CANADA'S COOLEST CITIES

Montreal & CMA

Cool Factor: BIXI Bike Share

Sustainable Energy Solutions

Canada's Coolest Cities looked at the question: "What are Canada's large cities doing to encourage low-carbon choices for personal transportation?"

Montreal increases its cool by encouraging low-carbon choices for travel

The City of Montreal introduced Canada's first self-service bike rental network, BIXI, in 2009. Bike stations are located at every Metro station and many other locations throughout the city. Riders can take a bike from one station and return it to any other station — making BIXI ideal for city trips. The City also plans to double its network of bike lanes in seven years. This expansion, coupled with plans to improve other non-automobile travel choices, will help curb counter-productive trends, such as increased sprawl and fewer commuters using transit, bikes and walking.

The City of Montreal and Montreal Census Metropolitan Area (CMA; see definition on page 6) have relatively high proportions of commuters using low-carbon travel choices and living in neighbourhoods with medium or high residential density. In addition, the interviews indicate that the City of Montreal is taking action on reducing greenhouse gas emissions through land use and transportation initiatives. However, comparing the 2006 data to the 2001 achievements showed limited improvements in most indicators and in some cases 2006 results were worse than those in 2001. In other words, the City and CMA encountered barriers to further improvements.

In 2005, the City of Montreal committed to reducing its greenhouse gas emissions from all sources by 30% from 1990 levels by 2020. The City is able to take advantage of its well-developed public transportation system and history of commuters using public transportation. In 2006, 46% of commuters in the City of Montreal travelled by foot, bike or transit.

Challenges remain

To reduce greenhouse gas emissions, the City and CMA of Montreal will have to reverse the negative density and transportation trends. Land use and transportation decisions made in the past have helped the City of Montreal and the CMA develop in ways that encourage low-carbon forms of transportation. Current decisions need to address climate impacts by discouraging further sprawl and including transit, biking and walking options in new infrastructure.

RESULTS SUMMARY — MONTREAL

- Both the City of Montreal and the CMA have the highest percentage of commuters choosing to walk, cycle or take transit.
- Greenhouse gas emissions in the Island of Montreal increased by 4.4% between 2002 and 2003. Almost half of emissions are attributed to transportation.
- Almost 60% of residents in the Montreal CMA live in neighbourhoods with at least medium residential density.
- With 28% of commuters travelling by walking, cycling or transit, the CMA lags behind the City of Montreal, but performs better than other CMAs.
- The CMA appears to be growing in the wrong direction. Between 2001 and 2006, the percentage of people living in neighbourhoods with medium residential density decreased.

FOR MORE INFORMATION

communities.pembina.org

Here you will find the complete Coolest Cities technical report, plus all six Case Studies:

- Vancouver
- Calgary
- Edmonton
- Toronto
- Ottawa
- Montreal

the PEMBINA institute
25 years of Sustainable Energy Solutions

City Photo: Dominic Simpson/Goodnight London (via Flickr)

City of Montreal

CITY STATS (2006 CENSUS)

Population: 1,620,693

Land Area: 365.13 km^2

Density: 4,438.7 residents per km^2

City of Montreal's strategy for climate action and transportation

In December 2005, as part of the World Mayors and Municipal Leaders Declaration on Climate Change, the City adopted its greenhouse gas target (see above). This target has not been integrated into the land use and transportation plans; however, the City is focused on improving low-carbon modes of transportation as a way to achieve its target.

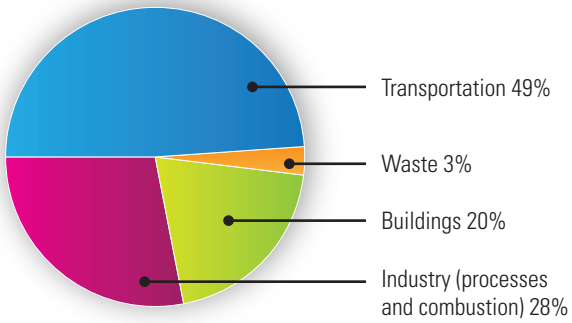
The City of Montreal adopted its Master Plan in 2004. This plan proposes a land use concept geared to increase ridership on public transit infrastructure by increasing the density and diversification of activities relating to the existing or the planned public transit system. In 2008, the City of Montreal released its Transportation Plan, which plans to improve the quality and safety of the existing and planned transportation systems, particularly by improving low-carbon modes of transportation.

City of Montreal's greenhouse gas reduction targets

To achieve a 30% reduction in the community's greenhouse gas emissions from all sources by 2020 (from 1990 levels).

What are the City of Montreal's emissions?

