CANADA'S COOLEST CITIES

Toronto & CMA

Cool Factor: Linking Intensification with Transit

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?"

Toronto is tackling climate change and revitalizing communities

The City of Toronto has strong climate targets, a climate plan with dedicated funding and is integrating land use, energy and transit planning. Imagine pedestrian-friendly communities powered by green energy and served by transit. The City of Toronto's Transit City will include seven new Light Rail Transit (LRT) lines, connecting high-density apartment clusters in outlying areas, while 'greening' these communities. Toronto already has among the highest percentage of people taking transit in the country and has strategies to increase this number. The City implemented the TTC Ridership Growth Strategy, resulting in better bus service, and has started a Smart Commute program, which works with employers to develop actions that encourage employees to leave their cars at home.

However, Transit City's success is jeopardized by lack of adequate financial support from the provincial and federal governments, with the provincial government recently slashing dedicated funding. The City may resort to unpopular rate hikes, while sprawl infrastructure, such as roads, receives greater funding, and drivers don't face similar "cost hikes."

The City of Toronto will add another 500,000 people in the next 25 years, providing many opportunities for the best in urban design, public transit and walking/cycling options.

The Greater Toronto Area: losing its cool

Meanwhile, the city's Census Metropolitan Area (CMA; see definition on page 6) — an area similar to the area known as the Greater Toronto Area — is less cool than the City, with much lower use of transit and less walking and biking. People are driving from the sprawling suburbs into the city or into low-density employment lands not served by transit. This means that the City of Toronto has to work extra hard to help the region reduce carbon emissions.

However, three provincial land use and transportation plans have recently been produced to help the larger urban area. The Places to Grow Act directs growth to urban centres with specific density targets and restricts development in greenfield areas. The Greenbelt Protection Act keeps 1.8 million acres of sensitive land off-limits to development. The Big Move, a transportation plan covering the Greater Toronto and Hamilton Area, includes 1,200 km of new rapid transit with the goal of having 80% of residents in the region within 2 km of rapid transit by 2031. This plan requires funding support from the federal government and the province. If these initiatives are implemented with rigour and policies are enforced, the Toronto CMA will move strongly toward reducing greenhouse gas emissions, but if the recent trends of sprawling growth are allowed to continue, the region could lose its cool.

RESULTS SUMMARY — TORONTO

- In 2006, the Toronto CMA had the highest percentage of residents living in medium-density neighbourhoods of the six largest urban areas in Canada, although this proportion decreased between 2001 and 2006.
- In 2006, the City of Toronto had the second highest percentage of commuters travelling by bike, transit or foot (43%).
- In 2006, the Toronto CMA had the second highest percentage of commuters travelling by bike, transit or foot (28%).
- In 2006, Toronto commuters were travelling further than commuters in any other major urban area.

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: Andy Burgess (via Flickr)

City of Toronto

CITY STATS (2006 CENSUS)

Population: 2,503,281

Land Area: 630.18 km^2

Density: 3,972.4 residents per km^2

City of Toronto's greenhouse gas reduction targets

- 6% below 1990 by 2012
- 30% below 1990 by 2020
- 80% below 1990 by 2050

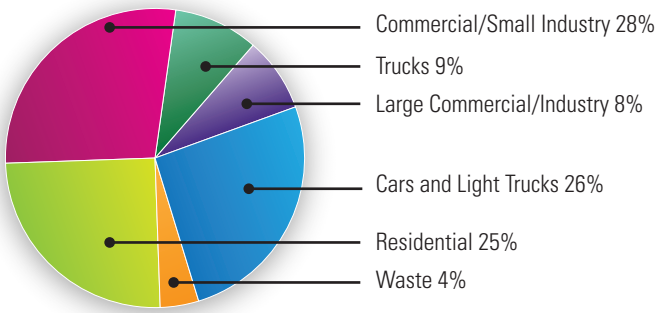
City of Toronto's strategy for climate action and transportation

Toronto has a climate plan with targets as cited above. The city's five year capital budget plan includes an allocation of more than $1 billion for implementation of initiatives that help achieve its climate change action plan targets. The majority is allocated to transit improvements. In addition to the Transit City LRT proposal (see Cool Factor below), the Transit City bus plan includes increasing the frequency of 21 key bus routes to ten minutes or better every day, improving the timing of the buses and providing shelters and reliable schedules for commuters. At publication time, a portion of provincial funding for Transit City was suspended.

