

2011 Sustainability Baseline

Choosing our Future:
2011 Report on Sustainability



Acknowledgements

The Choosing our Future team wishes to acknowledge the contributions of staff from the three partner organizations and input from the citizens of the Cities of Ottawa and Gatineau in Choosing our Future.

Ce rapport est aussi disponible en français.



Choosing our Future is an initiative of the City of Ottawa, in partnership with the City of Gatineau and the National Capital Commission, to guide Canada's Capital Region towards a more liveable and prosperous future. It will result in three plans for the region that integrate sustainability, resiliency and liveability into all facets of the community.

The three plans of Choosing our Future are:

- Sustainability and Resilience Plan
- Energy and Emissions Plan
- Risk Prevention and Mitigation Plan



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Preparing for the 21st Century

Canada's Capital Region is preparing to meet the challenges of the 21st century.

To succeed in this task, the City of Ottawa, the City of Gatineau and the National Capital Commission have been working as partners since 2008 on an initiative called Choosing our Future. The goal of this initiative is to choose a path that will make our community more sustainable, liveable and resilient in the future.

Together, the Partners are taking a long look into the future and the challenges it might bring: an aging population; resource scarcity; rising energy and food prices; globalization; technology change; and sudden shocks such as natural disasters. How do we need to change if we are to succeed in meeting these challenges both locally and globally? A vision statement and long-term goals express where we want the region to be in 50 to 100 years. The Sustainability and Resiliency Plan, a major product of Choosing our Future, will show us how to get there.

The purpose of this report is to provide a current snapshot of our sustainability as a region. It serves as a platform to develop a common understanding of critical areas such as managing our waste or building our infrastructure. It also provides a starting point for monitoring change and progress towards the 12 goals we have set for a sustainable future. The baseline is expected to evolve over time and additional data will be used as part of the monitoring process, to reflect goal achievement.

Sixteen indicators are described in the following pages. Many reflect our performance in more than one of the four dimensions of sustainability. These four dimensions are:

- Social well-being
- Economic prosperity
- Culture and identity
- Healthy environment

The indicators were also selected because they:

- Reflect activities that the partners in Choosing our Future can potentially change or influence
- Relate to the goals
- Require measurable data that are available, easily accessed, and consistently reliable

The Vision of Choosing our Future



Canada's Capital Region will retain its great natural beauty, a strong diverse economy and vibrant communities. We aspire to a future where the outstanding quality of life we are known for can be maintained indefinitely without undermining the health and the stability of natural systems. We are committed to creating a future where people flourish through a strong economy and a vibrant, creative culture and where our relationship with the natural world is one of respect and stewardship.



The 12 Goals of Choosing our Future

To define our success as we journey towards sustainability, 12 goals were developed with input from the community. These goals describe our long-term aspirations and collectively present a vision for a sustainable, liveable and resilient capital region. The goals provide strong directional support for decision making that will help successive Councils of Ottawa and Gatineau and the NCC Board move consistently towards their achievement.





Summary of Indicators

Tracking our progress towards sustainability

Progress towards our goals is measured through 16 indicators. In the pages that follow, each indicator is described and compared against our past performance or the performance of other Canadian metropolitan areas. Where we compare ourselves to major municipalities, they are listed in order of size. In some cases, we are doing well locally but not globally—not when compared to international cities or standards.

Several indicators relate to more than one goal. For example, the percentage of residents who are immigrants reflects our ability to compete globally for talent. It also reflects our level of cultural diversity. We need to progress towards all of our goals and strengthen each of the four dimensions of sustainability if we are to achieve a resilient and liveable community in the future.

Social well-being

Goals	Indicators
Connectivity and Mobility	1. Percentage of residents who walk or cycle to work
Health and Quality of Life	2. Percentage of residents aged 15 and over with less than a high-school education
Housing	3. Households paying 30% or more of their income on housing

Economic Prosperity

Goals	Indicators
Economic Prosperity	4. Percentage of residents aged 20-24 who are participating in post-secondary education, 2010
Economic Prosperity	5. Percentage of residents who are immigrants from another country
Governance and Decision-Making	6. Rates of volunteerism

Culture and identity

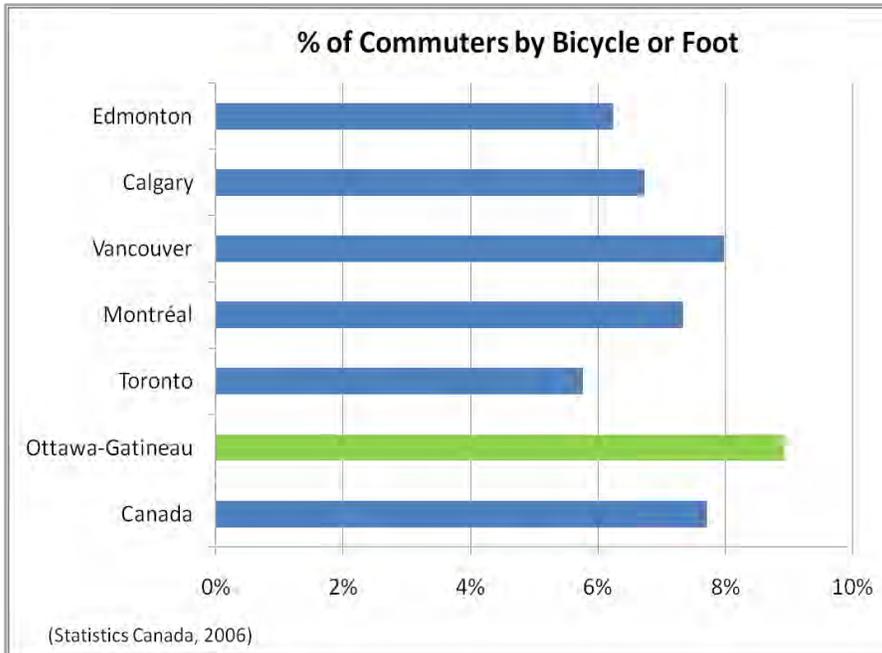
Goals	Indicators
Culture and Identity	7. Percentage of residents who are bilingual in both English and French
	8. Per capita spending by municipal governments on festivals and grants to non-profit organizations
Food and Agriculture	9. Consumption of agricultural land and other land for development

Healthy Environment

Goals	Indicators
Climate Change	10. Greenhouse Gas Emissions per capita
Energy	11. Daily vehicle kilometres travelled per capita
	12. Percentage of residents who commute by transit
	13. Apartment construction as a percent of new housing
Materials and Solid Waste	14. Total residential waste per capita and residential waste diversion rate
Water and Wastewater	15. Average number of litres of water used per person per day
Biodiversity and Ecosystem Health	16. Water quality rating of the Ottawa River entering and leaving the region

Connectivity and mobility

Percentage of residents who walk or cycle to work



Almost 9% of Ottawa-Gatineau residents walk or cycle to work.

This is well ahead of other major metropolitan cities in Canada. Walking and cycling improve fitness and reduce vehicle travel – a plus for improving air quality. More importantly, they signal a complete community, where people can live and work. Most cycling trips are less than 5 km long and occur within the central area of Ottawa. We will monitor walking and cycling as a measure of complete, healthy communities.



Did you know?

In 2010, Ottawa added a **110 kilometres** of on- and off-road bike lanes.

Source: City of Ottawa, Planning and Growth Management

Health and quality of life

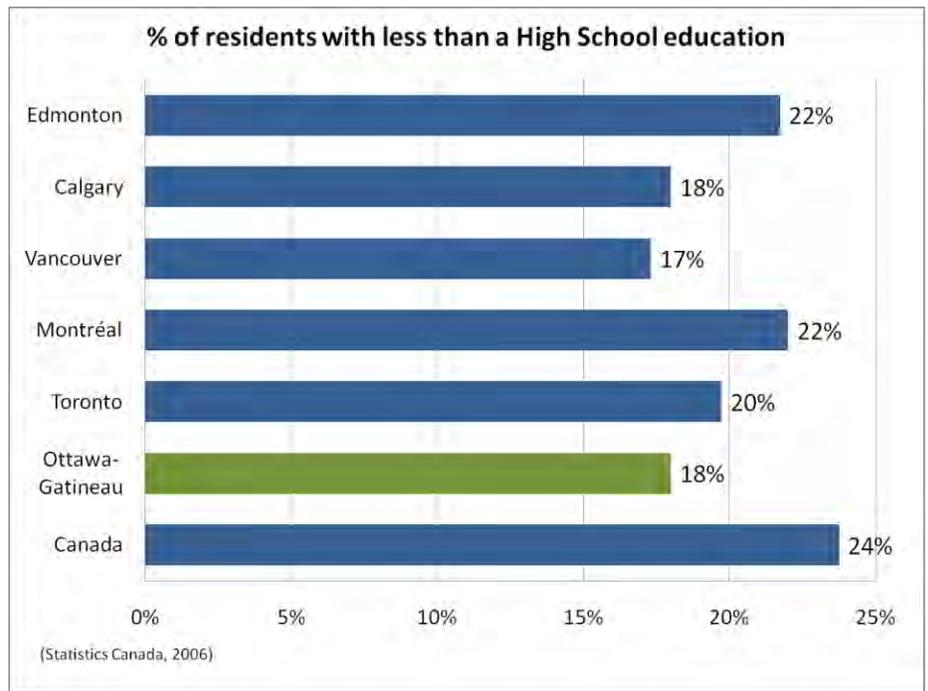
Percentage of residents who are aged 15 and over with less than a high school education

Education level is one of the leading social determinants of health.

It equips people with the skills to educate themselves and their children on healthy lifestyles, to solve problems and make choices in their lives, and to pursue opportunities for income security and job satisfaction¹. Low education levels signal low levels of these essential skills.

Based on 2006 figures, 18% of Ottawa-Gatineau residents 15 years of age or over did not have a certificate or diploma from high school or other secondary school. This is one of the lowest rates among major metropolitan areas and below the national average. However, it means that almost one out of five residents is at risk of developing a range of health problems, from obesity to the risk of low birth rate in their offspring.

We will monitor the education levels of adults in the region as an indicator of overall levels of health. Decreases in the figure will reflect improvements in retaining youth in public schools, supporting educational achievement for new Canadians of all ages, and delivering adult education. These improvements will pay off in health and quality of life dividends.



