Assignment 3 – Line Graphs, Bar Graphs

Professor John Sokol | Due 2/15

Line Graphs:

The line graph is an excellent tool to visualize change over time. Although this is feasible with a bar graph, the changing trends over time are not as easy to interpret.

Line graph formatting guide:

- Ensure data types of data fields are correctly assigned
- Remove excess white space by shrinking y-axis interval
- Employ color to pertinent categories
- Add axis labels as necessary
- Title that states a call to action
- Remove or light gray gridlines

Bar graphs:

The bar graph is one of the most important tools in the data visualization toolbox. The human brain can easily compare height, resulting in fast and simple interpretation of what the data represents, so it is important to understand how to create compelling and easily readable bar graph visualizations.

Bar graph formatting guide:

- Ensure data types of data fields are correctly assigned
- Decrease bar height due to low variance (difference in bar height) between each bar
- Change decimals to percent via Default Properties > Number Format
- Add title, remove redundant Location header
- Axis rulers for both rows and columns are set to 'none'
- Columns: Zero lines and grid lines are set to 'none'
- Decrease slightly graph horizontal size
- Increase slightly graph vertical size

Helpful videos on Blackboard:

Line graphs

- Watch 'Single Axis', 'Blended Axis', 'Dual Axis' videos by Davis
- Watch 'Tableau Line Graphs – Sokol'
- Read the posts '3 Ways to Make Lovely Line Graphs in Tableau' and 'Building Line Charts' in the Additional Line Graphs Resources folder

Bar graphs:

- Watch 'Bar in Bar' and 'Stacked Bar' bar chart videos on Blackboard.
- Watch my video tutorial on bar graph formatting in Tableau.

Deliverables:

A single Tableau *packaged* workbook of the following:

Line graphs:

- Line graph of Years vs. Average Life Expectancy (in class lecture example)
    - Dataset: Life expectancy by year, country
    - Columns: Years
    - Rows: Life expectancy
    - Select at least 10 countries of your choice to compare with the United States and World data.
    - All formatting, such as color for visual cues and simplistic design principles must be complete

