An initiative of:
fondation monique-fitz-back
FOR A LIVING WORLD

TRANSPORTATION FOR A BETTER LIFE

Reference Document

Photo: Christine Baby

Desjardins Caisse d'économie solidaire
FONDS de solidarité FTQ
OPAT
VILLE DE LÉVIS
Société de transport de Lévis
équiterre
EVB-CSQ
aqtim ASSOCIATION QUÉBÉCOISE DU TRANSPORT INTERMUNICIPAL ET MUNICIPAL
stm
RTC RÉSEAU DE TRANSPORT DE LA CAPITALE
NOVA BUS
Transports Québec

Research and Editing:
Emilie Robitaille –
Fondation Monique-Fitz-Back

Coordination:
Christian Payeur –
Fondation Monique-Fitz-Back

Linguistic revision:
Simon Lapointe

Traduction:
Wendy Sturton

Graphics:
Christine Baby

Financial Support:
The *Transportation for a Better Life* project is possible thanks to the financial support of major partners. We thank the Ministry of Transport of Québec, Nova Bus, the Réseau de transport de la Capitale, the Établissements verts Brundtland of the CSQ, the Association québécoise du transport intermunicipal et municipal, the Caisse d'économie solidaire Desjardins, Fonds de solidarité FTQ, Quebec Provincial Association of teachers, Équiterre, the Société de transport de Lévis and the city of Lévis.

Collaborators:
Diane Laflamme, Sonya Fiset, Serge Gagné, Jean Robitaille, Jean Mercier, Carole Marcoux, Bertille Marton, Daniel Forget, Claude Couture, Vélo Québec, Accès transports viables, Forêt d'Arden, La Biosphère, Ateliers Frédéric Back, Association professionnelle des éco-conseillers du Québec, Association française des éco-conseillers.

Fondation Monique-Fitz-Back
320 St-Joseph St. E., Suite SS-035
Québec (Québec) G1K 8G5

Toll-free Number: 1-866-621-6927

Website: www.fondationmf.ca
Email: adm@fondationmf.ca

ISBN: 978-2-9811497-8-7 (print version)
ISBN: 978-2-9811497-9-4 (pdf)

Legal Deposit – Bibliothèque et Archives nationales du Québec, 2012

Legal deposit – Library and Archives Canada, 2012

Also available in French.

This document is printed on Enviro 100 paper.

Reference document

GLOSSARY

Greenhouse gas (GHG)	A type of gas either existing naturally or generated by human activity, which performs the function of retaining heat in the lower atmosphere. Main greenhouse gases are water vapor, carbon dioxide (CO_2), methane (CH_4), nitrogen dioxide (NO_2), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFC) and sulphur hexafluoride (SF_6).
Pollution	Introduction through human activity of substances, vibrations, heat or noise into the air, water or soil, which are likely to negatively affect human health or the quality of the environment.
Smog	Contraction of the words "smoke" and "fog". Smog is a fog made up of noxious substances which contaminate ambient air. Its main components are ozone and fine particles.
Active transportation	A method of transportation which entails physical work. When the body is required to move in order to change its location, the transportation method may be deemed active. Examples of active transportation: bicycle, walking, in-line skates, skateboards, kick-scooter, etc.
Collective transportation	Transportation designed to service many passengers. It responds to the need for a common schedule and shared destinations. The service is usually rendered for a fee and is administered by a company or other type of organization. Examples of collective transportation: bus, train, metro, ferry, etc.
Shared transportation	Transportation operating on a rental model. Many passengers subscribe to the service, and then use the same vehicle at different times, according to their respective needs. Essentially, the concept of shared transportation is based on the distinction between use and ownership. Examples of shared transportation: Communauto and BIXI bicycles.
Solo transportation	All means of motorized transportation with a single passenger which uses an energy source other than a human being. The designation of solo transportation is most commonly attributed to one person in a car, which is also called solo car use. A parent driving a child to school by car is not considered to be car-pooling, but is considered as someone utilizing solo transportation.
Transportation Cocktail	Combination of various modes of transportation during the course of a single trip.