Snapshot: Regional Health

	Outaouais	Ottawa	Canada
Percent Obese	22.1%	15.5%	17.9%
Low Birth Weight (% of live births)	5.4%	5.7%	6.0%
Current smoker, daily	22.4%	9.4%	20.1%
Influenza Immunization	26.8%	43.3%	32.2%
Perceived health, very good or excellent	59.5%	65.4%	60.5%

Source: Statistics Canada, Canadian Community Health Survey, 2009 <http://www12.statcan.gc.ca/health-sante/82-228/index.cfm?Lang=E>



¹ What Makes Canadians Healthy or Unhealthy? Public Health Agency of Canada. <http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy>

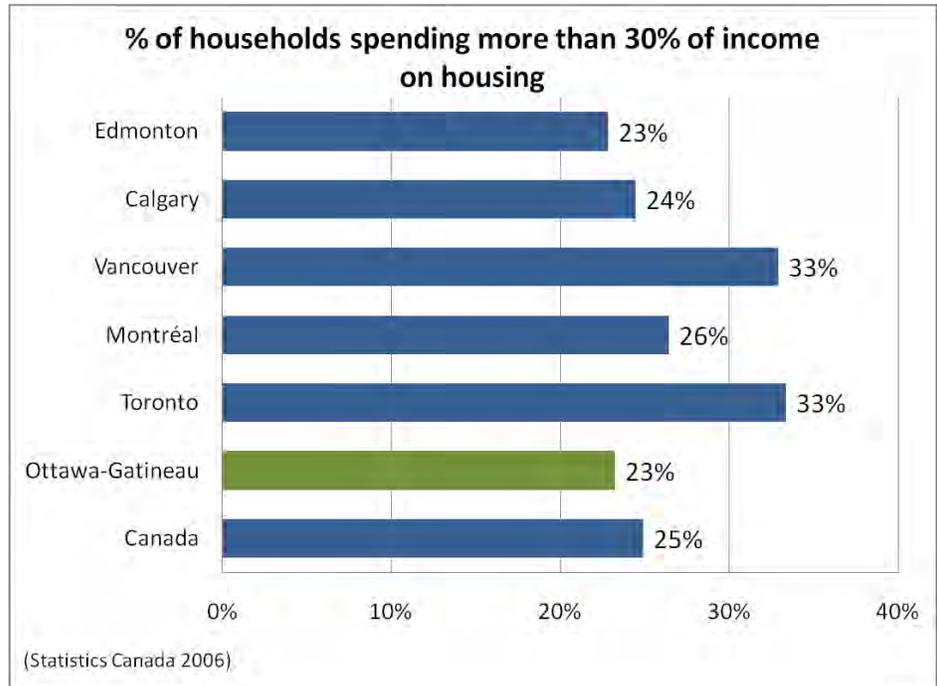
Housing is more than just a place to sleep. Good, secure housing helps people maintain social relationships and establish a place in their community.

Affordable housing ensures there is enough left in the budget at the end of the month for food, clothing, and other essentials. It creates the security needed to attend school, seek employment, or continue in the workplace. Substandard housing or worry about making ends meet lead to health problems, while a secure home creates peace of mind.

In 2006, almost one-quarter (23%) of the region's households spent more than 30% of their gross income on housing. In Ottawa, this figure included:

- 37% of renter households,
- 45% of single parent households, and
- 42% of non-family households – mostly single people living alone².

We will monitor the percentage of households spending more than 30% of their income on housing as an indicator of social, economic and physical health of households in the community.



Did you know?

The City of Ottawa subsidizes approximately 1,000 shelter spaces in two City-operated family shelters, eight community shelters and overflow facilities as needed.

Source: City of Ottawa, Housing
http://www.ottawa.ca/residents/housing/homelessness/index_en.html

Economic prosperity

Percentage of residents aged 20-24 who are participating in post-secondary education, 2010

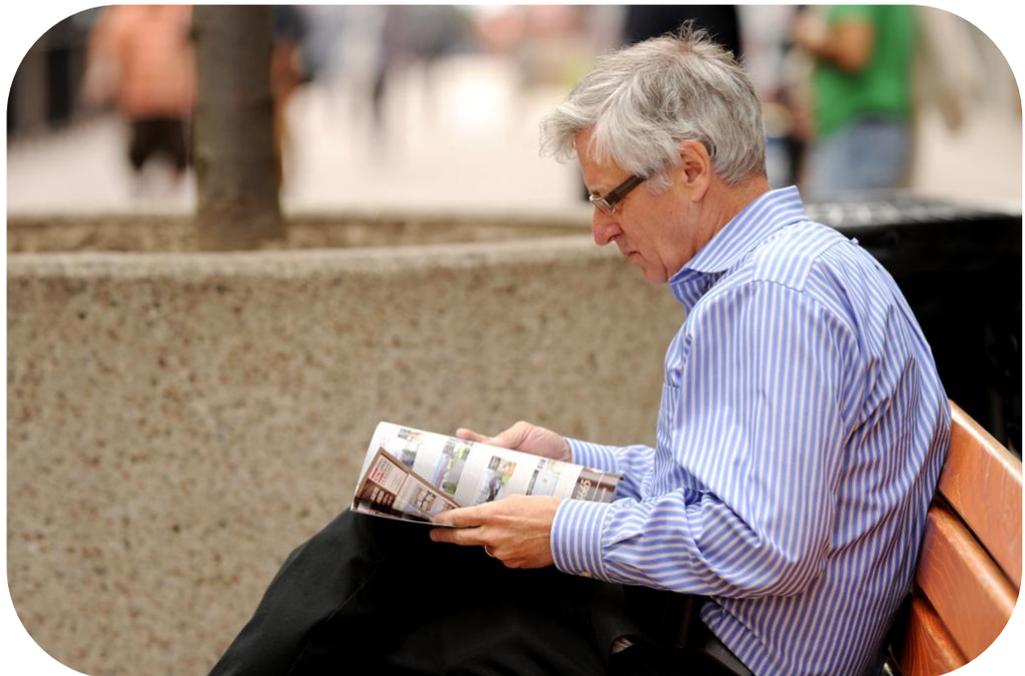
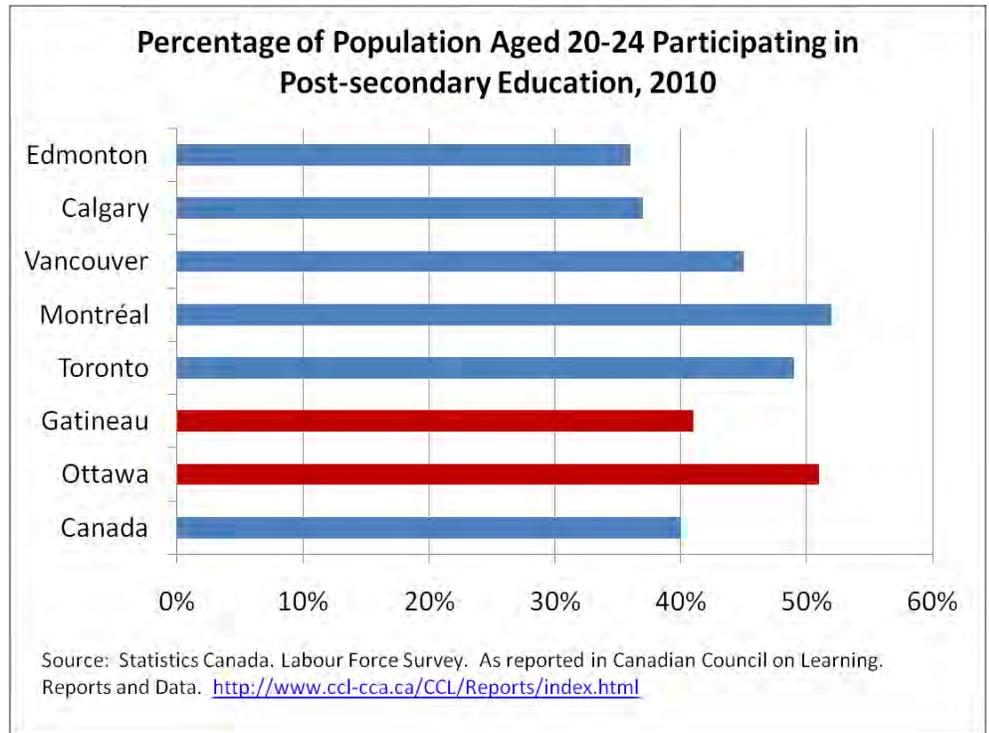
Most young adults in the region are still in school, preparing for the workforce and life-long learning.

Half the population aged 20 to 24 in Ottawa and 41% in Gatineau were participating in post-secondary education, including university, college, or trades programs. Education during this phase of an individual's life pays off within the workplace and in personal quality of life³.

The region's workforce is also well-educated. Ottawa-Gatineau has more engineers, scientists and PhDs per capita than any other region of Canada. High levels of education reflect the strong university, private sector, and government research and development network established here over the years. Collectively, an educated workforce helps the region attract new enterprise in the knowledge-based economy.

The 2006 federal census shows that 29% of Ottawa-Gatineau residents 15 years of age or over have a university certificate, diploma or degree, making it the best-educated labour force in Canada.

