



Changing Transportation Behaviour in Quebec

Overview

This article presents five Quebec residents who have modified their travel habits thanks to their direct participation in a sustainable transportation program. Their accounts illustrate how simple transportation initiatives, such as car sharing, cycling and walking, public transit and teleworking, can have positive long-term effects on people's lifestyle and travel habits. The programs and policies highlighted are implemented by municipal and provincial governments, schools, transportation authorities, not-for-profit organizations and private companies.

Selected resources

Government of Quebec: 2006-2012 Climate Change Action Plan:

http://www.mddep.gouv.qc.ca/changements/plan_acti on/index.htm

City of Montreal: Transportation Plan:

http://ville.montreal.qc.ca/portal/page?_pageid=5957,4 0443575&_dad=portal&_schema=PORTAL

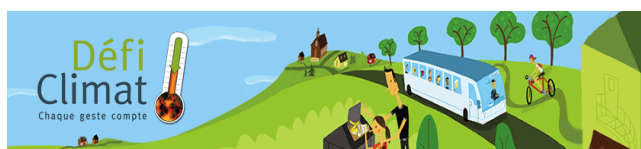
The Quebec Experience

Rising Emission Rates

In Quebec, the biggest share of the province's greenhouse gas (GHG) emissions come from transportation, representing 40.1% of the total (32.5% from road transportation). The transportation sector has also seen the largest increase in GHG emissions since 1990.¹ However, Quebec's car fleet is one of the most energy efficient in Canada as well as the city of Montreal stands out as one of the biggest users of public transit in North America².

Climate Change Programs

A number of surveys show that Quebec residents are extremely concerned by climate change, particularly because of the numerous awareness programs regarding climate change. For example, the annual "Défi climat" (climate challenge) program targets organizations that mobilize and raise awareness among their employees. In 2010, 1,191 businesses, public institutions and organizations from all regions of Quebec signed up, which translates to a commitment of almost 60,000 individuals to reduce their personal GHG emissions by modifying their lifestyle and travel habits. The program's Internet site suggests 31 actions you can do, including 8 relating to transport. Each action details the expected reduction in GHG emissions, as well calculates the reductions of all individuals who signed up. If the 2010 campaign is included, "Défi climat" estimates that 73,445 tons of GHG emissions have been avoided each year, which is the equivalent of removing 19,769 cars from circulation annually³.



The "Défi climat" program invites people to change their transportation habits.

Provincial commitments

With its 2006-2012 provincial action plan on climate change, the Government of Quebec has placed itself among North America's leaders, with GHG emission targets 20% lower than 1990 levels⁴.

In 2006, le ministère des Transports du Québec (MTQ) unveiled a new public transit policy document on public transit entitled *Quebec Public Transit Policy: Better Choices for Citizens*. The aim of the new policy is to increase the use of public transit by 8% between 2006 and 2012.

¹ Inventaire québécois des émissions de gaz à effet de serre en 2007 et leur évolution depuis 1990. Ministère du Développement Durable, de l'Environnement et des Parcs (MDDEP), Quebec. 2009.

² Plan d'action 2006-2012 sur les changements climatiques, Gouvernement du Québec, 2008.

³ Défi Climat 2010: Pari tenu! Conseil régional de l'environnement de Montréal, 2010.

⁴ Plan d'action 2006-2012 sur les changements climatiques, Gouvernement du Québec, 2008.

GHG emissions from passenger transportation have continued to rise in Quebec. Between 1990 and 2007, overall GHG emissions in Quebec fell by 3.9% per inhabitant, while, in the transportation sector, they increased by 29.3%.⁵

This article illustrates effective programs implemented by local and provincial governments and organizations in Quebec that have contributed to reducing passenger transportation emissions. The following tells the stories of five Quebec residents who have modified their lifestyle and travel habits as a direct result of taking part in a sustainable transportation program.

Changing travel habits, one person at a time

Anyone who has tried losing weight or quit smoking knows how hard it is to break a habit. Changing travel habits can also be a tough challenge. The convenience of car trips as a single passenger can sometimes trump the advantages of sustainable transportation modes of transportation: a healthier way of life, financial savings, and community and social benefits.

The five individuals interviewed for this article changed their travel habits thanks to a program or initiative offered in their local community or workplace.