Toronto's official plan has incentives for people to live and work not only in the downtown core but also in high-density nodes such as North York and Yonge and Eglington, with financial and tax incentives such as environment grants and development charge rebates to encourage development within the city boundaries.

What are the City of Toronto's emissions?

In 2004, Toronto's greenhouse gas emissions were 24.4 million tonnes of CO_2 equivalent.



COOL FACTOR: Linking intensification with transit

The Toronto area contains the highest concentration of high-rise buildings in Canada (the second highest in North America). Many of these are on the outskirts of the city, historically isolated, but the City's bold Transit City plan aims to connect dense residential clusters with seven new LRT lines. These areas have the level of density needed to make transit successful, while the neighbourhoods will be renewed with fresh mixed-use development. The Toronto Tower Renewal Project is now working on four high-rise pilot sites for small-scale markets, green retrofits, improved public spaces, managed water and energy, and urban agriculture.

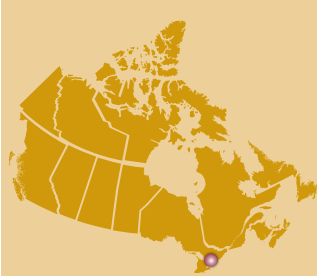
CITY OF TORONTO SUCCESSES

- City has relatively strong greenhouse gas reduction targets and has allocated the capital to move toward achieving the targets.
- City has the second highest percentage of commuters walking, biking or taking transit, and this percentage is increasing.
- More than 160,000 residents live downtown, with a very high proportion of them walking and biking, and new rapid transit lines are underway.

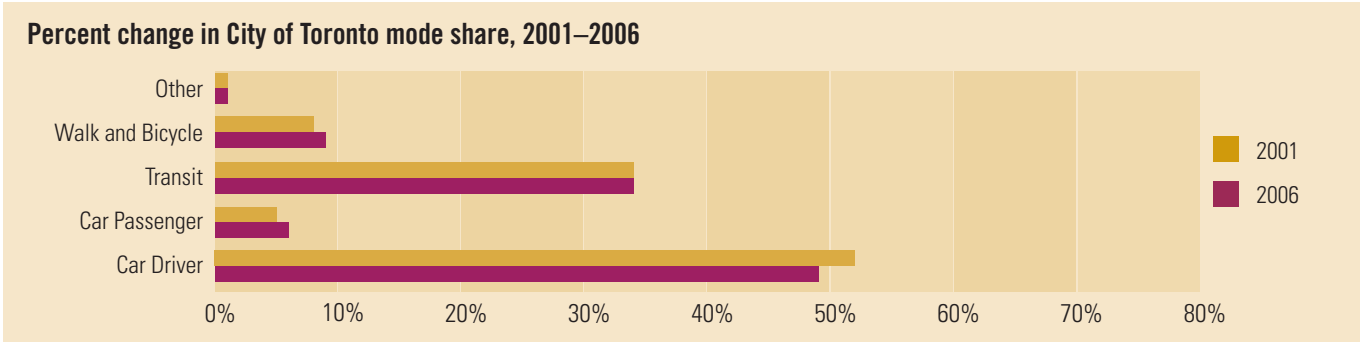
CITY OF TORONTO CHALLENGES

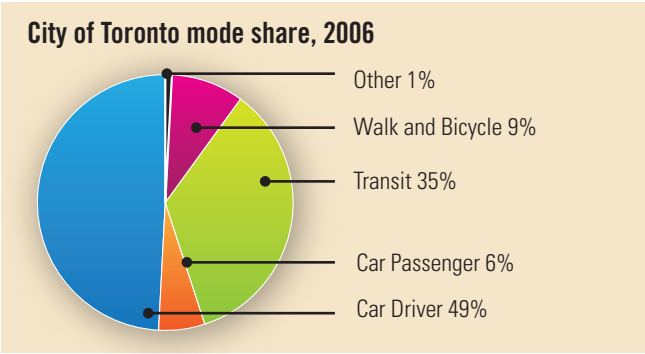
- Full funding for transit operations, as well as capital costs, is not secured.
- There is relatively low population growth in the City compared to the rest of the CMA.
- City of Toronto has relatively few bike lanes per capita.

