Assignment 7 – Dashboard Design

Professor John Sokol | Due 11/12

Background Information:

This is the week we put the puzzle pieces together. All concepts learned thus far, such as Tableau data types, bar graphs, line graphs, calculated fields, and text tables are combined to create a dashboard. This is a buzzword that you most likely heard at some point. The business world is *enamored* by dashboards. Why? Few static reporting tools emulate the interactivity and drill down capabilities of a dashboard, making dashboards an incredibly powerful decision-making tool.

Dashboard Fundamentals:
- Canvas
- Formatting
- Filters
- Tooltips
- Geospatial Data

For my dashboard demonstration, I will be using the Long Beach Island dataset.

Create a dashboard:

Create a dashboard similar to creating a new worksheet.

To open a new dashboard sheet and start creating a dashboard, click the **New Dashboard** icon at the bottom of the workbook, indicated by the box with the 4 sections:
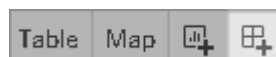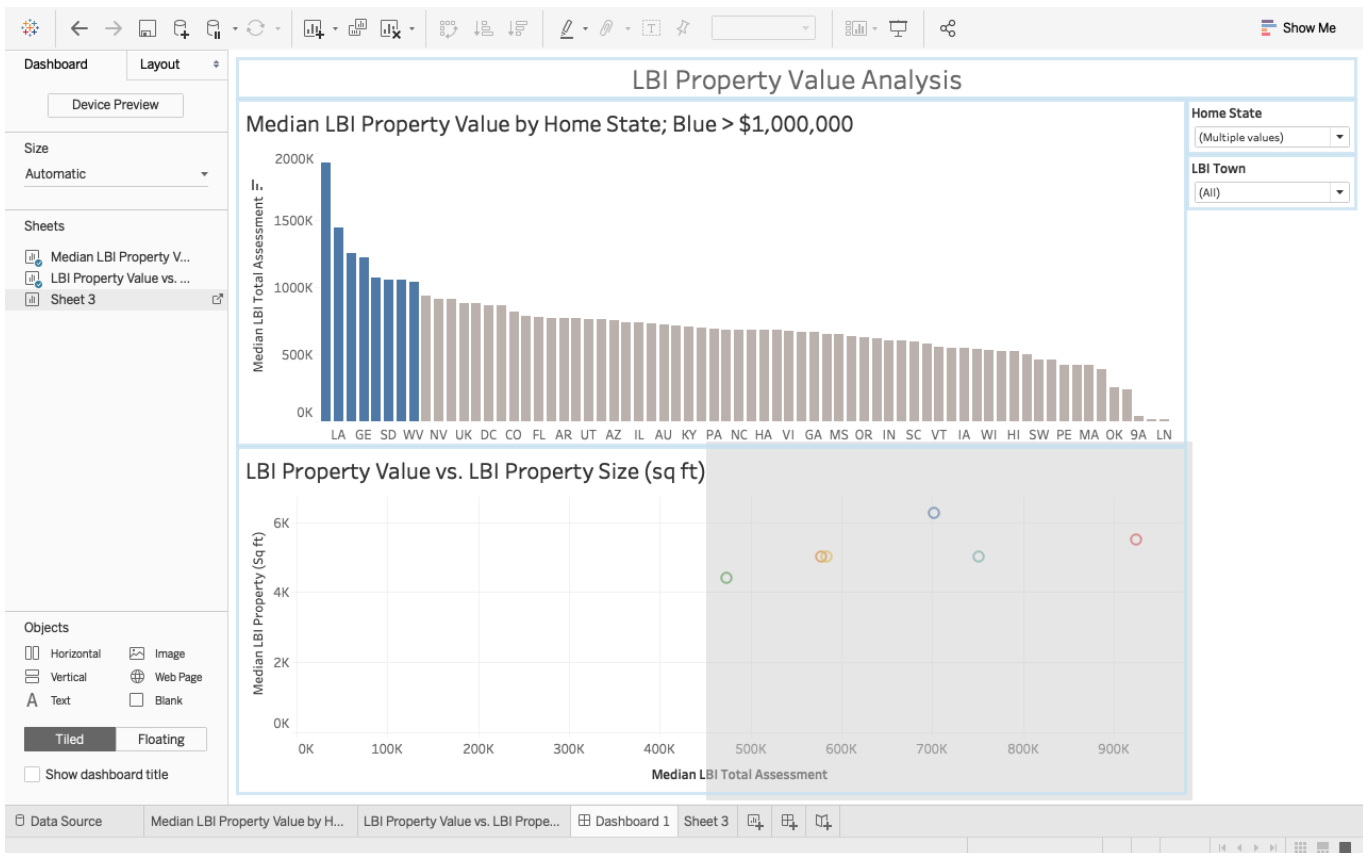

