

# Using Excel 3D Maps to Visualize and Share Your Community Data

Community Data Consortium Webinar

Jan 22, 2019

# About Me



Alex Mayer

Health Analyst at Centretown Community Health Centre  
Ottawa, Ontario, Canada



-  Centretown Community Health Centre
-  Queen's University
-  See contact info

**Let's Connect!**

# Today's Demonstration

## **Part 1: Simple Overview of Excel 3D Maps**

- Obtaining CCHS data
- Structuring Our Data
- Creating a 3D Map
- Configuring Our Map
- Making It Pretty

## **Part 2: Creating a Type 2 Diabetes Risk Map for Ottawa**

- Obtaining 2016 Census demographic data
- Computing a composite 'Risk Score'
- Mapping the data using Custom Region shapefiles

# Using Excel's 3D Maps

## Pre-Requisites

**1. You have Excel 2016 or later.**

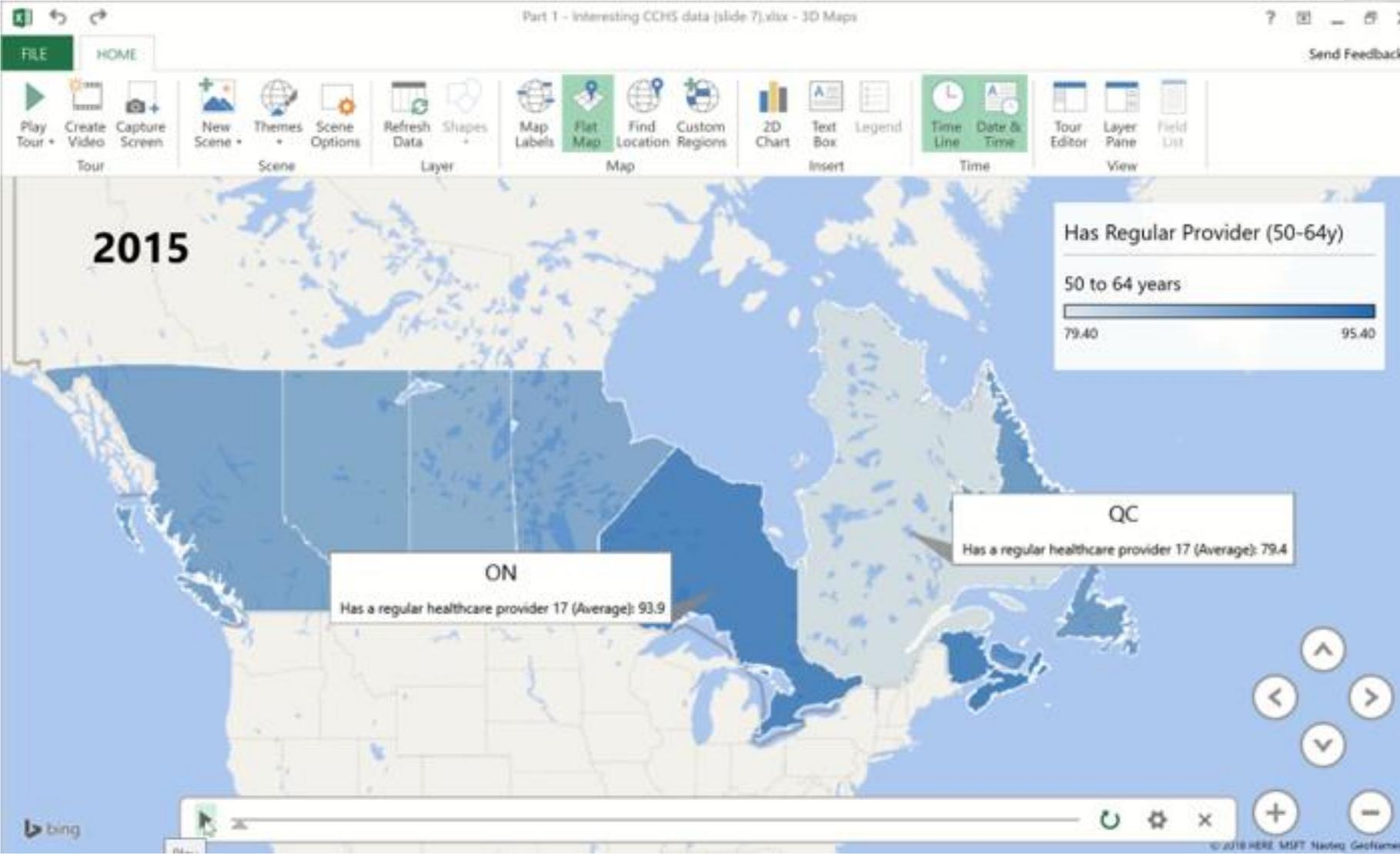
Excel 2013 requires installing the [Power Map add-in](#) and will not have all of the newest features (Importing custom regions)

**2. You have a location variable for each record (row) in your data table** (e.g. CT, DA, Postal Code, City).

**3. If your geography of interest is anything other than 'standard geographies' – postal codes, cities or provinces – you have boundary shapefiles (.shp) to define your custom regions.**

**\*\*\*Important:** Your shapefile must be formatted as a 'WGS 1984 coordinate system' shapefile to play nice with Excel.

# Part 1 - Simple Overview of Excel 3D Maps



# Let's Generate Some Data!

https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1310009601

then ☆, and drag to the Favorites Bar folder. Or import from another browser. [Import favorites](#)

Franglais

Statistics Canada Statistique Canada

Search website

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

Home → Data → Canadian health characteristics, annual estimates → Add/Remove data

## Add/Remove data

### Canadian health characteristics, annual estimates<sup>1 2 3 4</sup>

Frequency: Occasional  
Table: 13-10-0096-01 (formerly CANSIM 105-0508)  
Geography: Province or territory

Customize table (Add/Remove data)

Geography Age group Sex Indicators Characteristics 1 2 3 4 5 6 7 8 9 10 11 Reference period Customize Layout

1 of 11 items selected

All

Canada (excluding territories)

Apply

Download

Canada (excluding territories) <sup>2</sup>	
Total, 12 years and over	
Both sexes	
Number of persons	

## Steps

1. Go to the CCHS CANSIM webpage:  
<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310009601>
2. Create a simple table (1 indicator) of interesting health data, with indicators as columns and geography, age, gender and reference period as rows.
3. Ensure the table has no missing data; download the csv 'as displayed'

# Structuring Our Data

Part 1 - Interesting CCHS data - Excel

Table: 13-10-0096-01 (formerly CANSIM 105-0508)

Geography	Age group	Reference period	Perceived health	Perceived mental health	Diabetes 1	Sense of belonging	Life satisfaction	Has a regular healthcare provider	
Canada (excluding territories)	50 to 64 years	2015	57.7	72	9.6	66.7	91.1	88.4	
		2016	56	70.4	10.3	69	90.3	89.1	
		2017	54.2	70	11	67.9	90.6	90.4	
	65 years and over	2015	47	70.5	17.7	74.3	89.7	94	
		2016	45.8	70.3	17.7	74.5	89.9	94.2	
		2017	46.8	71.4	17.9	76.3	90.2	94.3	
	Newfoundland and Labrador	50 to 64 years	2015	60.5	73.7	12.3	84.4	92	89.6
			2016	61.8	73.3	14.2	77.4	91.6	90.6
			2017	56.2	70.6	10	79.7	90.1	89.9
65 years and over	2015	49.9	68.7	26	88	86.8	94.6		
	2016	49.1	67.4	22.8	87.8	92.3	93.2		
	2017	55	70.3	20.1	86.3	91.2	92.8		
Prince Edward Island (not including St. John's)	50 to 64 years	2015	52	74.4	14.1	72.4	92.6	89.3	
		2016	54	65.1	11.8	73.5	92.7	93.8	
		2017	56.5	64.7	12	71.4	88.9	85.6	
65 years and over	2015	51.8	74.2	17	84.4	92	96.1		
	2016	59.6	73.8	24.1	87.1	93.3	93.9		
	2017	50.3	77.5	19.9	83.5	91.8	92.6		
Nova Scotia (map)	50 to 64 years	2015	53.9	69.2	13.6	80.4	90.4	94.8	
		2016	54.5	64.7	14.9	76	86.6	90.9	
		2017	54.2	66.2	12.5	69.9	87.7	90.7	
65 years and over	2015	46.9	70.2	19.4	82.3	88.4	95.5		

## Steps

4. **Clean the data:** 'Fill down' (ctl+d) any missing categorical data for each record (e.g. geography and age in this case)
5. **Format as Table:** Select table data. On the **Home tab**, click **Format as Table**. Make sure there are no empty cells in the table. **Save as an .xlsx file.**
6. **Format 'Time' data:** Create column 'Time' with a **date format** beside Reference Period ( $=DATE([@[Reference period]],1,1)$ ). Copy 'Time' values and 'Paste Values' in place. Delete 'Reference Period' column.

# Creating a Simple 3D Map

Part 1 - Interesting CCHS data (slide 7) - Excel

File Home Insert Page Layout Formulas Data Review View Developer Help Power Pivot Design Tell me what you want to do

PivotTable Recommended PivotTables Tables

Pictures Online Pictures Screenshots Illustrations

Store My Add-ins People Graph Add-ins

Bing Maps Recommended Charts Charts

PivotChart 3D Map Tours

Line Column Win/Loss Sparklines

Slicer Timeline Filters

Link Text Box Header & Footer Text

Equation Symbol

Symbols

A5 : X ✓ f Geography

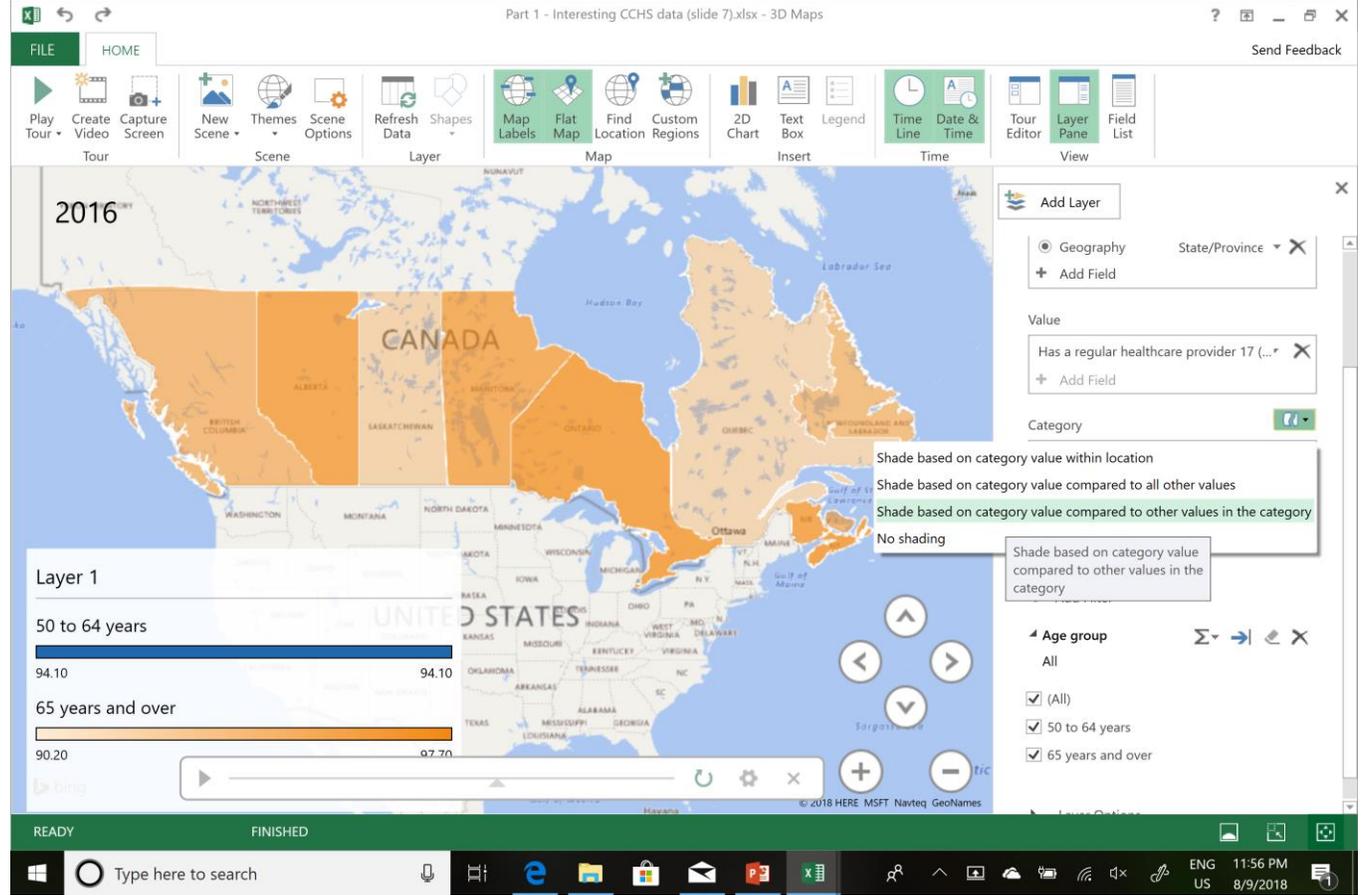
	A	B	C	D	E	F	G	H	I	J
1	Canadian health characteristics, annual estimates 1 2 3 4									
2	Occasionnelle									
3	Table: 13-10-0096-01 (formerly CANSIM 105-0508)									
4	Geography: Province or territory									
5	Geography	Age group	Time	Perceived health, very good	Perceived mental health, v	Diabetes	Sense of belonging to local	Life satisfaction, satisfied o	Has a regular healthcare pr	
6	Newfoundland and L 50 to 64 years		1/1/2015	60.5	73.7	12.3	84.4	92	89.6	
7	Newfoundland and L 50 to 64 years		1/1/2016	61.8	73.3	14.2	77.4	91.6	90.6	
8	Newfoundland and L 50 to 64 years		1/1/2017	56.2	70.6	10	79.7	90.1	89.9	
9	Newfoundland and L 65 years and c		1/1/2015	49.9	68.7	26	88	86.8	94.6	
10	Newfoundland and L 65 years and c		1/1/2016	49.1	67.4	22.8	87.8	92.3	93.2	
11	Newfoundland and L 65 years and c		1/1/2017	55	70.3	20.1	86.3	91.2	92.8	
12	Prince Edward Island 50 to 64 years		1/1/2015	52	74.4	14.1	72.4	92.6	89.3	
13	Prince Edward Island 50 to 64 years		1/1/2016	54	65.1	11.8	73.5	92.7	93.8	
14	Prince Edward Island 50 to 64 years		1/1/2017	56.5	64.7	12	71.4	88.9	85.6	
15	Prince Edward Island 65 years and c		1/1/2015	51.8	74.2	17	84.4	92	96.1	
16	Prince Edward Island 65 years and c		1/1/2016	59.6	73.8	24.1	87.1	93.3	93.9	
17	Prince Edward Island 65 years and c		1/1/2017	50.3	77.5	19.9	83.5	91.8	92.6	
18	Nova Scotia 50 to 64 years		1/1/2015	53.9	69.2	13.6	80.4	90.4	94.8	
19	Nova Scotia 50 to 64 years		1/1/2016	54.5	64.7	14.9	76	86.6	90.9	
20	Nova Scotia 50 to 64 years		1/1/2017	54.2	66.2	12.5	69.9	87.7	90.7	
21	Nova Scotia 65 years and c		1/1/2015	46.9	70.2	19.4	82.3	88.4	95.5	
22	Nova Scotia 65 years and c		1/1/2016	45.8	67.5	15.3	78.4	89.5	96.2	
23	Nova Scotia 65 years and c		1/1/2017	46.8	70.4	16.2	80.8	90	94	
24	New Brunswick 50 to 64 years		1/1/2015	45.7	54	15	71.5	87.7	94.1	
25	New Brunswick 50 to 64 years		1/1/2016	58	66.6	11.9	68	91.4	90.8	
26	New Brunswick 50 to 64 years		1/1/2017	45.6	65.1	13.9	74.5	91.1	95.4	
27	New Brunswick 65 years and c		1/1/2015	41.5	60.9	17.1	76.3	88.4	96.2	
28	New Brunswick 65 years and c		1/1/2016	41.2	64.7	14.9	77.2	89.3	95.8	
29	New Brunswick 65 years and c		1/1/2017	47.5	66.4	19.8	79.3	90.1	97.7	
30	Quebec 50 to 64 years		1/1/2015	61.1	75.6	8.8	54.7	92.4	79.4	
31	Quebec 50 to 64 years		1/1/2016	59.6	73.9	9	59	92.3	82.1	

