

# Data Visualization Workshop:

## From the CDP Catalogue to creating Tableau Visualizations

Presented by: Jamie Carrick, Saeideh Hejazi, and Sasha Mosky

March 1, 2022



**Canadian  
CED Network**  
**Réseau canadien  
de DÉC**

# Session Overview:

1. What is available through CDP?
  - Tableau as a member service
2. How do I create my own data visualizations using CDP Data?
  - Finding data in the CDP catalogue and using Beyond 20/20
  - Creating visualizations in Tableau



# What is the value of data visualization?

- Transforms complex data into a story and allows readers to identify trends
- Allows reader to quickly interpret and draw conclusions from data



DATA



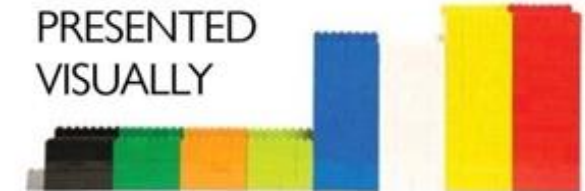
SORTED



ARRANGED



PRESENTED VISUALLY



EXPLAINED WITH A STORY



# What is available through CDP?

- CDP Team has developed a range of data visualizations in Tableau
- Allows for communities across Canada to quickly access data specific to their geography without having to open Beyond 2020 or Excel
- Data visualizations can be easily opening on a desktop by downloading **Tableau Reader** or customized using **Tableau Public**



# Tableau Products



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## Interactive Infographics and Dashboards

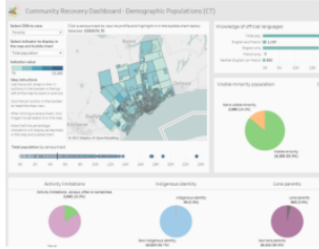
[Home](#) / [Content](#) / Interactive Infographics and Dashboards

This series of interactive dashboards, built using Tableau software, allows users to easily view and interact with data from the Community Data Program catalogue. Each dashboard explores a different theme and provides opportunities for users to visualize and analyze data at geographies of their choice. The dashboards are designed to be intuitive for users at all levels of data knowledge, and useable on both PC and Mac computers.

**The software required to use these dashboards is Tableau Reader, which can be downloaded [here](#) for free.** For more detailed instructions on installing and using Tableau Reader, [click here](#).



# Tableau Products

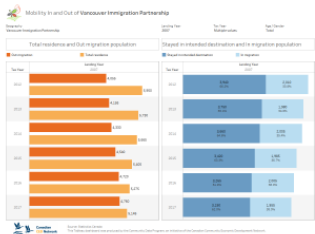


## Community Recovery Dashboard - Version 2.0

The Community Recovery Dashboard is a monitoring tool for medium and long term COVID-19 recovery. The dashboard uses data from a variety of sources, including the Census and Labour Force Survey, to look at the state of geographic areas across Canada prior to the COVID-19 pandemic, in order to assess and compare their capacities for recovery from COVID-19's economic and health impacts.

The dashboard allows you to view profiles of individual geographies across Canada, ranging in scale from national to neighbourhood-sized, as well as compare select indicators across census tracts in a city using interactive maps and charts.

[Click here to download this dashboard from the catalogue.](#)



## Mobility In and Out of Local Immigration Partnerships Dashboard

The Mobility In and Out of Local Immigration Partnerships Dashboard visualizes immigrant mobility data for custom LIP geographies using the Longitudinal Immigration Database (IMDB).

This dashboard allows you to compare mobility indicators by immigration admission category, admission year (or landing year), tax year, age and gender of immigrant taxfilers

[Click here to download this dashboard from the catalogue.](#)



## Community Health Profile Dashboard

The Community Health Profile Dashboard provides a health overview of health regions across Canada, using data from the 2017/2018 Canadian Community Health Survey, including smoking frequency, access to a regular healthcare provider, and prevalence of heart disease. These indicators are compared across the total, immigrant, recent immigrant populations.

[Click here to download this dashboard from the catalogue.](#)

...and many more!

# Tableau Products

Tableau offers a range of free software downloads:

- **Tableau Reader** – functions like Adobe PDF Readers
- **Tableau Public Desktop** – has similar functionality to the subscription version of Tableau, but files can not be saved locally



# Using Community Data Program data in Tableau

*Presented by Jamie Carrick*





# From Beyond 2020 to Tableau

- Most CDP data is in IVT format, openable only in Beyond 2020
- Tableau cannot read IVT tables - extraction is required
- Beyond 2020 can export to CSV, a Tableau friendly format
- The exact process will depend on the data and the needs of the project



# Downloading data from the CDP catalogue

CDP About Resources News Portals Find Data My Account Join Logout CCEDNet

## Find Data

Search our Canadian datasets by applying the filters below

**Topics** Choose some options

**Product Group** Census, 2016 - Data tables

**Data Provider** Choose some options

**Product Title** Add part, or all of the title

**Geographies** Rural Community, Neighbourhood, Health Region, **Census Subdivision**, Census Tract, Census Metropolitan Area, Census Division, Census Agglomeration, Consolidated Census Subdivision

**Years within data** 2016 (i.e. 2006 1976)

**Items per page** 20

Apply Filters Reset Filters

Displaying 1 - 20 of 1270 Products, sorted

Title	Geographies	Years within data	Posted
Type of Collective Dwelling (16) and Collective Dwellings Occupied by Usual Residents and Population in Collective Dwellings (2) of Canada, 2016 Census - 100% Data PRODUCT GROUP: Census, 2016 - Data tables TOPIC: Housing , TOPIC: Housing Type	Province and Territory, Census Subdivision, Census Tract, Census Metropolitan Area, Census Division, Census Agglomeration, Aggregate Dissemination Area	2016	02/24/2022

## Type of Collective Dwelling (16) and Collective Dwellings Occupied by Usual Residents and Population in Collective Dwellings (2) of Canada, 2016 Census - 100% Data

Home / Content / Type of Collective Dwelling (16) and Collective Dwellings Occupied by Usual...

**Data provider:**

Statistics Canada

**Product group:**

Census, 2016 - Data tables

**Description:**

This table is a semi-custom version of [standard table 98-400-X2016019](#) at smaller levels of geography.

