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This quick guide covers best practices for creating accessible static digital maps. Please refer to the [DBM ADA tutorials webpage](#) for more detailed information on accessibility and Section 508 compliance.

General Map Design Best Practices

Does the information require a map?

Consider if the information can be communicated using text only. Use maps only when a geographic component is necessary to convey the information. If a map is needed, keep it simple and only include information appropriate to the map's purpose.

Font Size and Typeface

Descriptive text has a minimum font size of 12pt, while labels have a minimum of 6pt. Use only 2-3 different typefaces if possible and choose plain, sans serif fonts. Text color and weight should be adjusted to create a high enough contrast to allow the text to stand out from background information.

Colors

Use high-contrast colors for important information. Background or reference information should be lower contrast. If many colors are needed, validate the colors with a color checker tool. ColorBrewer is a good resource for selecting colorblind safe colors. colorbrewer2.org

Label Placement

Labels should be consistent in size and placement throughout. Never overlap labels and keep rotated text to a minimum. If text must overlap busy areas, use text halos to emphasize the text.

Symbols and Line Styles

Use symbols and line styles that are intuitive and usually associated with the represented feature type. For example, use green for forest roads and symbols and blue for hydro lines and symbols. Keep symbols and line styles consistent throughout.

Patterns

Patterns and hatched fills add a lot of visual clutter to a map. Use them sparingly and never overlap patterns.

Background Images

Always question if background aerial images are necessary. In many cases, they tend to disrupt the visual hierarchy of the map without providing much useful information. If background aerial images or fills are needed, use transparency or low-contrast colors to increase the readability of the overlaying text labels and symbols.

Map Legend

A good legend is vital for understanding a map. If more than a few items are shown on the map, it is important to add a legend. Symbols and line styles may seem intuitive to the map creator but do not always translate to the user. List items on the legend in order of importance and group similar features (points, lines, polygons).



Map of Green Bay Area Colleges, inaccessible:

The map contains too much information. The labels are in variable sizes and typefaces and overlap lines, no visual hierarchy exists in the line styles or symbols, and the background aerial image is unnecessary.



Map of Green Bay Area Colleges, improved accessibility:

The map contains only necessary information. The labels have a uniform typeface with halos, symbols are intuitive, a visual hierarchy exists between Interstate and US Highway lines, and the background is subtle yet informative.

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Exporting Maps

The complexity of labels and symbols on a map are hard for a screen reader to interpret. Therefore, we want to export maps as single images or flattened PDFs with no text available for reading technology. If a map is going to be inserted into a document or webpage, export the map as a PNG or JPG image file. Try both formats and pick the one with better clarity and resolution. For stand-alone maps that are expected to be downloaded and shared as individual files, export the map as a flattened PDF without layers. Make sure any options to preserve layers or text are unchecked. The entire map should be treated as a single figure and only have one instance of alt text.

Alt Text for Maps

At a minimum, every map should have alt text. The length and information provided by the alt text varies depending on the surrounding context and type of document. Here are some general guidelines for all maps.

- Usually only 1-2 sentences, but more complex maps may require more text. End alt text sentences with periods.
- Start by defining the image as a map.
- Be specific in describing the geographical extent of the map.
- Consider the key purpose of the map, instead of describing every little detail.
- Describe distances between points, directional information, and hierarchical relationships among map features that are vital to understanding the purpose of the map.
- For maps with a few points of interest, call-out the points in the alt text.
- For maps with complex datasets and multiple layers, summarize the data shown.
- If the information shown on the map is vital for obtaining a service, please provide staff contact information in the alt text.

Maps embedded in other documents (Word, PowerPoint, InDesign, etc)

- Alt text should be added after the map is placed in the document.
- Title the map and tag it with the appropriate heading style so it can be properly located by reading technology.
- Alt text does not replace captions! Captions should always be provided and help improve the general accessibility of the document.
- If referencing the map is vital to understanding the text, readers should be instructed to refer to the map in the text.
- If a map is well described in text and properly titled and captioned, your alt text can be brief. If not, it will need more extensive alternative text. If the descriptive text is elsewhere in the document, the alt text could direct the reader to it. "See details in *Section Heading 1*".
- If a legend is added as an image separate to the map, it will need its own alt text.

PDF Maps

- Only users with Adobe Acrobat Pro can check and fix the accessibility of PDF maps. [Guide to using Adobe Accessibility Checker](#).
- Alt text for stand-alone maps should be much more detailed and comprehensive than embedded map images as the map does not have any context to rely on.
- Legends embedded in the map do not need to be described in the alt text unless they provide context necessary to understanding the map.
- The map should be tagged as a single figure in Acrobat. Elements such as text blocks, charts or inset maps included in the map image may be tagged and described separately.
- Tags for individual labels should be removed and set as background artifacts.

Examples

Simple location map:

Bad alt text: "Map of college locations"

Better alt text: "Map of the greater Green Bay, Wisconsin area showing the locations of the following colleges: UW-Green Bay, Northeast Wisconsin Technical College, St. Norbert College and Bellin College."

Better alt text: "Map of the greater Green Bay, Wisconsin area showing college locations. See accompanying text for a list of the colleges shown."

Multiple locations or landmarks:

Bad alt text: "Image of map of bus stops"

Better alt text: "Map of bus stop locations in Downtown Madison, Wisconsin. Please contact bus@madison.com for detailed route information."

Route/detour map:

Bad alt text: "Road closure map"

Better alt text: "Map showing Main Street closed between 3rd Avenue and 6th Avenue. Detour route: travel north on 3rd Avenue, east on Oak Street, south on 6th Avenue to rejoin Main Street. Closure in effect March 1 through April 30, 2026."

Complex thematic map:

Bad alt text: "Map showing water-table elevations"

Better alt text: "Map of Washington County, Minnesota. Water-table elevations are higher along the river watershed divide on the eastern edge and in the southwest; lower along major rivers down the center north to south. Groundwater flows from the center to the east, south, and southwest."