

# Making a choropleth map with Google Fusion Tables

Choropleth map is a thematic map based on predefined aerial units. Google Fusion Tables makes it easy to create an online interactive choropleth map and share it with others. Two examples are given below:

Mapping murder around the world

<http://www.guardian.co.uk/news/datablog/interactive/2011/oct/10/unitednations-development-data>

Mapping population densities by the block <http://blogs.montrealgazette.com/2012/02/10/mapping-population-densities-by-the-block/>

To take advantage of this mapping application, you will need to follow the procedures below:

- Apply an online tool to import a zipped shapefile into Google Fusion Tables
- Import an Excel spreadsheet into Google Fusion Tables
- Merge the tabular data with KML file
- Visualize the data as a choropleth map
- Share the map with others

You will need two files to complete this tutorial. One is a zipped shapefile containing the census tract (CT) boundary for the Kitchener Census Metropolitan Area (CMA). The zipped file includes a prj, shp, shx and dbf which are all in one folder. The other is an Excel spreadsheet containing demographic information (total population, population age 0-14 and median age) for each CT in Kitchener CMA.

## Part 1 Import a shapefile into Google Fusion Tables

Aerial units are incredibly common in shapefile format but the only geographic file format that Google Fusion Tables will import is KML. There are a few options to make this possible. The easiest method is to use the Shapefile to Fusion converter called [Shpescape](http://www.shpescape.com) (<http://www.shpescape.com>). The steps are given below:

1. Open up the Shpescape with an internet browser and click 'Continue'.

### Shape to Fusion

 477 shapefiles uploaded in the last few days. [1 in queue]

Hi.

This website lets you import a shapefile to [Google Fusion Tables](#). This [blog post](#) has some details on how it was built.

To continue, you will need to authorize this site to access your Fusion Tables data on your behalf.

2. Sign in with your Google Account.

You must sign in your Google Account to authorize [Shpescape](#) to access your account for the Fusion Tables.

3. Grant access to the Fusion Tables.



The site **shpescape.com** is requesting access to your



Google is not affiliated with shpescape.com, and we re

If you grant access, you can revoke access at any time  
Google Account. [Learn more](#)

**⚠ This website is registered with Google to make**  
If you grant access but you did not initiate this request a  
access unless you are certain that you initiated this req

4. Upload this zipped shapefile (CT\_KitchenerCMA.zip) for importing into Fusion Tables.

#### Upload a zip archive of one (or more) shapefiles for import into Google Fusion Tables

Upload a Zipped Shapefile:

#### Notes:

- Your zipfile archive must include a *prj*, *shp*, *shx*, and *dbf* file for each shapefile
- You are limited to 200MB in total storage on Google Fusion Tables
- This application will upload a maximum of 100k rows
- If you have questions, leave a [comment](#)

5. Wait until you see 'Status Complete'. The upload and processing may take a while.

When finished, the imported file will be assigned a Fusion Table ID (4761538)

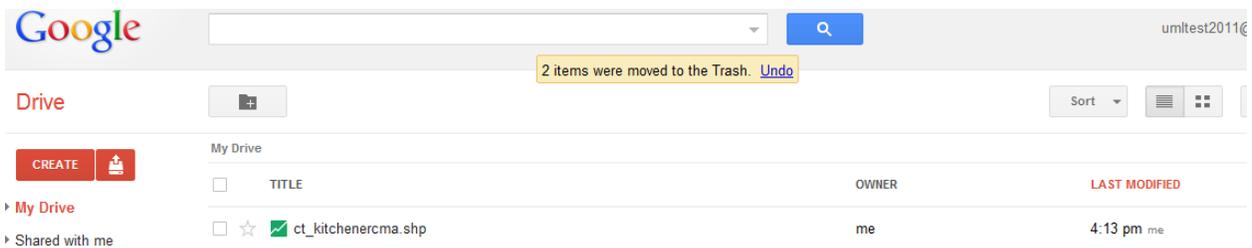
## ct\_kitchenercma.shp

Status Complete  
Total Rows 101  
Rows Processed 101  
Rows Inserted 101  
Fusion Table [4761538](#)

## Part 2 Import an Excel spreadsheet into Google Drive

You will import an Excel spreadsheet containing the demographic information.

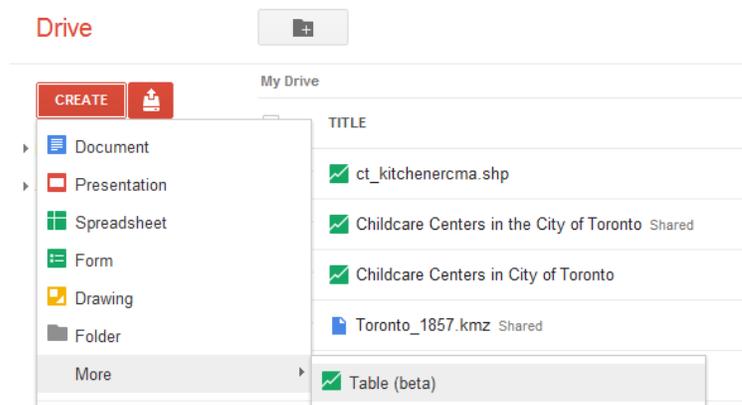
1. Go to Google Drive or Google Docs, if not available.



