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Creating Accessible Excel Files



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Table of Contents

Table of Contents i

Properties 1

 Title and author 1

 Language 1

Saving 1

Structure 1

 Logical Reading Order 1

 Worksheet Tabs 1

 Styles 2

Tables 2

 Creating Table 2

 Table Headers 4

 Table Name 4

Other Considerations 4

Text as Text 4

Background Information 4

Graphics and Objects 5

Sensory Characteristics 5

Use of Color 5

 Color contrast 6

Zoom 6

Movement 6

Forms and Macros 6

Embedded Media 6

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. This is not step-by-step documentation on how to use Excel. See Microsoft's [Excel help & learning](#) for more information.

Properties

Title and author

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

- Enter the full, proper document title in the "Title" under "Properties."
- 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 "Save," "Save As," or "Save a Copy." Select "Excel Workbook (*.xlsx)" from the "Save" drop down. Contact the [FHWA Section 508 Program Manager](#) 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

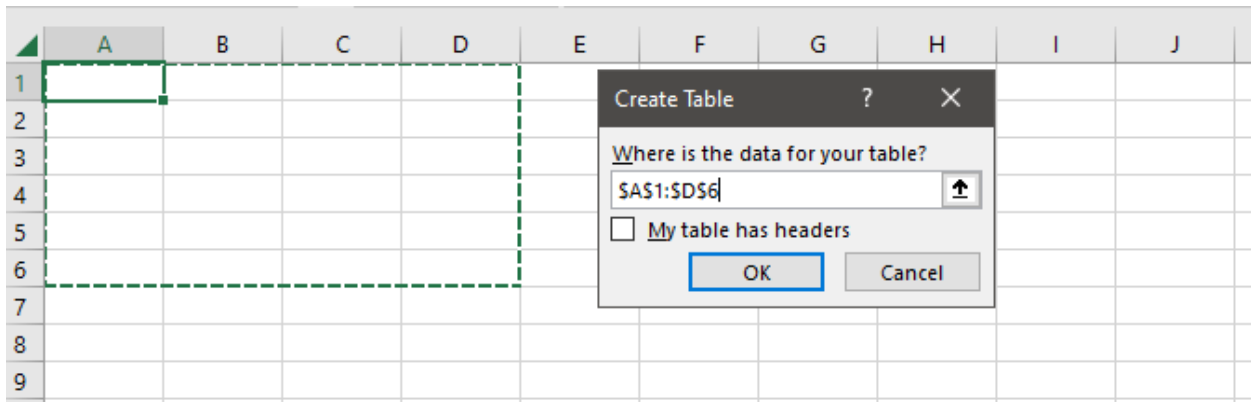
Use styles to give the content structure and to indicate the cell's purpose. From the "Home" tab, navigate to the "Styles" group. Select a style for its function not for its format. Once selected, update the format. Use "Styles" Headings in hierarchal order.

Tables

Creating Table

Ensure the table is programmatically set so it can be read correctly by someone using assistive technology. See [Creating Accessible Word Files](#) for a full discussion on tables.

