



## Activity Overview

In this activity, you will create visualizations in Tableau based on a BI scenario. If you don't have a lot of experience with Tableau, this will help you get comfortable in the program. If you do have experience in Tableau, this activity will further your knowledge and teach you BI-specific techniques.

Be sure to complete this activity before moving on. The next course item will provide you with a completed exemplar to compare to your own work. You will not be able to access the exemplar until you have completed this activity.

### Scenario

Review the following scenario. Then complete the step-by-step instructions.

Imagine that you are asked to build some charts for a business that purchases properties in an area, converts them into rentals, and offers them to people on vacation in Athens, Greece. Your contact gives you some recent data from Airbnb about the rentals in the city. This data includes the price to stay at each listing, the durations of each stay, the locations of these rentals, and more.

Your point of contact asks you to create charts to answer the following questions:

What is the average price per night in each neighborhood?

Where in the city are the highest concentrations of currently-available rentals?

In the following steps, you'll practice working with data in Tableau to create charts that answer these questions.

### Step-By-Step Instructions

Follow the instructions to complete each step of the activity. Then, answer the questions at the end of the activity before going to the next course item to compare your work to a completed exemplar.

Pro Tip: Save your work

Be sure to save your work periodically as you complete this activity. This will help you avoid losing work. You can also use the deliverables from this activity for further practice or in your end-of-course project. These projects will help you demonstrate your experience to potential employers.

## Part 1 - Set up your data

### Step 1: Access the data

To access the data for this course item, download the following attachment.

 [Athens Airbnb Data  
CSV File](#)

## > Step 2: Load your data into Tableau Public

Log into [Tableau Public](#). On your profile page, click Create a Viz.

This will open the Connect to Data window. Load your data into Tableau Public by clicking Upload from Computer, then select the Athens Airbnb Data.csv file you downloaded.

## > Step 3: Explore your data

It's always a good practice to understand your data before you visualize it. Now, take a moment to familiarize yourself with the Athens rental dataset. Note the most relevant columns: Id, Neighborhood, Longitude, Latitude, and Price. Get a sense of what types of data are in each of these columns since you'll be using them to make charts in the rest of this activity.

Ask yourself the following questions to help you evaluate the data:

Which columns are string data and which are text?

Is any data missing?

Do any names or IDs occur particularly often?

Are there any unusually high or low values in the Price column?

## ➤ Step 1: Visualize average price per neighborhood

To create a new chart, click the tab for Sheet 1. This will open the chart-building interface where you can begin placing dimensions and measures into their respective places.

Because the client's priority is finding out the average price of each rental per night in each neighborhood, you'll build that visualization first. Click and drag the Neighborhood dimension next to the Columns field at the top of the screen.

