



Website Accessibility and Usability Synopsis of Issues

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Introduction

The Institute for Human Centered Design (IHCD) conducted a review of the Tyngsborough website (www.tyngsboroughma.gov). This review consisted of an internal assessment by deep content experts, which focused on applicable portions of the World Wide Web/Web Accessibility Initiative (W3C-WAI) Web Content Accessibility Guidelines (WCAG 2.1).

Overview

The Tyngsborough MA website is built on the WordPress CMS with PHP and MySQL. It incorporates the accessibility features that are built-in with the WordPress framework. Based on a review of the website, there are some important elements and functionality that present barriers for accessibility to a wide range of users.

The main issues that are persistent on the Tyngsborough website are issues with semantic structure such as skipped or incorrect heading levels, missing ARIA attributes and states to make elements such as dropdown menus accessible for assistive technology users, issues with consistency of design and content layout, which is particularly significant for people with brain-based disabilities, insufficient link text to provide context for screen reader users, and missing or inadequate alt text for images.

Headings are crucial for users navigating with assistive technology to access content easily and independently, to understand the context and hierarchy of the content presented. Headings that do not follow the necessary semantic structure and/or are not descriptive of the content they are representing present barriers to access for all users and especially, screen reader users. When headings are consistent, clear, and descriptive, users find the information they seek more easily, and they understand the relationships between different parts of the content more easily. For example: there is no heading level 1 on the home page; on other pages such as “Schools,” “Meeting Minutes” and “Accounting” there are incorrectly tagged headings and skipped heading levels.

Another key issue is the inconsistency of webpage design and content layout, which is particularly significant for people with brain-based disabilities, and older, non-native technology users. All webpages of a website must, to the extent possible, maintain consistency in color, format and styling. For example: the “Doing Business” page has a significantly different look compared to the other pages on the site. This could easily confuse and disorient many users, some of whom may have

difficulty returning to the intended page or task, causing barriers to independent access of the site and its functionality.

When navigating with a keyboard it should be visually apparent which element on the screen has visual focus. Visual focus with keyboard navigation is extremely important for a wide range of users including, but not limited to, users with Low-Vision who may be navigating with a screen reader, older adults and non-native technology users, users with dexterity limitations who cannot rely on the use of a mouse or trackpad to access web content. All page functionality should be available using a keyboard, unless the functionality cannot be accomplished in any known way using a keyboard. This ensures that all users have equal access to all information and functionality in the website.

Users highly rely on the ‘Search’ functionality when information cannot be found with ease through the main navigation menu, but on the Tyngsborough Website the ‘Search’ function sometimes provides results that are irrelevant to the word users are searching for. For Example: If a user searches for ‘library’ the result that shows is for ‘public calendar’ and no relevant links or information show up for the public library.

There are multiple images on the website which lack proper alternative text for images. All images must have alternative text to convey what is depicted in the image to screen reader users. Providing concise and accurate alternative text is essential to making images accessible to users with visual or certain brain-based disabilities.

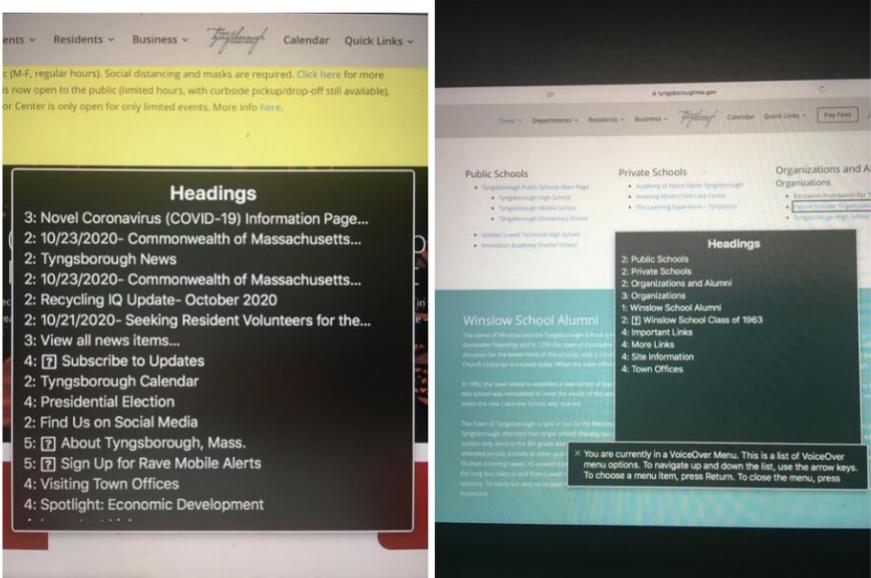
Other issues common across the website are insufficient link text and color contrast. Link text’s need to have context along with it at all times for users using assistive technology instead of standalone links such as ‘read more’. Issues related to color contrast makes it difficult for users with low-vision to clearly see the data presented.

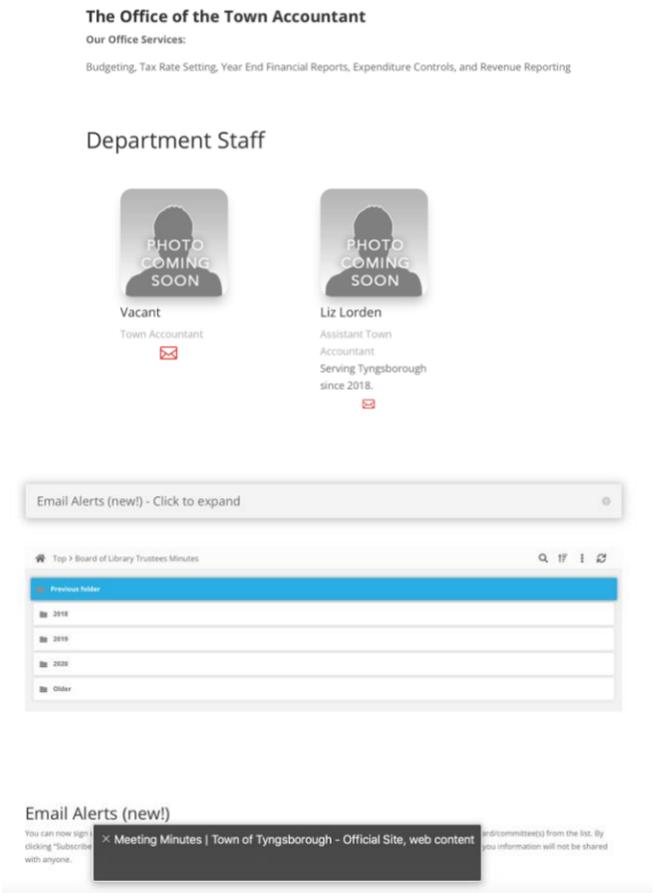
Miscellaneous Issues

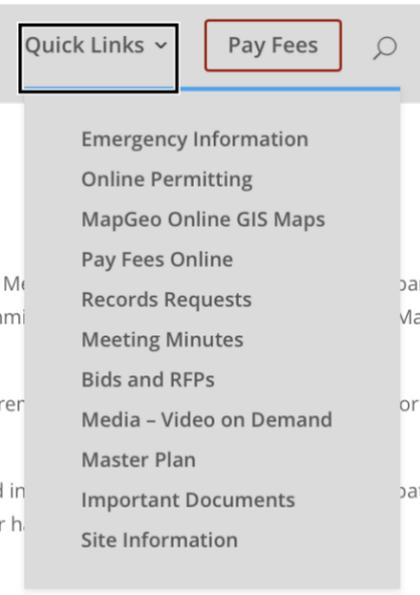
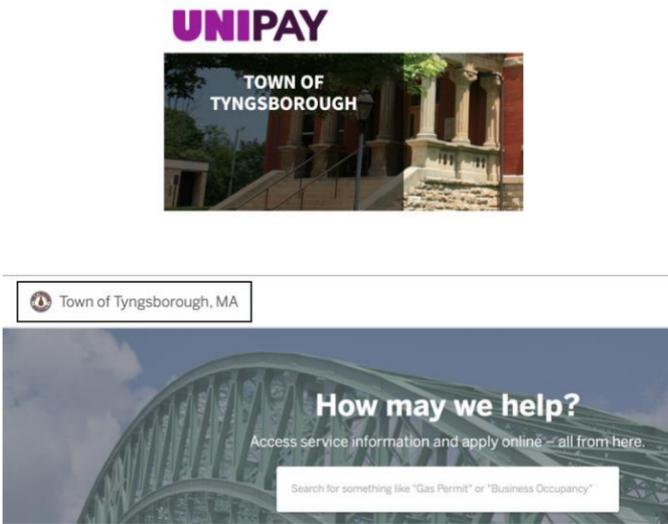
In addition to the compliance and usability issues that have been explored in detail in the catalog that follows, there are several accessibility issues that are relatively minor but still critical to remedy in the long run to ensure an equitable and inclusive experience for all users.

On various pages there are some errors that were noted. Following are the list of items:

- On the 'Schools' page, below Organizations and Alumni Organizations the first topic 'Education Foundation For Tyngsborough' doesn't have a link, making it inaccessible for all users. Ensure a link is provided.
- Under 'public records', the email ID provided for General Town Records and Board/ Committee Records 'jsultzbach@tyngsboroughma.gov' when clicked on pulls up a pop up with the email id 'mhanson@tyngsboroughma.gov' causing people to get confused or having emails sent to the wrong address, ensure the address provided is correct.
- For 'Trash and Recycling' page there is a comma after 'the page(above),' which is linked to the home page. Delete redundant links on pages for a smooth navigation.
- On the Page 'Information for New Residents' the sidebar navigation bar is missing the content that needs to be presented under the collapsible menus. Ensure consistency and format of information presented is maintained across the site. On the same page there is no PDF available even though it states, "click below to download a full-size PDF of the Town's roads." Ensure information and documents are provided where ever necessary.
- On the 'Accounting' page the office hours has M -Th which is not read as Monday to Thursday instead it reads as 'M – Th'. All information and operable elements on the user interface must be understandable both visually and when navigating content with assistive technology including screen readers and screen magnifiers. Words and numbers read by screen readers must be clear, distinct and easy to understand contextually without causing doubt or confusion.

