

Census program data viewer, 2016 Census



100

STATISTICS CANADA

ONE HUNDRED YEARS AND COUNTING

Glen Hohlmann & David Price



Statistics
Canada

Statistique
Canada

Canada

Outline

- Background
- CPDV requirements
- Demo



2016 Census of Population provided remarkable results

- Self-response rate of 88.8% (compare to 85.3% in 2011 Census)
- Internet response rate of 68.3% (compare to 53.6% in 2011 Census).
- 18-month dissemination schedule



Objective for 2016

Produce new more interactive data visualization tools

1. Interactive charts and graphs
2. Statistical dashboard



2011 Census – Setting the stage

100

Focus on Geography Series, 2011 Census

Province of Ontario



Map of Ontario
Interactive version of map

In 2011, the enumerated population of Ontario was 12,851,821 which represents a change of 5.7% from 2006. This compares to the national average of 5.9%.

The land area of Ontario is 908,607.67 square kilometres with a population density of 14.1 persons per square kilometre. This compares to the national land area of 9,965,121.42 square kilometres with a population density of 3.7 persons per square kilometre.

In total, there were 4,887,508 private dwellings occupied by usual residents in Ontario in 2011. This represents an increase of 7.3% of the number of private dwellings occupied by usual residents from 2006. For Canada as a whole, the total number of private dwellings occupied by usual residents increased 7.1%.

Canada, provinces and territories – Population, percentage change between 2006 and 2011

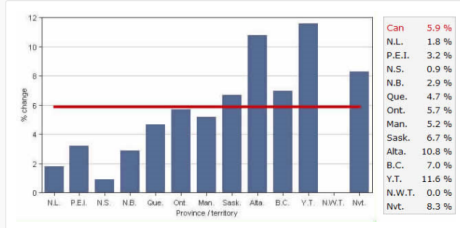


Table 1 Canada, provinces and territories – Population change, 2006 to 2011

Visual Census – Population and dwelling counts, Canada

Catalogue number: 98-315-X006

Download data (XLSX) (720 KB) | TAB (862 KB)

Select a view

Geography:
Canada

Topic:
Population and dwelling counts

Submit

Figure 1.1 Population (in thousands) in the last 55 years, Canada

Figure 1.1 description

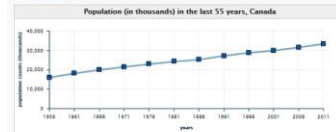
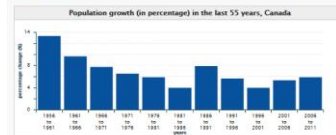


Figure 1.2 Population growth (in percentage) in the last 55 years, Canada

Figure 1.2 description



Historical age pyramid

Description

Historical age pyramid for the population of Canada, 1921 to 2011



<http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/index-eng.cfm>



Statistics
Canada

Statistique
Canada

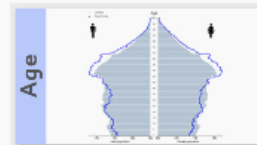
www.statcan.gc.ca

Canada

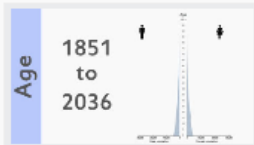
Interactive charts

Data visualization

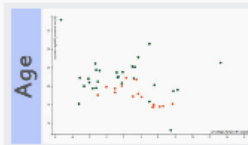
The following interactive data products assist in the interpretation of census data by putting it in a visual context.



