

DATA SOCIETY®

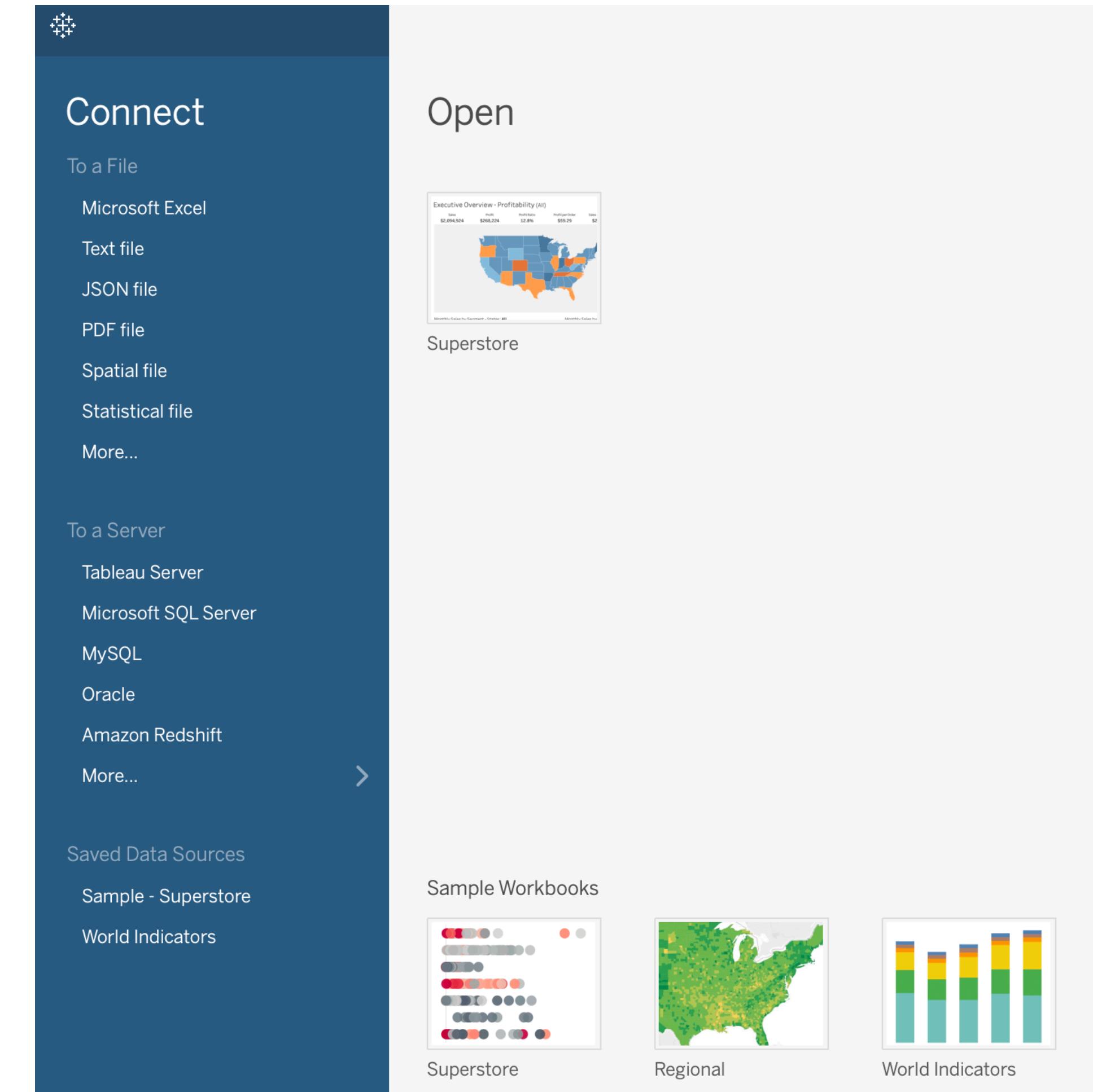
The premiere data science training for professionals

“One should look for what is and not what he thinks should be.”

- Albert Einstein

Recap: Importing Data

- Supports multiple formats such as:
Microsoft Excel (.xlsx), Text (.txt,
.csv), JSON (.json), PDF (.pdf), R data
format (.RData), etc.
- Supports Database Connections
(MySQL, Oracle, Redshift, etc.)



Recap: Dimensions and Measures

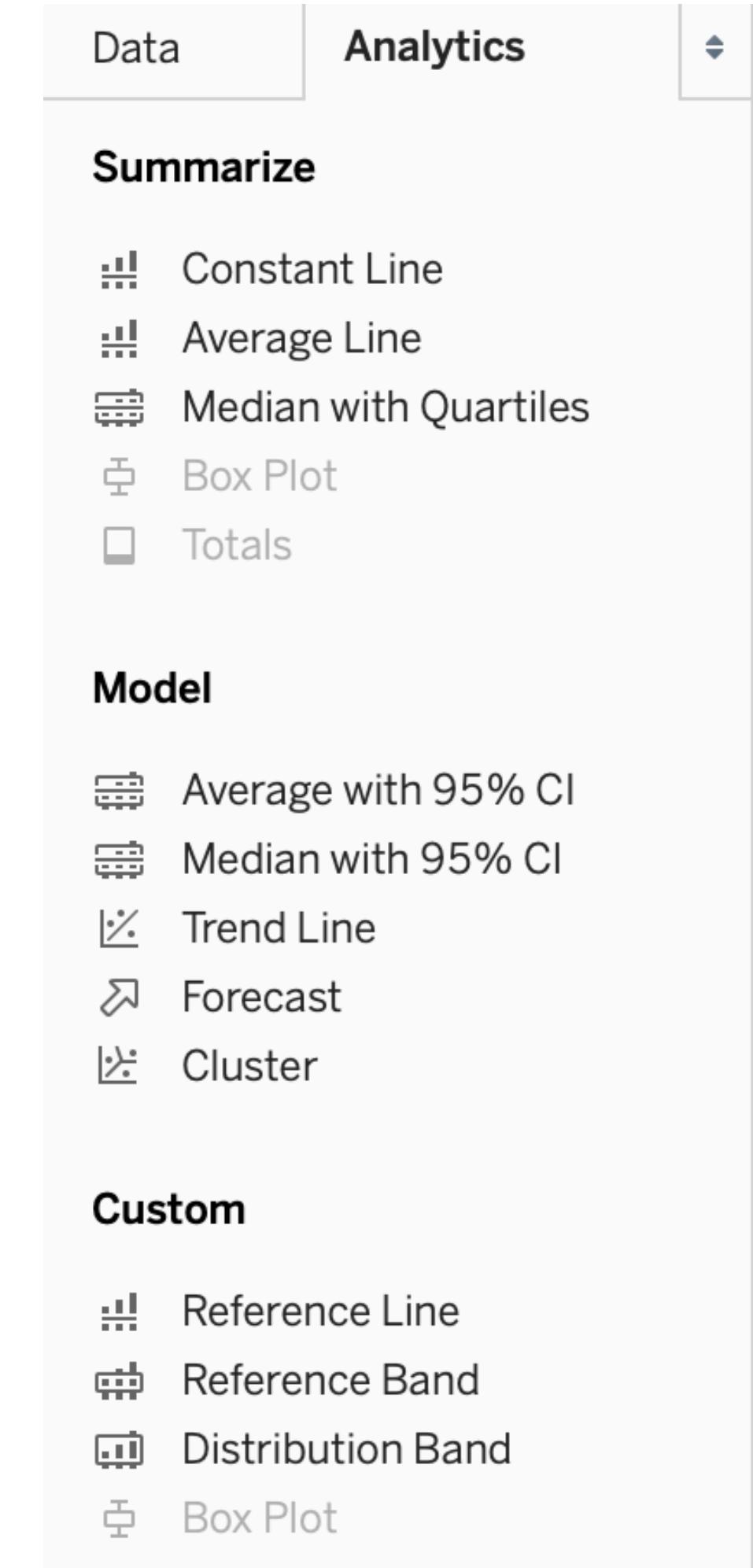
- **Dimensions** are used for categorical data.
- **Measures** are used for quantitative data.

Dimensions	
📅	Ship Date
Abc	Ship Mode
▼	Location
🌐	Country
🌐	State
🌐	City
🌐	Postal Code
▼	Product
Abc	Category
Abc	Sub-Category
👤	Manufacturer
Abc	Product Name
.bars.	Profit (bin)
Abc	Region
Abc	Measure Names

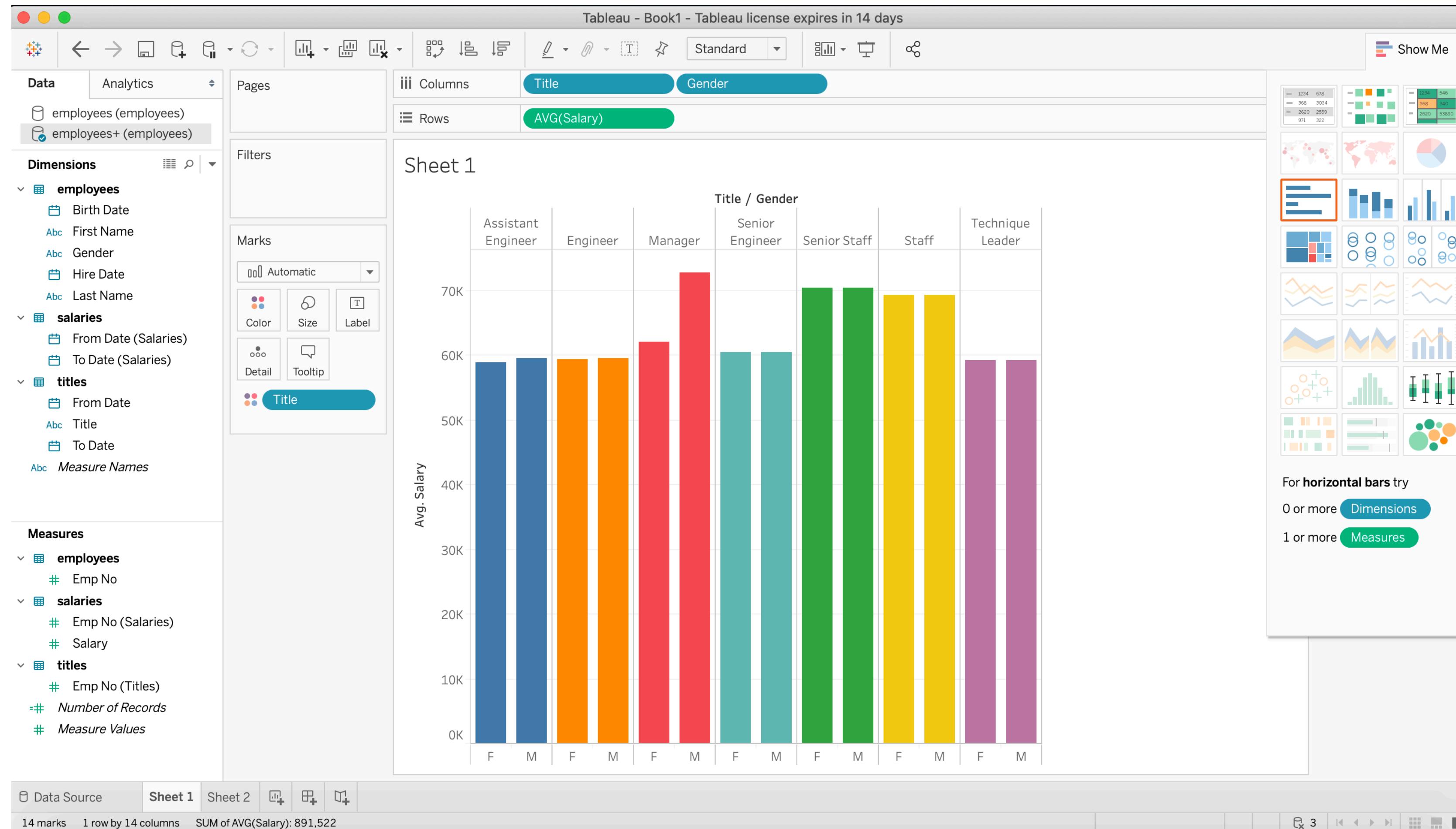
Measures	
#	Quantity
#	Sales
🌐	Latitude (generated)
🌐	Longitude (generated)
-#	Number of Records
#	Measure Values