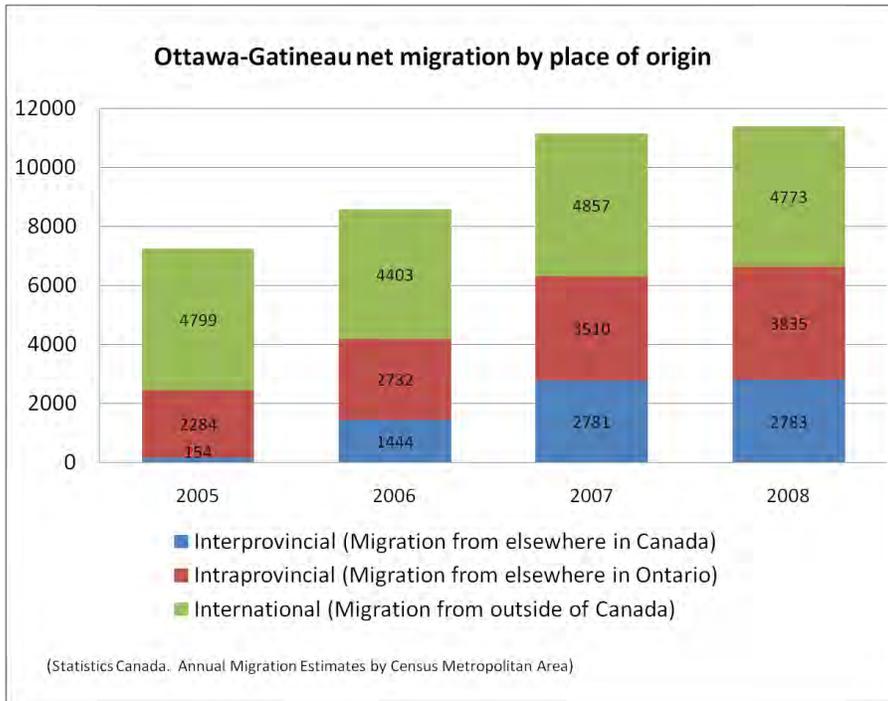
Going forward, we will monitor the post-secondary studies and educational achievements of our population to ensure we are maintaining this competitive edge.



³ Participation in Post-Secondary Education. Fact Sheet. Canadian Council on Learning. <http://www.ccli.ca/en/about/about-cli/indicators/know-pse.aspx>

Economic prosperity

Percentage of residents who are immigrants from another country



Economic prosperity in Ottawa-Gatineau depends not only on our ability to attract skilled immigrants from other countries, but also on our success in integrating these newcomers into our society and the economy.

With natural increase (births minus deaths) accounting for only about one-third of the region's population growth in recent years, migration is by far the largest component of population and labour force growth. Ottawa receives positive net migration from international sources, and positive net migration from within Ontario and from within the rest of Canada when the local economy is growing. When the economy is on the downward curve of a cycle, Ottawa tends to lose residents to other parts of Canada, but still gains from abroad⁴.



Snapshot: Immigration in Ottawa, 2006

- 37% of all immigrants aged 15 and older have a university diploma or degree compared with 29% of all residents
- 35% of recent immigrants in couples and families were low income
- 16% of all immigrants in couples and families were low income, compared with 9% of all residents

⁴ City of Ottawa. Planning and Growth Management Department. New Growth Projections for 2006 – 2031. http://ottawa.ca/residents/statistics/new_growth/index_en.html

Did you know?

In 2008 just over half (53%) of Ottawa and Gatineau residents socialized at least a few times each month with people from other cultures, below the national average of 71%. Interaction across cultures supports sustainability by bringing more ideas, options and opportunities to the table.

Source: Canadian Council on Learning, 2010 Composite Learning Index. <http://www.cli-ica.ca/en/about/about-cli/indicators/live-cultures.aspx>

While many immigrants have achieved success in the capital region, many others have been excluded from the economy. Immigrants as a group experience lower average incomes, higher rates of poverty, and higher rates of unemployment than the population as a whole. Recent immigrants arriving after 2001 are particularly disadvantaged.

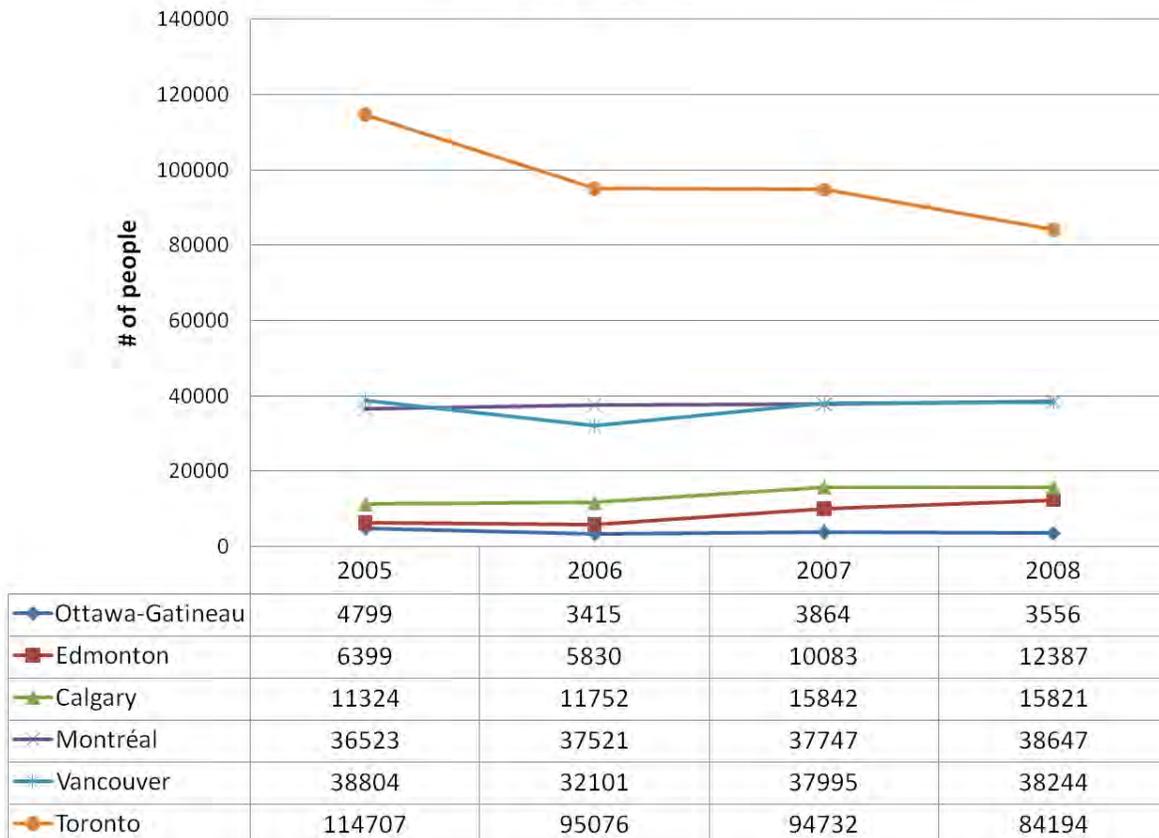
In 2006, 19% of Ottawa-Gatineau residents were immigrants. This figure is comparable to the national average but well below the level for Toronto, Canada's major immigration destination.

About one in six immigrants to Ottawa-Gatineau in 2006 arrived within the previous five years. This group faces the greatest challenges in finding a place in the region's economy.

Immigration adds to the cultural diversity of the region. While this diversity increases cultural opportunities for all, it challenges the social safety net as new arrivals struggle to find their place in the economy and the community. It also broadens the range of cultural values and can place strain on relations within communities.

We will monitor migration to Canada's Capital Region as an indicator of our economic competitiveness with other cities, and as a measure of cultural diversity.

Net International Migration into Census Metropolitan Areas (CMA), 2005-2008



(Statistics Canada, 2006)

Governance and decision-making

Rates of volunteerism

Volunteering is a measure of participation in decision-making, of engaging with others in the community to achieve a common set of goals. It strengthens the social fabric of a community and creates a better understanding of the needs of others.

Volunteers are the backbone of many sport and recreation organizations, social services, and religious groups that provide services for seniors, children and others⁵.

Half the residents of Gatineau and Ottawa (51%) reported providing unpaid services through a group or organization at least once in the 12 months preceding the 2007 *Canada Survey of Giving, Volunteering and Participating* by Statistics Canada. Across Canada 46% of Canadians reported volunteering, with participation higher among young Canadians, those with higher levels of formal education and household income, those with school-aged children in the household, and those who are active in a religious organization. Rates are largely unchanged since the previous survey in 2004⁶.

Volunteering also contributes to the health and quality of life in the region, builds our community identity, and creates opportunities for residents to learn new skills. The economic value of unpaid work is immeasurable. Going forward, we will monitor participation in decision-making through participation in volunteer activities.



Community Belonging

Two-thirds (66%) of Ottawa residents reported very strong or somewhat strong feelings of belonging to their local community compared with just over half (55%) of Gatineau residents in 2009. Sense of belonging generally increases with physical or mental health, although these likely do not account for the differences within the region. Rather, community belonging varies here with language spoken at home. In Quebec, 61% of people who speak English at home had strong feelings of community belonging compared with 54% whose home language was French. Outside Quebec, the two language groups had similar levels of belonging—68% English, 67% French.

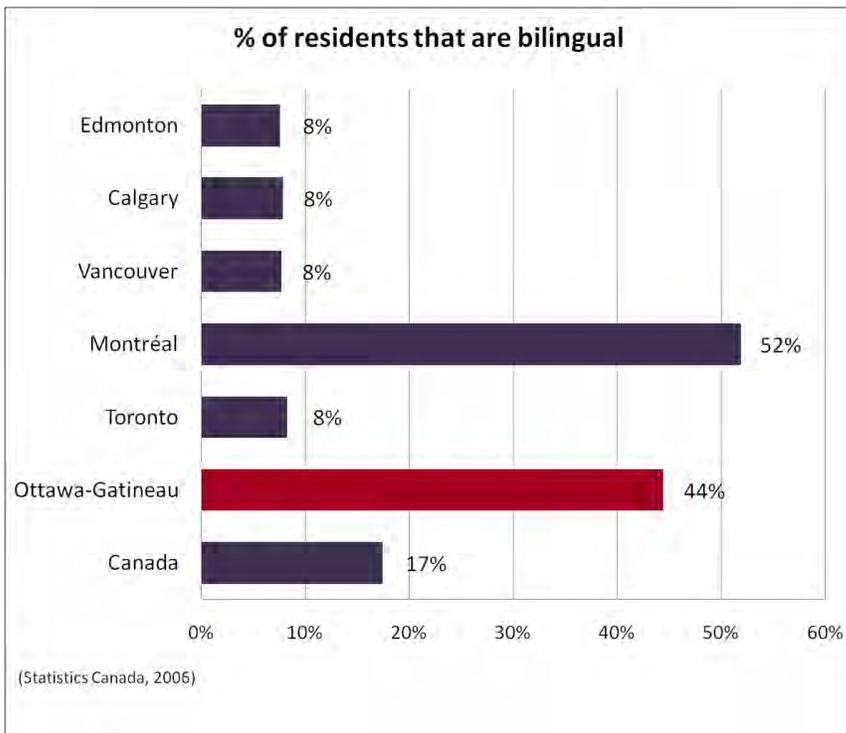
Source: Statistics Canada. Health Reports: Community belonging and self-perceived health, findings. www.statcan.gc.ca. See data <http://www.statcan.gc.ca/daily-quotidien/100615/dq100615b-eng.htm>

⁵ Canadian Council on Learning. Composite Learning Index. <http://www.cli-ica.ca/en/about/about-cli/indicators/live-volunteering.aspx> Includes data for volunteering in Ottawa and Gatineau.