(Sources: Brodhag et al. 2003, Promobilité 2010)

TABLE OF CONTENTS

"A city without a sidewalk is a city which does not love its own children."

Margaret Mead (Demers 2008)

Photo: Christine Baby

TRANSPORTATION for a Better Life

Together, let's choose the path to follow

The mission of the Fondation Monique-Fitz-Back is to promote education related both to the environment and to connections between the environment and health, within the perspective of sustainable development. The ***TRANSPORTATION FOR A BETTER LIFE*** project takes its place within the Fondation's mission. It targets the sensitization of youth to environmental, social, economic, even ethical issues related to transportation. It encourages critical reflection and the evolution of long term solutions oriented towards the future. The values of the Établissements verts Brundtland (EVB) are ecology, democracy, pacifism and solidarity. Health is the central value of the Fondation. All these have inspired the development of this project.

OBJECTIVES OF THE PROJECT

In the context of this far-reaching pedagogical initiative, three major objectives are:

- To encourage young people to express their views on the future of transportation and the development of sustainable, healthy communities.
- To encourage a movement supporting the development of a healthy lifestyle and the involvement of young people in their community.
- To demonstrate community support for the involvement of young people.

A SUSTAINABLE TRANSPORTATION SYSTEM IS ONE THAT:

"allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and equitably within and between generations; it is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy; limits emissions and waste within the planet's ability to absorb them, minimizes the consumption of non-renewable resources, reuses and recycles its components, and minimizes the use of land and the production of noise." (Centre for Sustainable Transportation, 1997).

Thus the concept of sustainable transportation favors alternatives to solo car use, such as active and collective transportation.

Photo: Chloé Marcil

Photo: Christine Baby

Transportation Issues: At the Crossroads

TRANSPORTATION, HEALTH, AND THE ENVIRONMENT

GREENHOUSE GAS EM ISSIONS

Transportation is one of the sectors with the highest greenhouse gas emissions (GHG) (ASSS 2006). In Quebec, transportation alone is responsible for almost **40%** of greenhouse gas emissions, of which **80%** comes from road traffic (ATUQ 2008). It's true that since the 1970's, anti-pollution regulations have been put in place; however, emissions of GHG continue to increase due to the rising number of vehicles on the highways, and because of their increasing size.

Among the main GHGs, CO2 remains the most plentiful and is still the greatest contributor to climate change. This gas is generated mainly by burning fossil fuels, such as oil, carbon or natural gas and, consequently, by transportation (Villeneuve 2007). Climate change, the consequence of increasing concentrations of GHG generated by human activity, disrupts and will continue to disrupt the ecosystems of the planet; rising numbers of heat waves, extended freeze-thaw cycles, intensification of droughts and snowstorms represent a few of the effects of climate change (Défi Climat 2009).

THE GREENHOUSE EFFECT IS LIKE A BLANKET OVER THE EARTH

The greenhouse effect is a natural phenomenon which conserves heat on planet Earth. Energy radiated by the sun penetrates the atmosphere, is absorbed by the earth's surface, and is then transformed into heat. This heat is radiated back into the atmosphere; some of it is retained due to GHG, while the rest dissipates into space. The greenhouse effect is, therefore, necessary for our survival. Without this phenomenon, the average temperature on Earth would be about -18°C, while at the moment, it's about 15°C.

GHGs act like a blanket around Earth. Just as their name suggests, their function is similar to that of a greenhouse in retaining heat. CO_2 is comparable to a cotton sheet; methane, to a flannel sheet; nitrous oxide, to a wool blanket; and CFCs, PFCs and HFCs, to a down comforter! (Villeneuve 2007) Problems associated with GHGs arise from their cumulative action in the atmosphere, which continually heats the Earth.