1		Main Navigation	Lack of 'Skip to Main Content' Link	<p>Background Screen reader dependent users rely on skip links to jump past redundant navigation content. Skip links must anchor to the main content on each page. Having a skip to main content feature is important for many user groups including blind and Low-Vision users who rely on screen readers, but also users with dexterity impairments who rely on the use of keyboards to navigate web content who may experience pain due to repetitive keystrokes on every web page.</p> <p>Current The skip link is missing on all pages, forcing users to navigate through repetitive navigation menus on all web pages. This quickly leads to frustration among users who are looking to access the main or new content on each web page without being forced through familiar and repetitive content multiple times.</p> <p>Recommendation Ensure that a 'Skip to Main Content' link is provided on all pages on the website. The link typically appears on the top left corner of the page and should have a programmatically focusable target with <code>tabindex="-1"</code>.</p>	Blind, Low-Vision, Dexterity Impairment WCAG 2.1 AA 2.4.1 Bypass Blocks
2		General Content	Skipped Heading 1 Inappropriate Heading Levels	<p>Background Consistent and clear headings provide document structure and make content easier to consume. They also facilitate keyboard navigation for assistive technology users as screen readers have short keys that allow the users to navigate using different heading levels. Headings that are not clear and descriptive of the content they are representing presents all users and especially, non-visual screen reader users confusing experiences.</p> <p>Current Across the site the heading levels have been skipped, have inappropriate tags and titles. For example: On the "Home page" heading level 1 has been skipped. On some other pages like "Schools", "Meeting Minutes" and "Accounting" to name a few have inappropriate heading levels. For 'Schools' the "Winslow School Alumni" is tagged as heading level 1 and some pages like meeting minutes don't have proper headings listed on the Page itself.</p> <p>Recommendation</p>	Blind, Low Vision, Dexterity Impairment WCAG 2.1 AA 2.4.6 Headings and Labels

				<p>Headings are utilized for site navigation, so heading level tags should be reserved for organizing main content. There should generally only be one heading level 1, and heading levels should be structured in sequential order with no skipped heading ranks (unless closing a subsection, for instance). Ensure that headings that are contained within other h-tags follow an accurate header hierarchy. Ensure that headings are not being used just to format the style of text. Heading tags should be kept independent of other lines of, as it makes it nonfunctional for users navigating with headings and does not follow best practices for clean coding. Heading names should be descriptive and unique (i.e.no repetition of heading names on the same page).</p> <p>Design Note For reference, please read https://www.w3.org/WAI/tutorials/pagestructure/headings/</p>	
3		Menu Bar	Inaccessible Main Menu	<p>Background</p> <p>For all user interface components, notification of changes in states must be available to user agents including assistive technologies. This is especially important for the users who are blind or have low vision who rely on screen readers to navigate web content. For example, when expandable menus collapse or expand, there should be a notification available for all sensory modalities.</p> <p>All functionality of the website must be operable through a keyboard interface</p> <p>Current</p> <p>With voice over on Safari, the main items in the menu bar are not read as a dropdown menu. It says “link Town 3”. Where “3” is read for every downward arrow next to the items that have it. The dropdown lists in the menu bar can only be accessed by hovering the mouse over it. More than half the content present</p>	<p>Low -Vision, Blind</p> <p>WCAG 2.1 AA 2.4.4 Link Purpose (In Context)</p>

				<p>becomes inaccessible to users who rely solely on keyboard navigation, voice over or jaws.</p> <p>With chrome, it's read as "link Town" and the 3 is not read for any of the items in the menu bar but all other issues noted in safari are present in chrome as well.</p> <p>Recommendation</p> <p>The downward arrows are used to communicate that the buttons contain dropdown list boxes. The buttons' roles must be programmatically defined and notify screen reader users that the buttons can be expanded to access a list of elements. It is not necessary for a screen reader to recognize the down arrow. Ensure that the special characters are ignored by screen reader and provide accessible names to communicate the information the symbols are communicating if any.</p>	
4		General Content	External Link	<p>Background</p> <p>When activating a link, it leads to changes in context, changes that are made must be predictable to users. Changes in context can confuse users who do not easily perceive the change or are easily distracted by changes including users with low vision or users with some brain-based functional limitations.</p> <p>Current</p> <p>Some links on the page such as Pay Fees and Online Permitting to name a few open up on a new tab without informing the user and takes them to another website. This makes it difficult for people who are blind or low vision to know which webpage they are on.</p> <p>Recommendation</p> <p>It is best practice to not have links open in a new window without informing the user as this can cause confusion for screen reader users especially when they are unaware of the change. Where this cannot be avoided ensure that users are informed prior to opening the new window. For example, having a discernable aria label will read 'Pay Fees opens in new window' rather than just opening up a new window without any notification.</p>	<p>Blind, Low-Vision, Brain-Based Functional Limitations</p> <p>WCAG 2.1 AA 3.2.1 On focus</p>

The Veterans Health Administration (VHA) provides a broad spectrum of medical, surgical, and rehabilitative care to its customers. Our goal is to share information about these benefits and services to make it as easy as possible for you to receive the care you need.

Eligibility

Find out if you are eligible for benefits, how to apply, and what it will cost, then complete an application form online. Have a question? Call the VA Health Benefits Service Center toll free at 1-877-222-VETS!

Veterans Consumer Health Information

Check out this list of links to trusted sources of health care information for consumers.

VHA Customer Service Standards

Familiarize yourself with the level of service you can expect in VHA facilities.

VHA Facilities Locator

Browse the list of VHA facilities and Veterans Integrated Service Networks (VISNs) for addresses, telephone numbers, and, where available, descriptions of services.

VHA Forms

View, print, and download select forms.

VHA General Information

Learn more about the VHA, including its mission, vision, organizational structure, programs, and publications.

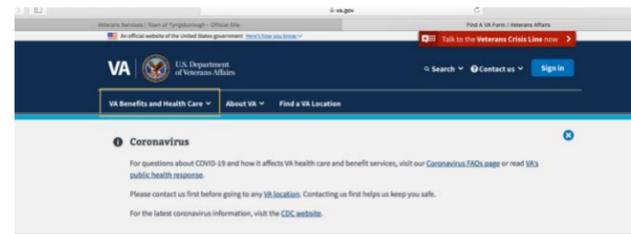
VHA Hot Topics & Press Releases

Read about current events and newsworthy issues within the VHA!

VHA Programs

Search through the list of VHA programs to see if there are any from which you can benefit.

VHA Health Programs



Home > Find a VA form

Find a VA form

Search for a VA form by keyword, form name, or form number.

Additionally, the site structure should adhere to web conventions such as main navigations for internal use, as to match a typical user's mental model, and prevent unprompted or unexpected actions.

Design Notes:

Consider using common icons for external links:

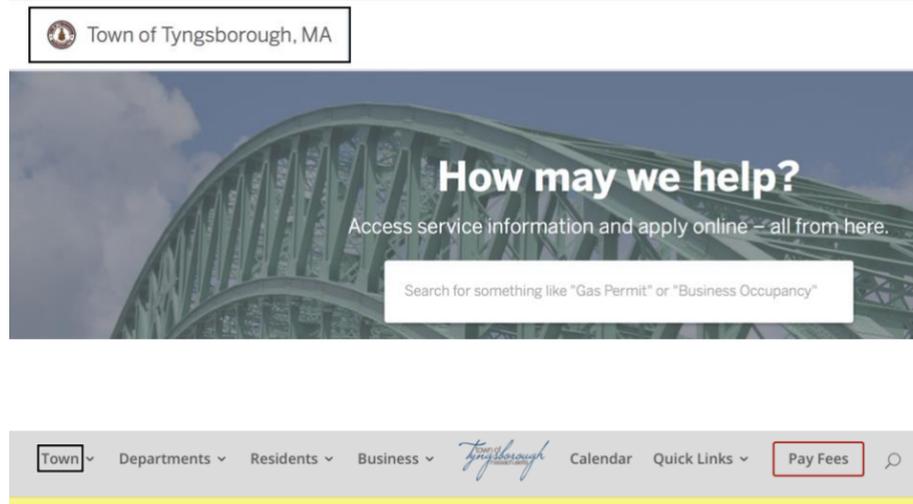


Engineering Notes:

