# WCAG Scoring Methodology Breakdown

This document contains a breakdown of the City of New York’s process for measuring [WCAG 2.1 Level AA](https://www.w3.org/TR/WCAG21/) compliance on websites. The techniques and tips featured here are based on an interpretation of the guidelines by accessibility professionals representing the City of New York. Official documentation by W3C regarding the standard, visit the [WCAG Overview page](https://www.w3.org/WAI/standards-guidelines/wcag/).

The guidance offered in this document is an update of existing testing methods that the City of New York has been using to audit websites for the digital accessibility reports mandated by Local Law 26 of 2016. The new guidance includes:

* A description for each criterion.
* When to test for each criterion.
* A link to Understanding Success Criterion from the WCAG website.
* How to test each criterion.
* How to score each criterion in the survey spreadsheet.

## Breakdown of WCAG 2.1 Criteria

### Success Criterion 1.1.1 – Non-Text Content

Image based content needs to have a text alternative. For images, alt-text is commonly used to add a description. For maps, a text list indexed by headings that can be filtered is sufficient. For data visualizations, html table alternatives are accessible. Captchas need an audio alternative.

#### When to Test

On all pages with images, maps or data visualizations.

#### WCAG Guidance

[Understanding Success Criterion 1.1.1](http://www.w3.org/WAI/WCAG21/Understanding/non-text-content)

#### Testing SC 1.1.1

Jaws and NVDA: Press the letter “G” on your keyboard to navigate to each image and hear it’s alt-text.

Voiceover: Turn on Quick nav by pressing the right and left arrow keys together. Then press G. (Note: Single key navigation must be turned on in the Voiceover Utility)

WAVE, Axe and other automated tools: Insert the URL of the page and find out how many errors you get that mention “missing alt-text.”

#### Scoring for SC 1.1.1

* For standard images: Average between 0 and 1
	+ Count the number of total images on the page. If there is a social media feed, the entire feed counts as 1 image.
	+ Count the number of images that have proper alt-text. If social media feed has images missing alt-text then the one image that counts as the social media feed will count as an image missing alt-text.
	+ Divide the number of images with alt-text by the total number of images on the page to get a number between 0 and 1.

* For Maps and Data Visualizations: Score will be rounded to the nearest quarter.
	+ 1 = All of the information conveyed through the map or visualization is available in text form.
	+ .75 = Most of the information conveyed by the map is available in text form.
	+ .5 = Around half the information that is conveyed through the map or visualization is available in text form.
	+ .25 = Very little of the information that is conveyed through the map or visualization is available in text form.
	+ 0 = The information that is conveyed through the map or visualization is not available in text form.
	+ N/A = Put N/A in the score field if there are no Maps or Data Visualizations on page.
* CAPTCHAs: 1 or 0
	+ 1= Audio or text-based alternative.
	+ 0 = No audio or text-based alternatives.
	+ N/A = Put N/A in the score field if there are no CAPTCHAs on page.

#### Note

If a page has images and a map/data visualization/captcha, get the average for the images, create a score for the map/data visualization/captcha then do the following. Add the two numbers together and divide by 2 for a number between 1 and 0. If there are multiple maps/data visualizations/captchas, use one score to evaluate all of them.

### Success Criterion 1.2.1 - Audio-Only or Video-Only (Pre-recorded)

Videos with no sound should have audio description or a transcript of an audio description. Audio only content such as podcasts should have transcripts.

#### When to Test

On pages with video only or audio only content. Video only means videos with no sound. Audio only would be podcasts, music etc.

#### WCAG Guidance

[Understanding Success Criterion 1.2.1](http://www.w3.org/WAI/WCAG21/Understanding/audio-only-and-video-only-prerecorded)

#### Examples

* [NYCEM Prep Talk Podcast](https://www1.nyc.gov/site/em/about/podcasts.page)

#### Testing SC 1.2.1

If there are any videos with no sound, there should be a text description of the video. If there is audio content such as a podcast, each episode needs to have a text transcript.

#### Notes for SC 1.2.1

* NYC websites rarely have video only content. However, there are a few agencies that have podcasts.
* GIFs are considered images and not videos.

#### Scoring for SC 1.2.1

Transcripts for audio content

* Score 1 = Transcript has accurate time stamps, names and quotes. Includes music and sound effects.
* Score .75 = Missing one of the following. time stamps, names, music or sound effects.
* Score .5 = Missing two of the following. Name, time stamp, music or sound effects.
* Score .25 = Paraphrased transcript that has no time stamps, names, music, or sound effects.
* Score 0 = No transcript.
* N/A: Put N/A in the score field if there are no video only or audio only content.

### Success Criterion 1.2.2 – Captions (Pre-recorded)

Captions are provided for pre-recorded videos.

#### When to Test

On pages with video content. Video content means a video that has audio as well. Videos without sound are covered in 1.2.1.

#### WCAG Guidance

[Understanding Success Criterion 1.2.2](https://www.w3.org/WAI/WCAG21/Understanding/captions-prerecorded)

#### Examples

* [NYC at Work – David Cruysman](https://www.youtube.com/watch?v=TOUmOqtSk9c)

#### Testing SC 1.2.2

If there are any videos on the page, watch them and review the captions.

#### Scoring for SC 1.2.2

* Score 1 = Good quality captions. Mentions names, Includes music and sound effects, accurately timed, it’s well distributed, no spelling mistakes.
* Score .75 = Missing one of the following. timing is a little off, some distribution issues, missing names, music or sound effects.
* Score .5 = Dialogue only, missing music and sound effects.
* Score .25 = All automated captions.
* Score 0 = No captions.
* N/A: Put N/A in the score field if there are no videos on the page.

### Success Criterion 1.2.3 – Audio Description or Media Alternative (Pre-recorded)

Audio descriptions or text transcripts are provided for pre-recorded video content

#### When to Test

On pages with video content. Video content means videos with sound. Videos without sound are covered in success criterion 1.2.1.

#### WCAG Guidance

[Understanding Success Criterion 1.2.3](https://www.w3.org/WAI/WCAG21/Understanding/audio-description-or-media-alternative-prerecorded)

#### Examples

* [IDNYC public service announcements](https://www1.nyc.gov/site/idnyc/about/announcements.page)

#### Testing SC 1.2.3

If there are any videos embedded into the page, are they described using text? This would be a paragraph above or below the video player that informs viewers of what they are seeing in the video.

#### Scoring for SC 1.2.3

* Score 1 = Text description is near the video player, mentions characters, text on screen and general synopsis.
* Score .75 = Either not near video or missing one of the following. Character names, text on screen or synopsis.
* Score .5 = Not near video player and missing one of the following. Names, text on screen or synopsis.
* Score .25 = Not near video, missing names, text on screen and synopsis.
* Score 0 = No text description.
* N/A: Put N/A in the score field if there are no videos on the page.

### Success Criterion 1.2.4 Captions (Live)

Captions for live video or audio content

#### When to Test

On pages with live video content. Live video content means videos with audio that is streaming live. Videos that do not have audio are covered in success criterion 1.2.1.

#### WCAG Guidance

[Understanding Success Criterion 1.2.4](https://www.w3.org/WAI/WCAG21/Understanding/captions-live)

#### Testing SC 1.2.4

Watch any live videos that are streamed on this page.

#### Scoring for SC 1.2.4

* Score 1 = Good quality captions. Mentions names, accurately timed, it’s well distributed, few spelling mistakes.
* Score .75 = Timing is a little off, some distribution issues.
* Score .5 = Dialogue only, missing music and sound effects.
* Score .25 = All automated captions.
* Score 0 = No captions.
* N/A: Put N/A in the score field if there are no live videos on the page.

### Success Criterion 1.2.5 – Audio Description (Pre-recorded)

Audio descriptions are provided for pre-recorded video content. Different from 1.2.3 because there is no option to have a text transcript.

#### Notes for SC 1.2.5

Sometimes a video is not audio described but the dialogue in the video is accidentally descriptive. Videos that are descriptive but do not have official audio description may receive a score of up to .5.

#### When to Test

On pages with video content. Video content means videos with audio . Videos that do not have audio are covered by success criterion 1.2.1.

