

Accessibility of Documents

It is important to make sure that your documents are accessible to as many people as possible. For FHWA and other publications funded through the U.S. Government, [Section 508 compliance](#) is required. In addition, there are an increasing number of lawsuits being filed against entities that post documents that are not accessible.

For tutorials, checklists, and guidelines, see <https://www.section508.gov/content/build/create-accessible-documents>.



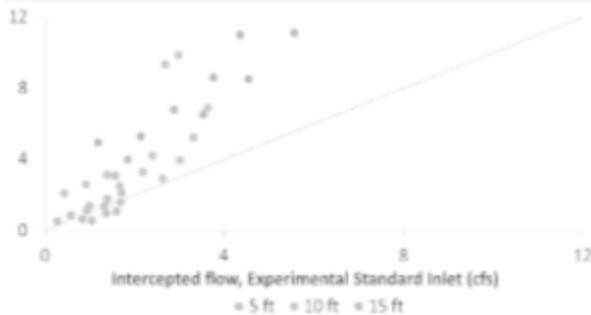
Tips

- Use the accessibility tools built into MS Office and other products that you use to create documents.
- "Print to PDF" will strip out all accessibility tags previously added in MS Office applications; instead, use "Export" or "Save As PDF" when converting your document.
- Graphics must include alt text that screen readers can use to describe the content.
- Color contrast between background and text must be compliant to WCAG 2.0 Level AA standards, at a minimum. See [A11y Color Palette](#), [WebAIM Contrast Checker](#), Paciello Group's [Colour Contrast Analyser](#).

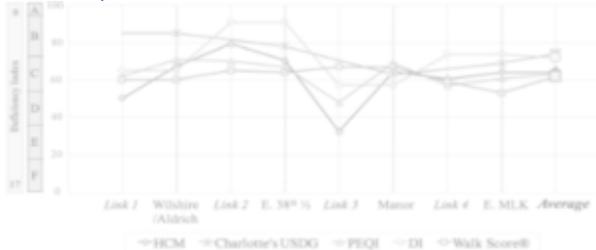
Graphs

Make sure that graphs and other images do not rely solely on color to convey information. If necessary, use online tools such as [Coblis](#) or [Sim Daltonism](#) to test your images.

- [This graph cannot be interpreted by somebody with Monochromacy / Achromatopsia, nor when printed in grayscale.](#)



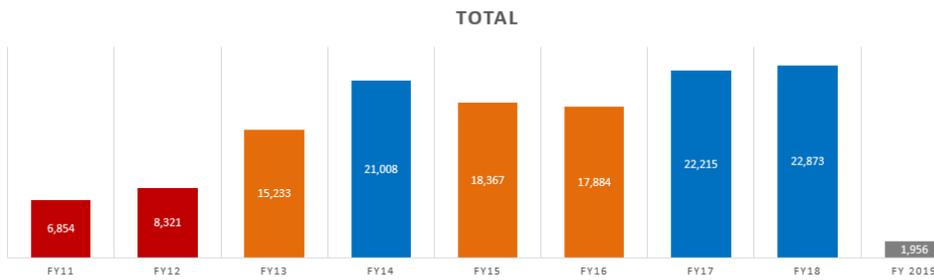
- [This graph uses shapes in addition to color to convey the information. It can be interpreted in grayscale and by somebody with Monochromacy / Achromatopsia.](#)



Bar Charts

Even if you are color coding, make sure values or labels are included with each bar for screen readers. If the color differences are significant to understanding the chart, make sure that they have sufficient color contrast and difference in darkness for a colorblind user to interpret.

Example 1. The below bar chart includes labels on each bar. Color contrast needs to be checked to make sure that there is enough contrast between the white text (foreground) and the red, orange, blue, and gray bars (background). In addition, if the bar colors are significant and correspond with a key, then the contrast between each bar color also needs to be checked.



- Checked on the [Coblis free online colorblindness simulator](#). In this case, for readers with monochromacy, there is little to no difference between the orange and the gray bars. The difference between the red and the blue bars could also be easily confused.

Drag and drop or paste your file in the area below or: bar-chart.PNG

Trichromatic view: Normal
 Anomalous Trichromacy: Red-Weak/Protanomaly
 Green-Weak/Deuteranomaly
 Blue-Weak/Tritanomaly
 Dichromatic view: Red-Blind/Protanopia
 Green-Blind/Deuteranopia
 Blue-Blind/Tritanopia
 Monochromatic view: Monochromacy/Achromatopsia
 Blue Cone Monochromacy

Use lens to compare with normal view: No Lens Normal Lens Inverse Lens

[Reset View](#) [Open simulated image in new window](#)

TOTAL

Fiscal Year	Total Value
FY11	6,854
FY12	8,321
FY13	15,233
FY14	21,008
FY15	18,367
FY16	17,884
FY17	22,215
FY18	22,873
FY 2019	1,956

- To check the foreground (text) against the background (bar), check the color codes on [WebAIM's Contrast Checker](#) or other tool.

[services](#) [articles](#) [resources](#) [community](#)

[Introduction to Web Accessibility](#)

[WebAIM Training](#)

Contrast Checker

[Home](#) > [Resources](#) > Contrast Checker

Foreground Color

#FFFFFF

Lightness

Background Color

#E46C0A

Lightness

Contrast Ratio

3.25:1

[permalink](#)

Normal Text

WCAG AA: Fail

WCAG AAA: Fail

The five boxing wizards jump quickly.

Large Text

WCAG AA: Pass

WCAG AAA: Fail

The five boxing wizards jump quickly.

Graphical Objects and User Interface Components

Related Resources

- [Contrast and Color Accessibility](#)
- [Quick Reference: Testing Web Content for Accessibility](#)
- [Web Accessibility for Designers](#)
- [Link Contrast Checker](#)

**TIP**

To test color contrast, you need the exact value for each color used. If testing colors that are on a website, try a color picker browser add-on to find this value. For desktop applications, free software such as Paciello Group's free [Colour Contrast Analyser](#) may help.