Transporting 40 people downtown

By car 1 person per car	**By car** 4 people per car	**By bus** 40 people per bus	**By streetcar** 240 people
			
These 40 people in 40 vehicles produce, in all, nearly **10 kg** of CO_2 per kilometer travelled. It would be necessary to plant **7 trees** to collect the CO_2 emitted by all these cars over 100 kilometers.	These 40 people in 10 vehicles produce, in all, nearly **2.5 kg** of CO_2 per kilometer travelled. It would be necessary to plant **2 trees** to collect the CO_2 emitted by all these cars over 100 kilometers.	These 40 people in a bus produce, in all, nearly 1.8 kg of CO_2 per kilometer travelled. It would be necessary to plant **1 tree** to collect the CO_2 emitted by this bus over 100 kilometers.	The streetcar produces very little GHG, since its primary energy source is hydroelectricity. Furthermore, the urban space required for a streetcar is less than that needed for 10 to 40 vehicles.

Source: CEC 2009

SMOG FORMATION

Automobiles are one of the causes of smog episodes. Fine particles and ozone are the two main components of smog. Fine particles infiltrate respiratory passages, sometimes reaching the lung alveoli. Ultrafine particles can even get into the circulatory system, thereby passing into the entire organism. Depending on the concentration, the presence of fine particles can result in pulmonary and cardiovascular problems. It has also been observed that the day after an increase of fine particles in the air, an increase in the mortality rate among at-risk people occurs (ASSS 2006).

Ground-level ozone (O_3) can irritate the eyes and nose, as well as respiratory passages. It may also contribute to the development of asthma in children. Ground-level ozone is not the same as the stratospheric ozone which makes up the ozone layer (ASSS 2006).

DID YOU KNOW THAT...

An idling motor burns more gas in 10 seconds than is necessary to start it, and emits 2 times the amount of atmospheric pollution than when the car is running at full speed? (Transport 2000, 2008)

DID YOU KNOW THAT? We estimate the number of annual deaths due We estimate annual deaths due to atmospheric pollution in Canada to be about 16 000 (Health Canada 2008).

DID YOU KNOW THAT? A direct link has been detected between the increase in asthma and respiratory problems in children, and the time they spend in environments (at home or in school) close to heavy car traffic (ASSS 2006).

DID YOU KNOW THAT? Noise is a major sleep disruptor and can cause increased heart rate and higher blood pressure (ASSS 2006).

DID YOU KNOW THAT? The air inside a car is sometimes up to 10 times more polluted than the air outside it, if it is following another car (ASSS 2006).

DID YOU KNOW THAT? The process of refining oil requires 15% à 20% of the amount of energy in the refined product (Villeneuve 2007).

SEDENTARY LIFESTYLE

Sedentary lifestyle is considered one of the principle causes of illness in Quebec. In the United States, excess weight and obesity (two primary consequences of a sedentary lifestyle) are at near-epidemic levels (VQA 2006). However, it has been shown that about a third of people who use collective transportation walk 30 minutes a day, which corresponds to the minimum needed to offset most negative effects associated with a sedentary lifestyle (Besser et al. 2005). Time devoted to walking by those who drive their cars is usually less than this and, therefore, the physical activity associated with this form of travel is limited.

DID YOU KNOW THAT? In Quebec, 21.8% of adults and 7% of children suffer from obesity (ASSS 2006).

DID YOU KNOW THAT? In Montreal in the 1960s, 75% of children walked to school; 40 years later, only 25% did so (Baril 2008).

SAFETY ISSUES

In the United States, the number of victims of car accidents since 1900 is more than double all the victims of all the wars in American history combined – Katie Alvord, author of *Divorce your car!*

The sense of being safe is also a health issue. A sense of security related to transportation, in particular, depends on the existence of infrastructure (roads, bike paths, sidewalks, etc.), on their condition and on the behaviour of drivers (including cyclists) (VQA 2006). Knowing the territory also plays a role in the sense of personal security (Bachiri et al. 2008). Road safety remains an important issue when we consider the high number of annual victims of highway accidents.