#### WCAG Guidance

[Understanding Success Criterion 1.2.5](https://www.w3.org/WAI/WCAG21/Understanding/audio-description-prerecorded)

#### Examples

* Score 1 example: [David Cruysman – NYC at Work](https://www.youtube.com/watch?v=lND4AXKpjVo&ab_channel=Mayor%27sOfficeforPeoplewithDisabilities)
* Score .5 example: [Melissa Umberger – NYCEM Ready New York](https://www.youtube.com/watch?v=vGL2mnEft18)
* Score .25 example: [Women’s History Month Art Series](https://twitter.com/NYCMayorsOffice/status/1101302787034529792)
* Score 0 example: [Alvin Ailey](https://twitter.com/NYCMayorsOffice/status/1100072221953929216) or [NYC Media Promo](https://www1.nyc.gov/site/media/index.page)

#### Testing SC 1.2.5

Watch the video. It should be audio described or link to an audio described version.

#### Scoring for SC 1.2.5

* Score 1 = Audio described video (either the embedded video is audio described or there is a link to AD version. Introducing scenes, characters, and important visual events. All text and logos are described. Does not interrupt dialogue.
* Score .75 = Audio described video is missing one of the following. Character intro, scene intro, text on screen, or interrupts the dialogue.
* Score .5 = A non-described video that is mostly talking heads and the speakers introduce themselves.
* Score .25 = A non-described video that has some dialogue and minimal descriptions.
* Score 0 = No dialogue and no narration.

N/A: Put N/A in the score field if there are no videos on the page.

### Success Criterion 1.3.1 – Info and Relationships

Information and relationships that are conveyed by visual or auditory formatting are preserved when viewed by assistive technologies. Examples include:

* Headings with proper <h1>, <h2>, <h3> tags
* Links have proper link tags. Links take the user to a new page or download a file
* Buttons and other form fields have proper roles. Buttons perform actions such as submit, reset, clear all, confirm, expand/collapse and sometimes next/previous buttons
* ARIA landmark regions with proper labels
* Tables have proper table row and header tags
	+ Tables are only used for tabular data
	+ Tables used for layout purposes fail this criteria
* List with proper list tags
* For forms: Required fields should have a text alternative.
* Checkboxes, radio buttons, selectable controls, Accordions, toggle buttons and selectable tabs announce proper state.
	+ Checkboxes: checked or unchecked
	+ Accordions: expanded or collapsed
	+ Radio buttons or selectable controls: selected or unselected
	+ Toggle buttons: pressed or not pressed

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.3.1](https://www.w3.org/WAI/WCAG21/Understanding/info-and-relationships)

#### Examples

* [MOPD Accessible Virtual Activities](https://www1.nyc.gov/site/mopd/resources/mopd-virtual-activities-toolkit.page)– Example accordions
* [NYC Fleet Report](https://www1.nyc.gov/site/operations/performance/fleet-report.page) – Example table
* [Workforce development](https://www1.nyc.gov/html/ohcd/html/home/home.shtml) – No headings, no regions and no lists

#### Testing SC 1.3.1

#### Screen Reader Testing

Use a Screen reader to read different elements such as headings, links, form fields, tables etc. Use single key navigation or your screen reader can generate a list of elements for you. Below are two tables. One that has common screen reader keyboard shortcuts for navigating a website. The second one is screen reader keyboard shortcuts that view lists of links, headings, form fields etc.

#### Screen Reader Shortcuts for Navigating the Web

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Command:** | **JAWS:** | **NVDA:** | **Voiceover(Mac):** | **Comments:** |
| Shortcut to turn on screen reader | Control, Alt and J | Control, Alt and N | Command and F5 or press finger print button 3 times on touch bar | For Jaws and NVDA the shortcuts need to be set in properties |
| Navigate up and down | Up or Down Arrows | Up or Down Arrows | Up and down arrows or Control, Option and Left or Right Arrows |  |
| Go to next link | No official command | K | Control, Option, Command and L or L with Quick Nav | Add Shift to move to previous LINK |
| Go to next heading | H | H | Control, Option, Command and H or H with Quick Nav | Add Shift to go to previous heading |
| Go to next table | T | T | Control, Option, Command and T or T with Quick Nav | Add Shift to go to previous table |
| Move in all directions within a table | Control, Alt and any of the arrow keys | Control, Alt and any of the arrow keys | Control, option and any of the arrow keys |  |
| Go to next form field | F | F | CUSTOM COMMAND | Add Shift to go to previous form field. For Voiceover F goes to next Text field, B goes to next button and C goes to next checkbox with Quick Nav on |
| Go TO NEXT TEXT FIELD | E | E | CONTROL OPTION, COMMAND AND F OR F WITH QUICK NAV | Add SHIFT TO GO TO PREVIOUS TEXT FIELD |
| Go TO NEXT CHECKBOX | X | X | CUSTOM COMMAND | Add SHIFT TO GO TO PREVIOUS CHECKBOX |
| Go TO NEXT BUTTON | B | B | B WITH QUICK NAV | Add SHIFT TO GO TO PREVIOUS BUTTON |
| Go TO NEXT LIST | L | L | Control, option, command and X or X with quick nav | Add shift to go to previous list |
| Go to next region | R | D | Custom command | Add Shift to go to previous region |

#### Screen Reader List of Elements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| List Type: | JAWS Command: | NVDA Command: | Voiceover Command: | Comments |
| Links | Insert and F7 | Insert and F7 | Command, Option and U. Then use left and right arrows to find links | All links in this list should have a unique and understandable label |
| Headings | Insert F6 | Insert and F7. Press shift and tab then use arrow keys to navigate to headings | Command, Option and U. Then use left and right arrows to find headings | Headings should follow a hierarchical tree structure. |
| Forms | Insert and F5 | Insert and F7. Press shift and tab then use arrow keys to navigate to forms | Command, Option and U. Then use left and right arrows to navigate to forms | All form fields should have a descriptive label |
| Regions/Landmarks | Insert, Control and R | Insert and F7. Press Shift and Tab then use arrow keys to find Landmarks | Command, Option and U. Press left and right arrows to find Landmarks | All regions should go along with their labels. For example, the Navigation region should have navigation links only |

#### Wave Accessibility Checker

[www.wave.webaim.org](http://www.wave.webaim.org)

Plug in the page URL into WAVE to get a report. Wave allows users to look at the heading structure of a page. It also has some relevant errors regarding links and form fields.

#### Scoring for SC 1.3.1

* Score 1 = All elements have proper formatting. Headings are headings, tables are used properly and have table headers, lists have tags, etc.
* Score .75 = A few elements are missing correct formatting, tables missing header rows. No significant elements or required fields are inaccessible.
* Score .5 = More than a few of the elements on the page have proper formatting. Significant elements or required fields are not accessible.
* Score .25 = Only a few elements on the page are properly formatted.
* Score 0 = No proper formatting. No headings, lists and form fields. Also, if a table is used for layout purposes.

### Success Criterion 1.3.2 – Meaningful Sequence

Content on the page follows a logical and understandable sequence when read by screen readers or viewed in alternative ways.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.3.2](https://www.w3.org/WAI/WCAG21/Understanding/meaningful-sequence)

#### Testing SC 1.3.2

Read the page content using a screen reader. Make sure it is reading the content from left to right then top to bottom.

Step 1: Start at the top of the screen

Step 2: read all the items to make sure focus is moving from left to right and then top to bottom.

Note: There are instances where focus order can deviate from that. For example, if there is a left navigation panel that is vertically oriented, screen readers are expected to go through all of the links vertically before moving on to the right.

#### Screen Reader Commands

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Command | JAWS | NVDA | MAC | iOS | Comments |
| Go to Top | Control + Home | Control + Home | Control, Option, Shift + Home | Touch an item at the top of the screen |  |
| Navigate to next or previous line/item | Up or down arrow keys | Up or down arrow keys | Control, Option + left or right arrow keys | Swipe right or left |  |
| Read all from the top |  |  |  | Two finger swipe up |  |

Mobile testing: Test on mobile as well. Use Voiceover on an iOS device and read the content by swiping right to move from item to item. Alternatively, when using desktop browsers, you can also resize the window and test that way. Desktop users can zoom-in 200% using the browser settings.

#### Scoring for SC 1.3.2

* Score 1 = Everything is read in logical order.
* Score .5: At least one part of the page is read out of order but it is not part of the main content of the page.
* Score 0 = At least one part of the page is read out of order and causes enough confusion that the user will not know how to navigate this page.

