



# TRAINING MANUAL

**USING *GOOGLE MAPS* WITH *OPEN BALTIMORE DATA***



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## **The purpose of this manual:**

To provide step-by-step instructions to enable community members to use available 311, 911, and vacant property data for local map construction.

- **Part 1:** How to access, edit, and update 311/911 data and vacant property data from *Open Baltimore*. This website is run by Baltimore City and its affiliated partners to increase transparency and accountability. [Page 3]
- **Part 2:** How to use *Google Maps* with those datasets to create an individualized map for the community. [Page 13]
- **Part 3:** How to create a Heat Map to show hotspots. [Page 23]

## Part 1

# How to access, edit, and update 311/911 data and vacant property data from Open Baltimore

These instructions show step by step how to download *Open Baltimore's* Website and start using the 311 and 911 data.

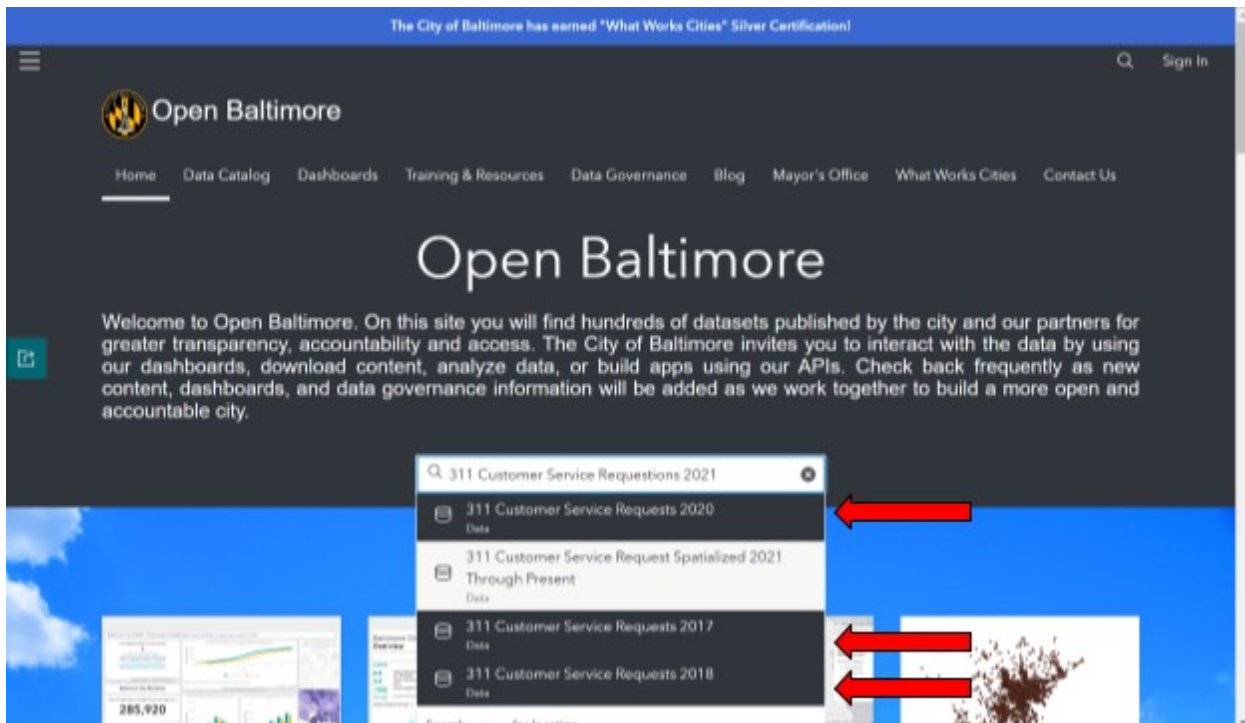
**Step 1:** Go to <https://data.baltimorecity.gov>. You should see this page below on your screen:

The screenshot shows a web browser window displaying the Open Baltimore website. The browser's address bar shows the URL [data.baltimorecity.gov](https://data.baltimorecity.gov). The website header includes a navigation menu with links for Home, Data Catalog, Dashboards, Training & Resources, Data Governance, Blog, Mayor's Office, What Works Cities, and Contact Us. The main content area features the Open Baltimore logo and a welcome message: "Welcome to Open Baltimore. On this site you will find hundreds of datasets published by the city and our partners for greater transparency, accountability and access. The City of Baltimore invites you to interact with the data by using our dashboards, download content, analyze data, or build apps using our APIs. Check back frequently as new content, dashboards, and data governance information will be added as we work together to build a more open and accountable city." Below the welcome message is a search bar with the placeholder text "Search for a dataset or dashboard". The bottom section of the page is titled "Featured Content" and displays three dashboard thumbnails: "Baltimore City COVID-19 Dashboard Overview", "Baltimore City COVID-19 Dashboard", and "Baltimore MBE/WBE Finder". A privacy notice is visible in the bottom right corner, stating: "This site was built with ArcGIS Hub and uses anonymous tracking to improve performance and analyze site usage in accordance with Esri's Privacy Statement." Below the privacy notice are "Accept" and "Reject" buttons.

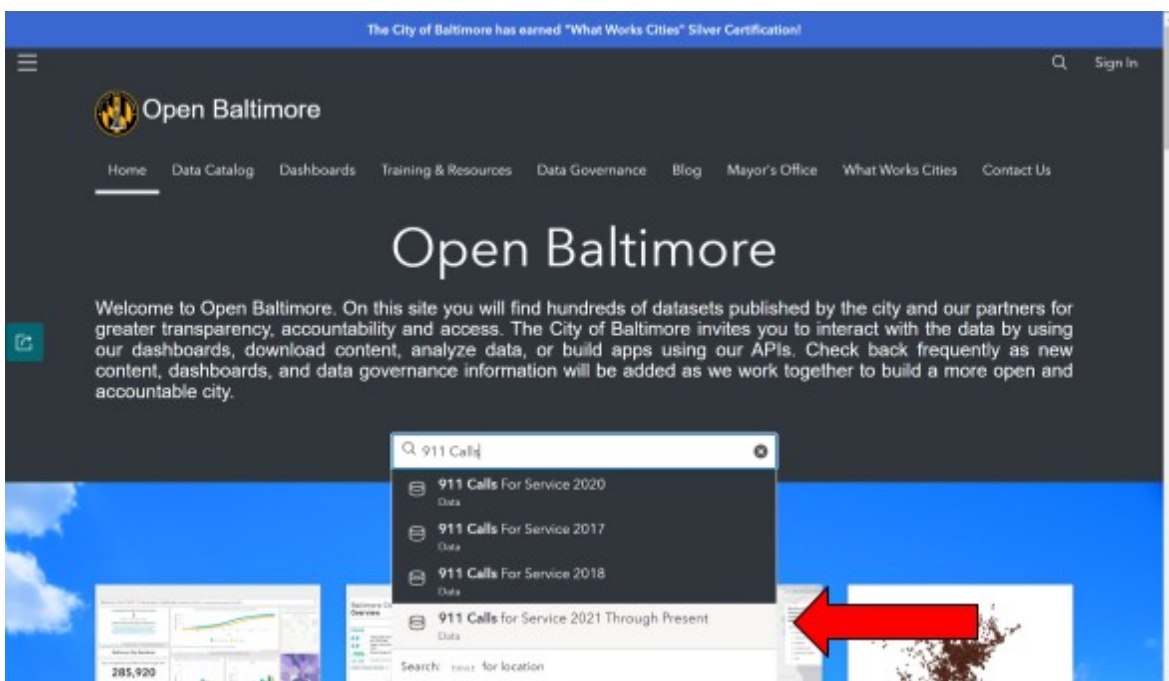
**Step 2:** You should now see 'Search for a dataset or dashboard' bar on your screen (pointed to with the red arrow).

**Step 3:** Type in "311 Customer Service Requests" or "911 Calls for Service" the search bar to find the most recent data set, by year for 311 or 911 calls.

