A guide to Google Fusion Tables Visualizations

Summary: The Google Fusion Tables is described as “experimental”, which means that it is always in beta format. Still, as we saw in chapter 6, the application provides an excellent way of displaying data in a map, either by plotting the geographic coordinates such as longitude and latitude that are part of the dataset that you’re uploading, or by linking to a KML file, the native format for Google Maps and an open-source standard. Because chapter 6 already has a tutorial on building maps with Fusion Tables, this tutorial will function more as a general guide, demonstrating how to build some of the graphs discussed in chapter 8.

What you will learn:

1. Downloading the Fusion Table app.
2. Uploading and importing a spreadsheet.
3. Creating a chart, colour-coding and labelling.
4. Saving and embedding your finished product.

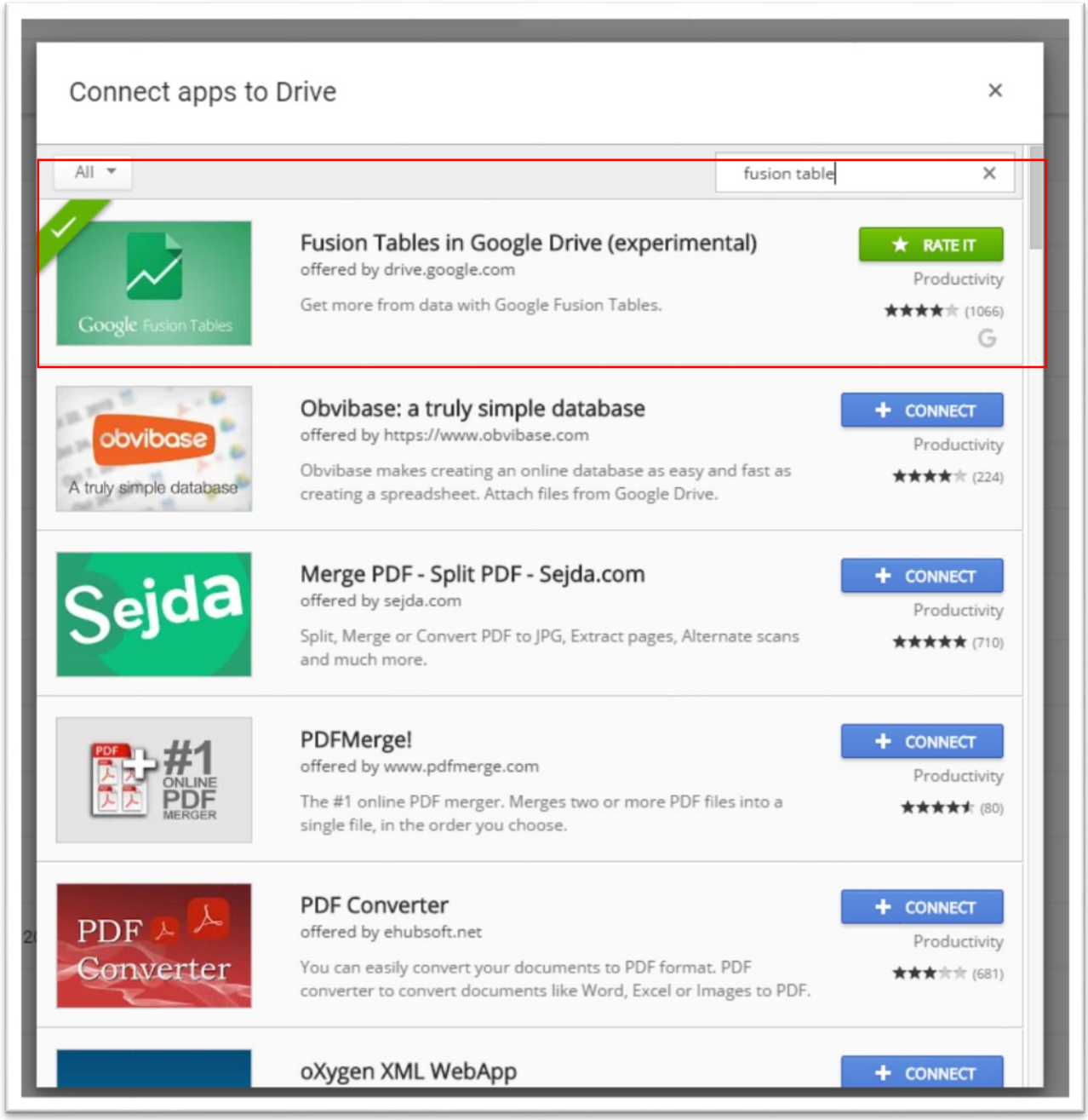
Task 1: Downloading the Fusion Table app.

If you already have the Fusion Table app, you can ignore this task and move on to the second one.

Open your Google Drive account. If you don't have a Google account, you'll need to create one at www.google.com.

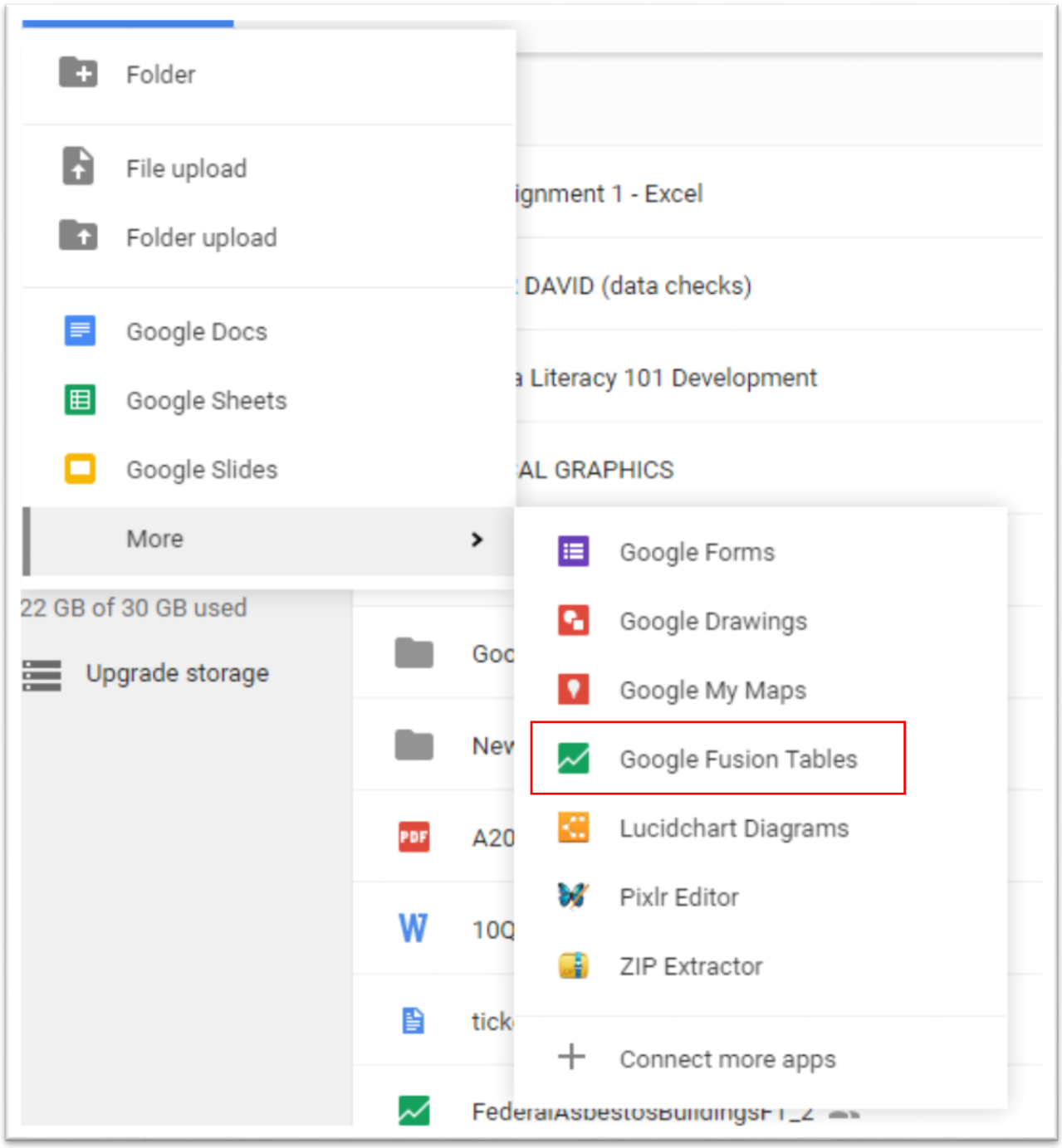
To begin the upload process, click on the "create" button on the Drive interface. Those with the latest updated version of Google Drive should click on the "new" button. In the dialogue that opens, choose "Fusion Table." If you don't see the Fusion Table option, click on "Connect More Apps," find Fusion Tables, and add

to your Google Drive.



Downloading will add Fusion Tables to the other applications on your Google Drive. Your menu will look different than this one, but the key is seeing the Fusion

Table app has been added.