Canvas Selection:

Go to the 'Size' tab on the left of the dashboard. Change the canvas from 'fixed size' to automatic. With this option, the dashboard will resize to fit any screen it is displayed on.

Although Davis, the nice fellow in the Tableau tutorial series, suggests not to use automatic due to supposed unreliability, I have not experienced this when creating Tableau dashboards. I believe this is because if you stick to placing no more than 3 worksheet visualizations in a dashboard at a time (this is the best rule of thumb), then the automatic option won't be an issue. Automatic becomes problematic with a copious amount of visualizations in a single dashboard.

Adding Worksheet Visualizations:

After you have a dashboard sheet, click the views you built (listed under **Sheets** on the left) and drag them to your dashboard sheet on the right. A gray, shaded area indicates where you can drop your visualization:


Tiled vs. Floating Objects:
Tiled:
- Tiled visualizations become part of a single-layer grid that resizes based on the dashboard size. Pairs well with the automatic canvas selection. Tiled visualizations do not overlap.

Floating:
- Free-floating visualizations that can be layered over other objects. Equivalent to Microsoft Word Wrap Text > In front of text. In the example below, a map of the United States floats over tiled visualizations:
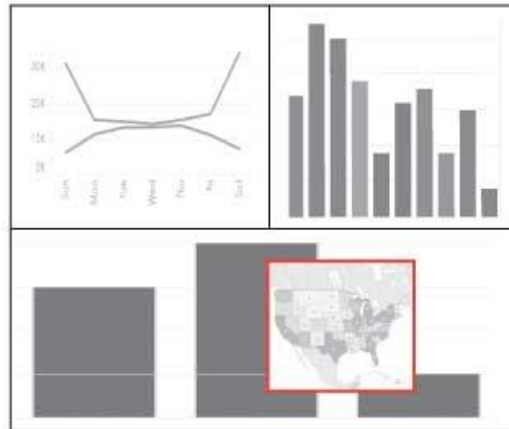
I believe sticking with tiled object organization is the best way to create a dashboard, so that is how I organized my dashboard in my tutorial video.

Adding Objects:

In addition to adding worksheet visualizations to your dashboard, you can add objects, including web pages, blank space, and layout containers.

To add an object, select an item under **Objects** on the left, and drag it to the dashboard sheet on the right:
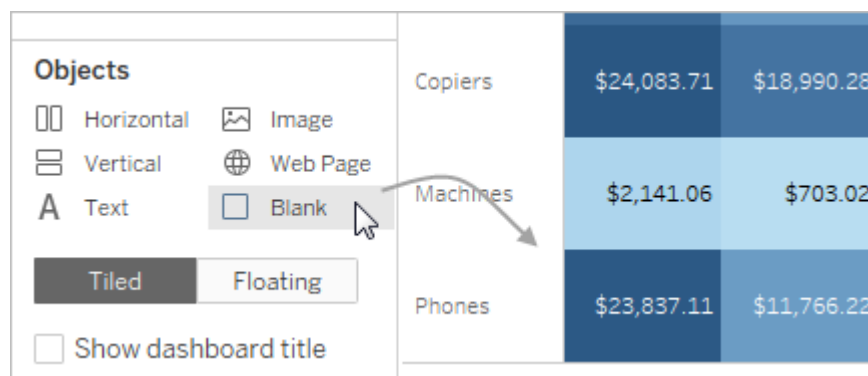
Fonts to Guide Analysis:

Use font to guide the Tableau viewers through a visualization. More specifically, font selection, size, and formatting. For font selection, limit the number of fonts to one or two, and a second font only if the font selected for the words on the view does not look good when applied to the numbers on the view. Occasionally, use a secondary or even tertiary font if there is a special section on the dashboard where you want to call attention.