Ensure all external links or icons are properly labeled to give context to screen reader users:

```
<i class="external-link" aria-label="External Link" />
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5



Online Permitting

Inconsistent page structure
I New Logo

Background

Navigational mechanisms repeated on multiple webpages must be consistent each time, unless a change is initiated by the user. Use of consistent presentation and layout helps users who interact with repeated content within a set of webpages and need to locate specific information or functionality more than once.

When users interact with repeated content across webpages, they are able to predict the location of the content they are looking for and find it more quickly when they encounter it again with consistent navigational components.

Users with low vision who use screen magnification to display a small portion of the screen at a time often use visual cues and page boundaries to quickly locate repeated content. Presenting repeated content in the same order is also

Low-Vision, Blind, Brain Based, 65+

WCAG 2.1 AA
3.2.3 Consistent Navigation

				<p>important for sighted users who use spatial memory or visual cues within the design to locate repeated content.</p> <p>Current The Logo on the “Main” website and the “Online Permitting” page have two different logos. This could cause confusion to all users.</p> <p>Recommendation Maintain consistency with the Logo on all pages. It is very important that users are given a link to go back to the original Tyngsborough website home page from the ‘Online Permitting’ link by identifying the same logo to go back to the main home page.</p>	
6	<p>Trash and Recycling May 9, 2019</p> <p>Health Home Curbside Pickup Organic Waste Hazardous Materials How Do I Dispose of... Trash & Recycling Calendar Contact Us Tyngsborough Recycling and Trash The Tyngsborough Board of Health is committed to serving residents by providing resources to manage...</p> <p>Recycling IQ Update- October 2020 Oct 23, 2020 Town News</p> <p>In July of 2020, the Town of Tyngsborough began the Recycling IQ Curbside Education Awareness Program sponsored by a Recycling IQ Grant from the Massachusetts Department of Environmental Protection. The grant provides funding to municipalities to undertake enhanced...</p> <p>Site Information May 4, 2019</p> <p>Site Disclaimer Site Accessibility Privacy About & Credits Site Feedback Email Alerts Site Information Thank you for visiting the new Town of Tyngsborough website, refreshed in Spring 2019. Please note that this is a preview version of the website. The...</p>	General Content	Keyboard Accessibility	<p>Background When navigating with a keyboard it should be visually apparent which element on the screen has visual focus. Visual focus with keyboard navigation is extremely important for a wide range of users including, but not limited to, users with Low-Vision who may be navigating with a screen reader, older adults and non-native technology users, users with dexterity limitations who cannot rely on the use of a mouse or trackpad to access web content.</p> <p>All page functionality should be available using a keyboard, unless the functionality cannot be accomplished in any known way using a keyboard. This ensures that all users have equal access to all information and functionality in the website.</p> <p>Current Without Voice Over, the keyboard navigation is inaccessible on all pages.</p> <p>Recommendation Ensure all content receives keyboard input and that the focus indicator, the screen reader audio, and the actual element that has keyboard focus are all in sync.</p>	<p>Low -Vision, Blind</p> <p>WCAG 2.1 AA 2.1.1 Keyboard</p>

7

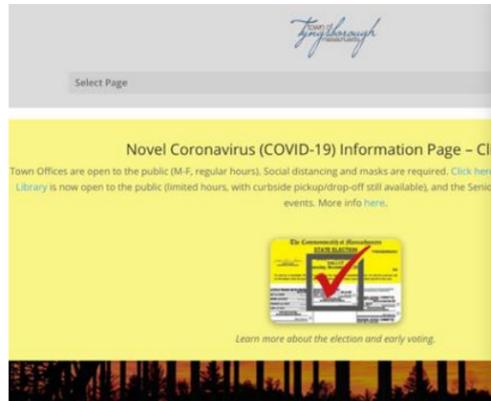


The Senior Center

Our senior center at 169 Westford Road is where you can find:

- Fitness programs — from Zumba and Yoga to Line Dancing and Tai Chi
- Games like bingo, cribbage, Texas Hold'em

Recycling IQ Update 2020
 Oct 23, 2020
 In July of 2020, the Town of Tyngsborough began the Recycling IQ Council Awareness Program sponsored by the Recycling IQ Grant from the Department of Environmental Management. The grant provides funding for municipalities to undertake various recycling projects. [read more](#)



General Content

Insufficient Color Contrast

Background

All text elements and images of text must have sufficient contrast between text in the foreground and background colors. Text that is too close in luminance (brightness) to the background can be hard to read for user with low vision.

Current

On several pages there is insufficient contrast between text in the foreground and background colors. Following are some of the examples:

On the 'Senior center' page the blue button with 'about the center' has a contrast ratio of 1:9:1

On the 'trash and recycling page' the Blue text on white has a ratio of 2:7:1

On the 'homepage' the Blue text on yellow background has a ratio of 2:4:1

On 'About Tyngsborough'

The text 'Our town' has a ratio of 1:8:1

The text below 'our town' has a ratio of 3:1:1, 17px and

The text 'Open space' has a ratio of 2:9:1

The title 'History' has a ratio of 1:7:1

