



University of California Tableau User Group (UC TUG)

PRESENTATIONS BY:

UC OFFICE OF THE PRESIDENT (UCOP)

JANUARY 11TH, 2019

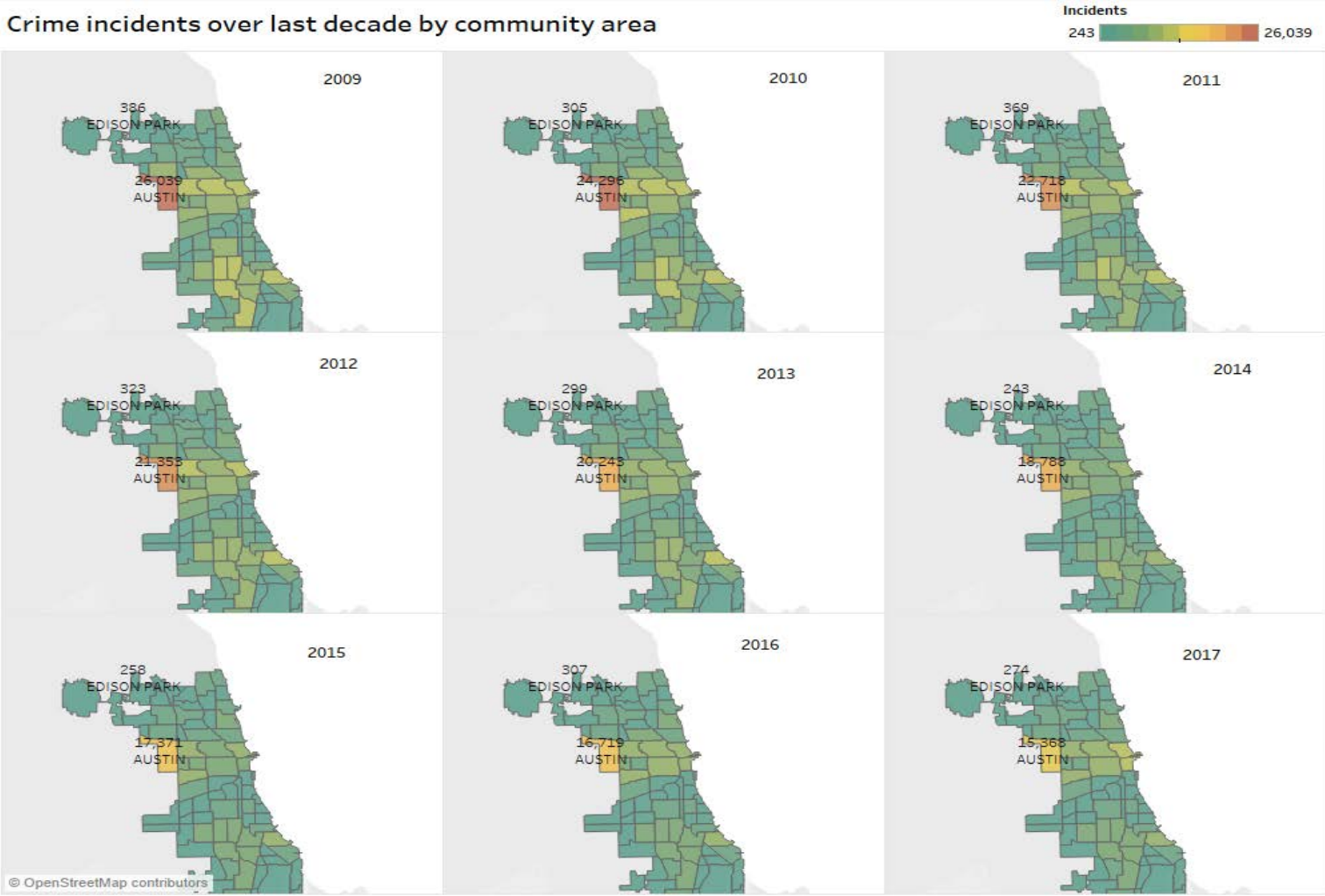
Agenda

- ◇ Color Pallets and Formatting Tips & Tricks – Joey Van Matre (**20 minutes**)
- ◇ Creating Maps Using Spatial Data Files –Sanketh Sangam (**20 minutes**)
- ◇ Best Practices: Choosing the Right Chart – Poorani Rajamanickam (**8 minutes**)
- ◇ Call for Regular Hosts/Presenters (**1 minute**)
- ◇ Q & A (**7 minutes**)
- ◇ Next Meeting (**1 minute**)

Maps Using Spatial Data Files

- ◆ Create maps with spatial data files
- ◆ Create small multiples to compare trends across dimensions in a single view.
- ◆ Chicago crime data is used for the presentation. The data is aggregated by number of incidents.