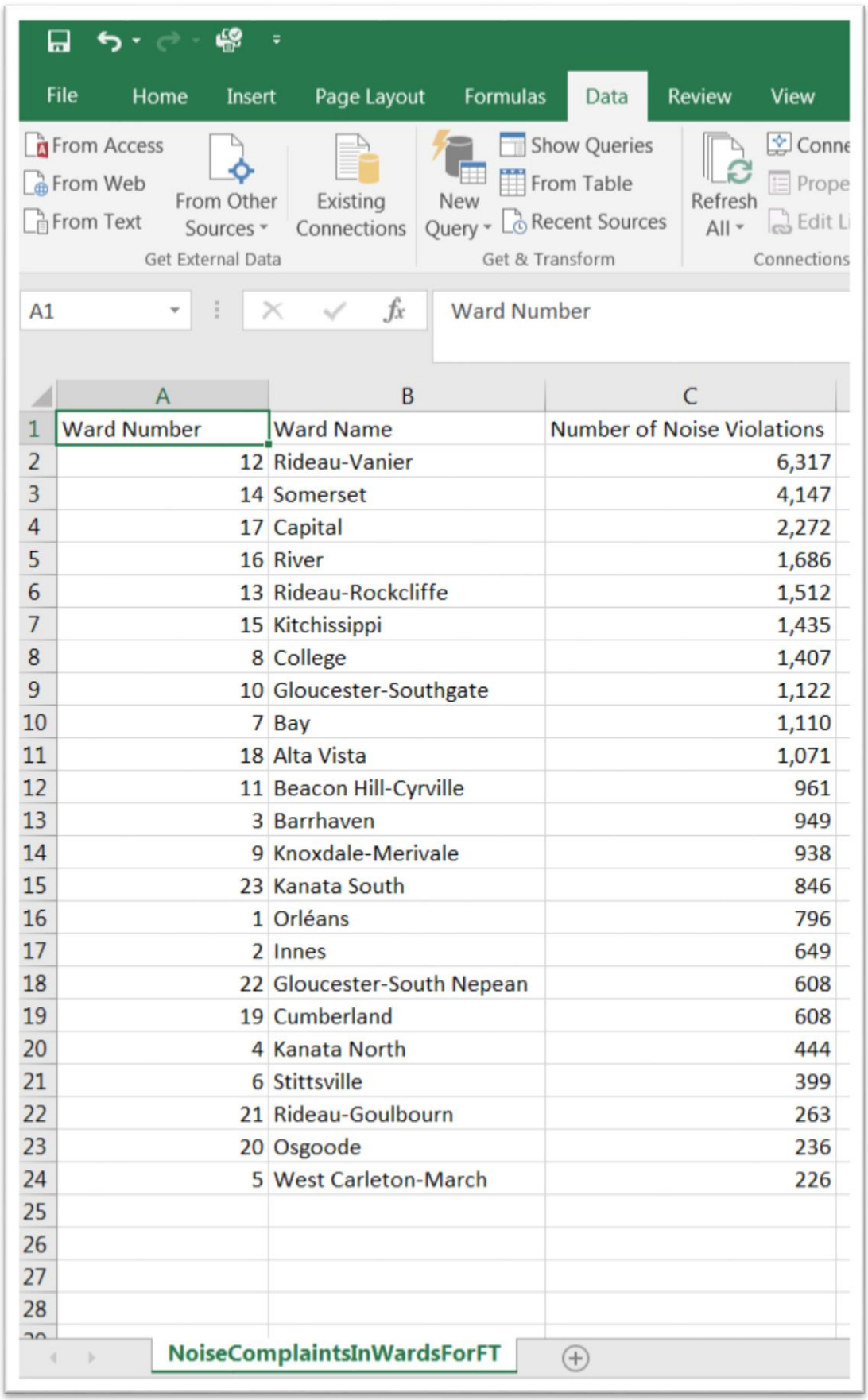


Task 2: Uploading and importing a spreadsheet.

A word about the dataset we're about to upload: The city of Ottawa uses the monthly service request data to track complaints ranging from noise to wild

animals. Beginning in 2013, the city began uploading monthly data in csv files. The dataset for this tutorial combines the files from 2013 to 2015, groups them by ward and filters the violations for noise. This was made possible using MySQL to import the monthly files, standardized the dates, and then export a clean csv file for the three full years. For more on MySQL, check out the "Making Tables and Importing Data into MySQL" tutorial that accompanies chapter 5.

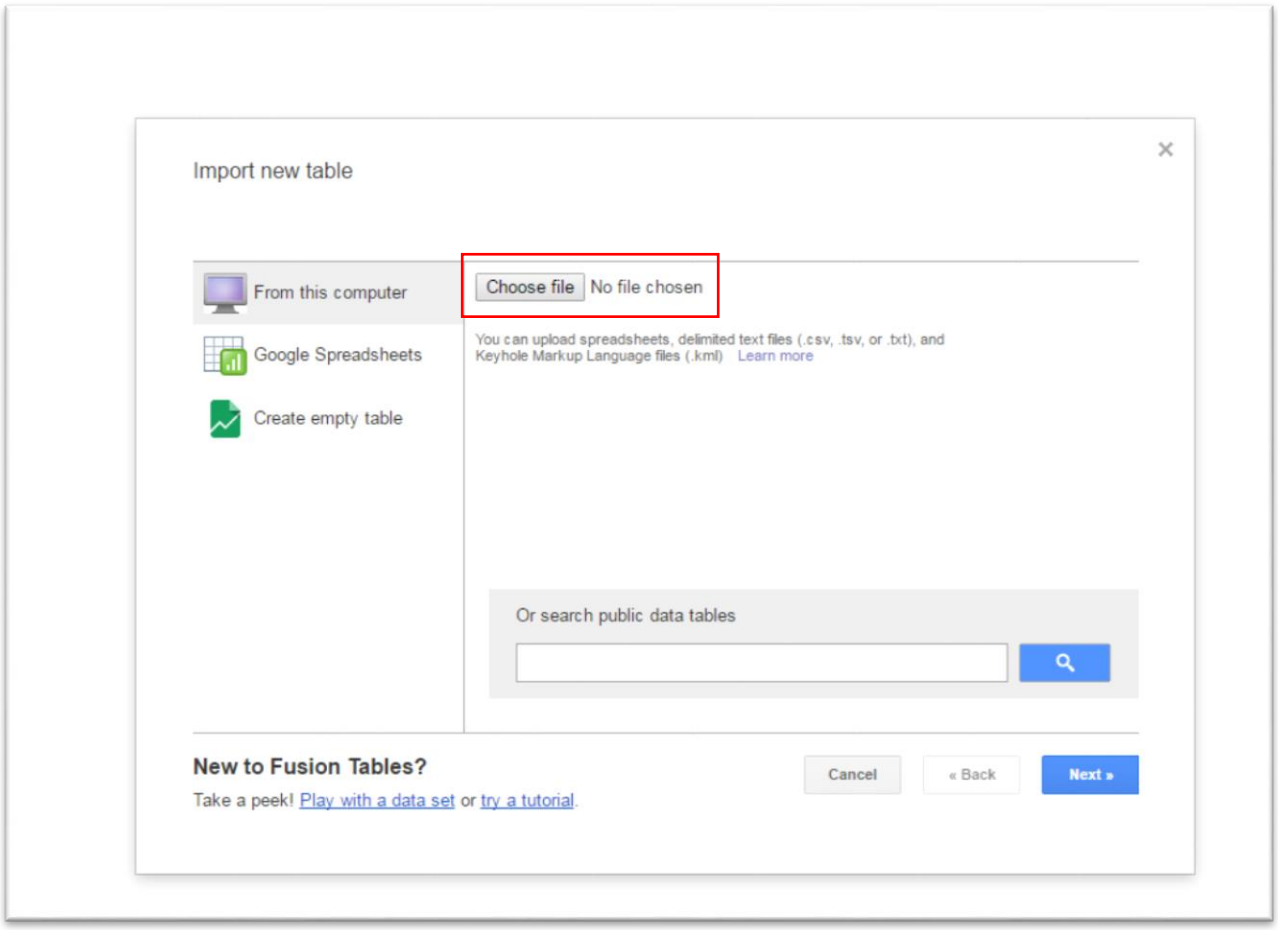
Downloadable data: You can download the sample 2013-2015 data for this task here.



	A	B	C
1	Ward Number	Ward Name	Number of Noise Violations
2	12	Rideau-Vanier	6,317
3	14	Somerset	4,147
4	17	Capital	2,272
5	16	River	1,686
6	13	Rideau-Rockcliffe	1,512
7	15	Kitchissippi	1,435
8	8	College	1,407
9	10	Gloucester-Southgate	1,122
10	7	Bay	1,110
11	18	Alta Vista	1,071
12	11	Beacon Hill-Cyrville	961
13	3	Barrhaven	949
14	9	Knoxdale-Merivale	938
15	23	Kanata South	846
16	1	Orléans	796
17	2	Innes	649
18	22	Gloucester-South Nepean	608
19	19	Cumberland	608
20	4	Kanata North	444
21	6	Stittsville	399
22	21	Rideau-Goulbourn	263
23	20	Osgoode	236
24	5	West Carleton-March	226
25			
26			
27			
28			

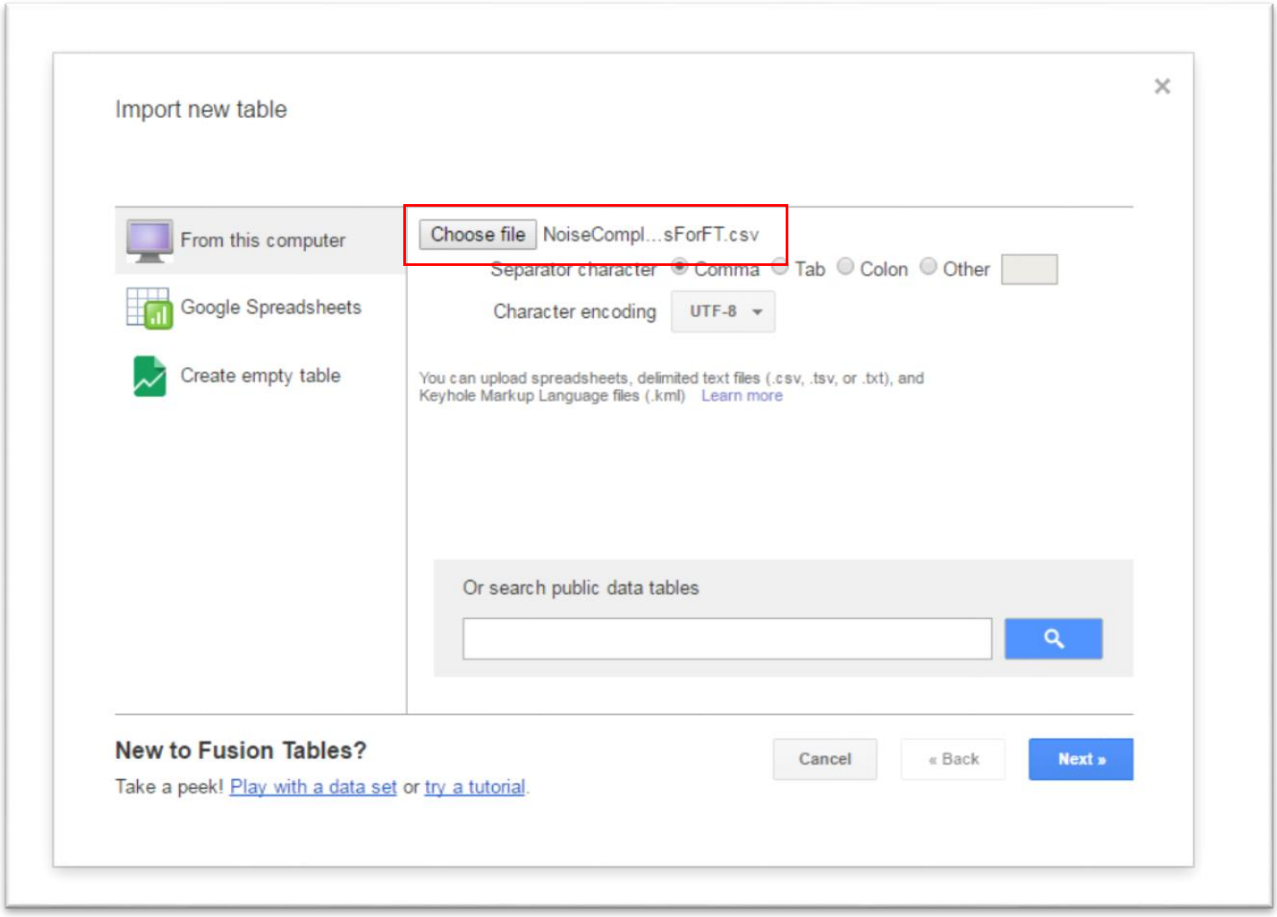
There are three columns: “Ward Number”, “Ward Name” and the “Number of Noise Violations from 2013-2015”. This is the table that we will upload to Fusion Tables.

