1. Remove chart border

Chart borders are usually unnecessary, as we covered in our discussion of the Gestalt principle of closure. Instead, think about using white space to differentiate the visual from other elements on the page as needed.

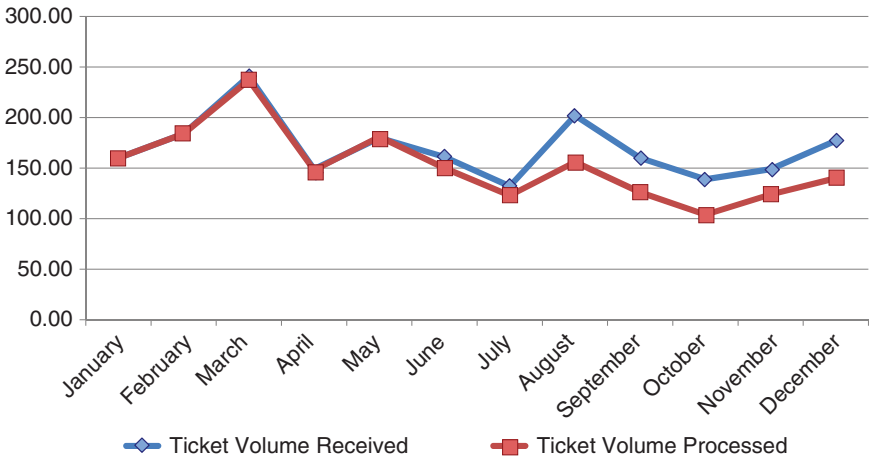

FIGURE 3.18 Remove chart border

2. Remove gridlines

If you think it will be helpful for your audience to trace their finger from the data to the axis, or you feel that your data will be more effectively processed, you can leave the gridlines. But make them thin and use a light color like grey. Do not let them compete visually with your data. When you can, get rid of them altogether: this allows for greater contrast, and your data will stand out more.

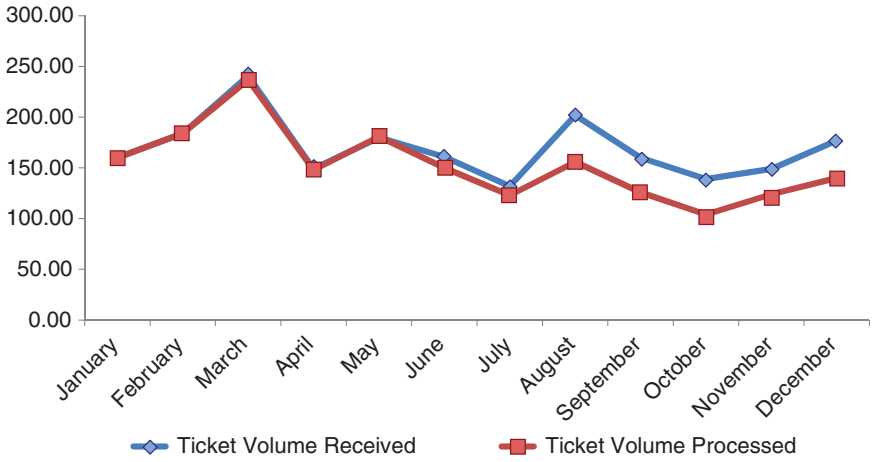

FIGURE 3.19 Remove gridlines

3. Remove data markers

Remember, every single element adds cognitive load on the part of your audience. Here, we're adding cognitive load to process data that is already depicted visually with the lines. This isn't to say that you should never use data markers, but rather use them on purpose and with a purpose, rather than because their inclusion is your graphing application's default.

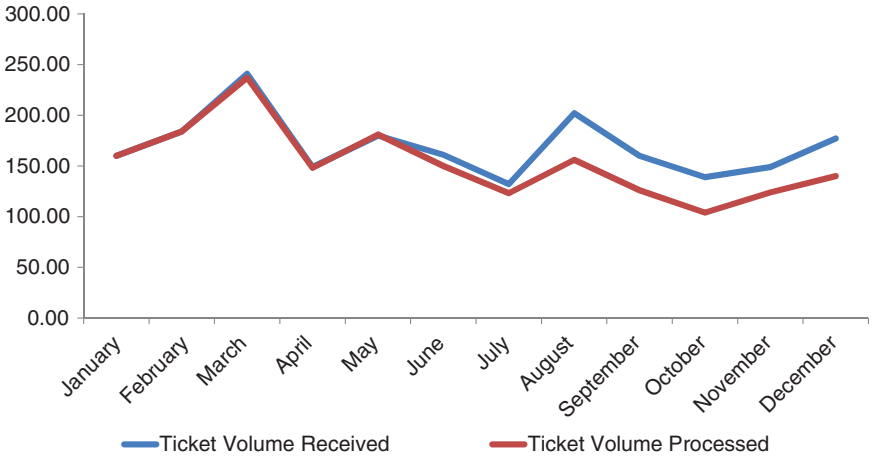

FIGURE 3.20 Remove data markers

4. Clean up axis labels

One of my biggest pet peeves is trailing zeros on *y*-axis labels: they carry no informative value, and yet make the numbers look more complicated than they are! Get rid of them, reducing their unnecessary burden on the audience's cognitive load. We can also abbreviate the months of the year so that they will fit horizontally on the *x*-axis, eliminating the diagonal text.