You will notice 'ct\_Kitchenercam.shp' table just imported in the Google Drive.

2. Create a new Google Fusion Table.

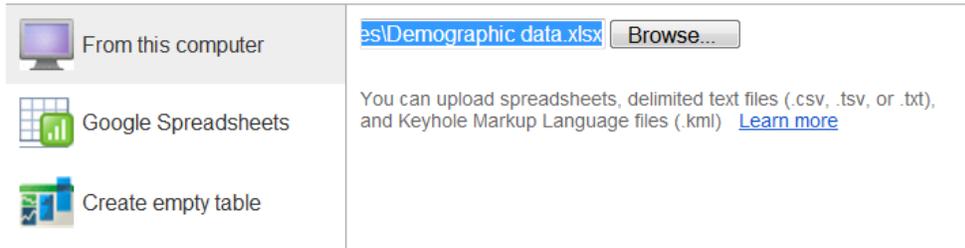
Click 'Create', select 'More' and click 'Table (beta)'.



3. Browse to find the table 'Demographic Data.xlsx' containing demographic data from your computer.

In the 'Import new table' pop up window, select 'From this computer' and browse to find the Excel Spreadsheet with demographic data. Click 'Next' when finished.

## Import new table



From this computer

Google Spreadsheets

Create empty table

You can upload spreadsheets, delimited text files (.csv, .tsv, or .txt), and Keyhole Markup Language files (.kml) [Learn more](#)

4. Name the imported table and click 'Finish'.

## Import new table

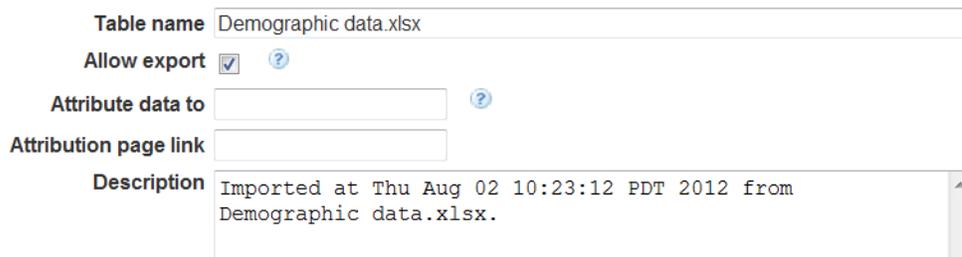


Table name

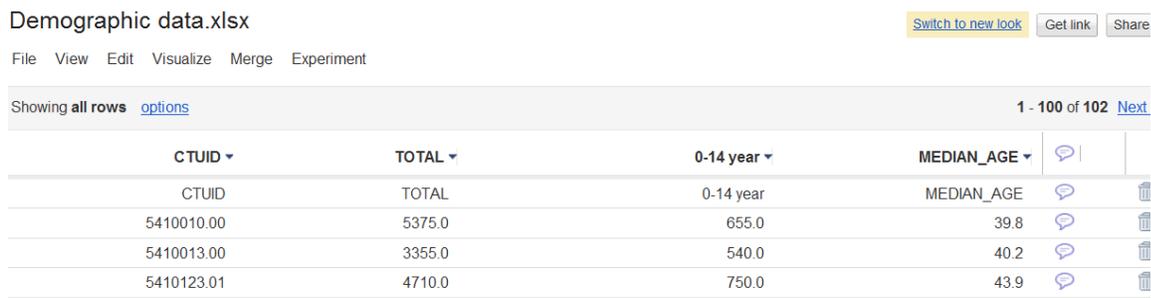
Allow export  ?

Attribute data to  ?

Attribution page link

Description

5. The imported table will look like below.



Demographic data.xlsx

File View Edit Visualize Merge Experiment

Showing all rows [options](#) 1 - 100 of 102 [Next](#)

CTUID	TOTAL	0-14 year	MEDIAN_AGE		
CTUID	TOTAL	0-14 year	MEDIAN_AGE		
5410010.00	5375.0	655.0	39.8		
5410013.00	3355.0	540.0	40.2		
5410123.01	4710.0	750.0	43.9		

## Part 3 Merge the demographic data with the KML file

You can merge the demographic table with the KML boundary table by following the steps below:

1. Open up the ct\_kitchenercam.shp table and click 'Merge' in Google Drive.

## ct\_kitchenercma.shp

File View Edit Visualize Merge Experiment

Showing all rows [options](#)

geometry ▼ geometry\_vertex\_coi CTUID ▼

2. Match the column across the two Fusion Tables.

In message window as seen below, under 'Merge with' select the table to merge as the demographic data.xlsx. Next choose CTUID as the matching column for both tables. When finished, you can save the results as a new Fusion Table and give it a name (Kitchener Demographic). Optionally, you may select a subset of columns included in the new table.