You will probably have a data file on the hard drive of your computer. Click the “New” tab to produce the menu that contains your apps. If you have lots of them, the Fusion Table app will be under the menu’s “more” section, as you can see in the screen shot above the table of noise complaints. Clicking on the Fusion Table tab, produces a dialogue box in a separate window inviting you to import the table.

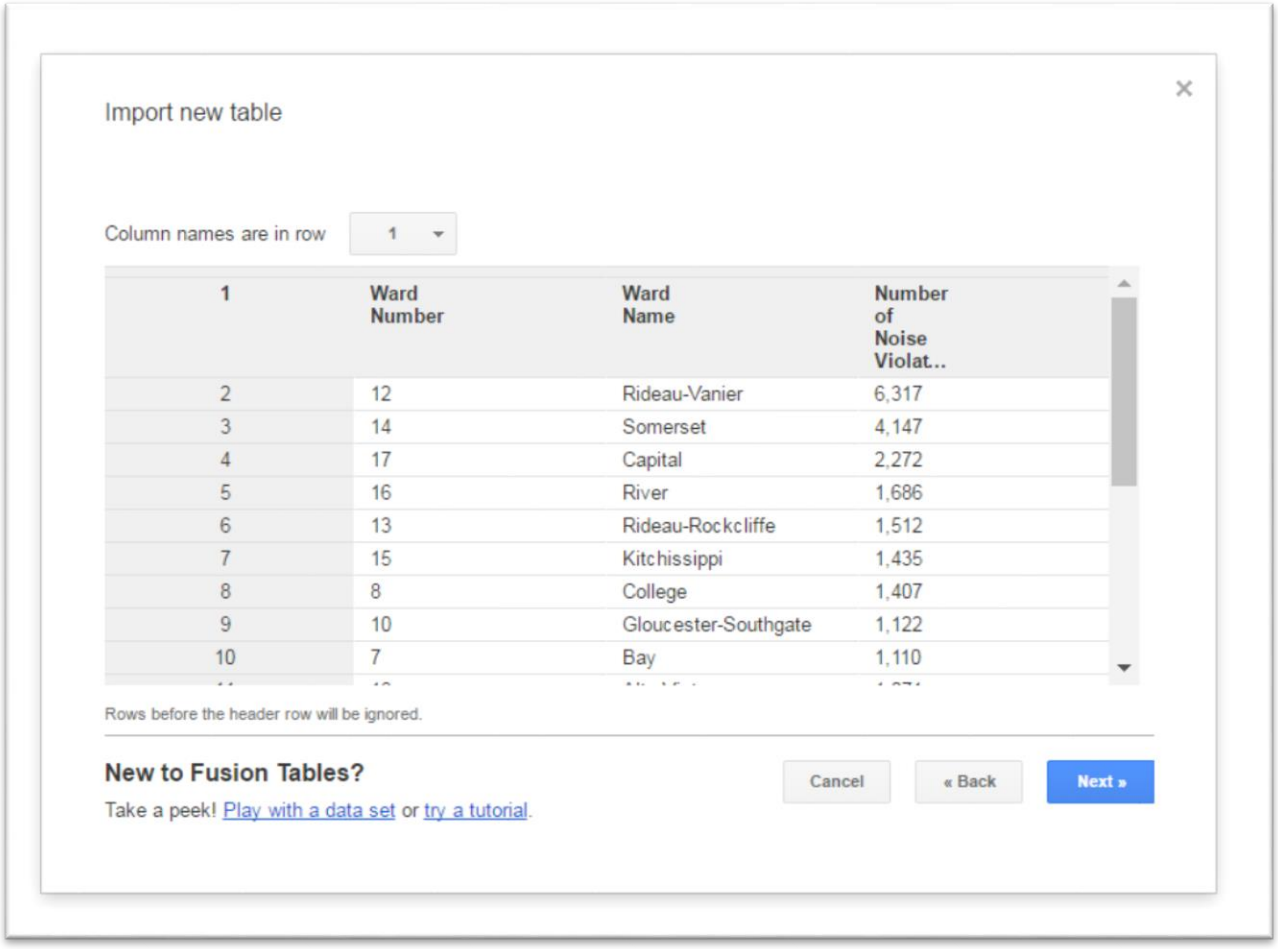


Select "Choose file" and navigate using your computer’s file system to the location of your file. The file can be a spreadsheet, which in this case is a csv file, but could also be an Excel spreadsheet. It’s also worth noting that you can also use a Google spreadsheet file that already exists in your Google Drive account. This illustration shows the dialogue box with the noise-complaint table that we’ve

chosen.

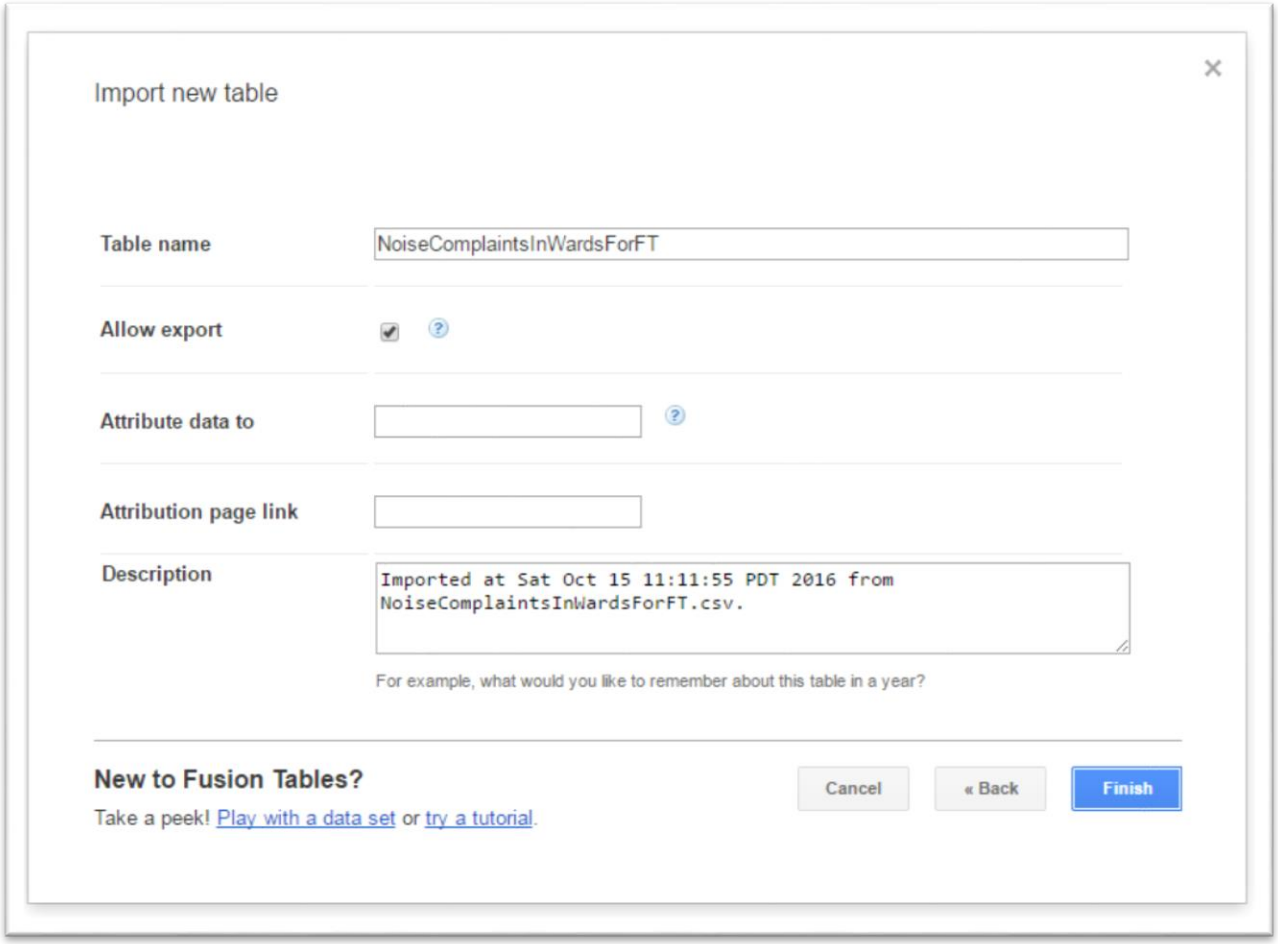

Import new table
From this computer
Google Spreadsheets
Create empty table
Choose file
NoiseCompl...sForFT.csv
Separator character
Comma
Tab
Colon
Other
Character encoding
UTF-8
You can upload spreadsheets, delimited text files (.csv, .tsv, or .txt), and Keyhole Markup Language files (.kml) Learn more
Or search public data tables
New to Fusion Tables?
Take a peek! Play with a data set or try a tutorial.
Cancel
« Back
Next »

Click on the "next" button to open a dialogue that previews the data in your table.



