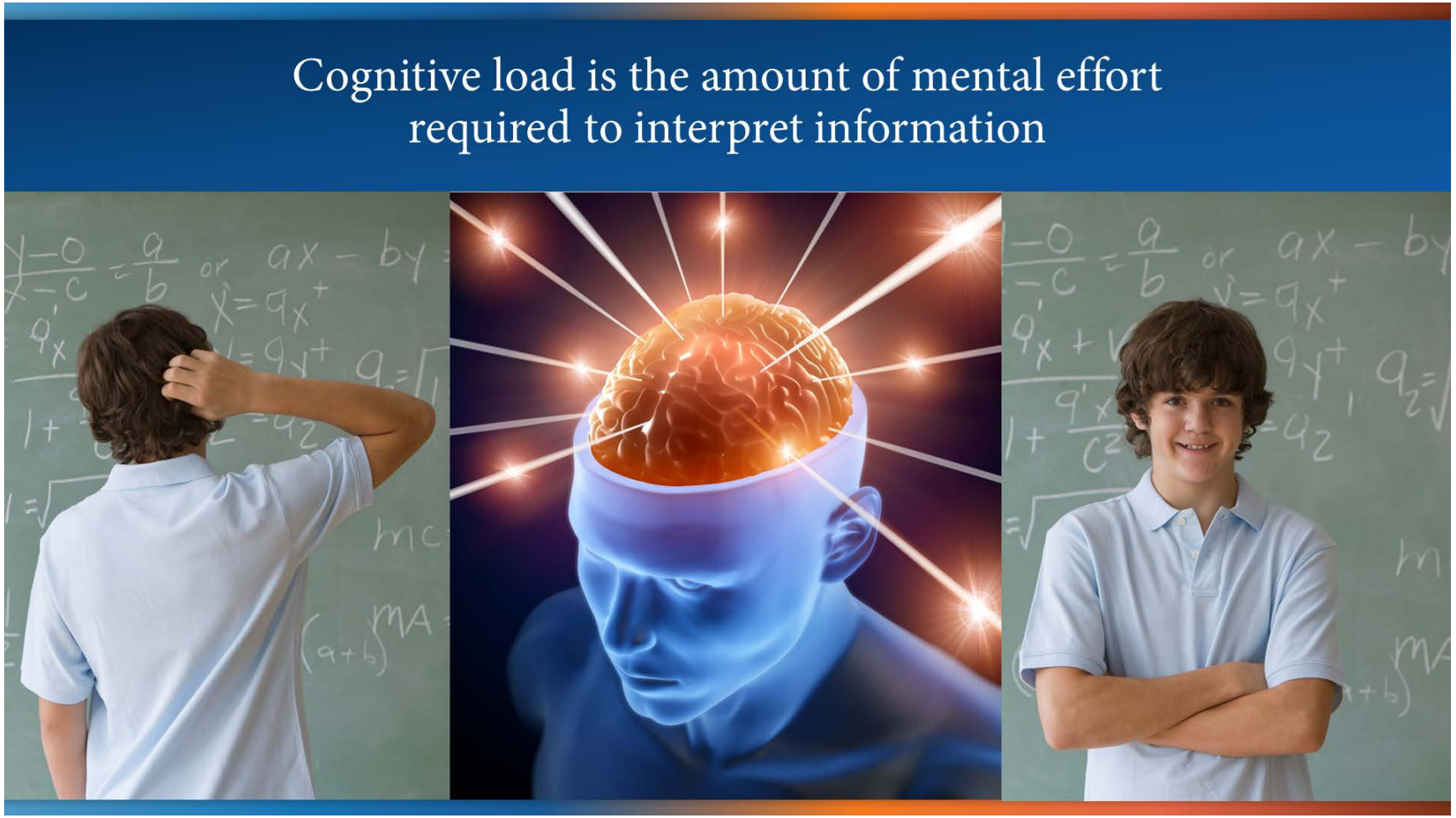
Essential Design Principles for Tableau

Cognitive Load and Clutter

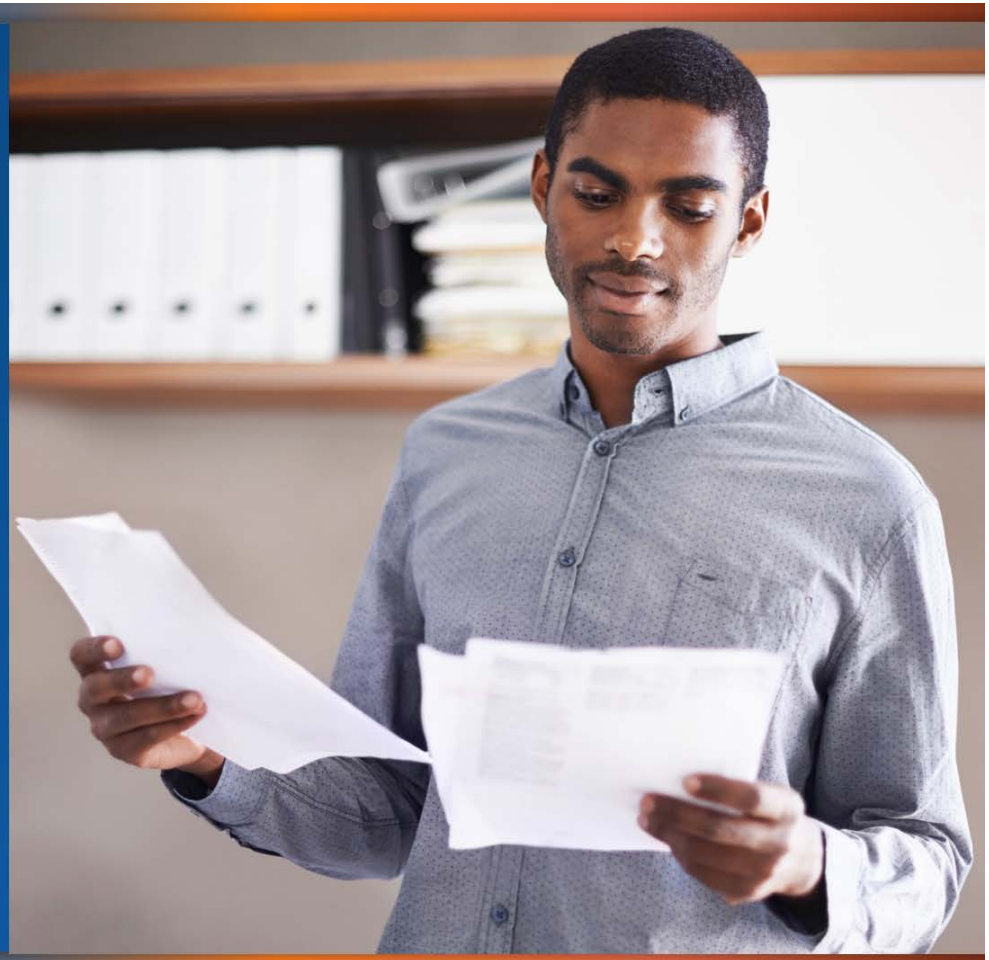


Intrinsic

Extraneous

Germane

Amount of memory we need to understand an idea



Different tasks require different amounts of thought and attention

Extraneous cognitive load relates to how information is presented

Poor design requires more effort to identify problems and create a mental image