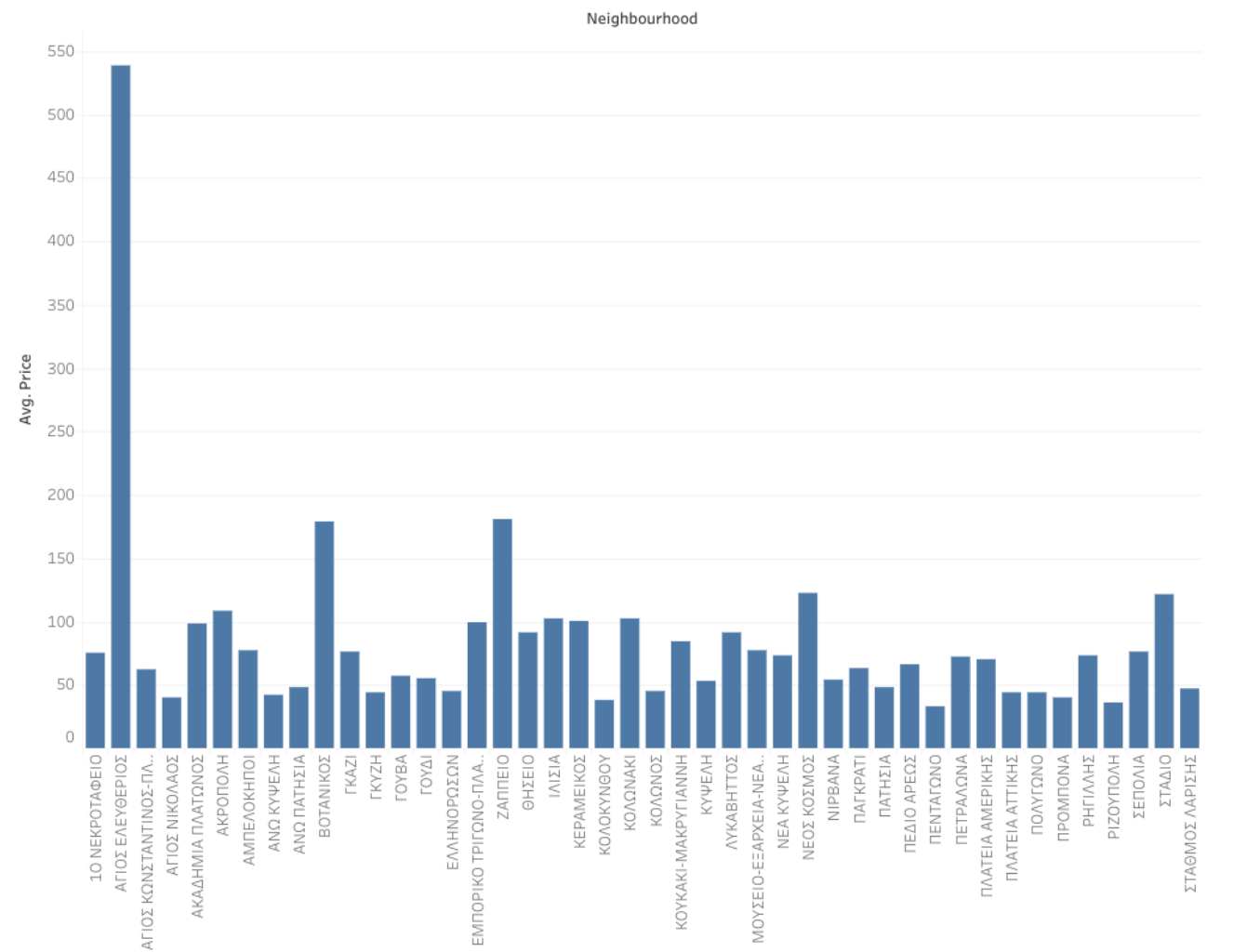
Then, drag the Price measure to the Rows field. This will update the visualization to represent the sum of the price in each neighborhood. This could be a good metric to estimate which neighborhoods are the highest-grossing, but it won't tell you if this is because there are lots of rentals there or just a few high-priced ones.

Instead, change SUM(Price) to AVG(Price). Right-click it, hover over Measure in the dropdown, and select Average.

When you do this, you'll get a bar chart that represents the average price per neighborhood. One of the bars in this chart is significantly taller than the others, which indicates that it's a significant outlier.

Columns	Neighbourhood
Rows	AVG(Price)

