

Google Fusion Tables Tutorial 1 of 3: Creating Maps

Google Fusion Tables is a free tool provided by Google that helps you visualize and share data with other users of the service. You can create visualizations in the form of pie charts, bar charts, lineplots, scatterplots, and timelines. Fusion Tables also allows you to merge datasets together – to create richly layered maps, for instance.

In this first tutorial on Fusion Tables we're going to learn the basics of creating and customizing a map.

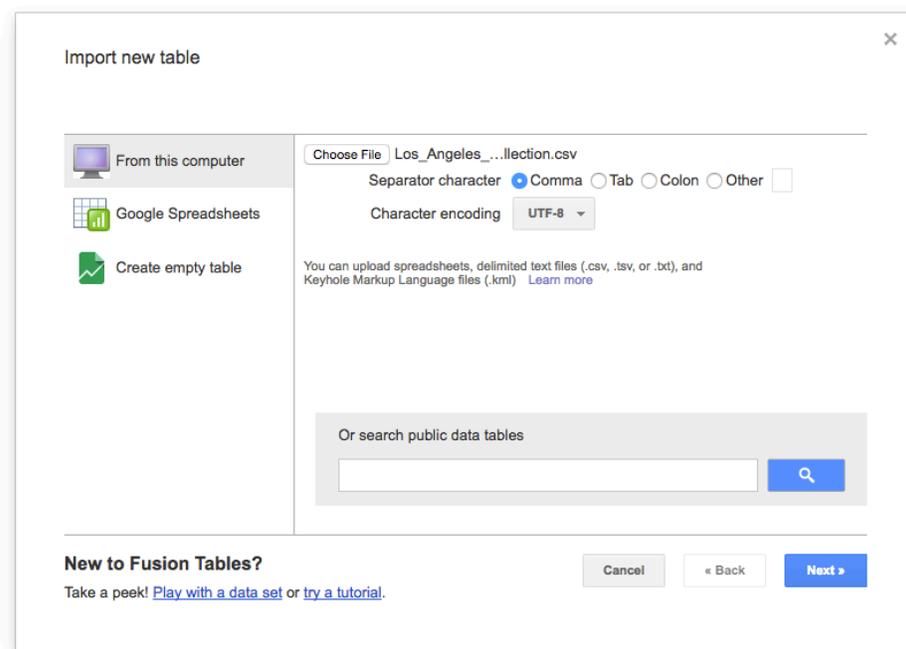
Getting Started

First download this dataset of artworks owned by the County of Los Angeles:
<https://data.lacounty.gov/Arts-and-Culture/Los-Angeles-County-Civic-Art-Collection/9qv9-day>

Click the blue 'Export' button and export as a CSV file. Save somewhere on your computer.

Now you'll need to access Google Fusion Tables through Google Drive. Go to tables.googlelabs.com and click on 'Create a Fusion Table.' You'll need to sign in with your Google account.

At the next page click 'file'. Select the downloaded dataset. Make sure the 'separator character' checked is 'comma'. 'Character encoding' can remain 'UTF-8.'



Import new table

From this computer | Choose File | Los_Angeles_...llection.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](#).

On the following page, you'll want to click 'Column names are in row' 2, since the 2nd row in the spreadsheet contains headings.

Import new table

Column names are in row

1	Title	Artist Name	Location Name	County Depart...	Year Created	Location Street	Object Type	Techn...
2	Title	Artist	Locat... Name	Depart...	Date/...	Locat... Street Address, City, Location State, Locat... Zip Code	Object Type	Tech...
3	Untitled	Mario Cesp...	Graham Library	Public Library	2001	1900 East Firest... Avenue Los	mural	Mural painting

Rows before the header row will be ignored.

New to Fusion Tables?
Take a peek! [Play with a data set](#) or [try a tutorial](#).

On the next page you can rename your dataset, for instance to 'Los Angeles County Civic Art Collection'. You can also attribute the data, in this case to the 'Los Angeles County Arts Commission'; add the link to the URL attribution; and copy and paste the description from the source webpage.

Click 'Finish.'

Creating a Map

First things first – notice that above the table, you can click on a tab called 'Map of Location Name.' By default, Fusion Tables has opted to map the 'Location Name' column. You actually want to map by the complete address, in the column titled 'Location Street Address Location City, Location State, Location Zip Code.'

Fusion Tables first needs to know that this column is a geographic location. Scroll over the 'Location Street Address, etc.' column heading, and you'll see an arrow for a drop down menu. Click this and choose 'Change.'

At the next screen, you can simplify the column name by changing it to 'Location Address'. Then in the 'Type' drop down menu, change the column type to 'location.' Click 'Save.'

