

TABLEAU

DASHBOARD

DESIGN

A DATA DOZEN WORKSHOP

BUILT FOR THE OLIN BUSINESS SCHOOL AT WASHU

DATA DOZEN
a visual analytics studio

LET'S GET STARTED

Last but certainly not least, our final workshop is all about design. We'll explore a suite of design elements that transform basic Tableau dashboards into visually striking final products that your end audience will love to use. With a steady eye on the user experience, we'll unpack how elements like color, fonts, weight, and spacing can coalesce into dashboard layouts that offer both aesthetic impact and precise interpretations. This final workshop shows analysts how to ensure that their technical efforts consistently produce insightful and meaningful experiences for their audience. Don't forget to [download Tableau Public](#) and download the data set to build your own version! As always, all of the resources related to this workshop, including the introductory slides and complete Tableau workbook, can be found on our [workshop series website](#).

PART 1: BIG PICTURE FRAMEWORK

INTRODUCTORY SLIDES

- ▶ All the slides related to the introductory lecture can be found on the [workshop series website](#).
- ▶ There are two key goals to guide our design. We want to create dashboards that are:
 - Visually impactful (which is all about aesthetics)
 - And delightful intuitive (which is all about our audience)
- ▶ We'll use the Dashboard Design Checklist below to help us achieve these two goals as we build in Tableau.



INK

- Color
- Weight
- Lines
- Shading



WORDS

- Fonts
- Alignment
- Labels/Axes
- Tooltips



LAYOUT

- Zones
- Balance
- Negative Space
- Flow



FOOTHOLDS

- Title
- Keys
- Instructions
- Patterns

THE DASHBOARD DESIGN CHECKLIST

DASHBOARD DESIGN: HOW TO BUILD VISUALLY
IMPACTFUL AND DELIGHTFULLY INTUITIVE DASHBOARDS

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PART 2: BUILD OUR CHARTS

DOT DISTRIBUTION

- ▶ Build Dot Distribution
 - ▶ Connect Tableau to the [Excel data set](#) and double check that you've imported 10,633 records
 - ▶ Year to filters and keep 2009-2018
 - ▶ Year to rows
 - ▶ Life Satisfaction to columns
 - ▶ Change mark type from automatic to Circle
 - ▶ Short Name to Detail
 - ▶ Income Group to Color
- ▶ Clean Up
 - ▶ Exclude 819 nulls
 - ▶ Edit X axis to be fixed from 0 to 10
 - ▶ Reverse Year sort from ascending to descending
 - ▶ Show Short Name highlighter
 - ▶ Change view from Standard to Entire View
 - ▶ Adjust the size of the circles
 - ▶ Name your sheet

MAP

- ▶ Double check that the country's Short Name variable has a Country/Region data type.
- ▶ Double click Short Name
- ▶ Change the mark type from an automatic circle to filled map
- ▶ Click the 3 unknown indicator in the bottom right hand corner and manually match location
- ▶ Income Group to Color with white borders
- ▶ Adjust map layers to 100% washout

100% FILLED BAR CHART

- ▶ Year to filter and keep just 2018
- ▶ Population to Columns
- ▶ Income group to Color with white borders
- ▶ Change population to Percent of Total quick table calculation
- ▶ Adjust x axis to end a 1

SPARKLINES

- ▶ Line
 - ▷ Year to columns and change from discrete to continuous
 - ▷ Population to rows
- ▶ Dot
 - ▷ Create a new calculated field called CALC: 2018 Population
 - ▷ IF year([Year]) = 2018 THEN [Population] END
 - ▷ CALC: 2018 Population to rows
 - ▷ Right click second Y axes to create a dual axis and then synchronize axes
 - ▷ Use the third marks card to make the dot bigger
 - ▷ Use the first marks card to replace Measure Names with Income Group on color
 - ▷ Hide null indicators
- ▶ Rinse and Repeat
 - ▷ Name this sheet the Population Sparkline
 - ▷ Duplicate it twice and make a sparkline for
 - Median GDP per capita
 - Average Life Satisfaction
 - Fix Y axis 0 to 10
 - Fix X axis 1970 to 2018
 - (Don't forget, you can duplicate your 2018 calculation for population to make the calculations for GDP per capita and life satisfaction.)