Average Price per Neighborhood



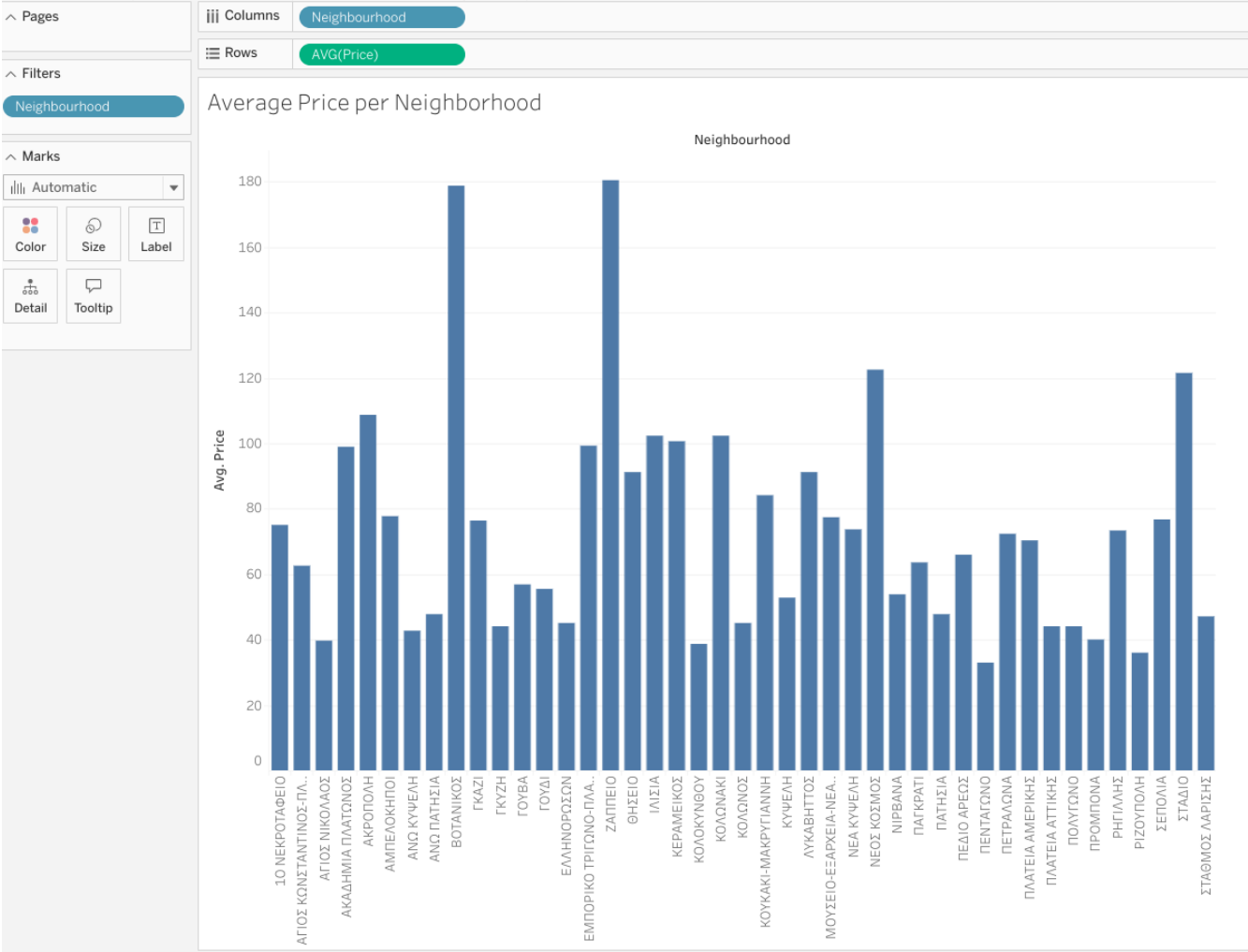
## ➤ Step 2: Exclude the outlier

You might notice a significant outlier in this chart. One of the entries far outpaces the other entries, making it hard to focus on trends in the chart. Outliers are important to identify and keep in mind, but in situations like this it helps to temporarily remove them from the view. This won't change the data itself, so you won't introduce bias to your analysis, but it will make your chart more proportional and help you notice trends.

To do this, click on the bar that corresponds to the outlier value. Select Exclude to update the chart and view it without the outlier.

You can also do this by clicking on Measure and choosing Edit filter. From this window, select the value you'd like to exclude and click OK.

Either of these methods will create a filter for Neighborhood. To include the outlier in the visualization again, undo the steps you took or right-click and delete the filter itself. Even if you aren't representing outliers in your charts, you should make note of them when presenting your visualization to your stakeholders.