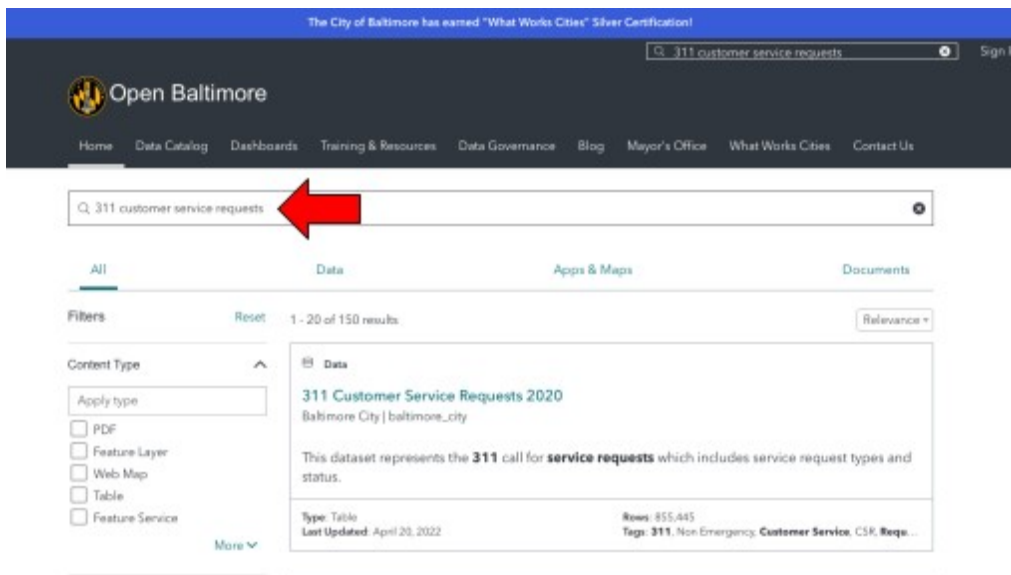
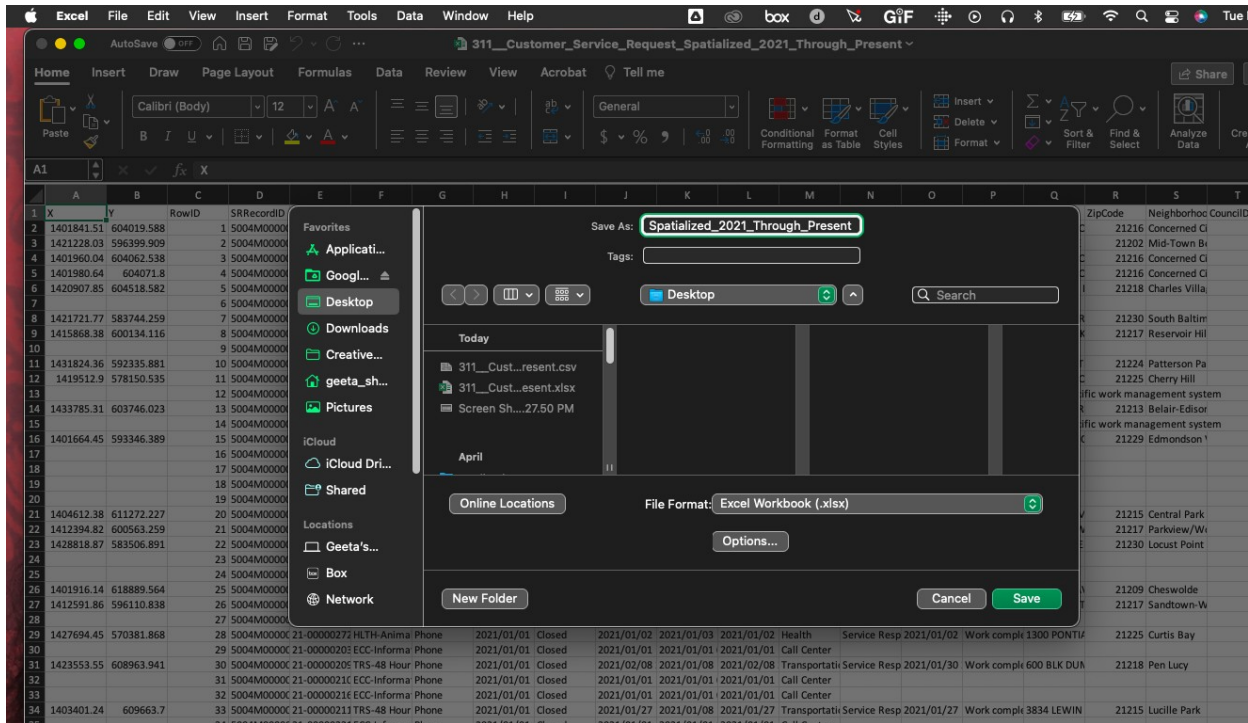
**For 311 data:**



**For 911 data:**



**Step 4:** Once you've entered the text into the search bar, click "enter" on your keyboard. This should look like the first screenshot with **the red arrow**.



**Step 5:** Select the dataset you would like to download from the results list, and click on the blue text. An example is below with **the red arrow** showing where you should click.

Data

**311 Customer Service Requests 2019**  
Baltimore City | baltimore\_city

This dataset represents the 311 call for **service requests** which includes service request types and status.

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Type: Table  
Last Updated: April 20, 2022

Rows: 768,612  
Tags: 311, CSR, Non Emergency, City Government, Reque...

Data

**311 Customer Service Request Spatialized 2021 Through Present** ←

Baltimore City | baltimore\_city

This dataset represents the City of Baltimore's 311 call for **service requests** which includes service request types and status starting from 2021 through the present day. Data is updated daily. To chec...

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Type: Feature Layer  
Last Updated: April 20, 2022

Rows: 1,355,069  
Tags: 311, customer, service, request, non-emergency

You should now see a screen like the example below.

The City of Baltimore has earned "What Works Cities" Silver Certification

Open Baltimore Sign In

**311 Customer Service Requests 2020**

Baltimore City  
Baltimore City

**Summary**

This dataset represents the 311 call for service requests which includes service request types and status.

[View Full Details](#)

**Details**

- Dataset: Table
- April 20, 2022: Info Updated
- April 20, 2022: Data Updated
- August 12, 2021: Published Date
- 855,445 Records: View data table
- Public: Anyone can see this content

