

by Corporate Knights
with research by Caroline Law
and Stacey Bowman

FIRST ANNUAL CORPORATE KNIGHTS RANKING OF

CANADA'S MOST SUSTAINABLE CITIES

*Ranking the most
sustainable large
Canadian urban centres*

INDICATORS & WEIGHTS

Data obtained from public sources, most recent year available.

LABOUR INDEX – 15%

- Unemployment Rate (Statistics Canada) 2005
- Employment Participation Rate (Statistics Canada) 2005
- Incidence of Low Income (Statistics Canada) 1995, 2000
- Incidence of Low Income 5-yr change
- % Income from Earnings (Statistics Canada) 2001

HOUSEHOLD INDEX – 15%

- Household Expenditures Spent on Housing (Statistics Canada) 2004
- Home Ownership Rate (CMHC) 2001
- Population in Shelters (Statistics Canada) 2001
- Population Density per km² (Statistics Canada) 2001

WATER AND WASTE FACILITIES INDEX – 15%

- % Served by Water Treatment System (Environment Canada) 2001
- % Served by Sewage Treatment (Environment Canada) 2001
- Daily Water Consumption per Person per Day (Environment Canada) 2001
- Waste Generated Per Capita (www.csr.org)
- Waste Diverted by Recycling (www.csr.org)

COMMUNITY INDEX – 20%

- Violent Crimes (Statistics Canada) 2005
- Property Crimes (Statistics Canada) 2005
- % Population with Less than High School Diploma (Statistics Canada) 2001
- % Population with University Degree (Statistics Canada) 2001
- Teachers and Guidance Counselors per 1000 People under 17 (Statistics Canada) 2001
- Average Class Size (Federation of Canadian Municipalities Municipal Survey Database) 2003
- 2006 Federal Election Voter Turnout (Municipalities)
- City Council Gender Diversity (Municipalities)

GREEN MOBILITY INDEX (GMI) – 15%

- Green Mobility Index* (with data from Statistics Canada)
- Median Commuting Distance (Statistics Canada) 2001 Census
- Bike Paths and Lanes (km) (Municipalities)

ENVIRONMENT INDEX – 20%

- NOX Concentrations (NAPSD***) 2006
- SOX Concentrations (NAPSD***) 2006
- Average # Days 2001-2005 with PM_{2.5} Concentration > 30 (NAPSD***) 2006
- Average # Days 2001-2005 with Ozone Concentration > 65 (NAPSD***) 2006
- Total Environmental Footprint (Anielski Institute) 2005
- Toxic Releases 2005 (NPRI) 2004-2005
- Toxicity Levels 2005 (NPRI, US EPA**) 2004-2005
- Toxicity Change 2004-2005
- Green Space (Evergreen) 2002 Survey
- Smog Advisories (Regional Health Authorities, Environment Canada, Provincial Ministries of the Environment) 2006

* Green Mobility Index is the percentage of people who walk, bike, or use public transit to get to work.

** The Toxicity levels are determined using the NPRI data and the weights assigned by the U.S. Environmental Protection Agency's (EPA) Risk-Screening Environmental Indicators (RSEI).

*** National Air Pollution Surveillance Database.

Over 70 per cent of Canadians live in a metropolitan area with a population over 100,000. In our first annual ranking of Canada's Most Sustainable Cities, we strive to show which Canadian large urban centres are doing the best job providing a sustainable community. In our ranking, sustainability includes: preservation of the environment, economic prosperity and development, a robust labour market, water and waste management, strong community and green mobility.

Our ranking shows what the cities are doing right and where they're going wrong, using a diverse cross-section of indicators (see sidebar).

A sustainable city has a viable economy fuelled by a healthy population and leaves the smallest environmental footprint possible. It is a prosperous, engaged and educated community devoid of poverty and all its attendant social problems. The bottom-line indicator of sustainability for a city is the ability to maintain its population. A sustainable city must be a place where people want to live, work, play and build their lives.