The Text below 'History' has a ratio of 3:1:1

The drop down list from 'Select Page' for example the 'Town meeting' has a ratio of 4:1:1 – 14px

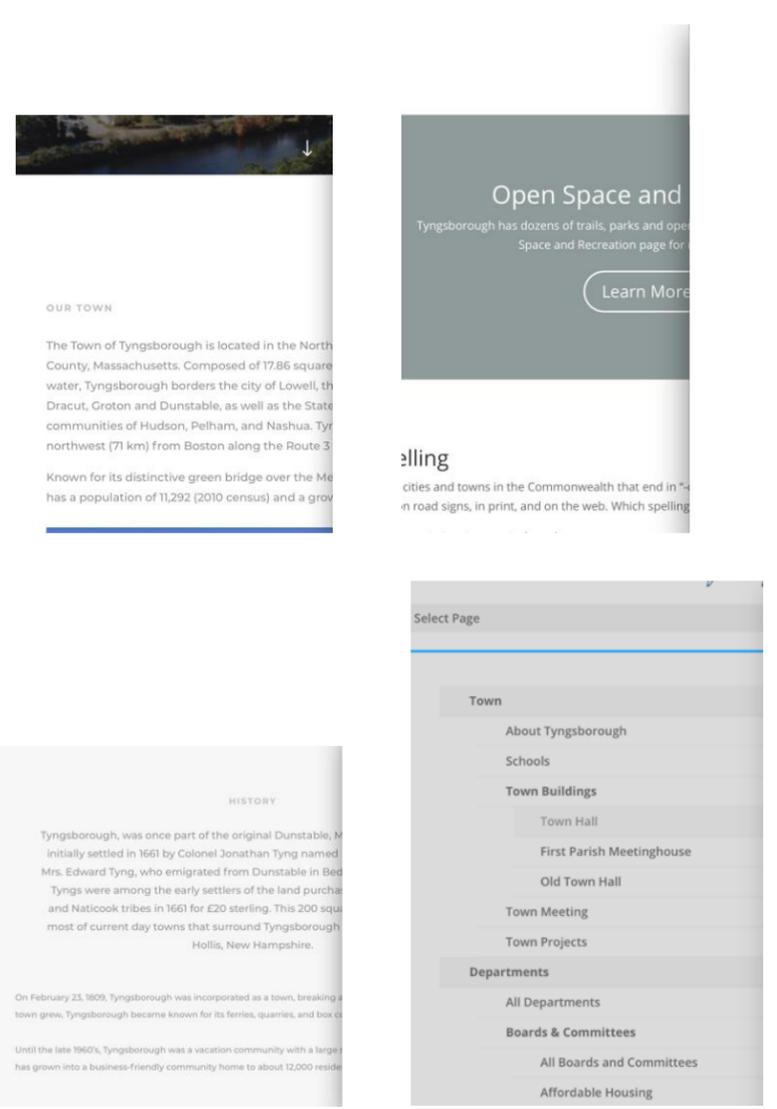
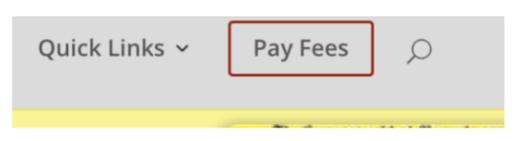
Recommendation

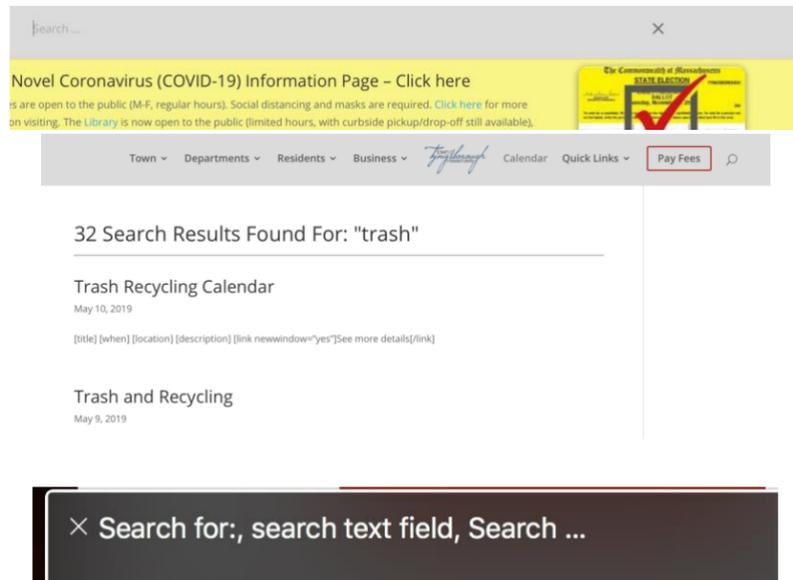
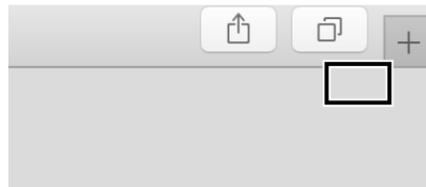
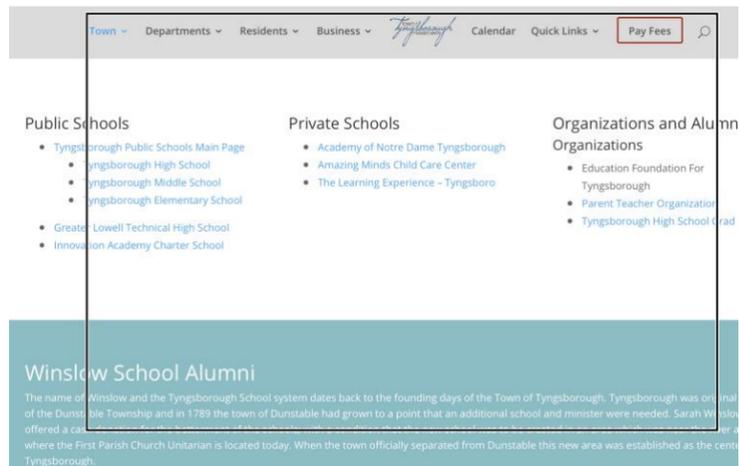
Ensure all text elements have at least 4.5:1 contrast for regular text and 3:1 for large text.

IHCD recommends the Paciello Group's Color Contrast Analyzer:

<https://developer.paciellogroup.com/resources/contrastanalyser/>

Low-Vision, Brain-Based Functional Limitations, 65+ WCAG 2.1 AA 1.4.3 Contrast Minimum

	 <p>The screenshot shows a website layout with a header image of a river. Below it, the 'OUR TOWN' section contains text about the town's location and population. To the right, there's a 'Learn More' button. Below the main text, there's a 'HISTORY' section. On the right side, there's a 'Select Page' dropdown menu with a list of links including 'Town', 'About Tyngsborough', 'Schools', 'Town Buildings', 'Town Meeting', 'Town Projects', 'Departments', 'Boards & Committees', and 'Affordable Housing'.</p>				
8	 <p>The screenshot shows a 'Quick Links' dropdown menu. The 'Pay Fees' link is highlighted with a red box. There is also a search icon to the right of the menu.</p>	Search	Inaccessible Search Function	<p>Background</p> <p>There must be more than one way available to locate a webpage to make it possible for users to locate content in a manner that best meets their needs. Some users may find one technique easier or more comprehensible than others. Search tool lets users locate content, without needing to understand or navigate through the structure of the website. This can be a quicker or easier way to find content, particularly on large sites.</p> <p>For example, users with visual impairments sometimes find it easier to navigate to the correct part of the site by using the search function, rather than scrolling through a large navigation bar using a screen magnifier or screen reader.</p>	Blind, Low-Vision WCAG 2.1 AA 2.4.4 Link Purpose (In Context)



Current

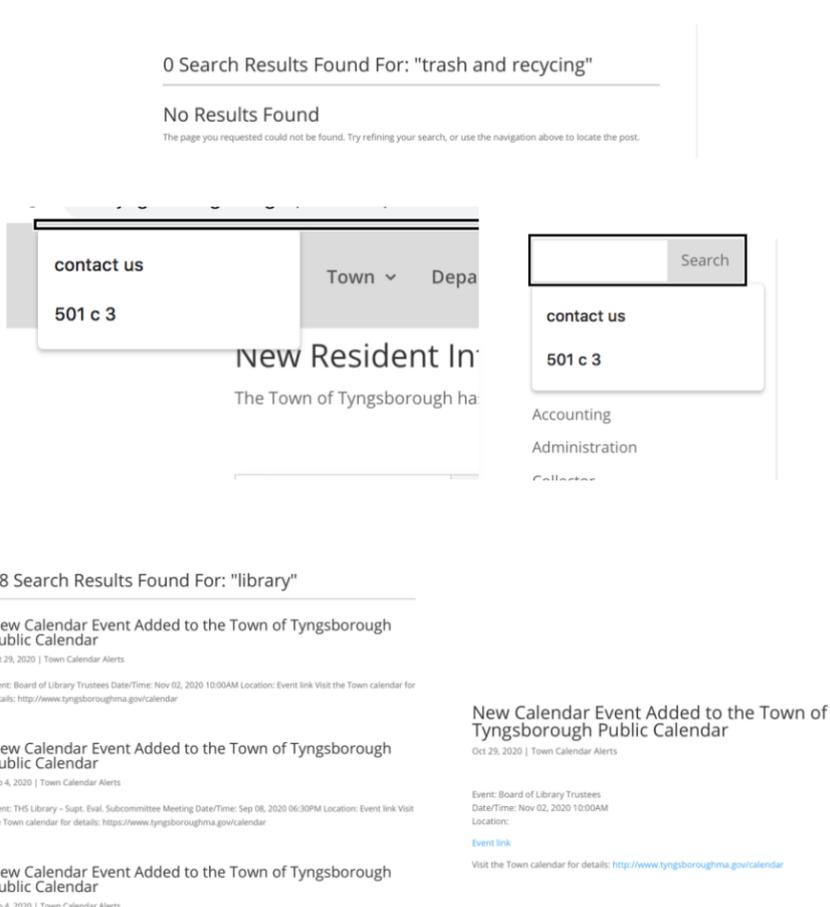
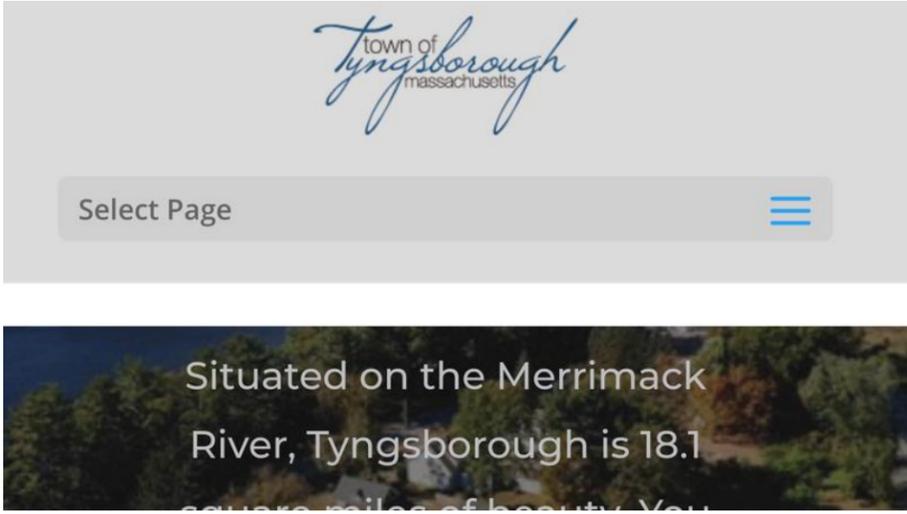
The Search functionality presents several issues as follows:

- On Safari, with Voice Over, after pay fees it reads as “end of navigation” with a large focus indicator as show in image and then reads from the search icon as “U, text element, search field, M”
- The Search icon isn’t bold, the contrast is very poor
- Search bar cannot be accessed through keyboard navigation only when enter is pressed, takes user to search results.
- In the Search results, the decorative line is also read.
- When the user searches for library the search content does not show a link to the library but instead shows links to the “Pubic Calendar”, refer image.
- In google chrome, the search on the menu bar pops up a small drop down with Contact us 501 C 3 while navigating with the keyboard and for read all It also reads Contact us after saying “search, search text field, contact us”

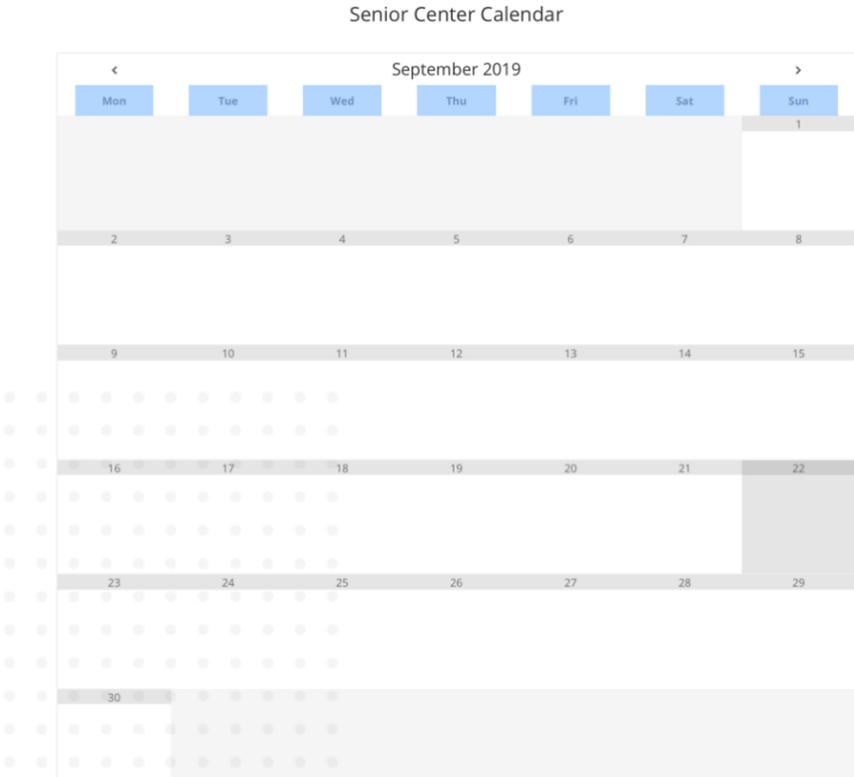
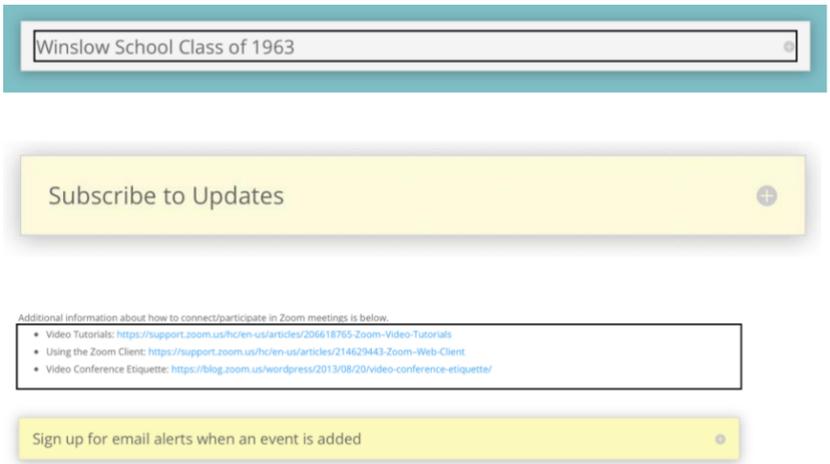
Recommendation

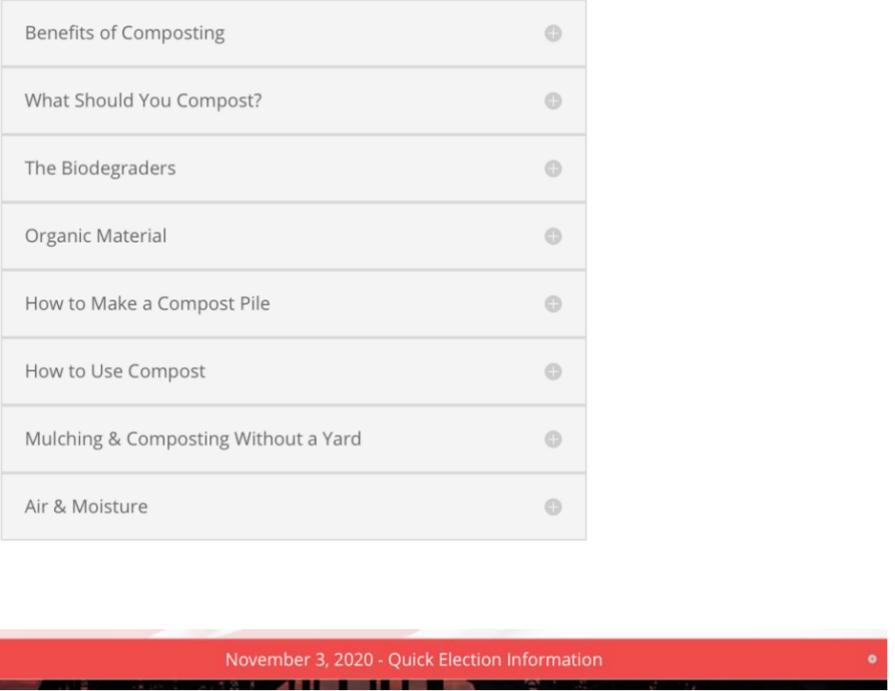
Ensure that the button clearly signifies its purpose by providing appropriate accessible name. Consider using aria-label or aria-labelledby attributes. The search functionality should work across browsers and screen readers.

Ensure that the search tool doesn’t suggest or provide irrelevant content to the users.

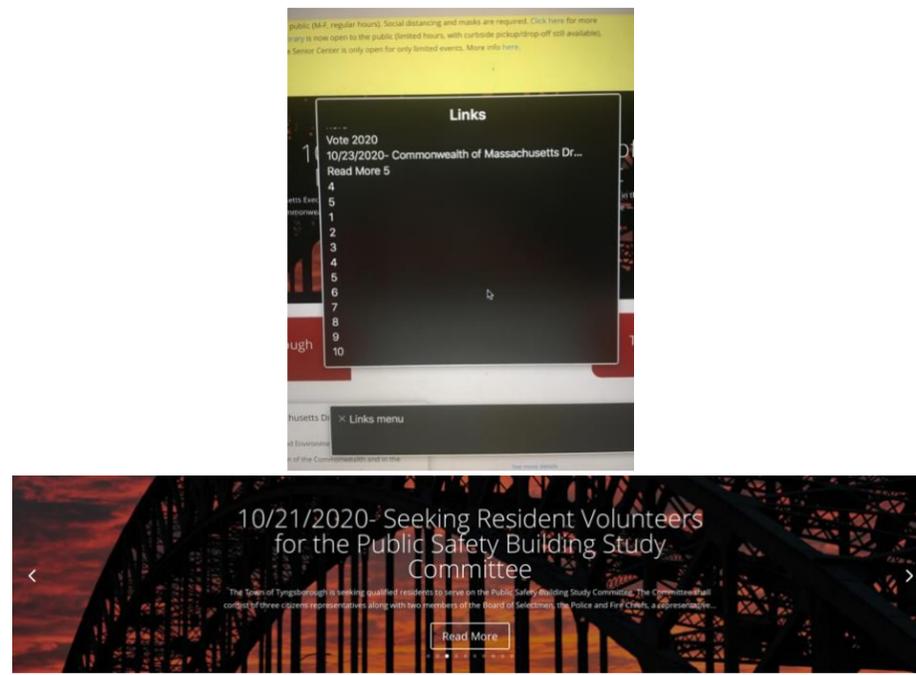
					
9		Menu Bar	Non-Intuitive Title	<p>Background Titles must be intuitive and familiar. Focusable elements must receive focus in logical and intuitive way that preserves its meaning and operability.</p> <p>Current When the page is zoomed to 150% the format of the menu bar changes, which is good but having a title such as select page may confuse users. Also, users can interact with these items only by clicking on the blue horizontal line icon shown in image which is a very small selection area and not easy intuitive.</p> <p>Recommendation A common title to use would be Main Menu. Consider making the selectable area larger to include the hamburger menu and text label to account for users' typical interactions.</p>	<p>Dexterity Impairments, Low-Vision, Brain-Based Functional Limitations</p> <p>WCAG 2.1 AA 2.4.4 Link Purpose 2.4.7 Focus Visible</p>

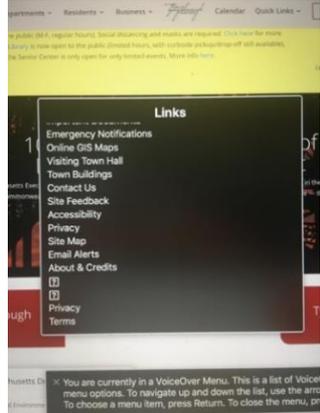
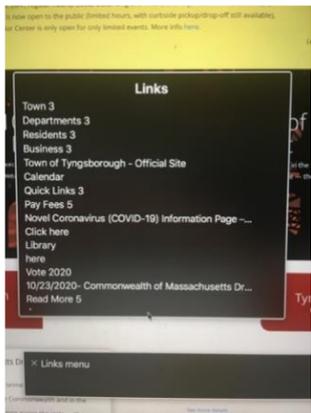
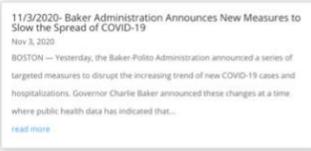
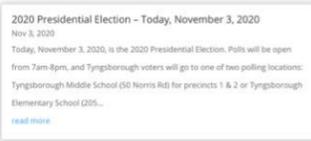
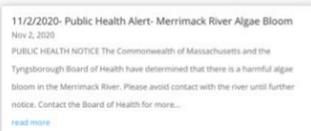