BANS (BIG AWESOME NUMBERS)

- ▶ Population BAN
 - ▷ Year to filter and keep just 2018
 - ▷ Population to text
 - ▷ Adjust text
 - Increase main number to 20 or so font size
 - Add a label beneath the number to describe it (like POPULATION 2018)
 - Make alignment centered horizontally and vertically
 - Change view from Standard to Entire View
- ▶ Duplicate
 - ▷ GDP per Capita
 - Median aggregation
 - Currency formatting without decimals
 - ▷ Life Satisfaction
 - Average aggregation
 - Formatting with one decimal

PART III: THE DASHBOARD DESIGN CHECKLIST

INK

- ▶ Color: income groups color matching low to high intensity (style guide opportunity)
- ▶ Weight: increase opacity for dots, eliminate opacity for map
- ▶ Lines: erase everything and add back in what the eye needs
- ▶ Shading: turn all worksheets shading to none

WORDS

- ▶ Fonts: just be consistent (style guide opportunity)
- ▶ Alignments: Center year on dot distribution, center map with Alaska on top left
- ▶ Labels/Axes: hide all axes except on dot distribution; fix axis to tick interval 1 and erase title (could do CALC-1 trick)
- ▶ Tooltips: flush them out and consider sentences, increase font size, only bold what matters and changes

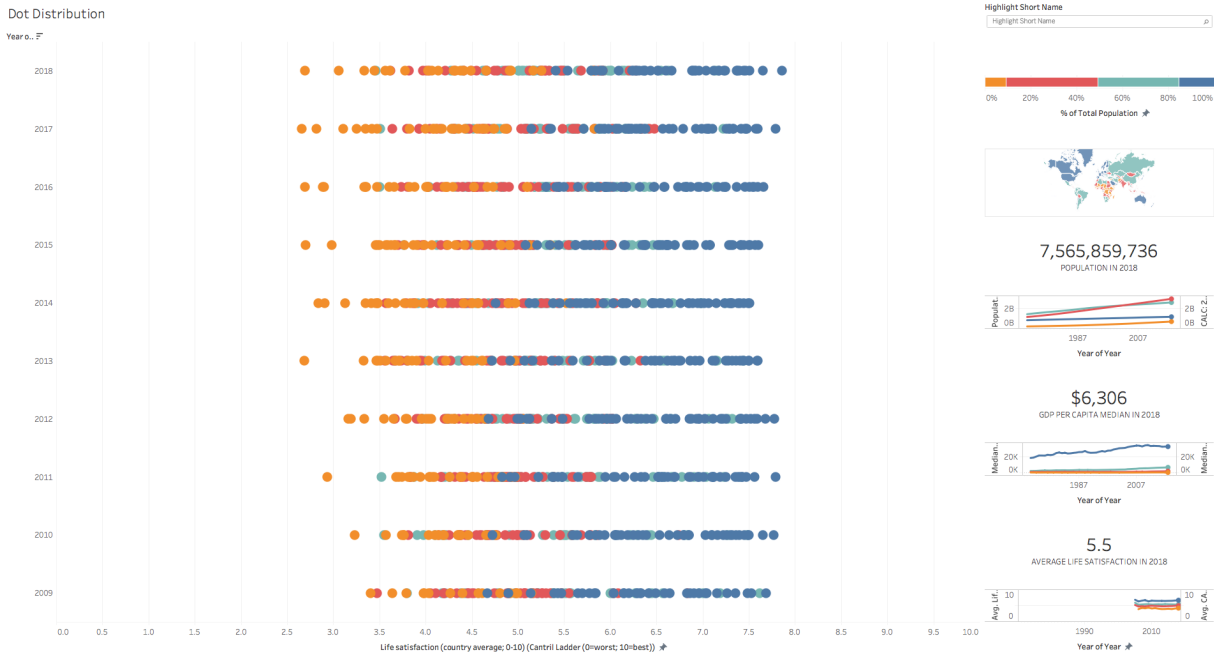
LAYOUT

- ▶ Zones: no more than three zones, leverage shading to create visual separation, leverage containers
- ▶ Balance: make what matters obvious (dot distribution is our centerpiece), distribute container contents evenly
- ▶ Negative Space: lighten up anything that's not actually the data itself (less ink, more data)
- ▶ Flow: think top left to bottom right, how are we keeping our audience's eyes engaged in the frame

