# TABLEAU

**DAY 6**

## Advantages of viewing data in a visualization instead of a spreadsheet:

**Pre-attentive attributes:** Visualizations help us understand complex data.

The best reason to use a visualization to understand your data is that most data sets are far too large to consume in their raw format. Humans are limited in what information we can process and compare in our heads, especially if that information resides in a million-row data set, but we are good at quickly processing visual information.
Even if we are new to reading data in a chart, we already have the built-in capabilities to spot the light and dark colors, large and small shapes, groups, and orientations of objects. These are referred to as **pre-attentive attributes**.


Visual analytics leverages our **pre-attentive attributes**, which are the visual cues humans automatically process with sensory memory. We can notice and interpret these kinds of attributes quickly and without special effort.

**How to be a good data consumer?**

## Know the elements of charts

Most charts you read and use in Tableau have common characteristics.


1. **Quantitive Axis:** In Tableau, the quantitative axis (measures) creates an axis that shows the ranges of values for the measure.

2. **Marks:** Mark is a term used to describe the visual representation of the data. In this chart, the mark is called a bar.

3. **Tooltip:** In Tableau, when we click a mark we can get the more specific details about the data the mark represents.

4. **Qualitative Axis:** It creates an axis with headers when added to the view. The header has labels for the categorical data.

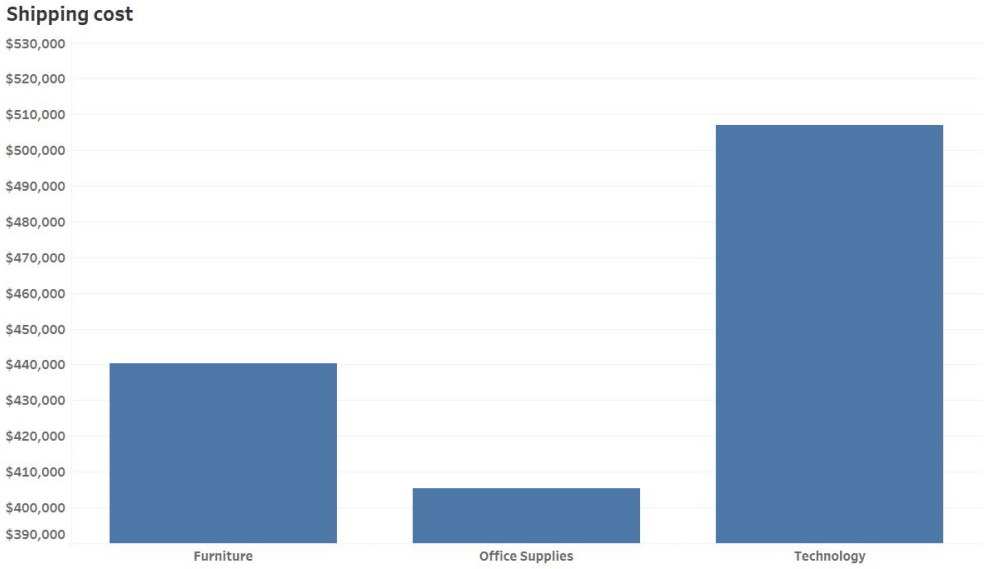
5. **Labels:** These labels describe the product each bar represents.

6. **Filter:** This option allows us to view specific data, i.e., it's up to us whether we want to view the shares of whole market or of a specific market, like USCA.