This table differs slightly from the csv file, in that the Fusion Tables application has added a numbered ID field. At the top of the dialogue box, you can indicate which row contains the field names; in this case it is row 1, the default. When you are satisfied that the data is arrayed correctly, click "next." The dialogue box that follows is probably the most important, because in it, you set attributes that will be

seen by those with whom you may share the data.



As you can see, you can change the table name, indicate whether other Fusion Tables users can download your data, attribute the source of the data, provide a link to the data source, and provide a narrative description of the data. The latter may be most important to you, as it will help you remember the contents of your table if you return to it months, or perhaps years later. The description of the data defaults to generic information about when you imported the file and the name of the table.

Once you are satisfied, click “Finish”, and the data will be imported into a new Fusion Table. Within seconds, you should see your uploaded table.

Task 3: Creating a chart, colour-coding and labelling.

NoiseComplaintsInWardsForFT

Imported at Sat Oct 15 11:11:55 PDT 2016 from NoiseComplaintsInWardsForFT.csv.
Edited at 14:11

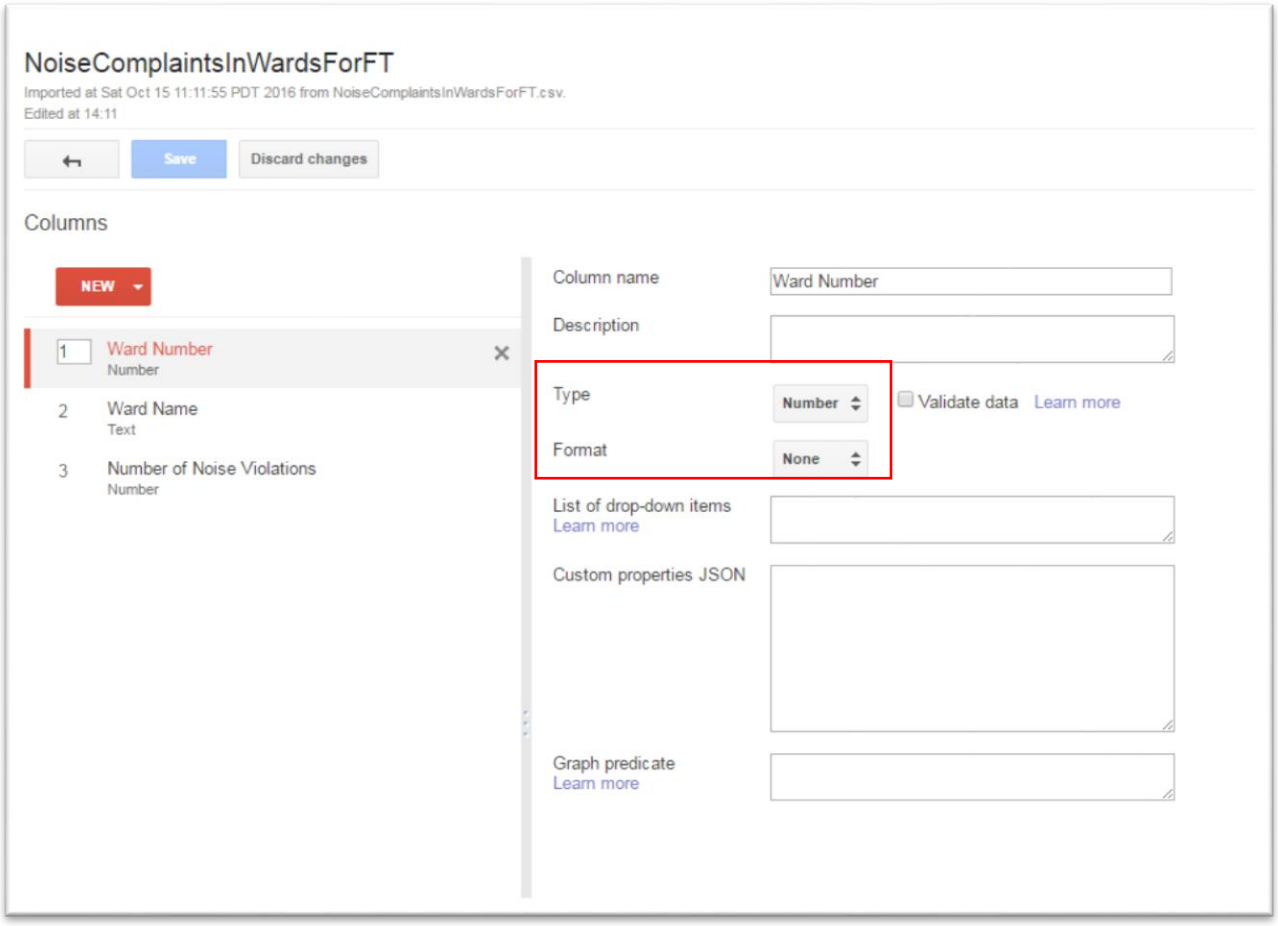
File Edit Tools Help | Rows 1 | Cards 1

Filter No filters applied

1-23 of 23

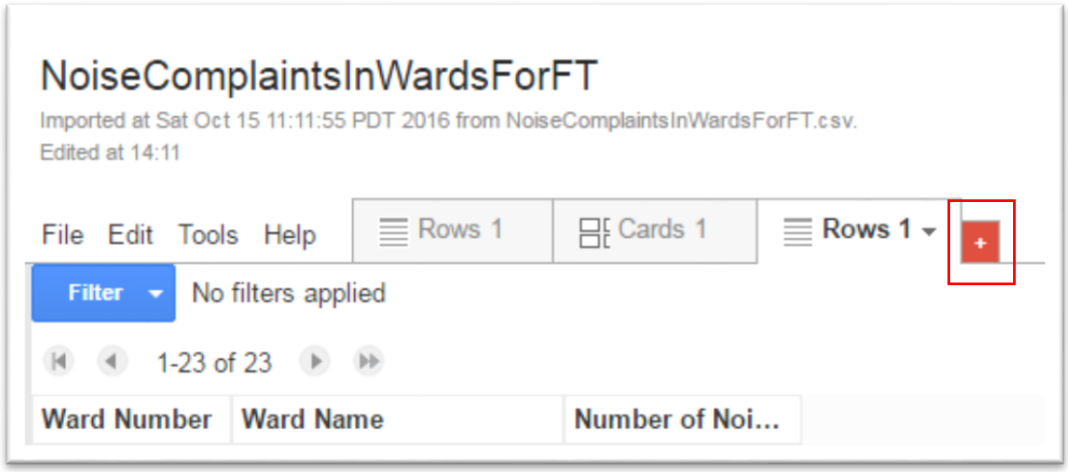
Ward Number	Ward Name	Number of Noi...
12	Rideau-Vanier	6,317
14	Somerset	4,147
17	Capital	2,272
16	River	1,686
13	Rideau-Rockcliffe	1,512
15	Kitchissippi	1,435
8	College	1,407
10	Gloucester-Southgate	1,122
7	Bay	1,110
18	Alta Vista	1,071
11	Beacon Hill-Cyrville	961
3	Barrhaven	949
9	Knoxdale-Merivale	938
23	Kanata South	846
1	Orleans	796
2	Innes	649
22	Gloucester-South Nepean	608
19	Cumberland	608
4	Kanata North	444
6	Stittsville	399
21	Rideau-Goulbourn	263
20	Osgoode	236
5	West Carleton-March	226

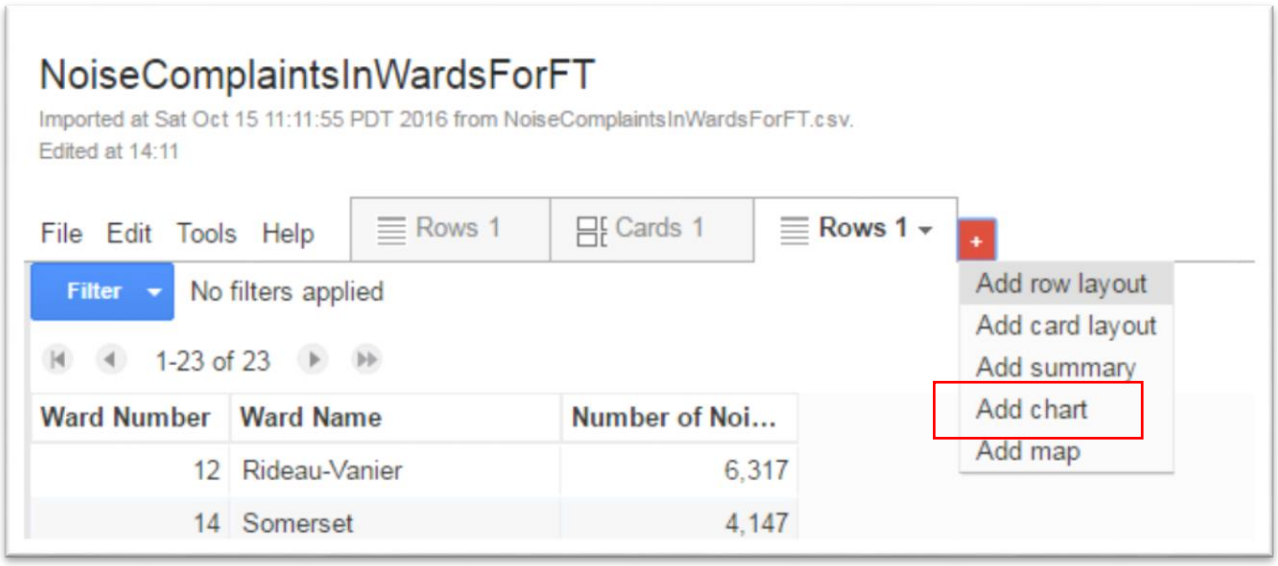
The dataset is clean, with the numbers properly formatted. Though Fusion Tables allows for a fair bit of data formatting, it's best to do all your cleaning and formatting in your spreadsheet. If you want to edit the content, click on "Edit>Change Columns", which produces another dialogue box.