I want to use this

Showing 25 of 855,445 rows

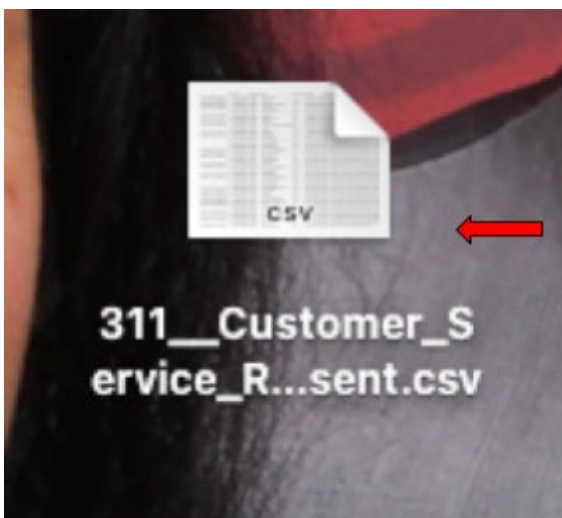
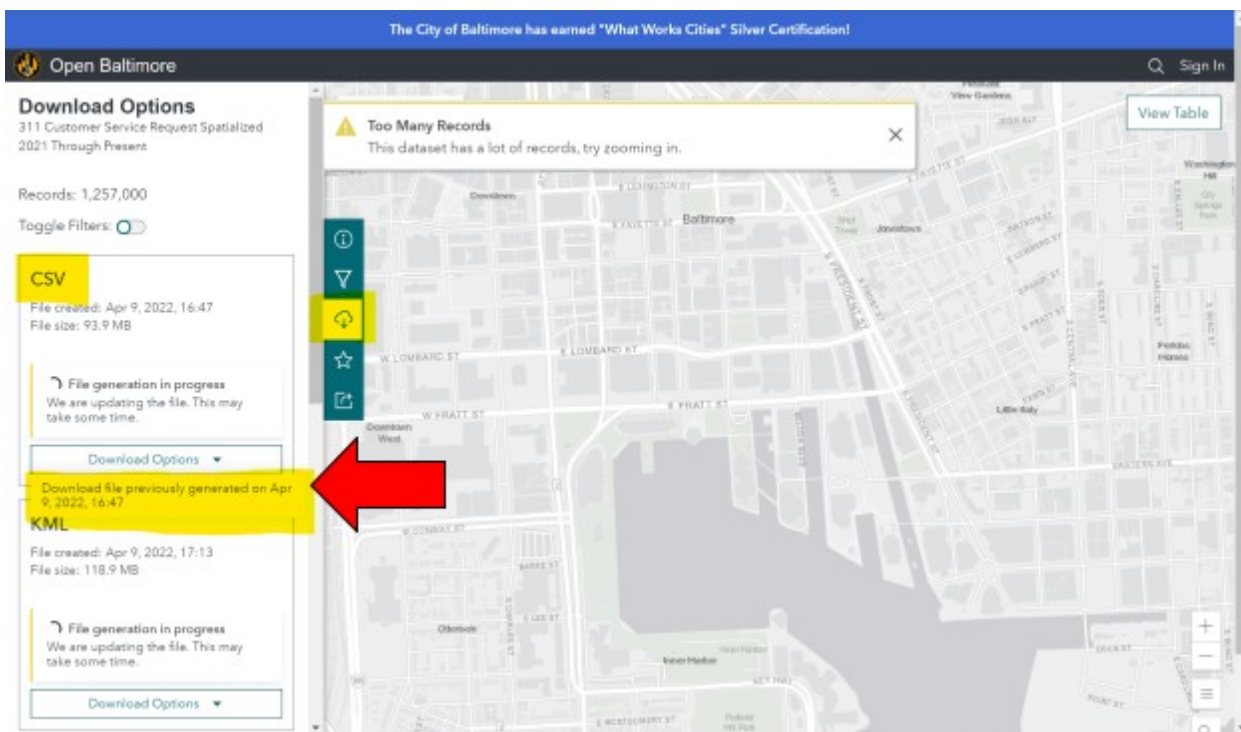
SRRRecordID	ServiceRequestNum	SRTType	MethodReceived	CreatedDate	SRSI
5004M0000bKbwqQ...	20-00000004	TRS-Parking Complaint	API	12/31/2019, 7:31 PM	Clos
5004M0000bKbwRQAS	20-00000001	HLTH-EV Noise	API	12/31/2019, 7:10 PM	Clos
5004M0000bKbwW...	20-00000002	HLTH-EV Noise	API	12/31/2019, 7:17 PM	Clos
5004M0000bKbw8QAC	20-00000005	TRT-Traffic Signal Repairs	Phone	12/31/2019, 7:40 PM	Clos
5004M0000bKbw5QAC	20-00000006	HLTH-Animal Barking Dog	API	12/31/2019, 7:40 PM	Clos
5004M0000bKbwAQAS	20-00000007	TRT-Traffic Signal Repairs	Phone	12/31/2019, 7:41 PM	Clos
5004M0000bKbwFQAS	20-00000008	ECC-Vehicle Lock Up	Phone	12/31/2019, 7:45 PM	Clos
5004M0000bKbwKQAS	20-00000009	TRT-Traffic Signal Repairs	Phone	12/31/2019, 7:46 PM	Clos
5004M0000bKby3QAC	20-00000010	TRS-Parking Complaint	API	12/31/2019, 8:10 PM	Clos
5004M0000bKby8QAC	20-00000011	TRS-Parking Complaint	API	12/31/2019, 8:12 PM	Clos
5004M0000bKbyDQAS	20-00000012	TRS-Parking Complaint	API	12/31/2019, 8:13 PM	Clos
5004M0000bKbyhQAC	20-00000016	TRS-48 Hour Parking/Aband...	API	12/31/2019, 8:29 PM	Clos
5004M0000bKbylQAS	20-00000013	TRS-Parking Complaint	API	12/31/2019, 8:14 PM	Clos
5004M0000bKbyNQAS	20-00000014	DPW-Calendar or Water Qua...	Phone	12/31/2019, 8:19 PM	Clos

**Step 6:** Click on the download (📄) icon that is **circled in red** in the screenshot below. You should now see a screen like the example below, with a *'Download Options'* menu.

Download the .CSV file and drag that file onto your desktop.

- Under the CSV file, click on the *'Download Options'* dropdown menu.
- Then click on the *'Download file previously generated on [X date].'*

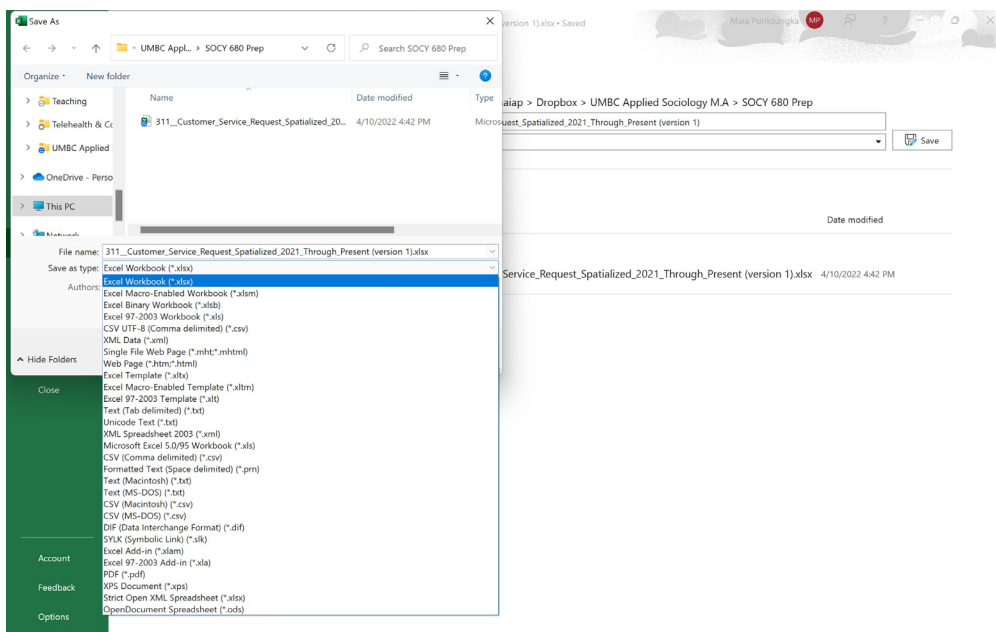
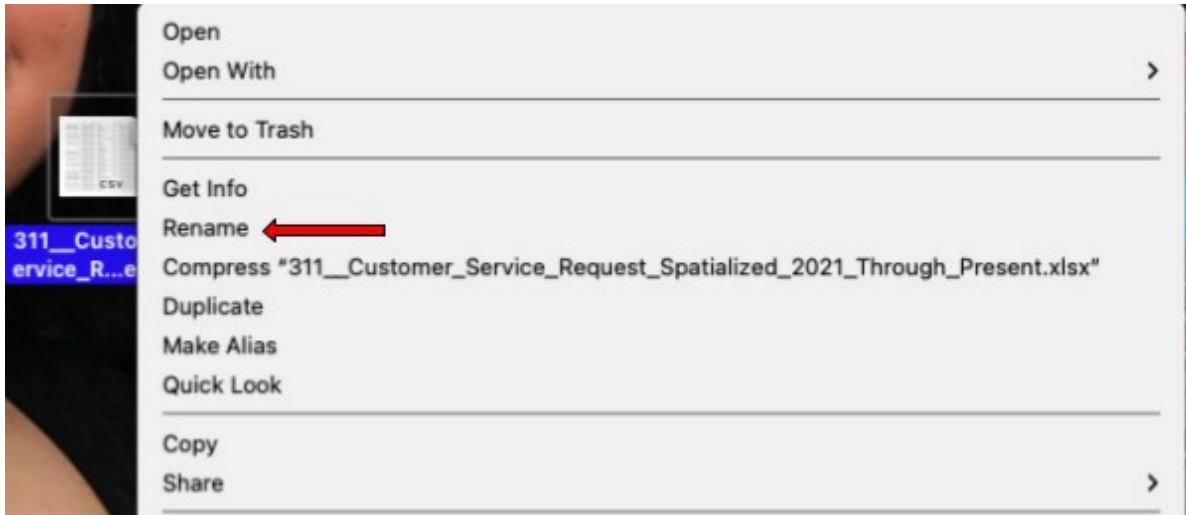
This lets you **download the .CSV file directly to your computer**. Make sure you drag that file onto your desktop like in the screenshot below.



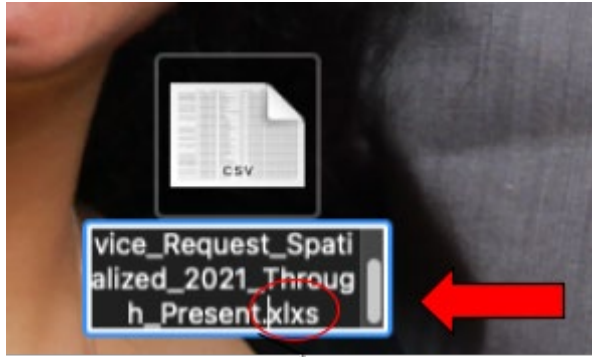
**Step 7:** After downloading the file, you must save this original file as an **Excel file (\*.xlsx)**.

**NOTE:** If you end up saving the file as a .CSV file, you may lose a part of the original data.

These steps are shown in the photos below.