Maps Using Spatial Data Files

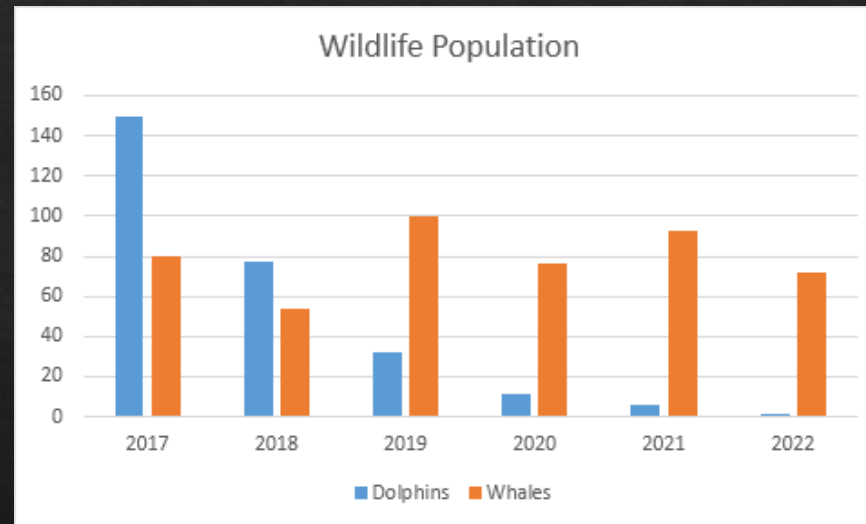


Choosing the right chart

- ◆ Types of chart to use depends of the type of data and the purpose of analysis
- ◆ People understands your data better if they were presented in the right type of chart

Visualizing Patterns

- ◇ Discrete data - use Bar charts.
- ◇ Ex: Population of Dolphins and Whales over 5 years



Bar Chart

Best Practices for using Bar charts

- ◆ Use horizontal labels to improve the readability
- ◆ Start y-axis at 0 to appropriately reflect the values in your graph
- ◆ Use horizontal bar chart, when your categories to present are too large (more than 10 categories to present)

Visualizing Patterns

- ◇ Continuous data - use line charts.
- ◇ Ex: Dubai Gold Sales in the year 2002 by months



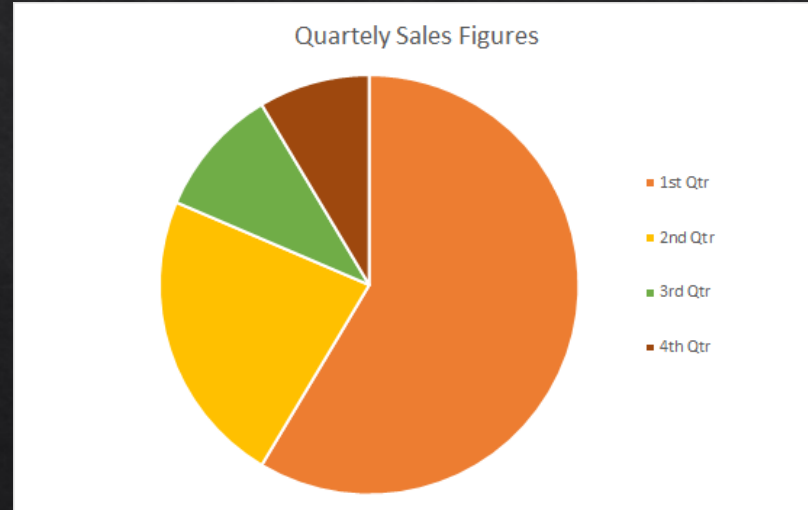
Line Chart

Best Practices for using Line charts

- ◆ Use solid lines only
- ◆ Don't plot more than four lines to avoid visual distractions
- ◆ Use the right height so the lines take up roughly $2/3$ of the y-axis height

Visualizing Proportions

- ◇ To visualize parts of whole – use Pie charts.
- ◇ Ex: Quarterly Sales of a company in a given year