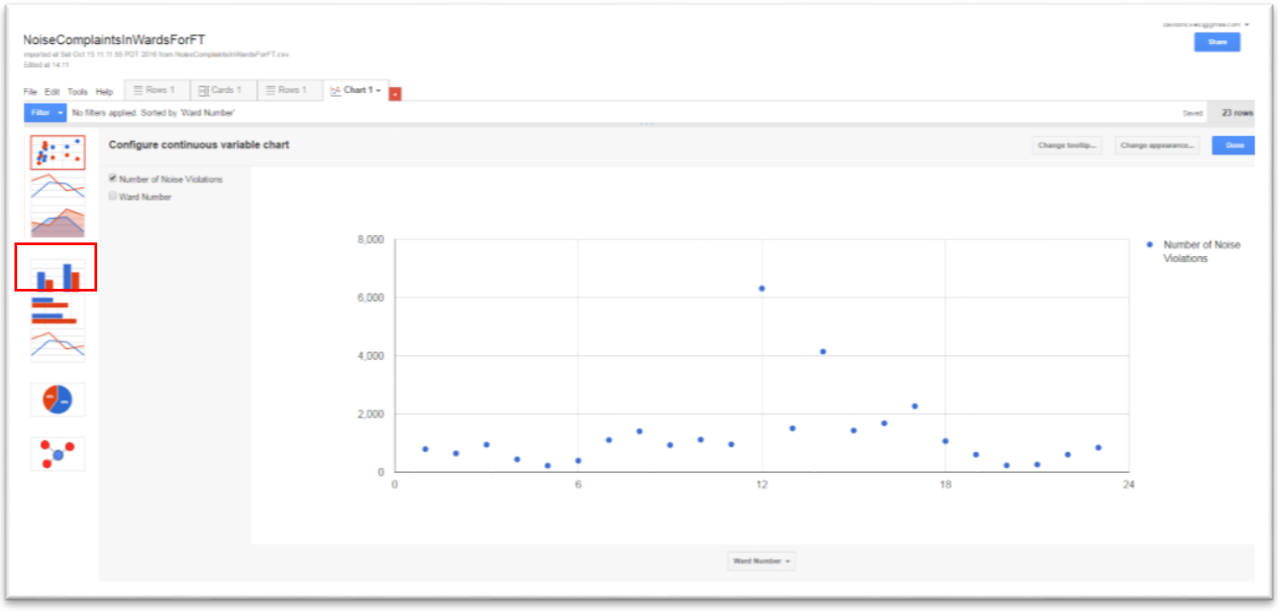
You can choose the field you wish to alter, selecting the proper "Type" and "Format".

Now we are ready to create our chart. Click the "plus sign" to the right of the "Rows 1" tab.


NoiseComplaintsInWardsForFT
Imported at Sat Oct 15 11:11:55 PDT 2016 from NoiseComplaintsInWardsForFT.csv.
Edited at 14:11
File Edit Tools Help
Rows 1
Cards 1
Rows 1
Filter
No filters applied
1-23 of 23
Ward Number
Ward Name
Number of Noi...

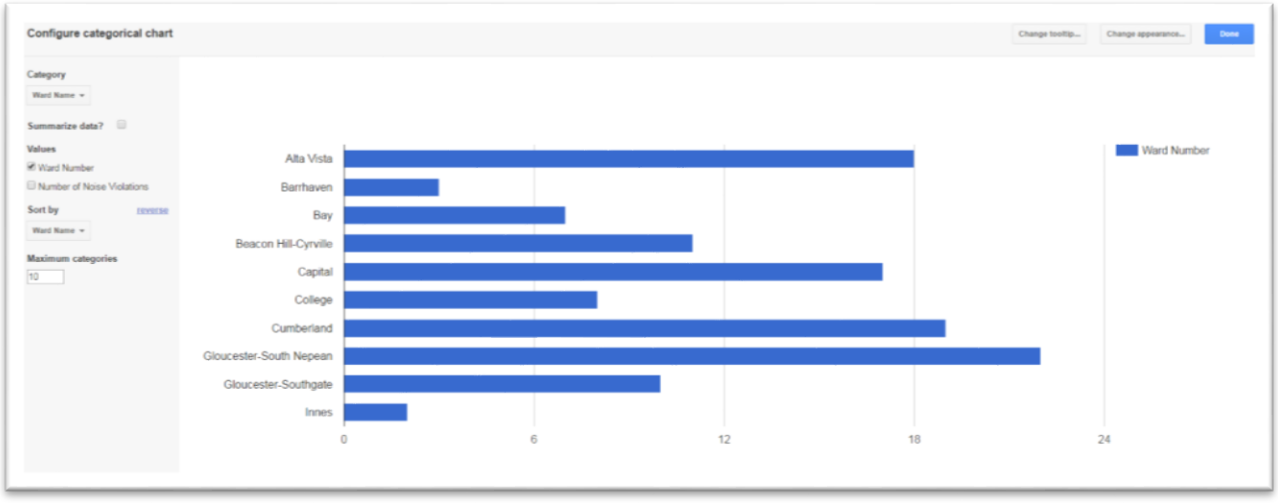

NoiseComplaintsInWardsForFT
Imported at Sat Oct 15 11:11:55 PDT 2016 from NoiseComplaintsInWardsForFT.csv.
Edited at 14:11
File Edit Tools Help
Rows 1
Cards 1
Rows 1
Filter
No filters applied
1-23 of 23
Ward Number
Ward Name
Number of Noi...
12
Rideau-Vanier
6,317
14
Somerset
4,147
Add row layout
Add card layout
Add summary
Add chart
Add map

Select “Add chart”.



The chart options, which we discussed in chapter 8, are to the left. Because we want to make it easiest to see the ward with the highest number of complaints, it’s probably best to choose a horizontal bar chart that you can see highlighted in the red square above.

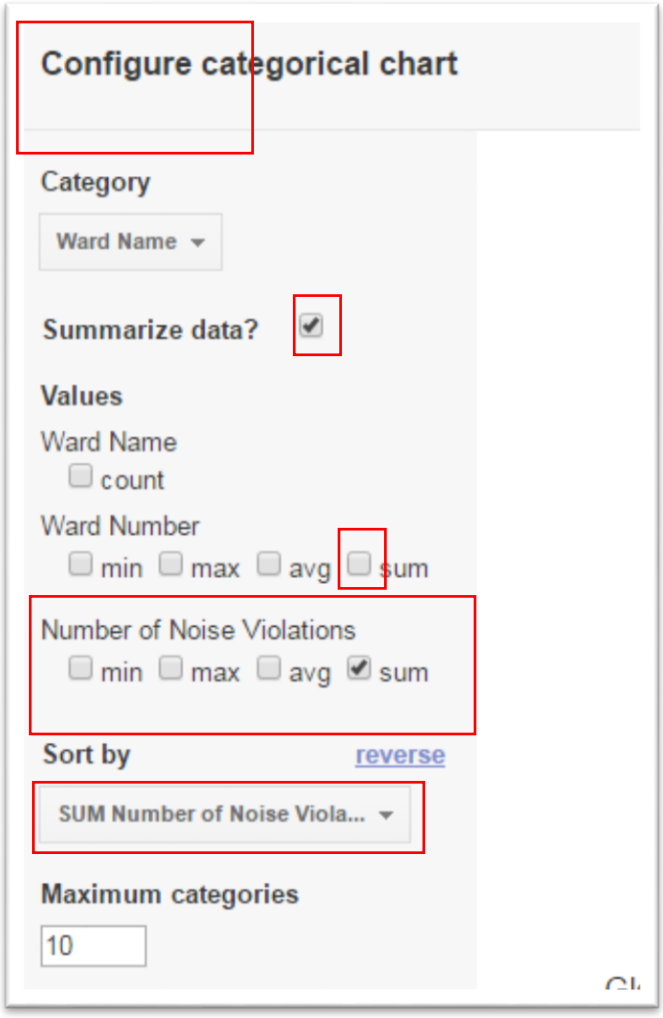
So, let’s do that.

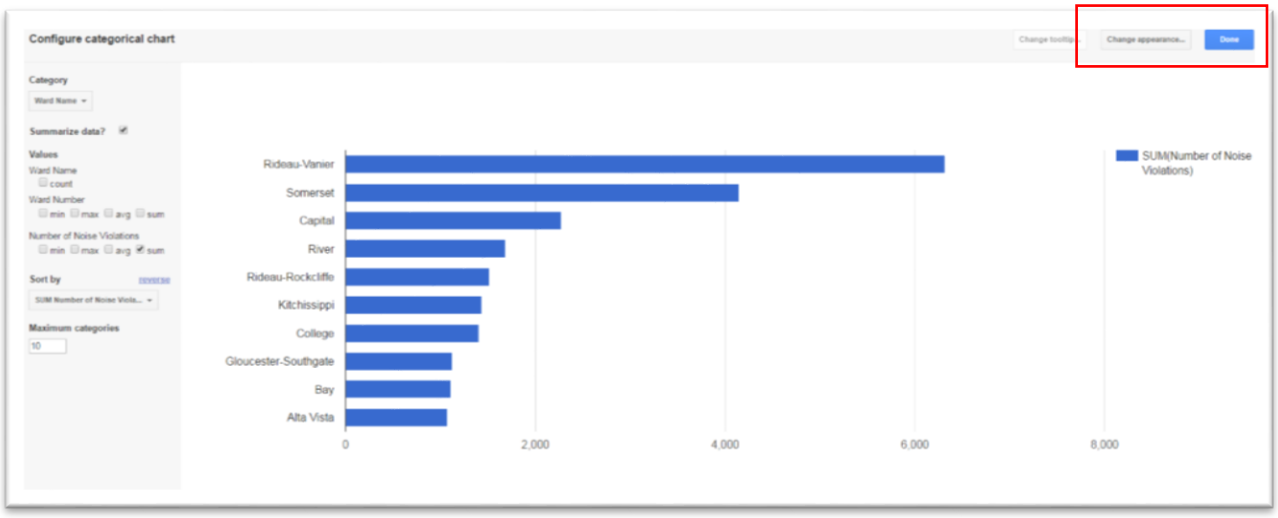


By default, Fusion Tables has sorted the columns by name on the Y-axis; that is, in alphabetical order. The numbers are below on the X-axis. As we discussed on page 178 of our textbook, horizontal bar charts are good options for helping the reader

see values in descending order. To do this, sort by the “Number of Noise Violations”.