<p>10</p>		<p>Trash & recycling</p>	<p>Missing ARIA Roles and States</p>	<p>Background Name and role of an element must be programmatically determined to let screen reader users define the element and know how to interact with it. For all user interface components, notification of changes in states must be available to user agents including assistive technologies. This is especially important for the users who are blind or have low vision who rely on screen readers to navigate web content. For example, when expandable menus collapse or expand, there should be a notification available for all sensory modalities.</p> <p>Current In the Trash and Recycling Calendar, November 2020 gets repeated multiple times due to the table format, making it frustrating to users to navigate. The recycling pick up information provided in the calendar is not announced as clickable or expandable and is available to users only if they hover over with a mouse making it inaccessible to users relying on assistive technology.</p> <p>Recommendation Ensure all user interface components are provided proper name, role and states to give an equal experience in understandability and interactivity for assistive tech users. Appropriate ARIA attributes and states can be used to give users the information they need about the clickable elements and all the content associated with them.</p>	<p>Dexterity Impairments, Low-Vision, Brain-Based Functional Limitations</p> <p>WCAG 2.1 AA 4.1.2 Name, Role, Value</p>
<p>11</p>		<p>Calendar</p>	<p>Inaccessible Calendar Content</p>	<p>Background When the sequence in which content is presented affects its meaning, a correct reading sequence must be programmatically determined so that the order is preserved when it is rendered through different assistive technologies such as screen readers.</p> <p>Current Each box in the calendar is split into further columns and rows and it does not inform date or day as it reads the calendar.</p> <p>September 2019 gets repeated multiple times while being read and days such as Monday and Sunday get read only as "Mon" and "Sun."</p> <p>Recommendation</p>	<p>Blind, Low-Vision</p> <p>WCAG 2.1 AA 1.3.2 Meaningful Sequence</p>

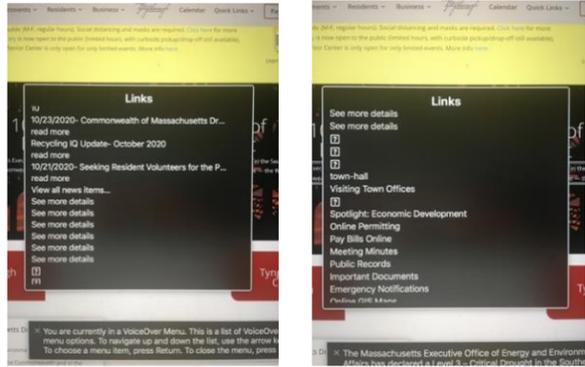
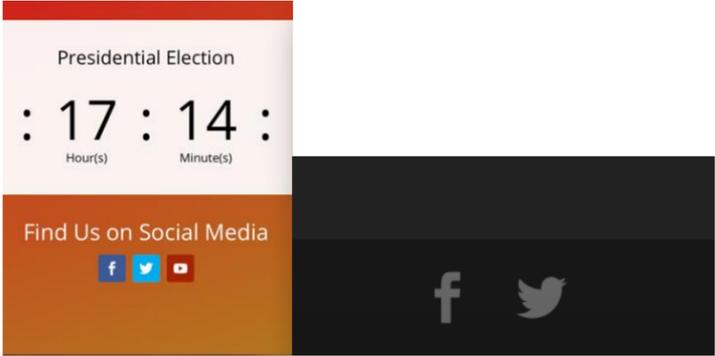
				<p>Ensure that the data cells in the calendar widget are identified accurately with the context required to understand them and all the content being presented. Aria-label/aria-labelledby is one technique that can be used here.</p>	
12		General Content	Missing Aria States	<p>Background Name and role of an element must be programmatically determined to let screen reader users define the element and know how to interact with it. For all user interface components, notification of changes in states must be available to user agents including assistive technologies. This is especially important for the users who are blind or have low vision who rely on screen readers to navigate web content. For example, when expandable menus collapse or expand, there should be a notification available for all sensory modalities.</p> <p>Current All the items on the website designed as expandable drop down menus are read as headings and repeated twice without informing the user that they can be expanded. Only sighted users are aware that they are expandable.</p> <p>For example: For the first image shown it reads as 'heading level 2 2 items Winslow School class of 1963' then shifts focus to the plus symbol and then reads 'Winslow School class of 1963' again.</p>	<p>Dexterity Impairments, Low-Vision, Brain-Based Functional Limitations</p> <p>WCAG 2.1 AA 4.1.2 Name, Role, Value</p>

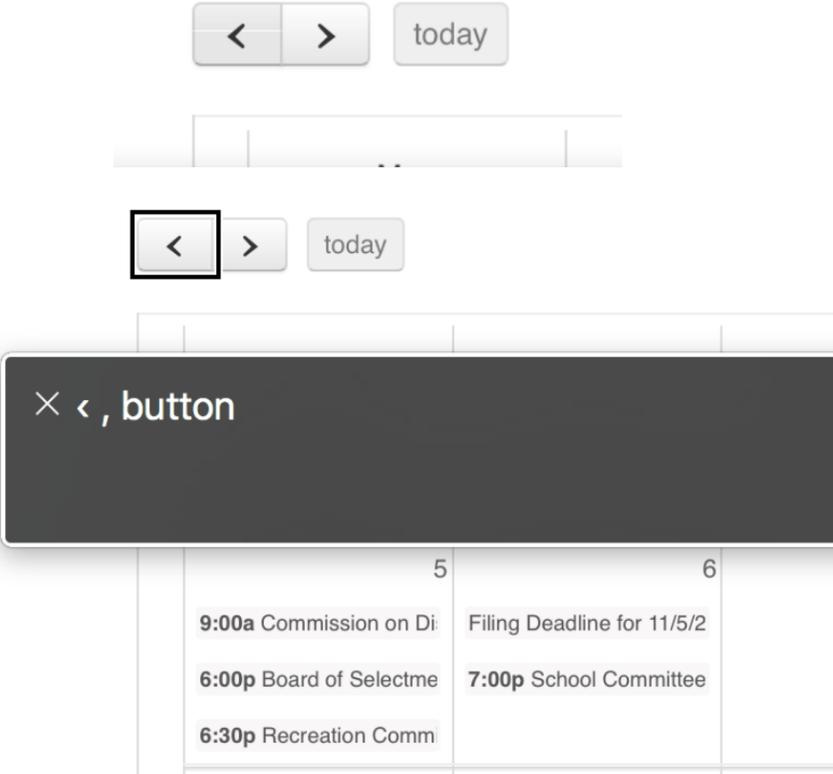
				<p>Recommendation</p> <p>Ensure all user interface components are provided proper name, role and states to give an equal experience in understandability and interactivity for assistive tech users. This can be done using ari-haspopup and aria-expanded states to indicate whether regions of the content are expandable/collapsible, and to expose whether a region is currently expanded or collapsed.</p>	
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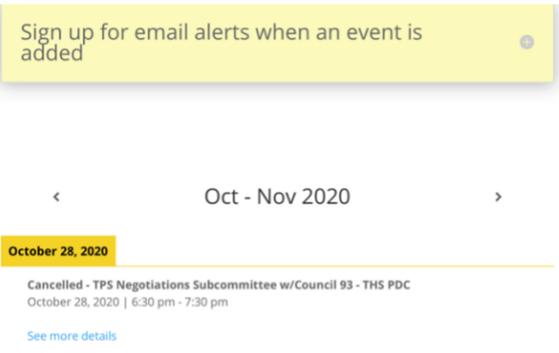
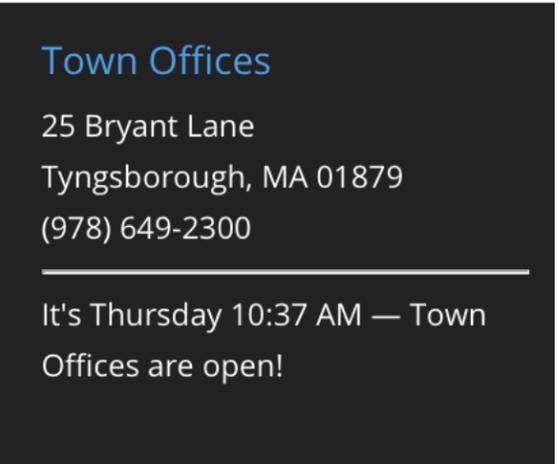
13	<table border="1"> <thead> <tr> <th>Last Name</th> <th>First Name</th> </tr> </thead> <tbody> <tr> <td>Ames</td> <td>Carolyn</td> </tr> <tr> <td>Barker</td> <td>Thomas</td> </tr> <tr> <td>Bell</td> <td>Alan</td> </tr> <tr> <td>Bergeron</td> <td>Richard</td> </tr> <tr> <td>Bergeron</td> <td>Theresa</td> </tr> <tr> <td>Bibeault</td> <td>A. Ronald</td> </tr> <tr> <td>Bloomgren</td> <td>Brenda</td> </tr> <tr> <td>Britt</td> <td>Robert</td> </tr> <tr> <td>Buzzell</td> <td>Debra</td> </tr> <tr> <td>Chanut</td> <td>Leannine</td> </tr> </tbody> </table>	Last Name	First Name	Ames	Carolyn	Barker	Thomas	Bell	Alan	Bergeron	Richard	Bergeron	Theresa	Bibeault	A. Ronald	Bloomgren	Brenda	Britt	Robert	Buzzell	Debra	Chanut	Leannine	Schools	Table read incorrectly	<p>Background All tables must be labelled correctly to easily understand the information presented. Users who have brain-based disabilities and rely on assistive technology such as voice over, it would be difficult for them to remember what each column and row represents for lengthy or complicated tables.</p> <p>Current The Winslow School Alumni list reads as “row 2 of 87 / column 1 of 2 Ames/ column 2 of 2 Carolyn”. As users navigate through the large number of data cells, it can be difficult for many users to contextualize the information and recall what each denotes.</p> <p>Recommendation It needs to read as, Row 2 of 87/ column 1 of 2 Last Name Ames Column 2 of 2 First Name Carolyn.</p>	Blind, Low-Vision WCAG 2.1 AA 1.3.2 Meaningful Sequence