Ready Average: 6108.896429 Count: 549 Sum: 2565736.5 100%

## Steps

7. **Select the table and launch 3D Maps:** On the **Insert** tab, click **3D Map**
8. Define your point locations. (In this case, Excel has correctly deduced that the 'Geography' field refers to provinces and has mapped our data appropriately)
9. Choose the appropriate Visualization Type. In this case, we'll select 'Region'.
10. Add **Map Labels** and try toggling the **Flat Map** feature from the ribbon

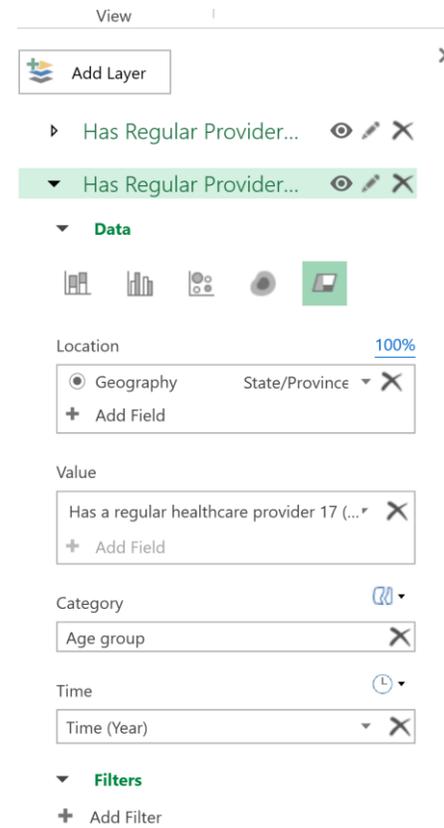
# Configuring Our 3D Map



## Steps

11. Define your Y value. Let's choose 'Has a regular HC provider' under 'Value'. Click the dropdown and choose 'Average'.
12. Let's pick 'Age Group' as our Category variable. Choose to 'Shade based on category value compared to other values in the category' (see picture).
13. Let's pick 'Time' as our Time variable. Click the time dropdown and select 'Year' only. Notice that a playback button appears!

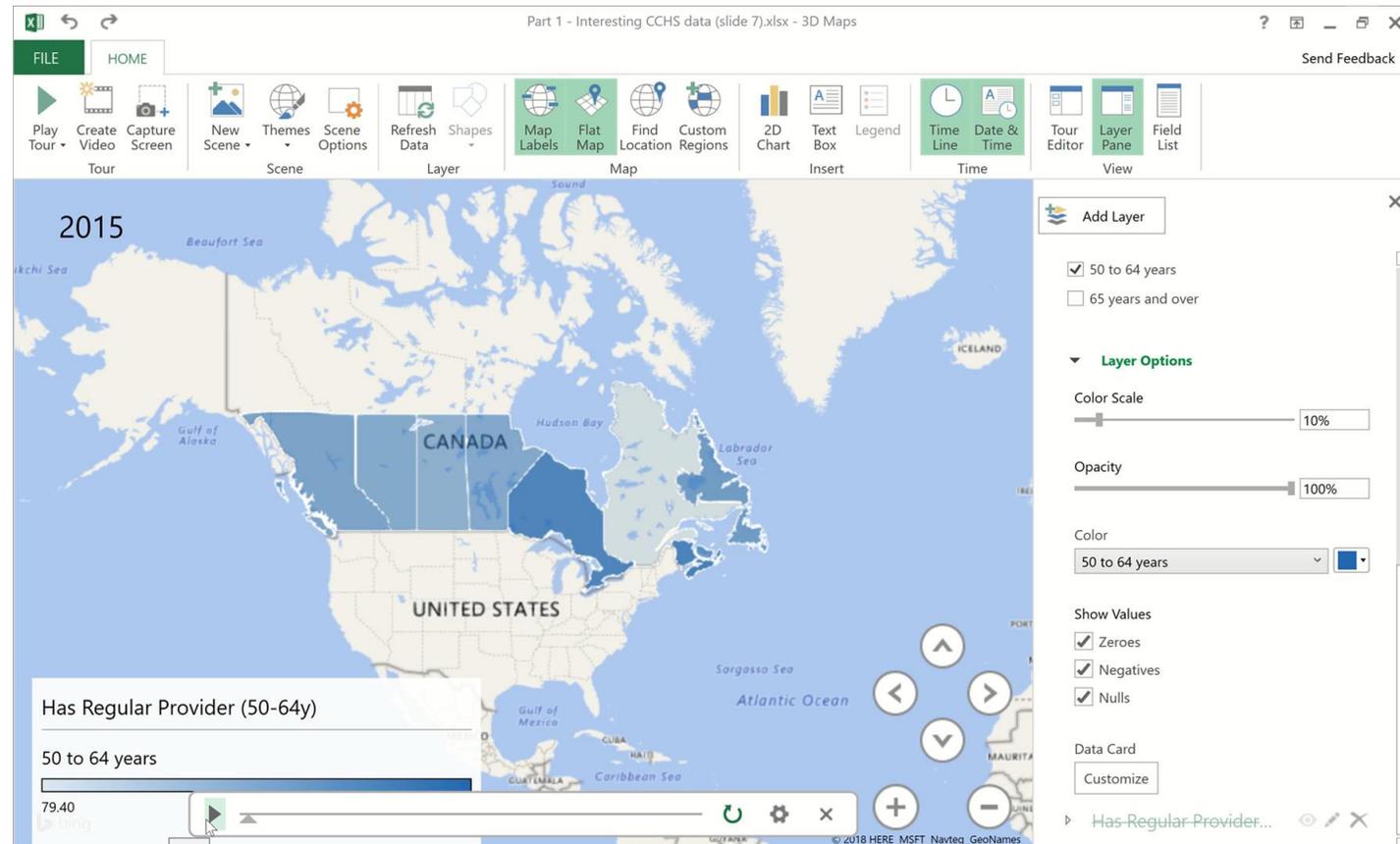
# Perfecting Our 3D Map



## Steps

14. Let's create 2 layers – one for each age category. Under Filter, choose to 'Add Filter' and select the Age Group field.
15. Rename your current layer as 'Has Regular Provider (50-64y)'
16. Add Layer named 'Has Regular Provider (65+y)' with identical settings, but filtered to show only data for Age Group '65 or older'.
17. Double-click time marker in top left corner and display only Year
18. Toggle layers on and off by clicking on the eye-shaped icon. Hide 1 layer.

# Perfecting Our 3D Map

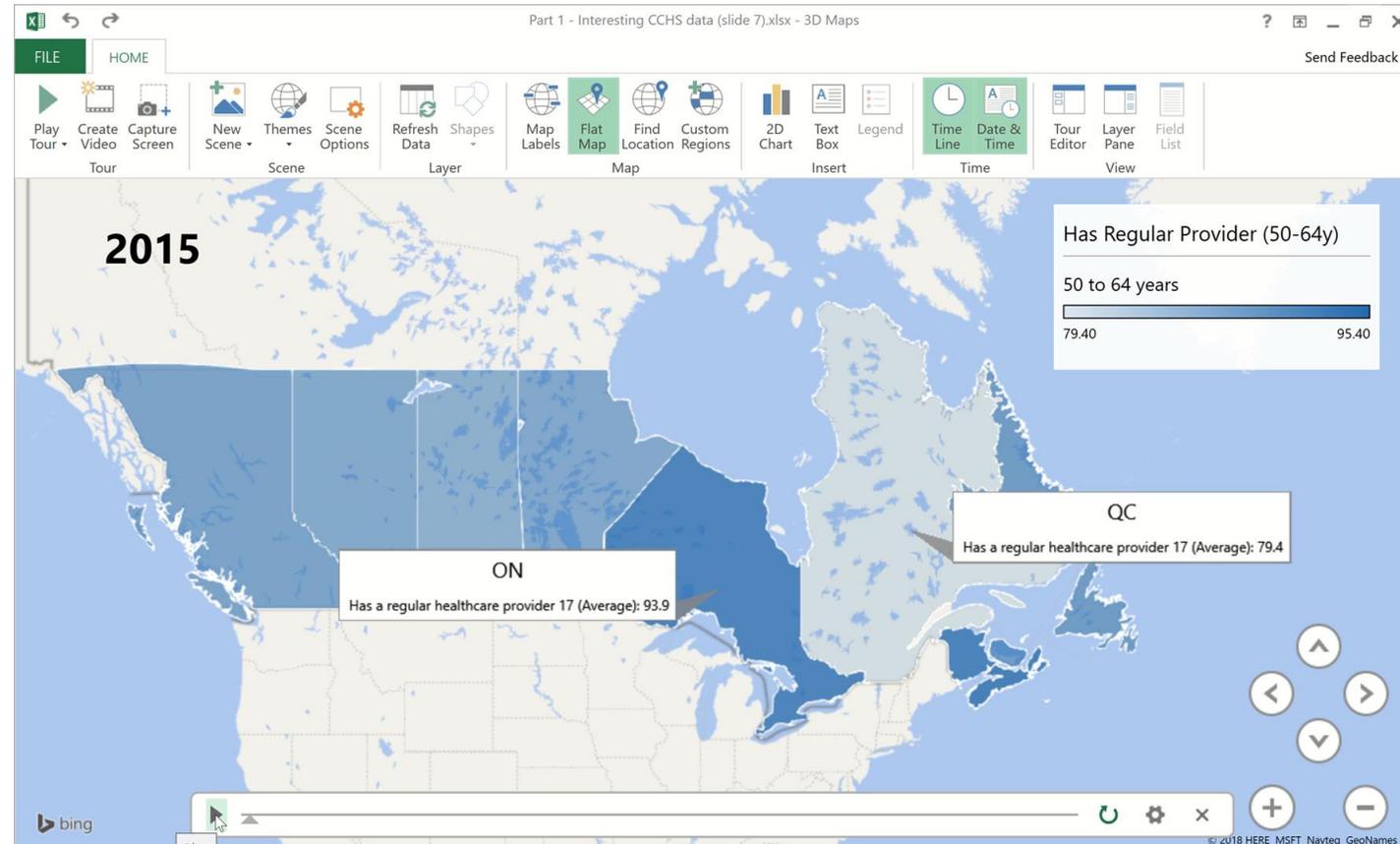


## Steps

19. Let's click 'Play' and see what happens!

**What do the colour patterns tell us about our data? Which province's rate changes most noticeably over time?**

# Annotating Our 3D Map



## Steps

19. Right-click on province(s) of interest and 'Add Annotation'
20. Under TITLE, select Custom and type in the province's abbreviation
21. Under DESCRIPTION, select the field of interest (Has Regular Provider)
22. Let's click 'Play' and see what happens!