Recap: Analytics

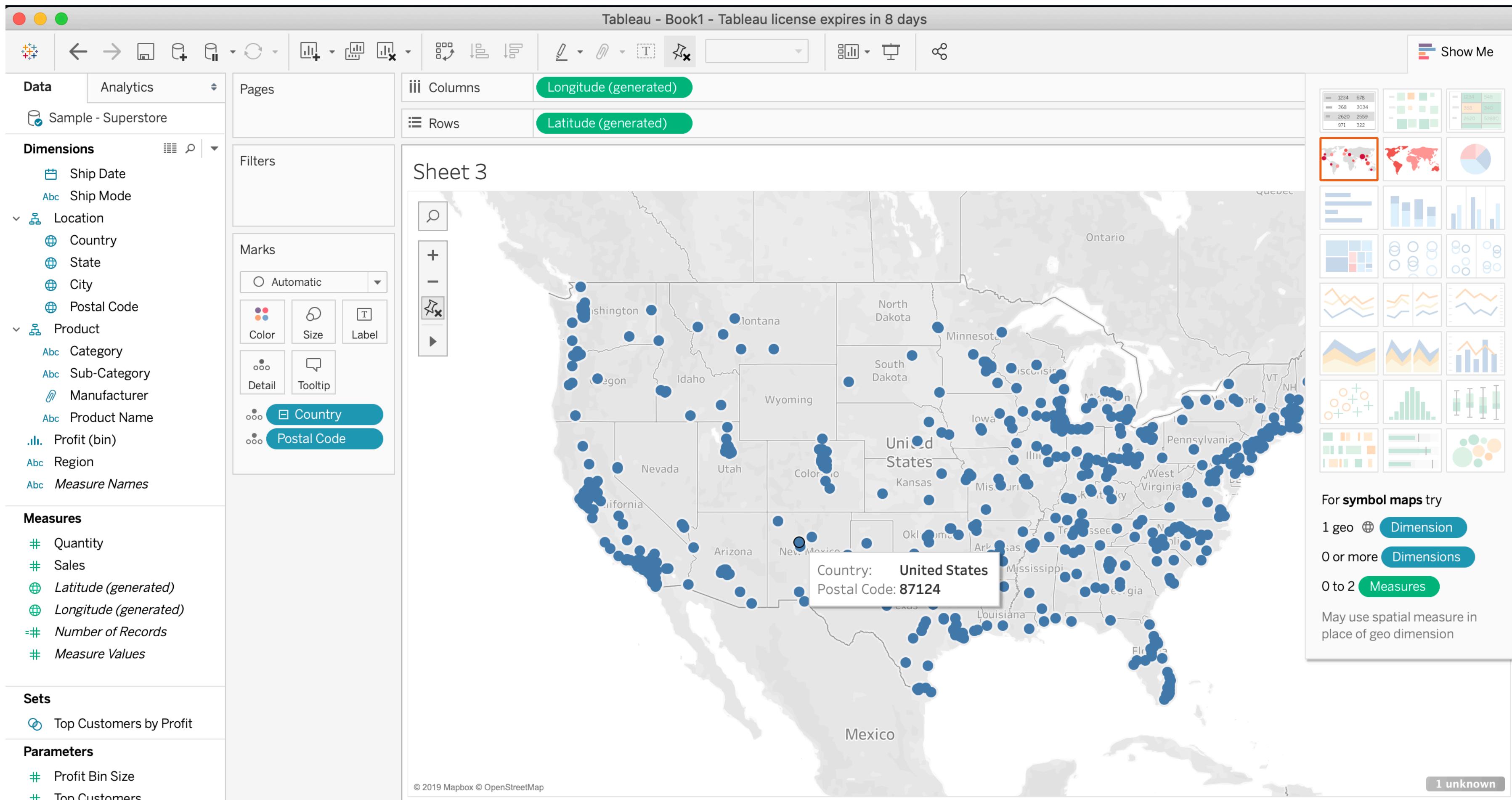
- Drag reference lines, box plots, trend lines forecasts, and other items into your view from the **Analytics** pane, which appears on the left side of the workspace.