### Success Criterion 1.3.3 – Sensory Characteristics

Instructions for understanding or operating the content do not solely rely on color, shape, size, visual location or sound.

#### When to Test

On pages that have instructions. That includes instructions regarding filling out forms as well as how to find information about a specific program.

* Good example: use the links below to find information in your language.
* Bad example: required fields are marked in red

#### WCAG Guidelines

[Understanding Success Criterion 1.3.3](https://www.w3.org/WAI/WCAG21/Understanding/sensory-characteristics)

#### Examples:

* [open records – Request a record](https://a860-openrecords.nyc.gov/request/new)
* [MOPD Contact Form](https://www1.nyc.gov/site/mopd/about/email-the-commissioner.page)
* [NYC Fleet Report](https://www1.nyc.gov/site/operations/performance/fleet-report.page)

#### Testing SC 1.3.3

Read any instructions on the page for understanding or operating the content. If there are references to color, shape, size, orientation or location, there should be a text alternative. If required fields are marked in red, they can also be marked with \*\*.

#### Scoring for SC 1.3.3

* Score 1 = Instructions provide one of the two visual elements and a text alternative.
* Score 0 = Instructions have color, shape, size or location but no text alternative.
* N/A: Put N/A in the score field if there are no instructions on the page.

### Success Criterion 1.3.4 – Orientation

Content does not restrict its view and operation to a single display orientation, such as portrait or landscape, unless a specific display orientation is essential.

#### Note

Examples that are exempt from this criterion include, bank checks, a piano application, slides for a projector or television, or virtual reality experiences.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.3.4](https://www.w3.org/WAI/WCAG21/Understanding/orientation.html)

#### Testing SC 1.3.4

View the page on mobile in both portrait and landscape. Make sure you are not locked into one orientation.

#### Testing Orientation on Desktop

In Chrome:

* Either
	+ Right click on the page or element, and select ‘inspect’
	+ On Mac: Command + Shift + C
	+ On PC: Ctrl + Shift + C
* This opens the Inspector panel, which will initially be docked inside your chrome window. To pop it out into its own window, do the following. In the menu bar at the top of the inspector pane, select ‘customize & control devtools’ ( it’s the last icon at the end that looks like a vertical ellipsis ). Then from the options labeled ‘dock side’, select ‘undock into a separate window’
* To view the webpage on different devices and orientations, do the following. In the menu bar at the top of the inspector window, click ‘toggle device toolbar’ ( it’s the icon of a phone & tablet ). This adds a new bar with options at the top of your page. Use the dropdown menu to select from different devices, and then toggle orientation using the ‘rotate’ button in that same menu.

#### Scoring for SC 1.3.4

* Score 1 = Page can be viewed in both portrait and landscape or contains one of the exemptions.
* Score 0 = Restricted to one orientation but does not contain one of the listed exemptions.

### Success Criterion 1.3.5 – Identify Input Purpose

The purpose of each input field collecting information about the user can be programmatically determined. If this is done correctly, auto-fill will be accessible to assistive technology users.

#### When to Test

On pages that require input that asks for the users personal data. This includes, name, phone, address, email, etc.

#### WCAG Guidelines

[Understanding Success Criterion 1.3.5](https://www.w3.org/WAI/WCAG21/Understanding/identify-input-purpose.html)

#### Testing SC 1.3.5

Option 1: If your browser is setup with auto complete go through each field and see if it works. Also, can test on mobile.

Recommended option: Use Chrome inspector

1. Right click on the element and choose inspect.
2. Form fields that collect user data such as name, address, phone or email should have one of the attributes listed on the [HTML autocomplete attribute page](https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete).

#### Note

This criterion is mostly going to fail on nyc.gov.

#### Scoring for SC 1.3.5

* Score 1 = Everything has auto complete functionality.
* Score 0 = One or more fields are missing auto-complete functionality.
* N/A: Put N/A in the score field if there are no fields that ask for users’ personal data.

### Success Criterion 1.4.1 – Use of Color

Color is not used as the only visual means of conveying information, indicating an action, prompting a response or distinguishing a visual element. This is different from 1.3.3 because it does not require a text alternative. This focuses more on visual presentation. Instead of differentiating a link using color, it should also be bolded and/or underlined.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.1](https://www.w3.org/WAI/WCAG21/Understanding/use-of-color)

#### Testing SC 1.4.1

Look at all links and other elements of the page. Do they use visual identifiers that are not color based? If they use color only, this criteria fails. One example that passes is, links that have a different color but are also bolded and/or underlined.

#### Note

If a link is in bold font, the text around it should not be bold as well. Unless the link is also underlined.

#### Scoring for SC 1.4.1

* Score 1 = If color is used to distinguish elements on the page, there is other formatting such as underline or bold along with it.
* Score .5 = At least one element uses color only to distinguish it from other content. Change color of static text to emphasize a message.
* Score 0 = Any elements that use color only to distinguish them from other content are important such as links.

### Success Criterion 1.4.2 – Audio Control

If any audio content that is longer than 3 seconds plays automatically, the user should have a way to stop or turn down the volume independently of the system volume.

#### When to Test

On pages that have audio that plays automatically and the audio is longer than five seconds.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.2](https://www.w3.org/WAI/WCAG21/Understanding/audio-control)

#### Testing SC 1.4.2

Check for audio content when the page loads. If there is any audio that plays automatically and it is longer than three seconds, it should have a stop button or a way to turn the volume down.

#### Note for SC 1.4.2

Turning down the volume of the device or system does not meet this criteria. Users must be able to change the volume of the audio that plays automatically without changing the overall volume on their device.

#### Scoring for SC 1.4.2

* Score 1 = There is audio that plays automatically and it has a stop button or volume controls.
* Score 0 = There is audio that plays automatically but it does not have a stop button or volume controls.
* N/A: Put N/A in the score if there is no audio that automatically plays.

### Success Criterion 1.4.3 – Contrast Minimum

Text and images of text have a contrast ratio of at least 4.5:1.

#### When to Test

On all pages.

#### WCAG guidelines

[Understanding Success Criterion 1.4.3](https://www.w3.org/WAI/WCAG21/Understanding/contrast-minimum)

#### Testing SC 1.4.3

Use a contrast checker and make sure all text and images of text have a 4.5:1 ratio.

* [Wave Accessibility Checker](https://wave.webaim.org/)

#### Scoring for SC 1.4.3

* Score 1 = No contrast errors.
* Score .5 = A few elements have bad contrast but do not hinder the users’ ability to navigate or accomplish tasks.
* Score 0 = A few or more elements have bad contrast and hinder the users’ ability to navigate or accomplish tasks.

### Success Criterion 1.4.4 – Resize Text

Text can be resized up to 200% without the use of assistive technology and without loss of content or functionality.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success criterion 1.4.4](https://www.w3.org/WAI/WCAG21/Understanding/resize-text)

#### Testing for SC 1.4.4

Use your browsers zoom feature to zoom in to 200%.

* Windows: Control and Plus (+) to zoom in.
* Mac: Command and Plus (+) to zoom in.

Scroll through the page content at 200% and make sure nothing is getting cut off or disappearing.

#### Scoring for SC 1.4.4

* Score 1 = When zoomed in to 200%, there is no loss of content.
* Score .5 = When zoomed in to 200%, there is loss of some content that is not the main content of the page. Examples include information in the header or footer. This does not include navigation links.
* Score 0 = When zoomed in to 200%, some of the main content is lost. This includes navigation links.

### Success Criterion 1.4.5 – Images of Text

There should be no images of text if the same presentation can be provided using text and formatting alone. Logos with custom fonts can be contained in images without failing this criterion.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.5](https://www.w3.org/WAI/WCAG21/Understanding/images-of-text)

#### Testing SC 1.4.5

Search for images of text on the page. If the image of text is used because it has a custom font, this criterion fails. If the image of text cannot be replicated because of the limitations of the platform, it passes. The hero on NYC.gov passes because it doesn’t allow users to customize or format their stories.

To find out if text is an image or not, try to select individual letters from the text. If you cannot, then it is most likely an image.

Exemptions include:

* Images of text in the hero
* Logos
* Graphics that contain text such as info graphics, book covers, etc.