⁶ Statistics Canada. Caring Canadians, Involved Canadians: Highlights from the 2007 Canada Survey of Giving, Volunteering and Participating. 2009. <http://www.statcan.gc.ca/pub/71-542-x/71-542-x2009001-eng.pdf>

Culture and identity

Percentage of residents bilingual in both English and French



Canada's Capital Region has been home to both English and French-speaking residents for more than 400 years but both groups are increasingly diverse.

Today, Anglophone and Francophone immigrants from around the world continue to settle in Ottawa-Gatineau. Both languages are spoken by an increasingly diverse population on city streets, in government offices, and in the media.

The presence of a large percentage of bilingual residents within the regional population helps support our linguistic diversity and maintain our cultural heritage. With 44% of residents speaking English and French, Ottawa-Gatineau is geographically and politically positioned so that Anglophone and Francophone communities can connect, share, and develop together. Bilingualism also supports job creation in the region and creates a unique draw for tourism.

Going forward, we will continue to monitor the percentage of residents who are bilingual as a measure of our cultural diversity.



Did you know?

In 2001, personal incomes for bilingual Quebecers were \$8,000 to \$10,000 higher than for their monolingual counterparts. Bilingual Ontarians earned an average of nearly \$4,000 more than monolingual Anglophones.

Source: Canadian Council on Learning. Parlez-vous Français? The advantages of bilingualism in Canada. October 16, 2008.

Culture and identity

Per capita spending by municipal governments on festivals and grants to non-profit organizations

Every place has a unique identity that reflects its history, natural setting, values, social relationships and creativity.

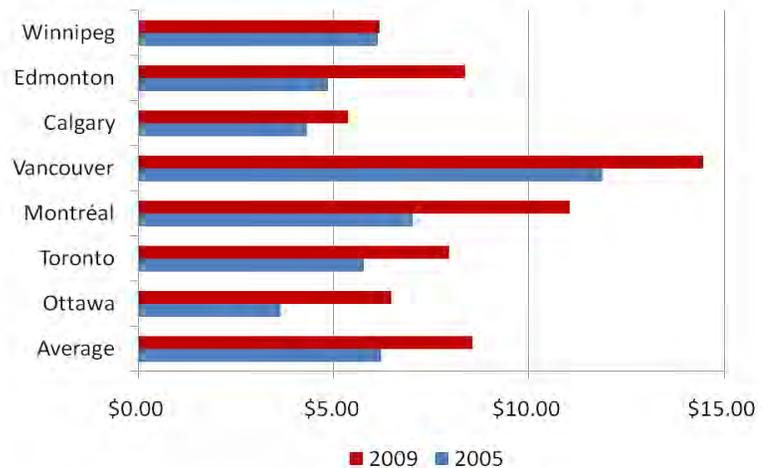
Culture helps to both create and express our identity. Increasingly, arts and culture are helping to create social, economic and environmental policy in a variety of settings by exploring and expressing themes about the natural environment, cultural diversity, and community identity. That is, arts and culture are demonstrating their value as the fourth dimension of sustainability.

Culture is especially important in the area of value change, where new attitudes to waste, energy, and consumption are needed to change behaviours towards more sustainable norms.

Investment in arts, heritage and culture is considered a priority in a growing number of cities around the world, since the rate of return is so high. Cultural vitality has been linked to creation of a creative class of artists and other professionals that attract world-class talent and fosters innovation in the marketplace. Cultural diversity draws new immigrants quickly into the social fabric of the community. Direct municipal support to arts and culture is an investment in our economy and quality of life, and our future sustainability. While the Capital Region is enriched by the presence of national cultural institutions, their mandate is national, not local. It is the local institutions that tell the history of the region, support its local artists, and create and express community identity.

In 2009, the City of Ottawa provided \$6.47 per capita on festivals and grants to non-profit organizations, and ranked fifth out of seven large municipalities in Canada in terms of funding. Ottawa is compared here alone to the other major cities, since major cities spend more per capita on culture and heritage than smaller cities. In 2009 Gatineau provided \$3.86 per capita on festivals and grants to organizations⁷.

Arts and Festival/Fair Municipal Government Funding Cross-Canada Per Capita Comparison, 2005 and 2009



(Source: Municipal planning departments, municipal cultural departments and municipal arts councils in Vancouver, Montréal, Winnipeg, Toronto, Edmonton, Calgary and Ottawa)



Both municipalities were above the provincial median of \$3.62 for Ontario. Going forward, we will measure our contribution to local arts and culture as an indicator of our investment in ourselves and our future

⁷ Programme de soutien aux organismes culturels, État de la situation de 2005 à 2011 Ville de Gatineau, 2010

Food and agriculture

Consumption of agriculture land and other land for urban development

Food is central to our culture, our celebrations, and our daily lives.

Local agriculture is part of the heritage of Canada's Capital Region, one of our primary industries, and an increasing restaurant attraction to both food-tourists and local diners.

Concerns about the sustainability of our food supply include the amount of energy used to produce food and transport it over long distances, the ability of an aging farm workforce to earn a living and attract new workers, and our ability to feed ourselves in a future world of rising energy and resource costs. Many today cannot afford or choose not to eat a nutritious diet, leading to a host of diet-related illness.

One of the first steps towards addressing these issues and increasing our food security is to preserve the agricultural land base that makes local food production possible. Some of that land base is found close to home in the Greenbelt, where about one-quarter of the area is suitable for agriculture.

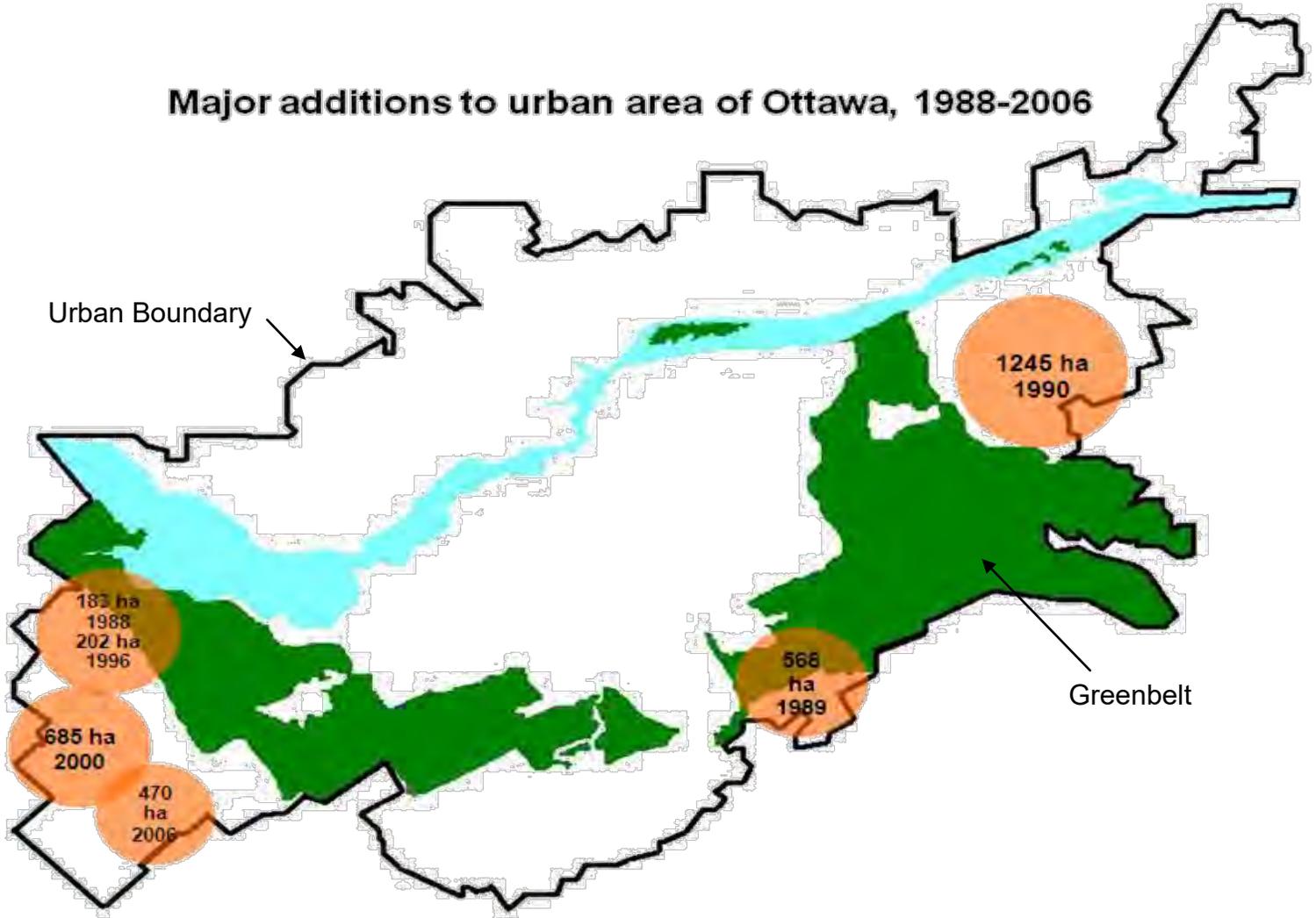
Did you know?

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs, as well as to culturally acceptable food preferences for an active and healthy life. As well, foods are produced as locally as possible, and their production and distribution are environmentally, socially and economically just.