**Step 8:** Save this Excel file also under a **new file name** to prevent overriding any original data. In other words, you should have two of the same Excel files with different names – one will be saved as the original file and the other will be the **file containing the call data used for the data analysis.**

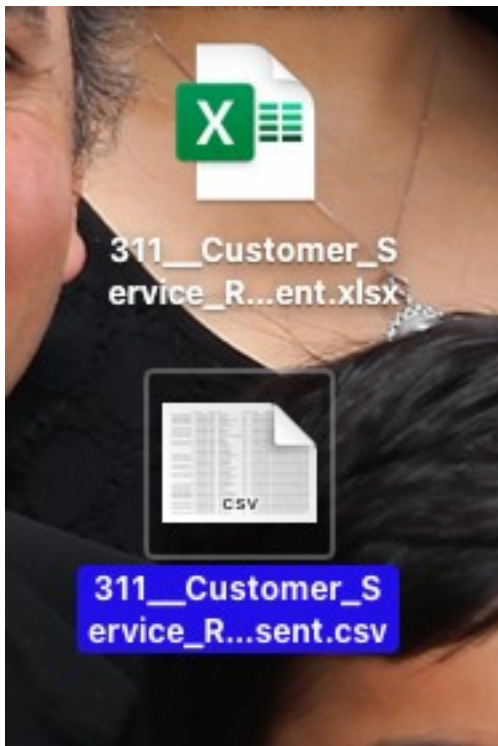
AutoSave [DIFF] 311\_Customer\_Service\_Request\_Spatialized\_2021\_Through\_Present

Home Insert Draw Page Layout Formulas Data Review View Acrobat Tell me

Possible Data Loss Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format.

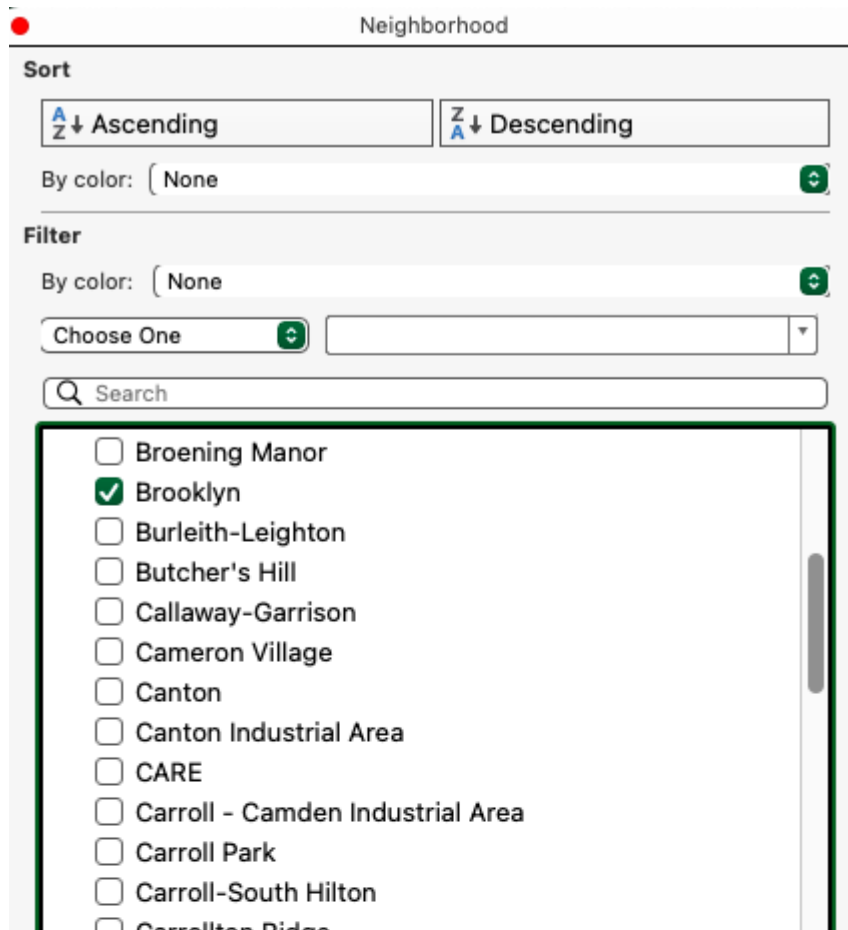
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
X	Y	RowID	SRRecordID	ServiceReq	SRType	MethodRece	CreatedDate	SRStatus	StatusDate	DueDate	CloseDate	Agency	LastActivity	LastActivityO	Outcome	Address	ZipCode	Neighborhood	CouncilDistri	PoliceDistrict
1																				
2	1401841.51	604019.588	1	5004M0000X	21-0058496HCD-Vacant	API	2021/08/02	Closed	2021/08/09	2021/08/17	2021/08/09	Housing	Service Resp	2021/08/09	Work compl	3822 NORFC	21216	Concerned Ci	6	Northwestern
3	1421228.03	596399.909	2	5004M0000X	21-0058496SW-SIU Clea Internal		2021/08/02	Closed	2021/08/20	2021/08/18	2021/08/20	Solid Waste	Service Resp	2021/08/20	Work compl	10 E BIDDLE	21202	Mid-Town Bi	12	Central
4	1401960.04	604062.538	3	5004M0000X	21-00584971TRS-48 Hour	API	2021/08/02	Closed	2021/08/02	2021/08/09	2021/08/04	Transportati	Service Resp	2021/08/04	SR closed by	3810 NORFC	21216	Concerned Ci	6	Northwestern
5	1401980.64	604071.8	4	5004M0000X	21-0058497SW-SIU Clea Internal		2021/08/02	Closed	2021/09/14	2021/08/20	2021/09/14	Solid Waste	Service Resp	2021/09/14	Work compl	3808 NORFC	21218	Concerned Ci	6	Northwestern
6	1420907.85	604518.582	5	5004M0000X	21-00584972TRM-Street	API	2021/08/02	Closed	2021/08/03	2021/08/06	2021/08/03	Transportati	Service Resp	2021/08/03	SR closed by	3100 SAINT I	21218	Charles Villa	14	Northern
7			6	5004M0000X	21-00584973BGE-StLight	System	2021/08/02	Closed	2021/08/02	2021/08/27	2021/08/12	BGE	Service Response							
8	1421721.77	583744.259	7	5004M0000X	21-00584974HLTH-TV Nol	API	2021/08/02	Closed	2021/08/26	2021/08/30	2021/08/26	Health	Service Resp	2021/08/26	Work compl	1829 S CHAR	21230	South Baltim	11	Southern
9	1415868.38	600134.116	8	5004M0000X	21-00584975WW-Water	API	2021/08/03	Closed	2021/08/15	2021/08/05	2021/08/23	Water Wasti	Service Resp	2021/08/23	SR closed by	2260 BROOK	21217	Reservoir Hill	7	Central
10			9	5004M0000X	21-00584976TR-Escalatio	System	2021/08/03	New	2021/08/03	2021/08/05	2021/08/03	Transportati	Service Response							
11	1431824.36	592335.881	10	5004M0000X	21-00584977SW-Mixed R	API	2021/08/03	Closed	2021/08/03	2021/08/04	2021/08/03	Solid Waste	Service Resp	2021/08/03	Work compl	2744 E BALT	21224	Patterson Pa	1	Southeaster
12	1419512.9	578150.535	11	5004M0000X	21-00584978HLTH-Anima	Phone	2021/08/03	Closed	2021/08/05	2021/08/06	2021/08/05	Health	Service Resp	2021/08/05	Work compl	2621 SEAMC	21225	Cherry Hill	10	Southern
13			12	5004M0000X	21-00584979TR-Escalatio	System	2021/08/03	Closed	2021/08/03	2021/08/05	2021/08/03	Transportati	Service Resp	2021/08/03	SR closed by	agency-specific work management system				
14	1433785.31	603746.023	13	5004M0000X	21-00584980TR-Escalatio	System	2021/08/03	Closed	2021/08/03	2021/08/05	2021/08/04	Transportati	Service Resp	2021/08/04	SR closed by	3507 BELAIR	21213	Belair-Edsor	13	Northeastern
15			14	5004M0000X	21-00584981BGE-StLight	API	2021/08/03	Closed	2021/08/03	2021/08/07	2021/08/03	BGE	Service Response	2021/08/03	SR closed by	agency-specific work management system				
16	1401664.45	593346.389	15	5004M0000X	21-00584982BGE-C-Order	System	2021/08/03	Closed	2021/08/03	2021/08/28	2021/08/05	BGE	Service Response			642 WILDOW	21229	Edmondson	8	Southwestern
17			16	5004M0000X	21-0079093ECC-Infoma	Phone	2021/10/13	Closed	2021/10/13	2021/10/13	2021/10/13	Call Center								
18			17	5004M0000X	21-00874415ECC-Infoma	Phone	2021/11/12	Closed	2021/11/12	2021/11/12	2021/11/12	Call Center								
19			18	5004M0000X	21-0000019ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
20			19	5004M0000X	21-0000019ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
21	1404612.38	611272.227	20	5004M0000X	21-00000204TRS-48 Hour	Phone	2021/01/01	Closed	2021/01/27	2021/01/08	2021/01/27	Transportati	Service Resp	2021/01/27	Work compl	4900 EDGEN	21215	Central Park	6	Northwestern
22	1412394.82	600563.259	21	5004M0000X	21-0000020XCD-Mainter	API	2021/01/01	Closed	2021/01/04	2021/01/16	2021/01/04	Housing	Service Resp	2021/01/04	Work compl	2818 PARKW	21217	Parkview/W	7	Western
23	1428818.87	583506.891	22	5004M0000X	21-00000218TRS-Parking	API	2021/01/01	Closed	2021/01/01	2021/01/02	2021/01/01	Transportati	Service Resp	2021/01/01	SR closed by	1400 BLK BE	21230	Locust Point	11	Southern
24			23	5004M0000X	21-00000205ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
25			24	5004M0000X	21-00000201ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
26	1401916.14	618889.564	25	5004M0000X	21-00000207BGE-StLight	Phone	2021/01/01	Closed	2021/01/01	2021/01/05	2021/01/02	BGE	Service Resp	2021/01/02	SR closed by	BERKELEY AI	21209	Cheswolde	5	Northwestern
27	1412591.86	596110.838	26	5004M0000X	21-00000202SW-Municip	Phone	2021/01/01	Closed	2021/02/08	2021/02/16	2021/02/08	Solid Waste	Service Resp	2021/02/08	SR assessed	1199 N FULT	21217	Sandtown-W	9	Western
28	1427694.45	570381.868	28	5004M0000X	21-00000272HLTH-Anima	Phone	2021/01/01	Closed	2021/01/02	2021/01/03	2021/01/02	Health	Service Resp	2021/01/02	Work compl	1300 PONTI	21225	Curtis Bay	10	Southern
29			29	5004M0000X	21-00000203ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
30	1423553.55	608963.941	30	5004M0000X	21-00000205TRS-48 Hour	Phone	2021/01/01	Closed	2021/02/08	2021/01/08	2021/02/08	Transportati	Service Resp	2021/01/30	Work compl	600 BLK DUN	21218	Pen Lucy	4	Northern
31			31	5004M0000X	21-0000021ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
32			32	5004M0000X	21-0000021ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								
33	1403401.24	609663.7	33	5004M0000X	21-00000211TRS-48 Hour	Phone	2021/01/01	Closed	2021/01/27	2021/01/08	2021/01/27	Transportati	Service Resp	2021/01/27	Work compl	3834 LEWIN	21215	Lucille Park	6	Northwestern
34			34	5004M0000X	21-00000231ECC-Infoma	Phone	2021/01/01	Closed	2021/01/01	2021/01/01	2021/01/01	Call Center								

