CANADA'S COOLEST CITIES

Edmonton & CMA

Cool Factor: LocalMotion Challenge

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?"

Edmonton's strategy is to work together to reduce greenhouse gas emissions

The City of Edmonton is developing greenhouse gas reduction strategies by linking people. City staff are working together in developing strategic plans for transportation and land use. Neighbours are working together by challenging each other to increase walking, biking and transit use.

The City has undertaken several urban planning initiatives in the last few years that engaged the public and municipal staff members. The overall strategic plan was approved in 2008 after much public consultation. This strategic plan then shaped the development of a new Transportation Master Plan and Municipal Development Plan. These two plans were developed in parallel with extensive collaboration across municipal departments. Staff members from different departments developed the plans, ensuring that perspectives from different city operations were included.

The City has also produced a draft Integrated Transit and Land Use Framework — a set of regulatory and advisory tools for integrating transit and land use near transit facilities, with a focus on Light Rail Transit (LRT) stations. Edmonton is planning a major expansion of the LRT system to create a more sustainable transportation system. The success of a transit system in providing a viable travel option depends on the development of supportive land use around the transit investments. The framework's goal is to foster development that complements and supports the significant public investment in transit infrastructure. The City of Edmonton's LRT Network Plan was "Highly Commended" at the international Light Rail Awards in 2009.

One of the City of Edmonton's on-the-ground projects is the LocalMotion Challenge (see page 2). This neighbourhood-based initiative encouraged residents to try eco-friendly forms of transportation and has been very successful.

Challenges remain

Commuters in the City of Edmonton and the Edmonton Census Metropolitan Area (CMA; see definition on page 6) rely mostly on personal vehicles for travel and their commute distances are increasing despite the efforts to reverse these trends. The Edmonton CMA has the lowest percentage of residents living in medium- or high-density neighbourhoods. Most of the urban areas in the Edmonton region were developed after the Second World War, when private automobiles became increasingly available. This, combined with a significant amount of available land, has contributed to high growth in suburban areas. Reversing the trend of auto-dependent communities is challenging due to established land patterns and transportation infrastructure.

RESULTS SUMMARY — EDMONTON

- More than 80% of commuters travel by personal vehicles in the city and the region, with the significant majority having only a single occupant.
- Commuters were travelling further in 2006 compared with 2001.
- The census data showed a low percentage of residents living in medium- and high-density neighbourhoods.
- Edmonton has the highest number of bike paths per capita of the six cities.
- Edmonton's LRT plan received an international Light Rail Award in 2009.

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: Roberta Franchuk, The Pembina Institute

City of Edmonton

CITY STATS (2006 CENSUS)

Population: 730,372

Land Area: 684.37 km^2

Density: 1,067.2 residents per km^2

City of Edmonton's strategy for climate action and transportation

The City of Edmonton established a community greenhouse gas reduction plan in 2001. The plan includes strategies for reducing emissions in all sectors. The City's EcoVision Annual Report 2008 indicates that greenhouse gas emissions have increased by approximately 36% from 1990 to 2007.

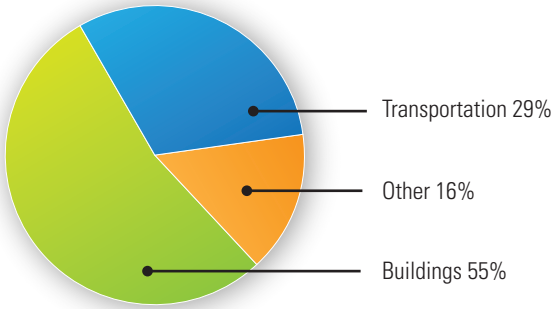
The City also has 10-year strategic goals that include transforming Edmonton's urban form, shifting transportation modes, increasing densities and reducing greenhouse gas emissions. These goals were used to shape the development of a new Transportation Master Plan (approved by council in September 2009) and a new Municipal Development Plan (expected to receive third reading in May 2010).

City of Edmonton's greenhouse gas reduction targets

1. Reduce emissions 6% below 1990 by 2010.
2. Reduce emissions 20% below 1990 by 2020.

What are the City of Edmonton's emissions?

In 2007, greenhouse gas emissions were 19 million tonnes of CO_2 equivalent.



COOL FACTOR: The LocalMotion Challenge

LocalMotion Challenge is a neighbourhood-based initiative to encourage sustainable transportation that helped reduce car traffic by up to 34%. The City of Edmonton set up this demonstration project to challenge residents of one neighbourhood, Parkallen, to try more eco-friendly modes of transportation. The project was comprised of workshops and activities to engage with participants, plus surveys and traffic counts to assess the impacts.

The City of Edmonton estimated that LocalMotion encouraged residents to decrease automobile travel by 14,000 km in one month, a decrease of almost four tonnes of CO_2 per household. This huge success has led the City to plan additional forms of LocalMotion Challenge in other neighbourhoods. LocalMotion was motivated by the City of Edmonton's Strategic Plan, The Way Ahead. Implementing LocalMotion required extensive efforts that crossed City departments, providing collaboration practices that were useful when developing the Transportation Management and Municipal Development plans.