Communauto, Car-sharing program

Martin and his wife live 8km from their work in Montreal. Martin's wife works at the École Polytechnique de Montréal. Two years ago, at the end of their car lease, they decided to try not owning a car.

"Essentially, for us, it's a choice of convenience more than an economic choice. At first, when we were in the car, we wondered if it would be difficult, but in the end, the transition worked out very well."

The main solution for their car replacement was Communauto. At least once a week, they use it for about three hours to do the shopping, at a cost of \$12.

"Before subscribing, I had noticed a number of their vehicles [Communauto] in my neighbourhood and I had also spoken to my cousin about the program, who was a member."

⁵ Inventaire québécois des émissions de gaz à effet de serre en 2007 et leur évolution depuis 1990. Ministère du Développement Durable, de l'Environnement et des Parcs (MDDEP), Quebec. 2009.

There is a Communauto service point located within a five minute walk from their home and another one five minutes from their work.

In the morning and evening, one parent walks 10 minutes to their daughter's school. It is a nice stroll and the parents also see it as a good example for their child. Martin and his wife now use public transit for commuting to work.

An iPhone application lets you see the Communauto service points.



When they have to go out of town, the family uses Communauto for trips under 200 km and rents from a car rental company for longer trips.

"Instead of \$7000 per year for a car, our trips cost us around \$3500 and I don't have any of the parking problems. We thought that, without a car, we would be taking a lot of taxis, but that isn't the case. People ask us how we manage without a car. Our answer relies on both a degree of trip planning and the flexibility offered by Communauto. Their Internet site is very easy to use."

"Before, when I had a car that cost me hundreds of dollars each month, I felt almost obliged to use it to get my money's worth. Now, the way I view my travel behaviours has totally changed."

On the Move to School, Awareness program

Catherine's family lives in the Montreal neighbourhood of Côte-Des-Neiges. In her sixth year of primary school, their 11-year-old daughter was made aware of the "On the Move to School" program. Catherine says,

"This program was very good for my daughter. First, she found out that she was able to travel to and from school by bike, and then she asked us if she could go ahead with the idea. Her dad and I were rather afraid as she had to cross a major road (Boulevard Décarie). But, we agreed because autonomy is an important value for us."

A few months later, their daughter asked her parents to make sure that her future secondary school was accessible by bike.

"She is very proud of being able to go to school by bike. She is autonomous; she manages her time, both in the morning and evening. She follows a route that avoids hills (her criterion) and follows a designated school route at the end of her trip (her parents' safety criterion). She is calmer since she has incorporated physical activity into her daily routine."

In winter, their daughter participates in a ride-share program with three other children from her school, with the parents taking turns providing transportation. Ride-matching schemes have been identified as part of the activities of the "On the Move to School" program.



On the Move to School activity at a school

Bell Canada, Ride sharing and Shuttle

In 2006, **Rosanna** had worked at Bell Canada in the downtown area for a number of years and travelled by public transit. That year, the company moved its head offices to Île Des Sœurs, between the city and the southern suburb, in an area that is not well served by public transit. Bell Canada decided to set up a shuttle bus and ride-sharing program for its employees.

"After the move, I initially carried on with public transit, just as I had in the previous years. But it was taking me between 90 and 120 minutes. When I missed the shuttle, I had to take a taxi to make sure I wasn't late. I was ending up paying \$100 a month in taxis, and always had the fear of being late."

After looking into other possibilities, Rosanna tried ride sharing and found a solution that met her needs. For \$100 a month, she has a ride that picks her up at her door and drops her off at work, all in 40 minutes, compared to the 70 minutes and \$80 it cost her when she was working downtown.

"For sure, when you're in someone else's car, you have to make certain compromises (type of music, temperature, etc.), but that is compensated by the fact that my colleague has now become a friend. When one of us needs to leave the office at an unusual time, we speak to each other and find a solution together."

When I have to attend a meeting downtown, I use the shuttle; it's very practical and quick, door-to-door. I've lived in the Anjou neighbourhood since I was a child. I do my shopping there on foot and by public transit. Several times a week, I visit my mother on foot and it takes me two hours for the round trip. I want to keep fit and healthy and walking helps me do this. I have never had a car... In fact, I'm scared of driving."

Village de la Gare, Transit-oriented development

After a number of years living in Montreal, **Nicole** returned to where she was born to look after her mother who lives in the town of Mont St-Hilaire, in the second suburban ring on the South Shore of Montreal.