Source: Mission statement, Just Food.
<http://www.iustfood.ca/about.php>



Major additions to urban area of Ottawa, 1988-2006



Urban Expansion Areas – Review of Candidate Areas City of Ottawa Report to ARAC and PEC Comprehensive 5 year review of the Official Plan <http://www.ottawa.ca/calendar/ottawa/citycouncil/occc/2009/06-10/pec/1-ACS2009-ICS-PLA-0080-%20Official%20Plan.htm> May 4 2009; City of Ottawa. Accessed February 23, 2011.

Ottawa and Gatineau are surrounded by good agriculture land, but expansion of the urban area in Ottawa has reduced the supply. Since 1988, about half of the land added to the supply for urban development in Ottawa has been agriculture land. Between 1988 and 2009, the boundary of the urban development area was expanded to take in 3,450 ha of land, including 1,698 ha of agriculture land. Even where boundary expansions do not take in agriculture land, agriculture land may be affected. As the city encroaches into the rural area, the next area of potential expansion is affected. Farmland there may be acquired for its long-term development potential with few incentives to improve the land for agriculture.

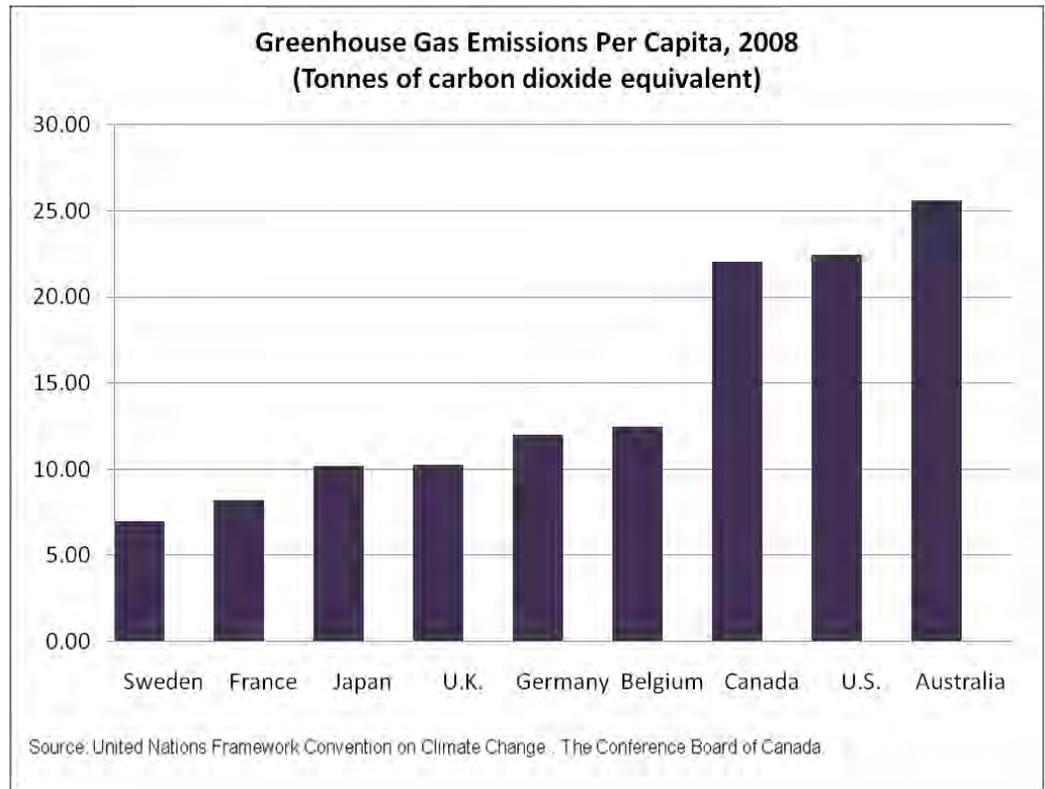
Proximity of farms to growing villages, the urban area and country lot subdivisions can lead to complaints about the odours and sound of farm operations and traffic on rural roads that interferes with the safe movement of farm equipment.

Since 2000, the City of Gatineau has added less than 3 ha of land to the urban area. None of the land was suitable for agriculture.

Going forward, we will monitor the consumption of agriculture land and other land for urban development, as a measure of our ability to preserve our potential to feed ourselves.

We produce most of the greenhouse gases (GHGs) in the region by heating our homes, schools and offices, and travelling between them.

In 2008, we produced about 7.5 tonnes of CO₂ per capita in Ottawa-Gatineau by burning fossil fuels. Of this amount, 27% was produced to heat and light our homes, 26% to operate commercial, industrial and institutional buildings, and 40% to drive our cars and transport goods.



GHGs are generally counted where they occur. A region like Ottawa-Gatineau, with limited energy production and industry, produces fewer emissions than a region with more of these activities. Also, some GHGs are only tabulated at the national level. This is why the regional estimate of GHGs per capita for Ottawa-Gatineau (7.5 tonnes) is so much lower than the national per capita estimate: 23 tonnes in 2008, close to the top worldwide.

However, many of the trends driving increases in national GHG emissions are evident in our region. Emissions from motor vehicles are a major contributor to the increase in GHG emissions in Canada, up 25% overall between 1990 and 2005⁸. Emissions from buildings relate mainly to heating and have also increased in this period. Although home heating has become more efficient, gains have been offset by trends towards smaller households and larger homes with more appliances. Also, the overall number of households has increased⁹.

Did you know?

80% of Canadians surveyed in 2011 think there is solid evidence of global warming, compared with 58% of Americans. Further, 6 out of 10 Canadians who believe the planet is warming think that it is a very serious problem. Canadians believe that all levels of government have a great deal of responsibility to address global warming, including 42% who believe local governments share this role.

Source: Public Policy Forum. February 23, 2011. Climate Compared: Public Opinion on Climate Change in the United States and Canada.

⁸ Human Activity and the Environment: Annual Statistics 2007 and 2008. Statistics Canada.
<http://www.statcan.gc.ca/pub/16-201-x/2007000/10542-eng.htm>

⁹ Energy Efficiency Trends in Canada, 1990 – 2007. Natural Resources Canada.
<http://oee.nrcan.gc.ca/publications/statistics/trends09/chapter3.cfm?attr=0> (Accessed on February 9 2011)

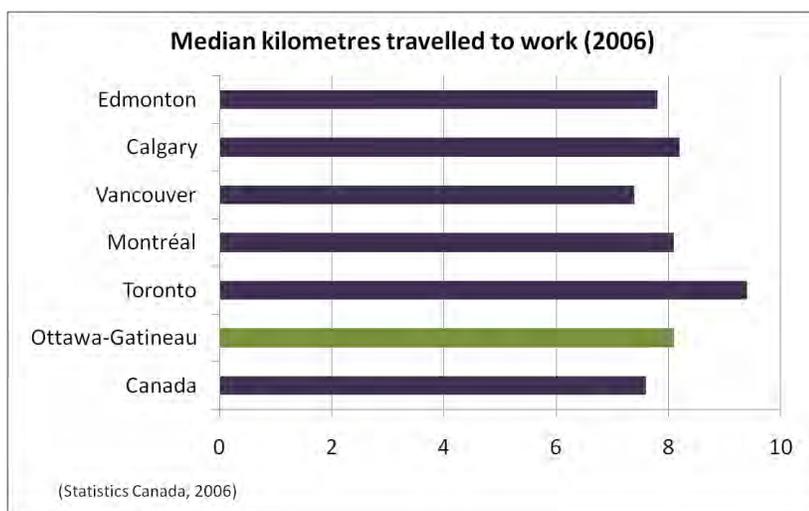
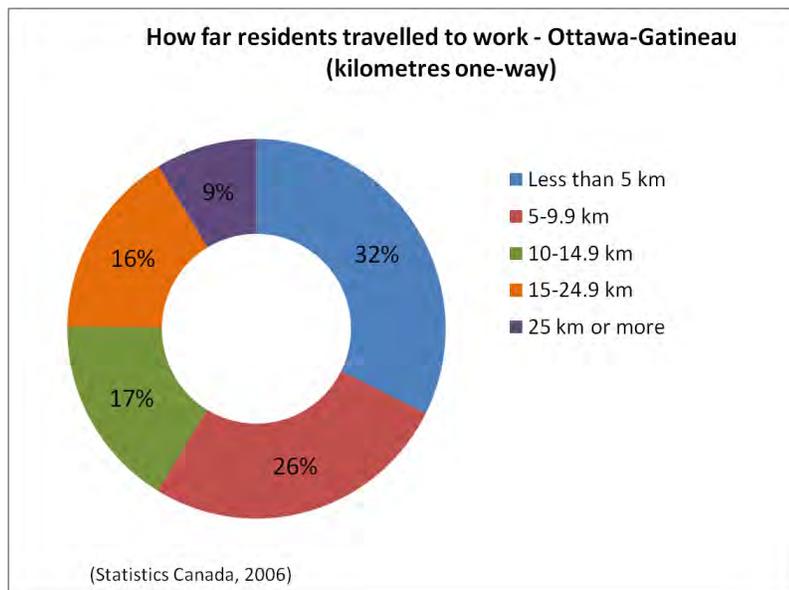
The more cities spread out, the more we travel and contribute to GHG emissions from private automobiles.

If we succeed in building complete and compact communities, where homes are close to work and other destinations, the less distance we need to travel and the easier it is to use public transit.

One way of measuring travel is to estimate the number of kilometres travelled by vehicles in the region each day.

In 2005 an average of 17.8 km per day was clocked on private vehicles for each person in the region. This figure excludes traffic originating outside the region as well as commercial vehicles¹⁰. Distance travelled to work is a major contributor to travel, with Ottawa above the national average.

We will monitor changes in daily vehicle kilometres per day through the Origin-Destination Survey to assess our dependence on private vehicles. The survey is completed by the TRANS Committee representing the six agencies responsible for transportation planning in the region.