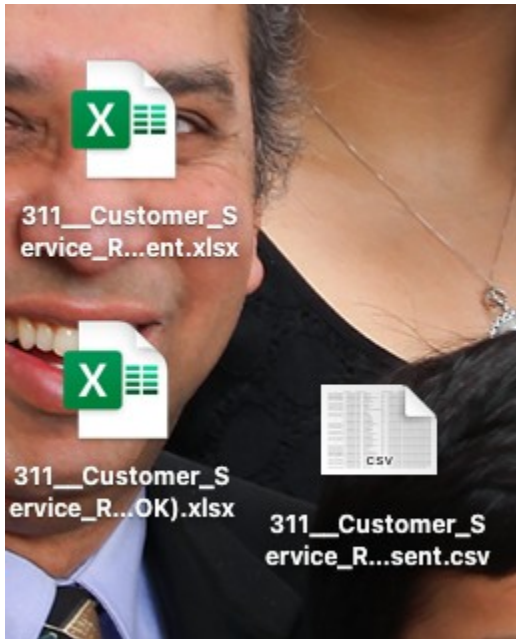
311 Customer Service Request S



**Step 9:** Reduce the number of cases in this file by **filtering out the data** to only include the neighborhood of interest, for example Brooklyn.

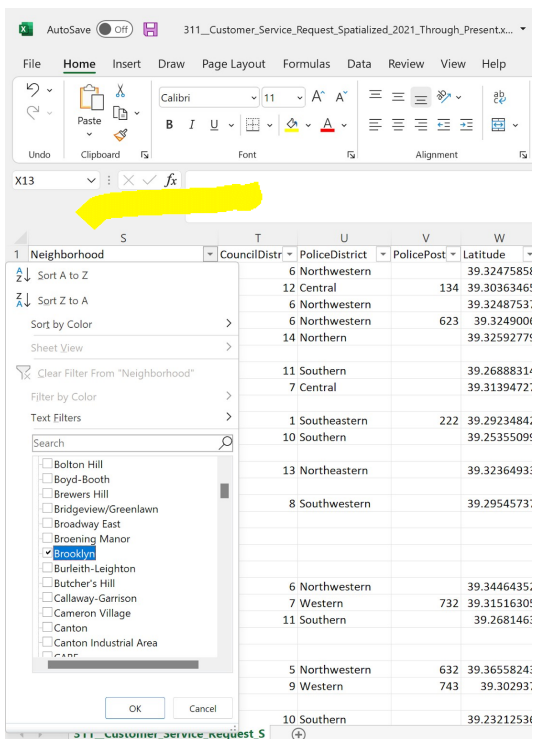
To do this, go to click Ctrl + Shift + L, and then filter the search by selecting your neighborhood of interest (e.g. Brooklyn) and deselecting all other neighborhoods-- as seen below in the picture.





Now save this third file to indicate that it only includes the neighborhood of interest; otherwise, the file will still include all other cases. This is your **working file-- specifically for Baybrook data points.**

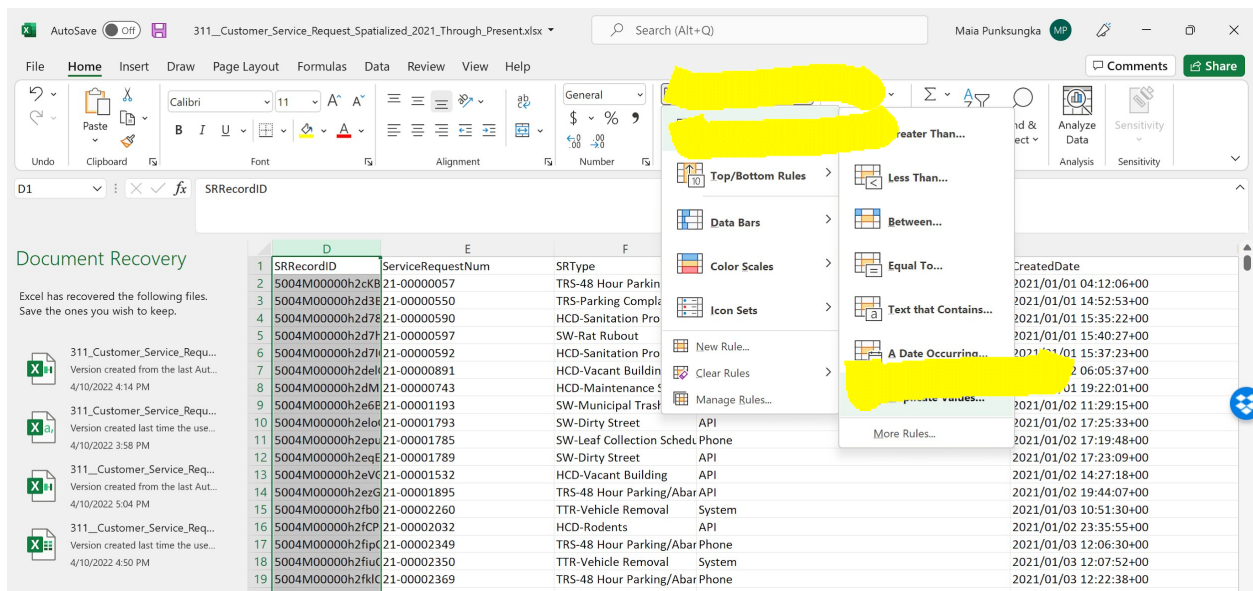
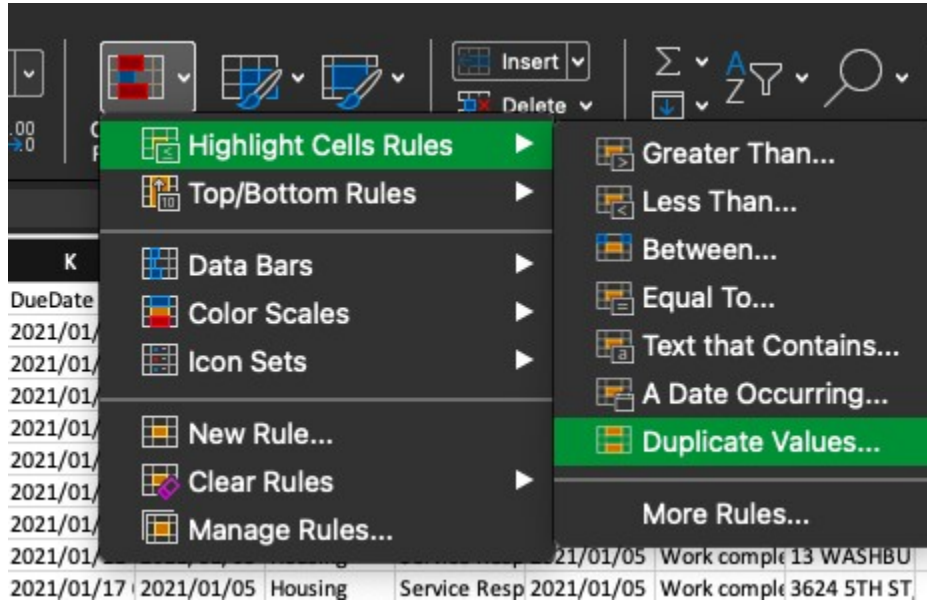
**Note:** Because the data file is huge with over 100,000+ cases, it is important to clean the data set by reducing the number of cases. Additionally, you may wish to delete any columns that are unnecessary for the data analysis.