**Notes:**

Some records in this table show zero (0) collective dwellings, but a non-zero population living in collective dwellings. The following Statistics Canada suppression rule can explain this: *For all quantitative variables, all statistics are suppressed if the number of actual records used in the calculation (not rounded or weighted) is less than 4 or if the sum of the weights is less than 10.*

Note on data quality and disclosure control: For information on data quality, as well as random rounding, data suppression, and other methods of disclosure control, please consult the Guide to the Census of Population, 2016, Catalogue no. 98-304-X, and the reference guides for the individual topics.

**Dimensions:**

Type of collective dwelling (16)

Collective dwellings occupied by usual residents and population in collective dwellings (2)

**Geographies:**

Province and Territory

Census Subdivision

**Geographies \***

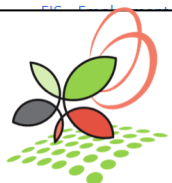
PT CD CSD DA

CMA CA CT

ADA

Select the geographic scales you wish to download

Add to cart



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de DÉC

# Challenge: Preserving the multidimensionality of IVT tables

- IVT tables often contain >2 dimensions
- Limiting extracts to 2 dimensions is an option
  - 1 geography dimension and 1 variable dimension
  - Or 2 variable dimensions for a single geography
- It is possible to capture many or all combinations of dimensions in a single export

Geography	Household size	1 person	2 persons	3 persons	4 persons	5 or more persons	Average household size
Canada 20000 ( 5.1%)	14,072,000	3,967,765	4,836,410	2,141,250	1,947,115	1,179,540	2.4
Newfoundland and Labrador 00000 ( 6.8%)	218,675	53,735	88,720	37,700	28,270	10,255	2.3
Division No. 1 00000 ( 6.2%)	112,620	28,640	42,630	19,990	16,500	5,580	2.4
Portugal Cove South T 00909 ( 4.0%)	85	15	35	15	20	0	2.5
10010734 00909 ( 4.0%)	85	15	35	10	20	0	2.5
Trepassey T 00000 ( 5.3%)	205	70	100	30	0	0	1.8
10010735 00000 ( 5.4%)	135	45	70	20	0	0	1.9
10010736 00909 ( 5.1%)	70	30	30	0	10	0	1.7
St. Shott's T 00909 ( 0.0%)	40	20	20	0	0	0	1.8
10010733 00909 ( 0.0%)	40	20	15	0	0	0	1.8
Division No. 1, Subd. U SNO 00000 ( 8.3%)	695	200	250	120	75	50	2.3
10010737 00010 ( 10.4%)	150	45	55	20	20	10	2.3
10010741 00111 ( 11.0%)	360	125	110	65	25	35	2.2
10010743 00000 ( 1.9%)	185	30	85	35	25	10	2.4
Cape Broyle T 00000 ( 9.6%)	240	75	75	45	45	10	2.3
10010742 00000 ( 9.6%)	240	75	75	45	45	0	2.3
Renews-Cappahayden T 00000 ( 3.5%)	150	35	70	25	10	0	2.2
10010740 00000 ( 3.5%)	150	35	75	20	10	0	2.2
Fermeuse T 01111 ( 13.6%)	145	60	50	10	20	0	2.0
10010738 01111 ( 13.6%)	145	60	50	10	25	0	2.0
Port Kinwan T 00909 ( 0.0%)	20	10	10	0	0	0	2.0
10010739 00909 ( 0.0%)	20	10	10	0	10	0	2.7
Aquaforte T 00919 ( 11.8%)	35	10	20	10	0	0	1.8
10010745 00919 ( 11.8%)	35	10	20	0	0	0	2.0
Ferryland T 00000 ( 5.4%)	205	65	65	30	25	10	2.2
10010744 00000 ( 5.4%)	200	70	65	35	25	10	2.2
Division No. 1, Subd. W SNO 00000 ( 8.3%)	190	60	95	35	0	0	1.8
10010724 00000 ( 8.3%)	195	55	100	35	0	0	1.9
St. Vincent's-St. Stephen's-Peter's River T 00000 ( 5.6%)	155	50	80	15	0	0	1.9
10010731 00000 ( 5.6%)	155	50	85	15	0	0	2.0
Gaskiers-Point La Haye T 00909 ( 4.4%)	110	15	70	10	10	0	2.3
10010730 00909 ( 4.4%)	105	15	70	0	10	0	2.2
St. Mary's T 00000 ( 5.0%)	170	50	70	40	0	10	2.1
10010729 00000 ( 5.0%)	170	50	70	40	10	10	2.1
Riverhead T 00919 ( 10.4%)	95	30	45	10	20	0	2.1
10010728 00919 ( 10.4%)	90	30	45	10	15	0	2.1
Admirals Beach T 00909 ( 1.4%)	65	10	50	10	0	0	2.2
10010725 00909 ( 1.4%)	65	0	50	10	0	0	2.2
St. Joseph's T 00919 ( 10.0%)	70	20	30	0	10	10	2.4
10010727 00919 ( 10.0%)	70	20	30	0	10	10	2.4



# Horizontal vs vertical table structures

## Horizontal

- Numerical data stored in multiple columns
- Each column is a variable

Geography	Variable 1	Variable 2	Variable 3
Geo 1	x	x	x
Geo 2	x	x	x
Geo 3	x	x	x
Geo 4	x	x	x
Geo 5	x	x	x
...			



## Vertical

- Data values are stored in a single column
- Each row is a single variable or combination of variables/geographies
  - Non-numerical columns are dimensions
  - There is a row for each combination of variables in those dimensions
- Preferable in Tableau (in most cases)

Geography	Variable	Value
Geo 1	Variable 1	x
Geo 1	Variable 2	x
Geo 1	Variable 3	x
Geo 2	Variable 1	x
Geo 2	Variable 2	x
Geo 2	Variable 3	x
Geo 3	Variable 1	x
Geo 3	Variable 2	x
Geo 3	Variable 3	x
Geo 4	Variable 1	x
...		

# Including more dimensions

Geography	Dimension 1	Dimension 2	Value
Geo 1	Variable 1	Variable A	x
Geo 1	Variable 1	Variable B	x
Geo 1	Variable 1	Variable C	x
Geo 1	Variable 2	Variable A	x
Geo 1	Variable 2	Variable B	x
Geo 1	Variable 2	Variable C	x
...			

## Many dimensions can be included using vertical table structure

- More dimensions = more rows in the export = larger file size
- File size is also dependant on the number of variables in each dimension

Geography	Dimension 1	Dimension 2	Dimension 3	Value
Geo 1	Variable 1	Variable A	Variable i	x
Geo 1	Variable 1	Variable A	Variable ii	x
Geo 1	Variable 1	Variable A	Variable iii	x
Geo 1	Variable 1	Variable B	Variable i	x
Geo 1	Variable 1	Variable B	Variable ii	x
Geo 1	Variable 1	Variable B	Variable iii	x
Geo 1	Variable 1	Variable C	Variable i	x
...				