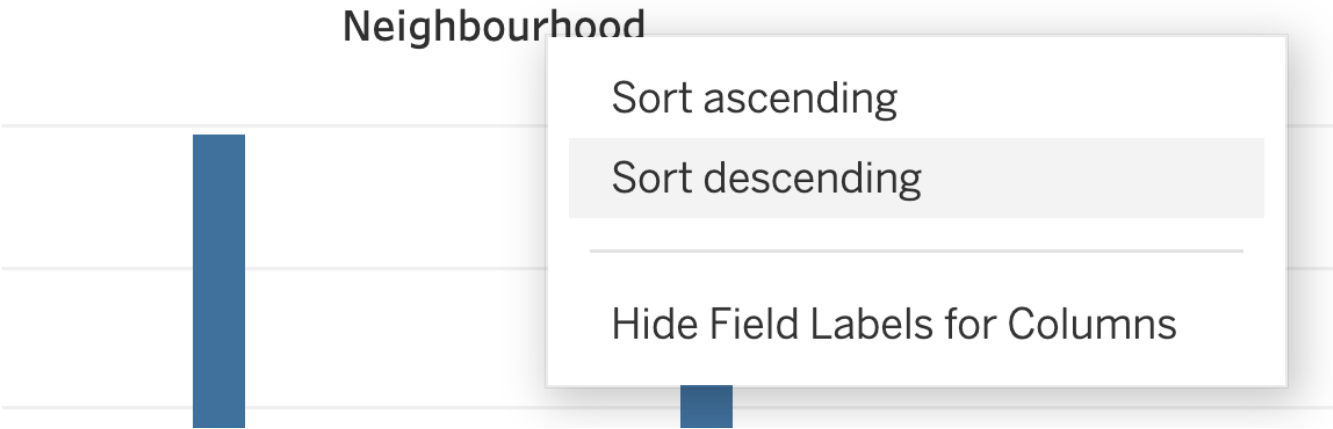


### Step 3: Order the data

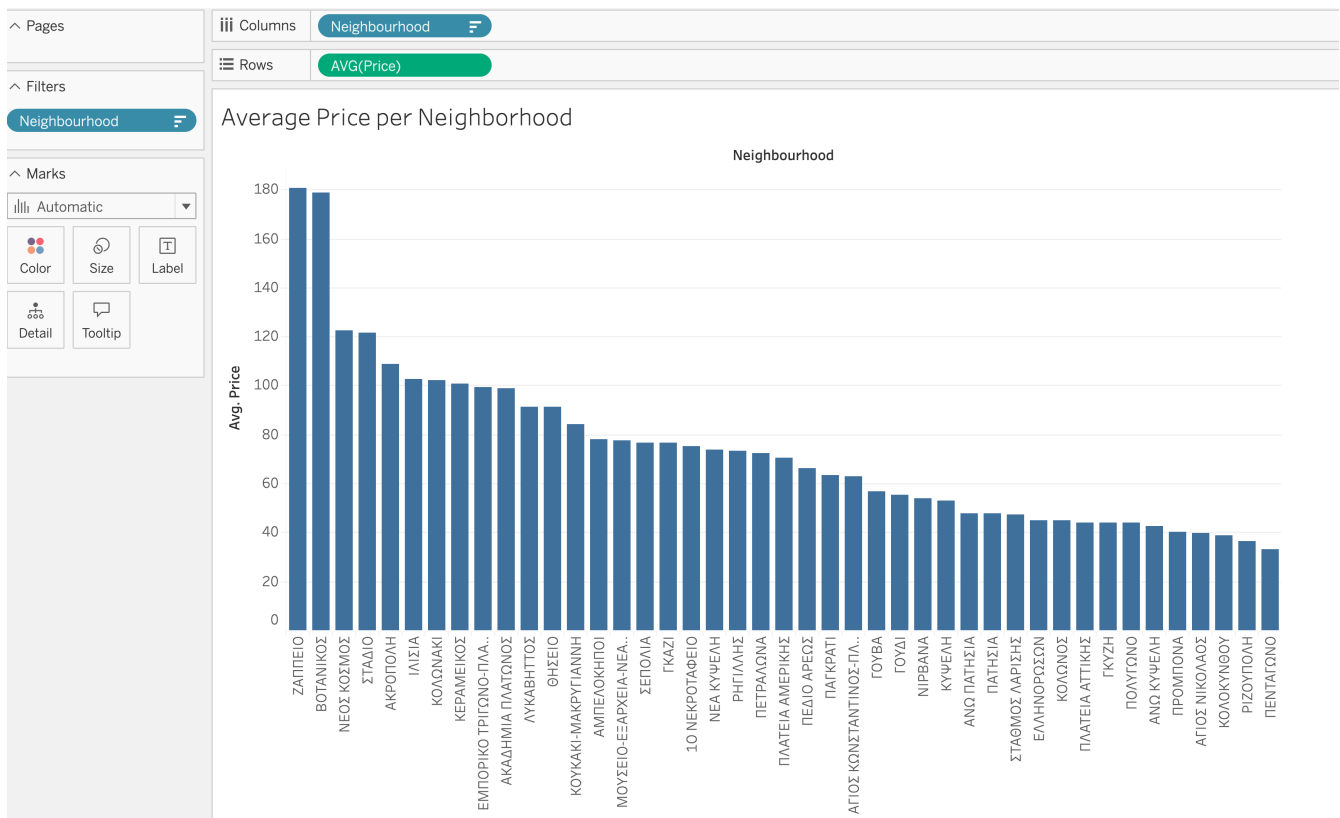
Removing the outlier helped rental price trends stand out, but there is one more step to take before presenting the data to your stakeholders. Ordering the bars in the chart from highest to lowest visualizes the data in a way that's easier to interpret at a glance.

To do so, select the table header, Neighborhood, then right-click and select Sort descending from the dropdown menu.

## Neighborhood



After it's sorted, the bar chart data will be arranged to represent the neighborhoods with the highest average rental price to the neighborhoods with the smallest average rental price.



### Part 3 - Build a map chart

## > Step 1: Visualize concentration of rentals

Now create a second chart. This time, you'll create a map that visualizes the concentrations of where rentals are located within Athens. This will help your stakeholder identify which neighborhoods are most popular so they know where to buy properties to turn into rentals.

To begin, create a new worksheet by clicking the New Worksheet next to Sheet 1. You can also do this by clicking Worksheet in the menu and selecting New Worksheet.

Note: It's a good idea to rename each worksheet as you create it. If you haven't already, right-click Sheet 1 to name it "Average Price per Neighborhood." Then, rename Sheet 2 to "Rental Map of Athens." This will help you find each chart when you need to arrange them into a dashboard in an upcoming activity.

