dwellings

in a suburban setting, far from downtown, making individuals slaves to their automobiles. In this type of situation public transportation is neither efficient nor cost-effective. Such has been the case in the Montreal urban region where public transportation systems serving suburban areas (i.e. La Societe de Transport de Laval and La Societe de transport de la Rive Sud de Montreal (STRSM)) are not able to offer users convenient service at a reasonable cost.

Fortunately, there are alternatives in both the private and public sectors. The STRSM has recently introduced a group taxi service that is more flexible and cheaper than a bus service that loses money and operates at half-capacity. Another option is carpooling with co-workers, which is both economical and easy to do.

For people who want the convenience of a car without actually owning one, options include renting or joining a car rental cooperative (one has already opened in Quebec City and there could be one on the horizon for Montreal). This arrangement allows access to a vehicle at all times while paying only for the time the vehicle is in use.

Last but not least is the bicycle, which can meet most local transportation needs (i.e. trips of fewer than 10 km.) And then there is always walking. As Ivan Illich asserts: "Man, unaided by any tool, gets around quite efficiently... Man on his feet is thermodynamically more efficient than any motorized vehicle and most animals... At this rate of efficiency man settled the world and made its history." All of which leads to the inevitable question: How far has the automobile really taken us? ♦

We'd like to thank Environment Canada, Quebec Region



rive grande première.

Opter pour l'autobus est la meilleure des astuces.