No data was available for the City of Montreal. However, in 2003 the Island of Montreal's greenhouse gas emissions were 13.7 million tonnes of CO_2 equivalent.



COOL FACTOR: BIXI bike share

To increase use and accessibility of Montreal's urban cycling network, the city introduced Canada's first self-service bike rental network in 2009. Bike stations are located throughout the city and riders can take a bike from any station and return it to any other station.

The BIXI bike system is available 24 hours a day, seven days a week, from May to November. The system is intended to complement Montreal's public transportation system, and to provide an alternative to the car for residents and tourists throughout the city. In the first season (May to November 2009), more than one million trips were taken with BIXI bikes in Montreal.

CITY OF MONTREAL SUCCESSES

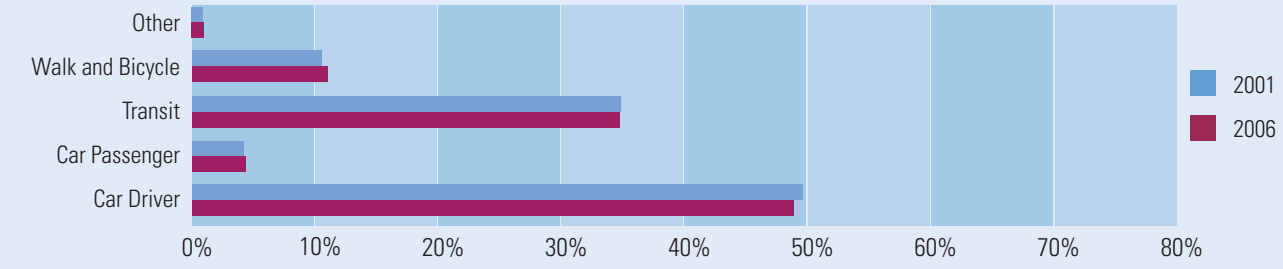
- The City has set strong targets for reducing city-wide greenhouse gas emissions.
- Of the six cities studied, the City of Montreal has the highest percentage of commuters travelling by transit, walking and cycling.
- There is good coordination between the sustainability department and the land use and transportation departments.

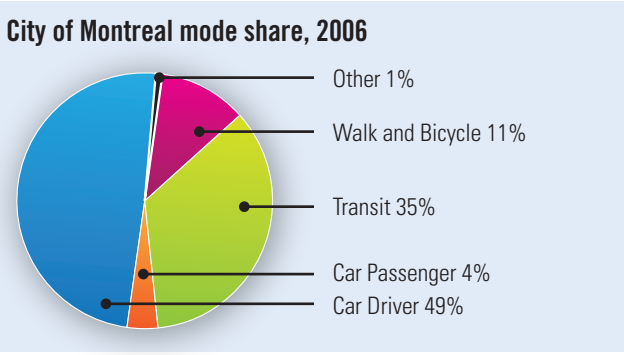
CITY OF MONTREAL CHALLENGES

- The City experienced only a very small improvement in overall percentage of commuters travelling by transit, walking and cycling.
- Relatively low number of bike route kilometres for such a large city and for its population.

City of Montreal

How do Montrealers get to work?

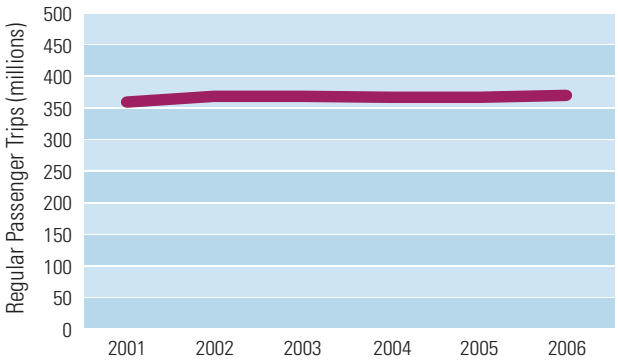




City of Montreal's transportation choices

In 2006, the City of Montreal had the highest percentage of commuters choosing to walk, cycle or take transit (46%). However, Montreal had the lowest increase in commuters choosing to walk, cycle and take transit from 2001 to 2006.

Regular passenger transit trips in City of Montreal



City of Montreal transit services

Between 2001 and 2006, transit trips on the Island of Montreal increased by 2%, less than the population growth of about 6%. Transit service (hours and vehicle kilometres) grew by less than 1% over this time period. Thus, transit service did not keep pace with population growth, and ridership growth was limited.