In Quebec, the lowest number of deaths on the road in the last 35 years was recorded in 2008. Major campaigns on this topic probably played a role in improving road safety statistics!

However, in 2008, 557 highway deaths were recorded. 2363 people were seriously injured, and 41 203 suffered minor injuries (SAAQ 2009a). The total number of these accident victims represents the entire population of cities like Rimouski or Granby. According to the Sûreté du Québec, if car drivers reduced their speed by 5 km/h, the number of people injured on the roads of Québec would be reduced by 15% (SQ 2008).

DID YOU KNOW THAT...

The average perimeter of play space for children in 1990 was 10 times less than in 1970?
(PPS 2009)

CHILDREN ARE VULNERABLE PEDESTRIANS

- Their small size reduces their wide-angle vision and prevents them from being seen by drivers.
- Most of the time, they look forward and are not aware of what is happening on either side.
- They find it hard to perceive and gauge distances, to distinguish a moving car from one which is stationary and to estimate speed and movement.
- They don't recognize sounds or the sources of sounds very well.
- Young children have difficulty concentrating on more than one thing at a time; a distraction can make them forget traffic risks.
- Kindergarten and early elementary school children are not yet fully in control of their own movements; they are therefore not able to stop suddenly when they are running. (source: SAAQ 2009b)

TRANSPORTATION AND LAND

URBAN SPRAWL

The concept of the suburb, and its associated exodus of businesses to the periphery of cities, is a good illustration of problems arising from urban sprawl in our society. Living in the suburbs makes it necessary to own a car, whether to go to the store, to work or to take the kids to school. The transfer of businesses to the suburbs forces workers to own cars in order to get to work. When this happens, the impression of necessity is added to the illusions of freedom, individuality and efficiency already associated with the automobile. This is all a response to the way our cities are developing. And then, pedestrians and cyclists feel more insecure due to the risks caused by traffic. The "cars-only" concept has gradually robbed the street of its social and political function; sidewalks have gradually disappeared from the modern suburban landscape in order to minimize costs. The time has come to put our cities "back on their feet," to make walking and bicycling safe and to prioritize the coexistence of various forms of transportation (Demers 2008).

While the proliferation of automobiles is generally linked to urban sprawl, urban density encourages and is best served by collective transportation. The car becomes less and less practical as traffic increases, parking spaces are less available and the price of gas goes up. Although Canadian cities are still planned with the needs of drivers in mind, it's been demonstrated that where it is effectively introduced, collective transportation has a structural impact on neighbourhoods. In Europe, collective transportation is more varied and better integrated into daily travel than here. For example, in Strasbourg, relocations to the city core increased significantly as soon as the first streetcar was introduced (Ziv 2008). Renewal of downtown neighbourhoods corresponded with the introduction of streetcars in the city. Examples can also be found in Canada: in Toronto, the value of housing near subway stations rose by about $4 000 (ATUQ 2008) and in Quebec City, the evaluation of properties adjacent to express bus lines 800 and 801 was also revised upward (Dubé et al. 2009).

DID YOU KNOW...

The faster someone drives, the more his field of vision is reduced?
(VQA 2008)

A RISING NEED FOR INFRASTRUCTURE

Road infrastructure is comprised of more than simply the surface installations necessary for various modes of transportation (for example, roads, parking places, bridges, bicycle paths etc.) It also involves technical equipment (for example, buses, road signs, installations for road safety, etc.)