# Vertical Tables in Beyond 2020

- Drag dimensions you wish to include next to geography
- One dimension will need to be on the x-axis
  - Can be a dimension you don't need (just highlight the total and export only that)
  - Otherwise can be pivoted later or left as columns
- Save as a CSV
  - Export can take a while (but it will work)



Structural type		Condominium st		Total - Condominiu...	Condominium	Not condominium
PR10	4 or more bedrooms	4 persons	Band housing	15	0	15
			Total - Tenure	7,220	55	7,165
			Owner	6,205	35	6,170
		5 or more persons	Renter	930	20	910
			Band housing	85	0	80
			Total - Tenure	165,330	925	164,405
		Number of persons in private households	Owner	149,335	660	148,675
			Renter	15,265	260	15,005
			Band housing	725	0	725
		Average household size	Total - Tenure	3.0	3.1	3.0
			Owner	2.9	3.1	2.9
			Renter	3.3	3.5	3.3
CD1001	Total - Number of bedrooms	Total - Household size	Band housing	5.8	0.0	5.8
			Total - Tenure	112,620	3,395	109,225
			Owner	83,445	2,175	81,275
		1 person	Renter	29,175	1,210	27,960
			Band housing	0	0	0
			Total - Tenure	28,640	1,735	26,905
		2 persons	Owner	16,400	1,150	15,255
			Renter	12,235	585	11,650
			Band housing	0	0	0
		3 persons	Total - Tenure	42,630	1,255	41,375
			Owner	33,235	800	32,440
			Renter	9,395	450	8,935
4 persons	Band housing	0	0	0		
	Total - Tenure	19,880	210	19,660		
	Owner	15,640	120	15,520		
5 or more persons	Renter	4,235	90	4,145		
	Band housing	0	0	0		
	Total - Tenure	15,900	135	15,765		
Total - Tenure	Owner	13,710	80	13,625		
	Renter	2,195	50	2,140		
	Band housing	0	0	0		
Total - Tenure	Total - Tenure	5,580	55	5,515		
	Owner	4,455	25	4,430		
	Renter	1,120	30	1,090		
Total - Tenure	Band housing	0	0	0		
	Total - Tenure	266,705	5,740	260,965		

# Vertical Tables in Beyond 2020

- Dimensions not included can be used as filters
- Variables that are not needed can be hidden to exclude from export
  - Reduces size of export

number of persons in private households	Renter	15,265
	Band housing	725
Average household size	Total - Tenure	3.0
	Owner	2.9
Total - Household size	ing	5.8
	re	112,620
1 person	ing	83,445
	re	29,175
Band housing	ing	0
	re	28,640
Band housing	ing	16,400
	re	12,235
Band housing	ing	0
	re	0

- Show
- Hide
- Dimension Summary
- Chart
- Copy
- Paste
- Print...

File Edit **View** Dimension Item **Window** Help

Structural typ

Structural typ: Single-detached house

Geography	Number of bedr	Household size	Tenure (4)	Total - Condomin
PR10	4 or more bedrooms	4 persons	Renter	
			Band housing	
		5 or more persons	Total - Tenure	
			Owner	
		Number of persons in private households	Renter	
			Band housing	
	Total - Tenure		14	
	Owner		13	
	Average household size	Average household size	Renter	
			Band housing	
		Total - Household size	Total - Tenure	7
			Owner	6
Renter				
Band housing				



# Tableau Prep Builder

- Can be used to prep tables for Tableau (when necessary)
- Allows data processing on tables too large for Excel

The screenshot displays the Tableau Prep Builder interface. On the left, the 'Connections' pane shows 'example table.csv' (Text file). The 'Tables' pane shows 'example table'. The main workspace shows a flow with 'example table' connected to 'Clean 1'. Below this, a 'Changes (0)' pane shows a list of rows (CD1001 to CD1011). The main view shows a data preview with columns: Geography (5K), Number of bedr (6), Household size (8), Tenure (4), Total - Condominium status (2K), Condominium (537), and Not condominium (2K). Each column has a corresponding bar chart. Below the preview is a data table with 8 columns: Geography, Number of bedr, Household size, Tenure (4), Total - Condominium status, Condominium, and Not condominium. The table contains 8 rows of data.

Geography	Number of bedr	Household size	Tenure (4)	Total - Condominium status	Condominium	Not condominium
DA10010174	1 bedroom	Total - Household size	Total - Tenure	20	0	20
DA10010174	1 bedroom	Total - Household size	Owner	0	0	0
DA10010174	1 bedroom	Total - Household size	Renter	20	0	20
DA10010174	1 bedroom	Total - Household size	Band housing	0	0	0
DA10010174	1 bedroom	1 person	Total - Tenure	0	0	0
DA10010174	1 bedroom	1 person	Owner	0	0	0
DA10010174	1 bedroom	1 person	Renter	10	0	10





# Tableau Prep

- Renaming columns and variables
- Pivot columns into rows
- Pivot rows into columns
- Perform calculations on columns
  - i.e. calculate inverses or percentages
- Join tables
  - i.e. joining geographic information
- Union tables
  - i.e. combine tables with same fields covering different regions or themes
- Export as Tableau Data Extract (.hyper)
  - Preferable format for working in Tableau
- Many of these functions are available in Tableau Desktop, but Prep directly edits the table