To make your map, start by dragging Longitude into the Columns field and Latitude into the Rows field. At first, Tableau will represent these as averages. Since you want each data point to be discrete, right-click Longitude and select Dimension in the dropdown instead of Measure. Do the same for Latitude. Now, your map will show a dot for each rental location.

Columns	Longitude
Rows	Latitude

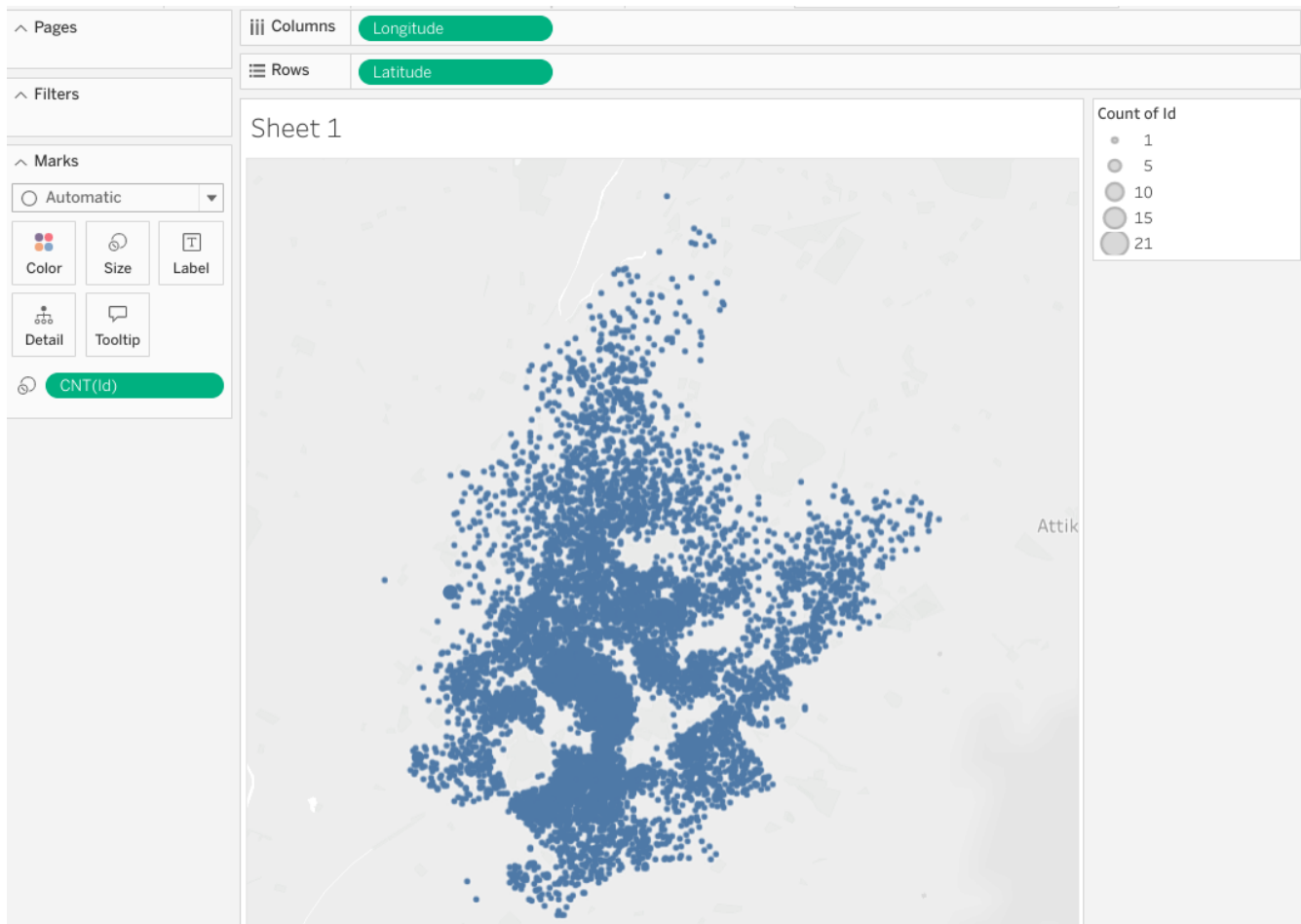
Rental Map of Athens



## ➤ Step 2: Add proportion

At this point, because all the dots on the map are the same size, it's hard to tell where each one begins and ends. You can change the size of each dot to reflect the number of times each property ID appears in an entry. This will indicate which properties have been booked the most.

To do this, drag the Id dimension to the Size square under the Marks dropdown. Then right-click Id, hover over Measure, and select Count.