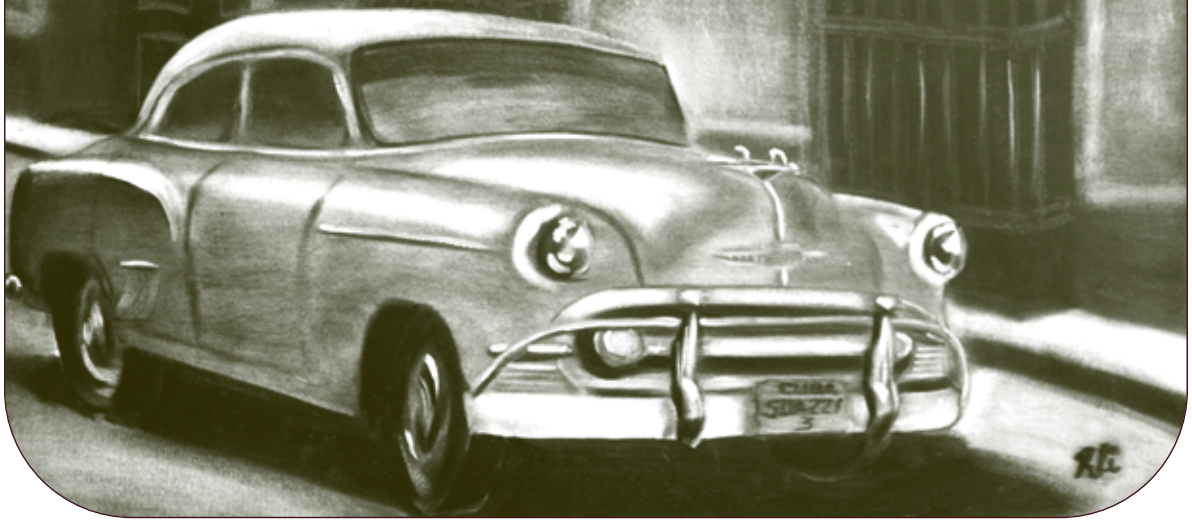
The Canadian Urban Transit Association (CUTA) estimated that to meet the needs for the maintenance and development of public transportation in this country from 2010-2014, it would cost 53.3 billion dollars. About 75% of this amount would be devoted to expansion of services in order to meet present needs and increase ridership. The federal, provincial and municipal governments will provide 72% of the total amount, while the rest must come from external financial sources (CUTA-ACTU 2010). Although investment in transportation has increased in recent years, it remains insufficient because of underfinancing of services during the 90s, in combination with the constant aging of infrastructure and growing demand for development of new structures. 77% of investment needs arise from three large Canadian regions, which are Vancouver, Greater Toronto and Hamilton, and Greater Montreal (CUTA-ACTU 2010).

TRANSPORTATION, SOCIETY AND THE ECONOMY

THE CAR FLEET

The number of vehicles in Canada is significant: for a population of about 33 million, we have more than 20.5 million vehicles on the road)! (StatsCan 2008). And this number is rising. From 1998 to 2003, as the population of Quebec increased by 2% (by 130 000 people), the proportion of vehicles rose by 13% (that is, by 560 000) (ASSS 2006). In parallel with the number of cars on the roads, it is important to take the frequency with which they are used into account. According to a study conducted in 2007, 57% of Quebecers drive their cars every day (Léger Marketing 2007) and 60% of Canadians use their cars, driving solo, to go to work. (Health Canada 2008). The use of cars creates other problems, since it is estimated that they remain stationary for about 80% of the time (CUTA 2008). This impacts on the management of the car fleet in terms of parking. In fact, every active car generates the need for three parking places: at home, at work and a shared space distributed among businesses and other public places (Bergeron 2003).

Photo: Claude Pratte



Œuvre d'un artiste cubain de Trinidad

THE LIFE CYCLE OF A CAR

Mining

The car produces a significant amount of pollution even before it's ready to drive! Mining processes and transportation of raw materials necessary for car manufacture are the two largest sources of pollution emitted before its use. Still, the establishment of new regulations and the use of recycled materials have reduced pollution emissions generated in the first stages of the life cycle of a car (La Biosphère 2008).

