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Creating Accessible Excel Files



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Creating Accessible Excel Files

The items discussed below help create an accessible Excel file. Content owners are expected to incorporate these basics into their documents.

Using this information is a first step in making accessible files. These tips do not address every way to make an Excel file accessible or Section 508 conformant. See GSA's [Microsoft Excel 2016 Basic Authoring and Testing Guide](#) and [How to Author and Test Microsoft Excel Worksheets for Accessibility Videos](#) for expanded discussion on many of the items listed below. This is not step-by-step documentation on how to use Excel. See <https://support.microsoft.com/en-us/excel> for Excel training.

Properties

Title and author

Go to the "File" tab. Navigate to "Info" then "Properties."

- Enter the full, proper document title in the "Title."
- Set the "Author" under "Related People" to FHWA.

Language

Go to the "File" tab and select "Options" then "Language." Confirm the default human language is correct for the document.

Screen readers read with an accent. For the content to be understandable to people using screen readers, the language needs to match the natural language of the content.

Remediating for a document containing content in two or more languages is beyond the scope of this document. Avoid using content in a language other than the default.

Saving

Save as a .xlsx to retain accessibility features. Go to the "File" tab and select "Excel Workbook (*.xlsx)" from the "Save As" drop down. Contact the [FHWA Section 508 Coordination Team](#) if saving the file as anything but an "*.xlsx" file, e.g., an "Excel Macro-Enabled Workbook (*.xlsm)."

Structure

Logical Reading Order

Ensure the reading order of the content is logical. Typically, it is left to right, top to bottom, starting with cell A1.

Worksheet Tabs

Give each worksheet tab a descriptive and unique name.

Styles

Use styles to give the content structure and to indicate the cell's purpose. From the "Home" tab, navigate to the "Styles" group. Select a style for its function not for its format. Once selected, update the format. Use "Styles" Headings in hierarchical order.

Tables

Insert a table using the "Table" option found in the "Tables" group of the "Insert" tab. For an existing table not created using the "Table" option, highlight all the table content. Select the "Table" option using the same steps as inserting a table.

Once the "Table" is set, go to the "Design" tab found under the "Table Tools" tab. Navigate to the "Properties" group. In the "Table Name:" field, give the table a descriptive, unique name.

Next, navigate to the "Table Style Options" of the "Table Tools" tab "Design" tab. Ensure Header row and First column (if needed, it usually is) are checked.

For each table, ensure:

- Each table has a descriptive caption.
- Column and row headers contain descriptive content.
- There are no row or column spans.
- There is only one level of row and column headers.
- There are no nested tables.
- Data and headers are in separate cells.

Other Considerations

- **Links.** Ensure the linked words are unique and descriptive of the link destination or the purpose of the link is discernable from surrounding text. Do not use "click here," "read more," etc.
- **Symbols.** Insert symbols as proper symbols using the "Symbol" option found in the "Symbols" group of the "Insert" tab. For instance, do not create a \leq or \geq by underlining a $<$ or $>$. Also do not create a $^\circ$ by making the letter o superscript. Avoid adding them as an image.

Text as Text

Render text as text, not an image. This includes content copied from another source.

This *does not* apply to:

- Logos.
- Incidental text. Incidental text includes purely decorative images or parts of an image that contain significant other visual content such as a sign in the background of a photograph.
- Images replacing text to maintain a certain look such as an infographic, flowchart, or equation.

Background Information

Background information includes watermarks and content in headers or footers that may not be available to assistive technologies. Ensure vital information is duplicated in the first cell of the worksheet.

Graphics and Objects

- When a graphic is created using multiple individual graphics, “Group” them to create a single graphic. “Group” by selecting all the parts of the individual graphics. Then from the “Format” tab under “Picture Tools” tab or “Drawing Tools” tab, select “Group” from the “Group” drop down in the “Arrange” group.
- Provide a description (alt text) for all graphics conveying meaningful information. This description is an equivalent of the graphics, do not add extra information or skip anything relevant.
- Only graphics providing meaningful information need alt text. Do not add alt text to decorative images. If available, select the “Make as decorative” check box on the Alt Text dialog box. If it is not available, add "" or 'null' to the “Description” field.
- Add the alt text by selecting the image. Then go to the “Format” tab on the “Picture Tools” tab. Select the “dialog box launcher” in the “Picture Styles” group of this tab. The “dialog box launcher” is the small, downward pointing arrow found at the bottom right of a group. Alternatively, open the “dialog box launcher” by selecting “Alt then JP then O.” This opens the “Format Picture” task pane. Navigate to the “Size and Properties” icon then select “Alt Text.” Add the alt text to the “Description” field. The “Title” field does not need to be completed for Section 508 conformance.
- Describe the meaning of the image fully in as few words as possible. Ensure the alt text does not repeat the caption or other surrounding text. Do not start alt text with “this is an image of” since that is assumed.
- Images, objects, shapes, charts, and other non-text elements that are not anchored to a cell are inaccessible. Provide a text description in a cell nearby or list all in an appendix.
- Provide an alternate keystroke combination for buttons used to perform an action, e.g., clear table, update results. Ensure the keystroke combination does not interfere with standard Excel or assistive technologies keystrokes. Provide a description of the keystroke close to the button.
- The document is free of text boxes.

Sensory Characteristics

Avoid references to shape, size sound, color, or location.

Use of Color

Information cannot be conveyed by color alone. This applies to content including text, links, and graphs/charts.

- **Text:** When changing the font color or the background color to convey information, such as using a color-coded table, indicating updates are in a certain color font, or highlighting content, there needs to be another way to uniquely, visually convey this information
- **Graphs/Charts:** If the document has charts or graphs, ensure that each line or segment has a non-color visual indicator. For line graphs, the visual indicator can be a unique marker, line style, or name of the line pointing to the line. For charts, the visual indicator can be unique pattern on each segment or the name of each segment near the segment. Note: putting the values of a point on a line or of a segment does not satisfy this criterion.
- **Links:** It is recommended to reserve underlines for only links. If not, ensure the links pass minimum contrast against both the background and surrounding font and have another visual indicator available when the link is selected.

Color contrast

All text color combinations meet WCAG 2.0 AA minimum color contrast requirements. This includes images that are mainly text, such as an infographic. This does not apply to logos or images where the text is incidental to a graphic.

Zoom

Except for captions and images of text, text is resizable and readable when zoomed to 200% without assistive technology.

Movement

The document is free from any content that blinks or flashes.

Forms and Macros

Forms and documents with macros are beyond the scope of this documentation. Contact the [Agency Section 508 Coordinator](#) if the Excel file contains forms and/or macros.

Embedded Media

See "[Creating Section 508 Multimedia.](#)"

Resources and References

- <https://www.section508.gov/create/spreadsheets>.
- <https://www.hhs.gov/sites/default/files/hhs-508-excel-checklist.xlsx>.