#### Scoring for SC 1.4.5

* Score 1 = There are no images of text, or if there are, it is because the platform is limited to presenting the info in this specific way.
* Score 0 = Images of text are present and are not logos. There are custom fonts requiring the use of an image to present it, or the text can be easily replicated using common HTML/CSS formatting.

### Success Criterion 1.4.10 – Reflow

Content is presented in a single column so that only vertical scrolling is required. The point of this criterion is to enable users to magnify the content and not need to scroll left and right to read it. The text should wrap to the edge of the browser window.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.10](https://www.w3.org/WAI/WCAG21/Understanding/reflow.html)

#### Testing SC 1.4.10

On desktop, set the browser’s zoom feature to 400%. Content should be in one column so that scrolling is vertical only.

* Windows: Control and Plus (+) to zoom in.
* Mac: Command and Plus (+) to zoom in.

#### Note

Exceptions for this criterion include maps, data visualizations, and other content that requires a spatial layout (such as tabular data).

#### Scoring for SC 1.4.10

* Score 1 = When zoomed in to 400% on desktop, scrolling is only required in one direction and the text wraps to the viewport.
* Score 0 = When zoomed in to 400% on desktop, scrolling left and right is required to read all the content, or the content may be cut off to the right with no ability to scroll.

### Success Criterion 1.4.11 – Non-Text Contrast

User interface controls and images have contrast ratio of 3:1. For example, buttons and edit fields need to be distinguishable.

#### Note

Text links are considered text and fall under 1.4.3, but if underlined, the underline would be evaluated under this criterion. Also, image links are tested as part of this criterion.

#### When to Test

On pages with form fields, image links, images (or parts of images) required to understand the content, and interactable content that is not text based.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.11](https://www.w3.org/WAI/WCAG21/Understanding/non-text-contrast.html)

#### Testing SC 1.4.11

Measure contrast for user elements manually. This includes buttons and other form fields as well as images that are important to the content.

#### Chrome Inspector Instructions:

1. Right-click on the page and choose ‘Inspect’.
2. Within the ‘Styles’ pane, find a CSS rule that contains a color and click on the little color swatch next to the hex or RGB values.
3. A color palette will appear, this means when you move your mouse over an area of the webpage, your mouse will turn into a color picker and allow you to click on a color to identify its hex value.
4. In the color palette, you can click the color swatch next to the eye dropper icon to copy the hex value to your clipboard.
5. Now, you can go to your favorite contrast checker and paste in the value.
6. Note: if you need to capture more than one color on a page, be sure to refresh the page to ensure the correct colors are being displayed on the webpage.

#### Scoring for SC 1.4.11

* Score 1 = User interface components such as form fields and important images all have contrast ratio of 3:1 or they have borders around them that have a ratio of 3:1.
* Score .5 = A few images or form fields do not pass the minimum contrast ratio, but they are not part of the main content of the page.
* Score 0 = At least one important image or form field in the main content does not have 3:1 contrast ratio.
* N/A: Put N/A in the score field if there are no form fields, image links, important images required to understand the content, or interactable controls that are not text based.

### Success Criterion 1.4.12 – Text Spacing

Users should be able to adjust line height, letter and word spacing, and paragraph spacing without loss of content.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.12](https://www.w3.org/WAI/WCAG21/Understanding/text-spacing.html)

#### Testing SC 1.4.12

Change spacing and make sure there is no loss of content.

Option 1: Change browser text settings to: line height of 1.5 em, spacing between paragraphs of 2 em, letter spacing tracking to 0.12 em, and word spacing to 1.6 em. Make sure there is no loss of content.

Option 2:

Use the following bookmarklet to change spacing settings in your browser.

<https://dylanb.github.io/bookmarklets.html>

#### Note

Some areas of the template such as programs and initiatives don’t do well when spacing is changed. Inside pages tend to do better with this criterion.

#### Scoring for SC 1.4.12

* Score 1 = Line height and spacing adjustments are made with no loss of content.
* Score .5 = Line height and spacing adjustments cause some loss of content without creating a frustrating experience.
* Score 0 = Line height or spacing adjustments cause loss of content and result in a frustrating experience.

### Success Criterion 1.4.13 – Content on Hover or Focus

Custom tooltips and other pop ups have a mechanism to dismiss or allow users to continue viewing while hovering over the new content. Content that appears upon hovering should be dismissible, hoverable and persistent.

#### When to Test

On pages with custom tooltips or content that appears on hover.

#### WCAG Guidelines

[Understanding Success Criterion 1.4.13](https://www.w3.org/WAI/WCAG21/Understanding/content-on-hover-or-focus.html)

#### Testing SC 1.4.13

Check the page for content that appears when the mouse hovers over an item. This excludes the content that appears by default from your browser because of a title tag. Examples of content on hover include custom tooltips that are specific to your website and help tips for filling out a form that appear when the mouse hovers over a question mark or help icon.

For custom tooltips and similar functionality, the content must be hoverable, dismissible, and persistent.

* Hoverable: New content should not disappear if the user moves the mouse from the target area over to the new content itself.
* Dismissible: New content does not cover any other content that is important. It can also be dismissed using the keyboard.
* Persistent: Once new content has appeared, it should not disappear until the mouse moves away from target or the content, the new content is dismissed, or the new content is no longer relevant (i.e., a loading message).

#### Note

There are not a lot of places on nyc.gov where custom tooltips are used.

#### Scoring for SC 1.4.13

* Score 1 = Custom tooltips are hoverable, dismissible, and persistent.
* Score 0 = One or more custom tooltip is not hoverable, dismissible, or persistent.
* N/A: Put N/A in the score field if there are no custom tooltips on the page.

### Success Criterion 2.1.1 – Keyboard Access

All links, buttons, edit fields, and other controls need to be operable through the keyboard interface.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.1.1](https://www.w3.org/WAI/WCAG21/Understanding/keyboard)

#### Testing SC 2.1.1

Use the keyboard to make sure everything is in the tab order. Press tab to navigate from item to item. Links, buttons, and other interactable controls should be in the keyboard tab order. If the mouse can click on it, then it should be in the keyboard tab order.

The order should go from left to right and top to bottom starting from the top of the page.

#### Note

If you are using a screen reader, make sure focus is at the top of the page before starting this test. On windows, press control and home to go to the top of the page. On Mac, press control, option, command and home.

#### Scoring for SC 2.1.1

* Score 1 = All controls are in the keyboard tab order.
* Score .5 = One or more items are missing from the tab order but they are not critical to the current page. Examples include items from the footer or header that are not in the keyboard tab order.
* Score 0 = One or more elements that are critical to this page are not in the keyboard tab order. Examples include items in the body, main content, navigation links or an item from a series of form fields that need to be filled out.

### Success Criterion 2.1.2 – No Keyboard Traps

If elements can receive keyboard focus through a keyboard interface then focus can be moved away from that element using the keyboard interface. Keyboard users should not get stuck in an element or area of the webpage.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.1.2](https://www.w3.org/WAI/WCAG21/Understanding/no-keyboard-trap)

#### Testing SC 2.1.2

Repeat the test from 2.1.1 and make sure that the keyboard focus does not get stuck on any element or does not cycle through the same area continuously.

#### Scoring for SC 2.1.2

* Score 1 = No keyboard traps.
* Score 0 = At least one keyboard trap is on the page.

### Success Criterion 2.1.4 – Character Key Shortcuts

If there is a keyboard shortcut that uses a single letter, number or punctuation symbol, it can be turned off, remapped or is only active when on certain elements.

#### When to Test

On pages that have custom keyboard shortcuts that use a single letter or number. This doesn’t exist on most nyc.gov pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.1.4](https://www.w3.org/WAI/WCAG21/Understanding/character-key-shortcuts.html)

#### Examples:

* [IDNYC PSA’s](https://www1.nyc.gov/site/idnyc/about/announcements.page) the embedded YouTube player has single key shortcuts. However, they only work when focus is on the video player.

#### Testing SC 2.1.4

If there are keyboard shortcuts that use a single character or number, they must adhere to one of the following:

* They can be turned off
* They can be remapped
* The shortcut is active only on focus

#### Scoring for SC 2.1.4

* Score 1 = If there are character keyboard shortcuts, all of them adhere to one of the three rules. They can be turned off, remapped to a different key or they are only active when focus is on a specific element.
* Score 0 = If there are character keyboard shortcuts, they do not adhere to any of the three rules.
* N/A: Put N/A in the score field if there are no single character keyboard shortcuts on the page.