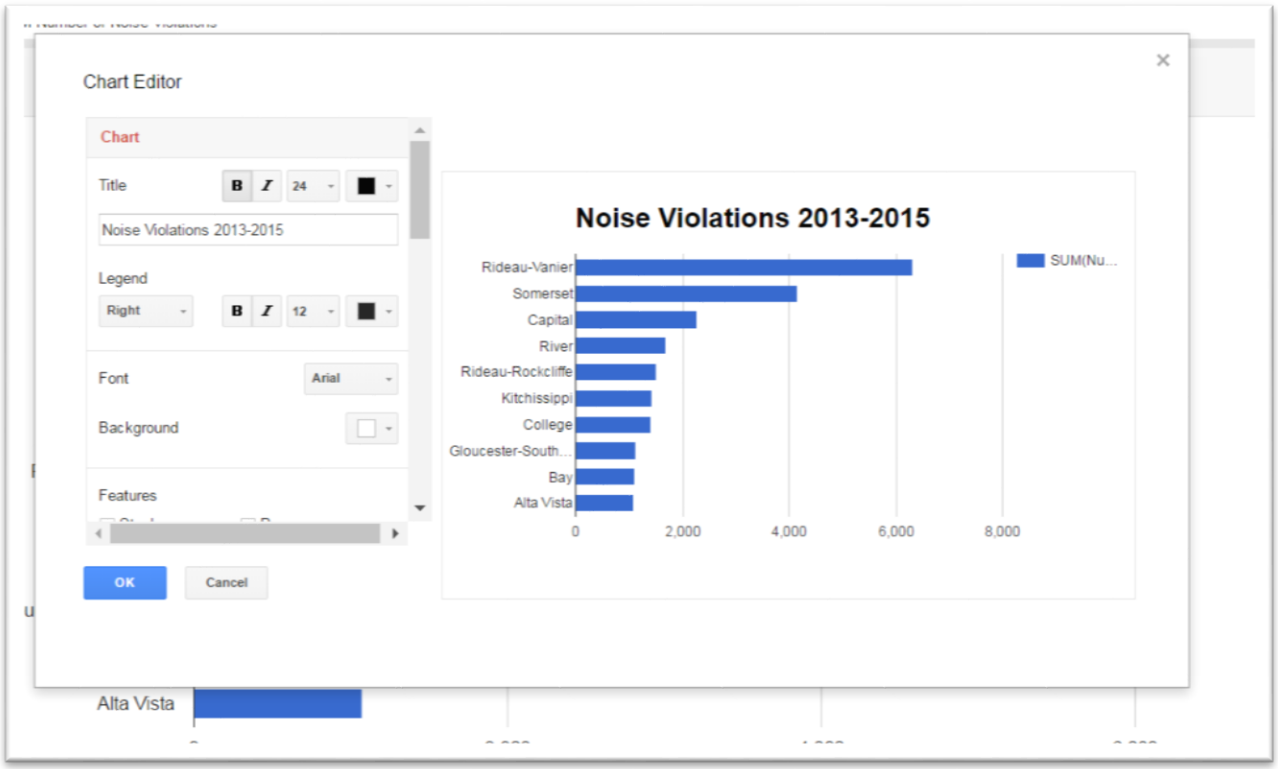
To do this, go to the options under the “Configure categorical chart” section on the left. The “Category” that we want group “Ward Name”, “Summarize data”, and under “Values” we want to “sum” the number of violations. Fusion Tables is defaulting to the top ten, which is fine for now.



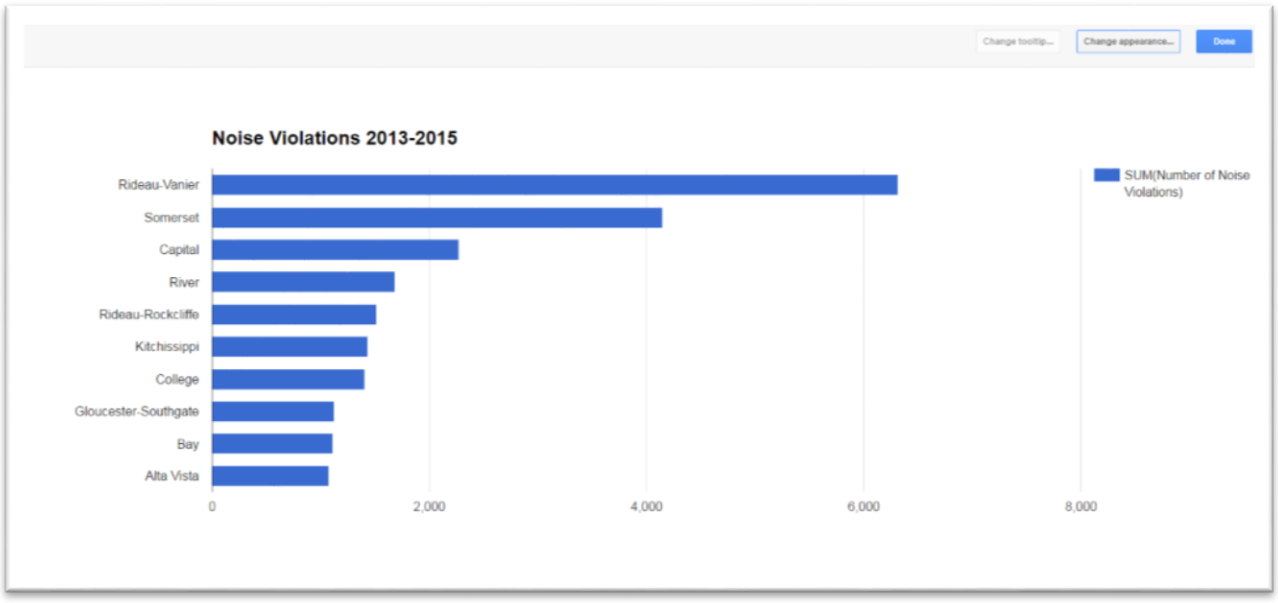


So we can see that Rideau-Vanier has the highest number of complaints, which makes sense, given that it's one of the city's densely populated municipal districts minutes from Parliament Hill and home to a dozens of bars and restaurants.

Now we have to give the chart a title. To do this, click on the "Change appearance" tab, which produces a "Chart Editor" dialogue box.



Type a title in the “Title” section, increase the font size to make it stand out. You can also do some other formatting and even change the colour. Once you’re happy with the result, select “OK.”

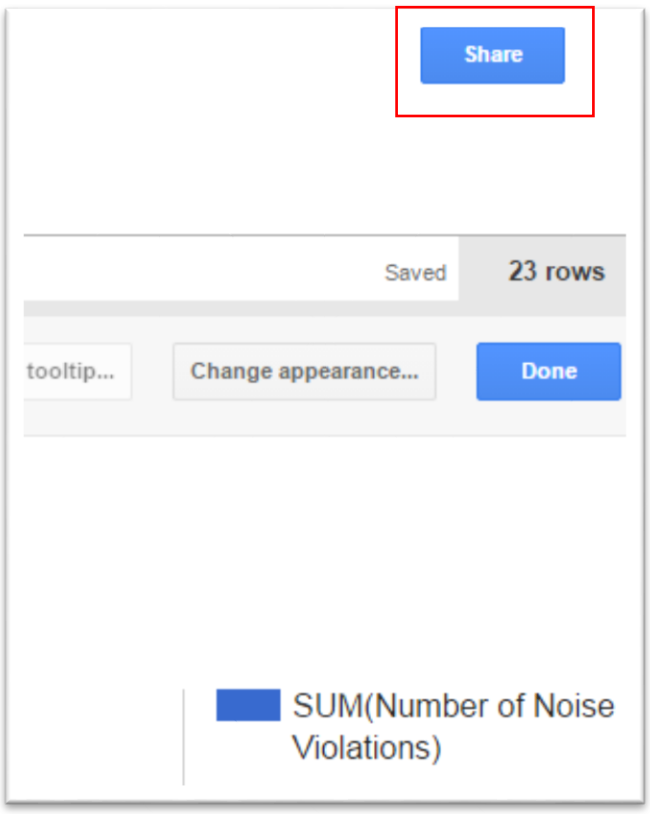


Note that we have only chosen to display the top 10. You could also display all 23 wards, though visibility becomes an issue. Generally speaking, it’s best to stick with the top results for reasons spelled out in chapter 8.

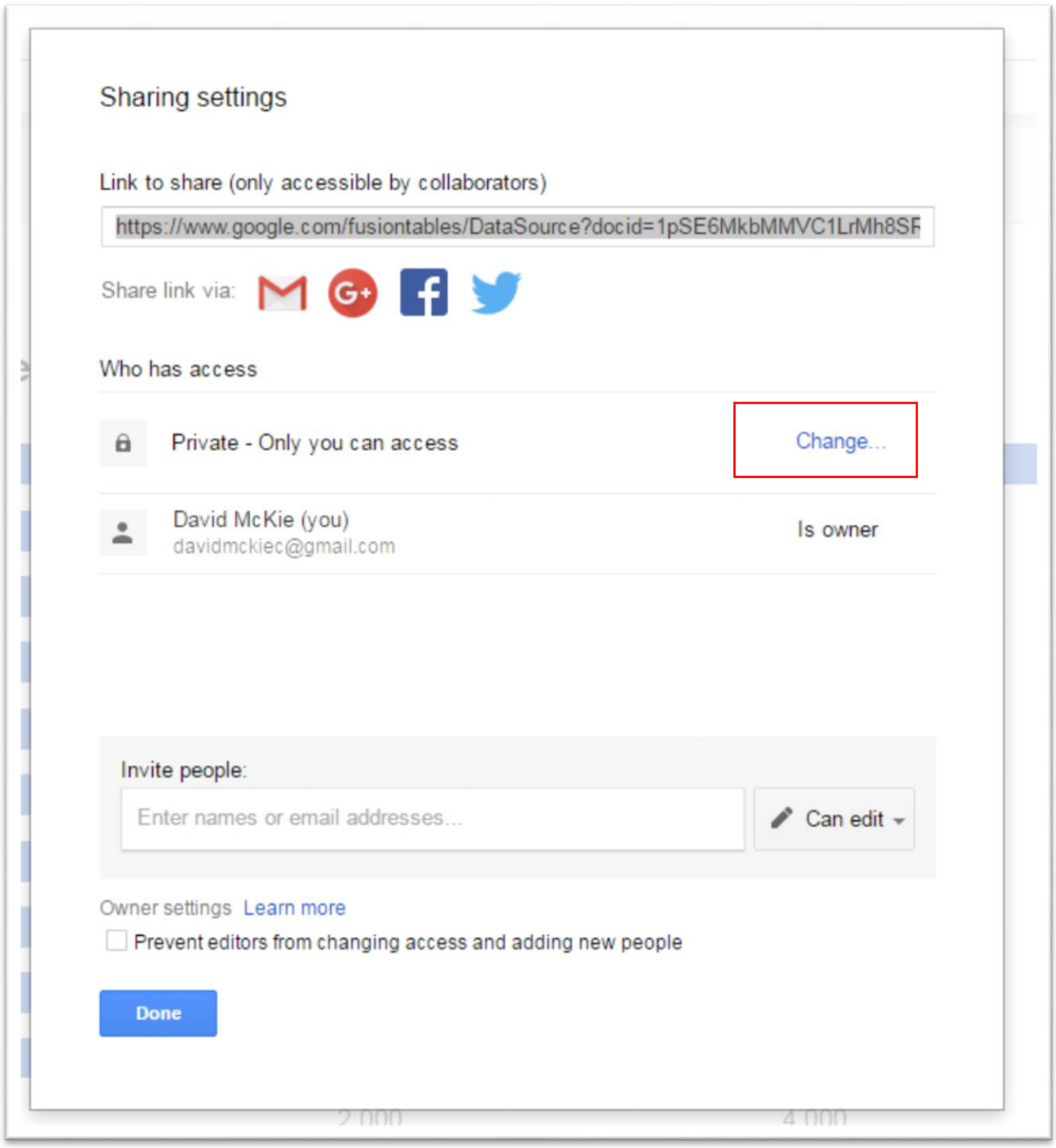
Task 4: Saving and embedding your finished product.