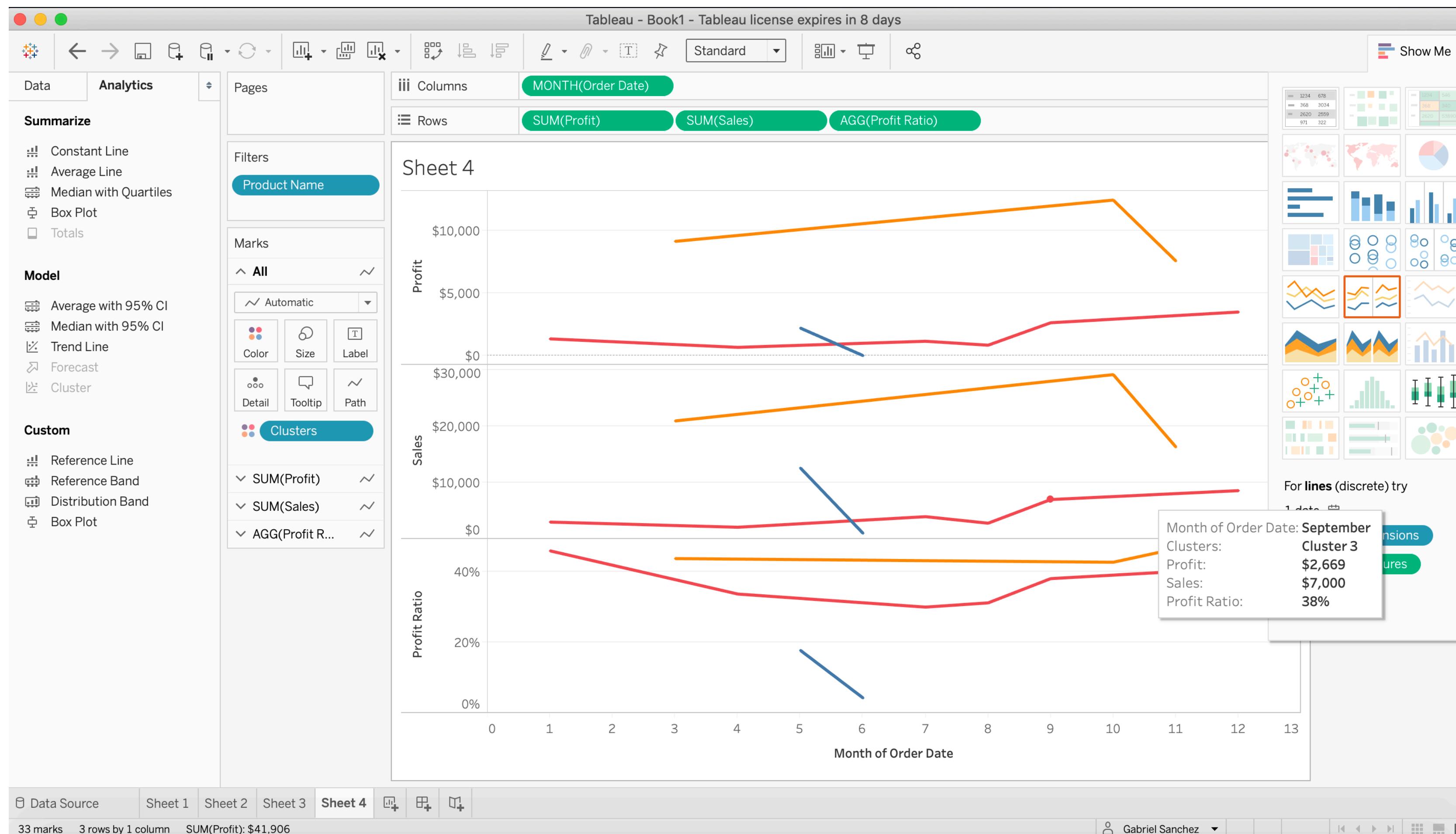
Recap: Bar Charts



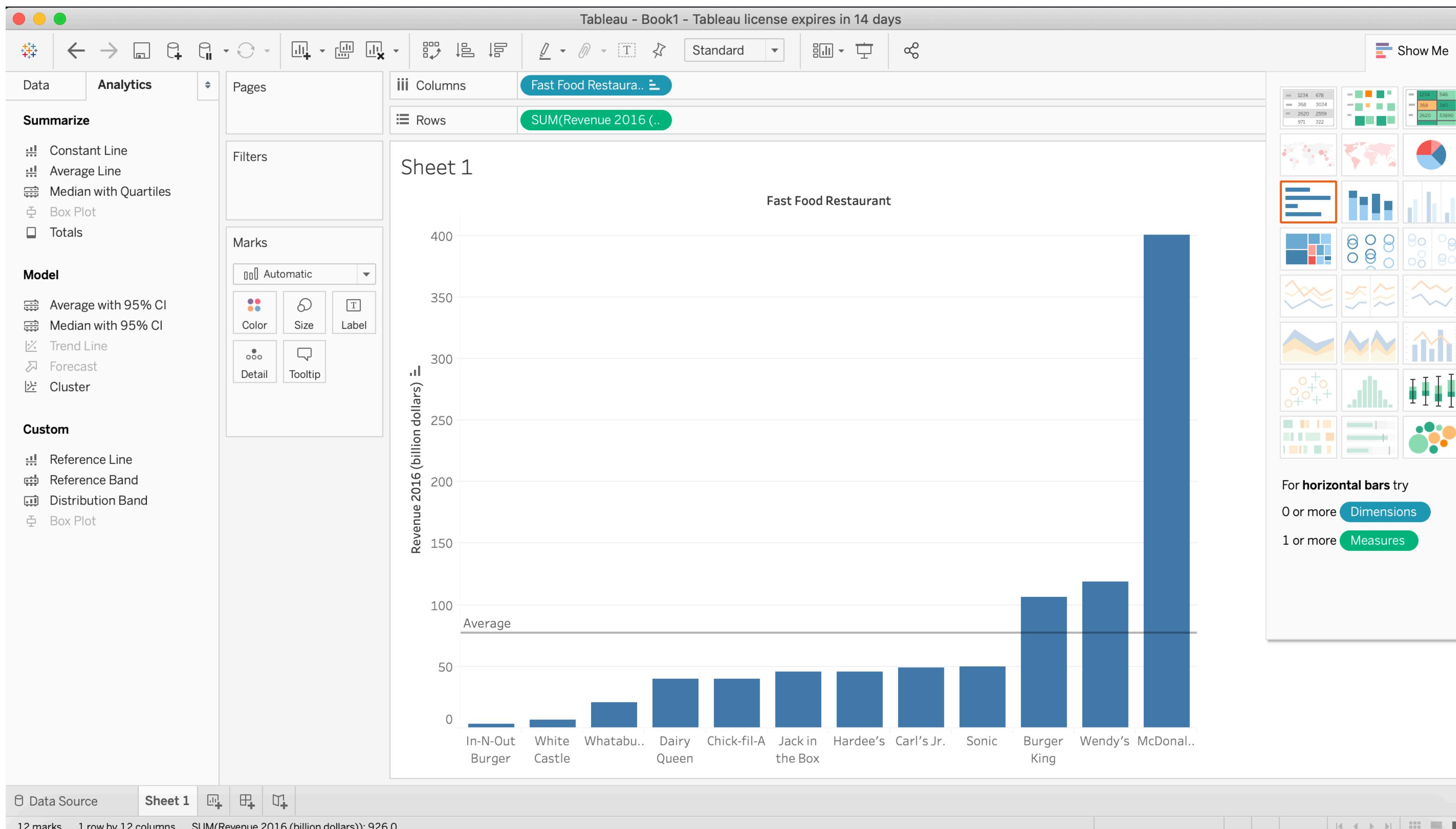
Recap: Symbol Map



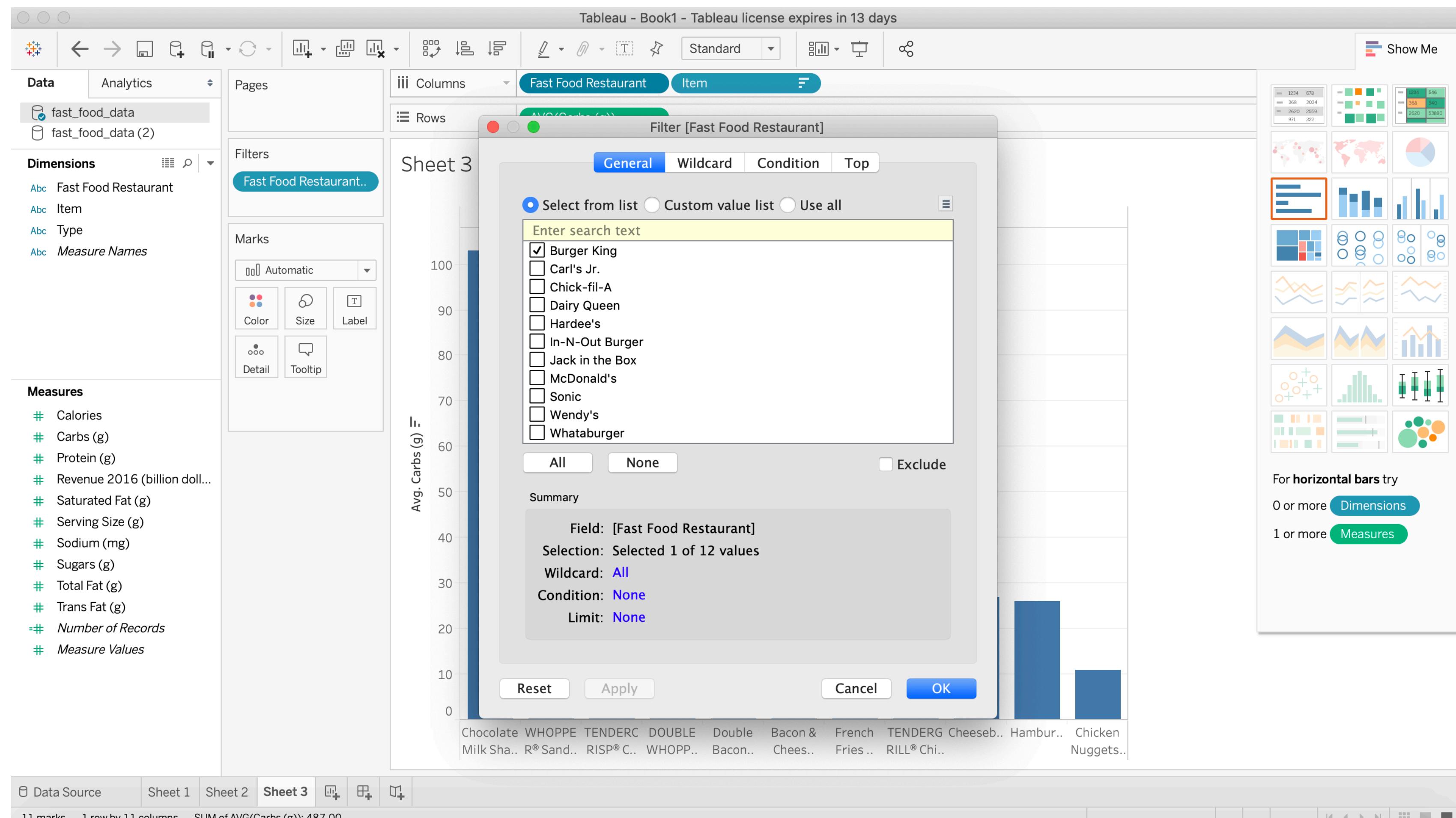
Recap: Cluster



Recap: Analytics

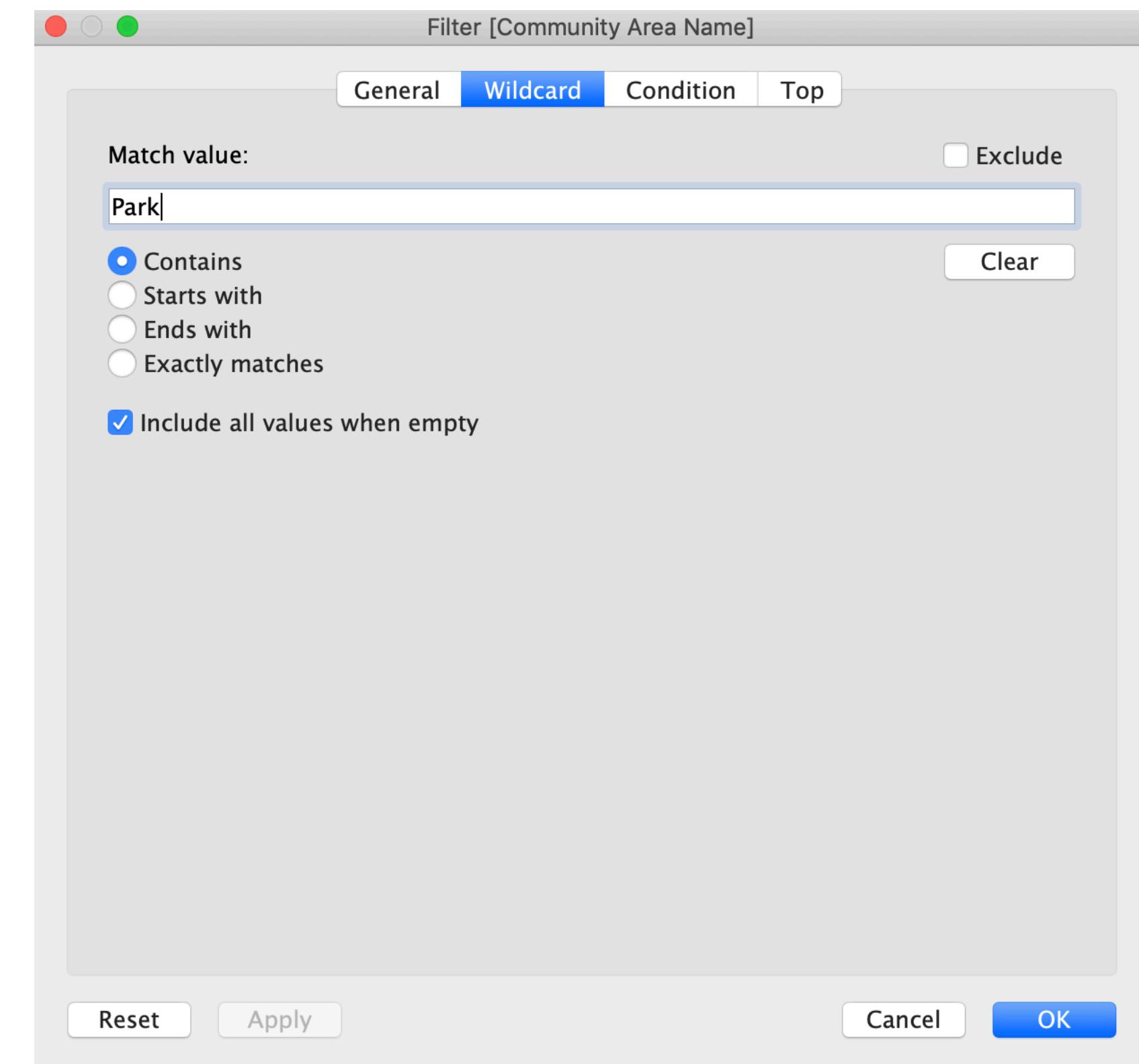


Recap: Filters



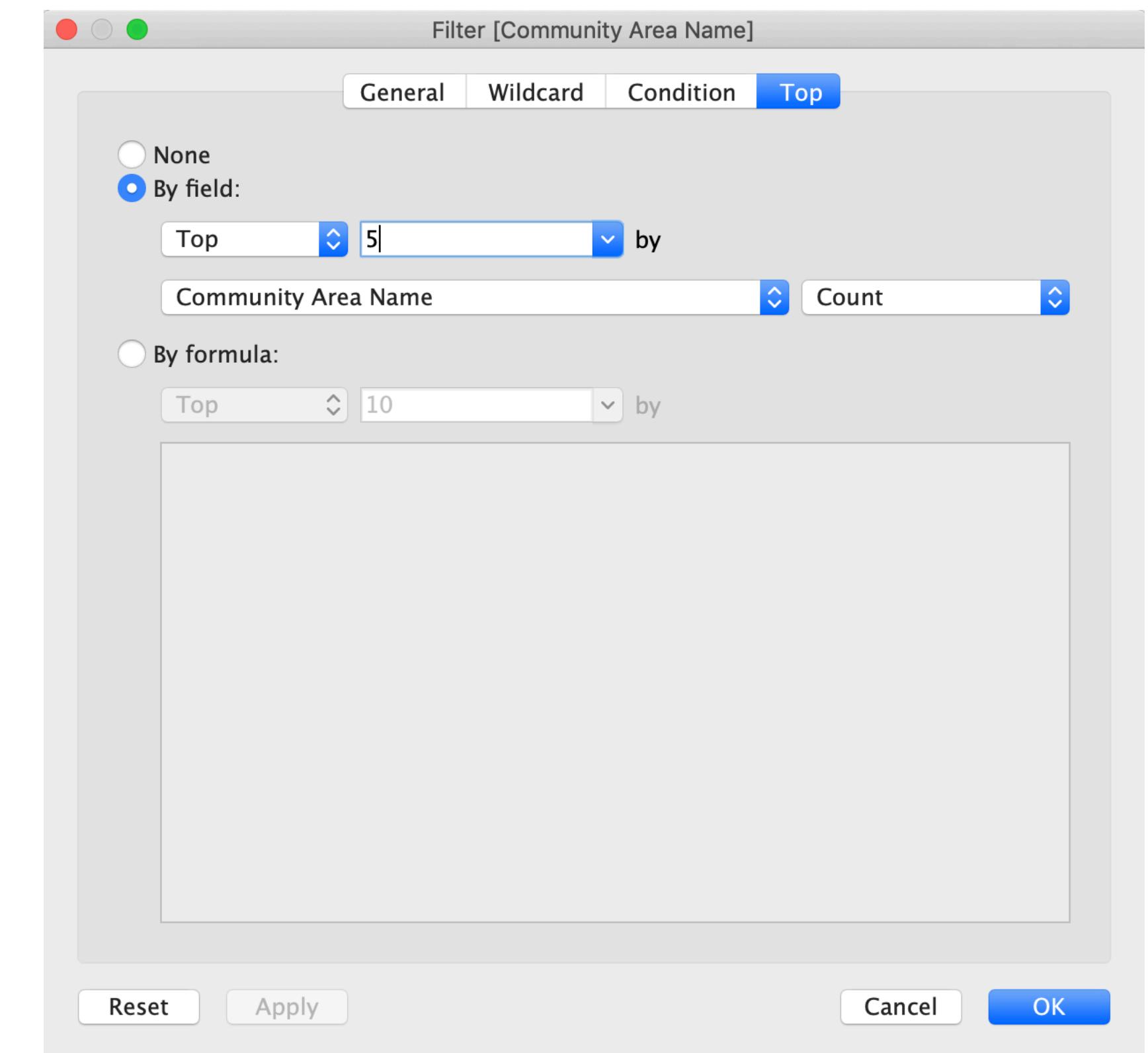
Recap: More Filtering

- We can use different type of filters to get more specific data.
- Adding a match value will only include or exclude those columns that match that value.



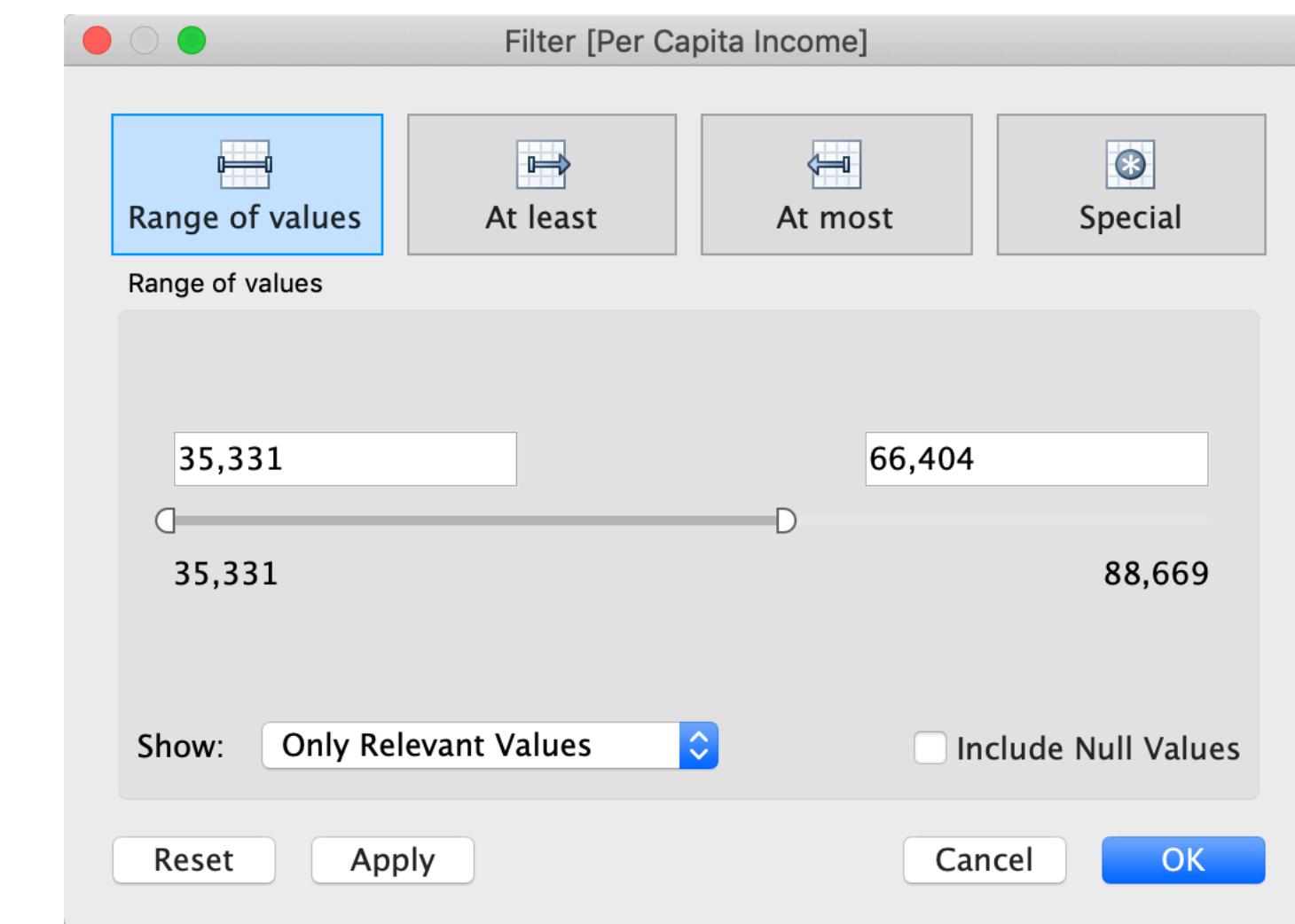
Recap: More Filtering

- If we want to display only top results we can use Top option and enter the Top number of values that we want.