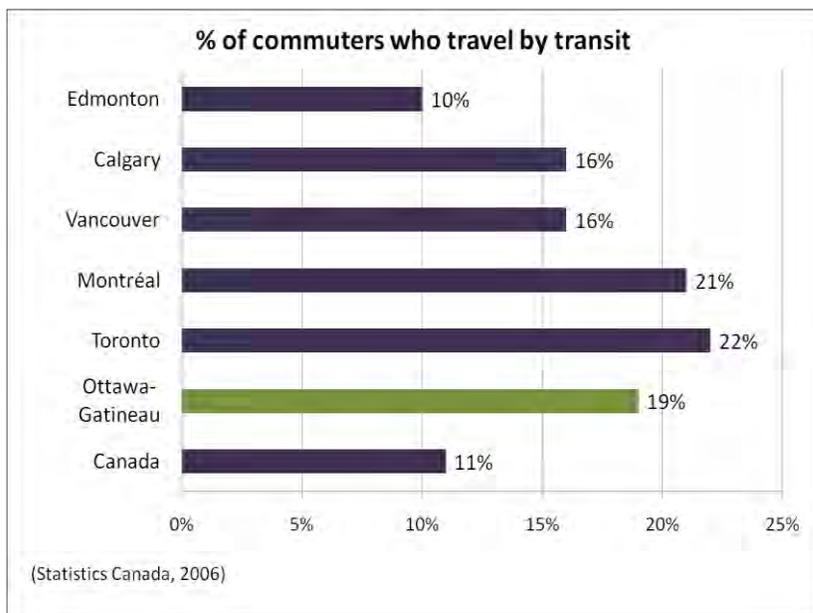


Did you know?

In 2005, on-road vehicles in Canada consumed approximately 29.5 billion litres of gasoline and 10 billion litres of diesel.

Source: Natural Resources Canada *Canadian Vehicle Survey, Summary Report*
<http://oee.nrcan.gc.ca/Publications/statistics/cvs05/pdf/cvs05.pdf> May 2007

¹⁰ 2005 Origin-Destination Survey *Key Findings*. TRANS. <http://www.ncr-trans.rcn.ca/index.php?toc=content&ID=6&lang=en>



Increased transit use helps reduce greenhouse gas emissions by reducing the number of private vehicles on regional roads.

In 2006, 19% of Ottawa-Gatineau residents commuted by transit. This is less than Montréal and Toronto but greater than Vancouver and Calgary, all cities that also offer rail service that generally attracts more users.

Projects underway in Gatineau and Ottawa to build more rapid transit facilities will increase ridership on both sides of the river. Additional gains can be made by increasing residential and employment densities throughout the service area, especially around transit stations. A mix of uses throughout the city also makes the most efficient use of transit, so that vehicles are well-used throughout the day and in all directions of travel, not primarily in one direction during morning and afternoon peak hours.

We will monitor the share of trips made by transit to reflect our ability to reduce greenhouse gas emissions and continue to increase the use of transit.

Did you know?

In 2005, 13% of all trips in the region over a 24-hour period were by transit, compared to 10% in 1995 and 15% in 1986.

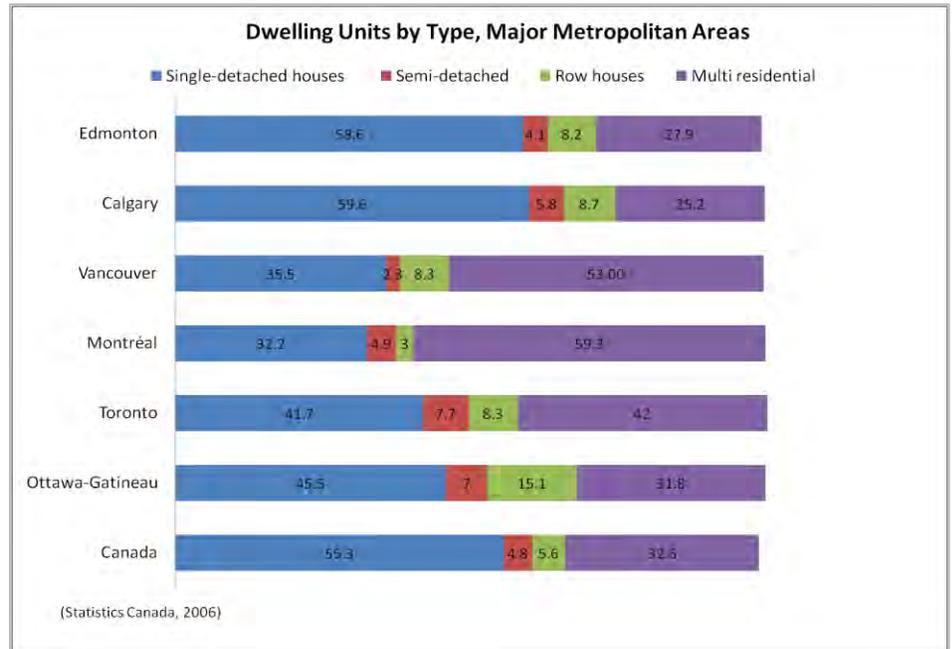
Source: National Capital Travel Trends Study Parts 2 and 3. TRANS Committee. January 2011. http://www.ncr-trans-rcn.ca/uploadedFiles/resources/NCRTrendStudyParts2and3-FinalReport_20110207.pdf



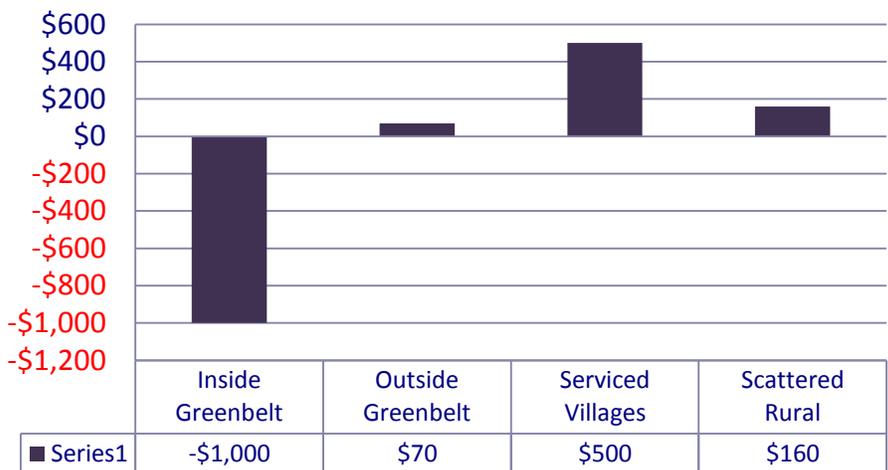
Apartments enable more compact, complete communities that support transit, walking and cycling and reduced energy use.

If we want to reduce our greenhouse gas emissions from automobile use and home heating—the greatest sources of emissions produced locally—we need to increase the density of development overall and the share of apartments in the housing stock.

An increasing number of apartments signals an increase in intensification resulting from redevelopment of land, conversion of buildings, small infill, or development of vacant sites within already-developed areas. Ottawa has set a target of 40% of new housing to be built through intensification between 2006 and 2031. Between 2001 and 2006, intensification accounted for 36% of housing starts in the urban area, compared with 25% in the 1998 to 2001 period. Of the housing built through intensification in recent years, almost two-thirds were apartments.



Relative cost of growth



New housing units inside the Greenbelt provide the City with a net benefit of about \$1,000 annually, when potential revenues from the property assessment are compared with the projected costs of providing municipal services. New housing outside the Greenbelt costs the City about the same amount as it yields in revenues, and a shortfall occurs in rural areas. These figures do not reflect full lifecycle costs.

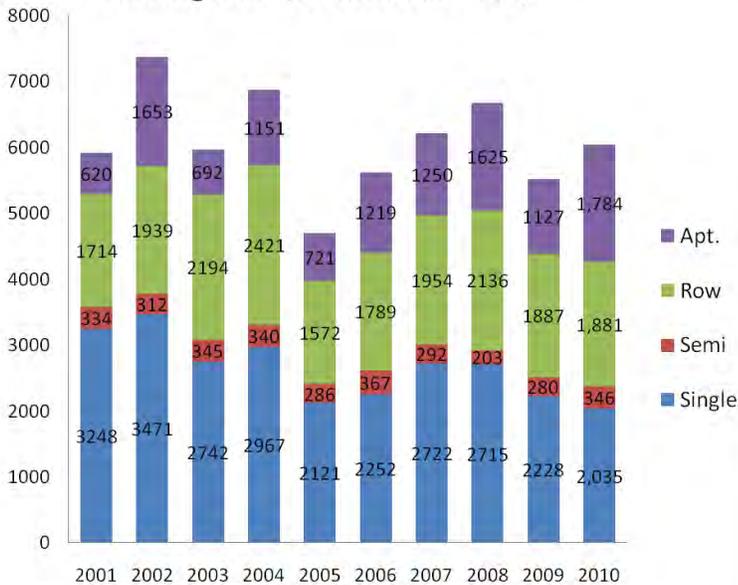
Source: Hemson Consulting Ltd. *Comparative Municipal Fiscal Impact Analysis*. City of Ottawa. January 2009

A more compact urban area also means less public spending on roads and infrastructure to serve urban growth and reduced costs of providing public facilities such as libraries and community centres and public services such as garbage collection, snow removal, and emergency services over a large area.

When added to the housing mix, in many neighbourhoods apartments support more social diversity from seniors to young singles, increased affordability, and a larger population to support neighbourhood services. Apartments meet the needs of renters, owners, and housing cooperatives and come in many forms—from small walk-ups to high-rise structures with lofty views.



Housing Starts, Ottawa 2001-2010

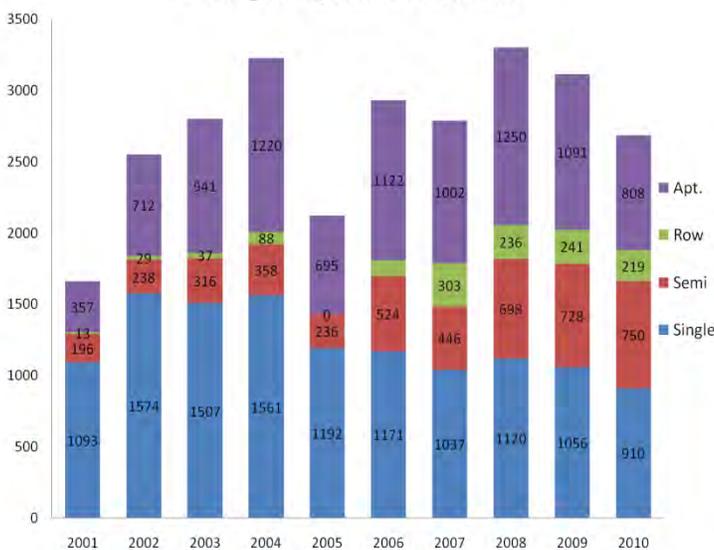


(Canadian Mortgage and Housing Corporation, CMHC)

In 2010, 30% of starts in both Ottawa and Gatineau were apartment units, continuing the upward trend in apartments since 2000. Compared with the housing stock in the largest metropolitan areas, the share of apartments in Ottawa-Gatineau (31.8%) falls short of Toronto (41.7%), Vancouver (53.0%) and Montréal (59.3%). However, this is offset by the region's relatively larger share of row houses (15.1%), a housing form uniquely popular here.