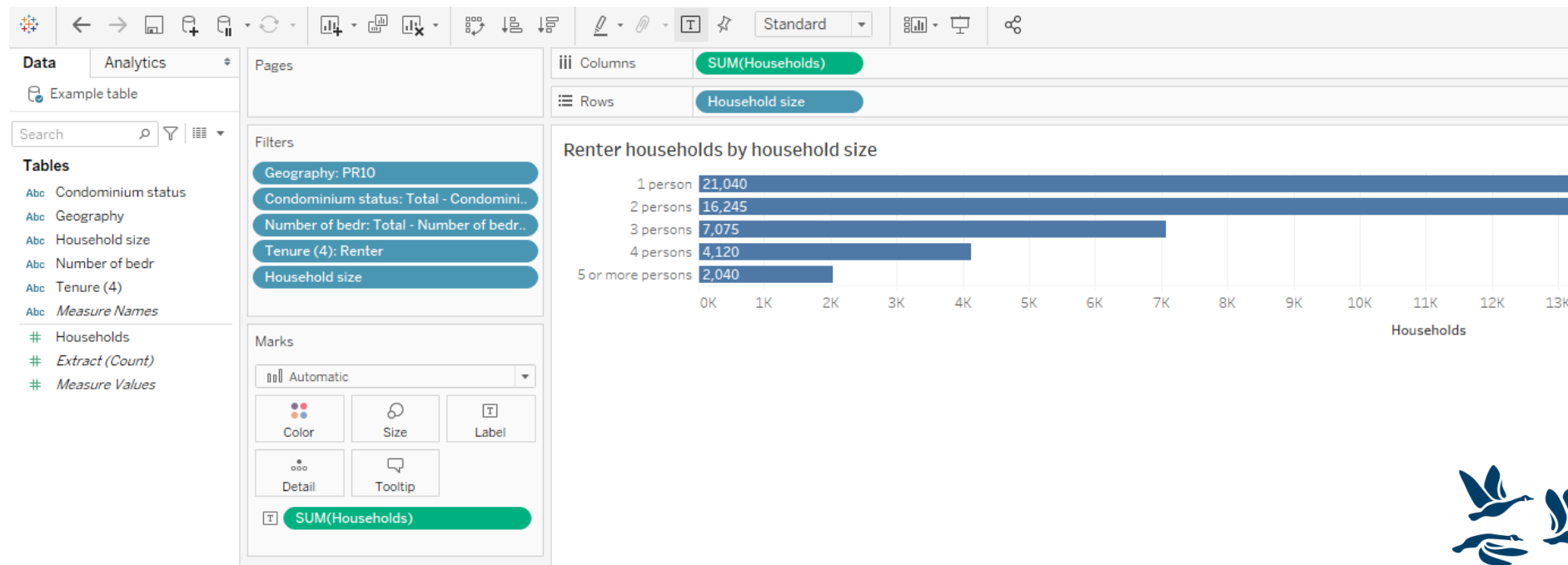


Pivot1 Names	Pivot1 Values	Geography	Number of bedr	Household size
Condominium	0	DA10010174	1 bedroom	Total - Household

Geography	Number of bedr	Household size	Tenure (4)	Condominium status	Households
DA10010174	1 bedroom	Total - Household size	Total - Tenure	Condominium	0
DA10010174	1 bedroom	Total - Household size	Owner	Condominium	0

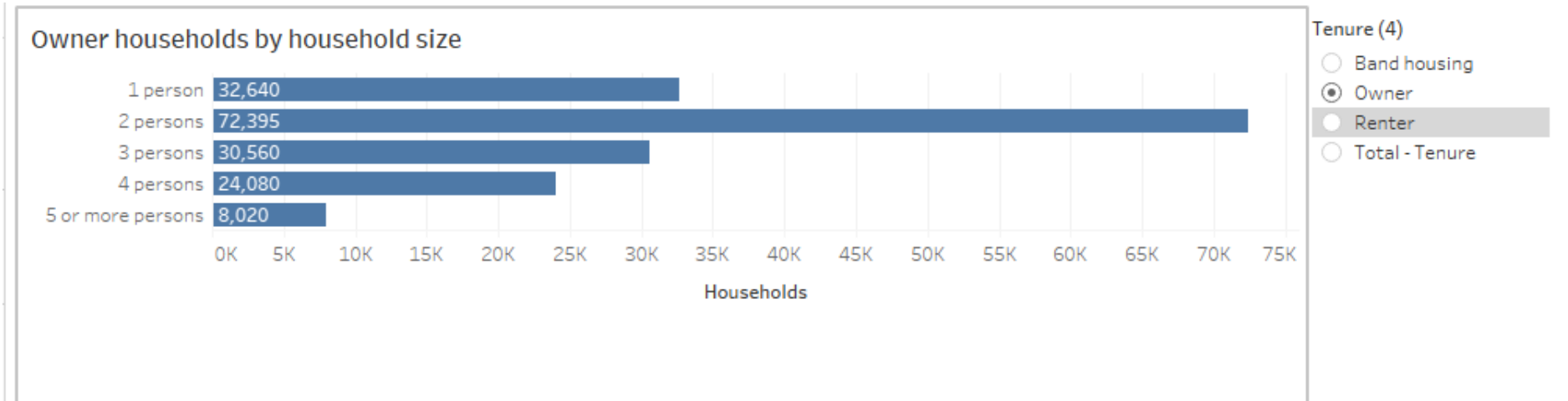
# Tableau Desktop

- Columns with variable names will be recognized as dimensions in Tableau. Numerical data columns will be recognized as measures.
- Filter dimensions to choose a variable to display
  - When selecting variables, all dimensions should be filtered
  - Variable values are the measure fields
- Drag dimensions to rows/columns to create charts



# Tableau Desktop

- Dimensions can be used to provide filter options for users
  - Note: avoid selecting “(All)” when dimension contains a total



# Thank you!

*Questions?*



# Using Tableau to Create Data Visualizations

*Presented by Saeideh Hejazi*



# Define the purpose of the visualization



This dashboard represents **Population** of Canada in **2016** by **Province / Territory, Census Division** and **Census Subdivision**, as **charts** and **maps**.



# Get spatial data from the Statistics Canada website

Statistics Canada / Statistique Canada

Search website

Subjects | Data | Analysis | Reference | Geography | Census | Surveys and statistical programs | About StatCan | Canada.ca

Home > Census Program > Geography > Boundary files > 2016 Census - Boundary files

## 2016 Census - Boundary files

There are two types of boundary files: cartographic and digital. Cartographic boundary files portray the geographic areas using only the major land mass of Canada and its coastal islands. Digital boundary files portray the full extent of the geographic areas, including the coastal water area.

A reference guide is included.