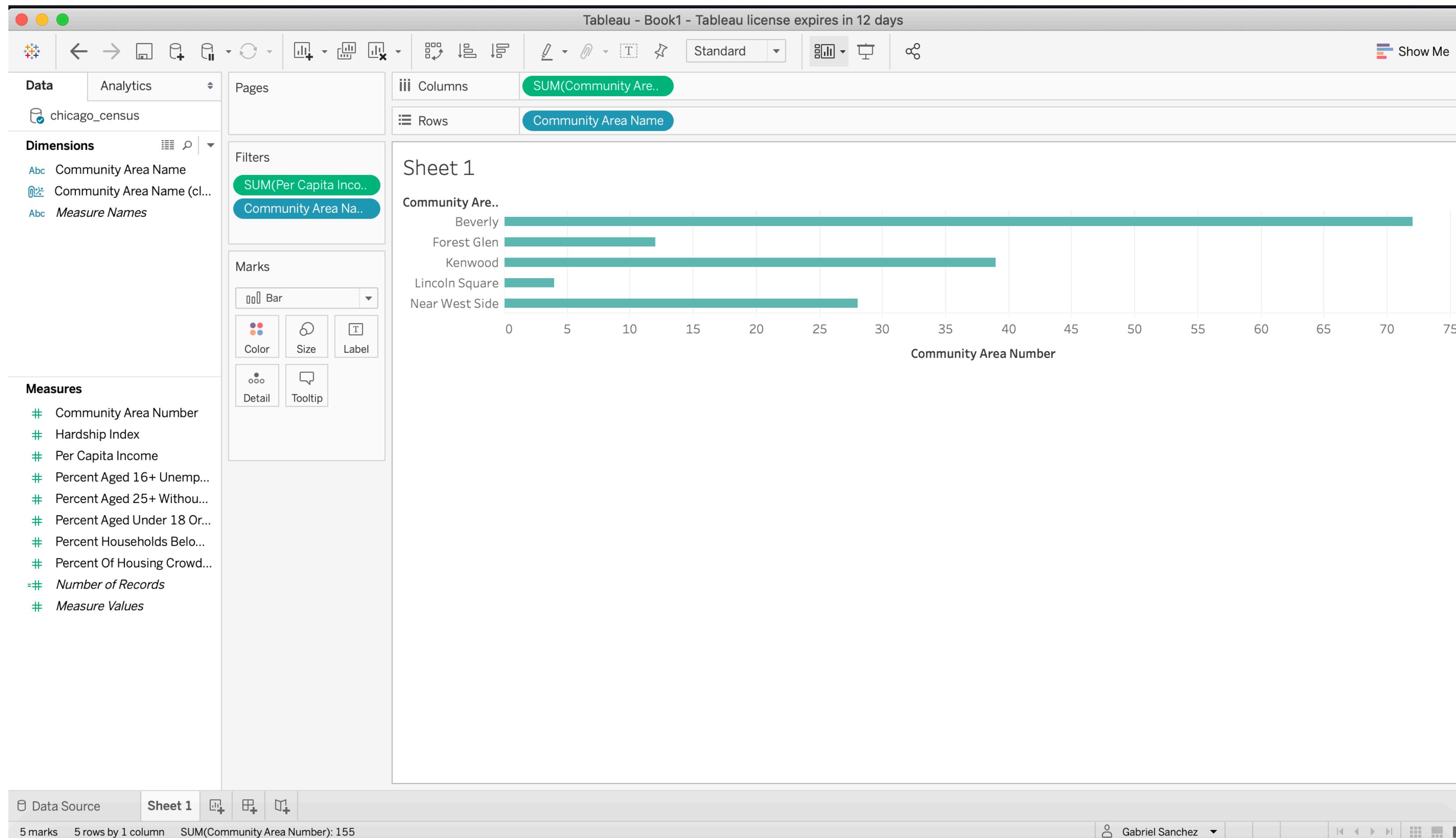


Recap: More Filtering

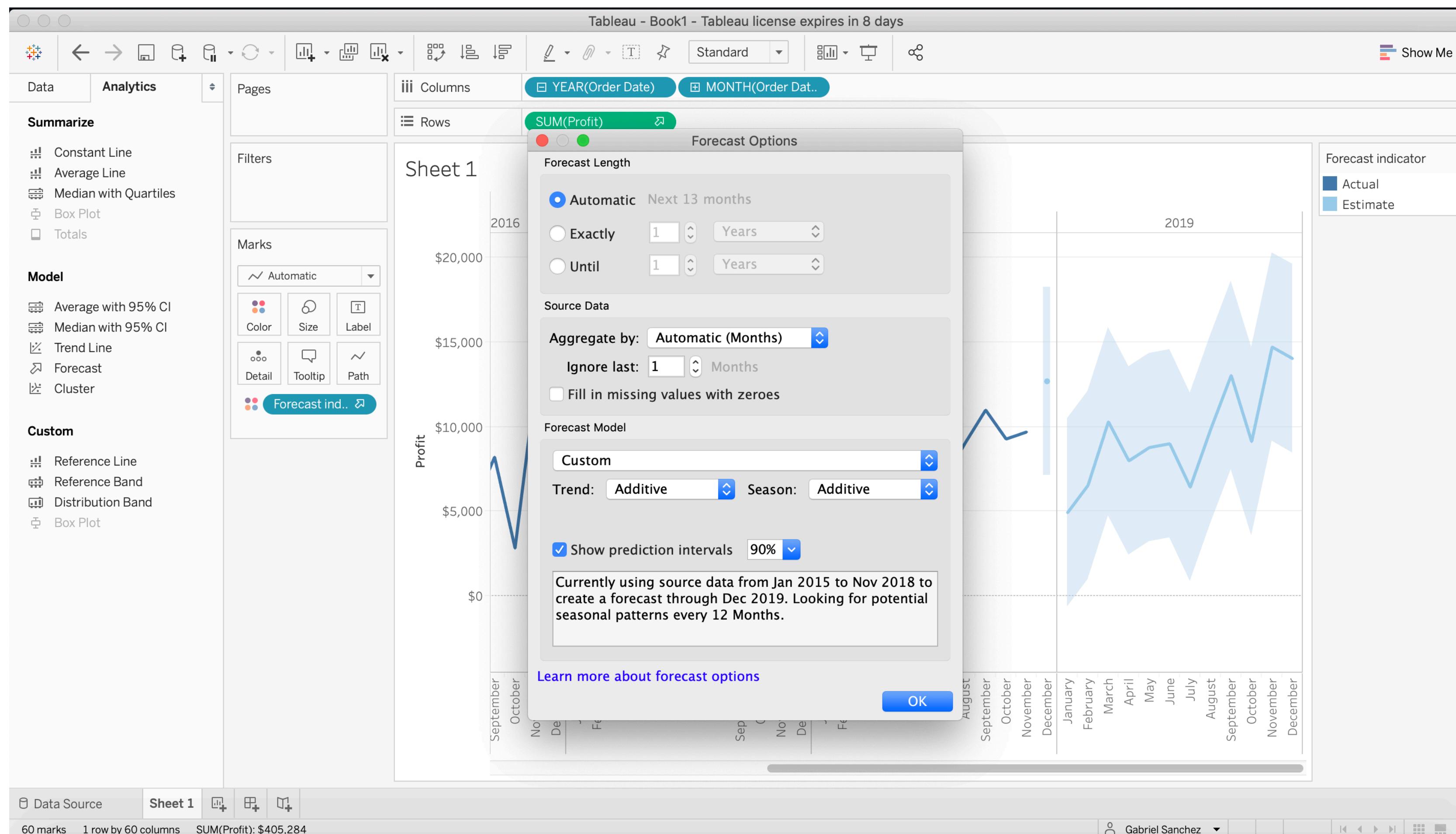
- We can also use specific ranges to filter our data. This only works when our data is quantitative.
- There are different ways of filtering by range. We can also choose to filter out null values.



Recap: Marks



Recap: Forecast Options



Functions in Tableau

- Number Functions
- String Functions
- Date Functions
- Type Conversion
- Logical Functions
- Aggregate Functions
- Pass-Through Functions (RAWSQL)
- User Functions
- Table Calculation Functions
- Spatial Functions
- Additional Functions

Year of Order Date	Quarter of Order Date	Region			
		Central	East	South	West
2011	Q1	\$8,921	\$20,575	\$29,654	\$22,647
	Q2	\$22,009	\$11,477	\$14,893	\$30,791
	Q3	\$37,861	\$258	\$31,257	\$25,006
	Q4	\$57,840	\$13,313	\$23,784	\$31,171
2012	Q1	\$26,269	\$30,699	\$30,278	\$18,861
	Q2	\$39,999	\$28,438	\$23,672	(\$922)
	Q3	\$9,030	\$22,096	\$20,973	\$22,535
	Q4	\$34,545	\$12,001	\$20,074	\$3,353

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WINDOW_MEDIAN(SUM([Profit]), FIRST(), LAST())

FIRST()

\$8,921
\$22,009
\$37,861
\$57,840
\$26,269
\$39,999
\$9,030
\$34,545

MEDIAN= \$30,407

LAST()

Number functions

- Number functions allow you to perform computations on the data values in your fields. Number functions can only be used with fields that contain numerical values.

- $\text{ABS}(-7) = 7$
 $\text{ABS}([\text{Budget Variance}])$

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2011	Q1	\$8,921	\$20,575	\$29,654	\$22,647
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MEDIAN= \$30,407

LAST()

String functions

- String functions allow you to manipulate string data (i.e. data made of text).
- $\text{MID}(\text{"Calculation"}, 2) = \text{"alculation"}$
 $\text{MID}(\text{"Calculation"}, 2, 5) = \text{"alcul"}$
- $\text{REPLACE}(\text{"Version8.5"}, \text{"8.5"}, \text{"9.0"}) = \text{"Version9.0"}$
- $\text{TRIM}(\text{" Calculation"}) = \text{"Calculation"}$

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	Q3	30,407	16,944	23,728	22,591
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Date functions

- DATENAME('year', #2004-04-15#) = "2004"
- DATENAME('month', #2004-04-15#) = "April"

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https://onlinehelp.tableau.com/current/pro/desktop/en-us/functions_date.htm

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Type functions

- Type conversion functions allow you to convert fields from one data type to another.
- DATEPARSE ("dd.MMMM.yyyy", "15.April.2004") = #April 15, 2004#
DATEPARSE ("h'h' m'm' s's'", "10h 5m 3s") = #10:05:03#
- STR([Age])
- https://onlinehelp.tableau.com/current/pro/desktop/en-us/functions_functions_typeconversion.htm

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Logical functions

- IF [Profit] > 0 THEN 'Profitable'
ELSEIF [Profit] = 0 THEN 'Breakeven'
ELSE 'Loss' END