**Step 10:** Always do quality control by double-checking for any duplicates/cells.

To do this, highlight the '**SRRecord ID**' column (or any column you see necessary that could be an indicator of duplicates), click on the '**Conditional Formatting**' to display the dropdown menu, click on '**Highlight Cells Rules**,' and then click on '**Duplicate Values.**'

Duplicates/cells will appear **in red**. Delete any duplicates/cells as necessary. This is shown with both Mac and Windows software.

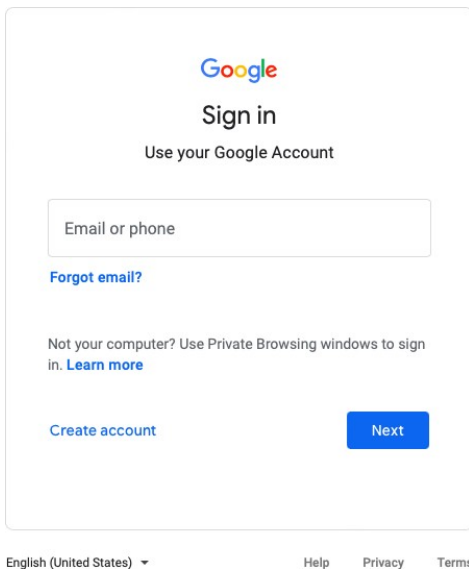


## Part 2

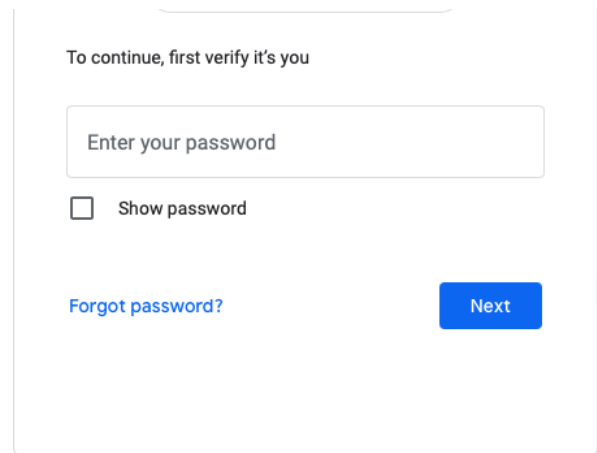
# How to Use *Open Baltimore's* 311/911 Data to Create a Google Map

Follow these instructions, step by step, to create a Google Map using 311/911 data.

**Step 1:** Login to your Google account by entering a Google email account and its password.

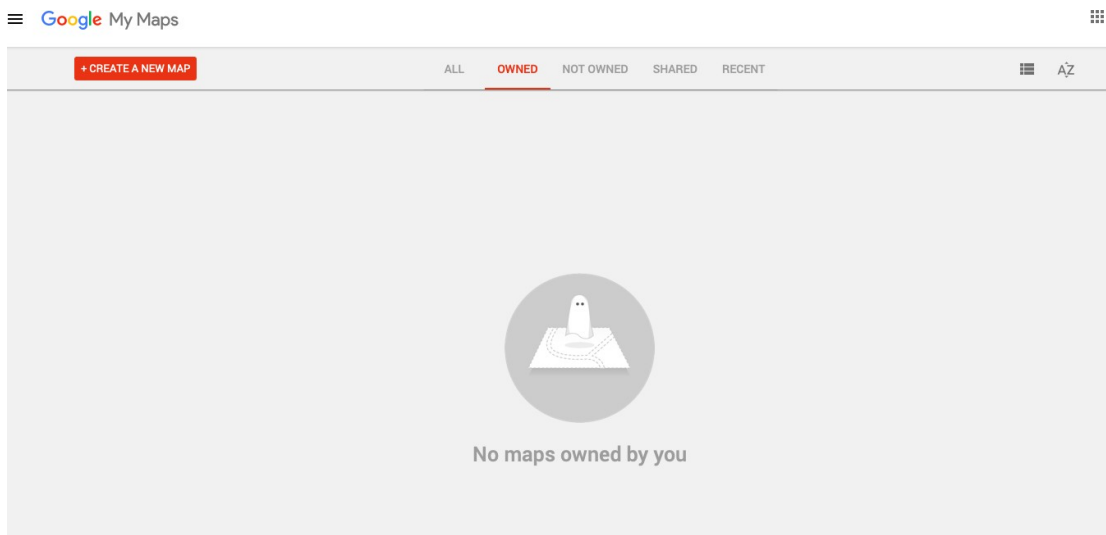


The screenshot shows the Google Sign in page. At the top is the Google logo, followed by "Sign in" and "Use your Google Account". There is a text input field for "Email or phone". Below it are links for "Forgot email?", "Not your computer? Use Private Browsing windows to sign in. Learn more", and "Create account". A blue "Next" button is at the bottom right. At the bottom of the page, there are links for "English (United States)", "Help", "Privacy", and "Terms".