Los Angeles County Civic Art Collection

The County's collection is comprised of contemporary and historic permanent public artworks locate... [more >>](#)
[Los Angeles County Arts Commission](#) - Edited at 14:55

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← Save Discard changes

Change column

Column name

Description

Type Validate data [Learn more](#)

Two column location

Latitude

Longitude

Format

List of drop-down items
[Learn more](#)

Custom properties JSON

Now click on the tab 'Map of Location Name' to enter the map view. You'll see a box pop up that begins geocoding by 'Location Name.' You'll want to cancel this step by clicking the 'Cancel' button – we don't want Fusion Tables to geocode by the 'Location Name' column.

Now go to the 'Location' drop down menu in the margin the left of the map and change this from 'Location Name' to 'Location Address.'

Google will use its geocoding service to create geo-coordinates out of the addresses in this column. The conversion can take some time – a few minutes in this case.

Note: Google's geocoding service doesn't always produce precise locations, especially if the location data is not uniform. For example, artworks given the address 'Grand to Hill between First & Temple Los Angeles, CA 90012' are not mapped correctly. The map places this artwork in Los Angeles' Chinatown neighborhood, rather than at Grand Park. To learn how to clean your data before taking it into Fusion Tables, see the Open Refine tutorials.

Now you can see the whereabouts of the County's artworks. That simple! Click on one of the red markers and you'll get a pop up window containing the tabular information for each work.

Los Angeles County Civic Art Collection

The County's collection is comprised of contemporary and historic permanent public artworks locate... [more >>](#)
Los Angeles County Arts Commission - Edited at 15:03

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File Edit Tools Help Rows 1 Cards 1 Map of Location Name +

Filter No filters applied Saved 317 rows

Configure map Done

Location Location Address

Feature map

Change feature styles...

Change info window...

Heatmap

Title: Untitled
Artist: Dora De Larios
Location Name: Norwood Library
Department: Public Library
col4: 1977
Location Address: 4550 North Peck Road El Monte, CA 91732 (34.087072, -118.016306)
Object Type: mural
Technique: Tiling
Media & Support: Glazed ceramic
col9: 1

Map Satellite

2016 Google - Map data ©2016 Google, INEGI 20 km Terms of Use Report a map error

Now go back to the row layout by clicking on the 'Rows 1' tab. You'll see that the contents of the 'Location Address' column are highlighted in yellow – meaning these are read as a location – and now contain geo-coordinates.

You can also change the Map title to reflect the data that it maps. Click the arrow on the tab 'Map of Location Name' to get a drop down menu and click 'Rename'. Title this tab 'Map of Location Address.'

Note: you can also geocode a column by click on File → geocode, then select the 'Location Address' and click 'begin geocoding.'

Note also: when two or more rows contain the same geo-coordinates, Fusion Tables only provides a marker for one row and doesn't indicate the presence of several artworks at the same site. Important information unfortunately falls out of the map view as a result. One possible way to change this is to slightly alter the geo-coordinates for artworks at the same site.

Changing the Map's Features

Fusion tables allows you to customize some of the map features. In particular, you can color code the map markers so that they provide visual information about a location. You create this dimension by adding 'buckets'.

Buckets color code two or more number ranges. Essentially buckets create visual classifications of your data based on the value in a numeric data column.

In this case, there are only two columns with numeric data: the art work's date of creation, and Supervisor District. Let's say you want the map to show date information. For instance, you can have the markers color coded to signify artworks that date to the early 20th century, to the latter half of the 20th century, and after 2000.

To do this you first need to label this numeric column appropriately. Go to the row layout. Find the column labeled 'col4' and change this to 'Year Created' (this is the label given to this column in the original spreadsheet on the County of Los Angeles Open Data website).

You now want to tell Google to read this column as numeric data since currently it's read as a date. Go to the drop down menu in the column heading and click 'Change.' In the drop down menu next to 'Type' select 'Number'. Click 'Save.'

Los Angeles County Civic Art Collection [Share](#)

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[←](#) [Save](#) [Discard changes](#)

Change column

Column name

Description

Type Validate data [Learn more](#)