For font size, use a hierarchy with larger or smaller sizes to help denote where new sections begin and/or communicate the relative importance of sections. For example, the title font may be 18 point; section-headers 14 point; and annotations or tooltips 10 point.

The font format is another way to explain how sections are broken up and can also be used to provide instructions. For example, I may bold titles and section headers, but use italic lettering to communicate that the user can use a filter or dashboard action. When you consistently use the same formats as a subtle way to explain the user experience of your dashboards, your users will become conditioned to know how to use them.

Filters:

The power of a dashboard is the ability to set up filters and interactive components to change the data in the visualization to ultimately enhance your users' analysis.

In a dashboard, a good rule to follow is to organize the filters on the right side of the dashboard, as shown below:
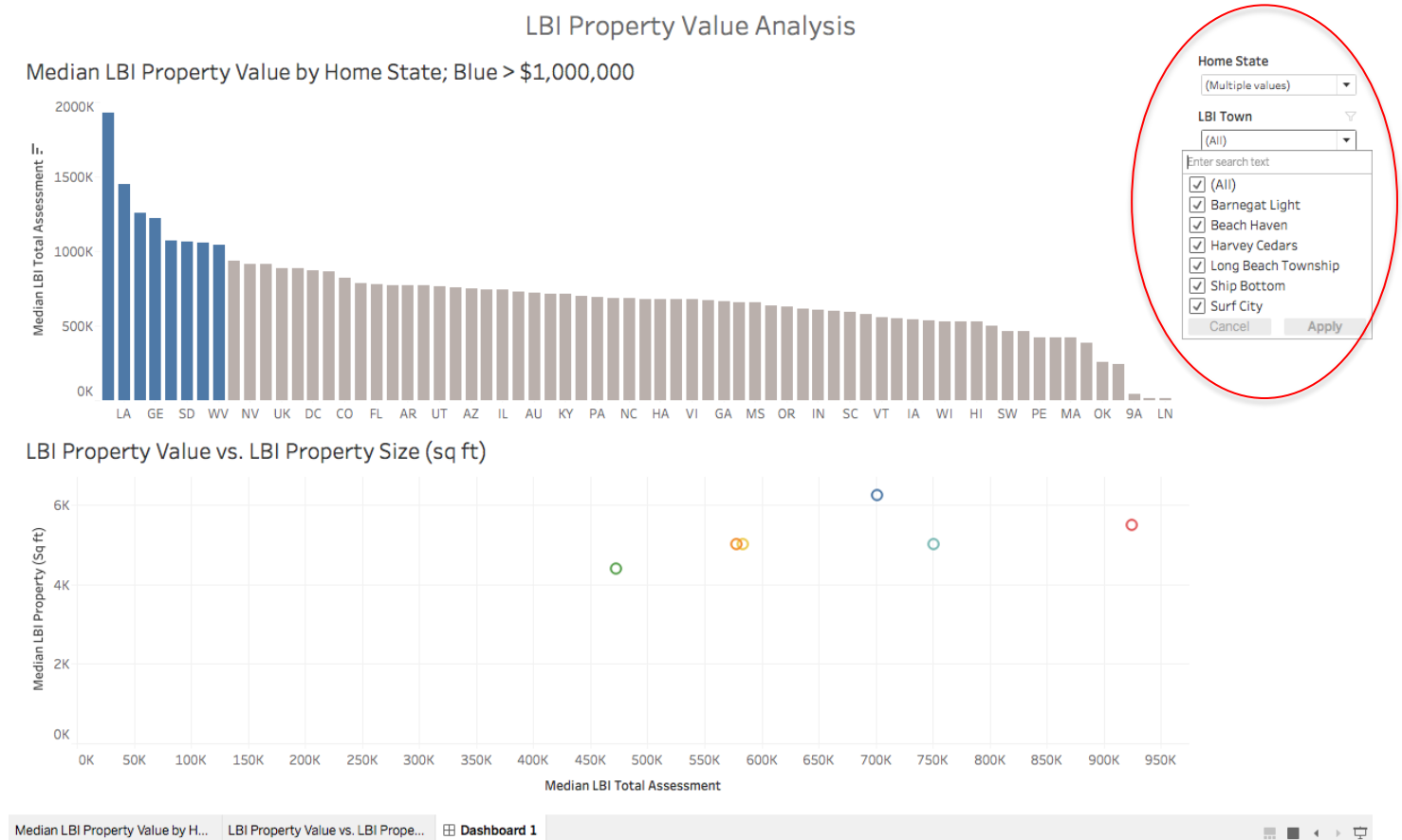
You can also use the **Use as Filter** option to make one of the views act as a filter on all the other views in the dashboard. This is known as an action filter.