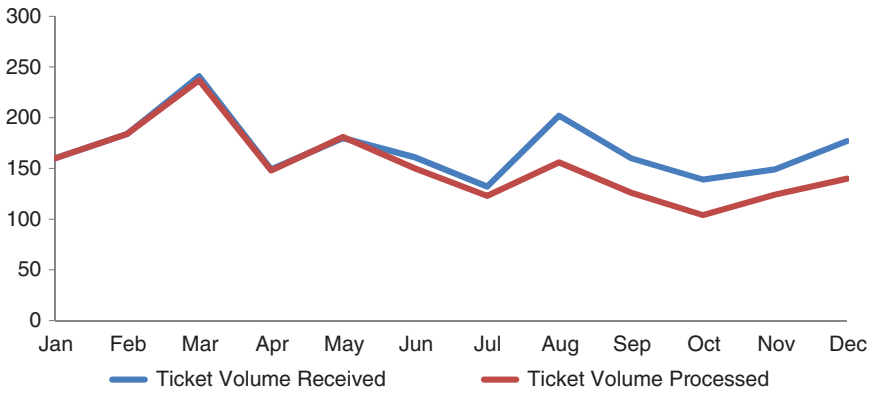

FIGURE 3.21 Clean up axis labels

5. Label data directly

Now that we have eliminated much of the extraneous cognitive load, the work of going back and forth between the legend and the data is even more evident. Remember, we want to try to identify anything that will feel like effort to our audience and take that work upon ourselves as the designers of the information. In this case, we can leverage the Gestalt principle of proximity and put the data labels right next to the data they describe.

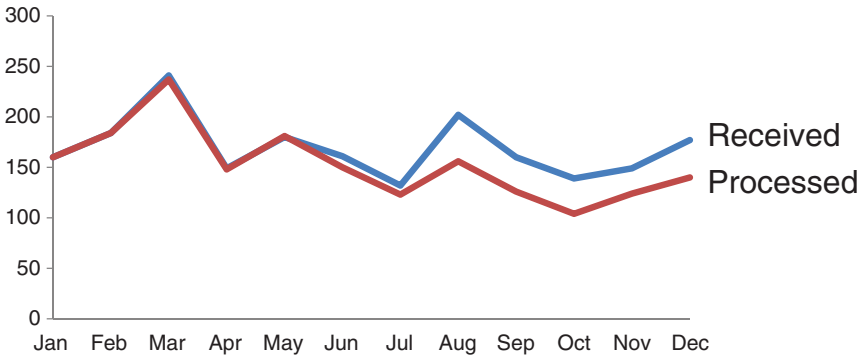

FIGURE 3.22 Label data directly

6. Leverage consistent color

While we leveraged the Gestalt principle of proximity in the prior step, let's also think about leveraging the Gestalt principle of similarity and make the data labels the same *color* as the data they describe. This is another visual cue to our audience that says, "these two pieces of information are related."

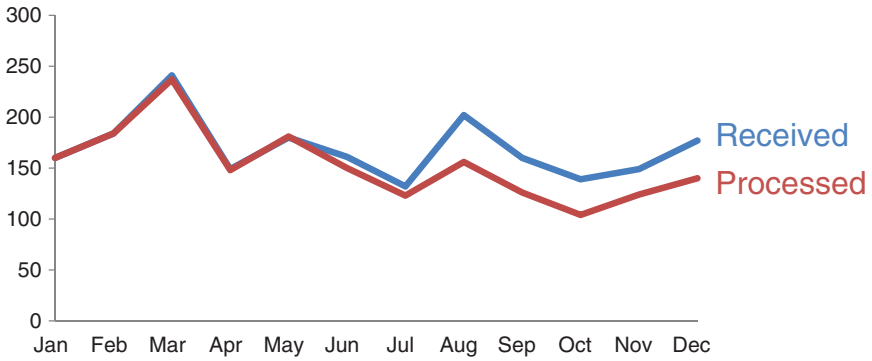

FIGURE 3.23 Leverage consistent color

This visual is not yet complete. But identifying and eliminating the clutter has brought us a long way in terms of reducing cognitive load and improving accessibility. Take a look at the before-and-after shown in Figure 3.24.

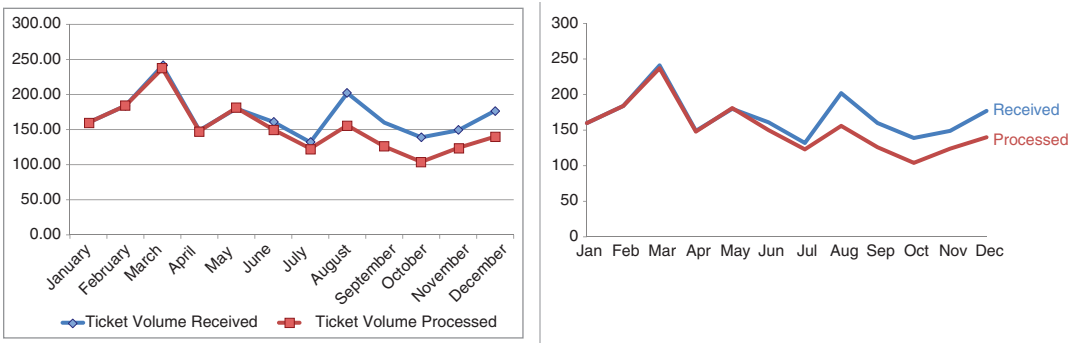

FIGURE 3.24 Before-and-after

In closing

Any time you put information in front of your audience, you are creating cognitive load and asking them to use their brain power to process that information. Visual clutter creates excessive cognitive load that can hinder the transmission of our message. The Gestalt Principles of Visual Perception can help you understand how your audience sees and allow you to identify and remove unnecessary visual elements. Leverage alignment of elements and maintain white space to help make the interpretation of your visuals a more comfortable experience for your audience. Use contrast strategically. Clutter is your enemy: ban it from your visuals!

You now know how to **identify and eliminate clutter**.