Going forward, we will monitor apartments as a percentage of housing starts and as a percentage of the total supply, as a proxy for intensification and as a measure of our progress towards a more compact, transit-supportive region.

Housing Starts, Gatineau 2001-2010



(Canadian Mortgage and Housing Corporation, CMHC)

Did you know?

In 2009 in England, 80% of new housing was built through intensification on previously developed land.

Source: Department for Communities and Local Government, UK
<http://www.communities.gov.uk/planning/gandbuilding/planningbuilding/planningstatistics/landusechange/>

Materials and solid waste

Residential waste per capita and waste diversion

Whether at work or at home, we all generate waste.

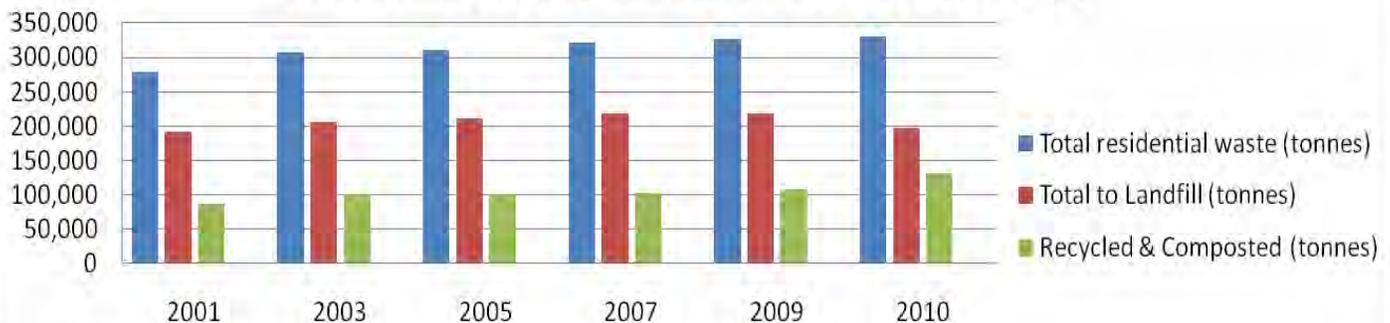
More of that waste is not going to landfills, thanks to organic recycling programs introduced by both Gatineau and Ottawa in 2010. In Gatineau the percentage of residential waste diverted to landfills jumped to 34% in 2010 from 26% in 2009. In Ottawa, the rate moved to 40% in 2010 from 33% in 2009.

However, the amount of waste we produce at home has increased over the last 10 years along with population growth.

This suggests that in terms of the waste disposal hierarchy—reduce, reuse, recycle—we are failing to reduce our waste.

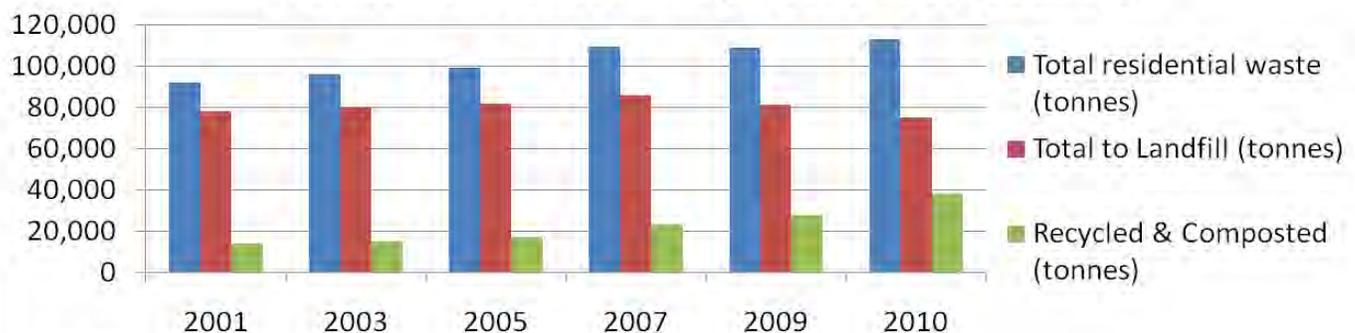
An effective way to reduce residential waste is to reduce personal consumption, to curb our desire for the latest electronics, new home furnishings, and other consumer goods and to reward environmentally responsible manufacturers with our business.

Residential Waste, Tonnages 2001-2010 (Ottawa)



(City of Ottawa, Solid Waste Services, 2010)

Residential Waste, Tonnages 2001-2010 (Gatineau)



(Ville de Gatineau, Environmental Services, 2011)



Our residential waste is only the tip of the iceberg. Between 60% and 70% of the total waste created in the region is waste from industrial, commercial and institutional (IC&I) facilities such as schools, offices, hospitals, shopping malls, and restaurants. IC&Is also include construction and demolition waste – everything from kitchen renovations to major construction sites.

The Cities of Ottawa and Gatineau are responsible for collecting and disposing of residential waste. However, the larger ICI stream is collected by private contractors and regulated by the Provinces.

In the future, we will monitor how much waste we produce and where it goes when we are finished with it.



Did you know?

Collectively, Ottawa and Gatineau residents generated 443,192 tonnes of waste at home in 2010. This is the same weight as approximately 28,900 double decker buses!

Water and wastewater

Average number of litres of water used per person per day

Did you know?

In 2010 a decrease in water consumption in Ottawa plus upgrades to the system helped defer two major treatment plant expansions scheduled in the next 10 years. The Britannia Water Purification Plant expansion valued at \$48 million and a \$214 million expansion of the Robert O. Pickard Environmental Centre (ROPEC) were deferred.

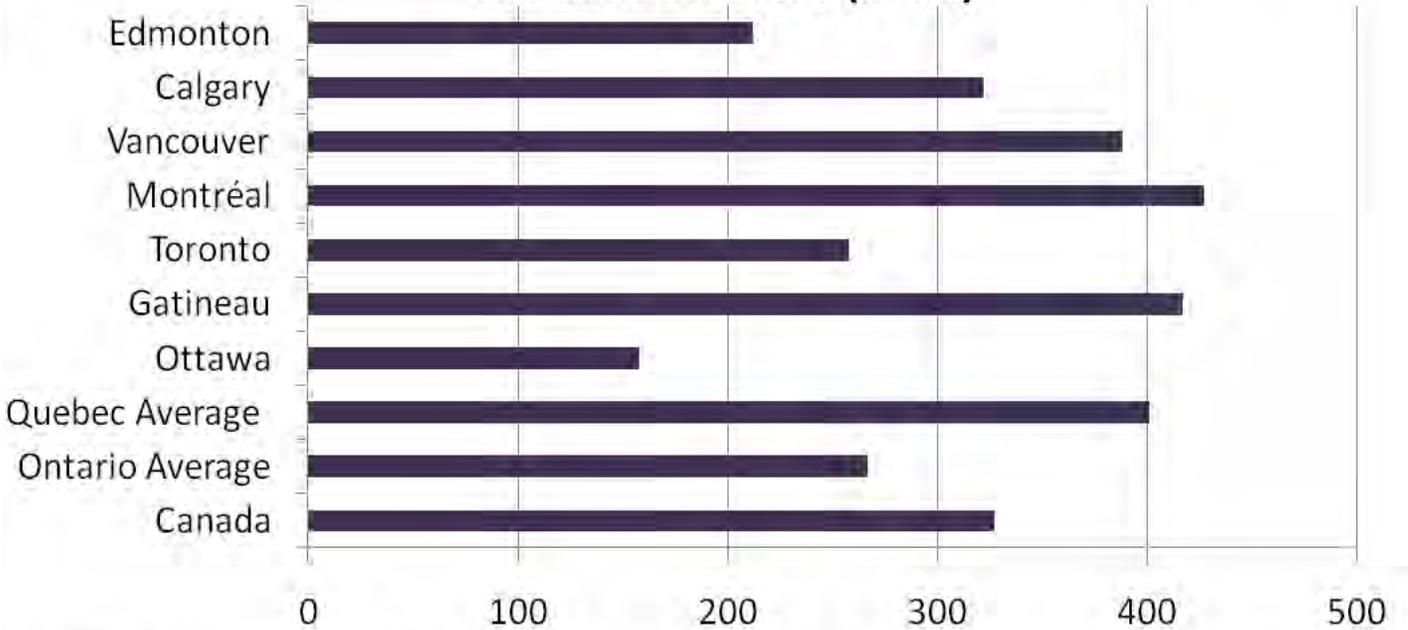
Source: Water Efficiency Plan Annual Review. Report to Ottawa Planning and Environment Committee, 2010 05-25
<http://ottawa.ca/calendar/ottawa/citycouncil/pec/2010/05-25>

Managing our water consumption helps us manage our infrastructure and make more efficient use of it.

As per capita water demand decreases, additional households can be served using existing water purification plants, pumping stations, and reservoirs. This means that:

- costly infrastructure expansions and upgrades can be deferred and the money reallocated to other purposes;
- more capacity is available to support growth and intensification; and
- less wastewater requires collection and treatment and less is discharged into the environment.

Average number of litres used per person per day in the residential sector (2006)



(Environment Canada, Municipal Water and Wastewater Survey. Municipal Water Use Data, 2006.)