Our Environment Index assesses a city's environmental impact. Toxic releases, air pollution and smog are scourges, not just to the environment, but to the health of all who are exposed to them. A productive population is a healthy population. It goes to work and school, spends its money and contributes to the city's economy. A sick population drains public resources by frequenting clinics and hospitals. It is lethargic and less likely to engage and innovate. For many, a brown, polluted skyline is an incentive to move away from a city.

Green space absorbs run-off, cleans the air and provides a place for exercise and environmental education. According to a study prepared by the Anielski Management Institute for the Canadian Federation of Municipalities, the average Canadian city dweller needs 7.25 hectares of land to sustain him or herself, taking into account our present housing pattern and energy and food consumption, though the earth's bio-capacity allows for only 1.9 hectares of land per person.

A 2001 survey on green space acquisition and stewardship conducted by

Evergreen takes into account only municipally-owned land, excluding the grounds of universities, conservation areas and other privately owned spaces. The classification of green space also varies across municipalities, with some including cemeteries and golf courses.

Our Green Mobility Index measures how much of the population in each city commutes to work in an environmentally friendly way—by walking, biking or using public transportation. The average commuting distance is also thrown into the equation. The number of kilometres of bike paths and lanes in a city is also a good indicator of how many residents are able to bike, walk or use other forms of non-motorized transport, and also tells us something about the activity level of the population. It's not a precise indicator of bike-use, however, since smaller cities whose roads are safe for cycling don't need specially allotted bike lanes or paths, unlike the car-choked mazes of downtown Toronto or Montreal.

The Water and Waste Index tells us how much waste the average citizen creates, the city's recycling rate, and what portion of the population is served by water and sewage treatment facilities. Does the city treat its wastewater before dumping it back into the ecosystem? An easy way to score poorly in this category is to flush toilet waste directly back into waterways.

The Labour Index reveals how many people are working, how many are willing to work, and what portion of the population earns a low income.

The Household Index is an indicator of prosperity, showing how many people can afford to own a home, and how many people live in shelters. The most important indicator in this category is the occupancy cost, showing the percentage of income residents have to shell out to put a roof over their head.

The Community Index indicators, such as violent crimes, voter turnout, the percentage of the population with less than a high school education, and school class sizes measure some of the important factors that make a strong community. Diversity, safety, opportunity, civic engagement: all are necessary elements for progress.

THE UPS AND DOWNS

A Canadian city that's already almost 200 years old is on track to sustain itself the longest. Though no one city stood out from the pack with outstanding grades over-all, Québec's safe communities, diverse government, bike-able streets and top notch sewage and water treatment put it at the top of our ranking. Ottawa's relatively high density, good Green Mobility grades and low crime rates helped slot it in second place. St. John, New Brunswick, with its high unemployment, poor sewage treatment and high incidence of low education brought up the rear of our group.

Victoria has been dumping 100 per cent of its raw sewage into the vast expanse of the Pacific Ocean for years. The waste is

screened for larger solids (think tampon applicators) and then flushed into the Juan de Fuca Strait. Halifax and St. John, New Brunswick dump raw sewage into our other bordering ocean. These three cities are the only municipalities from sea to smelling sea with less than 85 per cent of their population served by sewage treatment. However, all three issued zero smog advisories in 2005. We still wouldn't go swimming.

Maybe the sewage treatment plant being built in St. John will generate some needed jobs—it has the fifth-highest unemployment rate in our ranking behind St. Johns, NFLD, Montreal, Windsor and Sudbury. Maritime cities seem in constant danger of losing their citizens to jobs in booming Alberta. Calgary

has the lowest unemployment rate at 3.9 per cent, but 19 per cent of Calgarians' incomes is spent on housing. Only Vancouverites, Torontonians and Victorians (the West Coast variety) spend more—20 to 21 per cent.