Average life expectancy of various nations (1969 - 2009)
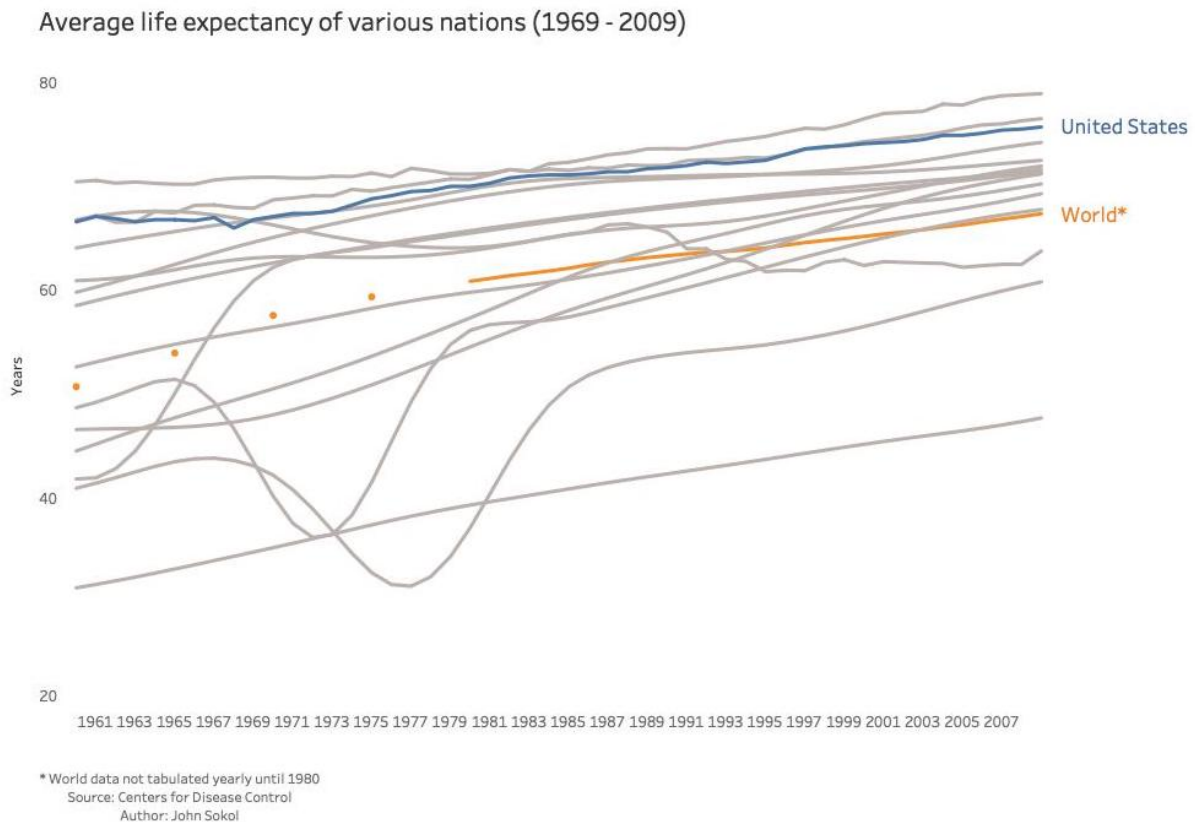
- Age at marriage line graph. Recreate the D3.js line graph seen on
  https://flowingdata.com/2016/03/03/marrying-age/ in Tableau
  - Columns: Marriage age
  - Rows: percent. Remember AVG( ), not SUM( )
  - Filters: Group: EMP (employed only)
  - All formatting, such as color for visual cues and minimalistic design principles must be complete
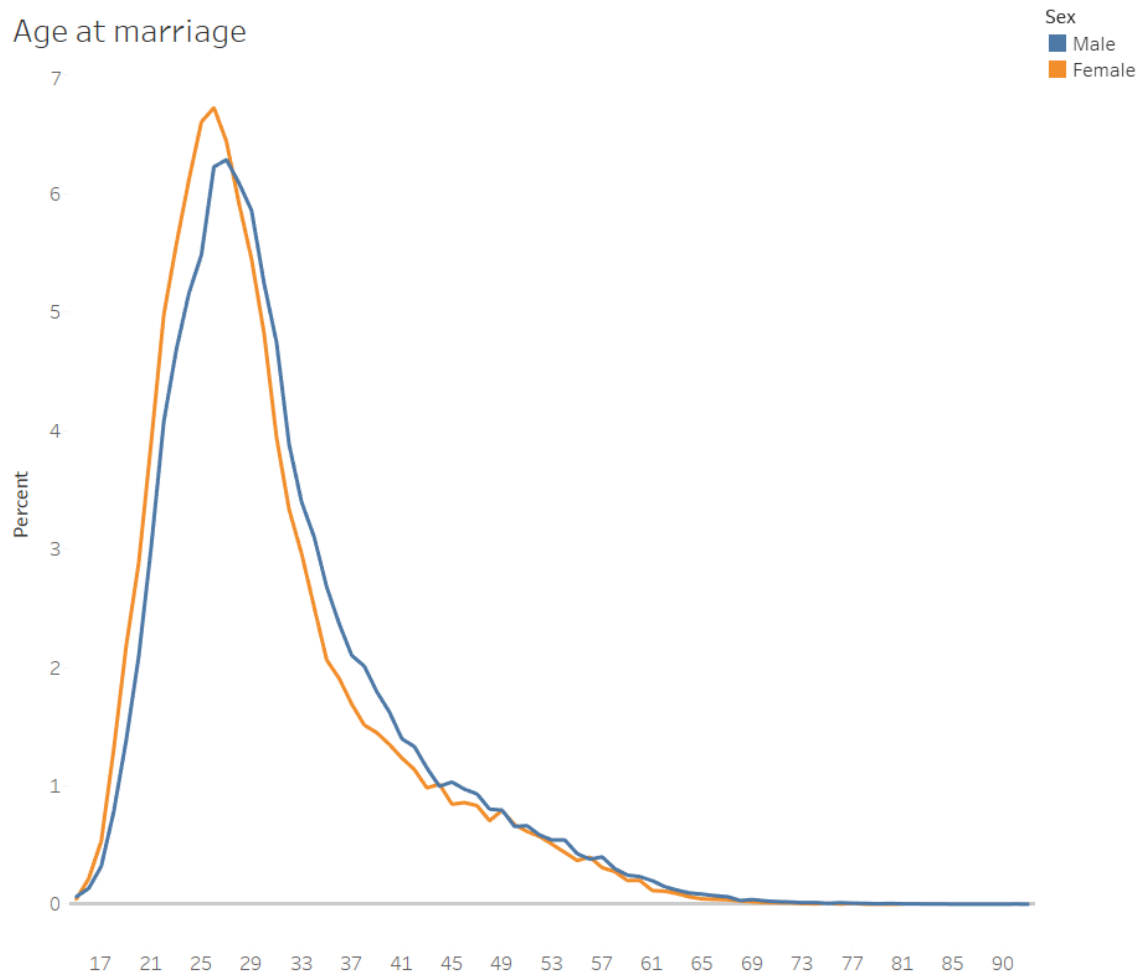
Bar graph:

- Location vs. percentage tickets processed (in class lecture example)
    - Dataset: IT Tickets by Location data
    - Columns: Processed / received ratio. Rows: Location
    - Color: Location. Make data for location categories Linwood, Cape May Court House, and Hammonton red. All other locations light gray
    - All formatting, such as color for visual cues and minimalistic design principles must be complete

Hammonton, Cape May, and Linwood need immediate resources