City of Toronto



How do Torontonians get to work?

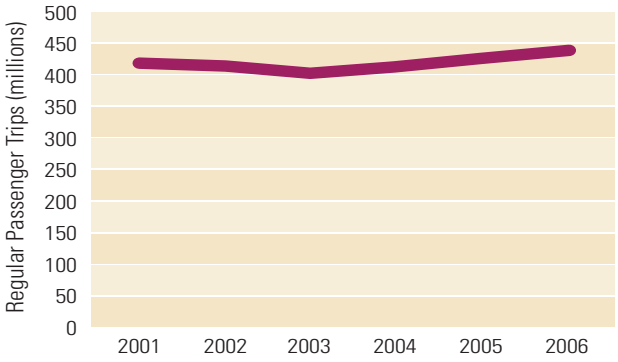




City of Toronto's transportation choices

In 2006, 43% of commuters chose to walk, cycle or take transit, second only to the City of Montreal (46%).

Regular passenger transit trips in City of Toronto



City of Toronto transit services

Between 2001 and 2006, transit trips in the City of Toronto increased by 6%, greatly exceeding population growth of about 1%. Transit service (hours and kilometres of transit service) grew by less than 2% over this time period. Thus, riders likely experienced higher congestion within the transit system.

City of Toronto lessons learned (from interviews)

- The official city plan recognizes that urban sprawl in the region is a major contributor to greenhouse gas emissions.
- The City of Toronto can best help to reduce urban sprawl in the CMA by making it more inviting for people to live and work in the City of Toronto and by putting policies in place to accommodate this.
  - Goal is 500,000 new residents and 500,000 new jobs by 2031.
  - Goal of 140,000 rides on new LRT annually.
- Developing a consistent methodology for estimating greenhouse gas reductions across different projects is challenging.

Toronto bicycle paths

On-street: 250 km

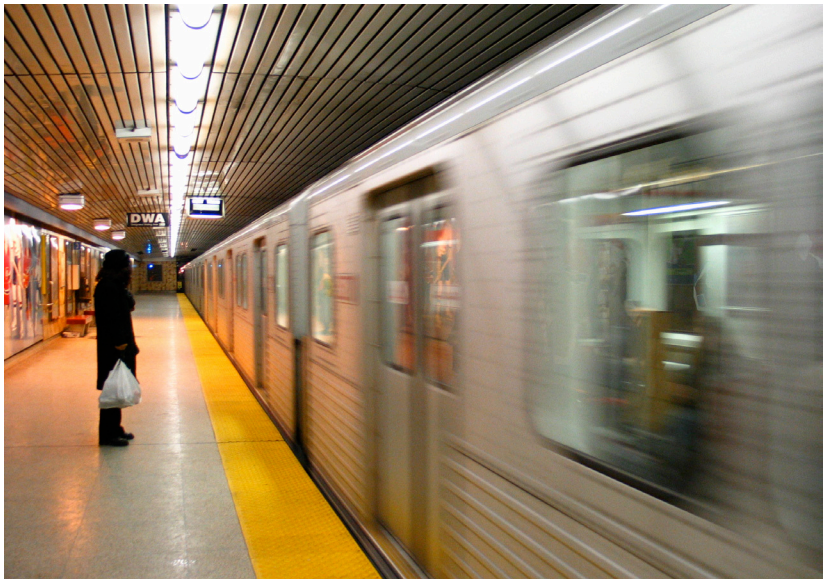
Off-street: 168 km

Total: 418 km

Bike path kilometres per 1,000 people: 0.17

The City of Toronto has the fewest bike paths per capita; however, the City has plans to add another 600 km to the existing bikeway.