## Boundary files options

To download this product, please select from the choices below:

Language

English  French

## Link to [2016 Census - Boundary files](#)

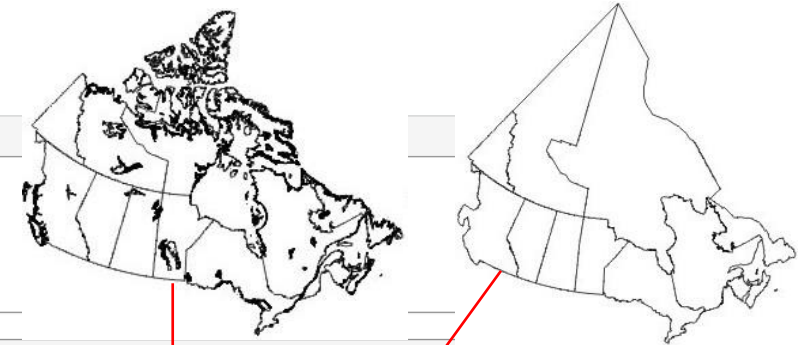


Format

ArcGIS® (.shp)

Geography Markup Language (.gml)

MapInfo® (.tab)



Geographic area or water feature	Cartographic Boundary File	Digital Boundary File	Water File
Provinces/territories	<input type="radio"/>	<input type="radio"/>	...
Federal electoral districts (2013 Representation Order)	<input type="radio"/>	<input type="radio"/>	...
Economic regions	<input type="radio"/>	<input type="radio"/>	...
Census divisions	<input type="radio"/>	<input type="radio"/>	...
Aggregate dissemination areas	<input type="radio"/>	<input type="radio"/>	...
Census agricultural regions	<input type="radio"/>	<input type="radio"/>	...
Census consolidated subdivisions	<input type="radio"/>	<input type="radio"/>	...
Census subdivisions	<input checked="" type="radio"/>	<input type="radio"/>	...
Census metropolitan areas and	<input type="radio"/>	<input type="radio"/>	...



# Add connections to Tableau Data Source:

Connecting to your data...

The screenshot shows the Tableau Desktop interface. On the left, the 'Connect' menu is open, listing various data source options. 'Microsoft Excel' and 'Spatial file' are circled in red. On the right, an 'Open' dialog box is displayed, showing a file explorer view of a Tableau Public workspace. The file 'PopulationSex-PT-CD-CSD.xlsx' is selected, and the 'Open' button is highlighted.

File Data Help

Connect

To a File

- Microsoft Excel
- Text file
- JSON file
- Microsoft Access
- PDF file
- Spatial file
- Statistical file

To a Server

- OData
- More...

Save locally. Work with big data.  
Connect to more data sources.

Upgrade Now

Open

Open from Tableau Public

GoGeomaticsMay2020 > Tableau Public

Search Tableau Public

Name	Date modified	Type	Size
Archive	2021-11-02 11:36 PM	File folder	
Support data	2021-11-02 11:36 PM	File folder	
PopulationSex-PT-CD-CSD.xlsx	2021-10-31 1:57 AM	Microsoft Excel W...	251 KB

File name: PopulationSex-PT-CD-CSD.xlsx

Excel Workbooks (\*.xls \*.xlsx \*)

Open Cancel





# Add connections to Tableau Data Source

Connecting to your data...

The screenshot shows the Tableau Public interface with the 'Add a Connector' dialog box open. The dialog box has two main sections: 'To a File' and 'To a Server'. Under 'To a File', the options are: Microsoft Excel, Text file, JSON file, Microsoft Access, PDF file, **Spatial file** (highlighted with a red circle), and Statistical file. Under 'To a Server', the options are: OData and More... Below these options, there is a note: 'Save locally. Work with big data. Connect to more data sources.'

An 'Open' file dialog box is also open, showing the file 'lcsd000b16a\_e\_simplified1.zip' selected in the file list. The file name field at the bottom of the dialog contains 'lcsd000b16a\_e\_simplified1.zip' and the file type is set to 'Spatial Files (\*.geojson \*.json \*.I)'. The 'Open' button is highlighted.

The background shows the Tableau Public interface with a 'Connections' pane on the left containing 'PopulationSe...an-PT-CD-CSD' (Microsoft Excel) and 'lcsd000b16a\_e\_simplified1' (Spatial file). The 'Sheets' pane on the left shows various worksheets like 'PopbySex-CD', 'PopbySex-CSD', etc. The main view shows a data table with columns like 'CSD Name', 'Popby...', 'CSD N...', 'Division No. 1, Subd. U SNO', 'CSD', and values like '1001124'.



# Add connections to Tableau Data Source

## Setting up data source: relationships...

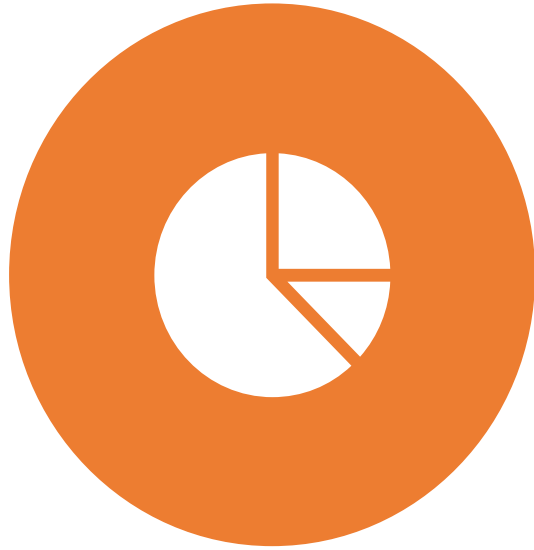
The screenshot shows the Tableau Public interface with a data source named "PopulationSex-PT CD CSD". The diagram illustrates the relationship between two data sources: "PopbySex-CSD" (labeled "Non-spatial") and "lcsd000b16a\_e" (labeled "Spatial"). The "Spatial" source is connected to two other sources: "PopbySex-CD" and "PopbySex-PT".

The data table below shows the following columns and rows:

ABC	ABC	ABC	#
PopbySex-CSD	PopbySex-CSD	PopbySex-CSD	PopbySex-CSD
CSD Name	Level of Geography	Csd Uid	Total population (Popby...
Portugal Cove South T	CSD	1001105	150
Trepassey T	CSD	1001113	480
St. Shott's T	CSD	1001120	65
Division No. 1. Subd. U SNO	CSD	1001124	1,625
Cape Broyle T	CSD	1001126	490
Renews-Cappahayden T	CSD	1001131	305
Fermeuse T	CSD	1001136	385



# Creating charts and maps



## Start Building a Visualization by Dragging Fields to the View:

The basic structure for every view is made of **dimension** and **measure** fields placed on the Rows and Columns shelves, and on different properties in the Marks card.