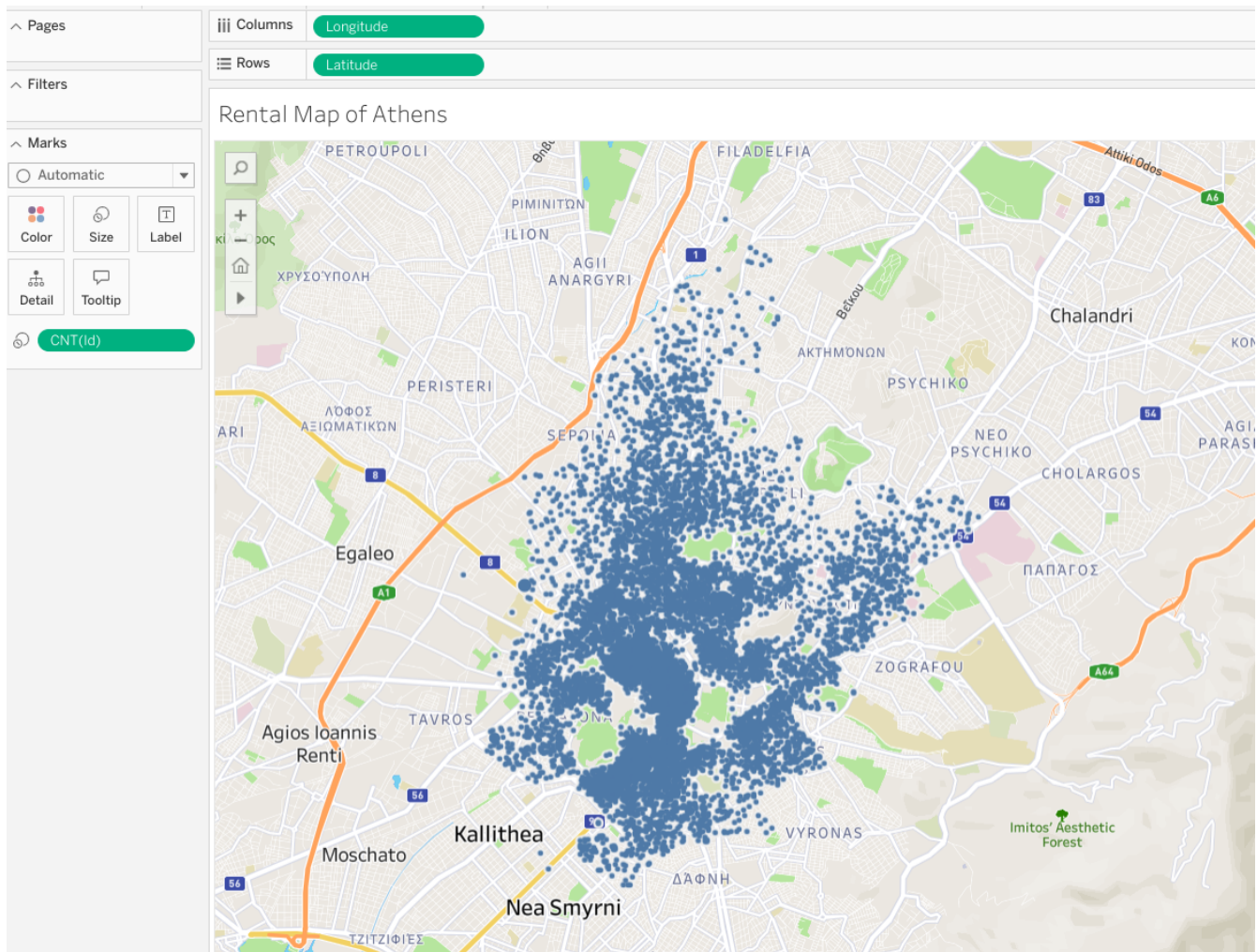
## ➤ Step 3: Make more map adjustments

Now that your data points are properly in your map, there are some visual elements you can change to make your map easier to read.

