Legislative Drafting for Web Accessibility

As part of our mission to help local governments meet the needs of their communities, General Code is committed to ensuring that all individuals with disabilities can access the Codes we host online.

Our eCode360 online code platform was designed with accessibility in mind. However, a key element that drives full accessibility is the content of your Code -- and how it is presented.

This document recommends legislative drafting guidelines for document structure, running text, tables, and images that will translate to the web in an accessible, standards-compliant way.

General Code is here to advise you on meeting accessibility standards in your legislation. Please contact us with any questions or concerns that you may have.

Background

The Web Content Accessibility Guidelines (WCAG) are the web industry's standard for creating websites that are accessible to people with disabilities. WCAG 2.1 is the version of this standard used by the U.S. public sector.

WCAG sets out "success criteria" (SC) for websites and their content. Depending on the SCs met, a website may conform to WCAG at Level A, AA, or AAA, where Level AAA is the highest.

Alongside the formal standard, the W3C standards body provides detailed explanations of the SCs and example techniques for meeting them.

In 2024, the U.S. Department of Justice published updated regulations for Title II of the Americans with Disabilities Act (ADA). These regulations, codified at 28 CFR 35.200 et seq., require state and local government websites, including those hosted by vendors like General Code, to conform to WCAG 2.1 at Level AA. The department has also published a fact sheet, recommended first steps, and a guide for small entities.

For your code hosted on *eCode360*, most of the WCAG success criteria pertain to the platform itself. A full report on our WCAG conformance is available upon request.

The rest of this document covers the other success criteria that must (Level A or AA) or may (Level AAA) be met by the code content that you prepare in the legislative drafting process.

Document structure

Most legislation follows a hierarchical structure, consisting of a minimum of a series of sections, but often including higher-level groupings like articles, chapters, or titles and lower-level divisions like subsections. For conformance, these **levels must be used consistently** within a legislative document, so that General Code can interpret them into a structure understood by assistive technologies (SC 1.3.1).

Depending on your relationship with General Code, you may write **headings** for all the sections and higher-level groupings yourself or have General Code write them for you. General Code can also collaborate with you to create the headings if you so choose. If headings are present, they must describe the topics of the sections or groupings that they head (SC 2.4.2 and SC 2.4.6). For optional Level AAA conformance, headings must be present (SC 2.4.10).

Running text

Running text is written content that appears outside of headings, notes, quotations, and tables. For Level AA conformance, there are **no requirements for the running text** in your code.

For optional Level AAA conformance, definitions or explanations must be given for words that are used in restricted or unusual ways (SC 3.1.3), for abbreviations (SC 3.1.4), and for words that are ambiguous in writing but can be distinguished by pronunciation (SC 3.1.6). The definitions sections that are typical in legislation can be used to meet all three of these criteria.

Optional Level AAA conformance also requires that text be written at a “lower secondary education” reading level (SC 3.1.5), or that more explanation or an alternate version is provided when the reading level is higher. Many word processing applications can calculate the reading level of text. Meeting this criterion within legal documents is challenging and is outside the scope of this document, but some of WCAG’s suggested techniques may apply.

Tables

A table is a set of interrelated information presented visually in a two-dimensional grid, with “cells” arranged in rows and columns. Such tables are often used in legislation; and when they are complex, they can present significant accessibility challenges.

This section does not apply to nontabular portions of your code that may carry the name “table,” such as the Table of Contents or a list of items without interrelated columns. Most tables prepared by General Code, such as the legislative disposition list, ordinance list, or Code Comparative Table, are already designed to meet these criteria.

Overall, code users must be able to understand the relationships between pieces of information in a table (SC 1.3.1). Assistive technologies use the row and column that

each table cell belongs to, as well as the designated header rows and cells of the table, to help users who cannot see a table navigate through it.

Summarizing tables

Each table should have its content and/or **purpose summarized in a table title** and/or in the running text. Table titles may or may not include table numbers (e.g., Table 1.1, Table A, etc.), but if they do, a consistent scheme of numbers should be used.

Rows and columns

To work properly with assistive technologies, **each table must use a single, consistent set of relationships across rows and down columns**.

Each **row** should usually stand for a **single entity**, such as a fee, parking space angle, or zoning use. Each **column** should hold a **consistent type of information**, such as a dollar amount, dimension, or permission status in a specific zoning district.

