

Accessible Charts and Graphs

KB0018834 (Review)

Provide a Text Version

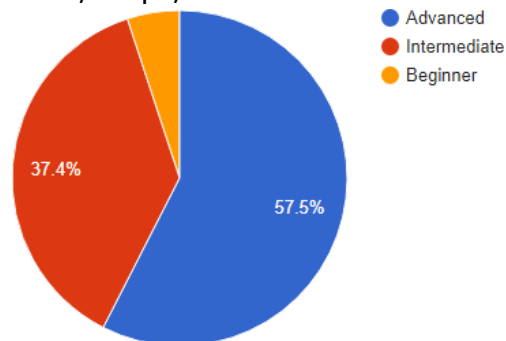
Every visual chart needs to have an accessible and easy to access text version. No exceptions.

- Typically, the text version is a data table in HTML or CSV files.
- HTML is more easily accessible and has options to make both simple and complex data tables accessible. However, presenting large amounts of data in a CSV file may be a better solution.
- Visual chart may be a complex presentation of a collection of multiple data sources. Presenting each data source as a separate table may be easier in these cases.
- Sometimes, you may also need to provide a text caption/description to explain important trends or highlights in the chart.
- See the [DIAGRAM center guidelines](#) for how to write descriptive text and appropriate labels for graphs, charts, and other images.

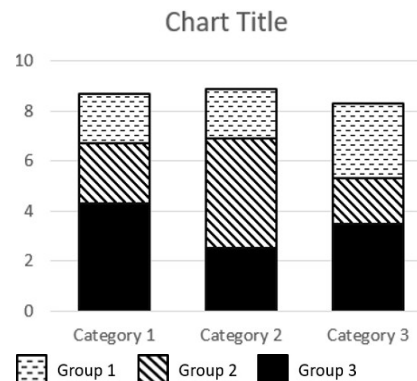
Color Choices

Don't use color alone to communicate information when designing a chart. Use at least two or two visual indicators to identify a chart or graph element.

Color, shape, and a text label.



Texture and text label.



Text Color and Size

Colors must meet WCAG requirements for color contrast.

- The most accessible font size is 12pt/16px, with a contrast of 4.5:1.
- Don't use text smaller than 10pt/13px with a contrast of 3:1. Small text is difficult for all readers.

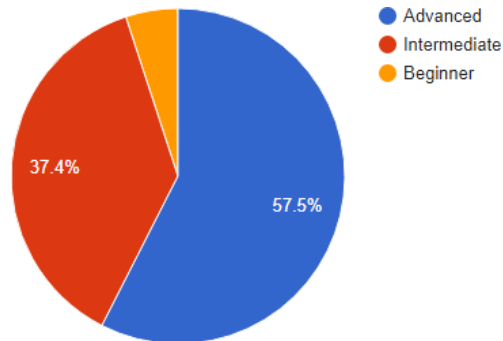
Use Clear Labels

Text must have adequate space to be clear. Do not overlap text or labels with other text in charts.

Color Contrast for Chart Design

Add a white line between chart segments improves contrast.

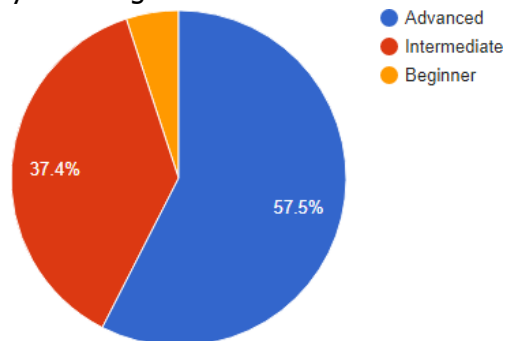
Color contrast tests only have to pass against the white line. Black can also be used but may allow for fewer color choices.



Use negative and positive space.

Sometimes, you will not have enough colors that meet color contrast requirements. Surround a failed color with two colors that pass. The passing colors will define the borders of the failed shape, like an optical illusion.

In this example, the yellow segment fails contrast requirements against the white lines. Since the orange and blue segments do pass color contrast testing, the blue and orange define the edges of the yellow segment.



In this example, the light gray boxes fail contrast requirements against the white lines. Since the two blue boxes surrounding the gray do pass contrast testing, the blue defines the edges of the gray blocks. The text label color is black to meet contrast requirements.

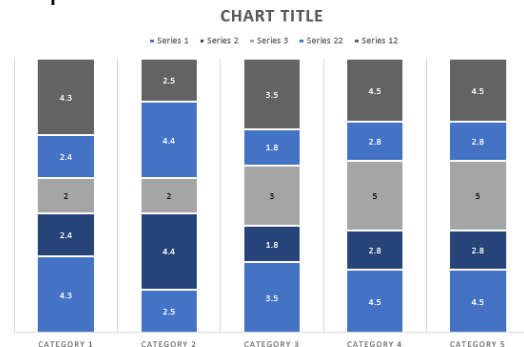


Chart size and Interactive Features

Make sure the chart is large enough to see all significant segments and labels. Do not rely on interactive features to compensate for illegible chart information, as interactive features may not be accessible to all users.