**Which province's rate changes most noticeably over time?**

# Why is this valuable?

- ❖ Until now, knowledge users only had access to whatever 2D maps were created for them by knowledge brokers. (May or may not be what they need.)
- ❖ Until now, creating useful maps has required GIS software and expertise. If your non-profit doesn't have a GIS person, odds are you are not seeing your geospatial data at all! (despite having lots of it)

Now, it is possible to quickly mine any organizational and publicly available data spatially for insights. Analysts can set up useful DATA TOOLS for staff/mgmt.

## Examples of planning applications

Multicultural Outreach	Where do our single-parent newcomer families live?
Route Planning for Mobile Harm Reduction Services	Where are opiate-related overdoses occurring within my catchment?
Community Development	What neighbourhoods have the poorest sense of community belonging?
Targeted Diabetes Screening Events	What neighbourhoods are at highest risk of undiagnosed type 2 Diabetes?

# What About Using Non- Standard Geographies?

**By Default, Excel 3D Maps will recognize the location of the following variables:**

- ❖ Country
- ❖ Province/State
- ❖ City
- ❖ Street Address
- ❖ Forward Sortation Area
- ❖ Postal/Zip Code
- ❖ Latitude/Longitude

**However, the most useful way to visualize your data is likely to be by:**

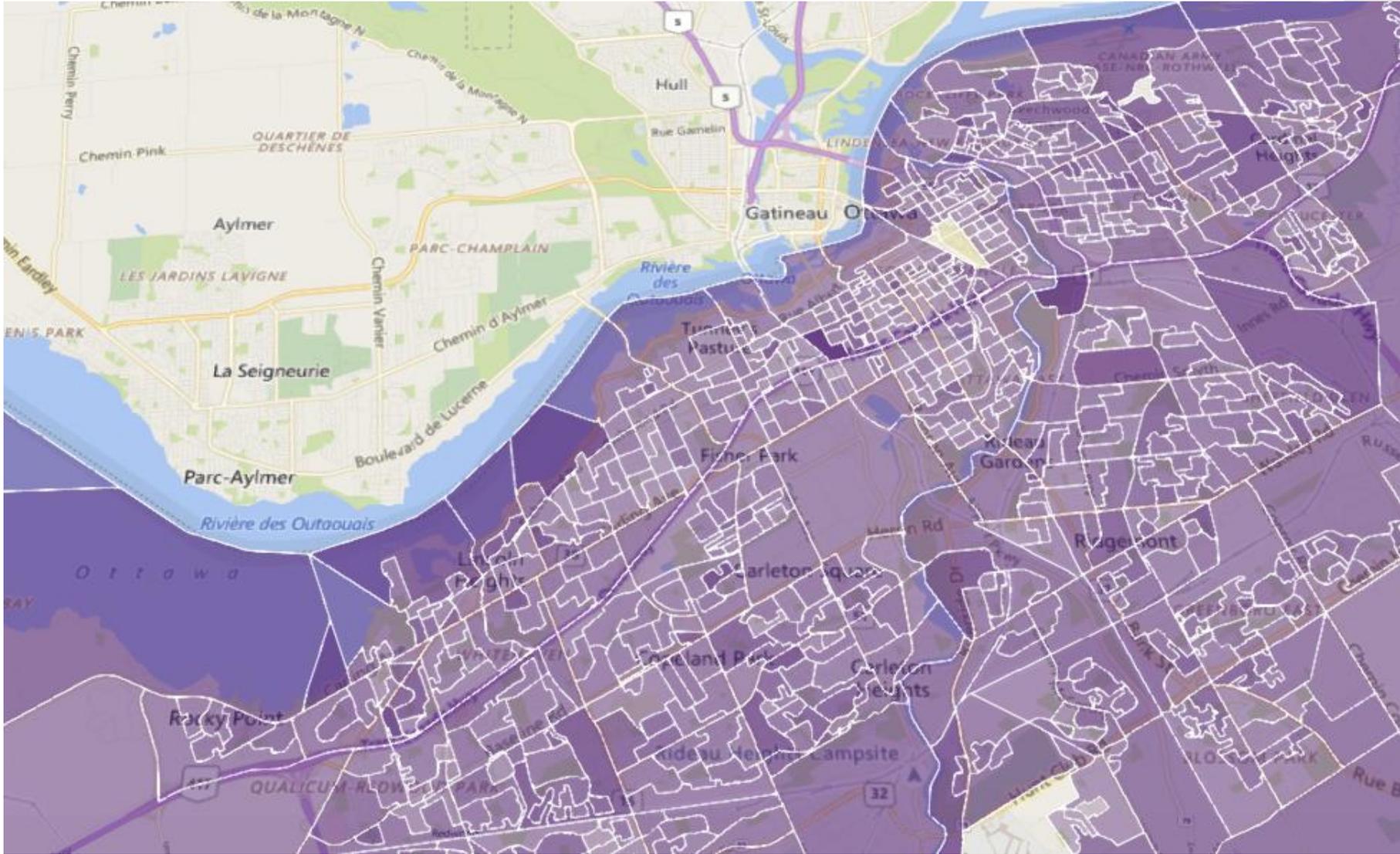
- ❖ Neighbourhood
- ❖ Catchment
- ❖ Census Geography (CT, CMA, DA, etc.)
- ❖ Other

**CAN THIS BE DONE??**

# What About Using Non- Standard Geographies?



Part 2 -  
Creating a Type 2  
Diabetes Risk  
Map for Ottawa



# Champlain SCREEN Program: Background

- As a regional Diabetes screening program, the goal is to:
  - identify high-risk communities (e.g. seniors, certain ethnicities, etc.)
  - leverage existing groups in those communities to host screening events
  - pre-screen participants using a questionnaire
  - For higher risk individuals, test A1c levels (blood test)
- So that higher risk individuals can:
  - Know their risk of having or developing diabetes
  - Be referred to the Diabetes Education Program
  - Receive information about how to find a family doctor if they don't have one
  - Be sent to their doctor with a letter, for formal medical diagnosis, if they have one
  - In urgent cases, be referred directly to a specialist (endocrinologist)





# Our Approach

- Looking at the CANRISK Assessment, we can see what variables are most predictive of Diabetes Risk:
  - **Age**
  - Body Mass Index
  - Episodic Hyperglycemia
  - **Ethnicity**
  - **Sex**
  - Waist Circumference
  - **Educational Attainment**
  - High Blood Pressure
  - Family History of Diabetes

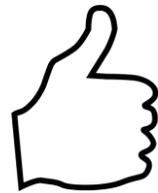
Available in the 2016  
Census Profile



# Our Approach

## What If...

we were to create a map of Ottawa and assign different areas a weighted 'CANRISK' score based on the 4 demographic variables available from the 2016 Census?