A table should only be used where **two or more non-header rows** are associated with information in **two or more columns**. If only one column is needed, consider formatting the rows as a bulleted list or as a series of subsections instead. If only one non-header row is needed, consider formatting the columns as a list or as subsections instead.

> **Example 1:** A list of plant species without any associated information in other columns can be set out as a series of subsections rather than as a single-column table. Similarly, a table with a single body row for a residence type, but many columns with different dimensional requirements for that residence type, can be set out as a series of subsections, one for each dimensional requirement.

Column headers

Each table should begin with one or more header rows which include a **header for each column**.

When the meanings of columns change, or new headers are needed for them, the table should be **split in two** at that point. Headers should not appear in the body of a table (except for headings of row groups; see below).

> **Example 2:** The fee schedule for the water department includes both fixed fees and fees that vary depending on pipe size. The fixed fees use two columns: name and amount. The variable fees have more information: name, amount for one-inch service, amount for two-inch service, etc. These fee types should be presented in two separate tables.

Grouping and nesting of rows

The rows of a table may be divided into **multiple row groups**, such as zoning uses grouped into categories. If this is done, each row group should start with its own heading in a separate row. (In some cases, this group heading row may still have information in multiple columns.)

Row groups allow for a single level of hierarchical nesting of rows: a heading for the group can be associated with one or more entries below it. Unfortunately, limitations in HTML mean that **deeper nesting of rows** is inherently difficult to navigate for assistive technology users. Where possible, limit nesting to as few levels as can express the information.

Hierarchical nesting that is presented only through indentation, cell borders, or similar visual indicators is not perceivable by all users. Where deeper nesting is needed in tables, consider a numbering scheme with multiple levels (e.g., 1., a., i.) to make the hierarchy perceivable.

Merged cells

Merging a cell across rows or columns should only be done when the same information applies to all those rows/columns. Avoid merging cells for visual presentation reasons. Even in meaningful cases, **merged cells can be confusing** to navigate with assistive technologies. Ideally, information should be repeated in each row/column when it happens to be the same across several of them.

Keys/legends and notes

Nontabular information, such as table keys/legends or notes, should be kept **outside of the table** itself. Some keys/legends may themselves be structured as separate tables.

Whether table notes are referenced by number, letter, or symbol, avoid duplication of labels on different notes for the same table. However, it is common and acceptable for a single note to be referenced multiple times within a table.

> **Example 3:** A table has three notes, and they are referenced with symbols. The notes should be labeled as *, **, and *** instead of using * for all three notes. However, if the second note is referenced four separate times, use ** for all four references.

When only a handful of notes appear in a table, using symbols like asterisks (*), daggers († and ‡), or lozenges (◊) may be appropriate. For longer sets of notes, numbering or lettering is easier to use. Consider choosing a form that contrasts with the information in the table cells: lettered notes for a table mainly containing numbers, or numbered notes for a table mainly containing words.

Color in tables

Color coding can enhance the legibility of tables, particularly large or complex ones. However, **the information in a table must not be presented solely through color** (SC 1.4.1). If color is used, the same information must also be provided in another way. Further, a table key or other aid must not reference table elements solely by their color, shape, or size (SC 1.3.3).

> **Example 4:** The cells of a zoning use table are color-coded to show which uses are permitted by right, permitted conditionally, or prohibited. To be accessible, these distinctions must also appear in each table cell. For example, the cells could have abbreviations (such as “P,” “C,” and “X”) or symbols (such as ✓, ?, and ✗). A table key explaining these abbreviations or symbols would also be helpful (and would be required for optional Level AAA conformance; SC 3.1.4).

Contrast in tables

When color is used in a table, the affected text must meet a **minimum level of contrast** between its foreground and background colors. In the specific contrast model used by WCAG, this minimum contrast ratio is 4.5:1 at Level AA (SC 1.4.3) and 7:1 at optional Level AAA (SC 1.4.6).

Images

In the context of accessibility, **an image is any photograph, map, illustration, diagram, graphic, figure, or similar visual depiction** that is two-dimensional and static (not animated or interactive**)**. Images are usually stored in file formats like JPEG, PNG, SVG, or TIFF.

Most accessibility criteria for images apply only to images that include visual information meaningful in the context of your code. An image whose use is purely decorative, such as an illustration or photograph on the cover page of a plan document, is not subject to these criteria.