CITY OF EDMONTON SUCCESSES

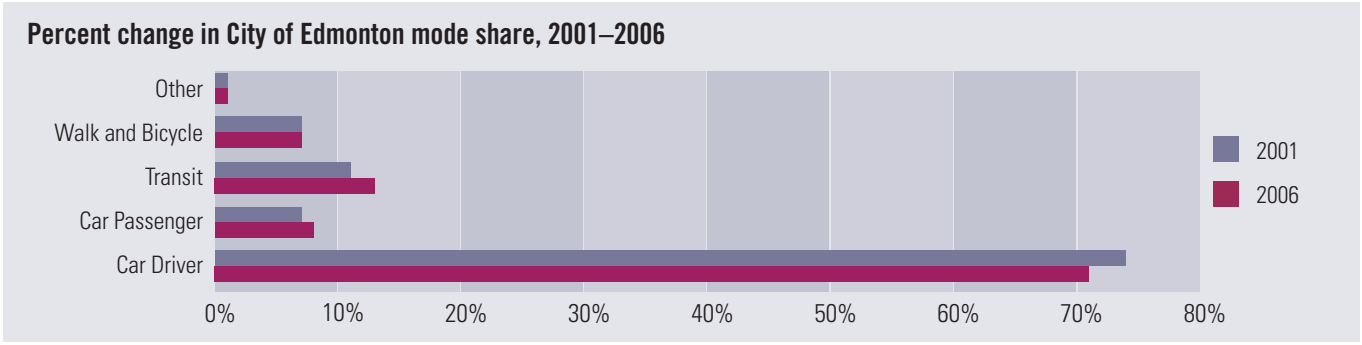
- Edmonton has had a community greenhouse gas plan since 2001.
- The City has established a set of 10-year strategic goals that would help reduce greenhouse gas emissions, if achieved.
- The City has more bike paths and on-street facilities per capita than any of the other cities studied.
- Public and council have supported the City of Edmonton objectives to reduce greenhouse gas emissions.

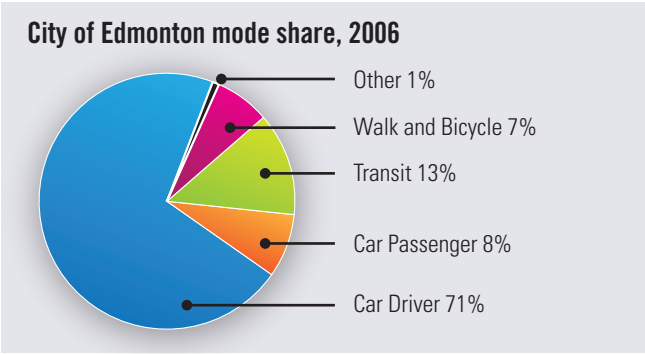
CITY OF EDMONTON CHALLENGES

- Greenhouse gas emissions continue to increase in the City despite targets established 8 years ago to reduce emissions.
- Transportation Master Plan and Municipal Development Plan did not focus on greenhouse gas reductions.

City of Edmonton

How do Edmontonians get to work?

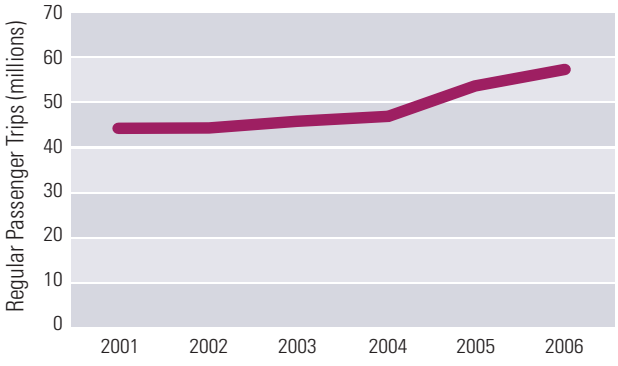




City of Edmonton's transportation choices

The number of Edmontonians taking transit, walking or cycling is increasing, but personal vehicle travel continues to dominate the mode share. The slight decrease in the percentage of personal vehicle travel is more than offset by the increase in the total number of commuters, resulting in an overall increase in transportation-related greenhouse gas emissions.

Regular passenger transit trips in City of Edmonton



City of Edmonton transit services

Transit trips in the City of Edmonton increased by 30% between 2001 and 2006, while transit service hours increased by 18%. The population grew by 10%, while vehicle kilometres travelled increased by 15%.

City of Edmonton lessons learned (from interviews)

Senior environmental planning staff were consulted through interviews; key points that were covered in the discussions include:

- A greater emphasis is being placed on integrating land use and transportation planning; the Transportation Master Plan and Municipal Development Plan were developed concurrently.
- Many politicians and the public generally support goals to decrease greenhouse gas emissions. Support has increased even more during the past few years.
- Reducing greenhouse gas emissions was not a focus for the City at the initial stages of the development of the transportation master plan. Plans being developed now will have greater focus on greenhouse gas reductions.
- Detailed policies for reducing greenhouse gas emissions are not as well understood or supported.
- Greater provincial government involvement in reducing emissions would be beneficial.