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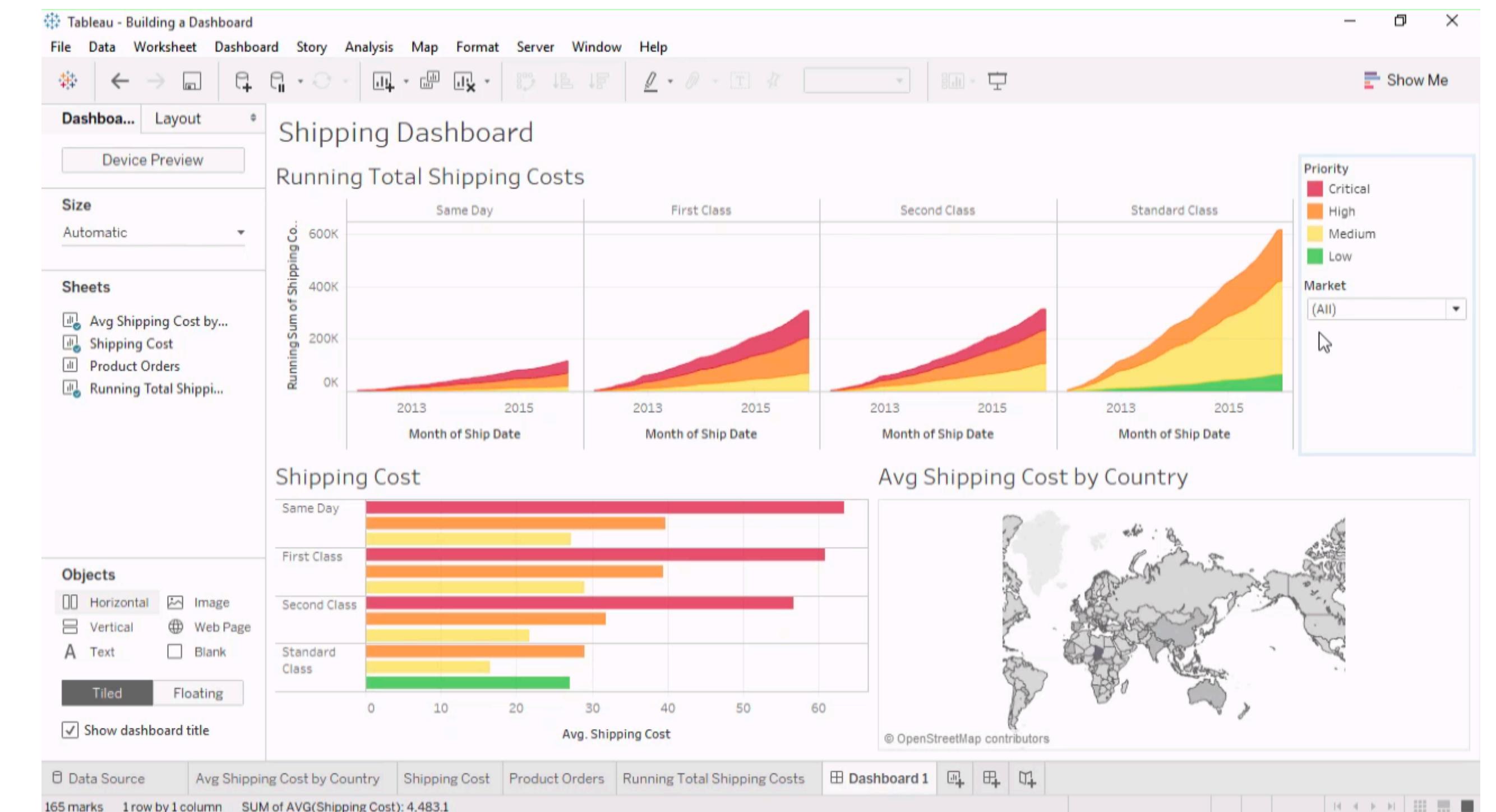
- https://onlinehelp.tableau.com/current/pro/desktop/en-us/functions_functions_logical.htm

Exercise 1



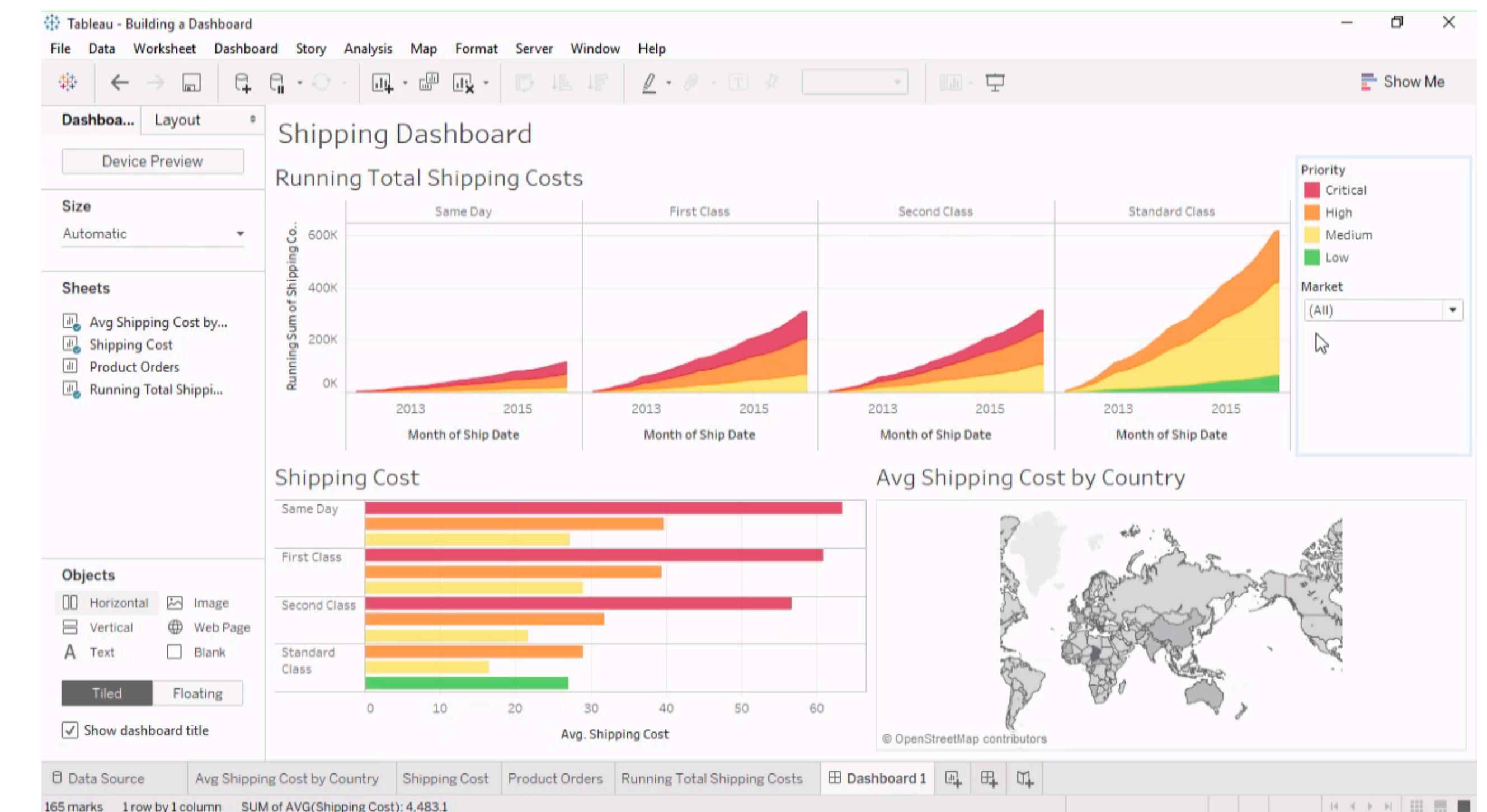
Dashboards

- A dashboard is a collection of several views, letting you compare a variety of data simultaneously. For example, if you have a set of views that you review every day, you can create a dashboard that displays all the views at once, rather than navigate to separate worksheets.
- Like worksheets, you access dashboards from tabs at the bottom of a workbook.
- Data in sheets and dashboards is connected; when you modify a sheet, any dashboards containing it change, and vice versa. Both sheets and dashboards update with the latest available data from the data source.



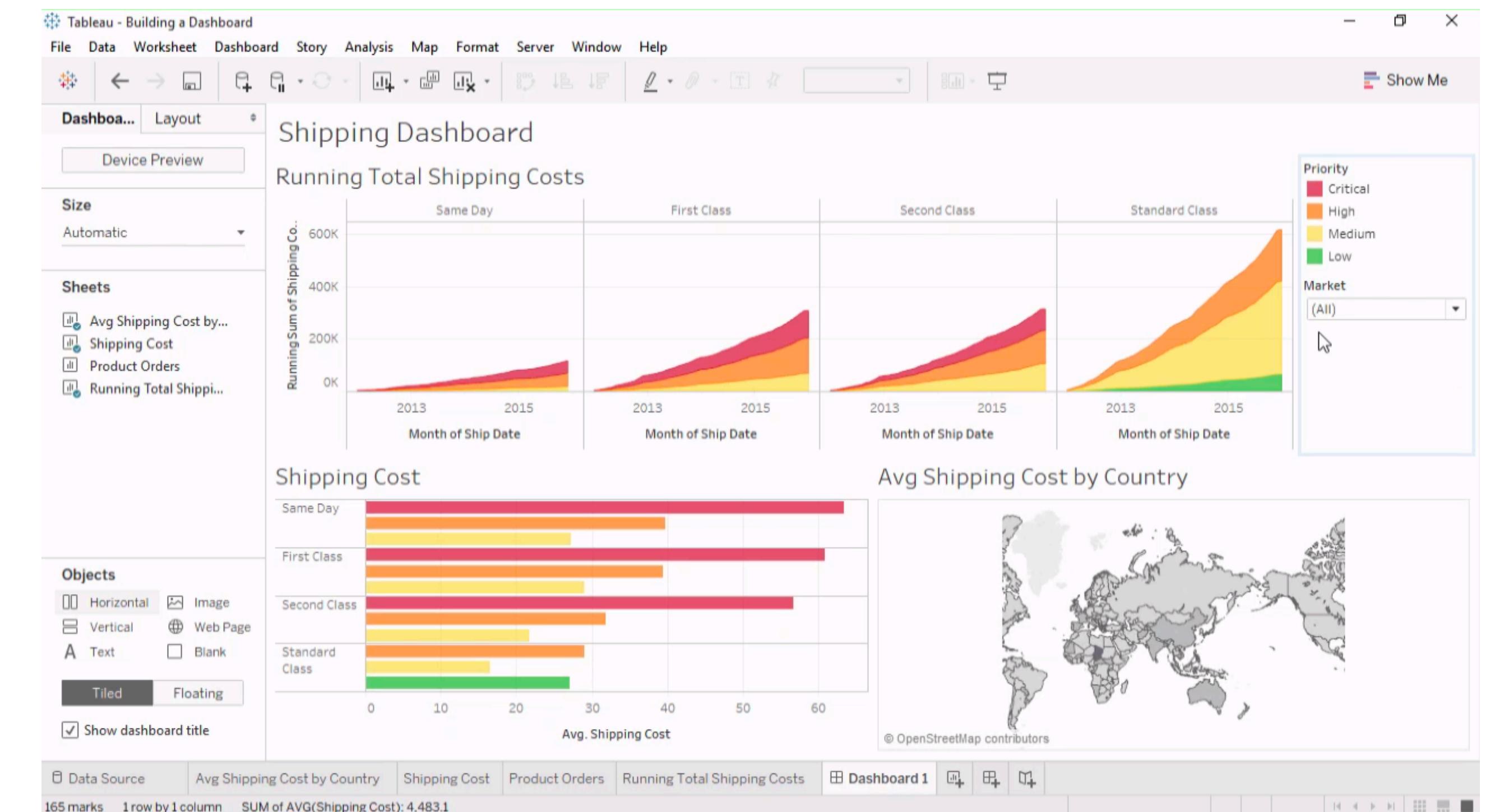
Best Practices for Effective Dashboards

- Know your purpose and audience
- Leverage the most-viewed spot
- Author at your final display size
- Limit the number of views
- Be security-savvy
- Add interactivity to encourage exploration
- Show filters
- Enable highlighting