	Last Name	First Name																									
	Ames	Carolyn																									
	Barker	Thomas																									
	Bell	Alan																									
	Bergeron	Richard																									
	Bergeron	Theresa																									
	Bibeault	A. Ronald																									
	Bloomgren	Brenda																									
	Britt	Robert																									
	Buzzell	Debra																									
Chanut	Leannine																										

14		Trash and Recycling	Info and Relationships	<p>Background All tables must be labelled correctly to easily understand the information presented. Users who have brain-based disabilities and rely on assistive technology such as voice over, it would be difficult for them to remember what each column and row represents for lengthy or complicated tables.</p> <p>Current Under “Trash and Recycling,” the section which categorizes items under different stickers is presented in a table format when the information presented doesn’t require it.</p> <p>Recommendation The items that are currently listed as a table should be listed as regular list items. Tables can be difficult to navigate for assistive technology users and should only be used to present content where there isn’t a better alternative and easier to access format.</p>	Blind, Low-Vision WCAG 2.1 AA 1.3.2 Meaningful Sequence
15		Home Page	Inaccessible Carousel	<p>Background Users navigating a webpage with a screen reader rely on descriptive link text to understand the purpose and function of the content. When link texts are unspecific, screen reader users are unable to find the information they are searching for. Link text of each link should be purposeful so that users can decide whether they want to follow the link. Whenever possible, a page must provide link text that identifies the purpose of the link without needing additional context. Many screen reader users navigate by pulling up a list of links on a webpage. Descriptive link text is extremely important to users who navigate with this list of links.</p> <p>Current On the home page, the carousel is inaccessible for screen reader users. The carousel controls and associated images read as stand-alone numbers, such as, ‘1, 2, 3, 4, 5’ providing no description of the controls or the content associated with each. The next and previous icons are also read out as numbers.</p> <p>Recommendation</p>	Blind, Low-Vision WCAG 2.1 AA 2.4.4 Link Purpose (In Context)

				<p>The carousel on the home page is among the first interactive elements on the website. It needs to be identified as a carousel with X items, and each item on the carousel controls should have a short description of the content presented. The clickable carousel controls can be given aria-label attributes to provide this additional context. The “Next” and “Previous” buttons need appropriate aria-label attributes as well, to identify them and contextualize the carousel as a whole.</p>	
16	     	General Content	Insufficient Link Text	<p>Background Users navigating a web page with a screen reader rely on descriptive link text to understand the purpose and function of a link. Many screen reader users use a shortcut to display a list of links to navigate a website efficiently. When link titles are unspecific, users cannot identify which link to select to find the information they are searching for, often leading to confusion and a frustrating user experience.</p> <p>Current The website on numerous pages has links which are labelled as ‘read more, here or see more details’ to name a few. When a user pulls up a link list as shown in the image, having insufficient descriptions makes it near impossible to distinguish the purpose of linked labelled identically with different webpages.</p> <p>Recommendation Provide descriptive link text such as ‘read more on 2020 Presidential Election’ or ‘See more details on November 5, 2020 Planning board meeting’. This helps the user know the distinctive purpose of each link.</p> <p>Refer: https://www.w3.org/WAI/WCAG21/Understanding/link-purpose-in-context.html#techniques</p> <p>https://webaim.org/techniques/hypertext/link_text</p>	Blind, Low-Vision WCAG 2.1 AA 2.4.4 Link Purpose (In Context)

					
17	<p>The Office of the Town Accountant Our Office Services: Budgeting, Tax Rate Setting, Year End Financial Reports, Expenditure Controls, and Revenue Reporting</p> <p>Department Staff</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="419 963 547 1165">  <p>PHOTO COMING SOON</p> <p>Vacant Town Accountant</p>  </div> <div data-bbox="646 963 773 1165">  <p>PHOTO COMING SOON</p> <p>Liz Lorden Assistant Town Accountant Serving Tyngsborough since 2018.</p>  </div> </div>	Accounting	Indiscernible Accessible Name – Email Icon	<p>Background Screen reader users rely on descriptive link text or ARIA labels to understand the function of an element or a link. All links must have discernable text to give context to screen reader users.</p> <p>Current On the 'Accounting' page the red envelopes below each of the department staff are currently not announced to the users as a link.</p> <p>Recommendation Use ARIA labels to appropriately label the icon.</p>	Blind, Low-Vision WCAG 2.1 AA 2.4.4 Link Purpose (In Context)