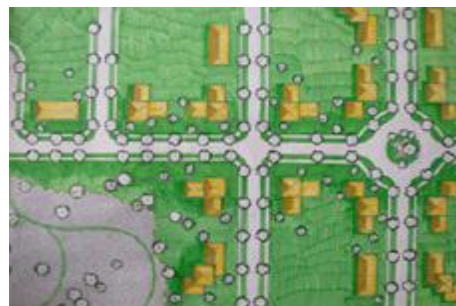
"When I lived in downtown Montreal, I did all my shopping on foot and I wanted to keep this habit; for me, it's a major part of my quality of life. It contributes in a major way to my physical and mental health."

The Village de la Gare neighbourhood in Mont St-Hilaire was designed according to the principles of transit-oriented development. In fact, it is the only neighbourhood in the region planned in this way and it meets Nicole's needs perfectly. She moved there in 2003.

"In my neighbourhood, people walk and cycle a lot; for example, the sidewalks are full on Sundays. I really appreciate the human contact with people in my neighbourhood. I meet lots of young people motivated by environmental values."

As a freelancer, her professional travel is irregular, both in terms of destination and timetable, which means that she has to use her car. However, she says,

"whenever my meetings are in Montreal and the commuter train times are convenient, I use this mode of transportation. It saves me time. I walk as far as the station."



The arrangement of the Village de la Gare neighbourhood makes it easier to travel without a car.

"With the Village de la Gare, I have been able to transplant my walking-based urban travel habits into the suburbs. It's really important for me and is certainly what motivated my choice of neighbourhood."

BIXI, Public bike system

Marc-Olivier lives about 6 km from his workplace in downtown Montreal. From May to October, he cycles to work using the city bike lanes. *"I had two bikes stolen in a couple of months, so I tried BIXI."*

"For me, the most important things are flexibility and safety. There is a BIXI stand two minutes from my house and another just outside my work. At the end of my workday, if it's raining, if it's very hot, or if I just feel too tired to ride up the big hill, I don't have to worry about my bike and I just take public transit and leave the BIXI where it is."

With BIXI, for trips under 30 minutes, Marc-Olivier saves a lot compared to buying a monthly transit pass. The following convinced him to adopt BIXI as a mode of travel:

- Swapping the subway for the outdoors.
- The proximity of the bike stands and the availability of the bikes.
- An iPhone application showing in real time whether a BIXI is available at a given stand.
- There is a trial period before becoming a member.

"It lets me get some exercise and arrive fully awake at work. I used to travel by car, but at the end of the day, the car is more expensive than the bike (with parking), it's longer (25 minutes compared to 17 minutes) and it's more stressful." In the winter, Marc-Olivier takes the subway.

"I have a car. Most of the time, the only reason I get in is to move it to the other side of the street so that I'm not violating the parking restrictions that help with street cleaning."



A BIXI station.

Programs, policies and initiatives

In Quebec, the establishment of specific sustainable transportation programs and initiatives have been facilitated by the presence of political leadership, incentives and major awareness campaigns on climate change.

Organizations and companies have followed the government's lead by creating local-level programs. Programs which have proven successful are often extended across the province. Described in this section are the sustainable transport programs highlighted above.

Awareness initiatives

On the Move to School

To help reverse the trend towards inactivity among young Quebec residents and reduce the use of cars to transport children to school, Vélo Québec launched the project *On the Move to School* in October 2005. In 2009, 135 primary schools (over 45,000 children) in 11 of the 17 administrative regions in the province took part in the program. The program developed an engaging pedagogical approach based on three themes: safety, health and the environment. The program is organized around three goals: development, awareness and mobilization. An analysis and action guide is accessible free on the Internet. The program operates in cooperation with experts. It offers in-class activities to students as well as fun learning materials for both children and parents. It also tries to make access to school's safer, as well as helping students establish a route plan that overcomes obstacles encountered when travelling on foot and by bike. Lastly, the program supports schools in their active transportation campaigns by highlighting the benefits of active travel.



Children walking and cycling to school.