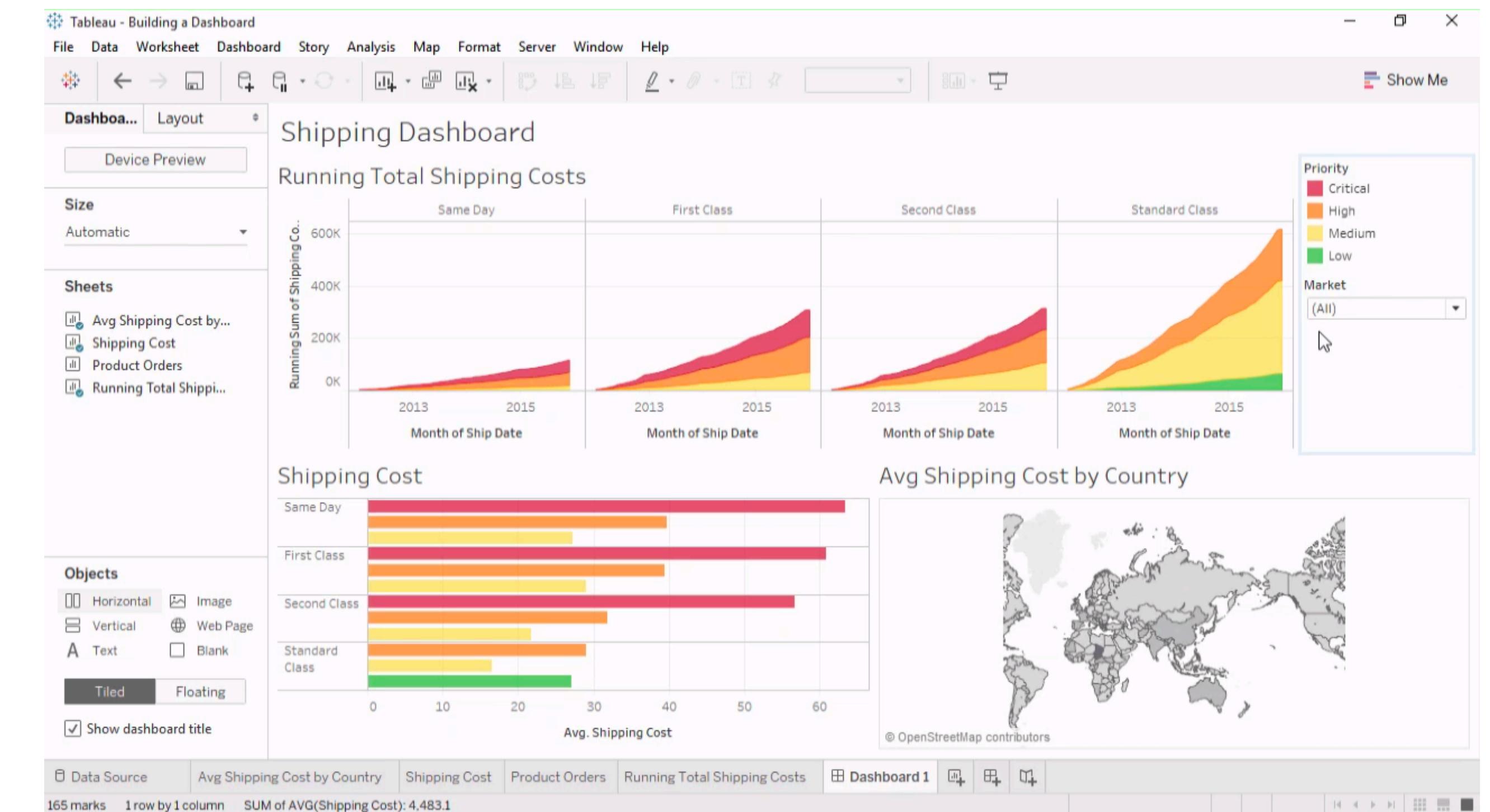
Know your purpose and audience

- What will you be trying to say with this dashboard? Are you presenting a conclusion or a key question?
- Does your audience know this subject matter extremely well or will it be new to them? What kind of cues will they need?



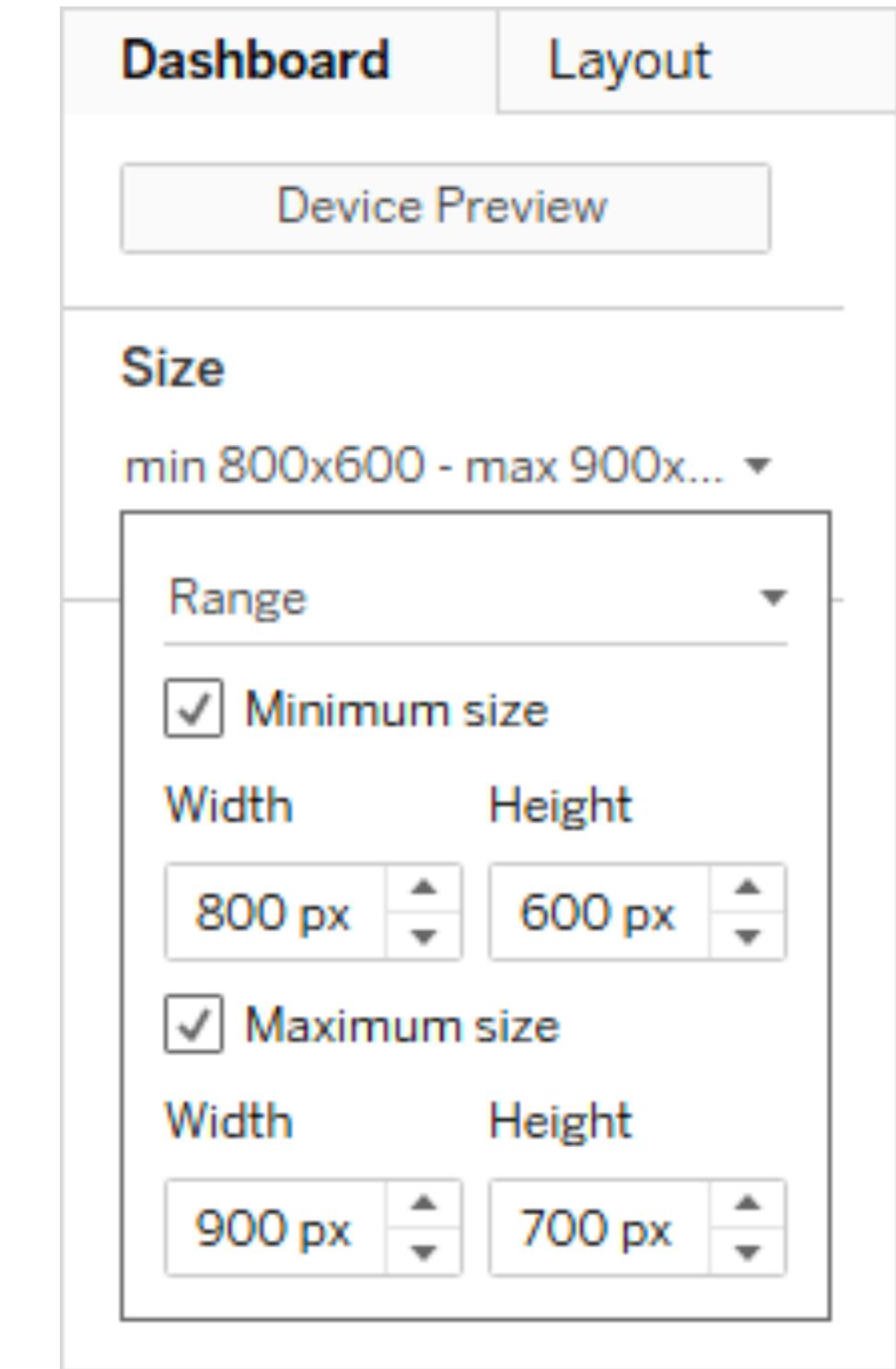
Leverage the most-viewed spot

- Once you know your dashboard's main purpose, be sure to place your most important view so that it occupies or spans the upper-left corner of your dashboard.



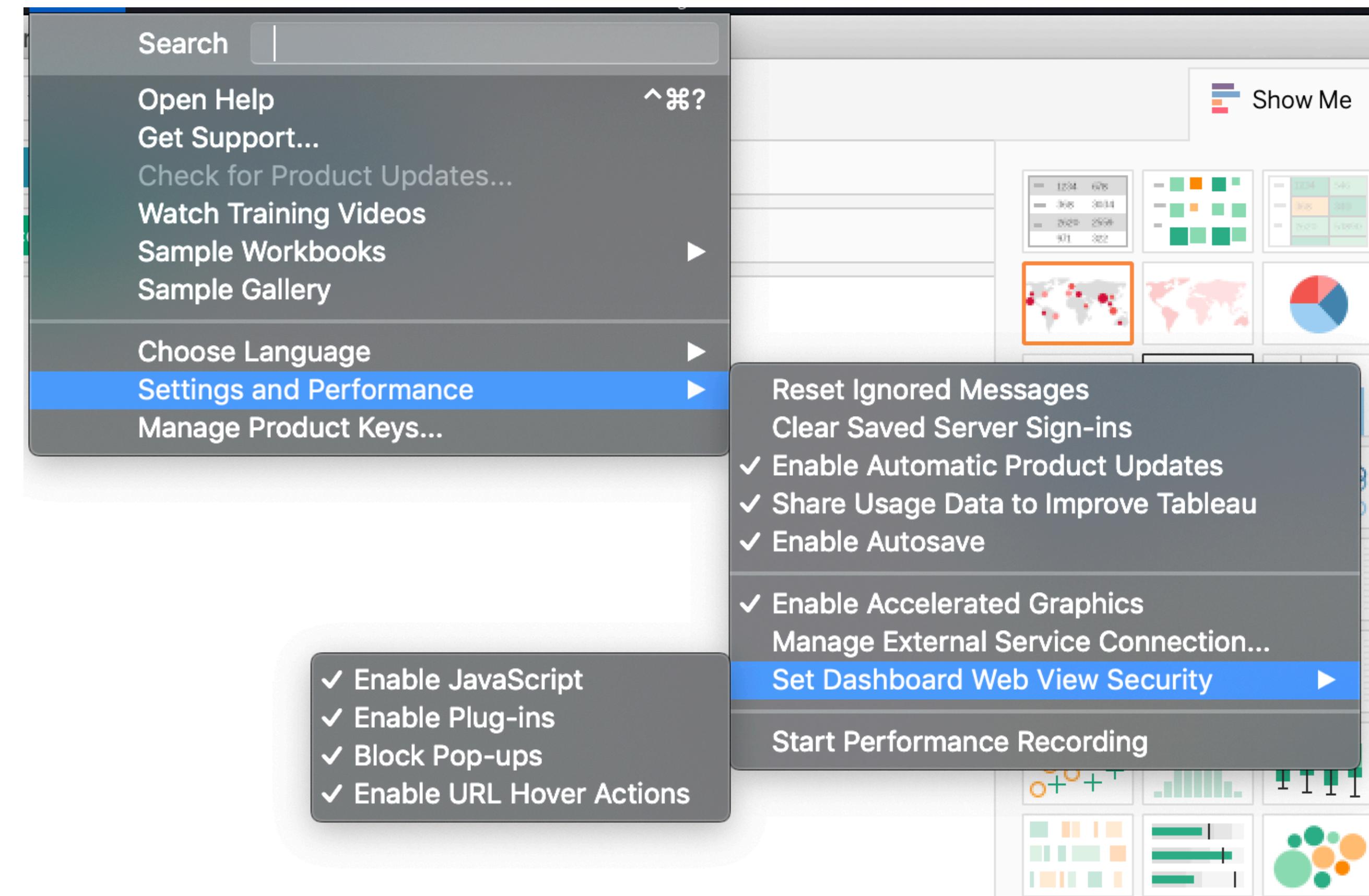
Author at your final display size

- Tableau dashboards are set to use a fixed size and if you keep this setting, be sure to construct your visualization at the size it will be viewed at. You can also set **Size** to **Automatic**, which makes Tableau automatically adapt the overall dimensions of a visualization based on screen size. This means that if you design a dashboard at 1300 x 700 pixels, Tableau will resize it for smaller displays—and sometimes this results in scrunched views or scrollbars.