More information: [https://help.tableau.com/v2021.3/public/desktop/en-us/buildmanual\\_dragging.htm](https://help.tableau.com/v2021.3/public/desktop/en-us/buildmanual_dragging.htm)



**Data** Analytics

PopulationSex-PT CD CSD

Search [Icon]

**Tables**

- Icsd000b16a\_e
- PopbySex-CD
- PopbySex-CSD
- PopbySex-PT**
  - Level of Geography (Popb...
  - PT Name *dimensio*
  - PT Uid *n*
  - Female (PopbySex-PT)
  - Male (PopbySex-PT)
  - Total population (PopbyS... *measure*
  - PopbySex-PT (Count)
- Measure Names
  - Latitude (generated)
  - Longitude (generated)
  - Measure Values

Pages

**Filters**

PT Name

**Marks**

Automatic

Color Size Label

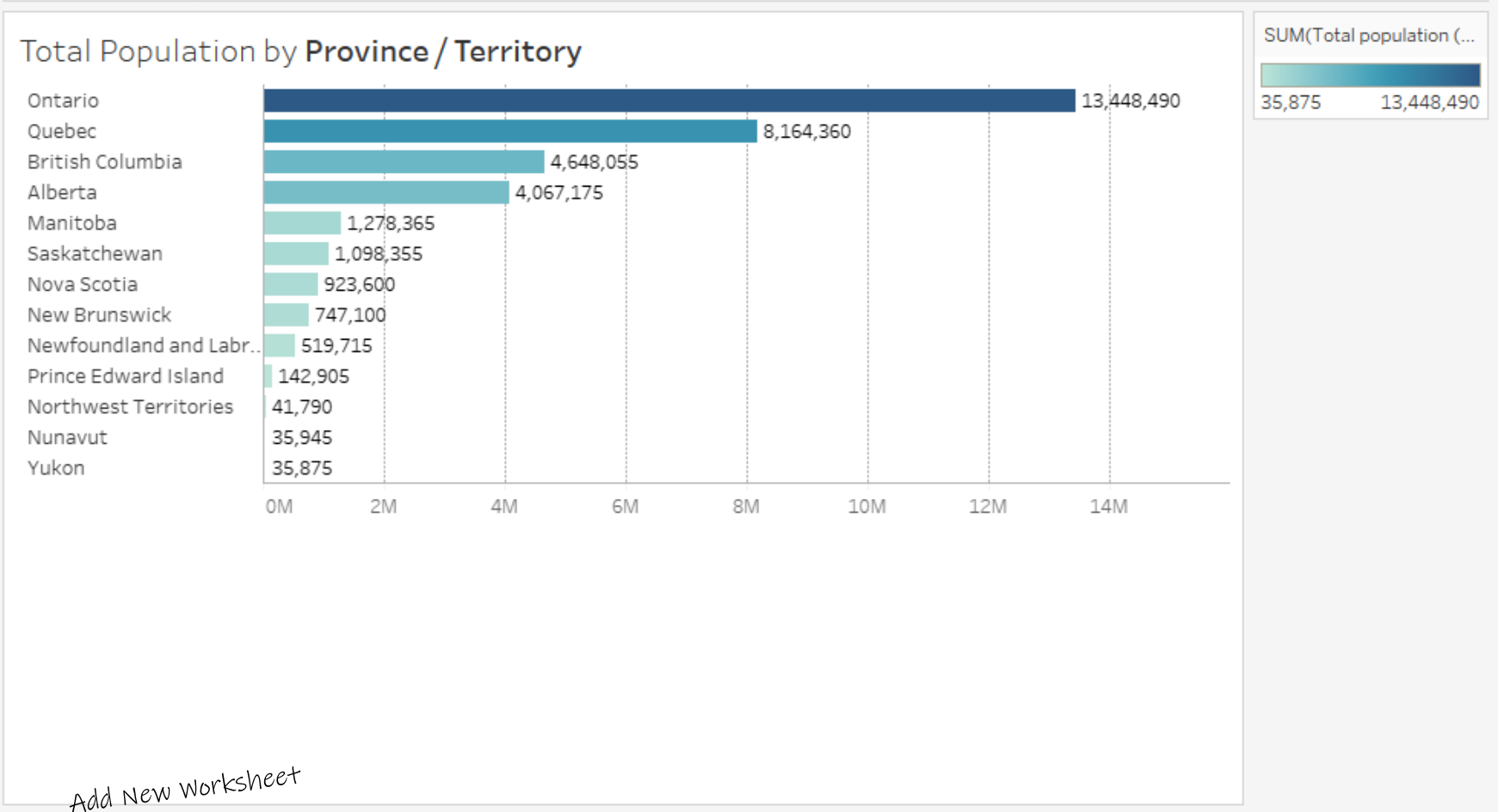
Detail Tooltip

SUM(Total po..)

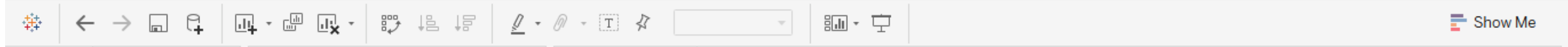
SUM(Total po..)

Columns: SUM(Total populatio..)

Rows: PT Name



*Add New Worksheet*



Data Analytics

PopulationSex-PT CD C...

Search

- Tables**
- ▼ Icsd000b16a\_e
    - Abc Ccsname
    - Abc Ccsuid
    - Abc Cdname
    - Abc Cdtype
    - Abc Cduid
    - Abc Cmaname
    - Abc Cmapuid
    - Abc Cmatype
    - Abc Cmauid
    - Abc Csdname
    - Abc Csdtype
    - Abc Csduid
    - Abc Ername
    - Abc Eruid
    - Abc Prname
    - Abc Prname (copy)
    - Abc Pruid
    - Abc Saccode
    - Abc Sactype
    - ➔ **Geometry**
    - # Icsd000b16a\_e (Co...