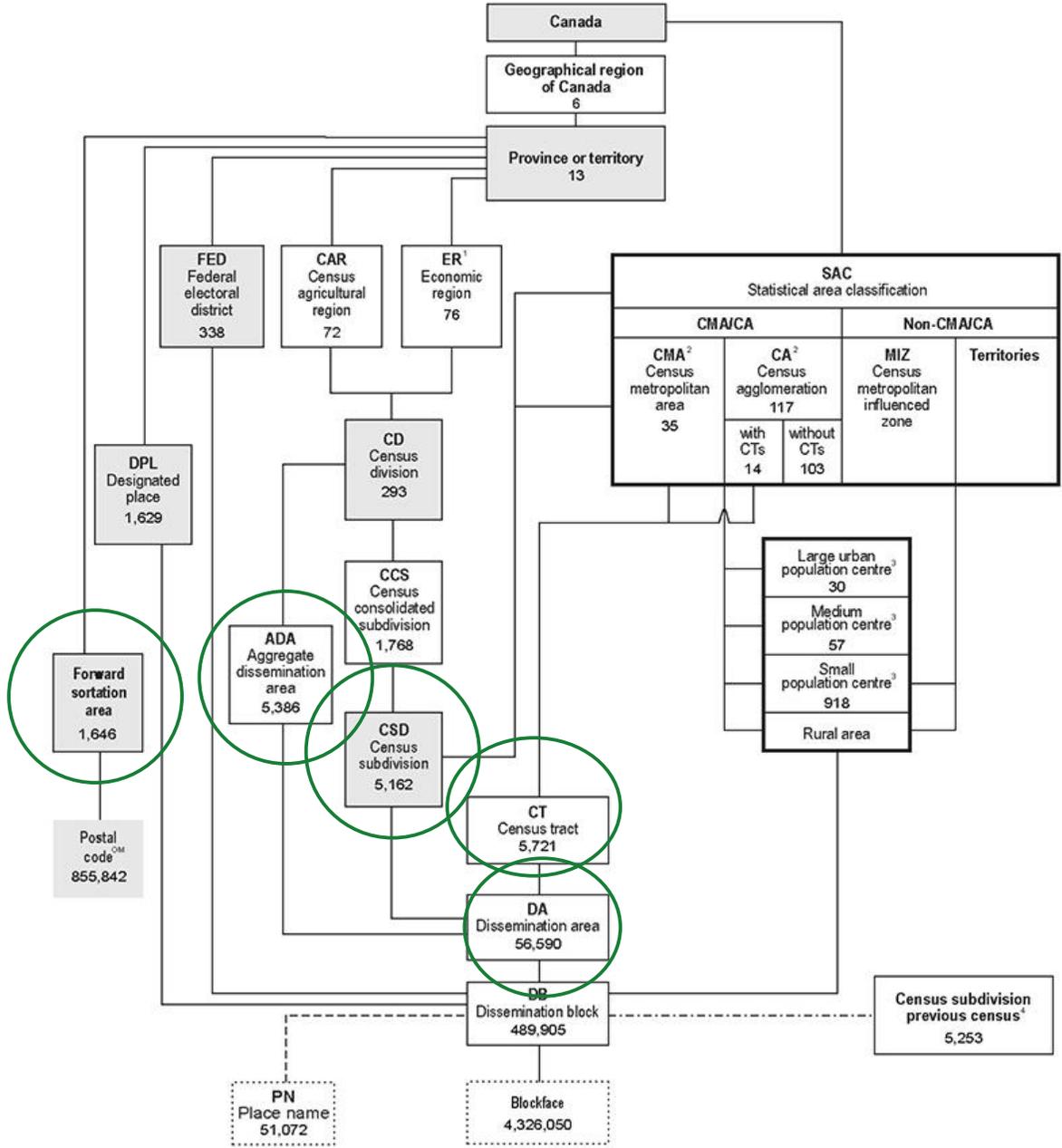


**Let's try it!**

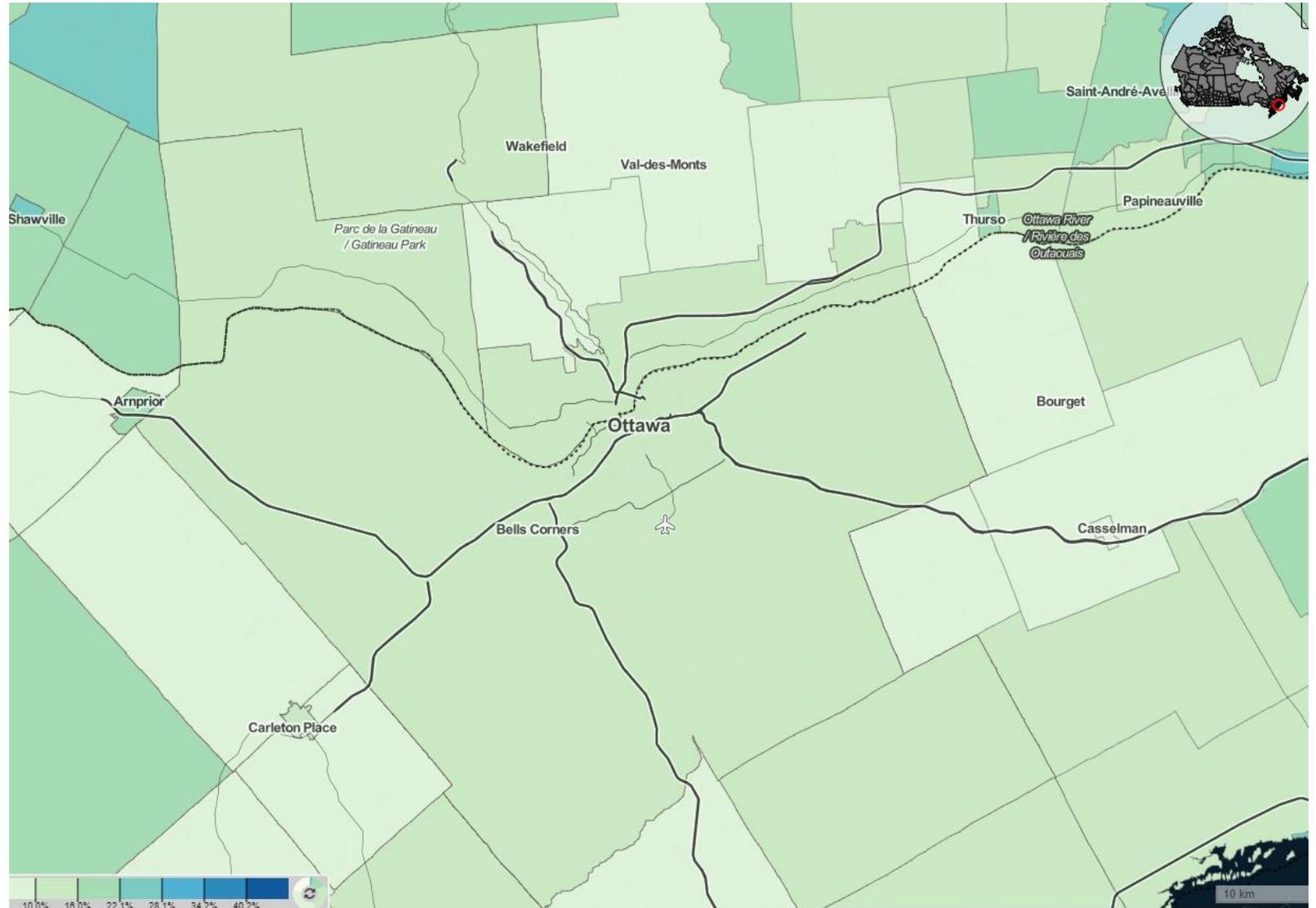
# Choosing a Geographic Scale

Census metropolitan areas, tracted census agglomerations and census tracts	<a href="#">CSV</a> 164,608 KB	<a href="#">TAB</a> 164,578 KB	<a href="#">IVT</a> 2,555 KB	<a href="#">XML</a> 224,465 KB
Census metropolitan areas, census agglomerations and census subdivisions	<a href="#">CSV</a> 32,095 KB	<a href="#">TAB</a> 32,088 KB	<a href="#">IVT</a> 21,891 KB	<a href="#">XML</a> 43,165 KB
Canada, provinces, territories and federal electoral districts (2013 Representation Order)	<a href="#">CSV</a> 11,464 KB	<a href="#">TAB</a> 11,461 KB	<a href="#">IVT</a> 10,859 KB	<a href="#">XML</a> 15,994 KB
Designated places	<a href="#">CSV</a> 41,071 KB	<a href="#">TAB</a> 41,060 KB	<a href="#">IVT</a> 18,385 KB	<a href="#">XML</a> 54,945 KB
Population centres	<a href="#">CSV</a> 27,975 KB	<a href="#">TAB</a> 27,969 KB	<a href="#">IVT</a> 19,181 KB	<a href="#">XML</a> 38,798 KB
Economic regions	<a href="#">CSV</a> 3,034 KB	<a href="#">TAB</a> 3,033 KB	<a href="#">IVT</a> 3,243 KB	<a href="#">XML</a> 4,272 KB
Forward sortation areas <sup>©</sup>	<a href="#">CSV</a> 47,617 KB	<a href="#">TAB</a> 47,608 KB	<a href="#">IVT</a> 37,149 KB	<a href="#">XML</a> 67,691 KB
Aggregate dissemination areas	<a href="#">CSV</a> 160,244 KB	<a href="#">TAB</a> 160,210 KB	<a href="#">IVT</a> 107,220 KB	<a href="#">XML</a> 218,137 KB
Canada, provinces, territories, census divisions, census subdivisions and dissemination areas	<a href="#">CSV</a> 1,644,483 KB	<a href="#">TAB</a> 1,644,100 KB	<a href="#">IVT</a> 931,565 KB	<a href="#">XML</a> 2,213,907 KB

# Choosing a Geographic Scale



# Choosing a Geographic Scale



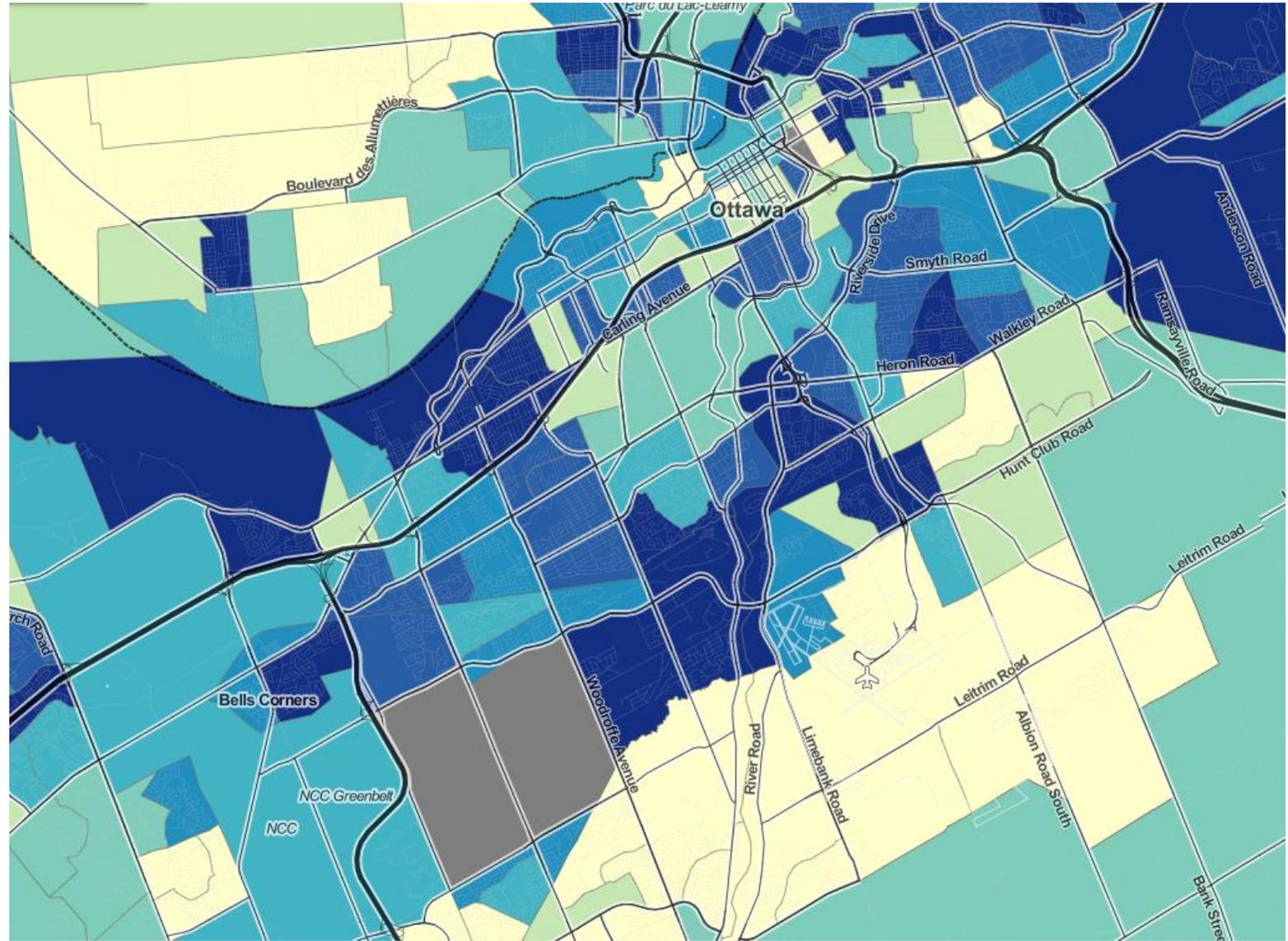
**Census Subdivisions (CSD)** Municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes

# Choosing a Geographic Scale



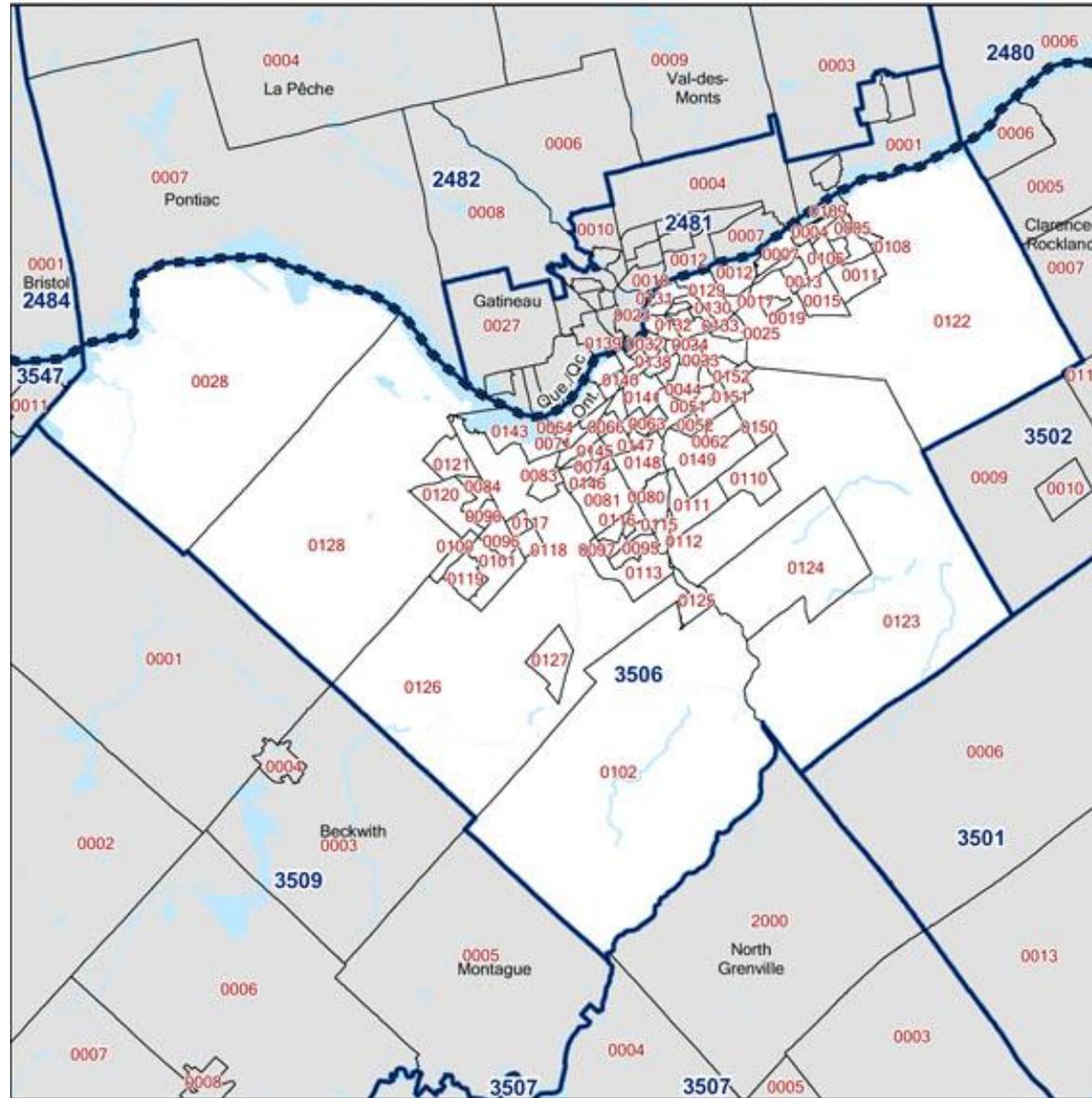
Forward Sortation Areas (FSA) First 3 characters of a postal code

# Choosing a Geographic Scale



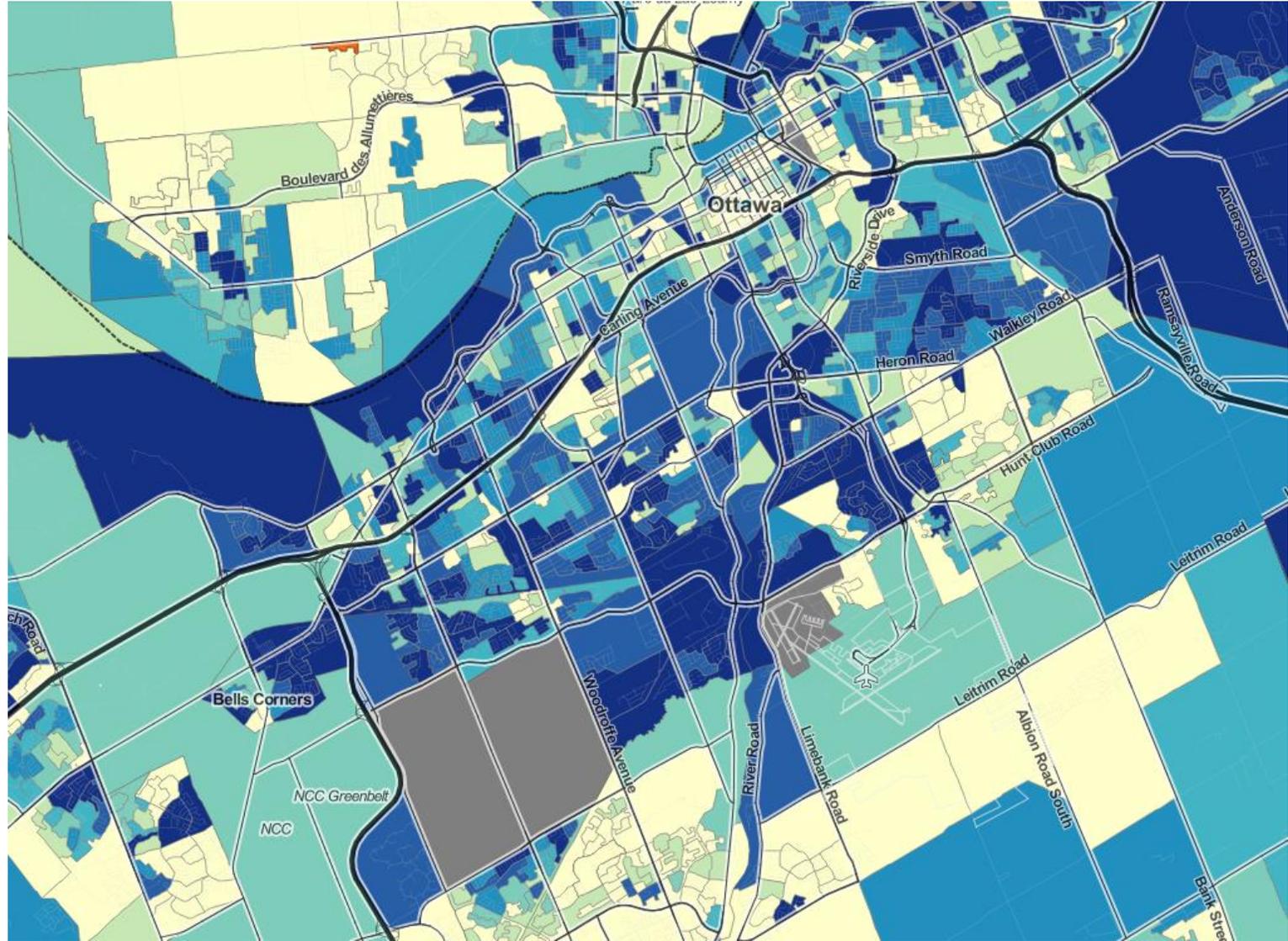
**Census Tracts (CT)** Small, relatively stable geographic areas that usually have a population of less than 10,000 persons (2,500 to 10,000)