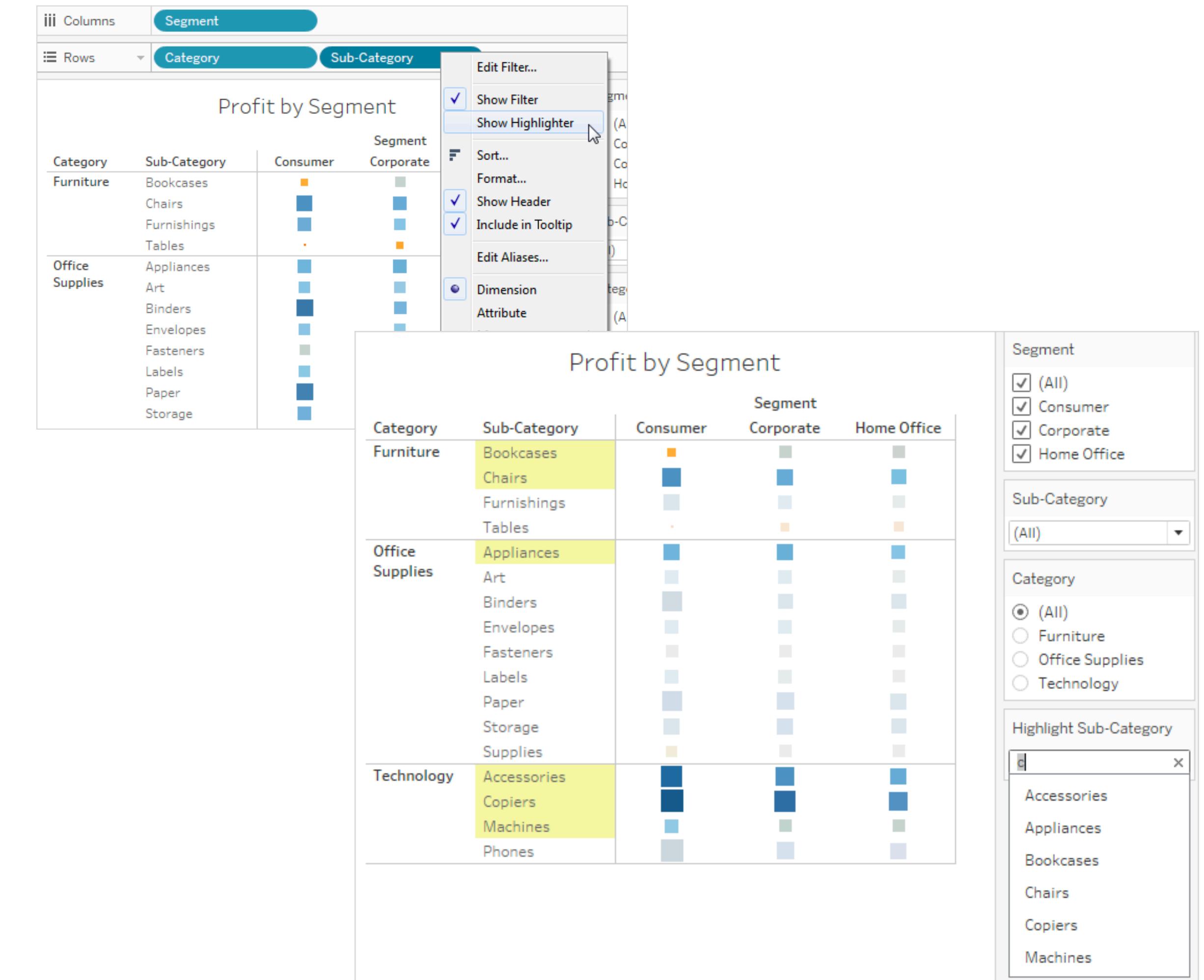
Be security-savvy

- **HTTPS**
- **Web view security options**
(Help > Settings and Performance > Dashboard Web View Security)



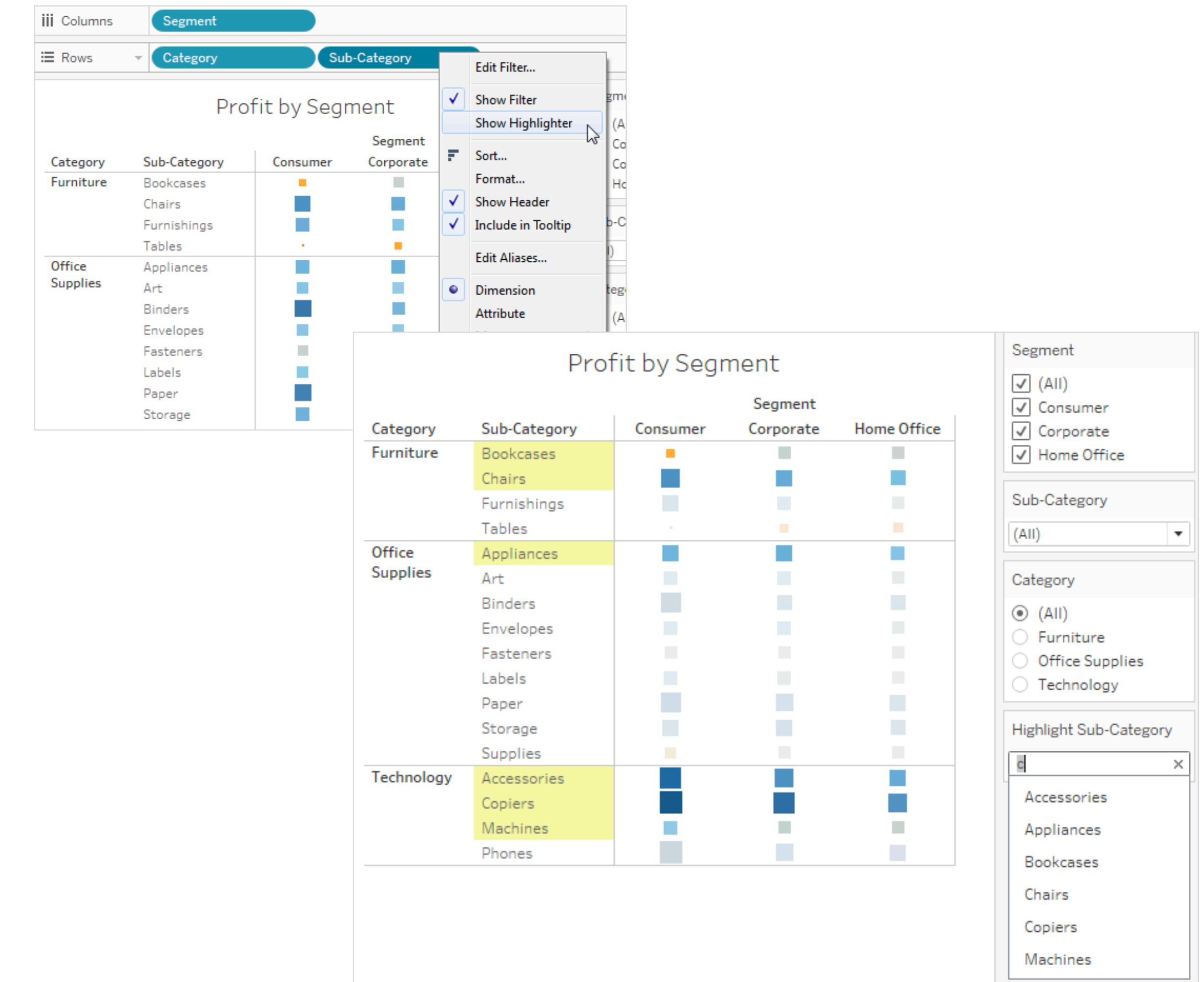
Enable highlighting

- You can use the **Highlight** button on the toolbar to set up highlighting between views.
- When highlighting is turned on, a selection in one view will highlight related data in the other views. You can turn on highlighting for all fields or select specific fields.