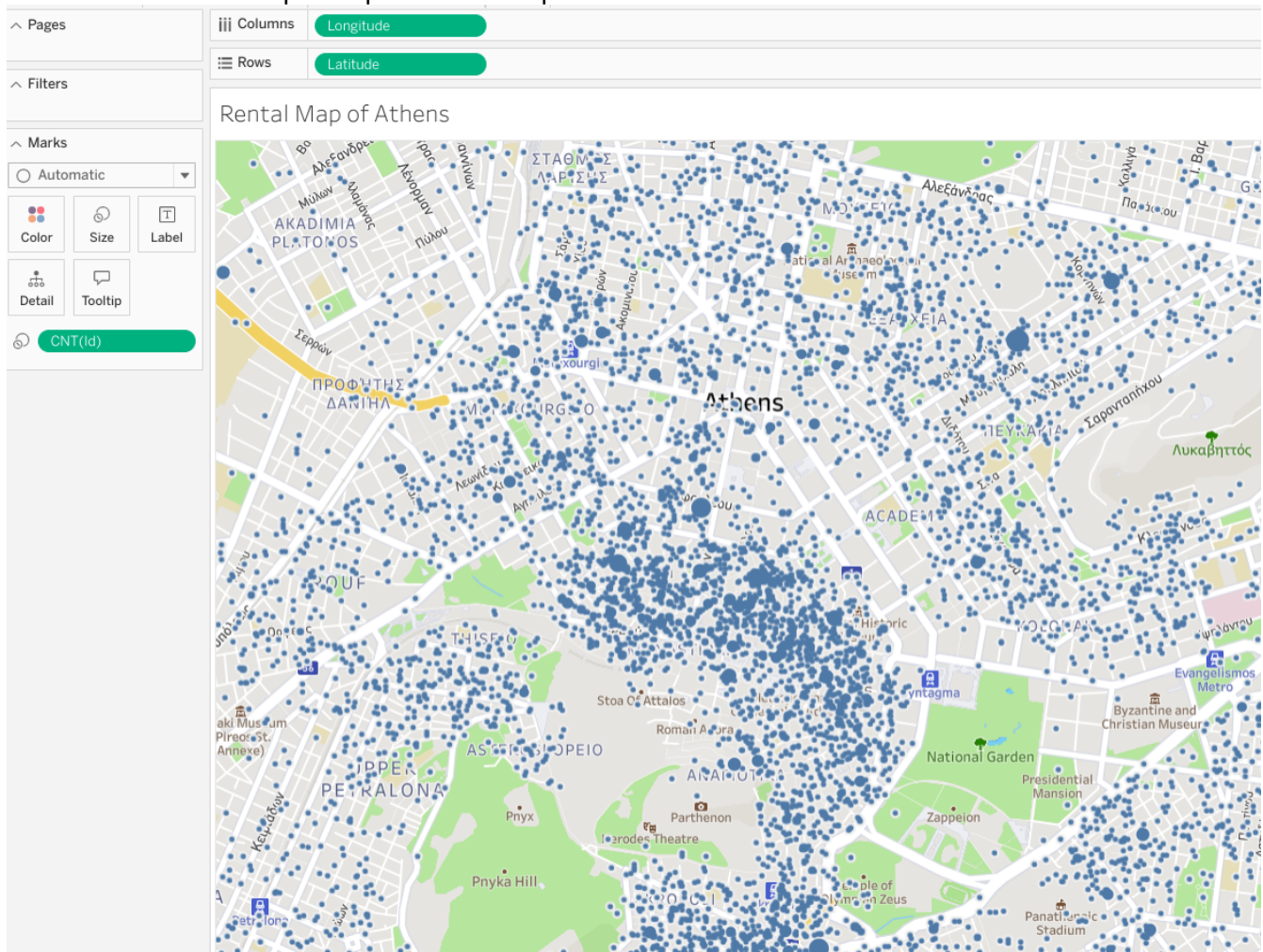
First, click on Map in the toolbar. In the dropdown, select Background Layers and the layers window will appear on the screen.

Under style, select Streets instead of Light. Including highways, roads, neighborhoods, and other features of the city of Athens will make your visualization appear more like a traditional map. It will also place your data points within the context of their surroundings.





