The Data Visualization Design Process

1️⃣ Who’s My Audience?

What types of decisions does your viewer make?
- What information do they need?
- How will your chart add value?

What’s your viewer’s numeracy level?
- Economists or statisticians → Effect size, power analysis, etc.
- Laypeople → Practical significance, implications

What’s your viewer’s prior experience with data visualization like?
- Brand new to data visualization → Traditional chart types (pies, bars, lines)
- Familiar with data visualization → Lesser-known chart types (dots, trees)

How much time do they have?
- Little time or interest → Static charts, handouts
- Lots of time and interest → Interactive websites, longer reports

2️⃣ How Will I Share My Charts?

Reports
Executive summaries
Slidedocs
Handouts
Dashboards
Infographics
Postcards
Animated videos
GIFs

3️⃣ Which Chart is Best for My Data?

Exploring preliminary patterns
- Sketching by hand
- Spark lines
- Conditional formatting

Chart taxonomies
- Excel’s menu
- Andrew Abela’s Chart Suggestions: extremepresentation.com
- Jon Schwabish’s Graphic Continuum: policyviz.com
- Ann Emery’s Essentials: annkemery.com/essentials
Which Tool Should I Use?

The Big Three
- Excel
- R
- Tableau

Additional Tools
- Word clouds: Wordle, Tagxedo
- Social network maps: NodeXL, Gephi
- Map icons: presentationmagazine.com/editable-maps

Which Formatting Edits are Needed?

The Data Visualization Checklist: annkemery.com/dataviz-checklist

Lines
Focus viewers’ attention on the data by removing clutter. The border, grid lines, and tick marks should be removed altogether or lightened.

Text
State the graph’s elevator pitch in the title, subtitle, and annotation. Then, make sure text is horizontal and hierarchical.

Arrangement
Accurate proportions, 2D layouts, and intentionally ordered charts are easiest for viewers to interpret.

Color
Select an intentional color scheme and highlight key findings. Then, ensure that the colors are legible in black and white and for people with colorblindness.