### Success Criterion 2.2.1 – Timing Adjustable

Time limits can be turned off or adjusted to become 10 times the original limit. Does not apply for real-time interactions such as auctions or time limits that are longer than 20 hours.

#### When to Test

Only on pages that have a time limit. This includes activities such as:

* Filling out forms
* Purchasing tickets
* Staying logged into a website

#### Note

This criterion includes timeouts after a period of inactivity. Social media feeds are considered real-time events and are not applicable here.

#### WCAG Guidelines

[Understanding Success Criterion 2.2.1](https://www.w3.org/WAI/WCAG21/Understanding/timing-adjustable)

#### Testing SC 2.2.1

If there are time limits that are less than 20 hours, users should have the option to do one of the following:

* Disable the time limit
* Adjust the time limit over a wide range that is at least 10 times the original time limit
* Extend: the user is given at least 20 seconds to extend the time limit

#### Scoring for SC 2.2.1

* Score 1 = If there is a time limit, than it can be disabled, adjusted or extended unless the time limit is longer than 20 hours.
* Score 0 = If there is a time limit, it cannot be disabled, adjusted, or extended and it is not longer than 20 hours.
* N/A: Put N/A in the score field if there is no time limit on the page.

### Success Criterion 2.2.2 – Pause, Stop, Hide

Any content that automatically plays, lasts longer than 5 seconds or and is presented in parallel with other content can be paused, stopped or hidden. Automatic content includes content that is:

* Moving
* Blinking
* Scrolling or auto updating

#### When to Test

Pages with automatic content that moves, scrolls or blinks.

#### WCAG Guidelines

[Understanding Success Criterion 2.2.2](https://www.w3.org/WAI/WCAG21/Understanding/pause-stop-hide)

#### Testing SC 2.2.2

If there is automatic content on the page, there should be a way to pause, stop or hide it. Automatic content includes moving carousels, stock tickers, countdowns, and advertisements.

#### Scoring for SC 2.2.2

* Score 1 = If there is automatic content, it can be paused, stopped or hidden.
* Score 0 = If there is automatic content, it cannot be paused, stopped or hidden.
* N/A: Put N/A in the score field if there is no automatic content on the page.

### Success Criterion 2.3.1 – Flashes Below Threshold

Webpage does not contain anything that flashes faster than 3 times a second.

#### When to Test

On all pages with flashing content.

#### WCAG Guidelines

[Understanding Success criterion 2.3.1](https://www.w3.org/WAI/WCAG21/Understanding/three-flashes-or-below-threshold)

#### Testing SC 2.3.1

Option 1

Search for flashing content and make sure it is less than three flashes per second.

Option 2

Use the Photosensitive Epilepsy Analysis Tool (PEAT), a tool used to measure flashing content. Checkout the [PEAT user guide](https://trace.umd.edu/photosensitive-epilepsy-analysis-tool-peat-user-guide/) for more info.

#### Scoring for SC 2.3.1

* Score 1 = Flashes are less than three times per second.
* Score 0 = Flashes are 3 or more flashes per second.
* N/a: Put N/A in the score field if there is no flashing content.

### Success Criterion 2.4.1 – Bypass Blocks

A mechanism is provided to bypass blocks of repeated content such as the navigation section. Example mechanisms include skip to links, headings, and landmark regions.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.1](https://www.w3.org/WAI/WCAG21/Understanding/bypass-blocks)

#### Testing SC 2.4.1

Make sure there is at least one of the following mechanisms to skip repeated content.

* Headings
* Skip to links
* Regions

This can be done with a Screen Reader in the ways below.

#### Headings

Navigate by heading or pull up a list of headings.

* JAWS
	+ Press the H key to navigate by heading
	+ List of headings: press the JAWS key and f6
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ Press the H key to navigate by heading
	+ List of headings: press the NVDA key and f7. Then choose headings.
	+ Note: the NVDA key is insert on desktops and caps lock on laptop keyboards.
* Voiceover
	+ Press Control, option, command and H to navigate by heading
	+ List of headings: press Control, option and the U key. Then press right or left to navigate to headings.

#### Skip to Links

If there is a skip to link at the top of the page, press tab to get to it. Press enter to activate it. The page should scroll to the main content and screen reader focus should also move there.

#### Regions

To test for regions, use the following keyboard commands:

* JAWS
	+ Press the R key to navigate to regions
	+ Regions list: press the JAWS key, Control and R
	+ Note: JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ Press the D key to navigate to regions
	+ Regions list: press the NVDA key and f7. Then choose landmark regions.
	+ Note: The NVDA key is insert on desktop keyboards and caps lock on laptop keyboards.
* Voiceover
	+ custom command
	+ List of regions: Control, option and U. Then use left or right to find landmark regions
	+ Note: Landmark regions must be added to the web roter in Voiceover utility.

#### Scoring for SC 2.4.1

* Score 1 = At least one mechanism is provided to bypass blocks.
* Score 0 = No mechanisms provided to bypass blocks.

### Success Criterion 2.4.2 – Page Titled

Webpage has a title that describes topic or purpose.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.2](https://www.w3.org/WAI/WCAG21/Understanding/page-titled.html)

#### Testing SC 2.4.2

Make sure that page titles are descriptive for every page.

Option 1: Hover the mouse over the tab for that page and the title should appear.

Option 2: Use a screen reader command. It should read the title of the page aloud.

* JAWS: Press JAWS key + T to read the page title.
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA: Press NVDA key + T to read the page title.
	+ Note: The NVDA key is insert on desktop keyboards and caps lock on laptop keyboards.
* Voiceover: Press Control + Option + F2 to read the page title.

#### Title Format

* Page – website
	+ About – MOPD
	+ Contact – MOPD

#### Note

Home pages are exempt from having the page in the title. A homepage can pass with just the website name as the title.

#### Scoring for SC 2.4.2

* Score 1 = Page title has both the page and the website; and the title is appropriate to the content of the page.
* Score .5 = Title only has either the website or the page.
* Score 0 = There is no title, for example, the URL shows up instead of a page title. Or the title is not appropriate to the content of the page.

### Success Criterion 2.4.3 – Focus Order

Keyboard focus order is logical for content, links, forms and objects. Dom order follows visual order.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.3](https://www.w3.org/WAI/WCAG21/Understanding/focus-order)

#### Testing SC 2.4.3

Use the keyboard to make sure all interactive elements receive keyboard focus in a logical order. Press the tab key to go through all interactive elements such as links, buttons, edit fields etc.

Logical order means from left to right and then top to bottom starting from the top of the page. Note: this applies to one area at a time. For example, focus order would go through header items, followed by navigation items and then main content items.

#### Scoring for SC 2.4.3

* Score 1 = Focus order is logical and goes from left to right, then top to bottom within each section of the page.
* Score .5 = At least one item is out of order or missing. However, it is not a significant item to this page. Examples include an item on the header or footer. Navigation links are considered significant.
* Score 0 = At least one item is out of order or missing and that item is significant to the page. Examples include items on the main content area of the page, navigation links or form field elements within a set of form fields.

### Success Criterion 2.4.4 – Link Purpose and Context

The purpose of a link can be determined from the link text alone or from link text together with it's context.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.4](https://www.w3.org/WAI/WCAG21/Understanding/link-purpose-in-context)

#### Testing SC 2.4.4

Screen reader instructions

Use the links list feature to inspect all the labels for links. They should be unique and descriptive.

* JAWS
	+ List of links: press the JAWS key and f7
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ List of links: press the NVDA key and f7. Then choose links.
	+ Note: the NVDA key is insert on desktops and caps lock on laptop keyboards.
* Voiceover
	+ List of headings: press Control, option and the U key. Then press right or left to navigate to links.

#### Unique and Descriptive

Unique and descriptive means that the user should be able to understand where the link will take them just by reading the label. Some examples are below:

* Examples that fail
	+ Click here
	+ Read more
	+ Learn more
* Examples that pass
	+ Read more about Project Open House
	+ Watch the IDNYC Public Service Announcement
	+ Download Accessible NYC

#### Scoring for SC 2.4.4

Calculate score by doing the following:

* Count the total number of links, record on spreadsheet.
* Count the total number of links that have unique and descriptive labels, record in spreadsheet.
* Divide number of unique and descriptive labels by total number of links for a score between 0 and 1. (This will be done automatically.)