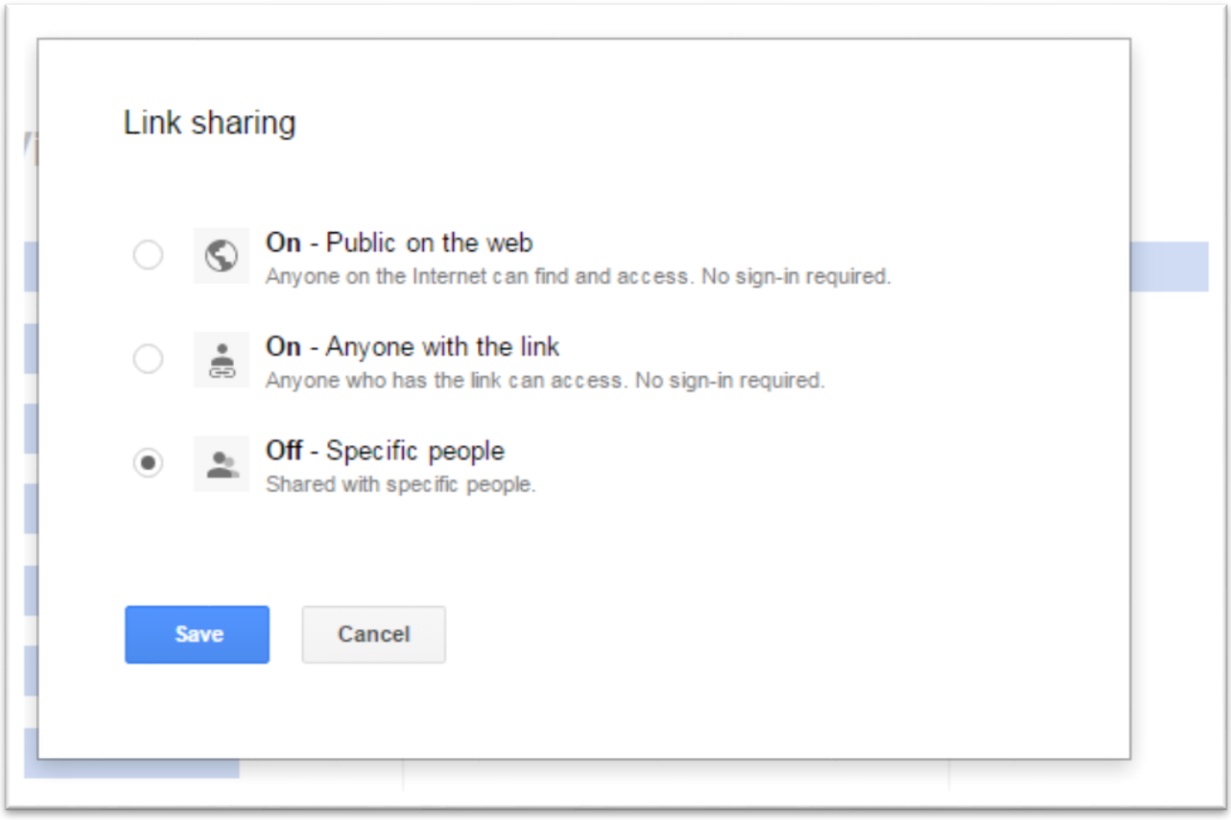
Before we can embed this chart into our blog post, we must share it. Sharing is a standard protocol for any cloud-based service like Fusion Tables, or as we’ll see in the next tutorial, Tableau Public. So, select the “Share” button located at the top

right.



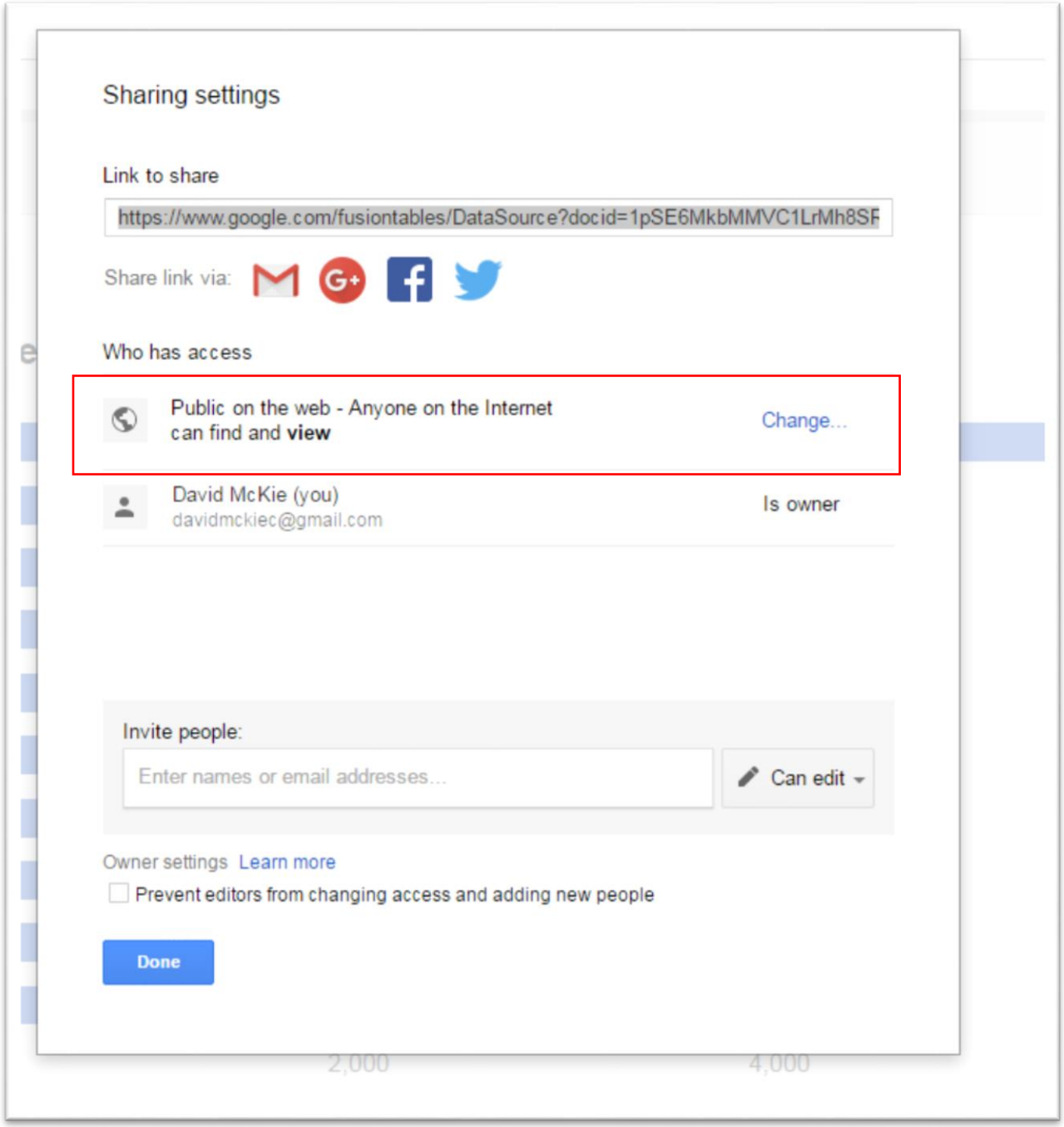
This produces an option to change the access level from private to public by selecting the “Change” option.