# Choosing a Geographic Scale



**Aggregate Dissemination Areas (ADA)** Census Tracts grouped, where necessary, to meet population of 5,000 to 15,000

# Choosing a Geographic Scale



**Dissemination Areas (DA)** Small, relatively stable geographic unit composed of one or more adjacent dissemination blocks with an average population of 400 to 700 persons

# Choosing a Geographic Scale

Census metropolitan areas, tracted census agglomerations and census tracts	<a href="#">CSV</a> 164,608 KB	<a href="#">TAB</a> 164,578 KB	<a href="#">IVT</a> 2,555 KB	<a href="#">XML</a> 224,465 KB
Census metropolitan areas, census agglomerations and census subdivisions	<a href="#">CSV</a> 32,095 KB	<a href="#">TAB</a> 32,088 KB	<a href="#">IVT</a> 21,891 KB	<a href="#">XML</a> 43,165 KB
Canada, provinces, territories and federal electoral districts (2013 Representation Order)	<a href="#">CSV</a> 11,464 KB	<a href="#">TAB</a> 11,461 KB	<a href="#">IVT</a> 10,859 KB	<a href="#">XML</a> 15,994 KB
Designated places	<a href="#">CSV</a> 41,071 KB	<a href="#">TAB</a> 41,060 KB	<a href="#">IVT</a> 18,385 KB	<a href="#">XML</a> 54,945 KB
Population centres	<a href="#">CSV</a> 27,975 KB	<a href="#">TAB</a> 27,969 KB	<a href="#">IVT</a> 19,181 KB	<a href="#">XML</a> 38,798 KB
Economic regions	<a href="#">CSV</a> 3,034 KB	<a href="#">TAB</a> 3,033 KB	<a href="#">IVT</a> 3,243 KB	<a href="#">XML</a> 4,272 KB
Forward sortation areas <sup>©</sup>	<a href="#">CSV</a> 47,617 KB	<a href="#">TAB</a> 47,608 KB	<a href="#">IVT</a> 37,149 KB	<a href="#">XML</a> 67,691 KB
Aggregate dissemination areas	<a href="#">CSV</a> 160,244 KB	<a href="#">TAB</a> 160,210 KB	<a href="#">IVT</a> 107,220 KB	<a href="#">XML</a> 218,137 KB
Canada, provinces, territories, census divisions, census subdivisions and dissemination areas	<a href="#">CSV</a> 1,644,483 KB	<a href="#">TAB</a> 1,644,100 KB	<a href="#">IVT</a> 931,565 KB	<a href="#">XML</a> 2,213,907 KB

# Obtaining Census Data

[Need to have Beyond 20/20  
browser installed for this step]

CDP About Resources News Find Data My Account

## Census Profile, 2016

Home / Content / Census Profile, 2016

**Data provider:**  
[Statistics Canada](#)

**Product group:**  
[Census, 2016 - Profile](#)

**Description:**  
The profile from the 2016 Census of Population is available from the [Statistics Canada website](#) for standard levels of geography. The Community Data Program provides the profile at custom geographies for the following communities:

*Batch 1*

- Durham
- Erie-St.Clair
- Hamilton

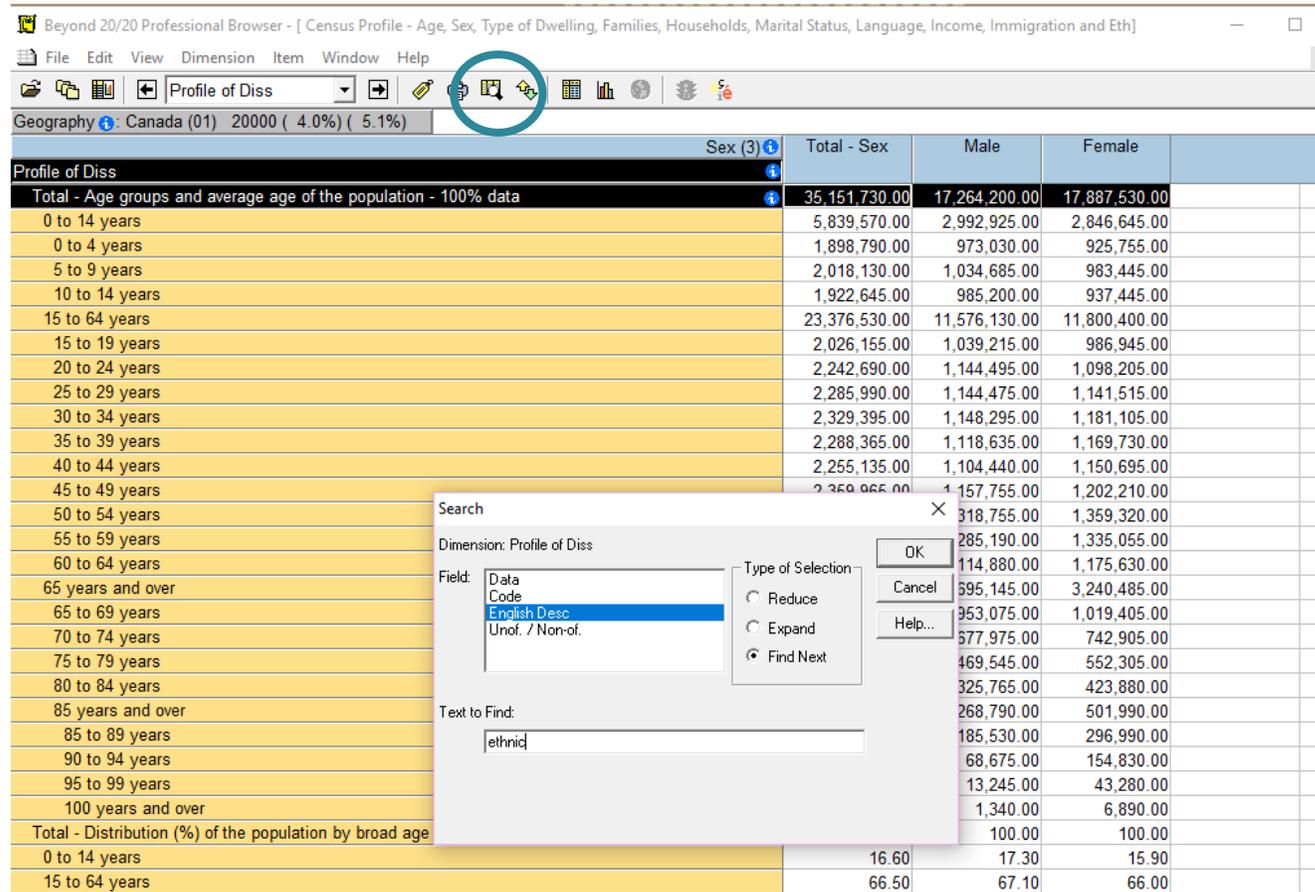
## Steps

1. Go to [CommunityData.ca](#) and click the 'Find Data' button
2. Select 'Census, 2016 – Profile' and click the 'Apply Filters' button
3. Click on 'Census Profile, 2016' and follow the link in the description
4. Download the .IVT table containing Dissemination Areas (DA)

*Since the file is very large (932MB), feel free simply to follow along.*

# Obtaining Census Data

[Need to have Beyond 20/20 browser installed for this step]



Sex (3)	Total - Sex	Male	Female
<b>Profile of Diss</b>			
<b>Total - Age groups and average age of the population - 100% data</b>			
0 to 14 years	35,151,730.00	17,264,200.00	17,887,530.00
0 to 4 years	5,839,570.00	2,992,925.00	2,846,645.00
5 to 9 years	1,898,790.00	973,030.00	925,755.00
10 to 14 years	2,018,130.00	1,034,685.00	983,445.00
15 to 19 years	1,922,645.00	985,200.00	937,445.00
20 to 24 years	23,376,530.00	11,576,130.00	11,800,400.00
25 to 29 years	2,026,155.00	1,039,215.00	986,945.00
30 to 34 years	2,242,690.00	1,144,495.00	1,098,205.00
35 to 39 years	2,285,990.00	1,144,475.00	1,141,515.00
40 to 44 years	2,329,395.00	1,148,295.00	1,181,105.00
45 to 49 years	2,288,365.00	1,118,635.00	1,169,730.00
50 to 54 years	2,255,135.00	1,104,440.00	1,150,695.00
55 to 59 years	2,359,965.00	1,157,755.00	1,202,210.00
60 to 64 years	3,318,755.00	1,359,320.00	1,959,435.00
65 years and over	2,285,190.00	1,335,055.00	950,135.00
65 to 69 years	114,880.00	1,175,630.00	95,250.00
70 to 74 years	395,145.00	3,240,485.00	2,845,340.00
75 to 79 years	953,075.00	1,019,405.00	933,670.00
80 to 84 years	577,975.00	742,905.00	635,000.00
85 years and over	469,545.00	552,305.00	427,240.00
85 to 89 years	325,765.00	423,880.00	301,990.00
90 to 94 years	268,790.00	501,990.00	185,530.00
95 to 99 years	185,530.00	296,990.00	68,675.00
100 years and over	68,675.00	154,830.00	13,245.00
Total - Distribution (%) of the population by broad age	1,340.00	6,890.00	100.00
0 to 14 years	16.60	17.30	15.90
15 to 64 years	66.50	67.10	66.00

## Steps

5. After opening the IVT table, let's find the rows of data that will be of interest for our 4 diabetes predictors: Age, Sex, Ethnicity and Educational Attainment. Find the table rows corresponding to age.
6. Using the Search function , search fields for English Description containing 'ethnic'. Select 'Find Next' and 'OK' to search.
7. Repeat this step, searching for 'education'.

# Obtaining Census Data

[Need to have Beyond 20/20 browser installed for this step]

The screenshot shows the Beyond 20/20 Professional Browser interface. The main window displays a census profile for Canada (01) with a population of 20,000. The profile is titled 'Profile of Diss' and is broken down by sex (Male and Female). A search dialog box is open in the foreground, allowing the user to search for specific fields within the 'Profile of Diss' dimension. The search dialog shows the following options:

- Field: Data (selected), Code, English Desc, Unof. / Non-Of.
- Type of Selection:  Reduce,  Expand,  Find Next
- Data Range: Minimum: [input], Maximum: [input]

The background table shows the following data:

Profile of Diss	Sex (3)	Total - Sex	Male	Female
Total - Age groups and average age of the population - 100% data		35,151,730.00	17,264,200.00	17,887,530.00
0 to 14 years		5,839,570.00	2,992,925.00	2,846,645.00
0 to 4 years		1,898,790.00	973,030.00	925,755.00
5 to 9 years		2,018,130.00	1,034,685.00	983,445.00
10 to 14 years		1,922,645.00	985,200.00	937,445.00
15 to 64 years		23,376,530.00	11,576,130.00	11,800,400.00
15 to 19 years		2,026,155.00	1,039,215.00	986,945.00
20 to 24 years		2,242,690.00	1,144,495.00	1,098,205.00
25 to 29 years		2,285,990.00	1,144,475.00	1,141,515.00
30 to 34 years		2,329,395.00	1,148,295.00	1,181,105.00
35 to 39 years		2,288,365.00	1,118,635.00	1,169,730.00
40 to 44 years		2,255,135.00	1,104,440.00	1,150,695.00
45 to 49 years		2,359,965.00	1,157,755.00	1,202,210.00
50 to 54 years		318,755.00	1,359,320.00	285,190.00
55 to 59 years		285,190.00	1,335,055.00	114,880.00
60 to 64 years		114,880.00	1,175,630.00	395,145.00
65 years and over		395,145.00	3,240,485.00	953,075.00
65 to 69 years		953,075.00	1,019,405.00	577,975.00
70 to 74 years		577,975.00	742,905.00	469,545.00
75 to 79 years		469,545.00	552,305.00	325,765.00
80 to 84 years		325,765.00	423,880.00	268,790.00
85 years and over		268,790.00	501,990.00	185,530.00
85 to 89 years		185,530.00	296,990.00	68,675.00
90 to 94 years		68,675.00	154,830.00	13,245.00
95 to 99 years		13,245.00	43,280.00	1,340.00
100 years and over		1,340.00	6,890.00	100.00
Total - Distribution (%) of the population by broad age		100.00	100.00	
0 to 14 years		16.60	17.30	15.90
15 to 64 years		66.50	67.10	66.00
65 years and over		16.90	15.60	18.10
85 years and over		2.20	1.60	2.80
Average age of the population		41.00	40.10	41.90
Median age of the population		41.20	40.20	42.20
Total - Occupied private dwellings by structural type of dwelling - 100% data		14,072,075.00	...	...
Single-detached house		7,541,495.00	...	...
Apartment in a building that has five or more storeys		1,391,040.00	...	...
Other attached dwelling		4,949,790.00	...	...
Semi-detached house		698,795.00	...	...
Row house		891,305.00	...	...
Apartment or flat in a duplex		784,205.00	...	...