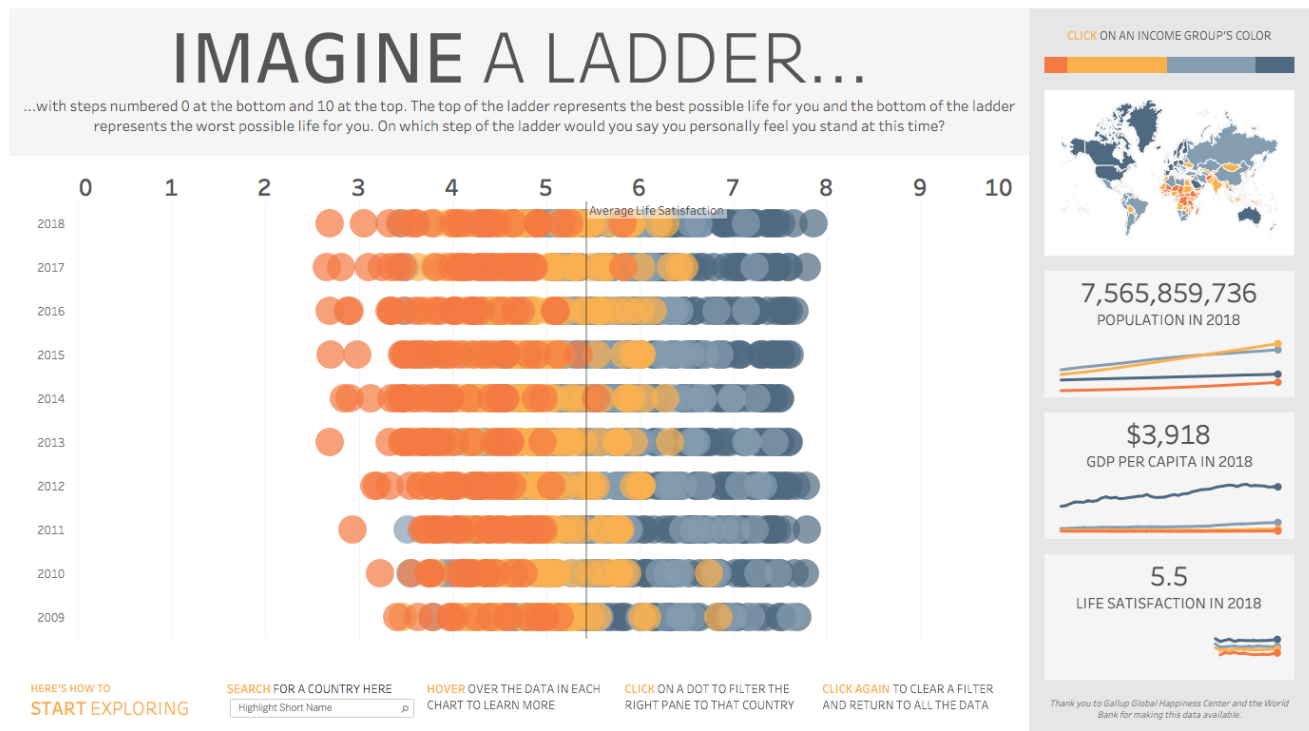
FOOTHOLDS

- ▶ Title: "Imagine a ladder" and question pulls our audience right in
- ▶ Keys: income group 100% bar chart instead of just color legend
- ▶ Instructions: 4 piece instruction set at the bottom of how to start exploring
- ▶ Patterns: every time something is interactive, use yellow imperative to tell folks how to

BEFORE DASHBOARD CHECKLIST



AFTER DASHBOARD CHECKLIST



WRAP UP

SAVE YOUR WORKBOOK

The final step is to save your workbook! If you haven't already created a Tableau Public account, [return to Tableau Public](#), click Sign In, and create a new account. Once you've done that, here's how you save your workbook.

- ▶ Go to File, Save to Tableau Public As, and then enter your Tableau Public account credentials.
- ▶ Name your workbook.
- ▶ Edit the workbook details on your Tableau Public page. You can control whether the workbook appears on your profile page and whether someone else can download the workbook and data.
- ▶ Note that you should NEVER save anything private on Tableau Public. This is a place to only save work you've done with public data, like we've done here. To save your work locally, you will need [Tableau Desktop, which is completely free for students and instructors](#). If you're an administrator, it will run approximately \$70 a month.

TAKE THE SURVEY

Now that you're all done with the workshop, we'd so appreciate your feedback so that we can continue to improve our workshops for future attendees. [Just click here](#) to answer a few quick questions. Thank you!