### Success Criterion 2.4.5 – Multiple Ways to Locate

More than one way is available to locate a webpage within a set of webpages. Examples include a navigation section, site search and site map.

#### Note

Step based processes are exempt. This means applications that have multiple pages to complete a form. Wizards and other web applications.

#### When to Test

On websites that do not have a step based process. This will be most websites.

Any set of web pages that are a series of steps in a larger task are exempt from this criterion. Examples include job applications, screeners and appointment schedulers.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.5](https://www.w3.org/WAI/WCAG21/Understanding/multiple-ways)

#### Examples

* [MOPD website](https://www1.nyc.gov/site/mopd/index.page) has navigation links and site search. This is a good example.
* [NYC Vaccine finder](https://vaccinefinder.nyc.gov/) example of step based process. This is exempt from this criterion. Put N/A in the score field

#### Testing SC 2.4.5

There should be at least two ways to find a webpage on this website.

* Navigation links that repeat on all pages
* Site search
* Site map
* List of related links
* Table of contents

#### Scoring for SC 2.4.5

* Score 1 = There are at least two ways to find a webpage on the website.
* Score .5 = Only one way to find a webpage within the website.
* Score 0 = There are no ways to consistently find a webpage within the website.
* N/A: Put N/A in the score field if website is a wizard or a step based process.

### Success Criterion 2.4.6 – Headings and Labels

Labels for headings and forms are informative.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.6](https://www.w3.org/WAI/WCAG21/Understanding/headings-and-labels)

#### Testing SC 2.4.6

Screen readers:

Use the screen reader feature for displaying a list of headings and list of form fields

#### Headings

* JAWS
	+ List of headings: press the JAWS key and f6
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ List of headings: press the NVDA key and f7. Then choose headings.
	+ Note: the NVDA key is insert on desktops and caps lock on laptop keyboards.
* Voiceover
	+ List of headings: press Control, option and the U key. Then press right or left to navigate to headings.

#### Form Fields

* JAWS
	+ List of form fields: press the JAWS key and f5
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ List of form fields: press the NVDA key and f7. Then choose form fields.
	+ Note: the NVDA key is insert on desktops and caps lock on laptop keyboards.
* Voiceover
	+ List of form fields: press Control, option and the U key. Then press right or left to navigate to form fields.

#### WAVE Accessibility Checker

The WAVE tool can display heading structure. Visit [www.wave.webaim.org](http://www.wave.webaim.org) and plug-in the URL of the page. Choose the “Structure” tab to see all headings. Under the “Details” tab, check for errors that mention missing form labels.

#### Note

Automated checkers can often report false errors. It is good to double check with a screen reader.

#### Appropriate Labels

* Headings should not be longer than one sentence.
* Form labels should describe the function of the button, combo box, checkbox etc.
	+ “Submit” as a label for a button
	+ “Next” or “Previous” as button labels
	+ “State” as the label for a combo box to choose which state the address is in

#### Scoring for SC 2.4.6

Calculate a score by doing the following:

* Count the total number of headings and form fields, record in spreadsheet.
* Count the number with appropriate labels, record in spreadsheet.
* Divide the number of appropriate labels by the total number of headings and labels for a number between 0 and 1. (The spreadsheet will automatically calculate the score.)

### Success Criterion 2.4.7 – Focus Visible

Any keyboard operable user interface has a mode of operation where the keyboard focus is visible. When a link or interactable element receives keyboard focus, it should be visually apparent.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.4.7](https://www.w3.org/WAI/WCAG21/Understanding/focus-visible)

#### Testing SC 2.4.7

Tab through the content of the page and make sure every interactable control has a noticeable focus.

Noticeable focus means that the visual focus has one of the following:

* Contrast ratios of 3:1 against the element that it is currently focused on.
* Underlines the item that is currently in focus.
* Adds a border around the item that is currently focused.

#### Scoring for SC 2.4.7

* Score 1 = All interactable elements have a clear and noticeable visual focus.
* Score .5 = Some items in the header or footer have bad visual focus. This doesn’t include navigation links.
* Score 0 = Some items in the main content or navigation links have bad visual focus.

### Success Criterion 2.5.1 – Pointer Gestures

Where there are pointer gestures, they do not only have multipoint inputs such as pinch or drag. Users must be able to perform the same actions using a single point gesture such as a single tap, long press or double tap.

#### When to Test

On pages with multi-point gestures or path-based gestures.

Multi-Point Gestures

Any gestures that require multiple touch points. Examples include a two finger tap or pinch the screen to zoom.

Path-Based Gestures

A gesture that covers three points. Starting point, middle point and end point. Examples of path-based gestures include swiping, sliders and carousels dependent on the direction of interaction, and other gestures which trace a prescribed path such as drawing a specific shape. Such paths may be drawn with a finger or stylus on a touchscreen, graphics tablet, or trackpad, or with a mouse, joystick, or similar pointer device.

#### WCAG Guidelines

[Understanding Success Criterion 2.5.1](https://www.w3.org/WAI/WCAG21/Understanding/pointer-gestures.html)

#### Examples

* [Find a testing site](https://www1.nyc.gov/site/coronavirus/get-tested/covid-19-testing.page) has alternatives for zooming in
* [Map Quest](https://www.mapquest.com/) has alternatives for zooming and panning

#### Testing SC 2.5.1

Find out if the page has multi-point or path-based gestures. Make sure they have alternatives such as a zoom-in button and ability to pan independently of the gestures. Examples include using arrow keys to pan on a map.

#### Scoring for SC 2.5.1

* Score 1 = All multi-point and pass-based gestures have alternatives.
* Score .5 = Only some gestures have alternatives.
* Score 0 = Most or none of the gestures have alternatives.
* N/A: Put N/A in the score field if there are no multi-point or path-based gestures.

### Success Criterion 2.5.2 – Pointer Cancelations

For clicks and gestures, the action is not completed until the mouse click is complete and the finger gesture has lifted off the screen. The down action should not complete the event but rather the up event. The up event being releasing the click or lifting finger away from screen.

#### Note

This is generally done well on nyc.gov. Most TeamSite websites have this functionality built in.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success criterion 2.5.2](https://www.w3.org/WAI/WCAG21/Understanding/pointer-cancellation.html)

#### Testing SC 2.5.2

Using a mouse, click on links and buttons that are on the page. Click and hold down the left click button, move the mouse away and then let go of the button. The expected behavior is that the button or link will not activate.

#### Scoring for SC 2.5.2

* Score 1 = All interactable elements are activated on the mouse up event.
* Score 0 = At least one item does not activate on the up event.

### Success criterion 2.5.3 – Label in Name

For user interface components with labels that include text or images of text, the name contains the text that is presented visually.

This includes:

* Regular text links pass this criterion.
* Links with images of text need alt-text that matches the visual label.
* Buttons need an accessibility label or name that matches the visual label.
* If an element does not have a name and accessibility label, it fails this criterion.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 2.5.3](https://www.w3.org/WAI/WCAG21/Understanding/label-in-name)

#### Testing SC 2.5.3

#### Screen Reader Instructions

Use a screen reader to pull up a list of form fields and make sure the labels match the visual label.

* JAWS
	+ List of form fields: press the JAWS key and f5
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ List of form fields: press the NVDA key and f7. Then choose form fields.
	+ Note: the NVDA key is insert on desktops and caps lock on laptop keyboards.
* Voiceover
	+ List of form fields: press Control, option and the U key. Then press right or left to navigate to form fields.

#### Wave

Use Wave and look for missing labels for links or form fields. Also look for ARIA labels in the ARIA section.

#### Chrome Inspector Instructions

Open the Chrome Inspector pane by right-clicking anywhere on the page and choosing ‘Inspect’ at the bottom of the menu. In the upper-left corner of the Inspector pane, select the ‘Inspect Elements’ icon (it looks like a square with a mouse pointer hovering over it). Hover the mouse over all interactable controls. A tooltip pops up with accessibility information including Accessibility name.

#### Scoring for SC 2.5.3

* Score 1 = All interactable controls have a name or accessibility label.
* Score .5 = Some interactable controls are missing labels or have labels that do not match the visual label.
* Score 0 = Most or all interactable controls are missing labels or do not match the visual label.