18		Footer	Missing Link Purpose	<p>Background Users navigating a web page with a screen reader rely on descriptive link text to understand the purpose and function of a link. Many screen reader users use a shortcut to display a list of links to navigate a website efficiently. When link titles are unspecific, users cannot identify which link to select to find the information they are searching for, often leading to confusion and a frustrating user experience.</p> <p>Current The first image on the left from the homepage has the social media links linked properly but on the second image, at the footer of the webpage the social media links have poor contrast and are not linked at all.</p>	Blind, Low-Vision WCAG 2.1 AA 2.4.4 Link Purpose (In Context)

				<p>Recommendation</p> <p>Provide accurate aria labels to provide context about where the link leads, for example, "Tyngsborough Facebook page, opens in a new tab. "</p>	
19		Calendar	Missing ARIA Label	<p>Background</p> <p>Users navigating a webpage with a screen reader rely on descriptive link text to understand the purpose and function of the content. When link texts are unspecific, screen reader users are unable to find the information they are searching for. Link text of each link should be purposeful so that users can decide whether they want to follow the link. Whenever possible, a page must provide link text that identifies the purpose of the link without needing additional context. Many screen reader users navigate by pulling up a list of links on a webpage. Descriptive link text is extremely important to users who navigate with this list of links.</p> <p>Current</p> <p>In the Calendar, the 'Today' button does not load the correct content; it just refreshes the page. The labels for the arrows to indicate previous and next are labelled incorrectly and reads as "single left/ right pointing arrow quotation mark."</p> <p>Recommendation</p> <p>Ensure that the buttons are labelled by providing appropriate accessible name. This can be done by providing ARIA labels.</p>	Blind, Low-Vision WCAG 2.1 AA 4.1.2 Name, Role, Value
20		Calendar	Loss of Content with Zoom – 150%	<p>Background</p> <p>Content should not be cut off or hidden on a webpage or while using the zoom feature on a webpage. Website content that is only partially visible could be confusing for older, non-native technology users, users with low vision and/or users with some brain-based conditions.</p> <p>Current</p> <p>The layout changes when user zooms in to 150% and the content format for the calendar changes with loss of content as shown in the pictures on the left. The text size in the calendar widget is not responsive.</p>	65+, Low-Vision, Brain-Based WCAG 2.1 AA 1.4.10 Reflow

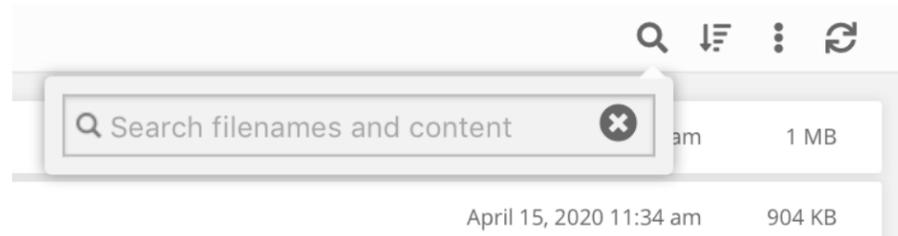
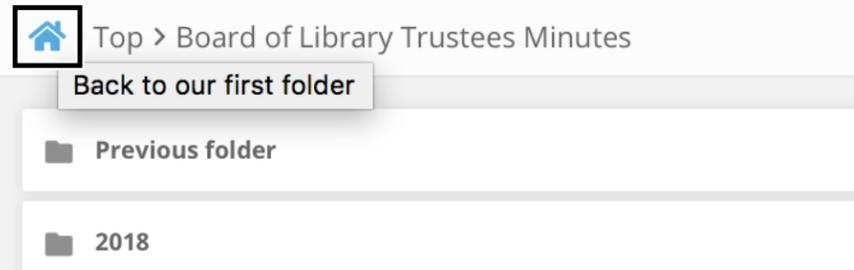
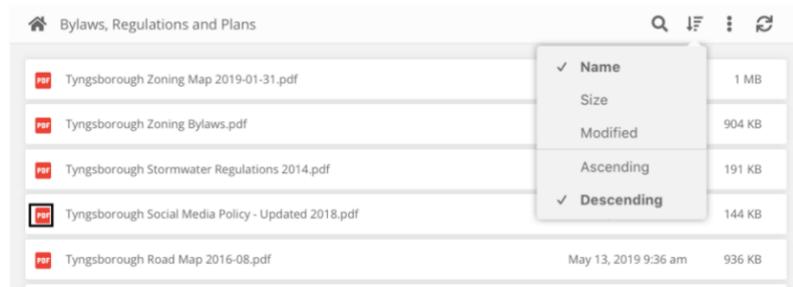
				<p>Recommendation Ensure that the container is reformatted and CSS appropriately changed to allow content to be viewed at any level of zoom or window size.</p>	
21	 <p>Tyngsborough Town Offices 25 Bryants Lane Tyngsborough, MA 01879 (978) 649-2300</p> <hr/> <p>It's Thursday 10:37 AM — Town Offices are open!</p> <p>Tyngsborough Town Offices 25 Bryants Lane Tyngsborough, MA 01879</p> <p>Hours Monday - Thursday: 8:30am - 4:00pm Friday: 8:30am - 12:30pm</p>	Footer	Lack of Information	<p>Background Providing important information such as working hours on the footer makes it possible for users to locate content in a manner that best meets their needs without having to navigate through multiple pages. This can be a quicker or easier way to find content, particularly on large sites.</p> <p>Current The information provided in the footer of the website about town offices is not as helpful as the information in the 'Visiting Town Hall' page, where the working hours and time are specified and indicated as 'Monday -Thursday: 8:30am – 4:00pm / Friday 8:30am-12:00pm' as opposed to 'it's Thursday 10:37am – Town offices are open!'</p> <p>Recommendation Provide both — the weekly timings — and the current time and status of the town offices in the footer so that the information is easy to access for all users.</p>	<p>All Users</p> <p>WCAG 2.1 AA 2.4.5 Multiple Ways</p>

22

Financial Documents and Budgets



Bylaws, Regulations and Plans



General Content

Inaccessible Widgets

Background

Name and role of an element must be programmatically determined to let screen reader users define the element and know how to interact with it.

For all user interface components, notification of changes in states must be available to user agents including assistive technologies. This is especially important for the users who are blind or have low vision who rely on screen readers to navigate web content. For example, when expandable menus collapse or expand, there should be a notification available for all sensory modalities.

Current

On Safari, the search icon isn't identified and users cannot interact with the dropdown search bar after it expands.

The home button, Bylaws link and the refresh button don't really do anything and just refreshes the list.

