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

**Vancouver striving to be the World’s Greenest City**

The City of Vancouver wants to be the Greenest City in the World and has developed a team and an action plan to get there. In 2009, the City announced ten specific goals Vancouver needs to achieve by 2020 to become the global leader in progress toward an environmentally sustainable future. These specific goals — on green economy, green communities and human health — will provide direction for policies and a means to evaluate the progress. The City of Vancouver has already demonstrated its success at setting goals, taking action and evaluating progress with its targets to reduce greenhouse gas emissions. The City set greenhouse gas reduction targets in 2003, developed an action plan in 2005 and has presented progress reports every two years following. As of 2008, greenhouse gas emissions for the City have returned to 1990 levels, and the Greenest City Action Plan provides motivation to continue action on reductions.

Other indicators also showed strong progress for the City of Vancouver. In 2006, the City had the largest percentage of commuters travelling by walking or cycling (16%) of the six cities we studied. However, a smaller percentage of people in Vancouver use public transit than in Toronto or Montreal, where the subway systems are more established. Overall, a similar fraction of people in Vancouver use low-carbon modes of transportation as in Toronto and Montreal.

**Challenges remain**

The Vancouver Census Metropolitan Area (CMA; see definition on page 6) covers a much larger geographical area than the city and has not achieved the same success. The CMA includes 22 cities that are strongly connected by economic and transportation ties. Transportation and urban form solutions need to consider this wider region since the activities of residents tend to routinely cross the municipal borders. Additionally, the population of the CMA is growing more quickly than the population of the city. The Vancouver CMA has a much lower overall population density than the City of Vancouver and has a much smaller percentage of commuters using transit, bikes or walking.

However, compared to other CMAs, the Vancouver CMA is showing great improvement. The Vancouver CMA increased the fraction of people living in high-density neighbourhoods; as well, transit trips increased by 28% from 2002 to 2006, far exceeding the population growth.

**RESULTS SUMMARY — VANCOUVER**

- The Vancouver CMA was the only CMA to see a decrease in average commute distance.
- The Vancouver CMA experienced the largest population growth in neighbourhoods with high residential density of the six largest CMAs in Canada.
- In 2006, the City of Vancouver had the largest percentage of commuters travelling by walking or cycling of the six cities in this study.
- The Vancouver CMA showed the largest improvement in commuters travelling by bus, walking and cycling.

**FOR MORE INFORMATION**

[communities.pembina.org](http://communities.pembina.org)

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

- Vancouver
- Calgary
- Edmonton
- Toronto
- Ottawa
- Montreal
City of Vancouver's greenhouse gas reduction targets

1. Reduce the City of Vancouver's greenhouse gas emissions to:
   - 6% below 1990 levels by 2012
   - 33% below 2007 levels by 2020
   - 80% below 2007 levels by 2050

2. By 2020, all new construction will be carbon neutral, and Vancouver will improve the efficiency of existing buildings by 20%.

3. By 2020, the majority (greater than 50%) of transportation trips will be made on foot, bicycle and transit.

What are the City of Vancouver's emissions?

In 2008, emissions in the City of Vancouver were approximately 2.74 million tonnes of CO₂ equivalent.

City of Vancouver’s strategy for climate action and transportation

The City of Vancouver has been taking action to reduce greenhouse gas emissions since the early '90s. As of 2008, greenhouse gas emissions for the City have returned to 1990 levels, even though the population has grown by 27%. Vancouver’s Greenest City initiative includes the targets for greenhouse gas reductions noted above.

The City’s Transportation Plan was released in 1997. While it did not explicitly define greenhouse gas targets, it did set targets for reducing vehicle use. According to City staff, the plan also stated the principle of not increasing the capacity of Vancouver's roads for personal vehicles. Vancouver recently launched the EcoDensity charter, which commits the City to consider environmental sustainability, affordability and livability in all land use decision-making.

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City of Vancouver

How do Vancouverites get to work?

<table>
<thead>
<tr>
<th>Mode</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Walk and Bicycle</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Transit</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Car Passenger</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Car Driver</td>
<td>52%</td>
<td>52%</td>
</tr>
</tbody>
</table>

City of Vancouver’s transportation choices

In 2006, Vancouver had the largest percentage of commuters travelling by walking or cycling (16%) of the six core cities in this report. The City of Vancouver had the largest increase in commuters travelling by transit, cycling or walking, from 34% in 2001 to 41% in 2006. However, in 2001 the City of Vancouver experienced a transit strike for four months, which affects that year’s ridership figures.

City of Vancouver lessons learned (from interviews)

According to interviews with key City staff, four key things have allowed Vancouver to be successful in reducing automobile use and improving alternative transportation options:

- The hierarchy of transportation modes (i.e., prioritization of pedestrians, cyclists, transit, commercial vehicles and, finally, personal vehicles) was critical in shaping both land use and transportation decisions since the implementation of the 1997 Transportation Plan.
- Transportation and land use planners have been able to work very closely and cooperatively together, a culture shift that followed the implementation of the 1997 Transportation Plan.
- The City specifically decided to not increase vehicle capacity on Vancouver roads, and this decision has support from both the transportation and land use departments.
- Consistent leadership and support at both the political and staff level has been critical.

