

## The Data Visualization Design Process

### ① Who's My Audience?

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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

### ② How Will I Share My Charts?

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Reports  
Executive summaries  
Slidedocs

Handouts  
Dashboards  
Infographics

Postcards  
Animated videos  
GIFs

### ③ Which Chart is Best for My Data?

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Exploring preliminary patterns

- Sketching by hand
- Spark lines
- Conditional formatting

Chart taxonomies

- Excel's menu
- Andrew Abela's Chart Suggestions: [extremerepresentation.com](http://extremerepresentation.com)
- Jon Schwabish's Graphic Continuum: [policyviz.com](http://policyviz.com)
- Ann Emery's Essentials: [annkemery.com/essentials](http://annkemery.com/essentials)

## 4 Which Tool Should I Use?

### The Big Three

- Excel
- R
- Tableau

### Additional Tools

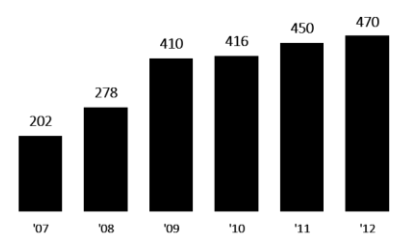
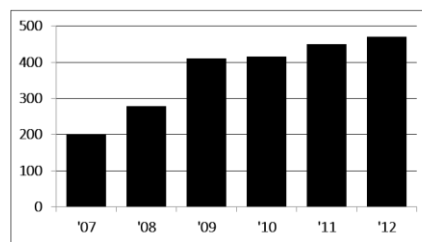
- Word clouds: Wordle, Tagxedo
- Social network maps: NodeXL, Gephi
- Map icons: [presentationmagazine.com/editable-maps](http://presentationmagazine.com/editable-maps)

## 5 Which Formatting Edits are Needed?

The Data Visualization Checklist: [annkemery.com/dataviz-checklist](http://annkemery.com/dataviz-checklist)

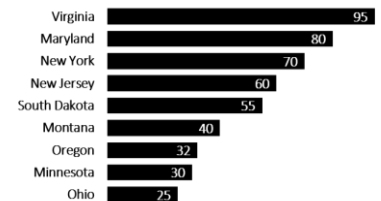
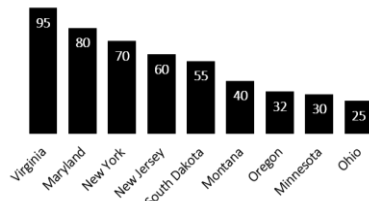
### Lines

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



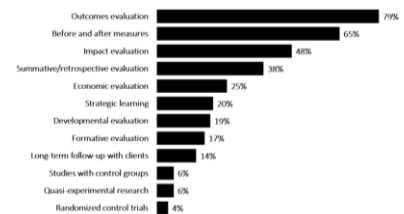
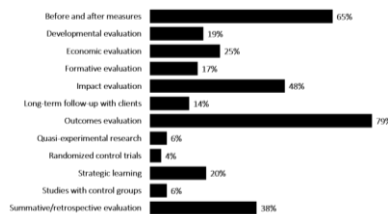
### Text

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.