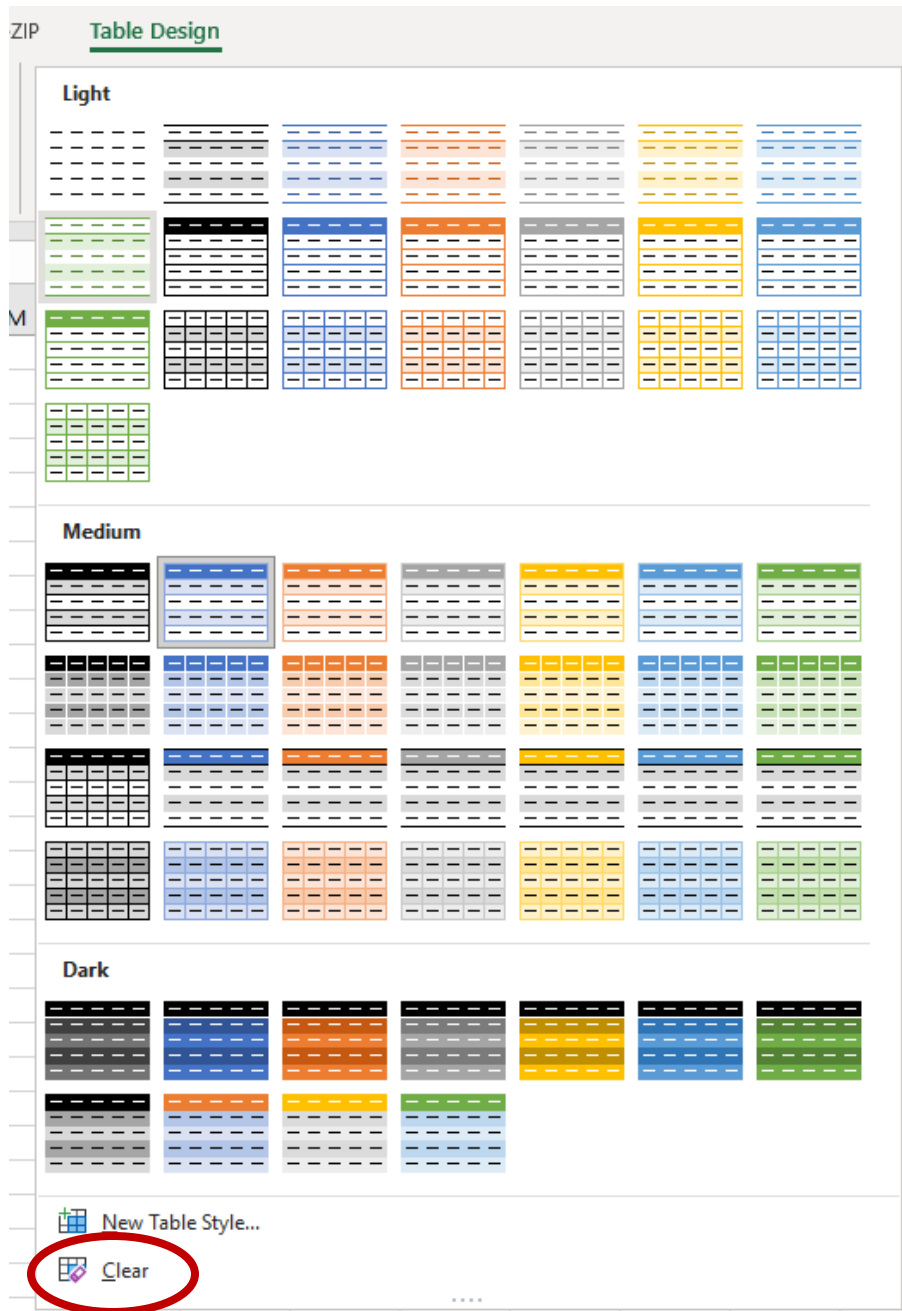
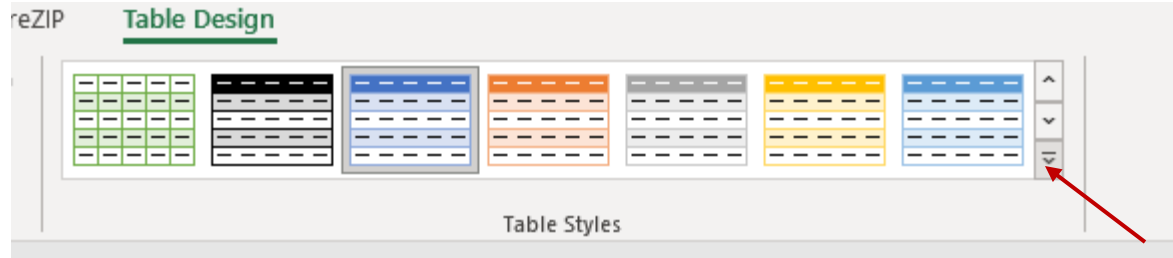
Insert a table using the "Table" option found in the "Tables" group of the "Insert" tab. Select the table cell range in the "Where is the data for your table?" input of the "Create Table" dialog box.



The table will be created with a default style. As shown in the screen shot below, the column headers are set to a white font with a dark blue background, has light blue and white background alternating on data rows, and uses filters.

	Column1	Column2	Column3	Column4
1				
2				
3				
4				
5				
6				
7				
8				

Change the default style by going to the "Table Design" tab then the "Table Styles" group. Select the new style. To clear the style of the table completely, while in the table, select the "More" button in the "Table Styles" group. Navigate to the bottom of the "Table Styles" and select "Clear." Alternately, clear the table styles by selecting "Alt + JT + S + C."



Toggle the column header filters on and off as needed by navigating to the “Table Design” tab then the “Table Style Options” group and check or uncheck the “Filter Button” checkbox.

To determine if an existing table is set to programmatically read as a table, select all cells in the table. If the “Table Design” tab appears, the table is set correctly. For an existing table that is not programmatically set to read as a table, highlight all the table content then select the “Table” option using the same steps as inserting a table above.

Table Headers

Navigate to the “Table Style Options” of the “Table Design” tab. Ensure “Header Row” is checked for column headers and “First Column” is checked for row headers as needed.

Table Name

Once the “Table” is set, go to the “Properties” group of the “Table Design” tab. In the “Table Name:” field, give the table a descriptive, unique name using camel case (capitalize the first letter of each word, no spaces between words).

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 symbols 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 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.
- Add the alt text by selecting the image, then go to the “Format” tab then select “Alt Text” from the “Accessibility” Group.
- 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.
- Only graphics providing meaningful information need alt text. Do not add alt text to decorative images. Set decorative images to not read by selecting the “Mark as decorative” check box on the “Alt Text” pane. If “Mark as decorative” is not available, add "" to the “Alt Text” field.
- 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 items like 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, graphs/charts and links.

- **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 the category label pointing to the line. For charts, the visual indicator can be a unique pattern on each segment or the category label 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

See "[Creating Section 508 Conformant Forms.](#)"

Embedded Media

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