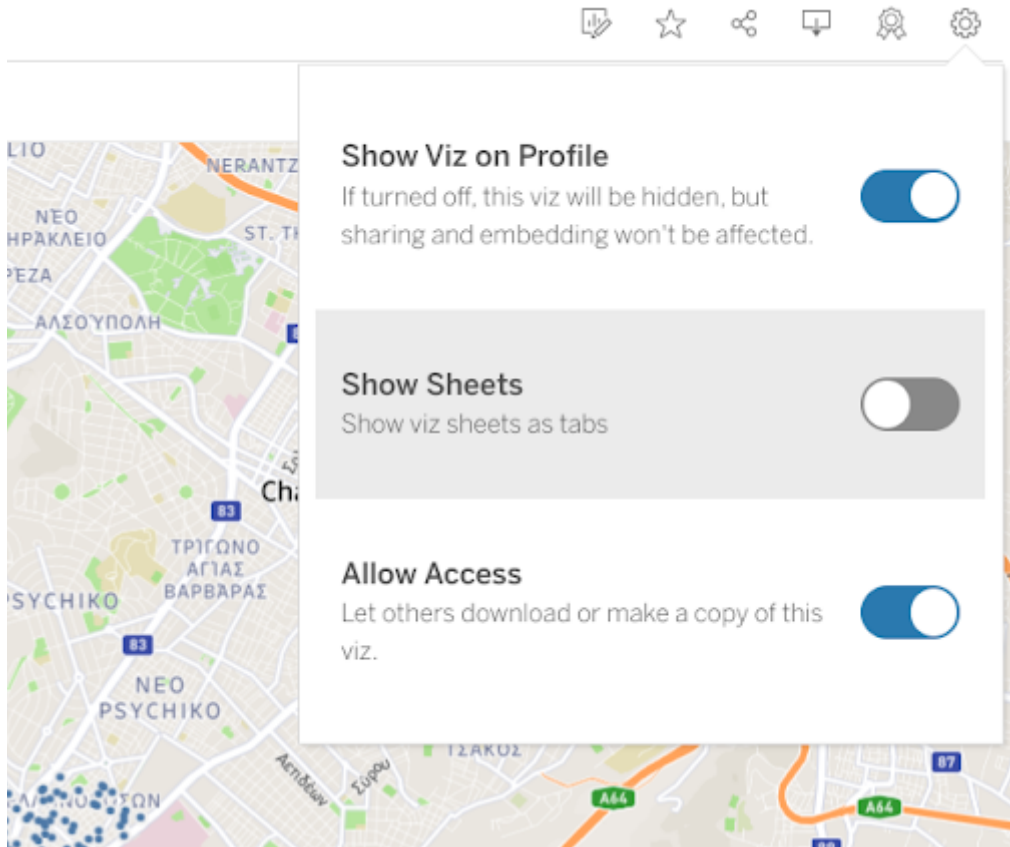
This way, your map is more useful than a collection of dots on your screen. You can also zoom in with the + and - icons to focus on specific parts of the map.



## > Step 4: Save your work

If you haven't already, take a moment to save your work in Tableau Public. Click File in the toolbar and then select Publish. Make sure to publish your work before clicking the X icon in the corner. The publish option functions as a save, and you can always change the privacy settings after your work is saved and published. In an upcoming activity, you'll need to start a dashboard using these charts, so it's important to keep them in a place that's easy to find.

If you do not want to publish your charts publicly, publish your work, and then click the X icon in the upper right corner. This will take you to the shareable view page on Tableau Public. To stop sharing this project on your public profile, click the settings wheel. You can toggle the Show Viz on Profile option as well as the Allow Access option.



If you'd like to download your work, click the download icon. This will give you several file formats to choose from. To save your work in a format you can use directly in Tableau Public later on, select the Tableau Workbook file format.

### What to Include in Your Response

Be sure to address the following elements in your completed charts:

A chart that visualizes Average Price per Neighborhood with Neighborhood in the Columns field and Price in the Rows field

A map that visualizes Concentration of Rentals with Longitude in the Columns field, Latitude in the Rows field, and CNT(Id) as the size modifier.

1. Did you complete this activity?

1 / 1 point

- ☒ Yes  
☐ No





Correct

Thank you for completing this activity! Now that you have built charts in Tableau, you'll be able to build dashboards and more complex visualizations later in this course. Please complete the following quiz questions and review the feedback. Then go to the next course item to compare your work to a completed exemplar.

2. Why is it helpful to temporarily remove an outlier from a chart? Select all that apply.

1 / 1 point

☐

To eliminate bias from your analysis

☒

To make your chart more proportional



Correct

Outliers are important to identify and keep in mind, but in some situations it helps to temporarily remove them from view. This won't change the data itself, but it will make your chart more proportional and help you notice trends.

☐

To change the data

☒

To help you notice trends



Correct

Outliers are important to identify and keep in mind, but in some situations it helps to temporarily remove them from view. This won't change the data itself, but it will make your chart more proportional and help you notice trends.

3. What visual elements can you change to make your map easier to read? Select all that apply.

1 / 1 point

☒

Change the size of each dot



Correct

Changing the size of each dot to reflect the number of times each property ID appears in an entry will indicate which properties have been booked the most. And, including highways, roads, neighborhoods, and other features of the city will make your visualization appear more like a traditional map, placing your data points within the context of their surroundings.

☐

Include the size of each rental

☒

Display highways, roads, neighborhoods, and other features of the city



Correct

Including highways, roads, neighborhoods, and other features of the city will make your visualization appear more like a traditional map, placing your data points within the context of their surroundings. And, changing the size of each dot to reflect the number of times each property ID appears in an entry will indicate which properties have been booked the most.

☐

Add the date of when each rental was built