



Mayor's Office for
People with Disabilities

Getting Started with Web Accessibility

This guide is for beginners that are interested in getting started in making their websites accessible to people with disabilities. The process can be difficult for those who are unfamiliar with existing standards. The goal of the guide is to get you to incorporate accessibility into your existing practices.

You will learn about:

- The Disability Community and Relevant Laws
- Website Accessibility Standards
- Choosing or Building an Accessible Template
- Accessibility Best Practices for Creating Content
- Performing Manual and Automated Testing to Verify your Work
- Resources to Learn More About Website Accessibility

Whether you are creating/managing a website on behalf of a government agency, small business, cultural institution, or an artist, this guide will have something for you.

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Before You Get Started, You Should Know...

Who are People with Disabilities?

The World Health Organization estimates that 15 to 20 percent of the world's population identifies as having a disability. In New York City, there are over 900,000 people that identify as disabled—around 11%. It is our responsibility to make sure we can connect with the disability community on our websites, email communications, electronic documents, videos, and social media posts.

In the digital space, when we say users with disabilities, we are referring to disabilities that affect the eyes, ears, hands, and brain. Below are examples of each.

- Eyes: people who are blind or have low vision
- Ears: people who are deaf or hard of hearing
- Hands: people with physical disabilities that are unable to use a mouse or keyboard
- Brain: people with learning disabilities and cognitive, intellectual, or developmental disabilities

What are Assistive Technologies?

Some folks with disabilities use assistive technologies. [Assistive Technology](#) (AT) is any piece of equipment, product, or system that is used to maintain or improve the functional capacities of people with disabilities. Common examples include wheelchairs, hearing aids, crutches, or even glasses and contact lenses. The following are examples of assistive technologies that are used by people with disabilities to interact with websites.

- Blindness: People who are blind often use [screen readers](#), which are a type of software that read the contents of the screen aloud.
- Low Vision: People with low vision often use [screen magnifiers](#), to enlarge the contents of the screen. They might also use inverted colors.
- Hands Free: People with physical disabilities that limit their ability to use a mouse or keyboard often use alternative devices that allow them to

control computers and smart devices with their voice, a switch control, a head wand, by moving their eyes, or even with their breath. [Learn more about hands free technologies.](#)

What are the Laws?

Local Law 26 of 2016

Signed on March 14, 2016, [Local Law 26](#) requires New York City agencies to adopt website accessibility standards and ensure that all websites managed by, or on behalf of, the City of New York are compliant with those standards. The current standard that the City of New York is conforming with is [Web Content Accessibility Guidelines \(WCAG\) 2.1 level AA](#).

The Americans with Disabilities Act

Signed in 1990 by President George H. W. Bush, the [Americans with Disabilities Act](#) (ADA) created a legal definition of disability as well as protections for people with disabilities from discrimination in the public and private sectors. The ADA is often used in website accessibility lawsuits. While the ADA does not mention standards specifically, [WCAG 2.1 Level AA](#) criteria are often used as the standard to measure against for ADA lawsuits.

Section 508

[Section 508 of the Rehabilitation Act of 1973](#) requires access to electronic and information technology provided by the Federal government or any entity that is receiving Federal funding. For more guidance, refer to [section508.gov](#).

What is WCAG?

The Web Content Accessibility Guidelines 2.1 are based on [four principles of accessibility](#). These principles frame the 52 criteria a website must comply with to be accessible. Web content must be:

1. Perceivable

Will people with disabilities be able to perceive the content on your website. For example, if there are images, do they have descriptions through alternative text for blind visitors? Do videos have captions for deaf visitors?

2. Operable

Will people with disabilities be able to operate your website? For example, all items that can be clicked on using a mouse should also be accessible to keyboard-only users.

3. Understandable

Will people with disabilities be able to understand what they are doing on your website? For example, do forms have accessibility labels and proper instructions? Do required fields have text alternatives?

4. Robust

Is your website compatible with current operating systems, browsers, and assistive technologies? Websites that are built using standard HTML 5 make implementing accessibility an easier process.

Read more about each WCAG criterion, including explanations and examples, by referring to the [Understanding WCAG Success Criterion website](#).

Getting Started

Step 1: Template Accessibility

The first step is to research if your website supports accessibility. Find out if the website was built using a website builder such as SquareSpace, a content management system like Drupal, or a template.

Website Builders

If your website uses a website builder, look up the platform's accessibility by searching the internet for the name of the platform and 'accessibility'. If no results are found, the platform most likely does not support accessibility. In that case, transitioning to a more accessible platform is advised.

Two things to consider are the availability of accessible templates and tips on how to effectively use the accessibility features that the platform supports. Be sure that your website is using an accessible template and follow all the guidance for using the built-in accessibility features.

Below are links to accessibility guidance for some popular website building platforms.