Simplify Layouts

You may need to be more realistic about the number of charts you place on a "screen" or a dashboard. Use simple layouts with lots of white space around each chart. Don't overwhelm your user with a busy screen.

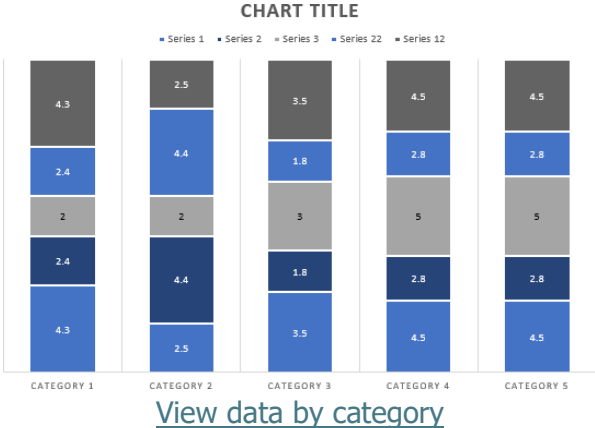
- Display charts in a single column to allow more space to see label text and small segments. See the example [WebAim Survey Results](#) page.
- For interactive dashboards, allow the user to change the layout to the best view for them.

Reduce Complexity

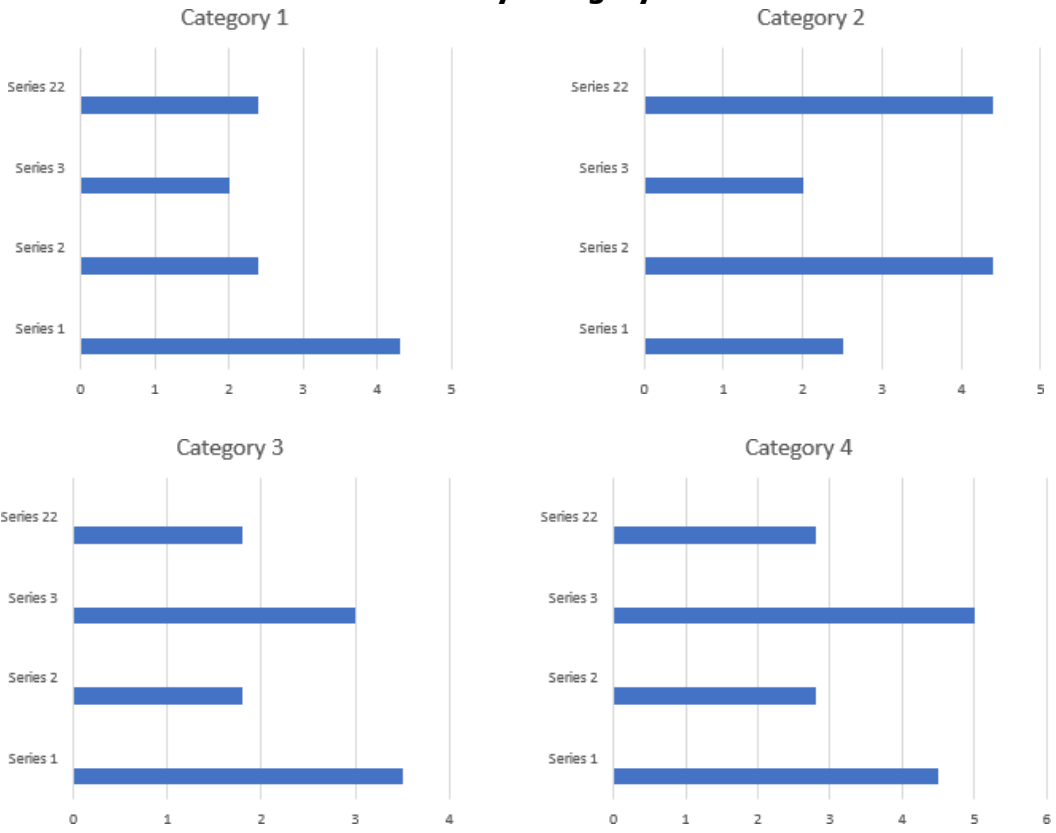
Including too many data sources into a single chart will make charts more confusing and difficult to read.

Provide alternative presentations to share the same idea. Think of how to break the data into smaller chunks and present that alongside your complex chart.

In this example, a complex chart is presented with a link to another view that breaks down the data into simpler charts that focus on specific data.



Data by Category



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