Water consumption varies depending on a number of factors. These include:

- Changing public attitudes and behaviours that reduce water use
- More efficient and affordable water fixtures such as toilets, dishwashers and washing machines, along with commercial fixtures
- Smaller lot sizes and reduced need for outdoor water use in new communities and infill
- Annual variations in rainfall affect spring and summertime water demand
- Legislative changes, such as the 1992 *Building Code* change that mandated all new construction to have water efficient plumbing devices
- Incentive Programs that promote energy and water efficiency

At 417 litres per person per day, residential water consumption per capita (ie, not including consumption of water for non-residential uses) in Gatineau is close to the provincial average. In Ottawa, the average of 158 litres per person per day is below the provincial average and has decreased in recent years. In Ottawa water is metered and users are billed by volume. This is not the case in Gatineau, where a flat rate is charged. Generally, water consumption is lower when water is metered.

However, Environment Canada says that despite heightened awareness of the benefit of efficient water consumption, little significant change in residential use was observed across Canada between 1991 and 2006. Canadians rank among the largest consumers of water within OECD countries¹¹.

We will monitor the average number of litres of water used per person per day, to reflect efficient use of water resources.



¹¹ Environment Canada. 2010 Municipal Water Use Report. Municipal Water Use, 2006 Statistics.
<http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=596A7EDF-471D-444C-BCEC-2CB9E730FFF9>

Biodiversity and ecosystem health

Water quality rating of the Ottawa River entering and leaving the region

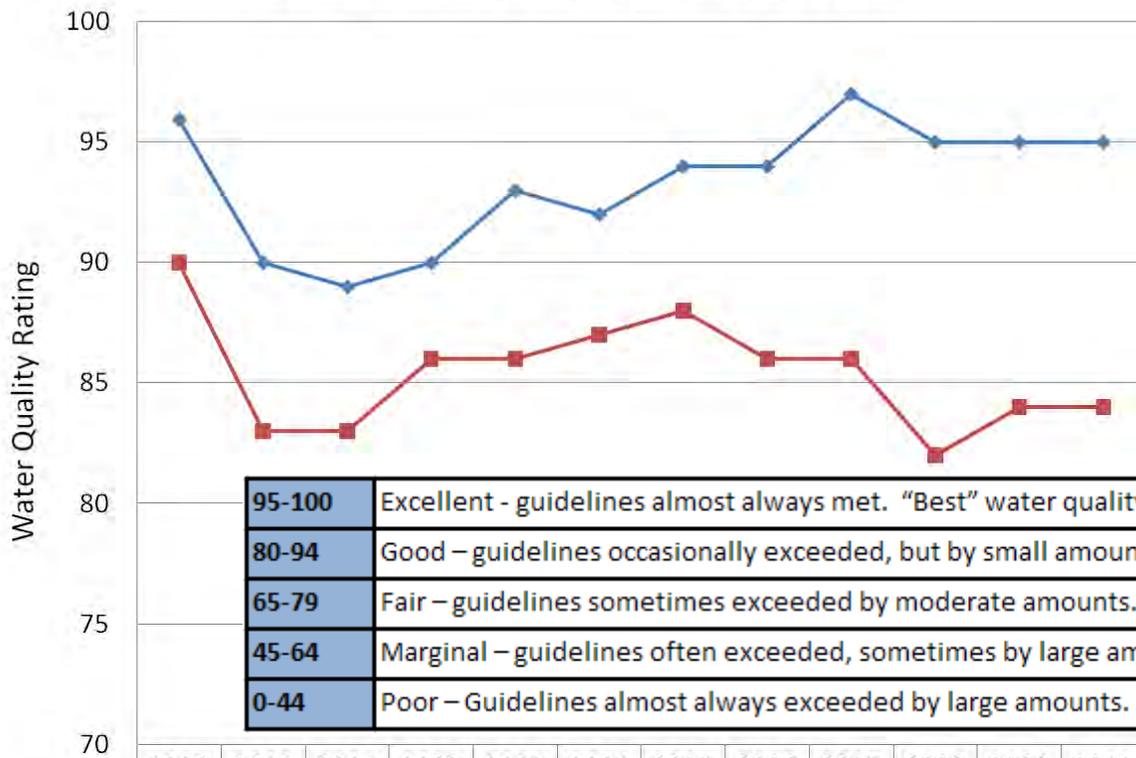
Most of the water in the region drains into the Ottawa River as it passes through our communities.

The quality of the river water is classified as good to excellent when it enters our territory, and not quite as good when it leaves.

The graph below shows that the quality of water changes in the Ottawa River as it passes through the region. It stays within the 'good quality' range but loses points as it flows from west to east. The table uses an index developed by the Canadian Council of Ministers of the Environment (CCME) that combines water quality variables, like phosphorus and E. coli, to provide a single ranking of water quality.



CCME Water Quality Index - Ottawa River



95-100	Excellent - guidelines almost always met. "Best" water quality.
80-94	Good - guidelines occasionally exceeded, but by small amounts.
65-79	Fair - guidelines sometimes exceeded by moderate amounts.
45-64	Marginal - guidelines often exceeded, sometimes by large amounts.
0-44	Poor - Guidelines almost always exceeded by large amounts.

	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
◆ Inbound (West)	96	90	89	90	93	92	94	94	97	95	95	95
■ Outbound (East)	90	83	83	86	86	87	88	86	86	82	84	84

(City of Ottawa, Environmental Services Department, Surface Water Management)



Water quality in the Ottawa River is decreasing as a result of our activities. Sources of potential contamination include runoff from agricultural fertilizers, urban development, municipal and industrial facilities, and animal waste. When it rains or snow melts in the spring, dirt, debris, oil, antifreeze, detergents, pesticides and other pollutants wash away from driveways, backyards, parking lots, and streets and flow into nearby watercourses and eventually into the Ottawa River.

The impact of pollutants is generally much more severe on creeks and streams than on the larger river systems because they are smaller in size. Increasing levels of phosphorus are of particular concern in the Ottawa portion of the watershed. Phosphorus has the potential to feed high levels of algae and plant growth and reduce the amount of oxygen available for fish. Phosphorus comes from many sources, including runoff from agricultural fertilizers and urban development, as well as municipal sewage and wastewater¹². E coli from human sewage and animal waste is also a concern in many tributaries. Periodically, untreated sewage from both the municipalities of Ottawa and Gatineau enters the Ottawa River.

We will assess the impact of our activities on the Ottawa River by continuing to monitor water quality across the region, assess natural forest cover, and make the connections between the two. Our purpose is to improve the quality and index score of water leaving the region, and leave no trace of it having passed through the region.



Did you know?

Water quality is linked to forests and wetlands, which also provide essential habitat and biodiversity. In Ottawa, the total forest cover exceeds the 30% target set in the Official Plan, but the quality of cover is a concern due to the presence of invasive species like buckthorn and the loss of unique interior forest habitat. Forests filter and slow the flow of surface water, while wetlands serve as giant sponges to hold, clean and cool water.

¹² Water Quality in Ottawa's Rivers and Streams. City of Ottawa. Water Environment Protection Program. May 2006.



Canada's Capital Region: How sustainable are we now?

Overall, Canada's Capital Region has cause to celebrate its current achievements, but improvements in many areas need to continue if we are to achieve our goals.

The people in Canada's Capital Region are one of its greatest assets in its journey towards sustainability. Exceptionally well-educated, bilingual and engaged in their communities, the region's residents are well-positioned for economic and cultural sustainability.

In most areas we have enjoyed some successes, even where there is a need to continue to improve. We are ahead of most Canadian municipalities in terms of walking, cycling and taking transit to work and we consume less water in our homes. Our spending on grants to support cultural organizations and the density of our communities is gradually increasing, and the quality of the water in the Ottawa River is still good when it leaves the region.

However, in other areas we are not doing as well:

- Ottawa has developed as a municipality at the expense of its agricultural land, the foundation for future food security.
- One of every four households is spending 30% or more of their income on housing, potentially pinching the budget other essentials. We are not much different from the rest of the country. This only indicates that housing is a national-scale problem that occurs in our communities.
- Through our local activities, Ottawa-Gatineau contributes to Canada's poor performance globally on greenhouse gas emissions. Canada produces the third-largest quantity per capita of greenhouse gas emissions in the world, emissions that contribute to climate change.
- We create a great deal of waste in our homes and more waste elsewhere in industrial, commercial and institutional activities.

However, this level of performance falls short of outstanding, and matches the way we are perceived by fellow Canadians. While over 80% of Canadians in a recent survey thought it was important that Canada's Capital Region be environmentally friendly and green, only 40% thought the capital served as an example to the rest of the country in terms of environmental responsibility¹³.

¹³ Ipsos Reid Public Affairs. 2010. National Capital Commission. Strategic Market Research (Phase II).

More importantly, this level of performance overall falls short of the levels needed to achieve our sustainability goals. Plans for the long-term sustainability of the region early in 2012 will propose strategies to help us meet these goals as well as catalyst projects that make a significant start towards a more liveable and resilient future. Going forward, our progress will be measured by monitoring our performance in each of these areas.

Goal	Indicator	Improve	Continue to Improve	Celebrate
Connectivity and Mobility	1. Percentage of residents who walk or cycle to work		x	
Health and Quality of Life	2. Percentage of residents aged 15 and over with less than a high-school education		x	
Housing	3. Households paying 30% or more of their income on housing	x		
Economic Prosperity	4. Percentage of residents aged 20-24 who are participating in post-secondary education, 2010			x
Economic Prosperity	5. Percentage of residents who are immigrants from another country		x	
Governance and Decision-Making	6. Rates of volunteerism			x
Culture and Identity	7. Percentage of residents who are bilingual in both English and French			x
Culture and Identity	8. Per capita spending by municipal governments on festivals and grants to non-profit organizations		x	
Food and Agriculture	9. Consumption of agricultural land and other land for development	x		
Climate Change	10. Greenhouse gas emissions per capita	x		
Energy	11. Daily vehicle kilometres travelled per capita		x	
Energy	12. Percentage of residents who commute by transit		x	
Housing	13. Apartment construction as a percent of new housing		x	
Materials and Solid Waste	14. Residential waste per capita and waste diversion		x	
Water and Wastewater	15. Average number of litres of water used per person per day		x	
Biodiversity and Ecosystem Health	16. Water quality rating of the Ottawa River entering and leaving the		x	