Manufacture

Numerous raw materials such as steel, aluminum, rubber, iron, lead and plastic are needed for the manufacture of a car. The steel industry, to name just one, uses a significant amount of energy in the mining of iron and the processing of steel is known to generate large quantities of sulphur dioxide (SO_2), for example (La Biosphère 2008).

Harmful chemical substances are used throughout the process, such as heavy metals, volatile organic compounds, mercury and asbestos (La Biosphère 2008).

DID YOU KNOW THAT...

120 000 liters of water are needed to build one car? (Vision mondiale 2007)

The manufacture of a single tire requires 27 liters of oil and 2 300 liters of water? (La Biosphère 2008)

Distribution

In Québec, we have no automobile makers, and no producers of gasoline (CRE-Capitale nationale 2004). All aspects of car distribution have an increased impact because we are entirely dependent on importation: distribution, therefore, entails GHG emissions and other forms of atmospheric pollution. However, Quebec has major industries working to manufacture means of urban transport such as buses, trains of all types and streetcars. Let's also take into account our production of hydroelectricity, which emits very little GHG.

Use

The use of a car produces a lot of pollution. Although regulations affecting cars are more and more strict from an environmental viewpoint, the number of vehicles on the road continues to rise. The final calculation is, therefore, negative!

DID YOU KNOW THAT...

The driver of a big SUV uses 45 times more energy than a metro passenger at rush hour? (HQ2006)

A boat and a train use 3 to 7 times less energy than a truck? (HQ2006)

End of life

At the end of the life cycle of a vehicle, it is sent to the scrap yard. The disposal and recycling processes for a car produce a significant amount of mercury. Within these processes are two of the main sources of environmental mercury contamination (La Biosphère 2008).

Photo: Michel Civitello

INITIATIVES HERE AND ELSEWHERE

Collective Transportation in Rural Areas of Quebec

The Taxibus service in Val-d'Or and Rimouski offers people a service similar to taxis, but with a predefined schedule and set stops. People contact the service to reserve their place in the bus, after specifying their destination and hour of departure and arrival. Up to four people can take a seat in the same Taxibus. Fares are similar to those on a bus, either a fixed rate for a trip, or a monthly subscription. This arrangement is able to provide service to people in areas with lower population density, such as farm workers or forestry workers.

Montreal's BIXI Bicycles

In the summer of 2009, the city of Montreal established a system of community cycling when they acquired 3 000 BIXI bicycles. Within a year, the number of stations rose from 50 to 278, in order to make service accessible to more people. This system of communal bicycling operates from May to November.

DID YOU KNOW THAT...

BIXI is a combination of the words bicycle and taxi?

The Écolobus of Québec City

Since 2008, the Réseau de Transport de la Capitale (RTC) has offered an electric minibus service. Named Écolobuses, they travel the streets of Old Quebec, seven days a week. Eight Écolobuses are presently in service.

Bicycle Initiatives in Ottawa

All streets in the city of Ottawa, except for major highways, are known for their easy bicycle accessibility. Sunday "Bikedays" are part of the city culture. One day a week during the summer, priority is given to bicyclists and inline skaters on about 65 km of streets which are closed to traffic.

Collective transportation in Portland (Oregon, United States)

The city of Portland is known for its collective transportation. Streetcars were developed in ways which make it possible to integrate them into other modes of transportation in the city; they are narrow, and have a maximum length of 20 meters. They run on electricity. The streetcars are free and run full time in the downtown core, in a zone called Fareless Square. Portland also deserves recognition for the way it handles cycling, with its bicycle paths, traffic control devices and cultural events involving this mode of transportation.

Photo: Christine Baby

Intermodality and the Bicycle Charter of Strasbourg (France)

In order to encourage intermodality in Strasbourg, each streetcar stop is provided with parking for bicycles. At the Strasbourg train station, for example, about 1 000 parking spots have been set up. Finally, in 1994, the city developed a Bicycle Charter, involving cyclists in various phases of urban development.