Sharing settings
Link to share (only accessible by collaborators)
https://www.google.com/fusiontables/DataSource?docid=1pSE6MkbMMVC1LrMh8SF
Share link via:
Who has access
Private - Only you can access
Change...
David McKie (you)
davidmckiec@gmail.com
Is owner
Invite people:
Enter names or email addresses...
Can edit
Owner settings Learn more
Prevent editors from changing access and adding new people
Done

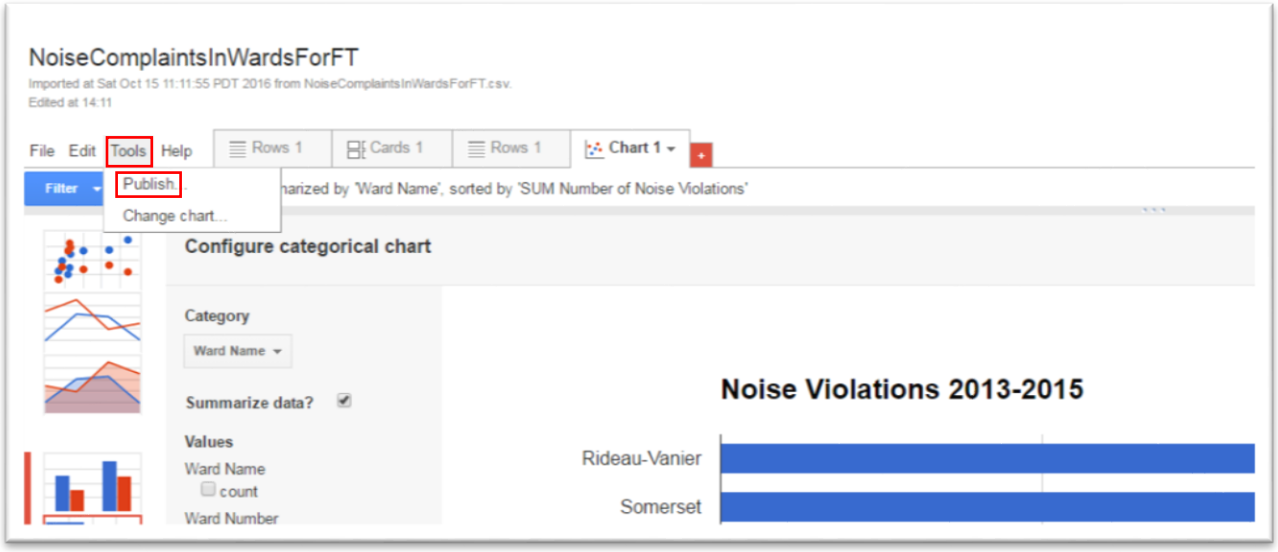


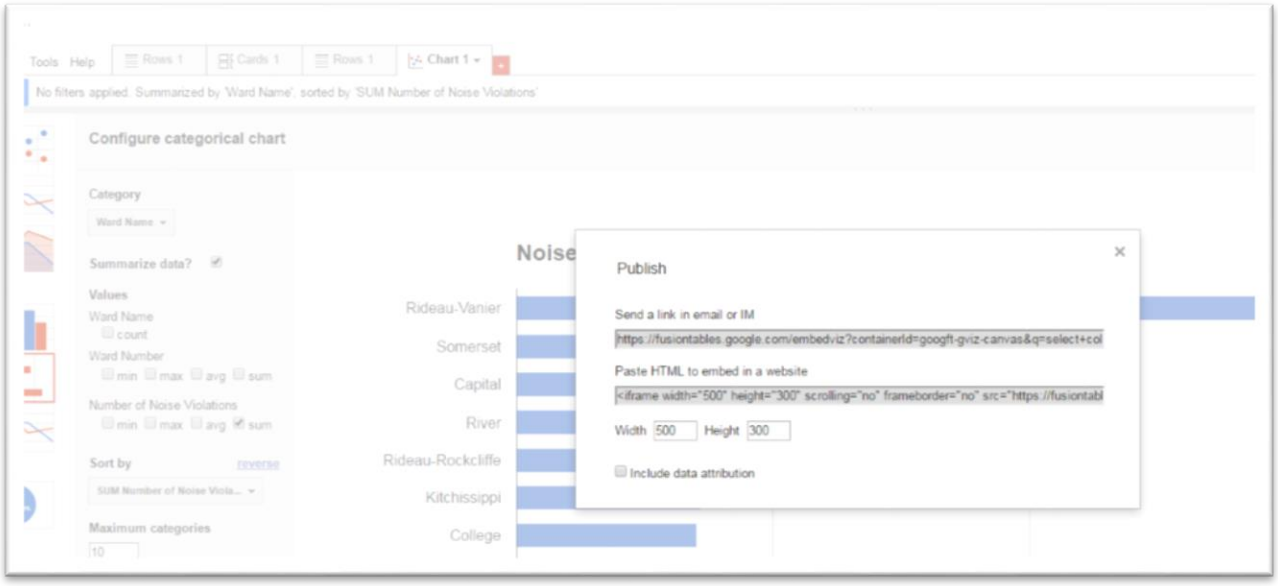
The selection depends on what you want to do. If the visualization is for your story, then the first option makes sense. If you want to limit the exposure to colleagues or classmates, the second or third choices might be better options. For

the purposes of this tutorial, let's choose "Public on the web."



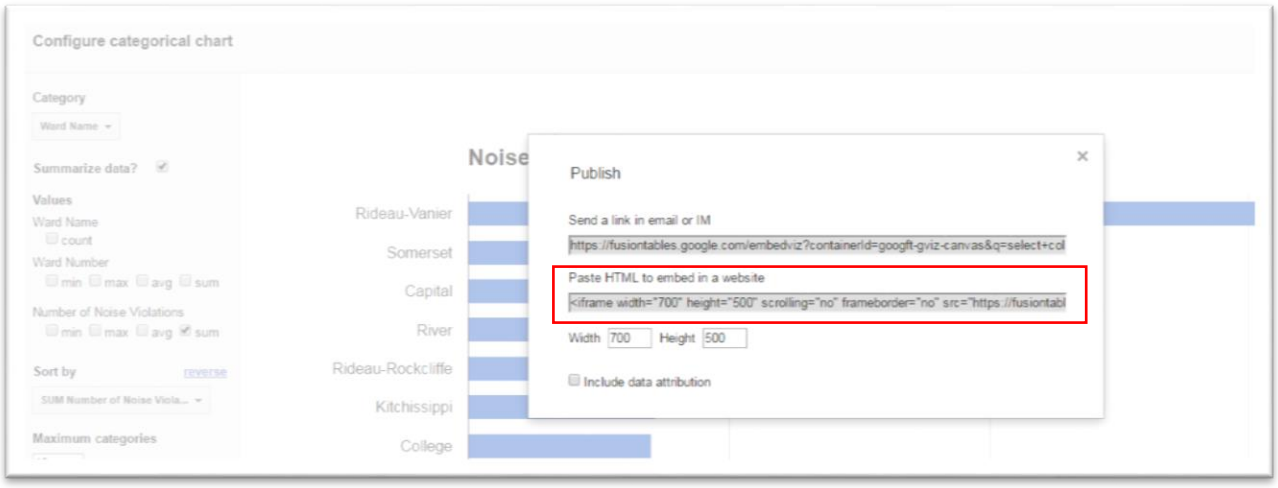
Select “Done”, and go to “Tools” section on the menu to the left.





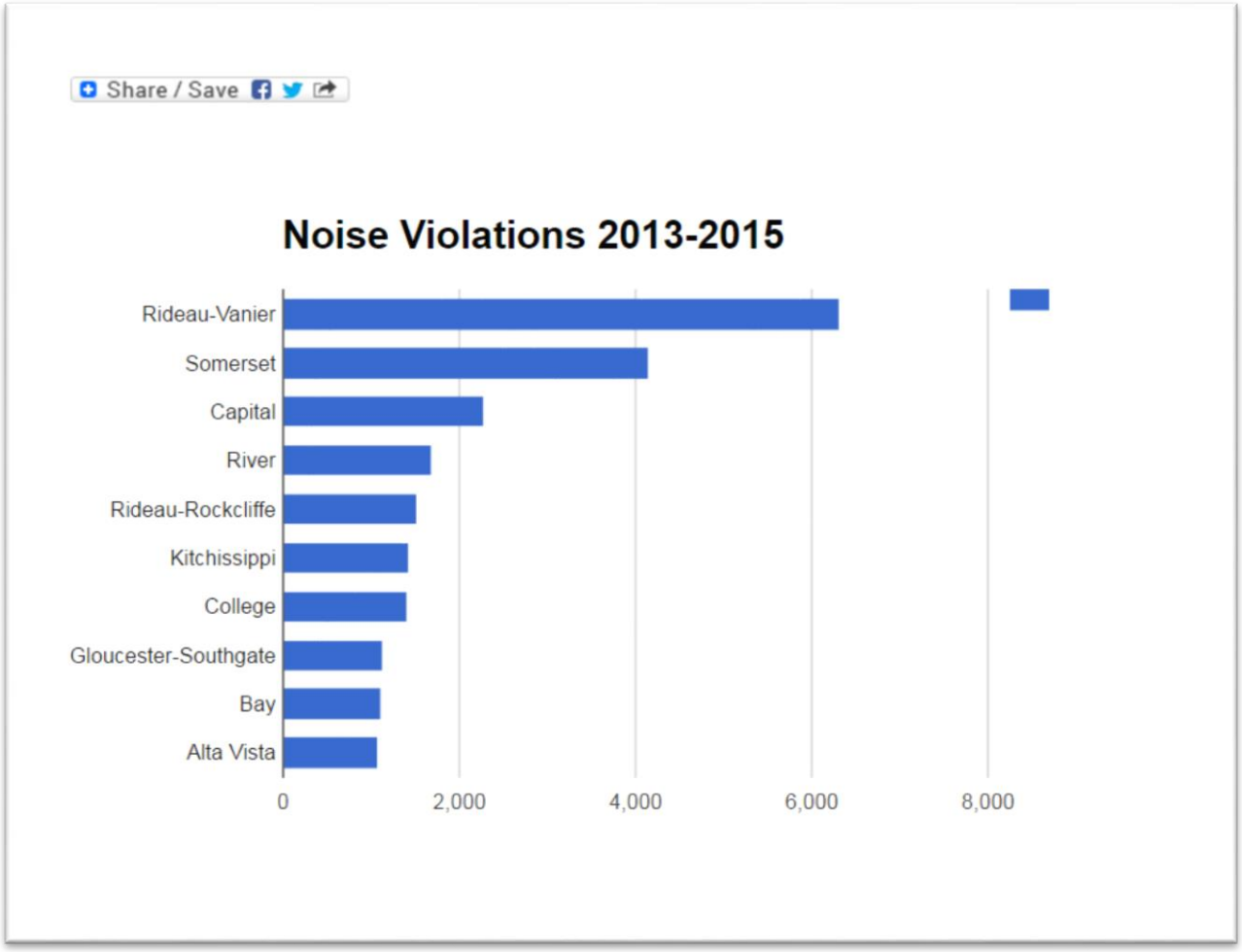
In the “Publish” dialogue box, you have the url and the embed code. If you want dimensions other than the defaults measurements for height and width, make the

changes next to the labels.



In this case, we have bumped up the width and height to 700 and 500, respectively. Now you can select and copy the embed code, and paste it into the HTML view of

our blog post.



Fusions tables are a quick and easy way to display data in many stories. There is also the added advantage of the visualizations being stored on your Google Drive, making them easy to locate and share. However, because it is in perpetual experimental or beta format, the interface and options may change from time to time.