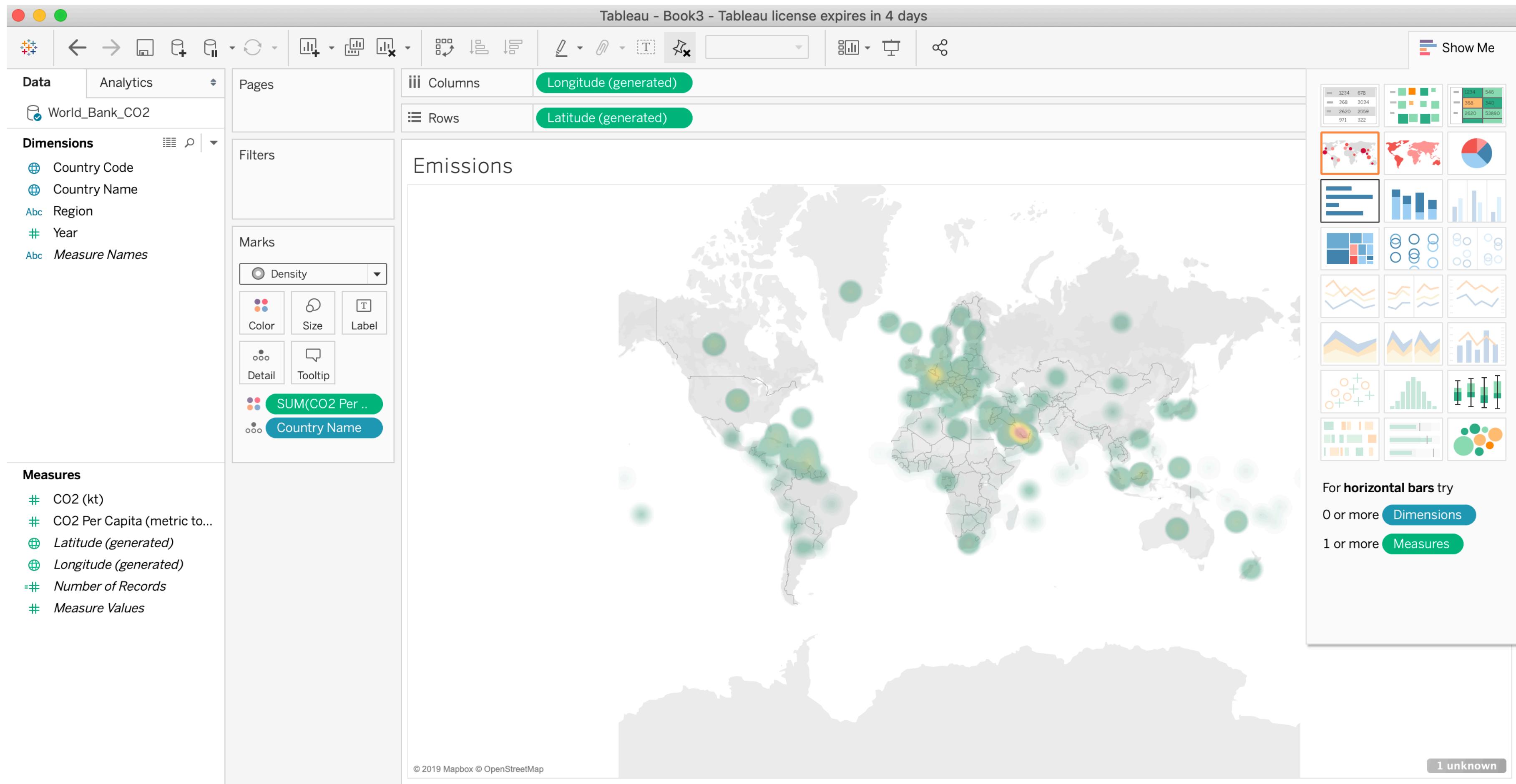


Enable highlighting

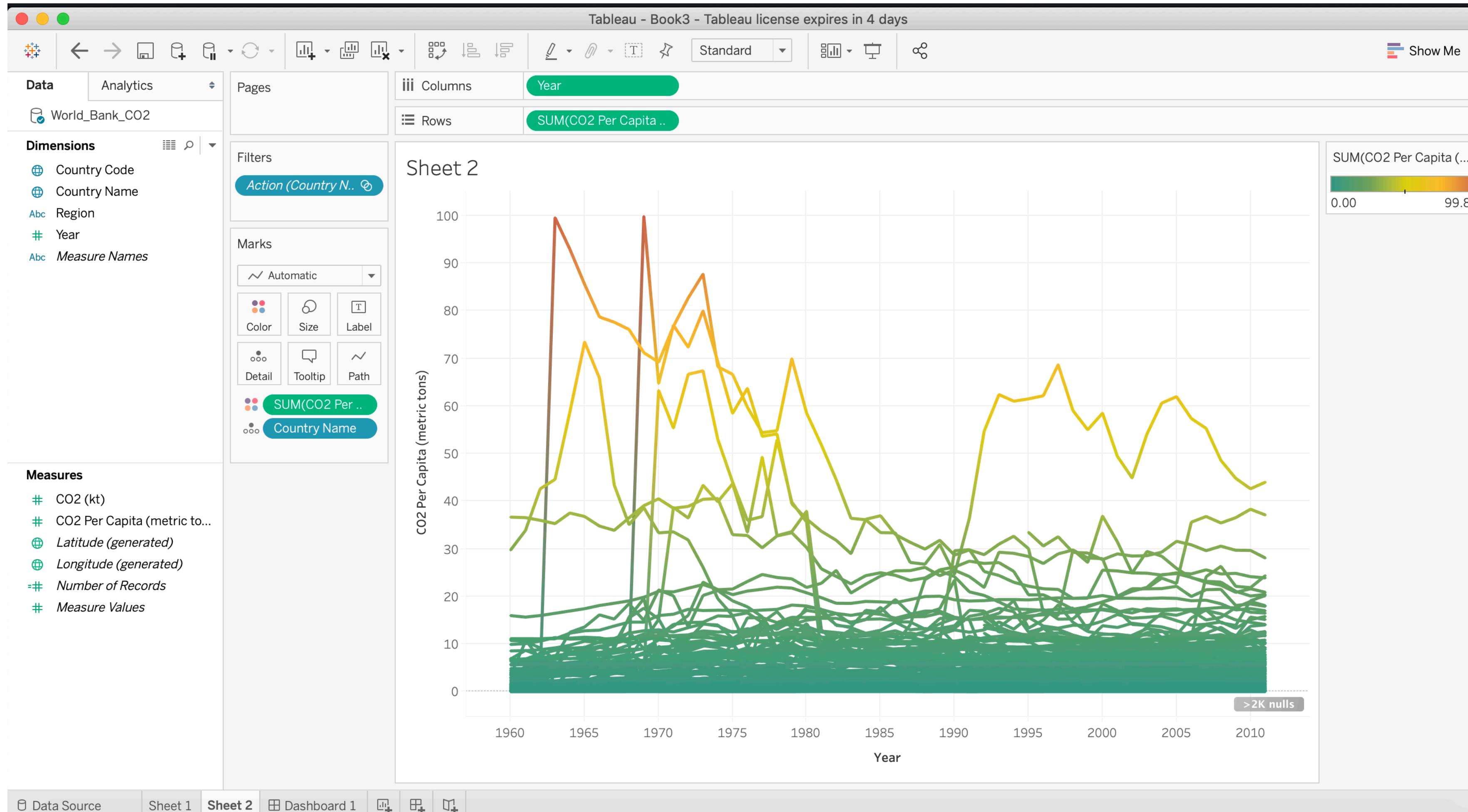
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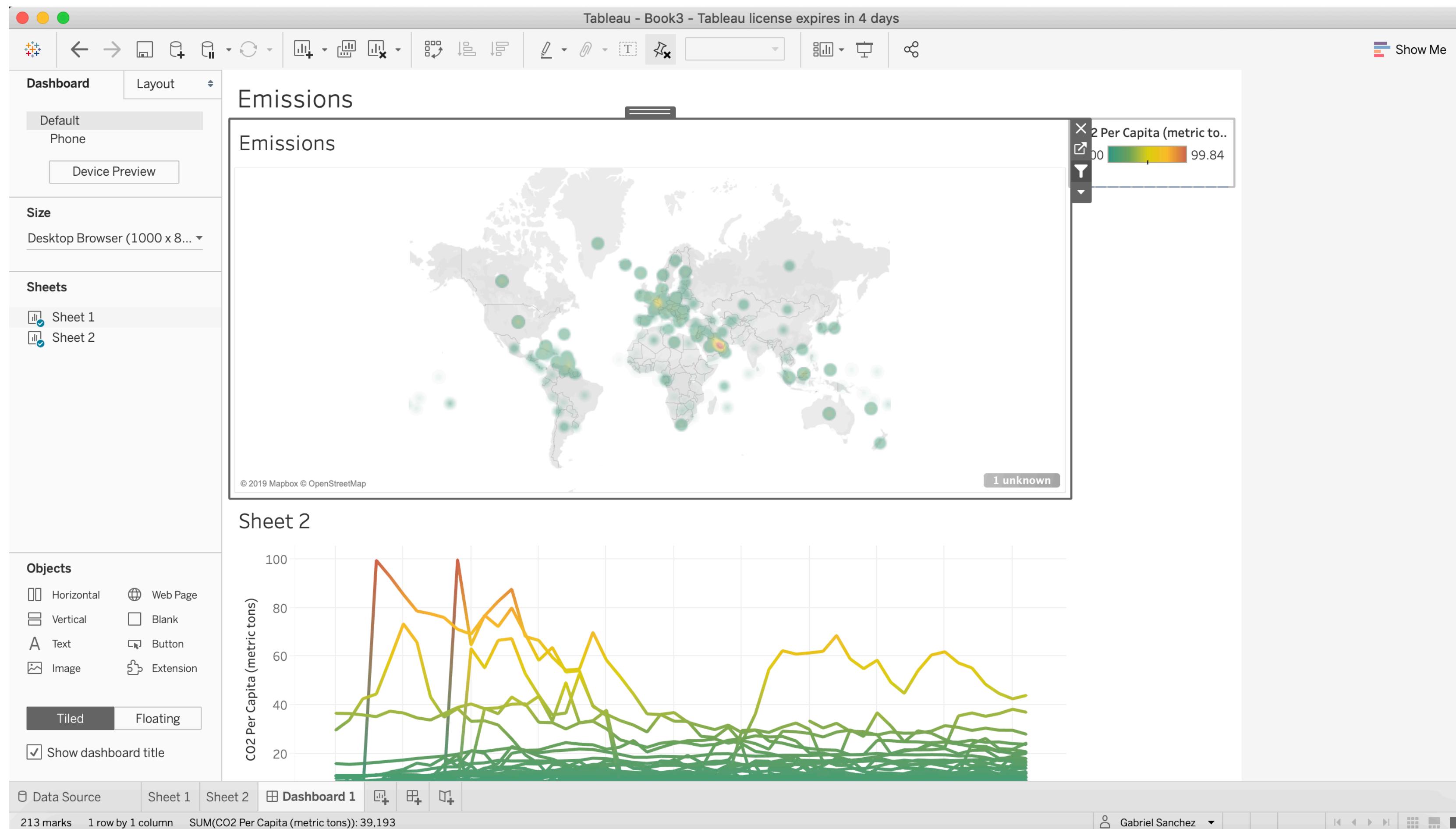
Creating a Dashboard



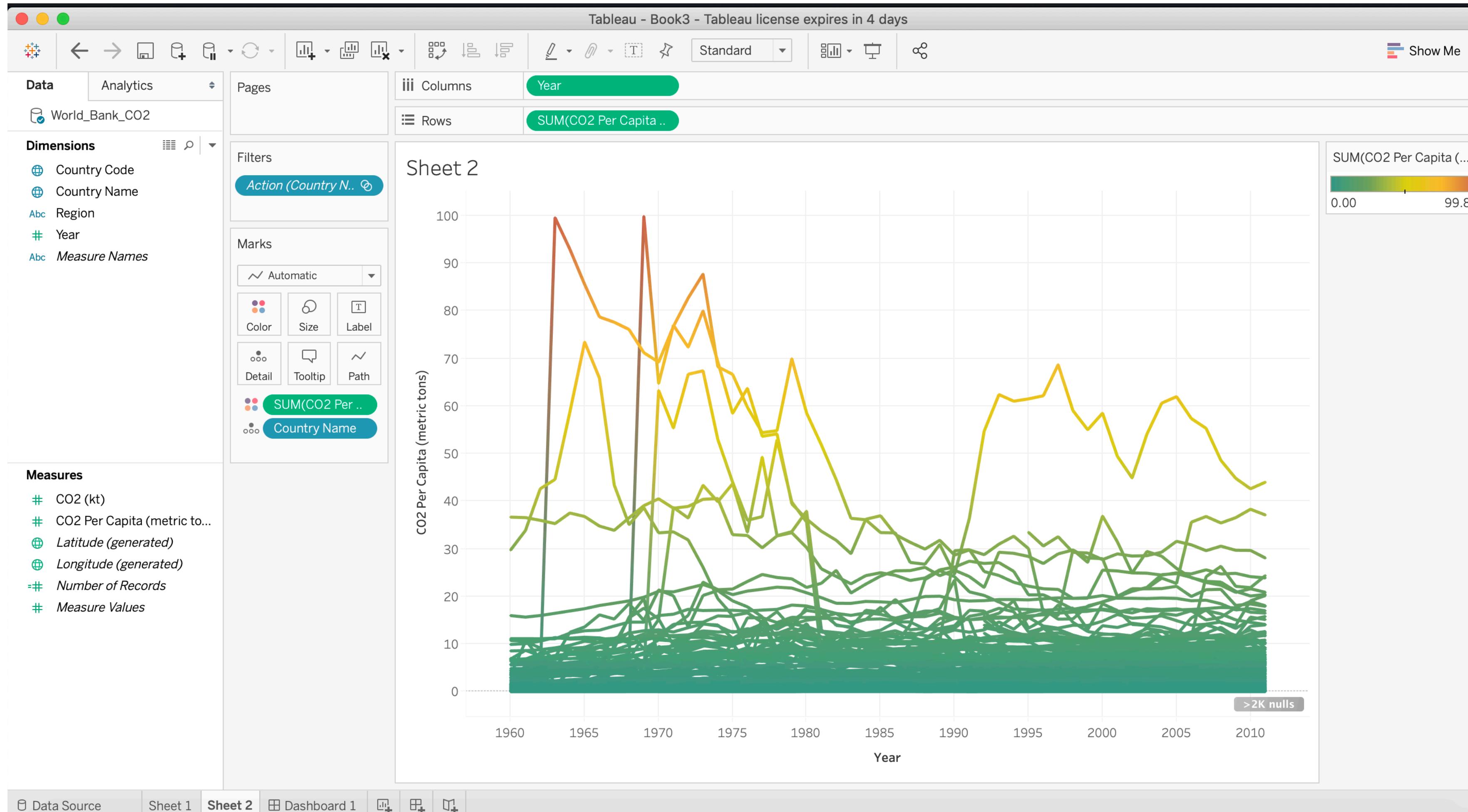
Creating a Dashboard



Interactivity in Dashboards

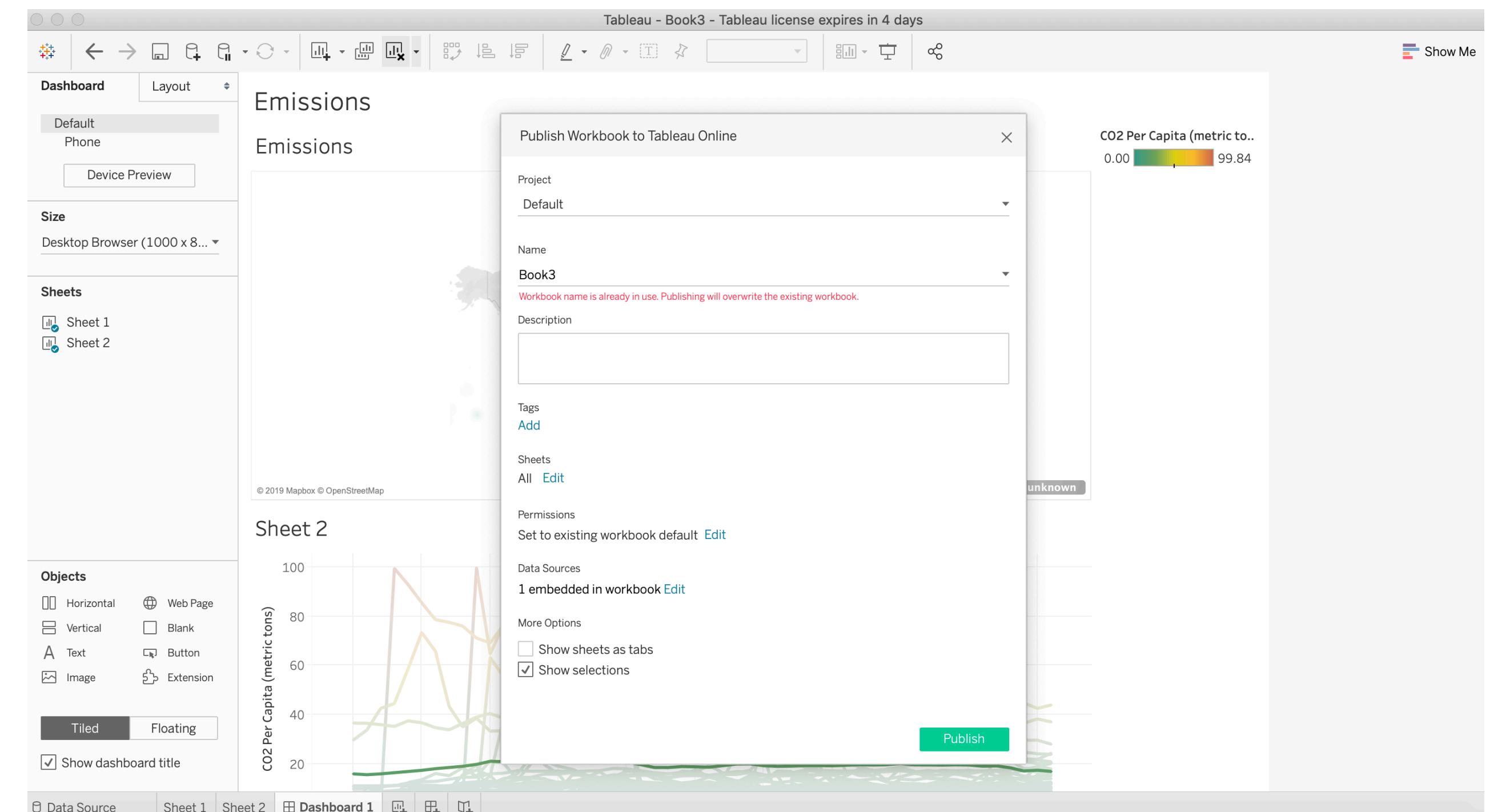


Creating a Dashboard



Publish a Dashboard

- https://onlinehelp.tableau.com/current/pro/desktop/en-gb/publish_workbooks_share.htm
- <https://www.tableau.com/products/cloud-bi>



Exercise 2