Highways for Cycling in Copenhagen (Denmark)

In the city of Copenhagen, it's estimated that 40% of trips between home and work are made by bicycle. To encourage the same behaviour in the suburbs, the city is planning to construct 12 highways for bicycles, each about 10 kilometers in length. The high-speed routes will be outfitted with traffic lights and service stations with bicycle pumps, and snow will be cleared frequently in the winter. These highways will connect the suburbs to the downtown area.

Alternative transportation is positive!

DID YOU KNOW...

The investment of 10 million dollars in the automobile sector in Québec creates 57 jobs while the same investment in collective transportation creates 100 jobs? (ATUQ 2008).

ADVANTAGES OF COLLECTIVE TRANSPORTATION

Collective transportation is undergoing a renewal, mostly because we have begun to understand the role of transportation in climate change, because our concept of an ideal city is changing and because our concern about our increasing energy consumption is growing. The attractiveness of collective transportation is rising.

Economic Advantages

- reduced cost of travel;
- attraction of tourists;
- reduced need for highway construction;
- job creation;
- reduction of our dependence on oil.

Social advantages

- efficient use of time for trips between home and work;
- accessibility for socially disadvantaged groups and broadening of the service to all users;
- easier access to work;
- improved health conditions;
- encouragement of social interaction.

Environmental advantages

- limitation of urban sprawl;
- reduction GHG emissions;
- reduction of noise pollution;
- improvement of air quality;
- reduction of traffic.

YOUR FOOT ON THE GAS PEDAL... OR ON THE BIKE PEDAL?

ON THE MOVE TO SCHOOL!

Vélo Québec has developed the ON THE MOVE TO SCHOOL program for primary students, which focuses on encouraging active travel between home and school. In the program, Vélo Québec supports schools for three years in the following ways:

- organizing awareness activities for students, sometimes involving parents;
- installing bicycle racks;
- developing route plans for participating schools.

The objective of the program is to encourage and facilitate walking and biking safely between home and school, while involving both the school and the community. The ON THE MOVE TO SCHOOL program wants the student to have:

- more autonomy;
- better attention in class;
- greater familiarity with the neighbourhood;
- more fun, especially when travelling can be done in a group!

WALKING, A WAY TO BE ACTIVE...SIMPLY!

THE WALK TO SCHOOL Program

WALK TO SCHOOL is an international project. The objective is to encourage parents and children to use active transportation for a week in October. The objectives of the project are:

- to improve the quality of life in the vicinity of schools;
- to improve air quality and fight climate change;
- to protect the health of children;
- to improve road safety and reduce accidents.

DID YOU KNOW...

To make movement easier on a child, the weight of a backpack should not be more than 10% of a child's weight?