PDF files have their own set of accessibility requirements. They are generally not covered here.

Redundancy

To the extent that the running text and/or tables in your code include the same information as an image, minimal work is needed for that image. The textual version of the information already meets all the applicable criteria except for the need for a short description.

> **Example 5:** The text of a section describes the design requirements for parking spaces, a table sets out the specific dimensions for different parking angles, and an image illustrates only those dimensions. The image has a caption that serves as its short description. No other text alternative, minimum contrast, etc., is needed. However, if the image included other dimensions not presented in the text or table, a proper text alternative would be needed.

Images of text

Many images in legislation include some amount of text. However, if the meaningful information in **an image consists *solely* of text**, and that text could be presented as true running text or in a table, it must be presented that way, **not as an image** (SC 1.4.5).

> **Example 6:** A table of traffic statistics is prepared by a different department and provided as a PNG image file for inclusion in an ordinance. Since this could be represented as an accessible table, it must not be presented as an image. The original source file should be provided by the other department.

If no original source document is available, please contact us to discuss alternatives.

When a PDF consists of scanned images of document pages, a rule similar to this "images of text" rule applies. A **scanned PDF** should have **OCR** (optical character recognition), which provides an approximate copy of the text that appears on each page. Acrobat and other full-featured PDF editors can perform OCR on individual scanned PDFs or entire batches.

When the presentation of text in an image is essential, it is allowed by the standard. An **essential presentation** is an image that contains text tied to other meaningful information, such that the text alone (with or without additional textual description) would not convey the same information.

> **Example 7:** An image illustrates a sign with text in a specific font and color that are prescribed by the sign regulations. This is an essential presentation because the text appears in the image to show the application of the font and color. A photograph of an actual sign could also be an essential presentation, since there could be meaningful information in the image beyond the text on the sign, such as its materials, placement relative to the building and street, lighting, etc.

Text alternatives

Every image in your code must have a text alternative that conveys the same information (SC 1.1.1). At the minimum, **each image must have a short description** (sometimes called "alt text") that identifies the image.

> **Example 8:** In Example 7 above, the short description might be "Illustration of a sign reading 'Your Business' in red, italic Times New Roman font." In Example 10 below, the short description might be "Map of the West Downtown neighborhood with the Main Street, Old Town, and Green River overlay zones shaded."

The short description should give the image's purpose where it is used in the code, not merely what appears in the image. An image used decoratively must have an empty short description.

> **Example 9:** A photograph shows a townhome next to an apartment building. In a “Main Street overlay zone” section, it might have the short description “Photograph of a townhome and an apartment building next to each other on the same block.” In a dimensional standards section, the same photograph might have the short description “Photograph of a townhome and an apartment building separated by a six-foot-wide grass side yard.” When decorating the title page of the zoning code, the photograph would have an empty short description.

A short description can be provided as a **figure caption or other label** presented next to the image. Otherwise, you should provide short descriptions of images to General Code along with the legislation containing the images.

If **all the meaningful information** in the image is also conveyed by the short description, no further text alternative is needed. If not, the same information is best conveyed **in the surrounding running text** and/or tables. If neither is possible, a separate **long description** must be written. It can be presented in footnotes, in an appendix, or as part of an extended figure caption.

Color in images

Color adds value to many images. However, **the meaningful information in an image must not be presented solely through color** (SC 1.4.1). Any color-based distinction must also be made in some other way, or the same information must be provided in the text. Further, a map legend or other aid must not reference parts of an image solely by their color, shape, or size (SC 1.3.3).

> **Example 10:** A map of a neighborhood is marked with shaded areas for three different overlay zones. Each zone has a distinct color, and a legend within the image matches the colors to the names and abbreviations of the zones. For accessibility, the zone abbreviations (and/or names) must also be placed on the shaded areas of the map itself. Alternatively, the text could describe the boundaries of each overlay zone, thus providing the same information.

Contrast in images

Meaningful parts of an image must meet a **minimum level of contrast** between their foreground and background colors. (This includes shades of gray.) In the specific contrast model used by WCAG, this minimum contrast ratio is 3:1 (SC 1.4.11).

This requirement only applies to the parts of an image that convey information. Background and decorative elements such as borders and gradients do not have a contrast requirement.

Figuring out contrast in images can be challenging due to color gradients and soft borders in illustrations or natural variation in photographs.