The following Transport Canada Case Study details the On the Move to School Program: <http://www.tc.gc.ca/eng/programs/environment-utsp-onthemovetoschool-971.htm>

Infrastructure and development

Communauto

Founded in 1994, Communauto operates the oldest and one of the largest car-sharing services in North America. The company offers a practical and economic alternative to owning a vehicle and contributes to reducing both the number and trips of cars. Members have access to a fleet of 1,115 cars which may be rented for a low price (based on the time spent and the kilometres travelled) for half an hour, an hour, a day or longer. With 342 accessible strategic sites, the cars are available immediately, 24 hours a day, 7 days a week. Communauto assumes all costs relating to the normal operation of the service: administration, purchase and financing of vehicles, registration, insurance, road maintenance, repairs, even gas. The company chooses vehicles that are more energy efficient than those used by the population as a whole. In 2010, Communauto had 22,000 members in four regions: Greater Montreal, Quebec City, Sherbrooke and Gatineau/Ottawa. An annual internal survey testifies to the high level of satisfaction among users.

In 2006, Communauto evaluated the environmental impact of using its fleet of vehicles:

- each car-share vehicle substitutes about 8 private vehicles; and
- car sharing leads to a reduction of about 30-40% in kilometres travelled which translates on average, a reduction of 1.2 tonnes of CO₂ emissions per user.



Communauto service point at the Technopôle Angus.

In addition to the basic service, Communauto is developing new services that foster integration among modes of transport:

- Service for businesses (in 2003)
- DUO Car + Bus (2004)
- Combo Train + Car (September 2010)
- Peer-to-Peer Car Sharing (under development)

The following Transport Canada case study details Communauto:

<http://www.tc.gc.ca/eng/programs/environment-utsp-carsharing-1068.htm>

Bell Canada programs

Bell Canada recently built a campus on Île Des Sœurs, Verdun, and relocated 3,000 employees from various sites around the Island of Montreal. However, public transit in this area was non-existent. The employer was aware of the problem and, in cooperation with public and private partners, created the following solutions:

- A ride-matching service for ride sharing. The service was funded by Bell Canada and managed by Réseau Covoiturage. In the summer of 2010, 5.5% of employees at the campus were using this service; the initial objective was 5%.
- Two new public transit bus routes serving the Bell Canada Campus at rush hour: one linking to downtown Montreal and the other linking to the incentive parking lots in Brossard (on the South Shore of Montreal).
- A free campus/downtown shuttle service outside rush hours.
- An indoor parking area for 150 bikes; a self-serve bike service; access to a BIXI stand near the campus, and a shared taxi service at lunch time.



Bike parking at Bell.

For other examples of employer programs:

<http://www.tc.gc.ca/eng/programs/environment-utsp-casestudyplanningpolicy-1713.htm>

Village de la Gare

In 2002, the regional authorities established a commuter train service linking Mont-Saint-Hilaire with downtown Montreal in 45 minutes. The commuter train also passes through other municipalities. With the aim of maintaining a higher quality of life, the City

of Mont-Saint-Hilaire drew inspiration from the transit-oriented approach to develop the Village de la Gare. Mont-Saint-Hilaire is the first city in Quebec to use this concept, which is very popular in Europe and the United States.

The city and a private real estate developer created a multifunctional district based on public transit systems. In this high-density development, residential, commercial and institutional infrastructures are located close together. The residential sector of 1000 living units are positioned to create a busy area stretching from a maximum distance of 750 metres from the station, or about a 10-minute walk. The highest densities and businesses are located near the station. Various factors that contributed to increasing cycling and walking activity to reduce car use and maintain the region's quality of life include:

- a number of traffic-calming measures;
- building standards that encourage the old-style feel of the village; and
- station architecture inspired by traditional stations.

The following Transport Canada case study provides further details on the Village de la Gare development: <http://www.tc.gc.ca/eng/programs/environment-utsp-villagedelagare-1092.htm>

BIXI

Bicycle + **ta**XI = **BIXI**.

In May 2009, Montreal inaugurated the first large-scale public bike system in North America. BIXI increases the number of bike trips and facilitates short trips as a complement to public transit. In 2010, BIXI had 5000 bikes and 400 bike stands. The stands are strategically placed and located at an average of 300 metres apart.