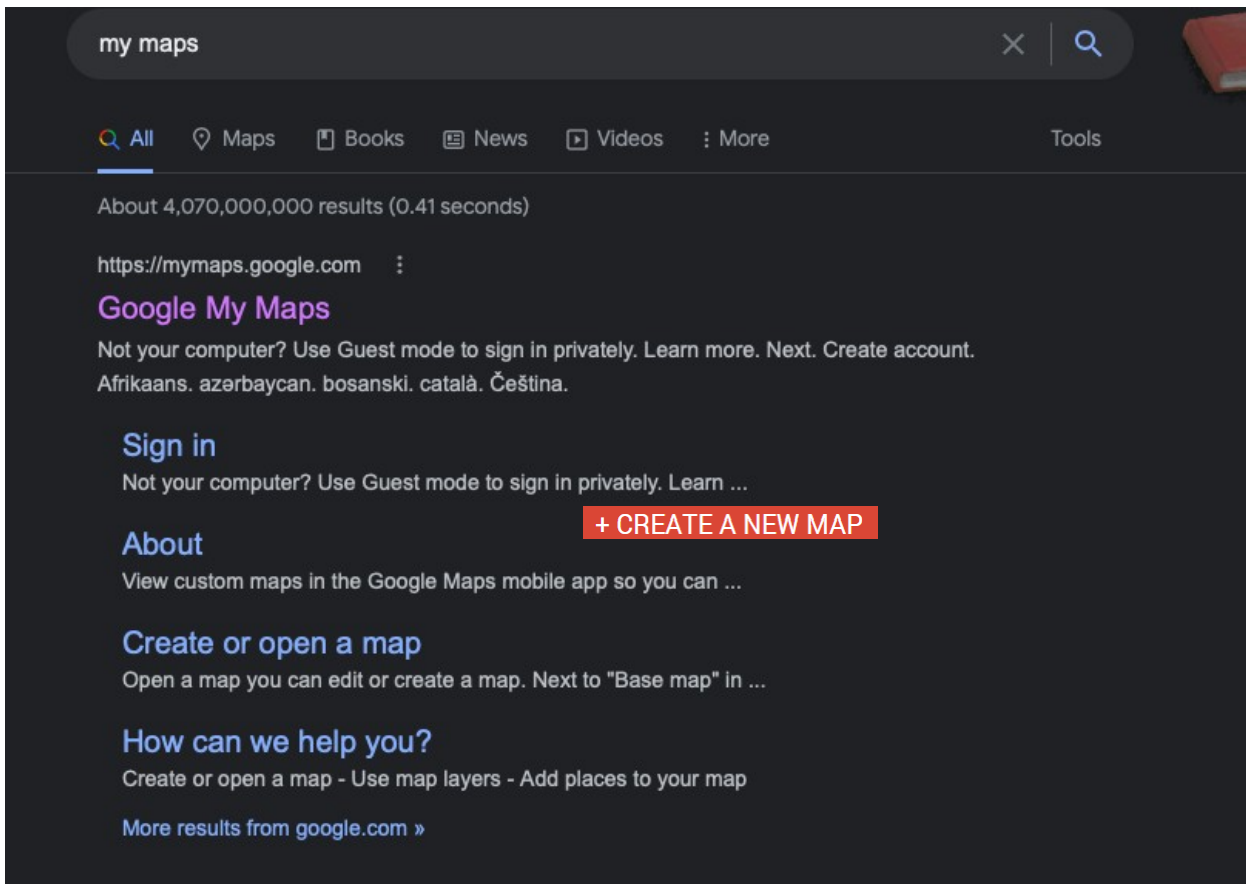


The screenshot shows the password verification page. It says "To continue, first verify it's you". There is a text input field for "Enter your password". Below it is a checkbox for "Show password". There are links for "Forgot password?" and a blue "Next" button.

Step 2: Click on this link: <https://www.google.com/maps/d/>. You should see something similar to the screenshot below on your screen.



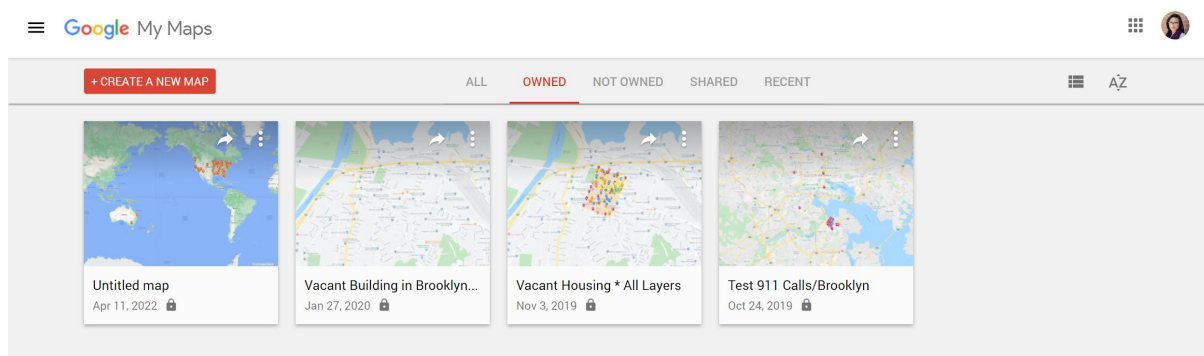
If that doesn't work, search for 'Google Map GIS' or 'My Maps' on Google, as shown below.



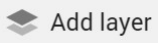

**Step 2:** Click on the '+ Create A New Map' button to create a new map.

**+ CREATE A NEW MAP**

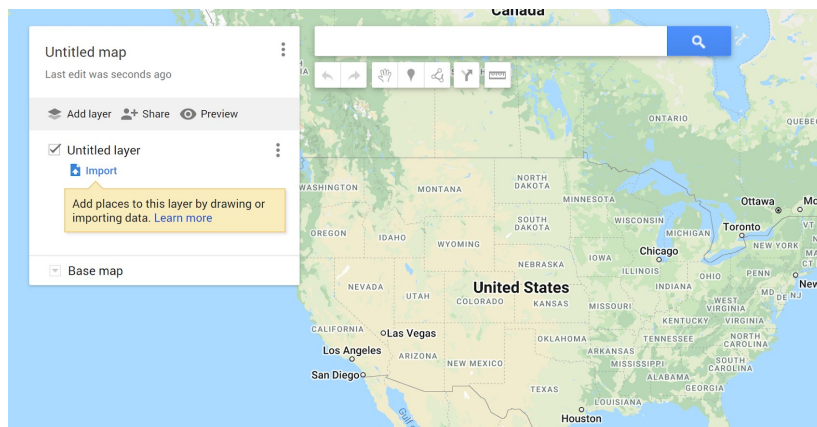
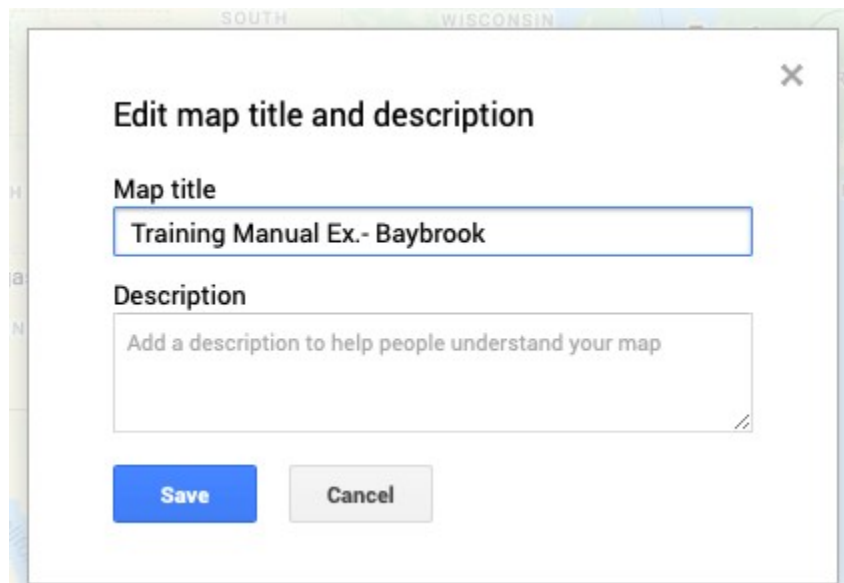
*Map' (as seen here)*



**Step 3:** The following screen will appear. Be sure to name your map by clicking on the *'Untitled map'* title, and then typing in your own title.

To upload your data, click on *'Add layer'*  > *'Import'* 

**Note:** A layer refers to the data set you wish you view on the map. Your data set should include the geographical location of each point you want to display on your layer. Google Map recognizes both numeric and string variables. However, it is more useful to have your geographical location displayed in numeric forms (e.g., longitudinal and latitudinal coordinates). Occasionally, string forms can result in your data point to be outside of your neighborhood of interest.

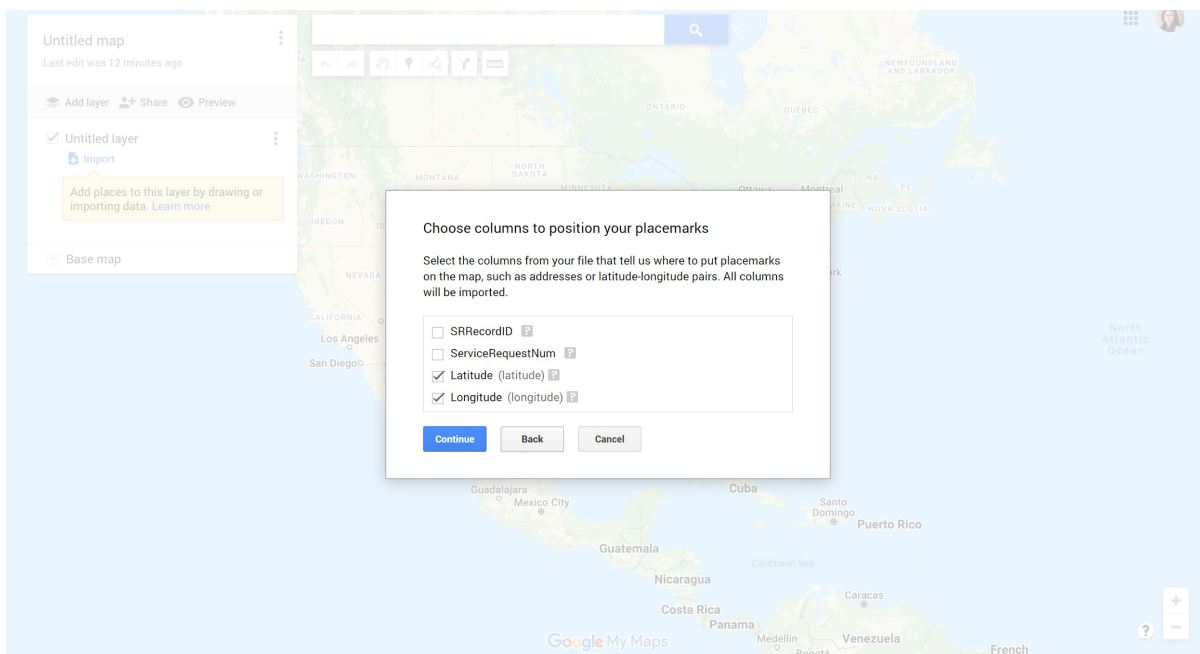


**Step 4:** During the data importing process, the following screen will appear: *'Choose columns to position your placements.'*

Depending on your data file, select the column with the location variables you would like to use. If you are using latitude-longitude data, you must select both these columns because they are pairs.