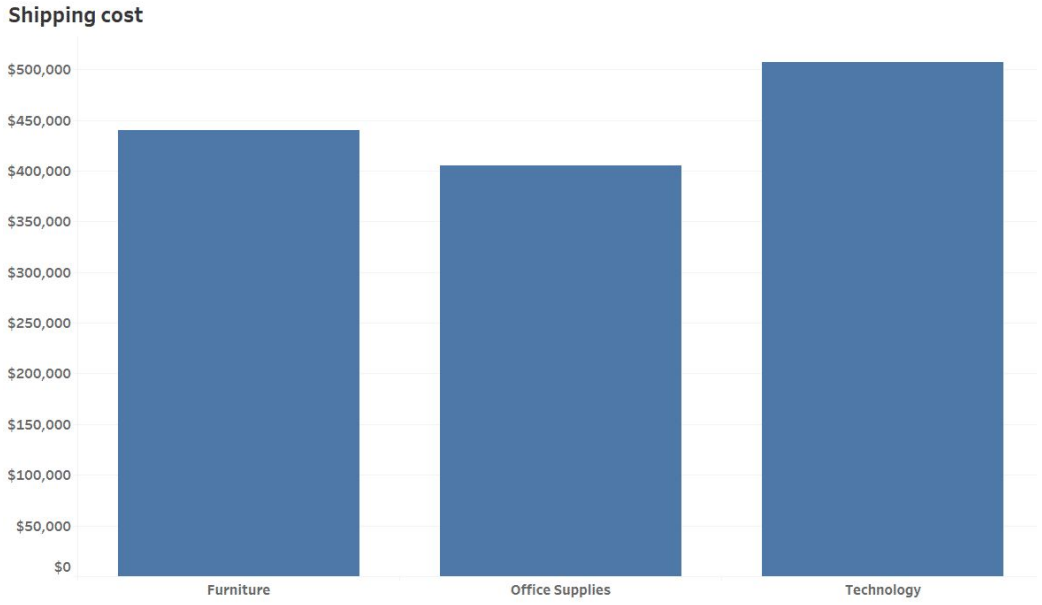
7. **Legend:** Legend defines what colors or shapes in a chart represent.

## Charts can sometimes be misleading or confusing

- **Bar charts with an axis not including zero (0)**
  An axis without a zero can be misleading on a bar chart, as it can distort the scale of differences between categorical data.

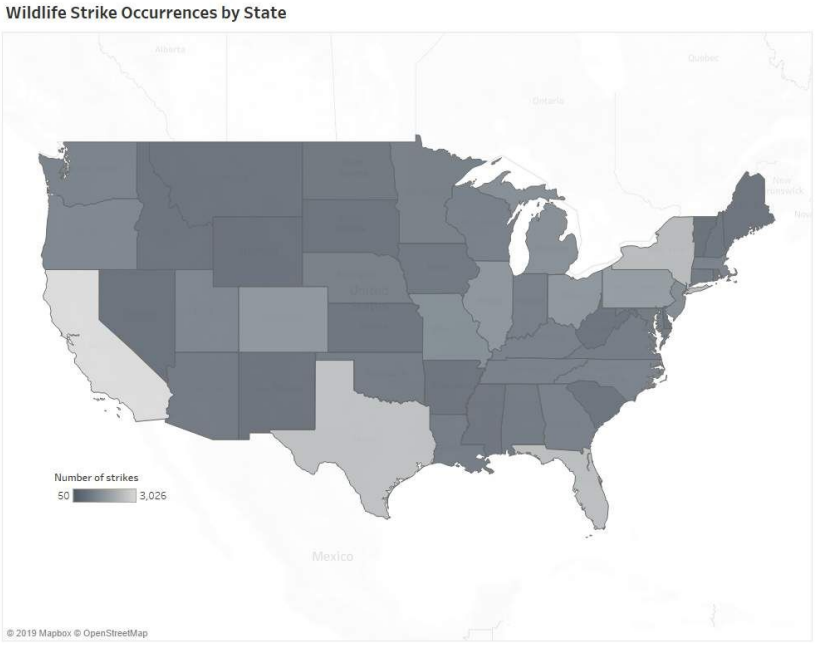



The axis in the above chart has been fixed at $390,000. The bar suggests a large discrepancy in shipping costs.