### Success Criterion 2.5.4 – Motion Actuation

Actions that can be done through device motion or user motion have an alternative and can be turned off.

#### When to Test

On pages with device motion gestures such as shake your device. Nyc.gov websites do not have this functionality.

#### WCAG Guidelines

[Understanding Success Criterion 2.5.4](https://www.w3.org/WAI/WCAG21/Understanding/motion-actuation.html)

#### Testing SC 2.5.4

If there are motion-based gestures, do they have an alternative? Can they be reassigned? Can they be turned off? If the answer is no to all of these, then this criterion fails.

#### Scoring SC 2.5.4

* Score 1 = Actions that can be performed through device motion can be changed, have an alternative, or can be turned off.
* Score 0 = Actions that are performed through device motion cannot be changed, do not have alternatives, and cannot be turned off.
* N/A = Put N/A in the score field if there are no actions that can be performed through device motion.

### Success Criterion 3.1.1 – Language of Page

The default language of the page is properly noted using the lang HTML attribute.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 3.1.1](https://www.w3.org/WAI/WCAG21/Understanding/language-of-page)

#### Testing SC 3.1.1

Use Wave and look for “Document Language missing.”

#### Chrome Instructions

Use Chrome inspector and look for the lang attribute in the html tag.

#### Scoring for SC 3.1.1

* Score 1 = Document language is set properly. And when the page changes language, the lang attribute updates properly.
* Score .5 = The document language is set but when the language is changed to a different language, the lang attribute is not updated accordingly.
* Score 0 = Neither the document language or other languages use the correct lang attribute.

### Success Criterion 3.1.2 – Language of Parts

The lang HTML attribute is used to specify languages other than the default language on the page.

#### When to Test

On pages with other languages listed. For example, a page that has the same document available in multiple languages.

#### WCAG Guidelines

[Understanding Success Criterion 3.1.2](https://www.w3.org/WAI/WCAG21/Understanding/language-of-parts)

#### Example

* [HPD Resources for People with Disabilities](https://www1.nyc.gov/site/hpd/services-and-information/resources-for-people-with-disabilities.page)

#### Testing SC 3.1.2

If there are other languages on the page, use one of the following methods.

##### Screen Reader

Use a screen reader to read the content in other languages. The screen reader should change the voice to a voice that matches that language. It might also announce the language when it starts reading the content. If it does not, then the language is not tagged correctly.

##### Chrome Instructions

Inspect the element and look for the lang attribute. It should be using the correct code for each language.

#### Scoring for SC 3.1.2

* Score 1 = All languages are using the proper lang attribute.
* Score 0 = At least one language is missing the lang attribute.
* N/A: Put N/A in the score field if there are no other languages on the page.

### Success Criterion 3.2.1 – On Focus

When any component receives focus, it does not initiate a change of context. This means when keyboard focus is on any interactive element in a form, the focus will not be redirected to anywhere else, the form will not be submitted or a new window will not open up. All substantial changes need to be initiated by the user.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 3.2.1](https://www.w3.org/WAI/WCAG21/Understanding/on-focus)

#### Testing SC 3.2.1

Tab through the items on the page. When each item receives focus, the following should happen:

* It should not open a new window
* It should not go to a new page
* It should not move focus to a different component
* It should not significantly rearrange the content of the page

#### Note

Skip to links are exempt from this criterion.

#### Scoring for SC 3.2.1

* Score 1 = As keyboard focus moves from item to item on the page, it does not cause any unexpected changes.
* Score 0 = As keyboard focus moves from item to item on the page, at least one item causes unexpected changes.

### Success Criterion 3.2.2 On Input

Entering data or changing settings will not cause any unexpected results. Any uncommon contextual changes should be notified to the user in the instructions before they interact with any of the elements that cause this change.

#### When to Test

On pages with input fields or elements to change settings. This includes checkboxes, combo-boxes, toggle buttons, etc.

#### WCAG Guidelines

[Understanding Success Criterion 3.2.2](https://www.w3.org/WAI/WCAG21/Understanding/on-input)

#### Testing SC 3.2.2

Start typing in edit fields and change settings such as checkboxes, drop-downs, and radio-buttons. No unexpected changes should occur.

For input fields or fields that allow the user to change settings, none of them should have unexpected behaviors. Unexpected behaviors include:

* Opening a new window
* Going to a new page
* Moving focus to a different component
* Significantly rearranging the content of the page

#### Note

Auto-fill fields are expected behaviors.

#### Scoring for SC 3.2.2

* Score 1 = If the page has input fields or settings to change, none of them have unexpected behaviors.
* Score 0 = If the page has input fields or settings to change, at least one of them causes an unexpected behavior.
* N/A: Put N/A in the score field if there are no input fields or fields that allow the user to change settings.

### Success Criterion 3.2.3 Consistent Navigation

Navigational mechanisms such as links that repeat on multiple pages always appear in the same order throughout the same website.

#### When to Test

On websites with multiple pages and that have a navigation section. This includes single page websites that dynamically load new content.

#### Note

If the website has only one page and that page does not dynamically load new content, do not test for this criterion.

#### WCAG Guidelines

[Understanding Success Criterion 3.2.3](https://www.w3.org/WAI/WCAG21/Understanding/consistent-navigation)

#### Testing SC 3.2.3

If there are navigation links, look at them on all the pages. Do they appear in the same order every time? If yes , this passes. If no, this criterion fails.

#### Scoring for SC 3.2.3

* Score 1 = All navigational links appear in the same order on all pages.
* Score 0 = Navigational links are out of order on at least one page.
* N/A: Put N/A in the score field if the website has only one page and that page does not dynamically load new content.

### Success Criterion 3.2.4 – Consistent Identification

Components such as links that appear on multiple pages across the same website are always identified the same way. For example, a link has the same link text every time it appears on a page in the same website.

#### When to Test

On websites with multiple pages and that have links that appear on more than one page. This includes single page websites that dynamically load new content.

#### Note

If a website only has one page that does not dynamically load new content or does not have links that repeat on multiple pages, do not test. Put N/A in the score field.

#### WCAG Guidelines

[Understanding Success Criterion 3.2.4](https://www.w3.org/WAI/WCAG21/Understanding/consistent-identification)

#### Testing SC 3.2.4

Use a screen reader or inspect the accessibility labels of links that reappear on different pages. Their accessibility label should be the same.

##### Screen Reader Instructions

Use the links list feature to inspect all the labels for links. They should be unique and descriptive.

* JAWS
	+ List of links: press the JAWS key and f7
	+ Note: The JAWS key is insert on desktop keyboards and caps lock on laptop keyboards.
* NVDA
	+ List of links: press the NVDA key and f7. Then choose links.
	+ Note: the NVDA key is insert on desktops and caps lock on laptop keyboards.
* Voiceover
	+ List of headings: press Control, option and the U key. Then press right or left to navigate to links.

##### Chrome Instructions

Hover the mouse over all interactable controls. A tooltip pops up with accessibility information including Accessibility name.

#### Scoring for SC 3.2.4

* Score 1 = All links that appear on multiple pages have the same label.
* Score 0 = At least one link on this page does not have the same label as other pages.
* N/A: Put N/A in the score field if the website only has one page or if the website does not have any links that repeat on multiple pages.

### Success Criterion 3.3.1 – Error Identification

If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text.

#### When to Test

On pages where there are required fields.

#### WCAG Guidelines

[Understanding Success Criterion 3.3.1](https://www.w3.org/WAI/WCAG21/Understanding/error-identification)

#### Example

* [MOPD Contact Form](https://www1.nyc.gov/site/mopd/about/email-the-commissioner.page)

#### Testing SC 3.1.1

If there are required fields on the page, make sure that they have text error alerts. The following two scenarios are considered passing for this criterion.

##### Option 1

Press ‘Submit’ without filling out all of the required fields. The error alerts should include text to go along with any visual alerts. For example, when the user presses the submit button in a contact form, error identification that appears near the field has text and an icon of an exclamation point.

##### Option 2

Tab through the required fields without filling them out. As soon as focus leaves a required field, there is a visual and text alert that appears near that field.

#### Scoring for 3.1.1

* Score 1 = All required fields have text alerts.
* Score .5 = Some fields do not have text alerts.
* Score 0 = A significant number of fields do not have text alerts.
* N/A: Put N/A in the score field if there are no required fields.