**Note:** The 311 data uses latitude-longitude pairs, whereas the 911 data uses the street name and block number to mark the location for confidentiality reasons.

**Pro tip:** Translate the street name and block numbers into latitude-longitude pairs by doing a Google search. This should be done during the quality check process prior to data analysis.



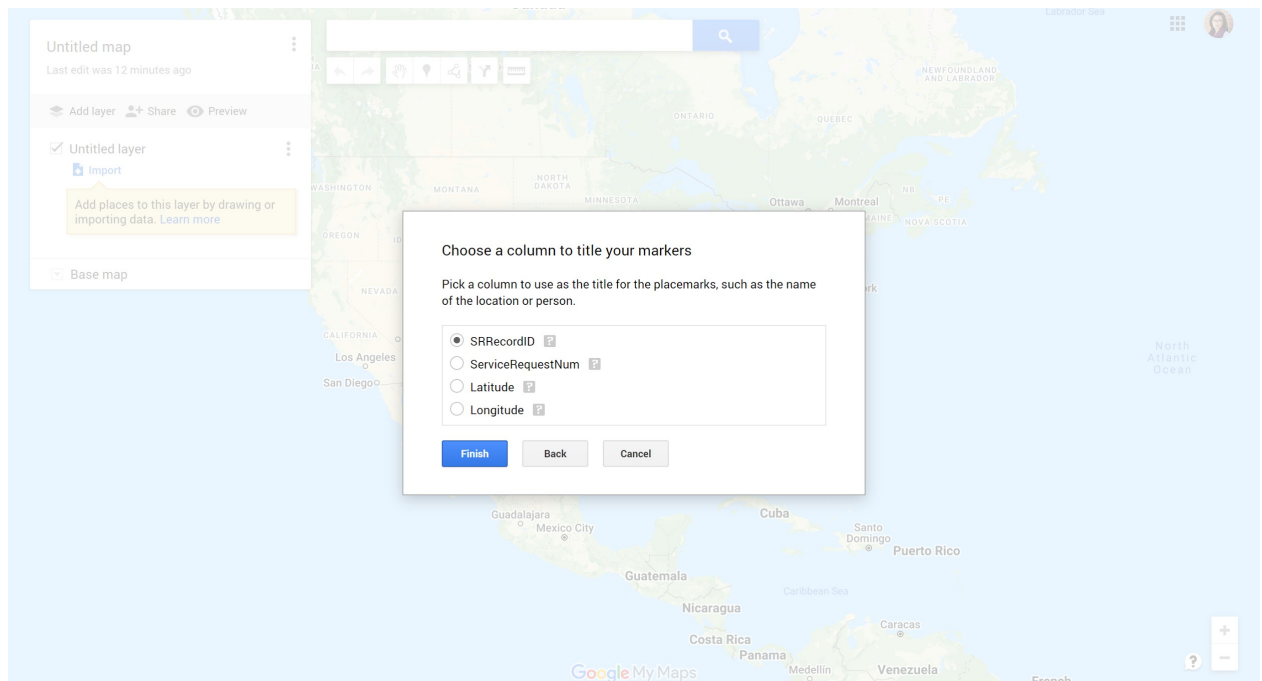


**Step 5:** During the data importing process, the following screen will appear: *'Choose a column to title your markers.'*

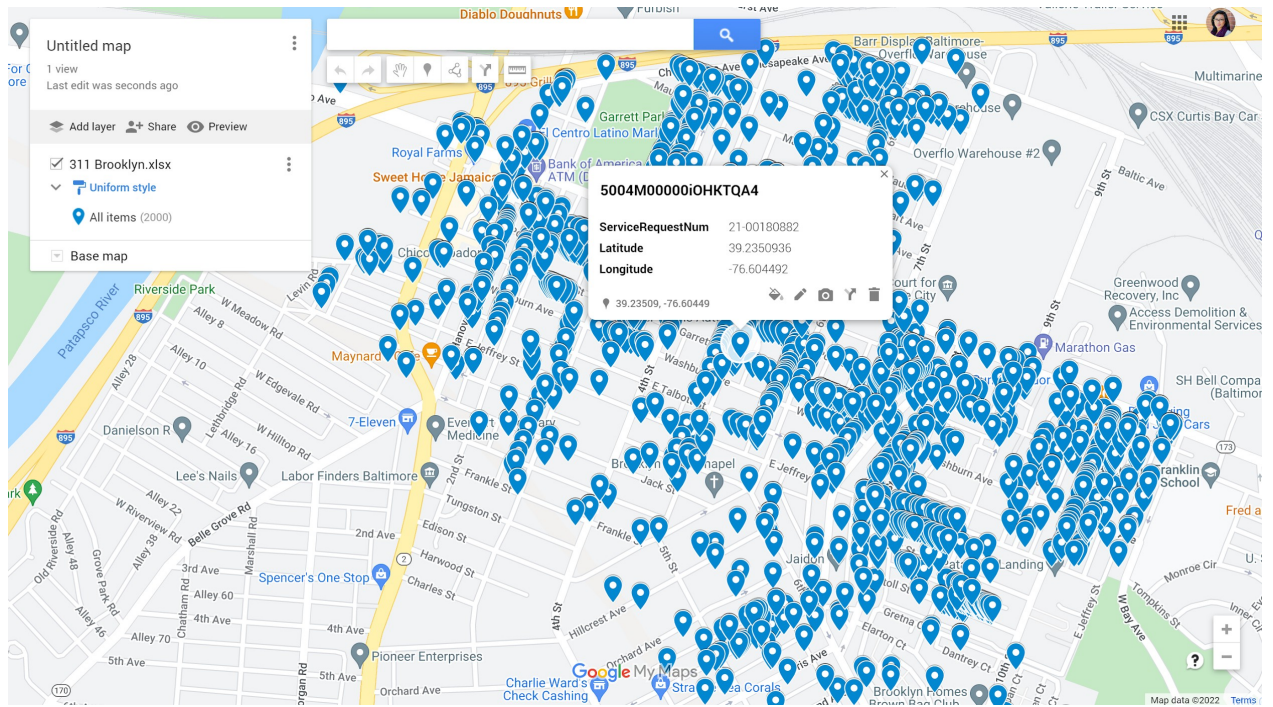
Depending on the data, you can use the record ID number to label each point.

**Note:** Prior to uploading the data into Google Map, it is important to clean the data and label each row based on any important markers.

For example, you may wish to label the coordinates for all house fires, burglary, escorts, overdose, etc.



**Step 6:** The following map will appear. To add additional layers, repeat steps 1-5.



## Part 3

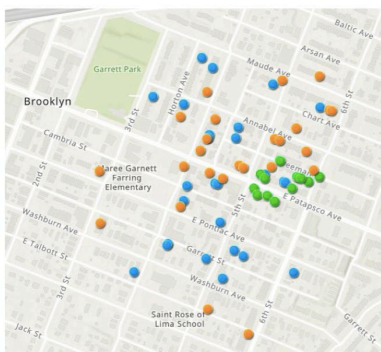
### How to create a Heat Map to show hotspots

Follow these instructions, step by step, to create a heat map to show hotspots from the data.




1. Go to a map tab, or use [+] Add map to add one.
2. If, for some reason, the map configuration panel isn't showing, click on the Tools > Change map section.
3. Click on the "Heatmap item" to the left of the map

Turns a map like this ...

Figure 4. Map of Vacant Properties in Study Area



#### Legend

-  Baltimore City
-  Action Baybrook
-  UMBC

into a map like this....

Figure 5. Map of Vacant Properties with 311 Calls



## NOTES