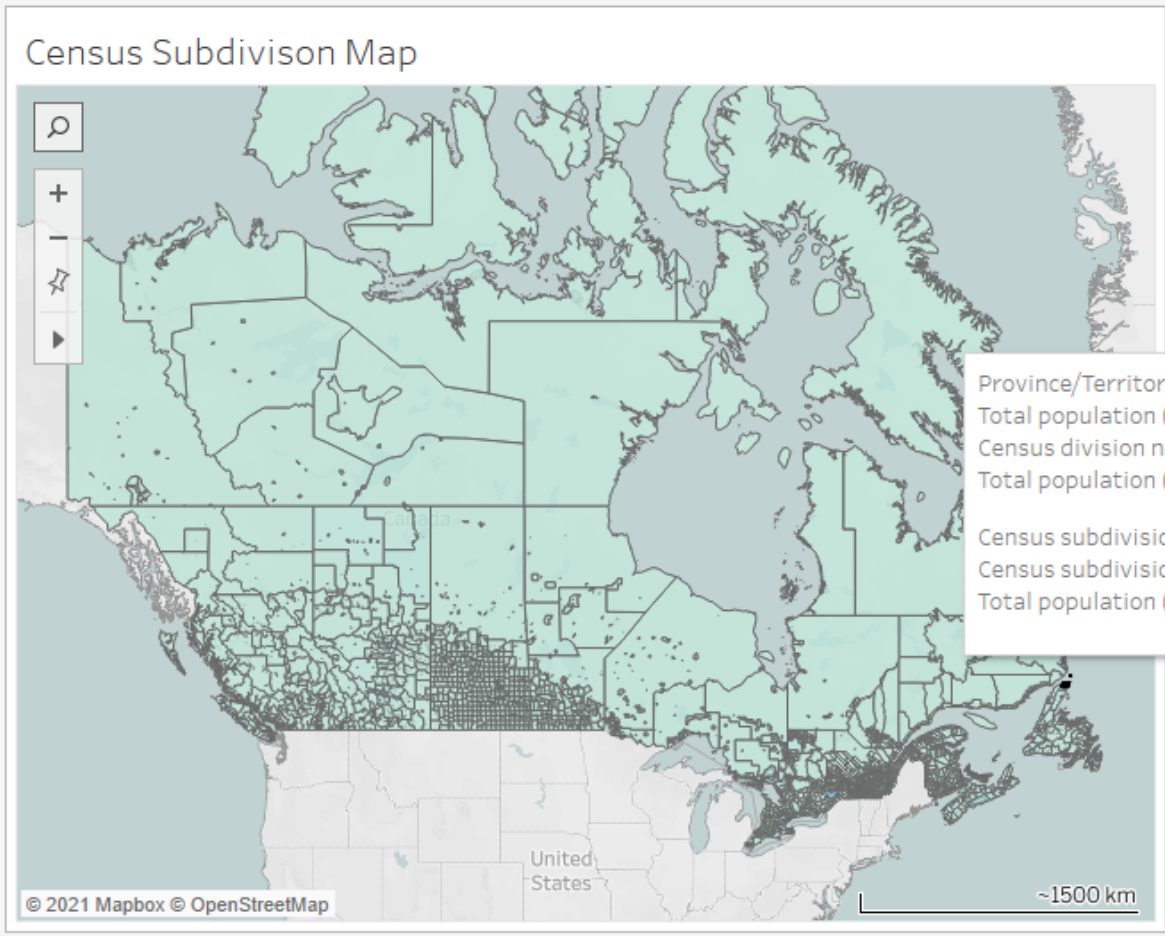
Pages

Columns Longitude (generated)

Rows Latitude (generated)

- Filters**
- Pname (copy)
  - Pname
  - Cdname
  - Latitude (generated)

- Marks**
- Automatic
- Color
  - Size
  - Label
  - Detail
  - Tooltip
  - Cdname
  - Prname
  - SUM(Total population (Popby..**
  - COLLECT(Geometry)**
  - Csd Uid**
  - CSD Name
  - SUM(Total population (Popby..
  - SUM(Total population (Popby..



Filter1) Select a province or territory

(All)

Total population indicator

35 2,731,570

Province/Territory name: Newfoundland and Labrador

Total population (PT): 519,715

Census division name: Division No. 9

Total population (CD): 15,605

Census subdivision name: Division No. 9, Subd. D SNO

Census subdivision UID: 1009031

Total population (CSD): 645

# Designing dashboards and storyboards

The screenshot displays the Tableau Public interface with a dashboard titled "Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision". The dashboard includes several key components:

- Dashboard Title:** Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision
- Canada's Population in 2016:** 35,151,725
- Proportion of Population by Gender:**
  - Male: 49.11%
  - Female: 50.89%
- Total Population by Province / Territory:** A horizontal bar chart showing population for each province/territory.
- Filters:** Filter1) Select a province or territory (All) and Filter2) Choose a census division of the selected province (All).
- Instructions:** Use the two filters to select a province / territory and/or a census division to view it on the map. Next, click on a census subdivision on the map to highlight it and see the census subdivision name and population in the bubble chart below.
- Bottom Section:** All Population by Census Division (partially visible)

The interface also shows the Tableau Public - Draft window with the menu bar (File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Window, Help) and the toolbar. The left sidebar contains the Dashboard, Size, and Sheets panes. The "Objects" pane is highlighted with a red circle, showing options like Horizontal, Vertical, Text, Image, Web Page, Blank, Navigation, Download, Extension, and Ask Data. The "New Dashboard" button is also circled in red. The status bar at the bottom indicates 13 marks, 13 rows by 1 column, and the sum of total population (PopbySex-PT) is 35,151,725.

Province / Territory	Population
Ontario	13,448,490
Quebec	8,164,360
British Columbia	4,648,055
Alberta	4,067,175
Manitoba	1,278,365
Saskatchewan	1,098,355
Nova Scotia	923,600
New Brunswick	747,100
Newfoundland and Labrador	519,715
Prince Edward Island	142,905
Northwest Territories	41,790
Nunavut	35,945
Yukon	35,875

# Design dashboard and storyboard

## Add interactivity: Filters

The screenshot displays a Tableau dashboard titled "Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision". At the top, there are two filter dropdowns: "Filter 1" for selecting a province or territory, and "Filter 2" for choosing a census division. Below the filters is a map of Canada and a bubble chart titled "Total Population by Census Division". A context menu is open over the bubble chart, with the "Filters" option selected. The menu lists various actions like "Go to Sheet", "Duplicate Sheet", and "Use as Filter". The "Filters" sub-menu is also open, showing a list of fields with checkboxes. The "Cdname" field is checked and labeled "Filter 2", and the "Prname" field is checked and labeled "Filter".

Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision

Use the two filters to select a province / territory and/or a census division to view...

Filter 1 Select a province or territory (All)

Filter 2 Choose a census division of the selected province (All)

Next, click on a census subdivision on the map to highlight it and see the census subdivision name and population in the bubble chart below.

Total Population by Census Division

Control down to see all data

2,731,575

2,463,430

1,366,050 708,820

1,942,045

1,498,775

Go to Sheet

Duplicate Sheet

Title

Caption

Legends

Filters

Highlighters

Show Page Control

View Toolbar

Use as Filter

Ignore Actions

Add Show/Hide Button

Floating

Select Container: Tiled

Deselect

Remove from Dashboard

Rename Dashboard Item...