## Steps

8. Delete ("Hide") all fields other than those of interest: Age groups, Aboriginal Ancestry, Visible Minority, Highest Education (+25y), and Sex

# Obtaining Census Data

[Need to have Beyond 20/20 browser installed for this step]

The screenshot shows the Beyond 20/20 Professional Browser interface. The main window displays a table titled "Profile of Diss: Total - Age groups and average age of the population - 100% data". The table has columns for "Total - Sex", "Male", and "Female". A search dialog box is open over the table, with "Dimension: Geography" selected. The "Field" list includes "Data Code", "English Desc", "Unof. / Non-of.", "UID/IDU", and "GNR2A (%)". The "Text to Find" field contains "ottawa". The "Type of Selection" options are "Reduce", "Expand", and "Find Next", with "Find Next" selected.

Geography	Total - Sex	Male	Female
35020165 (35020165) 00000 ( 2.0%) ( 1.8%)	550.00	275.00	280.00
35020166 (35020166) 00000 ( 4.1%) ( 1.7%)	525.00	285.00	240.00
35020207 (35020207) 00000 ( 1.7%) ( 4.3%)	1,620.00	810.00	815.00
35020208 (35020208) 00000 ( 1.4%) ( 3.4%)	900.00	465.00	435.00
Ottawa (3506) 00000 ( 3.5%) ( 4.0%)	934,240.00	453,875.00	480,365.00
Ottawa (3506008) CV 00000 ( 3.5%) ( 4.0%)	934,245.00	453,875.00	480,370.00
35060001 (35060001) 00000 ( 1.9%) ( 0.7%)	495.00	255.00	240.00
35060002 (35060002) 00000 ( 1.0%) ( 0.0%)	620.00	310.00	310.00
35060003 (35060003) 00000 ( 4.1%) ( 0.0%)	900.00	435.00	465.00
35060005 (35060005) 00000 ( 3.0%) ( 0.0%)	890.00	440.00	450.00
35060006 (35060006) 00000 ( 2.0%) ( 2.8%)	1,195.00	615.00	585.00
35060007 (35060007) 00000 ( 3.0%) ( 0.5%)	875.00	445.00	430.00
35060010 (35060010) 00000 ( 2.1%) ( 0.5%)	310.00	155.00	155.00
35060011 (35060011) 00000 ( 0.5%) ( 1.8%)	0.00	0.00	280.00
35060012 (35060012) 00000 ( 0.7%) ( 0.0%)	0.00	0.00	290.00
35060014 (35060014) 00001 ( 5.2%) ( 7.4%)	0.00	0.00	380.00
35060015 (35060015) 00000 ( 2.3%) ( 3.4%)	5.00	255.00	5.00
35060016 (35060016) 00000 ( 1.4%) ( 4.7%)	5.00	195.00	0.00
35060017 (35060017) 00000 ( 2.9%) ( 1.9%)	0.00	260.00	0.00
35060018 (35060018) 00000 ( 2.2%) ( 4.8%)	0.00	225.00	0.00
35060019 (35060019) 00001 ( 3.9%) ( 4.7%)	5.00	270.00	0.00
35060020 (35060020) 00000 ( 2.0%) ( 0.0%)	0.00	235.00	0.00
35060021 (35060021) 00100 ( 7.2%) ( 1.2%)	5.00	330.00	5.00
35060022 (35060022) 00000 ( 0.3%) ( 0.0%)	5.00	300.00	5.00
35060023 (35060023) 00000 ( 0.6%) ( 1.3%)	5.00	230.00	0.00
35060024 (35060024) 00000 ( 1.2%) ( 0.9%)	0.00	140.00	0.00
35060025 (35060025) 00000 ( 0.9%) ( 4.0%)	5.00	425.00	5.00
35060026 (35060026) 00000 ( 0.4%) ( 0.0%)	290.00	145.00	145.00

## Steps

- Now let's make visible only the Ottawa dissemination area (DA) data. Click and drag the Geography tab on the top left, down to where the Census Profile fields are currently showing.
- Search the Geography fields for 'Ottawa' (English desc). Delete all records that are not Ottawa DAs (only keep 3506001 – 35061901)

# Obtaining Census Data

[Need to have Beyond 20/20 browser installed for this step]

Beyond 20/20 Professional Browser - [ Census Profile - Age, Sex, Type of Dwelling, Families, Households, Marital Status, Language, Income, Immigration and Eth]

File Edit View Dimension Item Window Help

Geography

Geography	Profile of Diss	Total - Visible minority fo...	Total visible minority p...	South Asian
	Sex (3)			
35060001 (35060001) 00000 ( 1.9%) ( 0.7%)	Total - Sex	420.00	10.00	0.00
	Male	205.00	0.00	0.00
	Female	215.00	10.00	0.00
35060002 (35060002) 00000 ( 1.0%) ( 0.0%)	Total - Sex	685.00	45.00	10.00
	Male	365.00	15.00	10.00
	Female	320.00	30.00	0.00
35060003 (35060003) 00000 ( 4.1%) ( 0.0%)	Total - Sex	885.00	110.00	0.00
	Male	500.00	55.00	0.00
	Female	390.00	55.00	0.00
35060005 (35060005) 00000 ( 3.0%) ( 0.0%)	Total - Sex	850.00	55.00	30.00
	Male	430.00	25.00	15.00
	Female	420.00	25.00	10.00
35060006 (35060006) 00000 ( 2.0%) ( 2.8%)	Total - Sex	1,195.00	55.00	15.00
	Male	595.00	25.00	10.00
	Female	600.00	25.00	0.00
35060007 (35060007) 00000 ( 3.0%) ( 0.5%)	Total - Sex	845.00	40.00	0.00
	Male	390.00	10.00	0.00
	Female	460.00	25.00	0.00
35060010 (35060010) 00000 ( 2.1%) ( 0.5%)	Total - Sex	310.00	25.00	0.00
	Male	160.00	15.00	0.00
	Female	150.00	15.00	0.00
35060011 (35060011) 00000 ( 0.5%) ( 1.8%)	Total - Sex	585.00	75.00	0.00
	Male	300.00	45.00	0.00

## Steps

11. Drag 'Profile' to the right so that Profile fields appear as columns
12. Drag 'Sex' tab between the DA column and the 1<sup>st</sup> Profile column
13. 'Save As' an Excel Spreadsheet (.xls) and open

# Calculating a CANRISK Score for Ottawa DAs

Part 2 - Census Data (Slide 34) [Compatibility Mode] - Excel

Admin Master

File Home Insert Page Layout Formulas Data Review View Developer Help Power Pivot Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

B4: 
$$=(6*(D5)+7*(SUM(P4:Q4))+13*(SUM(R4:S4))+15*(T4)+3*(AD4-AY4)+5*(BD4)+10*(SUM(BC4,BE4,BJ4,BK4))+11*SUM(BH4,BB4)+3*(SUM(BF4,BG4,BI4,BL4,BM4))+5*(BP4)+1*(BQ4))/D4$$

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1																		
2			Profile of C	Total - Age	0 to 14 y	0 to 4 y	5 to 9 y	10 to 14	15 to 64	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59
3	Geography	CANRISK	Sex (3)															
4	35060001	10.0101	Total - Sex	495	75	20	25	35	325	35	25	10	25	20	40	30	25	50
5			Male	255	40	10	20	15	165	20	10	5	10	10	20	15	20	30
6			Female	240	40	10	10	20	165	15	10	0	15	10	20	15	10	20
7	35060002	(35060002)	Total - Sex	620	125	45	40	45	400	30	35	15	25	50	45	35	60	60
8			Male	310	55	20	15	20	215	15	25	10	10	25	20	20	30	40
9			Female	310	75	25	20	25	190	15	10	10	10	25	20	20	30	20
10	35060003	(35060003)	Total - Sex	900	130	30	45	60	620	60	60	25	25	35	55	80	105	100
11			Male	435	65	10	20	30	305	30	25	10	10	15	25	40	50	50
12			Female	465	65	15	25	30	315	30	35	10	10	20	30	40	55	50
13	35060005	(35060005)	Total - Sex	890	140	30	45	65	590	75	55	20	30	35	60	70	90	80
14			Male	440	60	10	25	25	300	40	30	5	15	15	25	40	45	40
15			Female	450	75	15	20	40	295	35	20	15	15	20	30	30	45	40
16	35060006	(35060006)	Total - Sex	1195	175	60	55	65	795	65	55	55	60	70	75	95	110	110
17			Male	615	95	25	35	35	395	30	35	25	25	35	45	45	60	50
18			Female	585	80	30	20	30	395	30	20	30	35	40	35	45	55	60
19	35060007	(35060007)	Total - Sex	875	130	45	35	55	635	75	75	40	35	30	60	65	110	90
20			Male	445	60	15	15	25	325	35	45	20	15	10	35	25	55	50
21			Female	430	75	25	15	30	300	40	30	20	15	15	25	35	55	40
22	35060010	(35060010)	Total - Sex	310	55	20	20	15	225	25	20	10	10	20	15	30	40	20
23			Male	155	30	10	10	5	115	15	10	5	5	10	5	10	20	10
24			Female	155	25	10	5	15	115	15	10	10	5	10	10	15	10	10

## Steps

14. Create a new column to the right of the 1<sup>st</sup> one containing DA number: This will be for our CANRISK Score. Using the CANRISK Tool as a guide, assign weights to age, sex, ethnicity and education level as follows:
15. 
$$B_4 = (6*(D_5)+7*(SUM(P_4:Q_4))+13*(SUM(R_4:S_4))+15*(T_4)+3*(AD_4-AY_4)+5*(BD_4)+10*(SUM(BC_4,BE_4,BJ_4,BK_4))+11*SUM(BH_4,BB_4)+3*(SUM(BF_4,BG_4,BI_4,BL_4,BM_4))+5*(BP_4)+1*(BQ_4))/D_4$$

# Calculating a CANRISK Score for Ottawa DAs

Formula in B4: 
$$=(6*(D5)+7*(SUM(P4:Q4))+13*(SUM(R4:S4))+15*(T4)+3*(AD4-AY4)+5*(BD4)+10*(SUM(BC4,BE4,BJ4,BK4))+11*SUM(BH4,BB4)+3*(SUM(BF4,BG4,BI4,BL4,BM4))+5*(BP4)+1*(BQ4))/D4$$

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1																		
2			Profile of C	Total - Age	0 to 14 y	0 to 4 y	5 to 9 y	10 to 14	15 to 64	15 to 18	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59
3	Geography	CANRISK	Sex (3)															
4	35060001	10.0101	Total - Sex	495	75	20	25	35	325	35	25	10	25	20	40	30	25	
5			Male	255	40	10	20	15	165	20	10	5	10	10	20	15	20	
6			Female	240	40	10	10	20	165	15	10	0	15	10	20	15	10	
7	35060002 (35060002)		Total - Sex	620	125	45	40	45	400	30	35	15	25	50	45	35	60	
8			Male	310	55	20	15	20	215	15	25	10	10	25	20	20	30	
9			Female	310	75	25	20	25	190	15	10	10	10	25	20	20	30	
10	35060003 (35060003)		Total - Sex	900	130	30	45	60	620	60	60	25	25	35	55	80	105	
11			Male	435	65	10	20	30	305	30	25	10	10	15	25	40	50	
12			Female	465	65	15	25	30	315	30	35	10	10	20	30	40	55	
13	35060005 (35060005)		Total - Sex	890	140	30	45	65	590	75	55	20	30	35	60	70	90	
14			Male	440	60	10	25	25	300	40	30	5	15	15	25	40	45	
15			Female	450	75	15	20	40	295	35	20	15	15	20	30	30	45	
16	35060006 (35060006)		Total - Sex	1195	175	60	55	65	795	65	55	55	60	70	75	95	110	
17			Male	615	95	25	35	35	395	30	35	25	25	35	45	45	60	
18			Female	585	80	30	20	30	395	30	20	30	35	40	35	45	55	
19	35060007 (35060007)		Total - Sex	875	130	45	35	55	635	75	75	40	35	30	60	65	110	
20			Male	445	60	15	15	25	325	35	45	20	15	10	35	25	55	
21			Female	430	75	25	15	30	300	40	30	20	15	15	25	35	55	
22	35060010 (35060010)		Total - Sex	310	55	20	20	15	225	25	20	10	10	20	15	30	40	
23			Male	155	30	10	10	5	115	15	10	5	5	10	5	10	20	
24			Female	155	25	10	5	15	115	15	10	10	5	10	10	15	10	
25	35060011 (35060011)		Total - Sex	595	85	15	30	40	465	60	55	25	20	30	25	45	75	
26			Male	310	50	10	15	25	235	30	25	15	5	15	15	15	40	
27			Female	280	35	10	15	10	225	30	30	10	10	15	10	30	35	
28	35060012 (35060012)		Total - Sex	585	105	35	30	40	430	45	45	30	30	30	35	45	70	
29			Male	290	55	20	20	25	210	25	25	15	15	15	15	30	35	
30			Female	290	45	15	15	15	220	20	20	15	15	15	20	15	35	
31	35060014 (35060014)		Total - Sex	655	85	40	30	20	420	30	35	50	45	50	40	35	40	
32			Male	280	45	20	15	5	185	15	20	25	20	25	25	15	10	
33			Female	380	45	15	15	10	235	15	15	25	25	25	20	15	30	
34	35060015 (35060015)		Total - Sex	520	75	25	15	35	345	35	25	25	25	40	25	25	35	
35			Male	265	45	10	10	20	170	20	10	15	10	20	15	15	15	
36			Female	255	30	15	5	10	175	15	15	10	10	15	15	10	20	
37	35060016 (35060016)		Total - Sex	400	60	10	30	20	265	20	10	20	25	35	15	20	30	
38			Male	205	35	10	15	10	130	10	10	10	10	15	5	10	15	
39			Female	195	30	5	20	10	135	10	0	10	15	15	10	10	15	
40	35060017 (35060017)		Total - Sex	490	65	25	15	25	310	25	20	35	20	25	25	20	50	
41			Male	230	35	15	5	10	140	15	10	15	10	10	10	10	25	
42			Female	260	25	5	5	15	165	15	10	20	10	10	10	10	30	
43	35060018 (35060018)		Total - Sex	425	50	15	10	25	300	30	35	30	30	10	25	35	45	