Vancouver bicycle paths

- On-street: 347 km
- Off-street: 68 km
- Total: 415 km

Bike path kilometres per 1,000 people: 0.66

The City of Vancouver has an extensive network of both on-street and off-street bicycle facilities, with proposals to expand the existing network to a total of 524 km by 2011.

Photo: Carlos Machado
Where are residents of the Vancouver CMA choosing to live?

Between 2001 and 2006, the population of the Vancouver CMA grew by 130,000 people, or approximately 7%. Where people choose to live significantly affects how they choose to travel for work and play. Between 2001 and 2006, the population of areas with at least medium density grew by 59,000 or 6% compared to 2001. This was slightly less than the 7% population growth of the CMA over the same period. Of those moving into at least medium-density areas, 19,000 chose to move into neighbourhoods with high residential density — an increase of 13% from 2001 and nearly double the rate of growth seen in the rest of the CMA.

Vancouver trails both Montreal and Toronto in terms of overall percentage of the population living in neighbourhoods with medium or high residential density. However, overall, Vancouver experienced the largest population growth in dense neighbourhoods, particularly high-density areas, of any of the major Canadian cities.

CMA STATS (2006 CENSUS)

- Population: 2,116,581
- Land Area: 2,877.36 km²
- Density: 735.6 residents per km²

Description of the Vancouver Census Metropolitan Area (CMA)

The Vancouver CMA comprises 21 municipal governments and one unincorporated area. The largest fraction of the population (27%) lives in the City of Vancouver, but Surrey experienced the highest growth in population, adding 47,000 new residents between 2001 and 2006. In 2005, Metro Vancouver estimated emissions from motor vehicles equaled 5.6 million tonnes (36% of total emissions).

VANCOUVER CMA POPULATION IN MEDIUM- AND HIGH-DENSITY AREAS

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2006</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living in medium-density areas</td>
<td>1,089,000 55%</td>
<td>1,149,000 54%</td>
<td>+60,000 6%</td>
<td></td>
</tr>
<tr>
<td>Living in high-density areas</td>
<td>147,000 7%</td>
<td>166,000 8%</td>
<td>+19,000 13%</td>
<td></td>
</tr>
</tbody>
</table>

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.

Where are residents of the Vancouver CMA choosing to live?

Between 2001 and 2006, the population of the Vancouver CMA grew by 130,000 people, or approximately 7%. Where people choose to live significantly affects how they choose to travel for work and play. Between 2001 and 2006, the population of areas with at least medium density grew by 59,000 or 6% compared to 2001. This was slightly less than the 7% population growth of the CMA over the same period. Of those moving into at least medium-density areas, 19,000 chose to move into neighbourhoods with high residential density — an increase of 13% from 2001 and nearly double the rate of growth seen in the rest of the CMA.

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CMA SUCCESSES

- Vancouver CMA was the only CMA to see a decrease in average commuting distance.
- The proportion of the CMA population living in high-density neighbourhoods increased by 13% from 2001, nearly double the rate of growth seen in the rest of the CMA.

CMA CHALLENGES

- The overall percentage of people living in medium- and high-density neighbourhoods is low relative to the Montreal and Toronto CMAs.
- It is a challenge to coordinate regional decision-making.
How do people in the Vancouver CMA get to work?

In 2006, 25% of commuters chose to walk, bike or take transit in the Vancouver CMA. However, the vast majority of commuters travelled either as vehicle drivers or passengers.

The Vancouver CMA falls fourth behind Montreal, Toronto and Ottawa-Gatineau in terms of the fraction of commuters who walk, cycle or take transit to work. The City of Vancouver’s success at encouraging low-carbon modes of transportation has not yet transferred to the wider CMA.

How far are residents of the Vancouver CMA commuting?

Between 2001 and 2006 the Vancouver CMA saw the average commute distance decrease by 3%, from 7.6 km to 7.4 km. Vancouver was the only CMA to see a decrease in the commute distance during this time period.

Vancouver CMA transit services

Transit trips in the Vancouver CMA\(^1\) increased by 28% from 2002\(^2\) to 2006, far exceeding the population growth of 6%. The CMA improved transit service but not in pace with growth in transit trips — transit service hours increased by 18% and transit vehicle kilometres increased by 17%.

\(^1\) Transit data for Vancouver are reported for an urban area similar to the CMA boundaries.

\(^2\) 2002 was used as the base year for this indicator, due to a transit strike in 2001 which would bias results.
WEATHER INFORMATION FOR CANADA's SIX LARGEST URBAN AREAS

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.

**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.