Photo: Dominic Ali / www.domali.com



Toronto CMA

CMA STATS (2006 CENSUS)

Population: 5,113,149

Land Area: 5,903.63 km^2

Density: 866.1 residents per km^2

Description of the Toronto Census Metropolitan Area (CMA)

The Toronto CMA is Canada's most populous CMA, with a population of 5,113,149 in 2006. The Toronto CMA and the Greater Toronto Area (GTA) have similar, but not exactly the same, geographic boundaries; some municipalities that are considered part of the GTA are not within the Toronto CMA. The Toronto CMA is home to about 500,000 people fewer than the GTA. The Toronto CMA contains 21 separate cities or towns, two townships and one Indian reserve.

TORONTO 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	3,137,000	67%	3,266,000	64%	+129,000	4%
Living in high-density[2,3] areas	564,000	12%	552,000	11%	-12,000	-2%

[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 Toronto CMA choosing to live?

Between 2001 and 2006, the population of the Toronto CMA grew by a staggering 430,000 people (9%) — the largest absolute growth of any major CMA in Canada and more than the population growth of Vancouver, Calgary, Edmonton and Ottawa-Gatineau combined. During the same period, medium-density areas grew by only 4% — half the rate of growth of the CMA as a whole. The lower growth rate for neighbourhoods with high residential density and the relatively low population growth in the City of Toronto (0.9%) indicates a trend to increased urban sprawl.

The share of people living in medium-density areas decreased from 67% of the population in 2001 to 64% in 2006. And neighbourhoods with high residential density experienced a net decline in residents over the same period. Despite the decline, the Toronto CMA has the highest share of residents living in dense areas of any of the large Canadian CMAs.

CMA SUCCESSES

- CMA has the largest percentage of residents living in neighbourhoods with at least medium density.
- Places to Grow sets population density and job rates for all cities in the CMA.

CMA CHALLENGES

- A decreasing percentage of residents live in high-density areas.
- CMA covers a very large area and has the longest commute distance of any CMA.
- CMA is growing ten times faster than the City of Toronto.

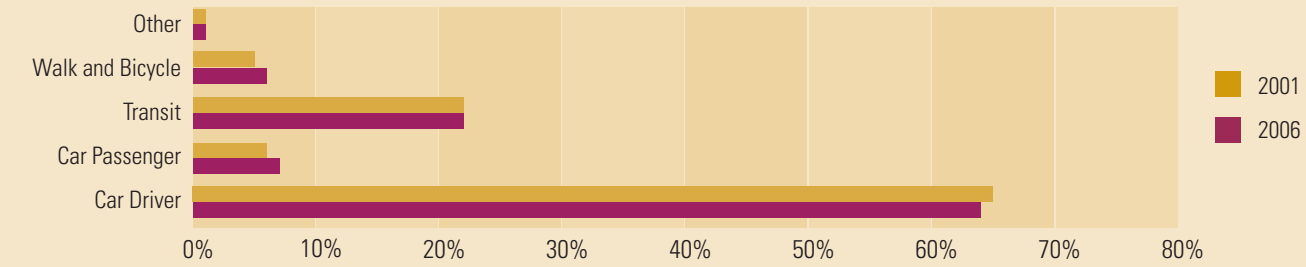
Toronto CMA

How do people in the Toronto CMA get to work?

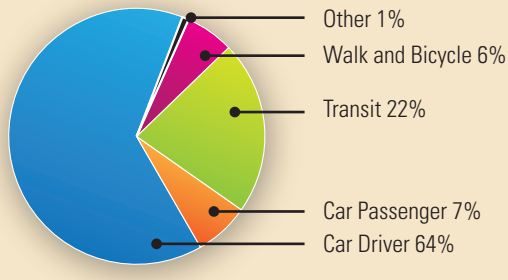
In 2006, the combined percentage of commuters choosing to walk, bike or take transit was 28% in the Toronto CMA, one of the highest amongst the major Canadian cities. At 22%, the Toronto CMA has the highest rate of commuters using transit of any large urban area in Canada. Within the drive-to-work segment, there has been a shift from car driver to car passenger between 2001 and 2006; all cities experienced this shift, which indicates an increase in carpooling, to varying degrees.