Calgary and Ottawa have some of the highest median commuting distances (commuter-haven Oshawa leads the pack with 10.7 km), but are first and second in the number of kilometers of cycling paths and lanes with 895 and 610 respectively. According to a recent Statistics Canada Survey, only a few Canadians bike to work (leading the way was Victoria with a piddly 4.8 per cent of its population). Clearly the "if you build it they will come" philosophy isn't working just yet. **CK**

The top 5 in selected categories

City	Unemployment Rate (%)
St. John's, NF	8.9
Montréal, QC	8.7
Windsor, ON	7.9
Greater Sudbury, ON	7.7
Thunder Bay, ON	7.1

City	Home Ownership Rate (%)
Oshawa, ON	75.6
St. Catharines–Niagara, ON	73.2
Thunder Bay, ON	71.9
Windsor, ON	71.8
Abbotsford, BC	71.1

City	Daily Water Consumption (L/person)
Saint John, NB	4,322.94
Montréal, QC	1,117.20
St. John's, NF	1,064.09
Hamilton, ON	870.89
Windsor, ON	746.66

City	Violent Crimes/100k Pop.
Halifax, NS	1,790
Saskatoon, SK	1,775
Regina, SK	1,676
Winnipeg, MB	1,328
Vancouver, BC	1,249

City	% with University Degree
Ottawa–Gatineau, ON/QC	25.9
Toronto, ON	22.9
Calgary, AB	21.1
Halifax, NS	21.1
Vancouver, BC	20.7

City	Average Class Size
Québec, QC	12.6
Calgary, AB	20.8
Edmonton, AB	21.7
Greater Sudbury, ON	22.2
Vancouver, BC	22.7

City	Total Environmental Footprint
Greater Sudbury, ON	6.88
Québec, QC	6.89
St. Catharines–Niagara, ON	6.90
London, ON	6.97
Winnipeg, MB	7.15

City	Toxic Air Releases 2005 (kg)
St. Catharines–Niagara, ON	19,718
Québec, QC	47,642
Victoria, BC	75,160
Abbotsford, BC	255,557
Greater Sudbury, ON	526,926

THE TOP FIVE SUSTAINABLE CITIES IN CANADA



PHOTO: Alexander Kolomietz

QUEBEC

Le grand village

Dogged consistency across the range of indexes lifted picturesque **Québec City** to the top of our ranking. It landed in the upper half of the pack in every index, and was in the top five in Community, Water and Waste and Household Indexes. Maybe because of that famous French *joie de vivre* (it's just happier here), the city enjoys the second lowest violent and property crime rates. Then again, maybe it's simply too cold six months out of the year for criminal minds to venture out of doors. Luckily, housing is affordable. Québec citizens spend only 16.6 per cent of their income on housing. Québec youths in secondary and elementary school enjoy the smallest average class sizes in our ranking at 12.6. This middling-sized city boasts super-size community services, with enough teachers, schools, water and waste facilities and bike paths to keep its citizens healthy and happy.



PHOTO: Sergey Ivanov

OTTAWA

Bytown

Our nation's capital scored well in almost every index, coming in 0.9 points behind the former capital of New France. **Ottawa** is the most educated city in our ranking—a good thing considering many of its citizens run the country. Over a quarter of Ottawa residents hold a university degree, and only 22.7 per cent lack a high-school diploma. All that higher education seems to have motivated Ottawaiaans to take an interest in the fate of our country. The city had the highest percentage of its population vote in the 2006 Federal Election. Only Calgary had more green space per 1000 people in 2002, though one might speculate Calgary has slipped behind Ottawa since then considering its massive, rapid population expansion. Tourists and residents can easily explore the many parks and other attractions of the National Capital Region by bike on its 610 kilometres of paths and lanes—the second-highest number in our ranking.