Location of BIXI stands in the downtown area. (2010)

At the cutting edge of technology, the originality of BIXI comes from the design of its bikes and stands but also from the way they are used. For instance:

- The user pays by credit card and obtains a personal code that allows him or her to unlock a BIXI bike, available 24 hours a day, 7 days a week, from May to November.
- A bike rental gives the right to an unlimited number of trips for a period of 24 hours.
- For each trip, the first 30 minutes are included in the basic price of \$5.
- The user returns the bike to any BIXI stand. To find out the availability in real time of bikes and locking spots at the stands, users can consult the BIXI Internet site.
- Designed for urban travel, each bike provides a basket, mudguards and a chain guard to protect clothing.
- It is entirely designed and manufactured in Quebec.



The BIXI bike.

BIXI is designed for short trips. The pricing encourages frequent, short-duration use.

BIXI has been an immediate success among the Montreal public, and it has won a number of prestigious awards and received major media coverage, both locally and internationally. On October 26, 2009, the system recorded its millionth trip.

For other examples of public bike systems:

<http://www.tc.gc.ca/eng/programs/environment-utsp-casestudy-cs74e-bikesharing-813.htm>

Conclusion

In order to achieve its goals for GHG reductions, governments and organizations in Quebec have focused on changing transportation behaviours to be more sustainable. However, changing lifestyle and travel habits is difficult for the majority of people.

The individuals interviewed have adopted the travel cocktail approach to replacing the solo car. This approach, widely publicized in Quebec at the start of the 2000s by the group Équiterre, focuses on the individual combining a number of modes of travel:

biking, walking, public transit, ride sharing, car sharing and personal car. Each individual adopts the combination (or cocktail) that meets his or her needs.



The travel cocktail approach.

Individuals draw personal benefits from the reduced costs, the time saved, better health, etc. At the same time, society also benefits from the reduction in urban pollution levels and associated health problems, the reduction in GHGs, more interaction among citizens, the reduction in road traffic and waiting times, etc. The travel cocktail approach has been used successfully because it produces benefits for the individuals who

adopt it as well as for all of society. The cocktail approach relies on the choices of many individuals who are offered a wide range of services.

In Quebec, the establishment of these services relies on the will of the government to create financial support programs and on the innovative ability of community organizations, public institutions and private businesses that create and improve efficient services that meet the public's needs.

Within this dynamic, awareness activities play an essential role. In a direct way, they attract individuals to travel cocktail services. And indirectly, awareness creates a social climate that encourages political decision-makers to fund such services.

Whether it is by long-term goals of a government policy, an annual awareness campaign or the introduction of a public bike service, such initiatives play a central role in changing lifestyle and travel habits. Changing lifestyle and travel habits will in the long run determine the success of the transition to sustainable development.

Resources

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Internet references

Allégo - <http://www.allego.amt.qc.ca/index.asp>

Bixi - <http://montreal.bixi.com/home>

Communauto -
<http://www.communauto.com/index.html>

Car sharing – Complete reference list
<http://www.communauto.com/biblio.html#01a...>

Travel management centres -
<http://www.velo.qc.ca/transport-actif/ABC-du-transport-actif/Centre-de-gestion-des-deplacements>
(in French only)

Travel cocktail -
<http://www.equiterre.org/solution/station-service-cocktail-transport> (in French only)

Défi climat -
<http://www.deficlimat.qc.ca/deficlimat2011/en/home>

On the Move to School -
<http://www.velo.qc.ca/monecole/> and
<http://www.tc.gc.ca/eng/programs/environment-utsp-onthemovetoschool-971.htm>

2006-2012 Climate Change Action Plan –
Government of Quebec –
http://www.mddep.gouv.qc.ca/changements/plan_action/index-mesures.htm

Quebec government public transportation policy –
http://www.mtq.gouv.qc.ca/portal/page/portal/grand_public/transport_collectif/politique_quebecoise_transport_collectif

Quebec government support program for alternatives to the automobile –
http://www.mtq.gouv.qc.ca/portal/page/portal/ministere/ministere/programmes_aide/modes_transp_altern

Quebec government support program to improve public transit –
http://www.mtq.gouv.qc.ca/portal/page/portal/ministere/ministere/programmes_aide/amel_serv_trans_com

Quebec government support program for regional public transportation –
http://www.mtq.gouv.qc.ca/portal/page/portal/partenaires/municipalites/programmes_aide/transport_milieu_rural

Village de la Gare (St-Hilaire) -
<http://www.tc.gc.ca/eng/programs/environment-utsp-villagedelagare-1092.htm>