Disable Auto Update

CSD Name

Cdname Filter 2

Csd Uid

Latitude (generated)

Longitude (generated)

Prname Filter

Prname (copy)

Sum of Total population (PopbySex-CD)

Sum of Total population (PopbySex-CSD)

Sum of Total population (PopbySex-PT)

© 2021 Mapbox © OpenStreetMap

United States

Total population indicator

35 2,731,570

Total Population by Census Subdivision

0K 200K 400K 600K 800K 1000K 1200K 1400K

tableau public

Source: Census 2016 - Statistics Canada

This Tableau dashboard is created by Saeidheh Hejazi. If you have any questions, let's connect: <http://www.linkedin.com/in/saeidheh-hejazi>

dashboard Story 1 dashboard 2

total population (PopbySex-CD): 572,374,160 Highlighting on Csd Uid



## Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision

Story

Use the two filters to select a province / territory and/or a census division to view it on the map.

Filter1) Select a province or territory

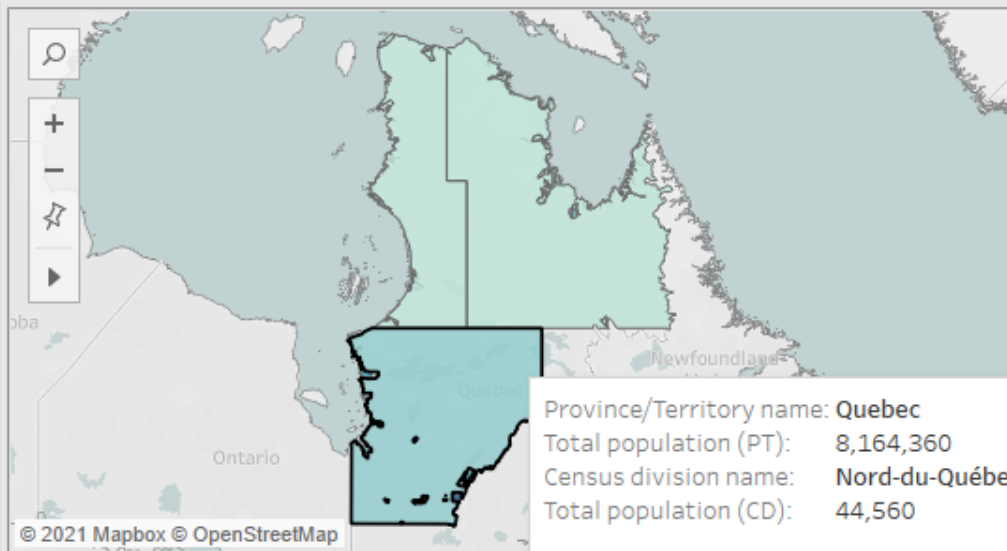
Quebec

Filter2) Choose a census division of the selected province

Nord-du-Québec

Next, click on a census subdivision on the map to highlight it and see the census subdivision name and population in the bubble chart below.

Layout



Total population indicator

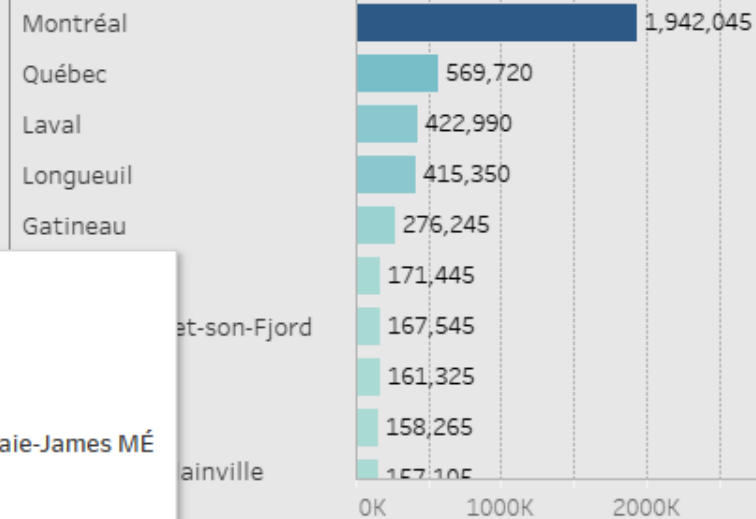
210

### Total Population by Census Subdivision



### Quebec Population by Census Division

Scroll down to see all data





# Designing dashboards and storyboards

## Actions and Dashboards: Highlight

The screenshot displays a dashboard design tool interface. The main workspace shows a map of Canada with a highlighted area in Quebec. A bubble chart titled "All Population by Census Division" is visible, showing population data for various regions. A context menu is open over the highlighted area, displaying options like "Keep Only" and "Exclude".

The "Edit Highlight Action" panel on the right is configured with the following settings:

- Name: Highlight1
- Source Sheets: Population dashboard
- Run action on: Select
- Target Sheets: Population dashboard
- Target Highlighting: Selected Fields
- Fields: COLLECT(Geometry), CSD Name, Cdname, Csd Uid, Pname

Region	Population
Toronto	2,731,575
Greater Vancouver	2,463,430
Division No. 11	1,366,050
Montréal	1,942,045
Division No. 6	1,498,775
	1,381,740
	1,109,910
	934,245
	645,865
	569,720

Census Subdivision	Total Population (CSD)
Eeyou Istchee Baie-James MÉ	1,590

# Design dashboards and storyboards

The screenshot shows the Tableau Public interface with a story point titled "Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision". The interface includes a menu bar, a toolbar, and a sidebar with a "Story" tab highlighted. The main content area features a map of Canada, a bubble chart, and a horizontal bar chart.

**Population of Canada (2016) by Province / Territory, Census Division and Census Subdivision**

Use the two filters to select a province / territory and/or a census division to view it on the map.

Filter1) Select a province or territory: (All)

Filter2) Choose a census division of the selected province: (All)

Next, click on a census subdivision on the map to highlight it and see the census subdivision name and population in the bubble chart below.

**All Population by Census Division**

Scroll down to see all data

Census Division	Population
Toronto	2,731,575
Greater Vancouver	2,463,430
Division No. 11	1,366,050
Montréal	1,942,045
Division No. 6	1,498,775
Peel	1,381,740
York	1,109,910
Ottawa	934,245
Durham	645,865

**Total population indicator**

35 2,731,570

*New Story*

# Thank you!

*Questions?*