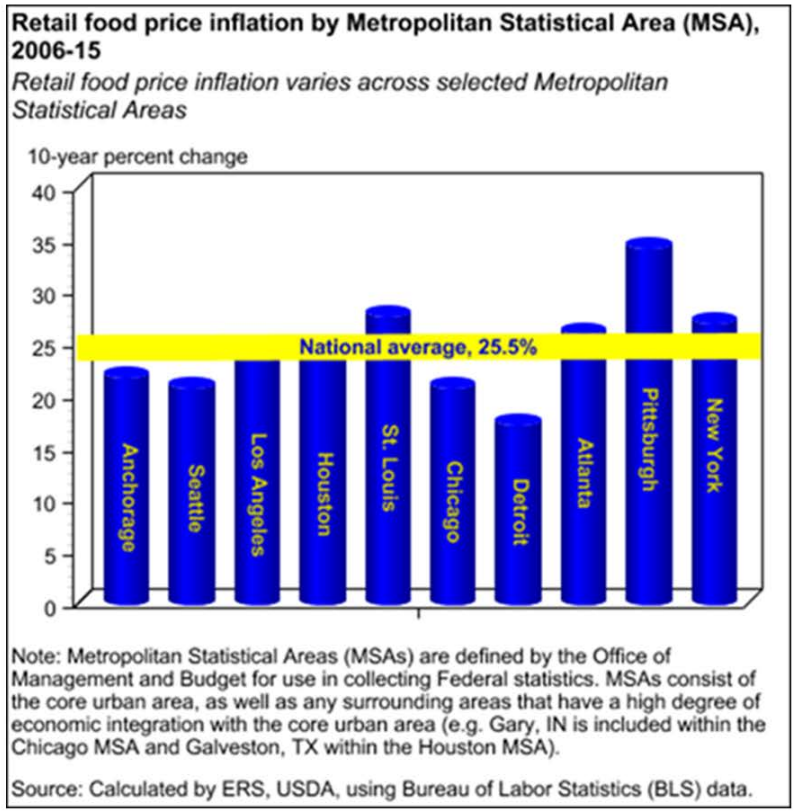
You know it
when you see it

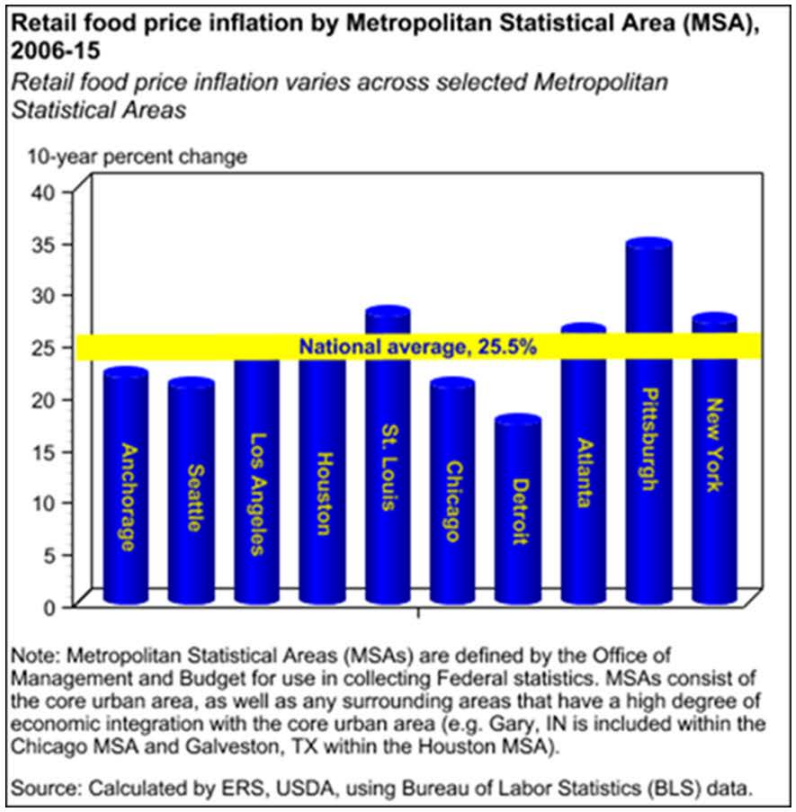
Reduce clutter to minimize user's cognitive load

Less clutter = more effective visualizations

How would you remove the clutter?

What could have been done differently?





Things to remove:

1. 3D effect
2. Dark grid lines
3. Overuse of bright colors
4. There is no apparent sorting of the data being shown
5. An unhelpful axis

3D doesn't improve a visualization

Skews information

Adds confusion

Redundancy (clutter) can help users manage cognitive load

Currency symbols

Percent signs

Commas within numbers

Scientific notation

Some details add clarity

Clarity reduces the effort required to comprehend complex data

Next time:

Principles of visual perception