## Steps

16. Paste this formula all the way down by selecting B4:B4119 and pressing Ctrl+D
17. Select Columns A & B, Copy, and Paste "as values" into a new tab
18. 'Format as table' and filter 'Geography' so that only DAs are showing. This is just a lazy way of not having to manually erase 8,000+ rows of junk data

# Formatting Our Data

Part 2 - Census Data (Slide 34) [Compatibility Mode] - Excel

File Home Insert Page Layout Formulas Data Review View Developer Help Power Pivot Design

Clipboard Font Alignment Number Styles

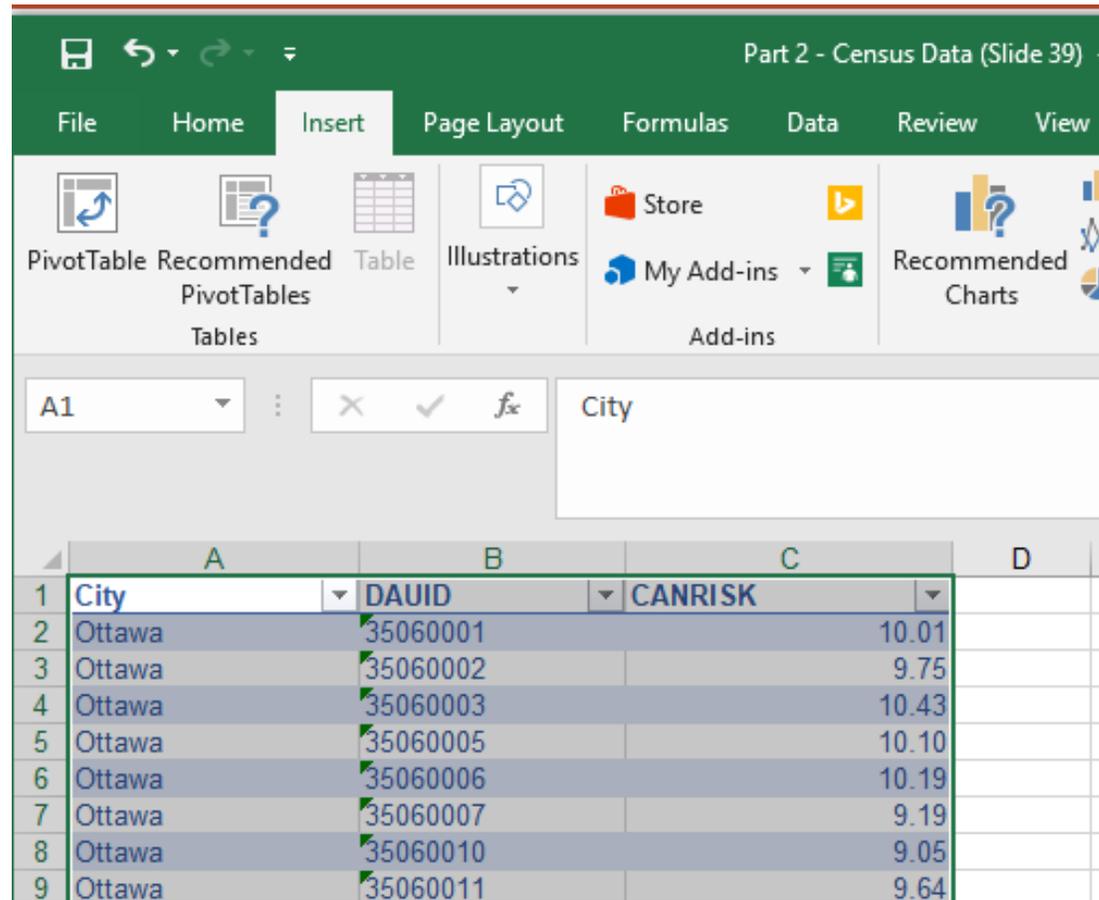
B2 : X ✓ fx =LEFT(A2,9)

	A	B	C	D
1	Geography	DAUID	CANRISK	
2	35060001 (35060001) 00000 ( 1.9%) ( 0.7%)	35060001	10.01010101	
5	35060002 (35060002) 00000 ( 1.0%) ( 0.0%)	35060002	9.75	
8	35060003 (35060003) 00000 ( 4.1%) ( 0.0%)	35060003	10.43333333	
11	35060005 (35060005) 00000 ( 3.0%) ( 0.0%)	35060005	10.1011236	
14	35060006 (35060006) 00000 ( 2.0%) ( 2.8%)	35060006	10.19246862	
17	35060007 (35060007) 00000 ( 3.0%) ( 0.5%)	35060007	9.194285714	
20	35060010 (35060010) 00000 ( 2.1%) ( 0.5%)	35060010	9.048387097	
23	35060011 (35060011) 00000 ( 0.5%) ( 1.8%)	35060011	9.638655462	
26	35060012 (35060012) 00000 ( 0.7%) ( 0.0%)	35060012	8.811965812	
29	35060014 (35060014) 00001 ( 5.2%) ( 7.4%)	35060014	10.39694656	
32	35060015 (35060015) 00000 ( 2.3%) ( 3.4%)	35060015	9.971153846	
35	35060016 (35060016) 00000 ( 1.4%) ( 4.7%)	35060016	10.325	
38	35060017 (35060017) 00000 ( 2.9%) ( 1.9%)	35060017	10.56122449	
41	35060018 (35060018) 00000 ( 2.2%) ( 4.8%)	35060018	9.917647059	
44	35060019 (35060019) 00001 ( 3.9%) ( 4.7%)	35060019	11.13513514	
47	35060020 (35060020) 00000 ( 2.0%) ( 0.0%)	35060020	10.17204301	

## Steps

19. Looking at the Geography data, you can see that it is a long string containing not only the DA identifier but also parentheses and percentages. Let's remove those by creating a new field called DAUID.
20. First cell value will = LEFT(A2,9). We are grabbing the 9 left-most digits of the long string and leaving out the rest.

# Formatting Our Data



Part 2 - Census Data (Slide 39)

File Home Insert Page Layout Formulas Data Review View

PivotTable Recommended PivotTables Tables Illustrations Store My Add-ins Recommended Charts

A1 : City

	A	B	C	D
1	City	DAUID	CANRISK	
2	Ottawa	35060001	10.01	
3	Ottawa	35060002	9.75	
4	Ottawa	35060003	10.43	
5	Ottawa	35060005	10.10	
6	Ottawa	35060006	10.19	
7	Ottawa	35060007	9.19	
8	Ottawa	35060010	9.05	
9	Ottawa	35060011	9.64	

## Steps

21. Time for some Excel magic. We want to select all cells in the table (Ctrl+A), select only filtered cells from this selection (Alt+;), copy (Ctrl+C) and then Paste 'As Values' (Ctrl+Alt+V) in a new tab.
22. Search (Ctrl+F) for "#VALUE!" and 'Replace All' instances with zero ("0")
23. Select all (Ctrl+A) and 'Format as Table'.
24. Let's fill in 'Ottawa' for Geography and rename the field to City.

# Creating Our CANRISK Map with Custom Regions

## What's Different About Using Custom Regions?

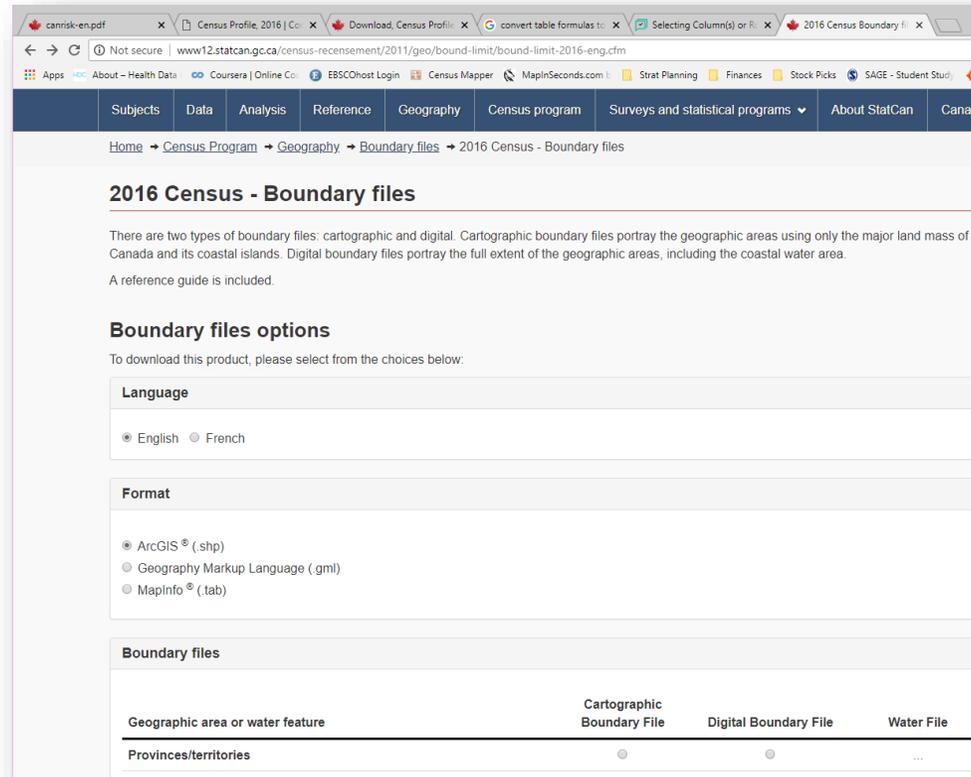
- With our simple map, Excel used Microsoft's Bing search engine to find the **GIS coordinates** and **boundaries** of our Provinces ('standard geography')
- When using Custom Regions (DA unique identifier) however, simply feeding it a Dissemination Area's **unique ID** won't be enough to tell the Bing search engine where the dissemination area is located and what it looks like.
- Fortunately, Excel allows us to upload **shapefiles**.

A **shapefile** is a file format for storing the geometric location (i.e. latitude, longitude) and attribute information (e.g. Unique ID, English description, population) of a collection of geographic features.

- Geographic features in a **shapefile** can be represented by points, lines, or polygons (areas).
- A shapefile is actually a small collection of files (3-7) that need to be saved together (.shp, .shx, .dbf, etc.).



# Creating Our CANRISK Map with Custom Regions



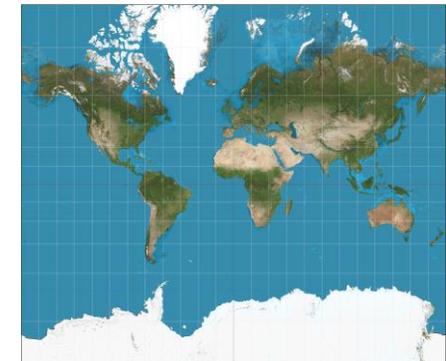
See <http://www12.statcan.gc.ca/census-recensement/2011/geo/bound-limit/bound-limit-2016-eng.cfm>

## IMPORTANT NOTE

Excel 2016 only accepts shapefiles projected formatted as a **WGS 1984 Web Mercator projection**, whereas StatsCan makes its Census Boundary Shapefiles available in **NAD 1983** using a **PCS Lambert Conformal Conic projection**. We have reformatted the Statistics Canada shapefiles for CTs, DAs, etc., as WGS1984 and are making them available to you today via Dropbox as part of this tutorial.