### Success Criterion 3.3.2 – Labels or Instructions

Labels or instructions are provided when content requires user input.

#### When to test

On pages that have input fields, including edit fields, checkboxes, radio-buttons, toggle buttons, list boxes, and combo boxes.

#### WCAG Guidelines

[Understanding Success Criterion 3.3.2](https://www.w3.org/WAI/WCAG21/Understanding/labels-or-instructions)

#### Example

* [MOPD Contact Form](https://www1.nyc.gov/site/mopd/about/email-the-commissioner.page)

#### Testing 3.3.2

Step 1 - For all fields where the user can provide input, make sure they have labels. The labels should be available to everyone. This means the labels should be appearing visually but also available to assistive technology users.

Step 2 - If any fields require specific input, there should be appropriate instructions. Examples include:

* Use specific labels such as “First name” and “Last name.”
* For fields that require a specific format, there should be instructions. For example, a date field instructs users to use the format MM/DD/YYYY.
* A state field that requires a code for each state has a link next to it that takes the user to a page or modal dialogue that displays all of the codes available.
* In a form which contains both required and optional fields, the required fields and/or the optional fields are clearly labeled as such.

Step 3 - Make sure you can read all labels and instructions using a screen reader.

* JAWS and NVDA
	+ Use tab to navigate from field to field and listen for their labels. The labels might include the instructions.
	+ If the labels do not include instructions, use the up or down arrow keys to try to read the instructions manually.
* Voiceover
	+ Use Control, Option and left or right arrows to navigate the fields as well as text between fields. You should be able to hear labels for all fields and instructions when it is relevant.

#### Scoring for 3.3.2

* Score 1 = All fields have labels and fields that require specific input have instructions.
* Score 0 = There is at least one field that is missing a label or is missing instructions when it requires a specific format for its input.
* N/A: Put N/A in the score field if there are no required fields or no fields that need a specific format.

### Success Criterion 3.3.3 – Error Suggestions

If a user makes mistakes while filling out required fields, then examples or suggestions are given to assist in correcting mistakes.

#### When to Test

On pages with required fields or specific inputs.

#### WCAG Guidelines

[Understanding Success Criterion 3.3.3](https://www.w3.org/WAI/WCAG21/Understanding/error-suggestion)

#### Example

* [MOPD Contact Form](https://www1.nyc.gov/site/mopd/about/email-the-commissioner.page)

#### Testing SC 3.3.2

Test error messaging on the page. The scenarios below both pass for this criterion.

##### Option 1

Press submit without filling out all of the required fields. The error alerts that appear should include:

* Which field has an error.
* How to fix it.
	+ Example: “Alert! Name field is required. Please fill in your name.”

##### Option 2

Press tab to go through the required fields without filling them out. As soon as focus leaves a required field, there is a visual and text alert that appears near that field. If so, it should include:

* Which field has an error.
* How to fix it.
	+ Example: Alert! Name field is required. Please fill in your name.

#### Scoring for SC 3.3.3

* Score 1 = All fields have proper error suggestions.
* Score .5 = More than half of the Fields have proper error suggestions.
* Score 0 = More than half of the fields are missing error suggestions.
* N/A: Put N/A in the score field if there are no required fields.

### Success Criterion 3.3.4 – Error Prevention Legal, Financial Data

For webpages that cause legal commitments or financial transactions one of the following must be true. Submissions are reversable, data is checked and the user is given an opportunity to correct them, or a mechanism is provided for reviewing, correcting or confirming data entered.

Examples of legal or financial commitments include the following. A marriage license, a stock trade (financial and legal), a will, a loan, adoption, signing up for the army, a contract of any type, etc.

#### When to Test

On pages that cause a legal or financial commitment. This generally doesn’t happen on nyc.gov. In most cases we will not test for this.

#### WCAG Guidelines

[Understanding Success Criterion 3.3.4](https://www.w3.org/WAI/WCAG21/Understanding/error-prevention-legal-financial-data)

#### Testing SC 3.3.4

Check to find out if the webpage causes a financial or legal commitment. If so, it needs to have one of the following:

* Reversable: After pressing submit, the user has a chance to cancel.
* Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
* Confirmed: A mechanism is available for reviewing, confirming and correcting information before finalizing the submission.

#### Scoring for SC 3.3.4

* Score 1 = If there are financial or legal commitments, the user has an opportunity to reverse, check or confirm before submitting.
* Score 0 = If there are financial or legal commitments, the user has no opportunity to reverse, check or confirm before submitting.
* N/A: Put N/A in the score field if the page does not cause a legal or financial commitment.

### Success Criterion 4.1.1 – Parsing

In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 4.1.1](https://www.w3.org/WAI/WCAG21/Understanding/parsing)

#### Testing SC 4.1.1

##### Step 1 - Find the Total Number of Lines of Code

In Chrome, right click and choose view page source. Each line of code has a number next to it. Scroll until the last line and take the number next to it. That is the total lines of code.

##### Step 2 – Find the Number of Errors and Warnings

Use the [W3C Mark-up Validation Service](https://validator.w3.org/) to test the html of the page. Take the number of errors and add it to the number of alerts. Then subtract that number from the total lines of code to get the number of lines of code that do not have errors or warnings.

#### Scoring for SC 4.1.1

Scoring is calculated using the following:

* Enter the total number of lines of code in the spreadsheet.
* Add the number of errors and warnings, then enter into spreadsheet.
* Subtract the number of errors and warnings from the total lines of code to get the number of lines of code without errors or warnings. (This is done automatically by the spreadsheet.)
* Divide the number of lines of code that do not have errors or warnings by the total number of lines of code for a number between 0 and 1. (This is done automatically by the spreadsheet.)

### Success Criterion 4.1.2 – Name, Role, Value

For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies.

#### Note

This success criterion is primarily for Web authors who develop or script their own user interface components. For example, standard HTML controls already meet this success criterion when used according to specification.

#### When to Test

On all pages.

#### WCAG Guidelines

[Understanding Success Criterion 4.1.2](https://www.w3.org/WAI/WCAG21/Understanding/name-role-value)

#### Testing SC 4.1.2

Make sure that all the criteria have been scored. The spreadsheet will automatically calculate the score for 4.1.2.

#### Scoring for SC 4.1.2

This score is automatically generated by the spreadsheet. Make sure that all criteria have a score filled in with a number, or N/A. No score fields should be blank.

The score is a weighted average of the following criteria:

* 1.3.1 Info and Relationships (x2)
* 1.3.5 Identify Input Purpose
* 2.1.1 Keyboard Access
* 2.1.2 No Keyboard Traps
* 2.4.3 Focus Order
* 2.4.4 Link Purpose and Context
* 2.4.6 Heading and Form Labels
* 2.5.3 Label in Name
* 3.2.1 Change on Focus
* 3.2.2 Change on Input
* 3.2.4 Consistent Identification
* 3.3.1 Error Identification
* 3.3.2 Form Labels or Instructions
* 3.3.3 Error Suggestion
* 4.1.3 Status Messages

### Success Criterion 4.1.3 – Status Messages

When there are status messages that appear on the page, they are automatically read out loud by screen readers without moving focus.

#### Note

Modal dialogues do not count for this criterion. A modal dialogue moves screen reader focus when it appears. It traps keyboard focus inside until the user dismisses it. The message for leaving nyc.gov when going to an external website does not count for this criterion.

#### When to Test

On pages that have status messages or alerts.

#### WCAG Guidelines

[Understanding Success criterion 4.1.3](https://www.w3.org/WAI/WCAG21/Understanding/status-messages.html)

#### Example

* [H+H External Vaccination Scheduler](https://covid19.nychealthandhospitals.org/UnaffiliatedHealthCareWorkers) has status messages that are read aloud by screen readers.

#### Testing SC 4.1.3

Test any status messages or alerts that appear. They should be automatically read aloud by screen readers as soon as they appear.

Steps:

* Turn on a screen reader
* Use tab to navigate to a button that will cause a status message and press enter on it
* You should hear a status message read a loud by the screen reader

#### Scoring for SC 4.1.3

* Score 1 = If there are status messages that appear visually, all of them are read by screen readers.
* Score .5 = A few status messages are not read by screen readers.
* Score 0 = At least half of the status messages are not read by screen readers.
* N/A: Put N/A in the score field if there are no status messages that appear on the page.