City of Montreal lessons learned (from interviews)

A limited number of staff were consulted through interviews; some of the points covered in the interviews include:

- Land use and transportation departments consult with each other and coordinate transportation decisions, but could benefit from a better integration of the two departments in terms of strategic long-term planning.
- Staff felt there were varying levels of support for greenhouse gas reduction initiatives and noted the City cannot control the decisions made at the metropolitan or provincial level.
- Sustainability department has one person dedicated to each of the relevant departments, helping advance the sustainability and greenhouse gas reduction agenda across these departments.
- Sustainability planning (not just related to greenhouse gases and transportation) has been an inclusive, collaborative process that was very successful in engaging all stakeholders across the region.

Montreal bicycle paths

On-street: 502 km

Bike path kilometres per 1,000 people: 0.29

In 2009, the cycling network of Montreal contained 502 km of bike paths. In 2007, nearly 30 km of bike paths were serviceable in the winter.

Photo: Julia Kilpatrick, The Pembina Institute

Montreal CMA

CMA STATS (2006 CENSUS)

Population: 3,635,571

Land Area: 4,258.97 km^2

Density: 853.6 residents per km^2

Description of the Montreal Census Metropolitan Area (CMA)

The Montreal CMA is Canada's second most populous CMA, with a 2006 population of 3,635,571. The CMA consists of more than 80 cities and towns, with the City of Montreal representing 45% of the total CMA population.

MONTREAL CMA POPULATION IN MEDIUM- AND HIGH-DENSITY AREAS

	2001		2006			
	Population	% of Total Population	Population	% of Total Population	Change	% Change
Living in medium-density[1] areas	2,062,000	60%	2,097,000	58%	+35,000	2%
Living in high-density[2] areas	571,000	17%	569,000	16%	-2,000	-0.4%

[1] Medium density is a threshold defined as 30 residents per hectare.
[2] High density is a subset of medium-density areas with a threshold of 100 residents per hectare.

Photo: François Hogue (via Flickr)

Where are residents of the Montreal CMA choosing to live?

Between 2001 and 2006, the population of the Montreal CMA grew by 185,000 people or 5%. During that same period, medium-density areas grew by half that rate at 2%. Thus, the overall percentage of people living in neighbourhoods with at least medium density declined from 60% to 58%. In the subset of neighbourhoods with high residential density, population decreased from 2001 to 2006. These findings indicate challenges for policies to promote living in areas with medium or high density.

At 58%, the Montreal CMA is second only to Toronto CMA in having the highest proportion of residents living in medium-density areas. The Montreal CMA has the highest percentage (16%) of residents living in high-density areas of all the major Canadian cities.

CMA SUCCESSES

- Montreal CMA has the highest percentage of population living in high-density neighbourhoods.
- The highest percentage of commuters travelling by transit, walking or cycling is in the Montreal CMA.

CMA CHALLENGES

- Overall percentage of population living in dense neighbourhoods is decreasing.
- Overall percentage of commuters travelling by transit, walking or cycling is decreasing.
- Large infrastructure projects are proposed in the CMA that will increase car capacity to downtown Montreal and do not integrate transit options.

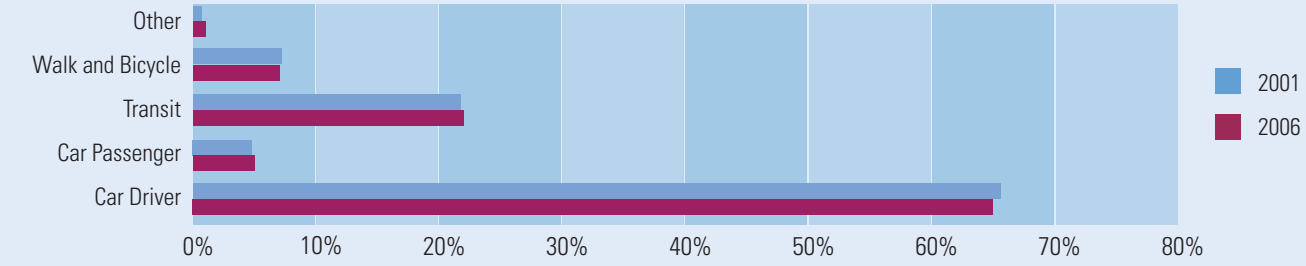
Montreal CMA

How do people in the Montreal CMA get to work?

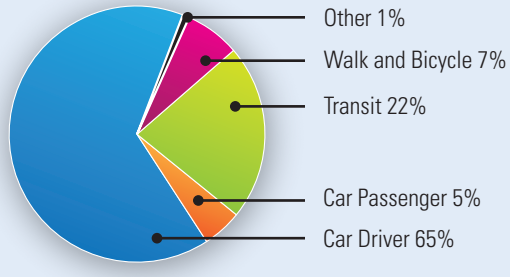
In 2006, the combined percentage of workers choosing to walk, bike or take transit was 28% in the Montreal CMA. This is the highest percentage of the major Canadian CMAs, but much lower than the achievements of the City.