### Merge with another table

- 1 Choose the column to use for matching data across the two tables

- 2 Merge with

Demographic data.xlsx

Get

Enter a table name, ID, or URL

ct\_kitchenercma.shp

Demographic data.xlsx

<input checked="" type="checkbox"/>	<input type="radio"/>	geometry
<input checked="" type="checkbox"/>	<input type="radio"/>	geometry_vertex_count
<input checked="" type="checkbox"/>	<input checked="" type="radio"/>	CTUID
<input type="checkbox"/>	<input type="radio"/>	CTNAME
<input type="checkbox"/>	<input type="radio"/>	CMAUID
<input type="checkbox"/>	<input type="radio"/>	CMANAME
<input type="checkbox"/>	<input type="radio"/>	CMATYPE
<input type="checkbox"/>	<input type="radio"/>	CMAUID
<input type="checkbox"/>	<input type="radio"/>	PRUID
<input type="checkbox"/>	<input type="radio"/>	PRNAME

<input checked="" type="radio"/>	CTUID
<input type="radio"/>	TOTAL
<input type="radio"/>	0-14 year
<input type="radio"/>	MEDIAN_AGE

Select subset of columns

Select subset of columns

Save as a new table named

The merged table will be computed dynamically from the two base tables, using the rows from the first table. Changes to the base tables will be reflected in the merged table and vice versa.

Merge tables

Cancel

## Part 4 Visualize the demographic data as a choropleth map

When the merged table is ready, the next step is to create a choropleth map:

1. In the 'Kitchener Demographic' table, click 'Visualize' and then select 'Map'.

## Kitchener Demographic

File View Edit Visualize Merge Experiment

Showing **all rows**

CTUID	geometry
5410001.01	kml...
5410001.03	kml...
5410001.04	kml...
5410002.04	kml...

Visualize menu options: Table, Map, Intensity map, Line, Bar, Pie

- Next you will configure map style.

Click 'Configure styles'. This will bring out a 'Change map styles' message window

## Kitchener Demographic

File View Edit Visualize Merge Experiment

Showing **all rows** [options](#)

cation **geometry**  Display as heat map [Configure info window](#) [Configure styles](#) [Download](#)



- Set the map styles in the message window.

Click 'Fill color' under Polygons side bar and click the 'Gradient' tab. Next you will select 'Column' as 'Total' (Total population). The population value is from 0 to 13000. All will be divided into 4 classes. Click 'Save' when finished.

## Change map styles

**Points**  
Marker icon

**Polygons**  
Fill color  
Border color  
Border width

**Lines**  
Line color  
Line width

Polygon background colors  
[Fixed](#) [Column](#) [Buckets](#) [Gradient](#)

Show a gradient

Column TOTAL

From 0

+ [Color swatch] [Color swatch] [Color swatch]

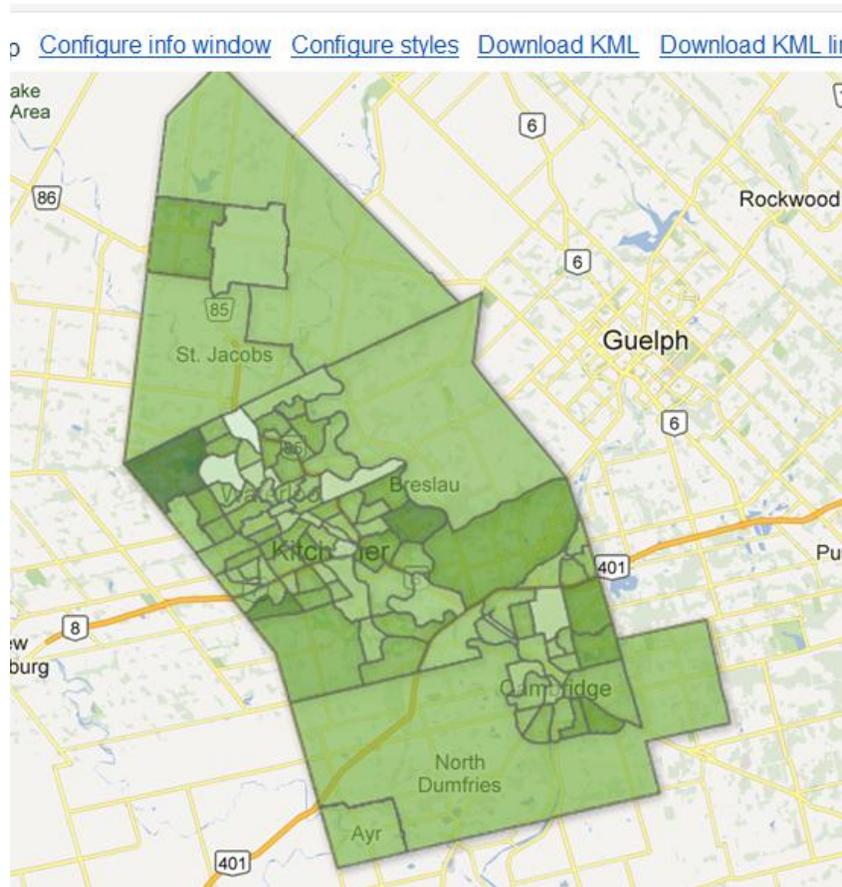
+ - [Color swatch] [Color swatch]