- [SquareSpace Accessibility](#)
- [Wix Accessibility](#)
- [Weebly Accessibility](#)

Content Management Systems (CMS)

If your website is built using a content management system, such as WordPress, be sure to research the accessibility of the CMS as well as the template or theme that is used for your website. Much like website builders, CMS's support accessibility features to differing degrees. Find out what they are and be sure to incorporate them into your process when editing or adding new content.

- [Accessible WordPress Templates](#)
- [Drupal Accessibility](#)

Accessible Templates and Frameworks

Perhaps you are looking to transition to a new website that supports accessibility. Below are some templates and frameworks that you can use.

- [PUXL – Building an Accessible Web](#)
- [NYC Core Framework](#)

Best Practices

It is highly recommended that your website designers and content creators follow established HTML and CSS best practices for common elements such as images, headings, and buttons. You should make sure that your template or website building platform supports as many of them as possible. The [Best Practices page](#) on the NYC Digital Blueprint website has guidance to assist.

Step 2: Content Assessment

For our websites to be accessible, we need to make sure that the content on our website is also accessible. Create a list of all the following types of content so you can work on making them accessible.

- Downloadable PDFs
- Videos
- Social Media Feeds
- Forms or applications to fill out
- Maps or data visualizations

For each of these types of content, you can find accessibility guidance on our [Guides page](#).

Step 3: Accessibility Testing

Now that you have researched the accessibility of your platform or template, it's time to do a deeper dive and find out how accessible the content on your website really is.

There are automated and manual methods for testing. Automated testing is quick but can be inaccurate and does not really capture all of the WCAG criteria. It is common knowledge that automated tools only cover around 30% of WCAG criteria. Manual testing requires more work but is required in order to get an accurate assessment of the accessibility of your website.

Automated Testing Tools

There are many free and paid automated testing tools. As mentioned before, it is important to keep in mind that automated testing tools miss a lot and can make mistakes. Manual testing is always a priority. If you do use automated tools, below is some guidance for you to get the most out of it.

Free Automated Testing Tools

The following are some free automated tools that you can use for testing the accessibility of your website.

- [WAVE](#)
- [aXe](#)
- [tota11y](#)
- [Lighthouse Tools for Developers](#)

How to Use WAVE

The most used automated testing tool is WAVE. It can be used by visiting [WAVE.webaim.org](https://wave.webaim.org) or by downloading the [WAVE Extension for Chrome or Firefox](#). On the website you can enter the URL of a page that you would like to test. When using the extension, you can run the test on any page that is currently in your browser. After running a test, look for the following things.

WAVE Errors

The list below contains some of the most common errors from WAVE reports.

- X images missing alt-text. This means that there are images on your page that are missing descriptions for blind users to read when they encounter it. Get familiar with [alt-text](#) and how to use it to add descriptions to the images on your website.
- X links or buttons are missing labels. This means that there are links that do not have accessible or text labels. Sometimes a link is an image or an icon, therefore it does not have a visual text label. One example is a magnifying glass for a search button. In those cases, [ARIA-Label](#) or [alt-text](#) are two ways to add a text label.
- X contrast errors. This means that there are instances where the color of the text does not have enough contrast with the color of the background which makes it difficult to read for users with low vision. Use the [Webaim Color Contrast Checker](#) to make sure that all text on your website has a minimum of 4.5:1 contrast ratio with its background.

Manual Testing Methods

Manual testing is performed by using assistive technologies, such as a screen reader, to access the content of your website. As mentioned before, a [screen reader](#) is software that uses a synthesized voice to read the screen's

contents out loud. The user interacts and navigates through the content by using touch gestures or keyboard commands. It is important to note that screen reader users do not use the mouse. Therefore, you will not be using the mouse when you test. There are options for free or paid screen readers that you can use. Below is a list of screen readers that we recommend for accessibility testing.

- On Windows, JAWS is the popular screen reader and NVDA is a free open source screen reader.
- On Mac and iOS, Voiceover is built-in and is popular among the blind community.
- On Android, Talkback is the built-in screen reader.

Download the Screen Reader Testing Guide from our [guides page](#) for step-by-step instructions on how to conduct manual testing with a screen reader.

Resources

WCAG Resources

- [Web Content Accessibility Guidelines \(WCAG\) Overview – W3C](#)
- [Web Content Accessibility Guidelines \(WCAG\) 2.1 Level AA](#)
- [Understanding WCAG Success Criterion](#)
- [Tutorials – Web Accessibility Initiative](#)
- [WebAIM – Web Accessibility in Mind](#)

Website Builders and Templates Accessibility

- [SquareSpace Accessibility](#)
- [Wix Accessibility](#)
- [Weebly Accessibility](#)

Accessibility Testing Tools

- [WAVE](#)
- [aXe](#)

- [tota11y](#)
- [Lighthouse Tools for Developers](#)

Accessibility Vendors

- [Fable Tech Labs](#)
- [Equal Entry](#)
- [City Mouse](#)
- [Deque Systems](#)
- [Level Access](#)
- [The Paciello Group](#)
- [UsableNet](#)