REFERENCES

- **Agence de santé et des services sociaux de Montréal (ASSS)**. 2006. *Le transport urbain, une question de santé.* Annual Report 2006. Direction de la santé publique. 133 p.
- **Association canadienne du transport urbain (CUTA-ACTU)**. 2008. *Les besoins en infrastructures du transport en commun pour la période 2008-2012*.
- **Association du transport urbain du Québec (ATUQ)** 2008. *La contribution des sociétés de transport en commun au développement durable des villes du Québec.* Study, 20 p.
- **Association du transport urbain du Québec (ATUQ)** 2009. *Le transport urbain au Québec.*
- **Bachiri, N. and C. Després.** 2008. *Mobilité quotidienne dans la communauté métropolitaine de Québec d'adolescents résidant en territoires urbains. Érudit.* Printemps (8): 14 p.
- **Baril, D.** 2008. Les enfants vont de plus en plus à l'école en voiture. *Forum hebdomadaire d'information.* Available online: http://www.nouvelles.umontreal.ca/archives/2007-2008/content/view/1426/321/index.html
- **Bergeron, R.** 2003. *L'économie de l'automobile au Québec- Poser la question du financement des transports collectifs suivant de nouveaux termes de référence.* Available online: http://www.transportdurable.qc.ca/documents/Economie_Auto_Bergeron.pdf
- **Besser L.M and A.L. Dannenberg.** 2005. Walking to public transit: steps to help meet physical activity recommendations. *American Journal of Preventive Medecine*. 29 (4): pp. 273-80.
- **Brodhag, C., F. Breuil, N. Grondran and F. Ossama.** 2003. *Dictionnaire du développement durable.* Sainte-Foy : Éditions Multimondes.
- **Chaire en Éco-Conseil (CEC).** 2009. *Guide pour le calcul d'émissions de GES.*
- **Conseil régional de l'environnement, région de la Capitale nationale (CRE-Capitale**). 2004. *Des choix pour le XXIe siècle.* Memorandum, 14 p.
- **Défi Climat.** 2009. *Les changements climatiques, les impacts au Québec.*
- **Demers, M.** 2008. *Pour une ville qui marche.* Montréal: Édition Écosociété.
- **Dubé, J., F. DesRosiers, M. Thériault and P. Dib.** 2009. *Impact économique d'un changement dans l'offre de transport en commun en région urbaine: Un exemple canadien.* AQTR's 2009 Congress. 35 p.
- **Hydro-Québec (HQ).** 2006. *Comparaison des options énergétiques.*
- **La Biosphère.** 2008. *Concept préliminaire d'exposition « Autres options de transport »*. 81 p.
- **Ministère de la santé et des services sociaux du Québec (MSSS).** 2007. *La santé, autrement dit….Services des orientations en santé publique.* 24 p.
- **Promobilité.** 2010. *Le portail d'information sur les plans de déplacements d'entreprise en Île-de-France.* Available online: http://www.promobilite.fr/accueil/lexique
- **Santé Canada.** 2008. Les effets des changements climatiques sur la santé au Québec. Written by P. Gosselin, D. Bélanger and B. Doyon. Dans *Santé et changements climatiques: Évaluation des vulnérabilités et de la capacité d'adaptation au Canada* (p.251-352). Ottawa: Health Canada.
- **Sécurité du Québec (SQ).** 2008. *Saviez-vous que?.* Available online: http://www.sq.gouv.qc.ca/conduire-securite/saviez-vous-que/saviez-vous-que-securite-routiere-sq.jsp
- **Société d'assurance automobile du Québec (SAAQ).** 2009a. *Bilan routier 2008*.
- **Société d'assurance automobile du Québec (SAAQ).** 2009b. *Les enfants, des piétons vulnérables.* Available online: http://www.saaq.gouv.qc.ca/jeunesse/parents/vulnerables.html
- **Statistiques Canada (StatsCan).** 2008. *L'activité humaine et l'environnement: statistiques annuelles 2007-2008.* Division des comptes et de la statistique de l'environnement. Document #16-201-X. 168 p.
- **Transport 2000.** 2008. *Saviez-vous que?.*
- **Vélo Québec Association (VQA).** 2006. *L'état du vélo au Québec en 2005*. Montréal: Vélo Québec Association, 121 p.
- **Villeneuve, C.** 2007. *Vivre les changements climatiques.* Sainte-Foy : Éditions Multimondes.
- **Vision mondiale.** 2007. *Questionnaire sur l'eau de Vision mondiale.* Available online: http://www.worldvision.ca/wvmondiale/sommaire-des-articles/Pages/Questionnaire-sur-leau-de-vision-mondiale.aspx
- **Vivre en Ville.** 2009. Densité et mixité au service des déplacements en ville. *Colloque 2009 Vers des collectivités actives.* 109 slides.
- **Ziv, J.-C.** 2008. Avantages des transports collectifs. *Forum 2008 Transports viables, transports rentables.* 49 slides.

Photo: Christine Baby

Photo: Christine Baby

TOGETHER WE CHOOSE THE PATH TO FOLLOW