Edmonton bicycle paths

On-street: 117 km

Off-street: 735 km

Total: 852 km

Bike path kilometres per 1,000 people: 1.17

Edmonton has the most bike path kilometres per capita of the six cities in this study.

Photo: Roberta Franchuk, The Pembina Institute

Edmonton CMA

CMA STATS (2006 CENSUS)

Population: 1,034,945

Land Area: 9,417.88 km^2

Density: 109.9 residents per km^2

Description of the Edmonton Census Metropolitan Area (CMA)

The Edmonton CMA was home to just over one million residents in 2006 with more than 700,000 people living within the City of Edmonton. The Edmonton CMA includes 35 other municipalities, including St. Albert, Sherwood Park, Spruce Grove, Leduc and Fort Saskatchewan, as well as the Counties of Sturgeon, Parkland, Strathcona and Leduc.

EDMONTON 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	288,000	31%	294,000	28%	+6,000	2%
Living in high-density[2,3] areas	4,000	0%	5,000	0%	+1,000	25%

[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.
[3] Entire population resides in one census tract area bounded by Jasper Avenue, 105 Avenue, 109 Street and 116 Street.

Where are residents of the Edmonton CMA choosing to live?

The Edmonton CMA has the lowest percentage of people living in neighbourhoods with medium and high residential density of any CMA in the study. The Edmonton CMA also covers the largest land area by far (60% greater than the Toronto CMA).

The Edmonton CMA saw the largest percent increase (25%) in residents living in high-density areas, but this accounts for less than 1% of the overall population in the CMA.

CMA SUCCESSES

- The CMA is working together on regional planning — a process initiated by the provincial government.
- The CMA experienced an increase in the fraction of people living in medium- or high-density neighbourhoods. While the fraction is low relative to other CMAs, Edmonton was one of the few CMAs to show an increase for this indicator.

CMA CHALLENGES

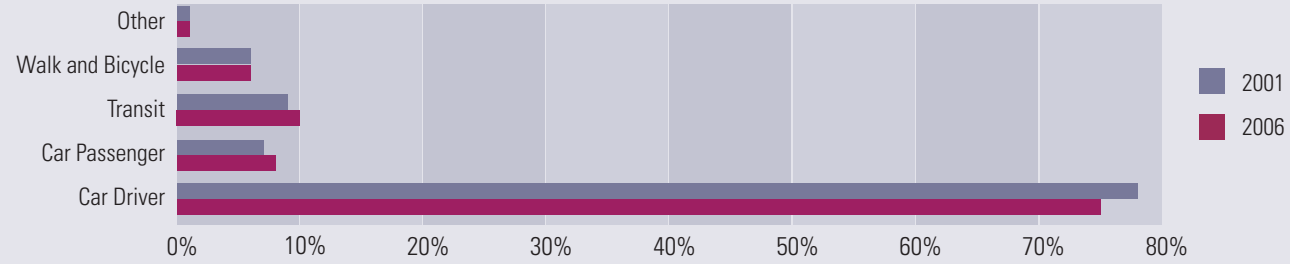
- The Edmonton CMA has the lowest percentage of commuters using transit, walking and cycling.
- The CMA has the lowest percentage of the population living in medium- and high-density neighbourhoods of any CMA studied.

Edmonton CMA

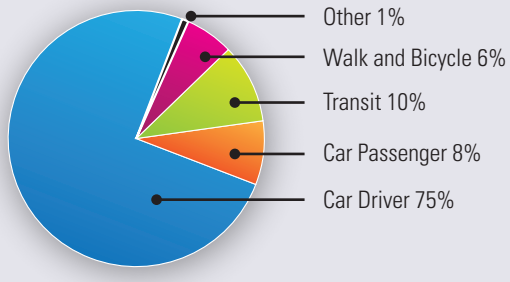
How do people in the Edmonton CMA get to work?

As with the City of Edmonton, the Edmonton CMA has the highest percentage of commuters using personal vehicles of any CMA within the study. However, the percentage of people using transit, walking and cycling increased between 2001 and 2006.

Percent change in Edmonton CMA mode share, 2001–2006



Edmonton CMA mode share, 2006

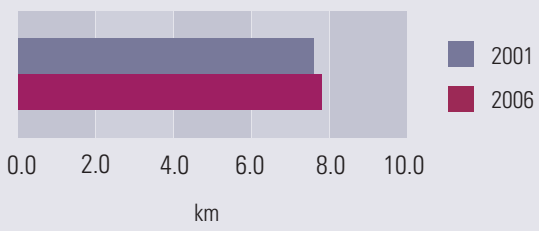


How far are residents of the Edmonton CMA commuting?

Commuters in the Edmonton CMA were travelling slightly further in 2006 than in 2001.

The Edmonton CMA saw the average commute distance increase by 2.6%, from 7.6 km to 7.8 km, one of the lowest increases among the major urban areas.

Average commute distance in Edmonton CMA



Photos this page: Roberta Franchuk, 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.