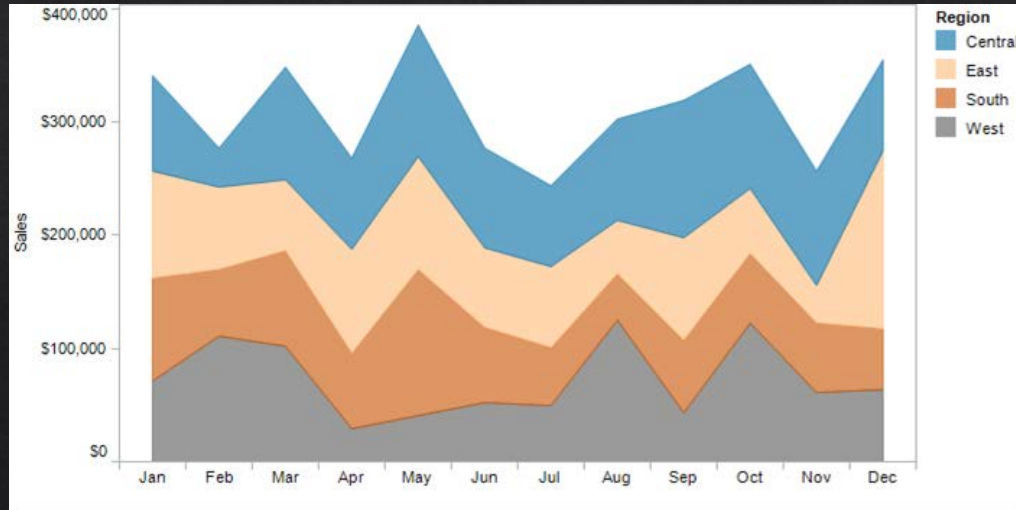
Pie Chart

Best Practices for using Pie charts

- ◆ Don't illustrate too many categories to ensure differentiation between slices
- ◆ Ensure that the slice values add up to 100%
- ◆ Order slices according to their size

Visualizing Proportions

- ◇ To visualize proportions over time – use Stacked area chart.
- ◇ Ex: Proportion of a company's sales by regions over months for a given year



Stacked Area Chart

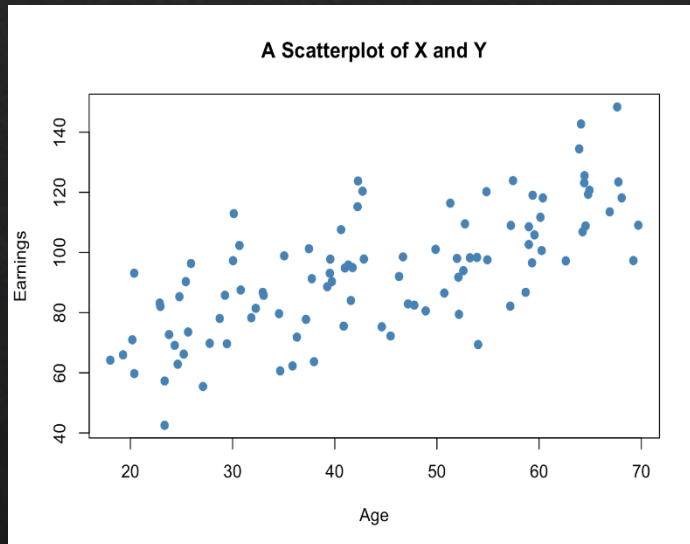


Best Practices for using Stacked Area charts

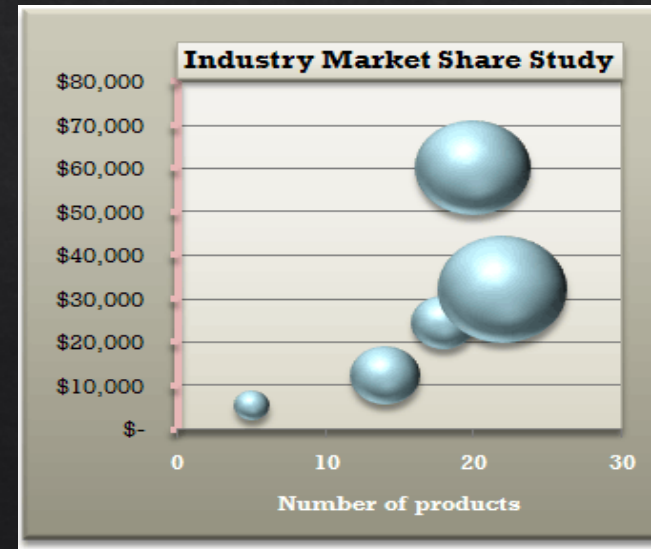
- ◆ Use transparent colors so information isn't obscured in the background
- ◆ Don't display more than four categories to avoid clutter
- ◆ Organize highly variable data at the top of the chart to make it easy to read

Visualizing Relationships

- ◆ To identify correlation – use Scatter plot and Bubble chart.
- ◆ Ex: Correlation between Age and Earnings, Sales by products with percentage of market share