+ - [Color swatch] [Color swatch]

[Color swatch]

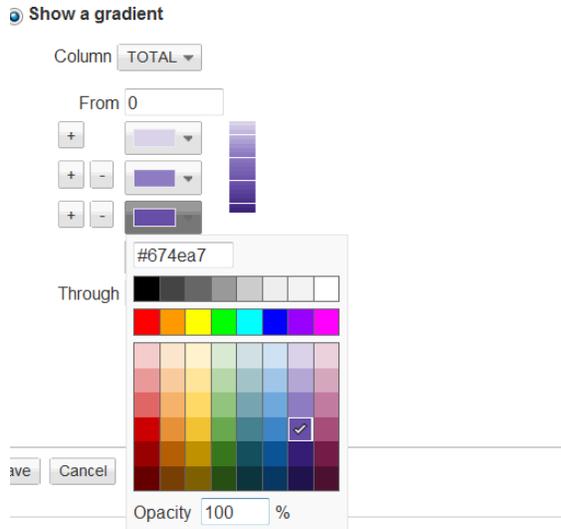
Through 13000

The colorpleth map will look like below.



4. Optionally, you can go back to change the map to a different color style.

You just need to change, the number of classes, the color for each class and opacity (100% means Google map background will be invisible). Click 'Save' when finished.



## Part 5 Share the map with others

Once the choropleth map is final and you may want to share it with others.

1. Click the 'Share' Button in the top right screen.

This will bring out a Sharing settings message window. The default setting for 'Who has access' is 'Private' but you may wish to change it to 'Public on the web' by clicking 'Change'.

### Sharing settings

Link to share (only accessible by collaborators)

<https://www.google.com/fusiontables/DataSource?docid=1ftZySaLfzMlwrgWefC1XQwzLSF>

Share link via:



Who has access



Private - Only the people listed below can access

[Change...](#)

2. Set visibility options.

You will change visibility options as 'Public on the web' and click 'Save' when finished.

## Sharing settings

Visibility options:

-  **Public on the web**  
Anyone on the Internet can find and access. No sign-in required.
-  **Anyone with the link**  
Anyone who has the link can access. No sign-in required.
-  **Private**  
Only people explicitly granted permission can access. Sign-in required.

[Save](#) [Cancel](#)

- Click 'Done' when you see the 'Who has access' has been changed to 'Public on the web' as below.

## Sharing settings

Link to share

<https://www.google.com/fusiontables/DataSource?docid=1ftZySaLfzMlwrgWefC1XQwzLSF>

Share link via:    

Who has access

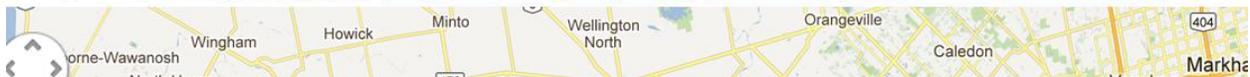
 **Public on the web** - Anyone on the Internet can find and **view** [Change...](#)

- Share the map

The link to share under 'Sharing settings' is for sharing the Fusion Table. To share the map, you will need to click 'Get embeddable link' in map view.

Showing **all rows** [options](#)

ation **geometry**  Display as heat map [Configure info window](#) [Configure styles](#) [Download KML](#) [Download KML link](#) [Get embeddable link](#)



- In the 'Publish' message window, you can copy the link to see in e-mail or paste HTML code to embed the choropleth map in a website.



## Publish

Send a link in email or IM

```
https://www.google.com/fusiontables/embedviz?viz=MAP&q=select+co
```

Paste HTML to embed in a website

```
<iframe width="500" height="300" scrolling="no" frameborder="no" src:
```

Width

Height

Steve Xu

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