The majority of commuters travel to work as either vehicle drivers or passengers. Among those who drive to work, there was a slight shift from car driver to car passenger between 2001 and 2006. Among commuters in the Montreal CMA, 70% chose to travel by car (as passenger or driver), compared to 53% in the City of Montreal.

Percent change in Montreal CMA mode share, 2001–2006



Montreal CMA mode share, 2006



How far are residents of the Montreal CMA commuting?

Between 2001 and 2006, the Montreal CMA saw the average commute distance increase by 2.5% from 7.9 km to 8.1 km, comparable to other major Canadian CMAs.

Average commute distance in Montreal CMA

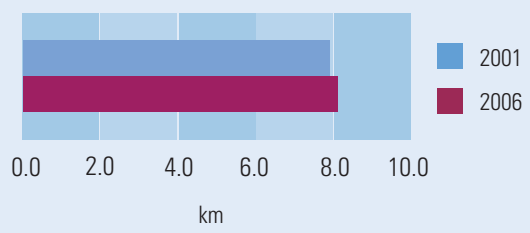


Photo: Katie Laufenberg, The Pembina Institute

CANADA'S COOLEST CITIES

RECOMMENDATIONS

Our analysis highlights five key actions for successful progress: Measure, Estimate, Implement, Share and Evaluate. These actions have been undertaken to some degree already by cities in each urban area. Now governments must co-ordinate these actions to reduce greenhouse gas emissions across the whole urban area.

MEASURE	Develop systems for consistent, frequent estimates of greenhouse gas emissions from urban personal transportation and ensure results are readily available to City departments and to the public.
ESTIMATE	Provide estimates of future greenhouse gas emissions for any significant infrastructure or policy development.
IMPLEMENT	Ensure land use and transportation plans are implemented and develop additional initiatives to meet greenhouse gas reduction targets.
SHARE	Increase participation of multiple departments and across municipalities in planning and information sharing.
EVALUATE	Track progress toward meeting greenhouse gas reduction targets and estimate the impact of infrastructure.

The key actions will require initiatives and resources from all levels of government. Priority initiatives for municipal governments to support these actions are:

1. Track progress toward meeting greenhouse gas reduction targets from transportation and land use policies.
2. Reward development of compact communities to limit sprawl in large urban areas. Implement these policies jointly with neighbouring communities to ensure the policies are effective for the region.
3. Invest in low-carbon transportation choices (transit, walking and biking infrastructure).
4. Develop policies to encourage people to live close to work and services, encouraging low-carbon transportation options and reducing time spent behind the wheel.

Provincial and federal governments also have a strong role to play in supporting municipalities by providing leadership and funding for developing compact communities and low-carbon transportation choices.

See the Technical Report for additional initiatives for each of the key actions.

About the project

Canada's six largest urban areas provide homes and jobs for almost 15 million people, nearly half of our population. Transporting these citizens to and from work, school, health care, shopping and other destinations consumes energy, which in turn contributes to environmental problems, in particular climate change. Municipal and other local governments have the opportunity and responsibility to take action on reducing greenhouse gas emissions, especially those from transportation in their boundaries.

The amount of energy consumed for personal transportation in cities depends on urban design — the locations of homes, jobs and services, plus the options for travelling among these locations. Urban design and transportation policies can help decrease energy consumption, save money, limit environmental impacts and make communities more livable.

The information in this case study was developed by analyzing numeric data from both the core city and the wider census metropolitan area (CMA), and by interviewing staff at the core city. The numeric data provide a picture of current transportation and urban design choices, as influenced by past policies and decisions. The interviews allowed us to explore potential future directions based on current policies.

WHAT IS A CMA?

Canada's Coolest Cities focuses on Canada's six largest Census Metropolitan Areas (CMAs) and the core city within each CMA. A CMA is a Statistics Canada definition for the metropolitan region that covers multiple municipalities. CMAs are similar to, but not exactly the same as, the informal designations for the urban areas such as MetroVancouver and the Greater Toronto Area. The CMA definitions are used because they are clearly defined by Statistics Canada, the main source of data for this project. Because the CMAs cover much larger areas than individual cities, the data for a CMA captures more of the transportation behaviour.

The study consists of six case studies, one for each of Canada's largest urban areas (Toronto, Montreal, Vancouver, Ottawa, Edmonton and Calgary), and a technical report. The technical report covers the research approach, findings across the different urban areas and recommendations. The other case studies and the technical report are available at http://communities.pembina.org.