Scatter Plot



Bubble Chart

Best Practices for using Scatter plot

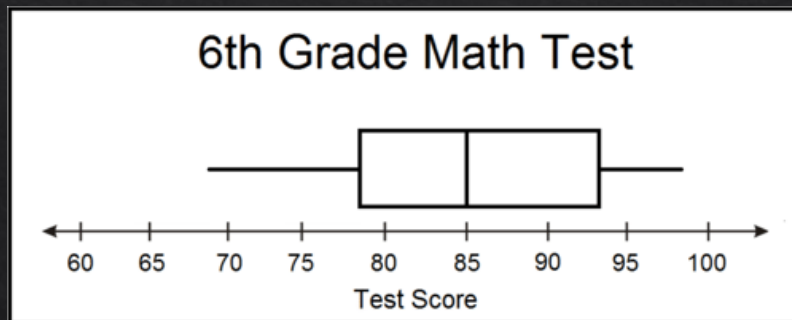
- ◆ Include more variables, such as different sizes, to incorporate more data
- ◆ Start y-axis at 0 to represent data accurately
- ◆ If you use trend lines, only use a maximum of two to make your plot easy to understand

Best Practices for using Bubble charts

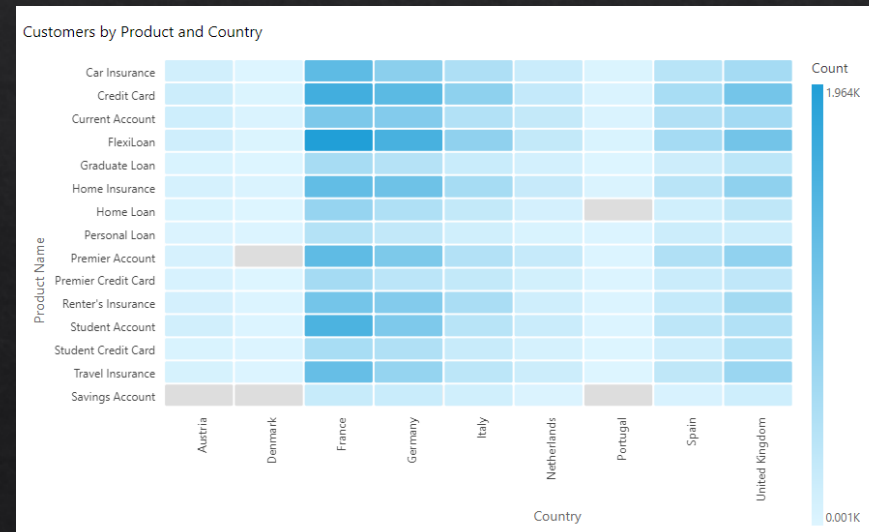
- ◆ Scale bubbles according to area, not diameter
- ◆ Make sure labels are clear and visible
- ◆ Use circular shapes only

Visualizing Relationships

- ◆ To identify outliers – use Box plot. Ex: Outliers in 6th Grade Math Test
- ◆ To spot differences – use Heat maps Ex: Company’s Customers by product and country



Box Plot



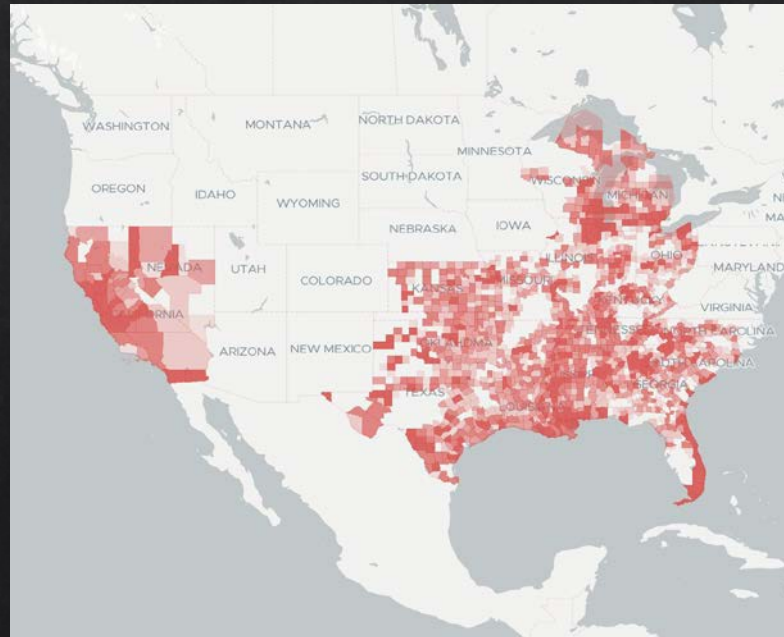
Heat map

Best Practices for using Heat maps

- ◆ Use a basic and clear map outline to avoid distracting from the data
- ◆ Use a single color in varying shades to show changes in data
- ◆ Avoid using multiple patterns

Visualizing Spatial Relationships

- ◆ To visualize data by region or by space and time – use maps.
- ◆ Ex: AT&T (U-verse) coverage available in US.







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Next Meeting

◇ February 8th, 2019