Photo: Johan Stroman, GreenLearning Canada

Percent change in Toronto CMA mode share, 2001–2006



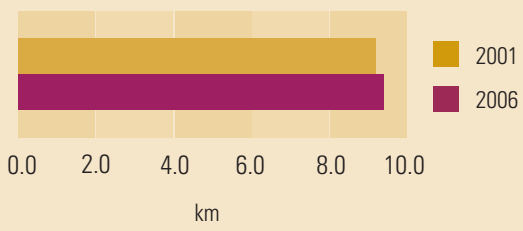
Toronto CMA mode share, 2006



How far are residents of the Toronto CMA commuting?

Between 2001 and 2006, the Toronto CMA saw the average commute distance increase by 2.2%, from 9.2 km to 9.4 km. The Toronto CMA has the longest commute distance of the CMAs in this study.

Average commute distance in Toronto CMA



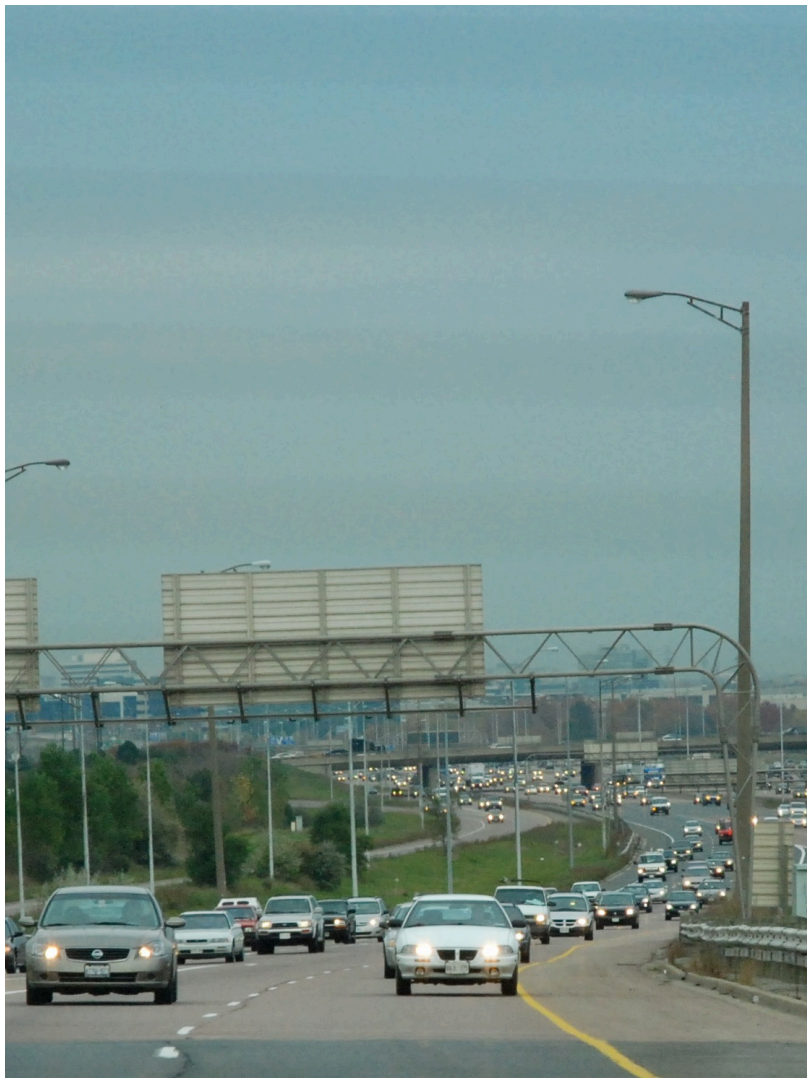


Photo: Roberta Franchuk, The Pembina Institute

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.