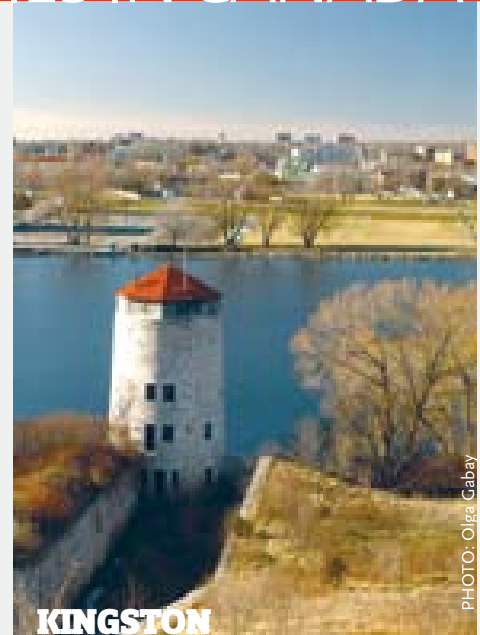


PHOTO: Olga Gabay

KINGSTON

K-Town

Sliding into third spot over-all, **Kingston** was the first capital of the union of Upper and Lower Canada. It seems heritage has some correlation to modern-day sustainability—chalk it up to civic pride. The third smallest city in our ranking in terms of population, Kingston also has the third smallest environmental footprint and is the third least toxic, though smog from its neighbours up, down and across the St. Lawrence settles in during the dog days of summer. Kingstonians enjoy a short commute of just 5.4 kilometres, and boast the most gender-diverse city council in our ranking—46 per cent of seats are filled by women. Kingston also has the most teachers and guidance councilors per 1,000 people at 9.61, and is home to three major post-secondary institutions: Queen's University, St. Lawrence College and The Royal Military College of Canada.



PHOTO: R.J. VAN SETERS CO. LTD.

K-Dub

The southern Ontario town of **Kitchener** offers every one of its citizens sewage and waste-water treatment. Pair that with low water consumption at 390 litres/person/day and Kitchener finds itself at the top of our Water and Waste Index. That achievement plus high rankings in the Household and Labour Indexes helped land it in fourth place over-all. Kitchener residents are the least likely to earn a low income—only 11.3 per cent suffer from poor wages—and Kitchener has the second-highest workforce participation rate in our ranking at 72.8 per cent. All this cash helps residents get in the real-estate game. Kitchener's 66.7 per cent home ownership rate is the highest in our ranking. It's weakness? Air pollution—the Achilles heel of municipalities in the Golden Horseshoe. If the July air was sweeter, maybe there'd be some indignation about the lack of bike paths—Kitchener has only 125 km of them.



PHOTO: Trevor Buttery

Heart of the New West

The oil boom boosted employment and wages in the burgeoning city of **Calgary**, vaulting it to the top of our Labour Index and into fifth place over-all. Calgarians are enjoying high wages, the lowest unemployment rate in our ranking at 3.9 per cent, and the biggest drop in the incidence of low income—5.7 per cent from 1995 to 2005. It's reasonable to expect unemployment is even lower these days, and rumours of fast-food chains doling out hefty pay-checks abound. Calgary's biggest challenge is to transform its exploding city into a sustainable one. The opportunity to provide an example of profitable, sustainable growth is unprecedented, but already sprawl is becoming a problem and the cost of housing is climbing. Minimizing Calgary's large environmental footprint will be pivotal, but hopefully with the third highest percentage of university graduates at its disposal, innovation will rule the day.

WHILE THE BIGGEST PORTION OF THE BUCK STOPS AT CITY HALL, IT TAKES A PROVINCE AND A COUNTRY TO RAISE A TRULY SUSTAINABLE CITY. SO IF YOU WANT YOUR CITY TO IMPROVE, START IN YOUR COMMUNITY FIRST, THEN CITY HALL, THEN PROVINCIAL PARLIAMENT AND ALL THE WAY TO OTTAWA.

Canada's Most Sustainable Cities Ranking: 2007 Results

The following table shows the results of the ranking using the indicators and weights noted on page 28.