[Comparison age pyramid \(2011 and 2016\)](#)



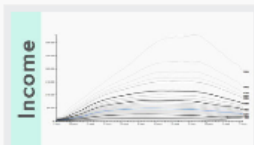
[Historical age pyramid \(1851 to 2036\)](#)



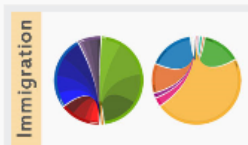
[Relationship between population growth and aging for various regions in Canada](#)



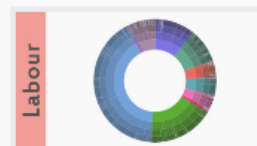
[Proportion of mother tongue responses for various regions in Canada](#)



[Total income explorer](#)



[Immigrant population by selected places of birth, admission category and period of immigration](#)



[Employed labour force who worked full year, full time and reported employment income in 2015](#)

<http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm>



Statistics
Canada Statistique
Canada

www.statcan.gc.ca

Canada

Statistical dashboard

Web-based data visualization tool that makes statistical information more interpretable by presenting key indicators in a dashboard using a variety of communication elements such as thematic maps, charts, graphs, images in addition to textual information.



Build process

- RFI – Summer 2015
- RFP – Summer 2016
- Contract awarded in December 2016



CPDV design requirements

- A map is main focus of the dashboard
- At least 1 chart
- An area for facts
- Be easy to interpret by users
 - What municipality has the oldest average age?
 - What are the top visible minorities in Canada?
 - How does the average value of homes in my municipality compare to that of my province or that of Canada?
 - What areas of my metropolitan area have the highest income earners?
 - Is there a relationship between unemployment and education in any given municipality?



Technical requirements

- Must use technologies that work with Statistics Canada existing:
 - IT infrastructure
 - software technology stacks
 - development frameworks
 - programming languages
 - data sources
- Must support a Service-Oriented Architecture (SOA) model
- Must not require the installation of any software, plug-in or data on users computer or mobile devices



Statistics
Canada

Statistique
Canada

www.statcan.gc.ca

Canada

Government standards

- Standard on Web Accessibility (WCAG 2.0 AA)
- Government of Canada Theme and Style Requirements
- Standard on Optimizing Websites and Applications for Mobile Devices Requirements
- Official Languages Act Requirements
- Security requirements (Information Technology Security Guidance Publication 33 (ITSG33)).



Functional requirements

- Different ways to update the dashboard:
 - Select an indicator and/or geographic area
 - Select a geographic area on the map
 - Search place name or postal code (autocomplete)
 - Select a geographic level to display
- Interactivity
- Compare units within the same geographic level
- Sort records
- Typical map functions: e.g. pan, zoom
- Modify class breaks
- Print/export dashboard elements, tabular data
- Share your dashboard with others
- Link to other related Statistics Canada data products



Challenges

- Managing the number of indicator/geographic level combinations
- Diversity of sizes of geographic units within a geographic level
 - e.g. P.E.I. and Québec
- Outlier indicator values
- Number of geographic units in some levels of geography
- Number of categories for some indicators
 - e.g. immigration, language
- Providing useful info that is specific to a place
 - e.g. immigrants from Haiti in Montreal
- Adhering to Statistics Canada's formatting standards
- Designing for both desktop and mobile devices



Overcoming challenges

- Out of the box solutions
- Customizations
- Compromises



Demo

<http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dv-vd/cpdv-vdpr/index-eng.cfm>



Statistics
Canada

Statistique
Canada

www.statcan.gc.ca

Canada

Demo



100

- What municipality has the oldest average age?
- What are the top visible minorities in Canada?
- How does the average value of homes in my municipality compare to that of my province or that of Canada?
- What areas of my metropolitan area have the highest income earners?
- Is there a relationship between unemployment and education in any given municipality?



Statistics
Canada

Statistique
Canada

www.statcan.gc.ca

Canada

Next steps

- We will continue to release new indicators
 - Currently have 471 indicators
 - 89 mappable indicators
- Implement logarithmic charts to address outliers
- Add the ability to generate a report
- Add additional facts



Feedback



Email to: statcan.censusconsultation-consultationrecensement.statcan@canada.ca



Statistics
Canada Statistique
Canada

www.statcan.gc.ca

Canada

Questions



Statistics
Canada

Statistique
Canada

www.statcan.gc.ca

Canada

THANK YOU!

For more information,
please visit
www.statcan.gc.ca



#StatCan100



Statistics
Canada

Statistique
Canada

www.statcan.gc.ca

Canada