

WORKBOOK

GOOD CHARTS

SCOTT
BERINATO



Tips, Tools,
and Exercises
for Making
Better Data
Visualizations



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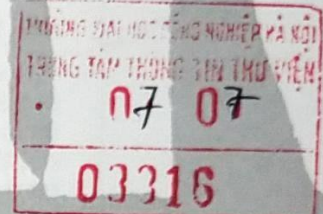
GOOD CHARTS

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INTRODUCTION

HOW DO I START?

approaches that will soon have you playing simple songs. The workbook will help you understand *why* certain approaches to chart making work or don't work and prompt you to think through challenges yourself. It will allow you to test your ideas, and it provides a discussion about each challenge to help shape your thinking and build your dataviz literacy. It sets a foundation that will make the process of creating good charts as automatic for you as it now is for me to switch from a G chord to a D chord.

What do I need?

Let's keep this lo-fi. Most of the work that goes into making good charts does *not* happen digitally. Charts I create tend to be about 90% complete before I start digital manipulation. To get the most out of this workbook, you need:

Blank paper. You'll find blank work space here, right in the book. But extra paper will be helpful if you sketch the way I do—fast, messily, and over large areas. I don't like to feel constrained when I'm sketching, so spreading paper out over a table helps. Extra paper will also allow you to reuse challenges with others or to go back to them with fresh eyes after some time.

Colored pencils. I recommend having only a few of these available while you're sketching—say, a black one, a gray one, and two colors. (I use orange and blue quite often, but the choice doesn't matter.) It helps to make them contrasting colors so that you have the basic tools to show both complementary variables that can be different saturations of the same color and contrasting variables that shouldn't look as if they're part of the same group. I find that when a chart has too many colors, I focus more on refining its color scheme than on the expansive process of fast, idea-generating sketching. Once I get to prototyping, though, and I'm trying to create a viable, realistic, neat sketch of the chart, I like to add colors. With this workbook, you'll be both sketching and prototyping, so a set of about 10 colored pencils will serve you well.

Energy. Attacking these challenges when you're tired or not in the mood will be a slog. Sometimes my best ideas come after I put the work aside for a while and come back to it

in a better frame of mind. Solutions that seemed elusive suddenly appear. Anyone who does crossword puzzles will recognize this phenomenon. The answer to a clue that irked you is suddenly obvious after you put it aside for a bit. It's the same with dataviz.

How is the workbook organized?

Two core sections make up the book.

Part 1. Build Skills

Each chapter in this part includes:

- A brief introduction to a dataviz skill, including six guiding principles
- A warm-up, including several small challenges to reinforce the guiding principles
- Three core challenges, each incorporating larger-scale tasks that address several or all the guiding principles

The challenges in Part 1 are organized according to the skills they're meant to develop. Their scope is limited in that they don't ask you to create something from nothing. In many cases the context (or multiple contexts) will be provided for you. The challenges are designed to focus your efforts on one skill at a time. You can flip to any challenge in the book—be it a warm-up or a core challenge—and try it, just as you could flip through a crossword book and pick any puzzle. Before you take on a challenge, though, it's helpful to read the chapter introduction and think about the guiding principles. Highlight key ideas from them. Everything flows from those principles, so it will be hard to get into the right mindset without having thought about them.

And although you don't have to tackle the challenges in order, the book does follow a loose logical progression, from more-fundamental skills (color, clarity) to more-complex ones (persuasion, conceptual charts). It's not a hard-and-fast pedagogy, but you may find it helpful to start at the beginning before jumping around.

Immediately following each warm-up section and each challenge, you'll find a discussion about it that includes my effort at solving it. I've deliberately avoided calling this an *answer key*. That's because I don't presume to have the *right* answer to any of these challenges. The charts you come up with could be completely different from mine and just as, or more, effective. In some cases I admit to being unsatisfied with my final approach or talk about the trade-offs I made to arrive at it. That's OK and entirely typical. It's rare that you don't have to make a trade-off to create a good chart. The discussions are not meant to tell you the answer; they're meant to expose my thinking to help guide yours.

Part 2: Make Good Charts

This part provides two large-scale challenges that require multiple skills from the previous section. They enlist the talk-sketch-prototype framework from *Good Charts* and are bigger and more open-ended than the previous challenges. I recommend that you save them until you've tried some of the skills-building challenges.

Just like the Build Skills section, discussions including my attempt at tackling them follow these big challenges.

In addition to these main sections, you will also find appendixes to help steer your efforts. *Good Charts Workbook* uses many chart types and reveals how the visual words and phrases you use to describe your data ("spread out," "a portion of," "distributed") may suggest a chart type for your given situation. To that end it includes some reference materials that show chart types, use cases for them, and some of the keywords associated with them. (These materials also appear in the original *Good Charts*.) They're excellent tools to have handy when you're in the process of talking and sketching. Wear out the back of this book looking at chart types and use cases and making notes about them.

How should I use the workbook?

First, I urge you to avoid short-circuiting the challenges—that is, don't read a challenge and then immediately flip to the discussion to see how I approached it. The workbook is