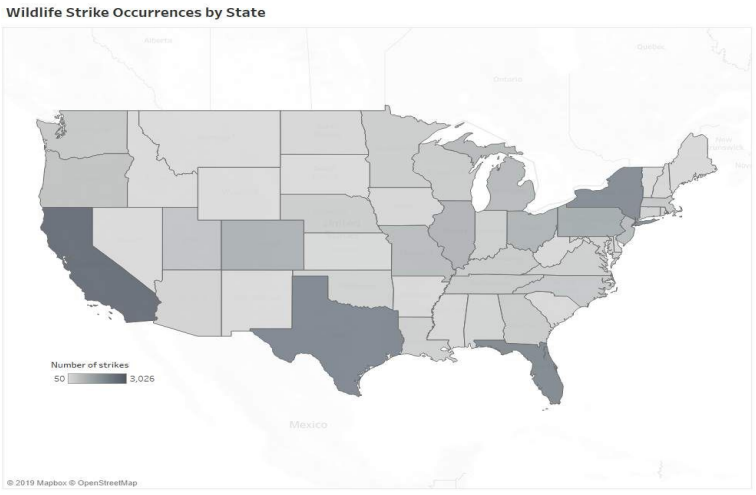



The axis when is set to zero, then you can't see large discrepancies in shipping costs between the categories.

- **Color confusion**
  Color is an effective tool for drawing attention to or differentiating areas of data but can cause confusion if not used carefully. For example, we usually associate density in maps with a darker color, but if the author reverses the color range, that can be confusing, and even misleading.

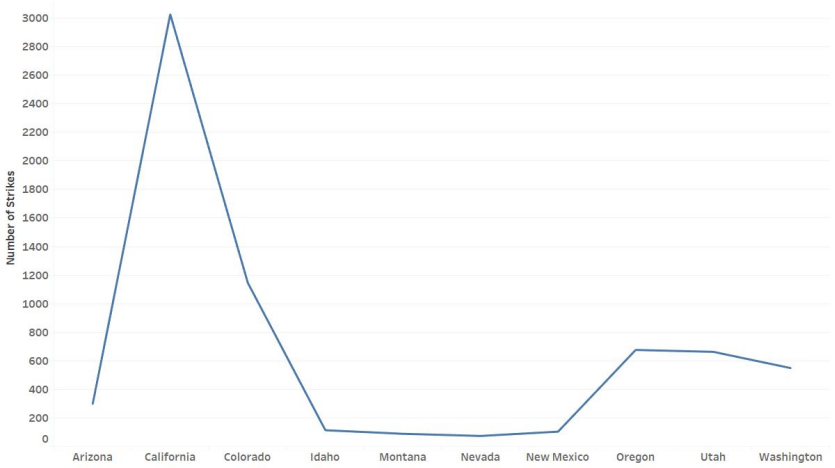



If we looked quickly at this map of airplane wildlife strikes, we will assume that the darker regions are more strikes, not fewer.

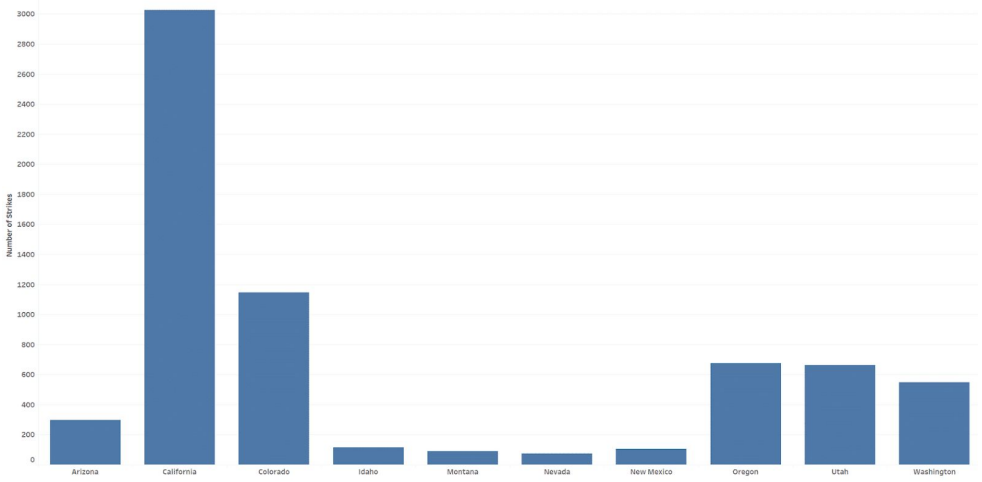



With the color of density set to normal conventions, the map is much clearer.

**Wrong chart type for the data**
Not all chart types work for the selected dimensions and measures.




This line chart is not best for comparing data against categories.




A bar chart is better for comparing data against categories.