Format

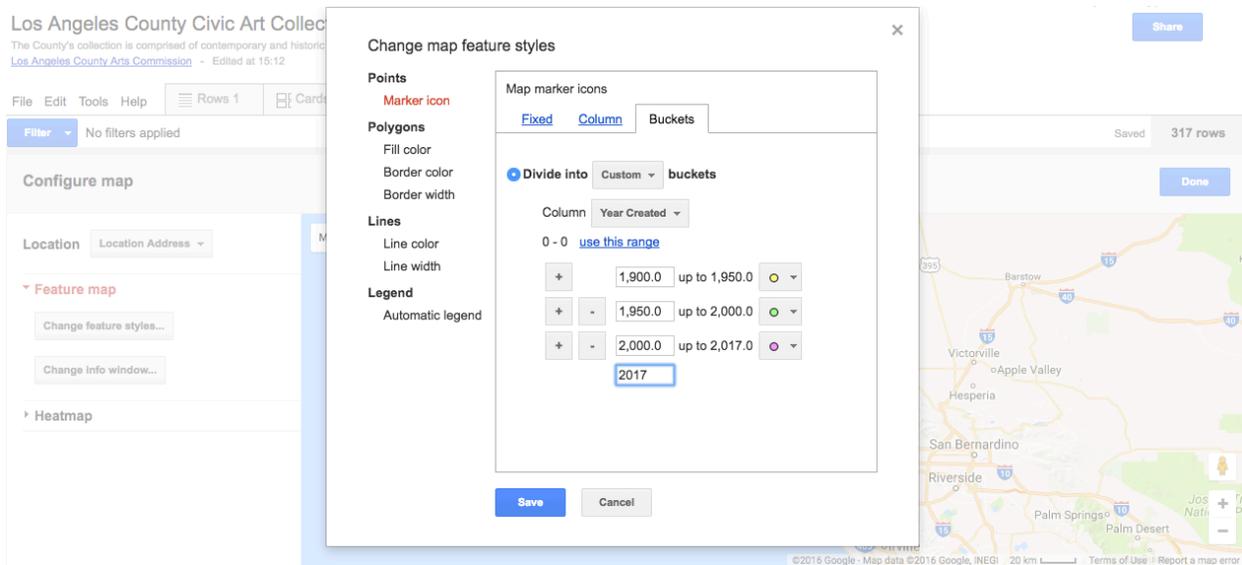
List of drop-down items
[Learn more](#)

Custom properties JSON

Graph predicate
[Learn more](#)

Now you go back to the map layout. Click 'Change feature styles...' in the margin to the left of the map. In the pop up window, click on 'Marker icon' under 'Points', then select the 'Buckets' tab. You'll want three different colors to signify each time period. Use the drop down menu to divide into 3 buckets.

In the text boxes under 'use this range' you'll want to type in the numbers manually so that each marker corresponds to a date range. In the first text box, type '1900'. In the second text box, type '1950'; in the third type '2000' and in the fourth and last box type the current year plus 1 (if the year is 2016, put 2017). You can also choose the colors you want your markers to be by the drop down menu to the right of the text boxes. Click 'Save.'



You can now see at a glance the locations of historic and more recently created artworks owned by Los Angeles County. Artworks dating back before 1950 are clearly much rarer than more contemporary works.

Note: artworks that do not have a date will have a red marker.

Note also: for more on Buckets, see this Fusion Table tutorial: <https://support.google.com/fusiontables/answer/185991?hl=en>

Customized Information Window

If you want, you can customize the information window that pops up when you click on a map marker. To do this, go to the map view and select 'Tools' → 'Change map', then click the 'Change info window' button. You can deselect certain columns that have information you don't want to display, or you can customize the information using html by clicking on the 'custom' tab.

Filtering

The map layout also allows you to filter information based on any of the columns in the spreadsheet. Click on the blue 'Filters' tab to get a drop down menu of each column. Say you only want to display sculptures on the map. In the drop down menu, select 'Object Type', then scroll till you can check the box for 'sculpture.'

You can add layers of filters as well; for instance, you can filter again to show only those sculptures owned by Parks and Recreation. Select the 'Filter' button again, then choose 'Department' and check the box for 'Parks and Recreation.'

Los Angeles County Civic Art Collection

The County's collection is comprised of contemporary and historic permanent public artworks located... [more >>](#)
[Los Angeles County Arts Commission](#) - Edited at 15:12

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File Edit Tools Help Rows 1 Cards 1 Map of Location Address

Filter 'Object Type' = 'sculpture' AND Department = 'Parks and Recreation' Saved 20 rows

Configure map Done

Location Location Address

Feature map

Change feature styles...

Change info window...

Heatmap



Category	Value
7 distinct values	
floor	1
garden	1
glass	1
mural	26
painting	1
sculpture	20

Department	Count
13 distinct values	
Internal Services	14
Mental Health	3
Parks and Recreation	20
Public Health	1
Public Library	41
Public Works	4
Sheriff	2

To delete filters click the 'x' next to the filter heading.

Play around with the filters to get different versions of the map's display.

Share Your Map!

You can make this map public and share it with other Fusion Table users. Click on the 'Share' button in the top right hand corner of the screen. At the following window, next to 'Private - only you can access' click 'Change...' and select 'Public - on the web.' To embed the map on a website, click the 'Tools' tab, then 'Publish' to retrieve the html code.

Credits:

Written by Morgan Currie, September 2016.