Formatting filters:

The following are formatting options that I apply to my dashboards:

- Right click on filter > Apply to worksheets > **All using related data sources**
    - Enables the filter to affect all the visualizations in the dashboard that use the data source
- Right click on filter > **Multiple Values (dropdown)**
    - User can select more than one filter condition
- Right click on filter > customize > **show apply button**
    - User can select several filter conditions seamlessly before selecting to apply them.
    - Only available with more than 2 filter options

Tooltips:
- Details that appear when you rest the pointer over one or more marks in your visualization. Tooltips can include both dynamic (changing based upon the filtering conditions) and static (not changing) information.
- [Additional tooltip information](#)
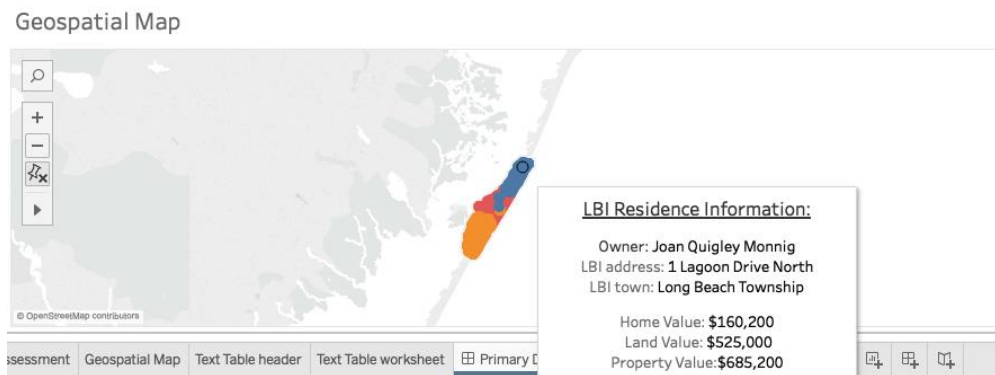
Geospatial Data:
- Visualize location based data, in this case the address of each home.
- Need longitude and latitude values, the x and y axis components of the geographic coordinate system
    - Longitude: Specifies the east-west position of a point on the Earth's surface.
    - Latitude: Specifies the north-south position of a point on the Earth's surface.
- Columns: Longitude
- Rows: Latitude
- Drag the attribute you want to visual to the detail selection in the Marks card. In the example below, a visualization of home addresses in Ship Bottom, Surf City, and North Beach on Long Beach Island.

Instructions:

- Watch the dashboard design instructional videos
- **READ THE TABLEAU WHITE PAPER 'BUILDING EFFECTIVE DASHBOARDS' ON BLACKBOARD.** Very important read.
- Complete the deliverables below:

Deliverables:

- Submit a Tableau packaged workbook of a dashboard that visualizes the Walmart dataset consisting of the following requirements:
  - 3 worksheet visualization views
  - At least 3 regular filters on the right-hand side of the dashboard
- Submit a half page write up of your rationale for each of the visualizations in context of the data that you chose to visualize:
  - Why did you choose to visualize these data fields?
  - How do these visualizations, when paired together in a single dashboard, tell a cohesive data story?