PCS Lambert Conformal Conic projection

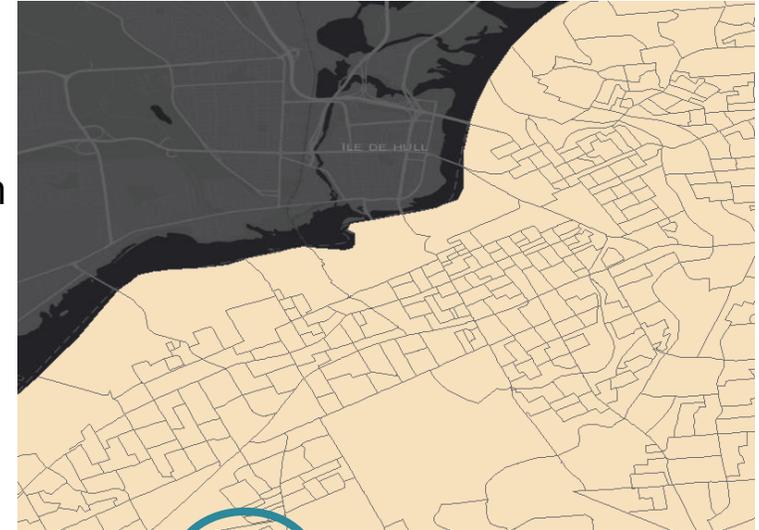


Mercator projection

# Creating Our CANRISK Map with Custom Regions

## Back to Shapefiles...

- We now want to link our data (CANRISK Scores) to its respective geographic features (Dissemination Areas) using each DA's Unique Identifier (UID) as the common thread.
- We call this "joining the data" based on the DAUID field. **Fields must be an exact match for the join to succeed.**
- This will give Excel everything it needs to map the data:
  - Shapefile gives GEOLOCATION
  - Data gives VALUES



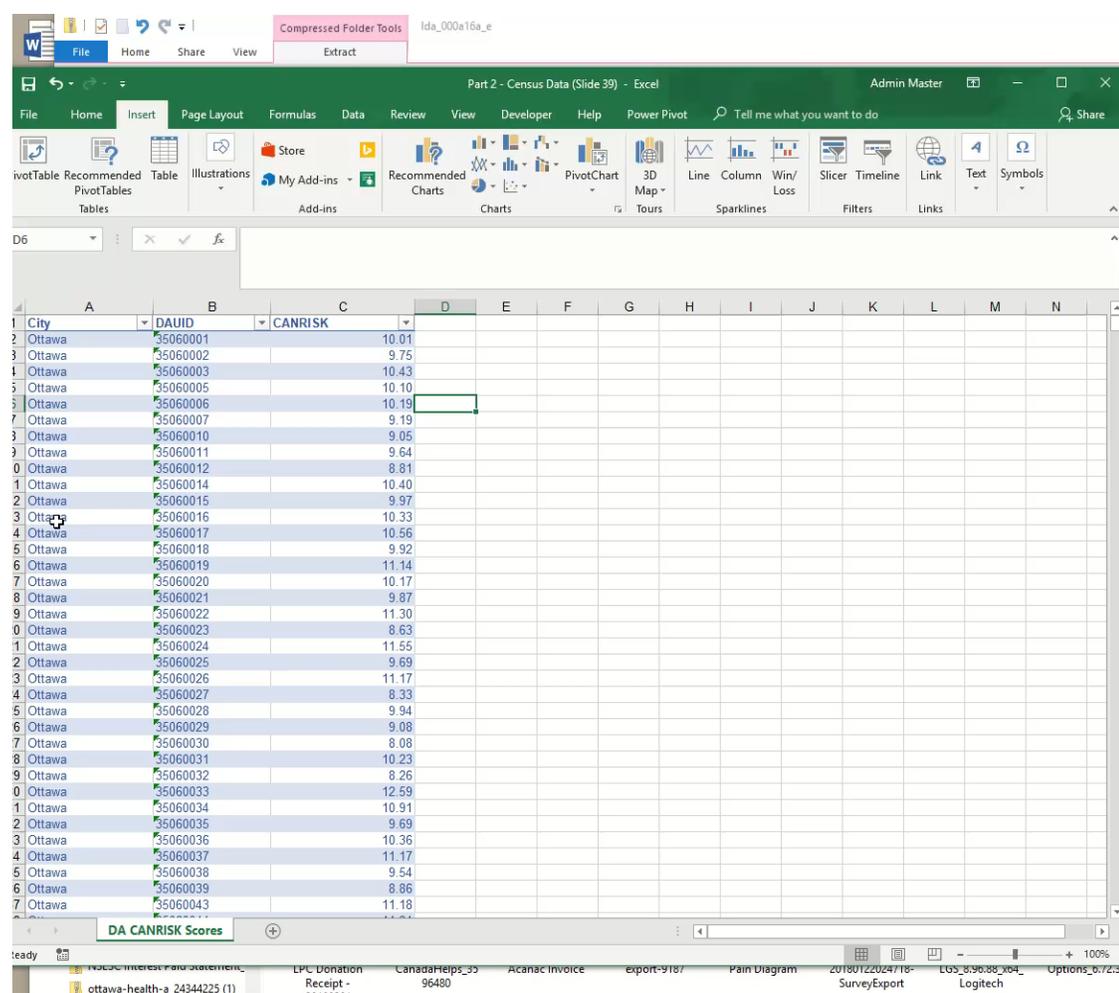
	A	B	C
1	City	DAUID	CANRISK
2	Ottawa	35060001	10.01
3	Ottawa	35060002	9.75
4	Ottawa	35060003	10.43
5	Ottawa	35060005	10.10
6	Ottawa	35060006	10.19
7	Ottawa	35060007	9.19
8	Ottawa	35060010	9.05
9	Ottawa	35060011	9.64

Excel Data (.xls)

OBJECTID*	Shape *	DAUID	PRU	PRNAME	CDUID	CDNAME	CDTYPE	CCSUID
1	Polygon	35060078	35	Ontario	3506	Ottawa	CDR	3506008
2	Polygon	35060079	35	Ontario	3506	Ottawa	CDR	3506008
3	Polygon	35060080	35	Ontario	3506	Ottawa	CDR	3506008
4	Polygon	35060081	35	Ontario	3506	Ottawa	CDR	3506008
5	Polygon	35060082	35	Ontario	3506	Ottawa	CDR	3506008
6	Polygon	35060083	35	Ontario	3506	Ottawa	CDR	3506008
7	Polygon	35060089	35	Ontario	3506	Ottawa	CDR	3506008
8	Polygon	35060090	35	Ontario	3506	Ottawa	CDR	3506008
9	Polygon	35060091	35	Ontario	3506	Ottawa	CDR	3506008
10	Polygon	35060092	35	Ontario	3506	Ottawa	CDR	3506008
11	Polygon	35060093	35	Ontario	3506	Ottawa	CDR	3506008
12	Polygon	35060094	35	Ontario	3506	Ottawa	CDR	3506008
13	Polygon	35060047	35	Ontario	3506	Ottawa	CDR	3506008
14	Polygon	35061791	35	Ontario	3506	Ottawa	CDR	3506008
15	Polygon	35061792	35	Ontario	3506	Ottawa	CDR	3506008
16	Polygon	35061793	35	Ontario	3506	Ottawa	CDR	3506008
17	Polygon	35061794	35	Ontario	3506	Ottawa	CDR	3506008
18	Polygon	35061795	35	Ontario	3506	Ottawa	CDR	3506008

Shapefile Data (.shp)

# Creating Our CANRISK Map with Custom Regions



City	DAUID	CANRISK
Ottawa	35060001	10.01
Ottawa	35060002	9.75
Ottawa	35060003	10.43
Ottawa	35060005	10.10
Ottawa	35060006	10.19
Ottawa	35060007	9.19
Ottawa	35060010	9.05
Ottawa	35060011	9.64
Ottawa	35060012	8.81
Ottawa	35060014	10.40
Ottawa	35060015	9.97
Ottawa	35060016	10.33
Ottawa	35060017	10.56
Ottawa	35060018	9.92
Ottawa	35060019	11.14
Ottawa	35060020	10.17
Ottawa	35060021	9.87
Ottawa	35060022	11.30
Ottawa	35060023	8.63
Ottawa	35060024	11.55
Ottawa	35060025	9.69
Ottawa	35060026	11.17
Ottawa	35060027	8.33
Ottawa	35060028	9.94
Ottawa	35060029	9.08
Ottawa	35060030	8.08
Ottawa	35060031	10.23
Ottawa	35060032	8.26
Ottawa	35060033	12.59
Ottawa	35060034	10.91
Ottawa	35060035	9.69
Ottawa	35060036	10.36
Ottawa	35060037	11.17
Ottawa	35060038	9.54
Ottawa	35060039	8.86
Ottawa	35060043	11.18

## Steps

25. Select all (Ctrl+A) and on the Insert Tab, click on the '3D Map' button
26. Click on the 'Custom Regions' icon on the Map section of the Ribbon
27. Click 'Import New Set' and find your Dissemination Area shapefile (.shp)
28. Select 'DAUID' as the join field
29. Set your Location identifier to 'DAUID' and choose 'Custom Region (.kml, .shp)' as the location type. Choose to visualize as Regions

# Creating Our CANRISK Map with Custom Regions

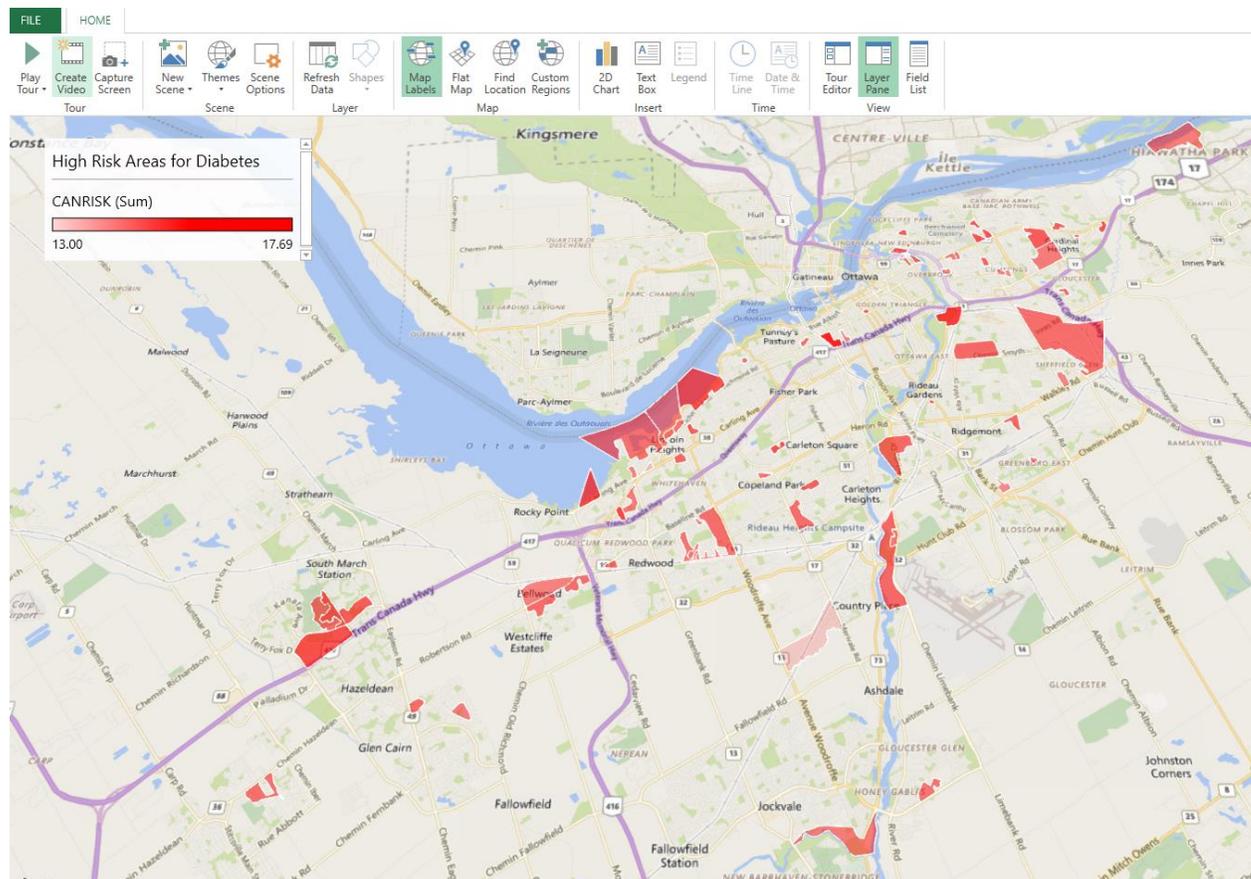
## Final Exercise

In pairs, create the most insightful and elegant CANRISK map you can come up with in 10 minutes, based on the steps covered in Part 1 (see Steps 11-18).

- If the threshold for 'High Risk' is a score of  $\geq 33$  out of 93 points for the full CANRISK Assessment Tool, what would a reasonable threshold for 'High Risk Areas' be, based on the 4 variables (representing a maximum total of 37 points)?
- Once you have a High Risk Area definition, try to use symbology and other means (e.g. filters) to display Dissemination Areas qualifying as High Risk Areas prominently on your map.

# Solution Sheet

## Creating Our CANRISK Map with Custom Regions



### Steps

30. A proportionate High Risk threshold for the 4 fields would be  $33/97 * 37 = 13.1$  We can use **13.0** to allow for a small margin of error
31. Under Value, add 'CANRISK'. Display either the 'Sum' or 'Average'
32. Add Filter -> CANRISK scores between 13.00 and 17.69
33. Rename Layer Name to 'High Risk Areas for Diabetes'

# Creating Our CANRISK Map with Custom Regions

## Final Thoughts: Creating a Polished Data Product

Other things we might want to do to improve this map:

- Display the **Population** for each Dissemination Area (2016 Census)
- Add in the name of the **Municipality** or **Neighbourhood** corresponding to each Dissemination Area (available from Statistics Canada's DA Boundary File reference document)
- Add in the demographic information (**Age, Sex, Ethnicity, Education**)
- Add **Annotation** next to the highest risk areas
- Create a new layer that shows the locations of **high-rise buildings** and **seniors residences** as points or bubbles on the map; these might be ideal targets for screening events
  - Would require a new Excel worksheet tab with at least 2 fields: 'Location Name' and 'Location' (e.g. Full Address, Lat/Lon coordinates)

# Community Data Program Resources

## DropBox Files Available

Ottawa Community Data Program's resource folder for Excel Mapping

- Excel maps for Ottawa with commonly used Custom Geographies:
  - CHC/CRC boundaries
  - Ottawa Neighbourhoods
  - Census geographies (CSD, CT, DA)

Link:

<https://www.dropbox.com/sh/k1qax16qmis77lm/AADELdqxw5a9oiCRMpa8AGK7a?dl=o>

## Postal Code Conversion File

- Available to Community Data Program members
- Convert your client postal code data to Census boundaries!

## Questions About Shapefiles for Ottawa Region?

Contact Stefka at [stefkap@spcottawa.on.ca](mailto:stefkap@spcottawa.on.ca)

Thank You

## Let's Connect!



Alex Mayer

Health Analyst at Centretown Community Health Centre

Ottawa, Ontario, Canada



 Centretown Community Health Centre

 Queen's University

 See contact info

## Questions or Feedback about today's presentation?

Contact me at [amayer@centretownchc.org](mailto:amayer@centretownchc.org)