RANK	CITY (CENSUS MUNICIPAL AREA)	POPULATION 2001	LABOUR INDEX	HOUSEHOLD INDEX	WATER AND WASTE INDEX	COMMUNITY INDEX	GMI INDEX	ENVIRONMENT INDEX	COMBINED SCORE
1	Québec, QC	682,757	6.21	7.10	9.17	8.54	8.00	7.78	7.83
2	Ottawa–Gatineau, ON/QC	1,063,664	6.67	6.07	8.39	8.34	9.06	7.61	7.72
3	Kingston, ON	146,838	6.81	6.45	8.99	7.12	8.62	7.89	7.63
4	Kitchener, ON	414,284	6.98	7.11	10.00	7.46	7.02	7.19	7.60
5	Calgary, AB	951,395	7.73	6.28	7.74	7.88	8.33	7.18	7.53
6	Edmonton, AB	937,845	7.15	6.49	9.96	7.18	7.34	7.23	7.52
7	Greater Sudbury, ON	155,268	5.71	6.50	8.45	8.53	7.00	8.29	7.51
8	Montréal, QC	3,426,350	5.99	6.82	9.07	7.13	9.23	6.96	7.48
9	Vancouver, BC	1,986,965	5.60	6.79	9.46	7.08	8.00	7.63	7.42
10	Toronto, ON	4,682,897	6.62	6.48	8.68	7.57	8.49	6.70	7.39
11	Victoria, BC	311,902	5.64	6.14	6.67	8.44	9.32	7.39	7.33
12	Saskatoon, SK	225,927	6.29	6.61	9.27	5.95	7.21	8.32	7.26
13	London, ON	432,451	5.95	6.01	8.99	7.67	7.22	6.90	7.14
14	St. Catharines–Niagara, ON	377,009	6.17	6.58	8.62	7.46	7.23	6.78	7.14
15	Abbotsford, BC	147,370	7.20	6.90	8.36	6.75	7.83	6.19	7.13
16	St. John's, NF	172,918	5.40	8.21	8.57	6.46	6.58	7.22	7.05
17	Halifax, NS	359,183	6.03	6.46	7.79	6.25	7.84	7.83	7.03
18	Winnipeg, MB	671,274	6.28	6.53	7.84	6.15	7.80	7.39	6.98
19	Regina, SK	192,800	6.14	6.37	7.88	5.50	7.08	8.31	6.88
20	Hamilton, ON	662,401	5.94	7.06	7.82	6.78	6.69	5.92	6.67
21	Thunder Bay, ON	121,986	5.27	5.56	7.99	6.54	6.86	6.98	6.56
22	Windsor, ON	307,877	6.04	6.66	8.18	6.56	6.74	5.16	6.49
23	Saint John, NB	122,678	5.52	5.98	7.11	5.38	6.71	7.25	6.32
--	Oshawa, ON	296,298	6.98	7.30	--	6.90	6.03	7.06	*

* Oshawa was not placed in the overall rankings because of lack of data in the Water and Waste Index.

Highlight Stat: City Council Gender Diversity

City	Women City Councillors (%)
Victoria, BC	55
Kingston, ON	46
London, ON	40
Montréal, QC	40
Edmonton, AB	39
Halifax, NS	37
Vancouver, BC	36
Abbotsford, BC	33
Calgary, AB	33
Greater Sudbury, ON	31
Québec, QC	30
Kitchener, ON	29
Ottawa–Gatineau, ON/QC	29
Oshawa, ON	27
Saskatoon, SK	27
St. Catharines–Niagara, ON	23
Thunder Bay, ON	23
Toronto, ON	22
Winnipeg, MB	20
Regina, SK	18
Windsor, ON	18
Hamilton, ON	13
Saint John, NB	9
St. John's, NF	9

Source: 2006, Municipal websites

“Whatever women do, they must do twice as well as men to be thought half as good. Luckily, this is not difficult!”

—Charlotte Whitton



Charlotte Whitton, OC (March 8, 1896 to January 25, 1975) was a noted Canadian feminist and mayor of Ottawa. She was the first female mayor of a major city in Canada, serving from 1951 to 1956 and again from 1960 to 1964.

Hannah “Annie” Elizabeth Rolinson Gale (December 29, 1876 to 1970) became the first woman in Canada, and possibly the first in the British Commonwealth to be elected to a position in any level of government. She served as Alderman for the City of Calgary municipal council.

Source: Wikipedia