On chrome, the search icon is identified as collapsed link, when a user tries to look up an item it doesn't do anything. It's also not possible to use the close button in the search bar after it's expanded.

Recommendation

Ensure that the button clearly signifies its purpose by providing appropriate accessible name and functions correctly. This can be done by providing ARIA labels.

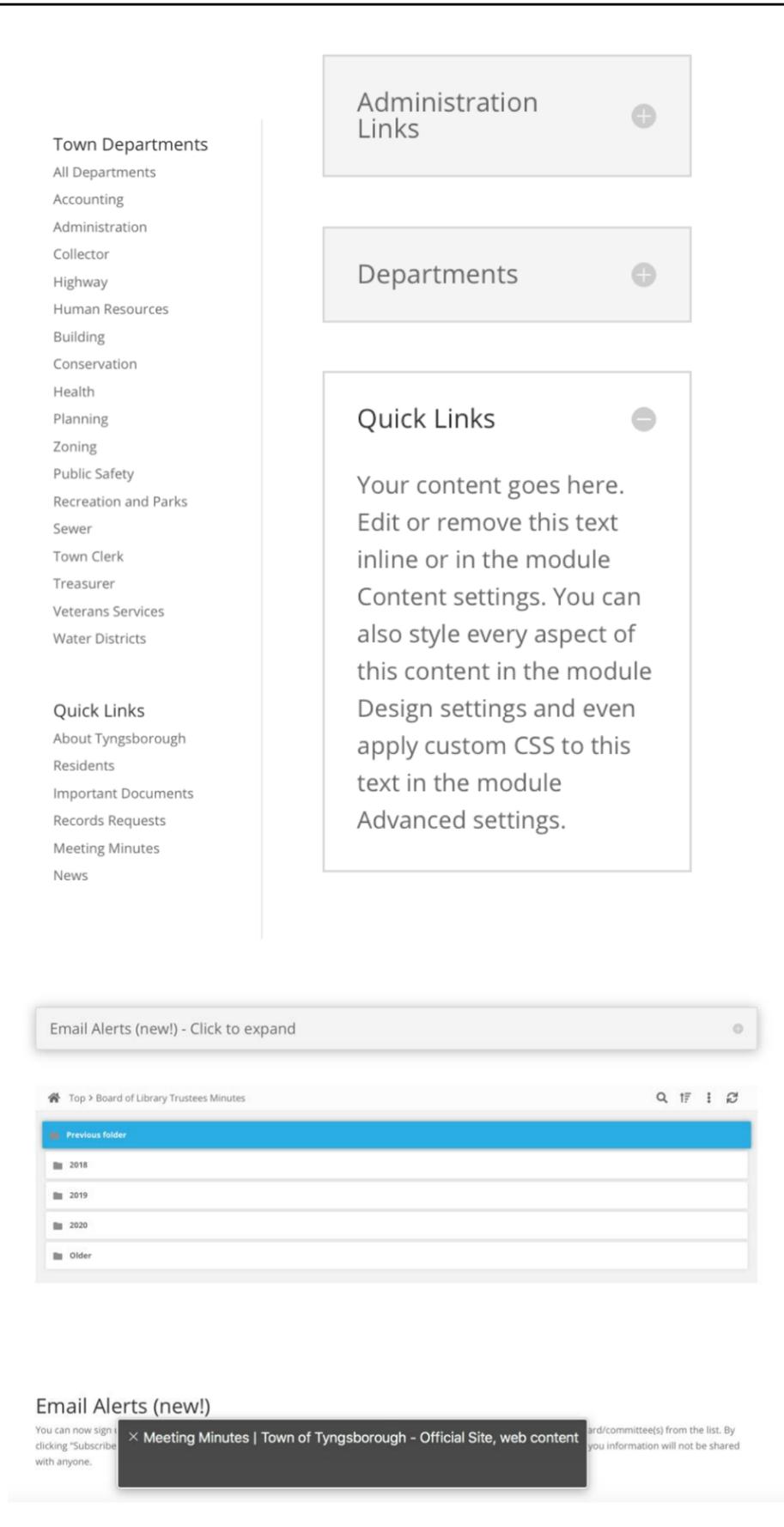
Low-Vision, Blind

WCAG 2.1 AA
4.1.2 Name, Role, Value

Email Alerts (new) - Click to expand 

-  Top  [IF](#) 
-  [Adult Use of Marijuana Subcommittee](#)
 -  [Ambulance Study Committee \(Inactive\)](#)
 -  [Board of Assessors Minutes](#)
 -  [Board of Fire Engineers \(Inactive\)](#)
 -  [Board of Health Minutes](#)
 -  [Board of Library Trustees Minutes](#)
 -  [Board of Selectmen Minutes](#)

23



Info New Residents | Meeting Minutes (Footer) Quick Links Important Documents

Redundant Links
Inconsistent Format

Background

Users navigating a webpage with a screen reader rely on descriptive link text to understand the purpose and function of the content. Link text of each link should be purposeful so that users can decide whether they want to follow the link.

Current

On the page 'Info New Residents' there are two menu bars with one formatted as a long list of items and the other a collapsible list with no information.

Similarly, on the 'Meeting Minutes' page at the top and bottom of the page email alerts are provided twice with the same information with one designed as a collapsible item and the other a long list.

The menu items listed on the right of the image shown under Town Departments and quick links are designed as expandable items on some pages and on some they aren't. The lists force users through the entire list to navigate from one heading to the next making it difficult especially for users with dexterity impairments.

Recommendation

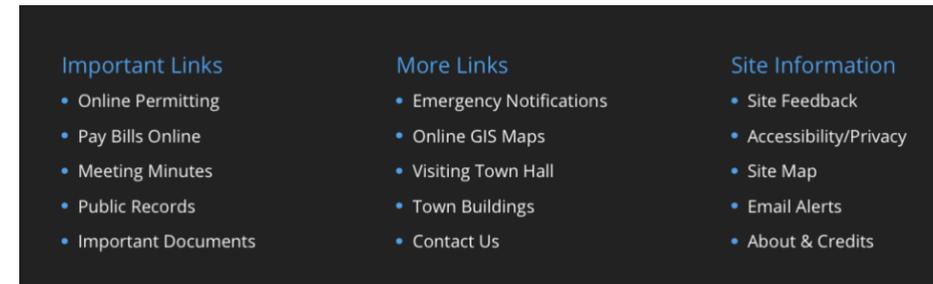
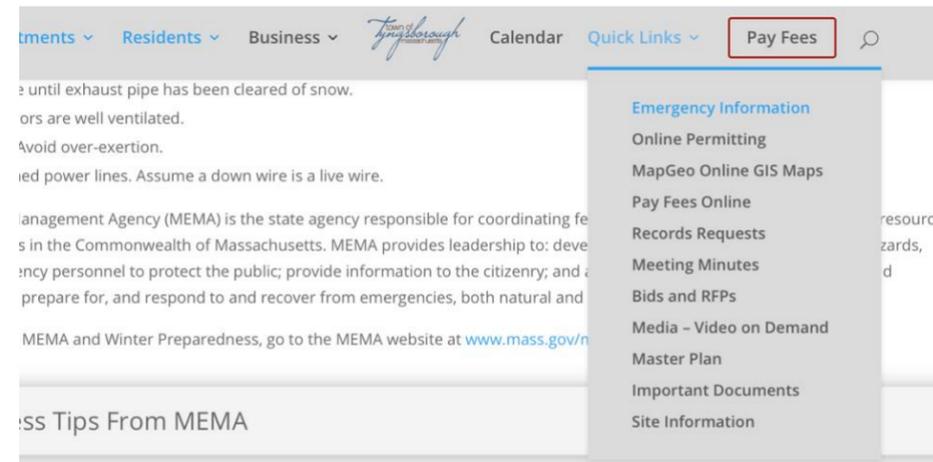
Eliminate all redundant links on the website. Make the sidebar consistent with a collapsible approach using the appropriate ARIA attributes and avoid replicating menus and other navigational elements with the same information multiple times on the same webpage.

Make it consistent with a collapsible approach across the site for easy navigation and an intuitive experience.

All Users

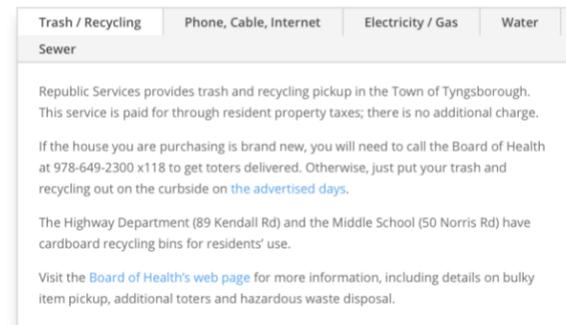
WCAG 2.1 AA
2.4.4 Link Purpose (In Context)

24



New Resident Information

The Town of Tyngsborough has the following information for new residents. Welcome to the town!



General Content

Inconsistency in Label Name

Background

Where possible the purpose of each link or button must be clear from the link text without its context. It is a best practice for links with the same destination to have consistent descriptions and for links with different purposes to have different visual portrayals.

Current

For multiple pages the link titles are labelled differently even though they lead to the same page. The Menu bar on the top of the webpage and in the footer have them as different titles. For example:

‘Emergency Information and ‘Emergency Notifications’

‘Public Library’ vs ‘Library’

‘Pay Fees’ vs ‘Pay Bills Online’

All the above examples listed lead to the same page but having different titles creates confusion.

Recommendation

Ensure a single link title is used for each page and label them the same everywhere else on the website to ensure consistency and ease to navigate the site in a logical and intuitive manner.

All users

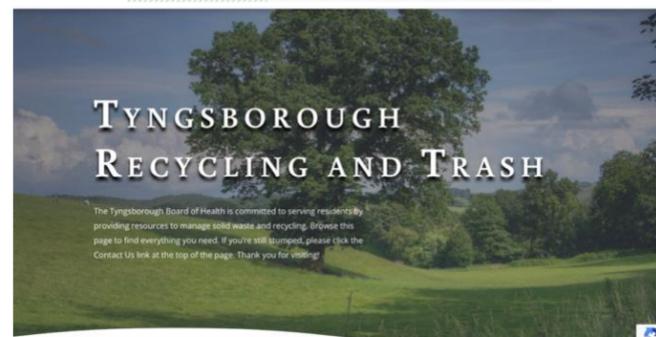
WCAG 2.1 AA
3.2.4 Consistent Identification

2.4.4 Link Purpose (In Context)

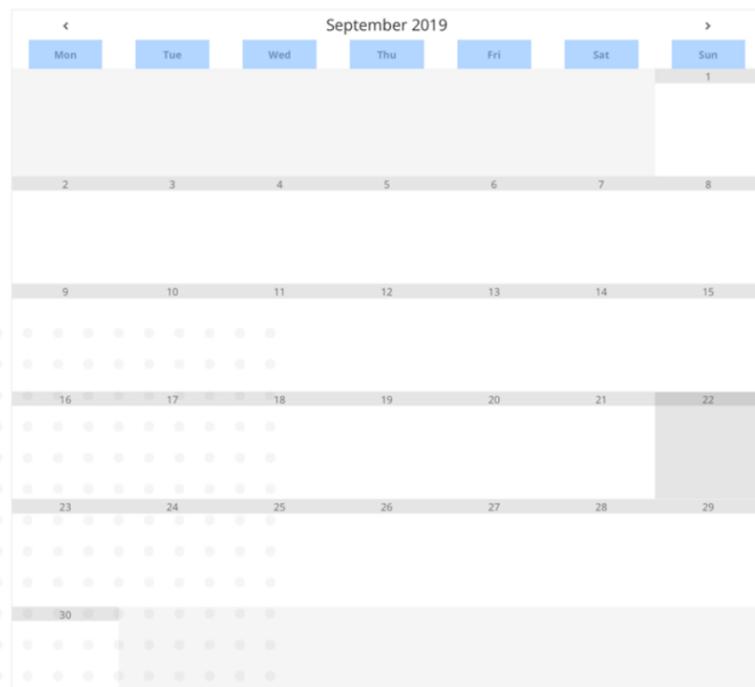
2.4.6 Headings and Labels

25

\$15.00 - Orange Sticker		
Sectional couch (\$15/piece)	Couch/Chair (upholstered)	Love seat
Table (large)	Desk	Bureau/side boards
Toilet	Entertainment center	Windows
Wood file cabinets	Bath tubs	Wood (50 lb. Bundle)
Doors (wood)	Mattress/box spring (1 item)	Tub enclosures
Head boards	Sink	Vanity/cabinet
Carpeting (50 lbs bundle) 3 feet length		
No charge (Pink sticker)		
Wood chairs	Coffee tables	End tables
Children's toys (under 50 lbs)	Bicycles	Plastic lawn furniture
Mirrors	Crib mattress	
\$5.00 (Pink sticker)		
Extra Bag of trash		



Senior Center Calendar



General Content

Overprinting Text on Image Backgrounds

Background

All text and icon elements must avoid overprints on pictures which make it hard to focus on the texts for users with Low-Vision or brain-based disability.

Current

On multiple pages, there is text overprinted on images with insufficient contrast between the text and the image's background. This makes it hard for Low-vision and brain-based users to focus and read the content with ease.

Some Examples:

On the 'Trash and recycling' page the text on the image is hard to read as shown in the image in the left with the varied color contrast at different points of the image.

There is a faint grid overlay on the calendar that causes a visual distraction from the content on screen. Especially for users with low vision navigating with a screen magnifier and seeing only small portions of the screen at a time, the distraction is frustrating.

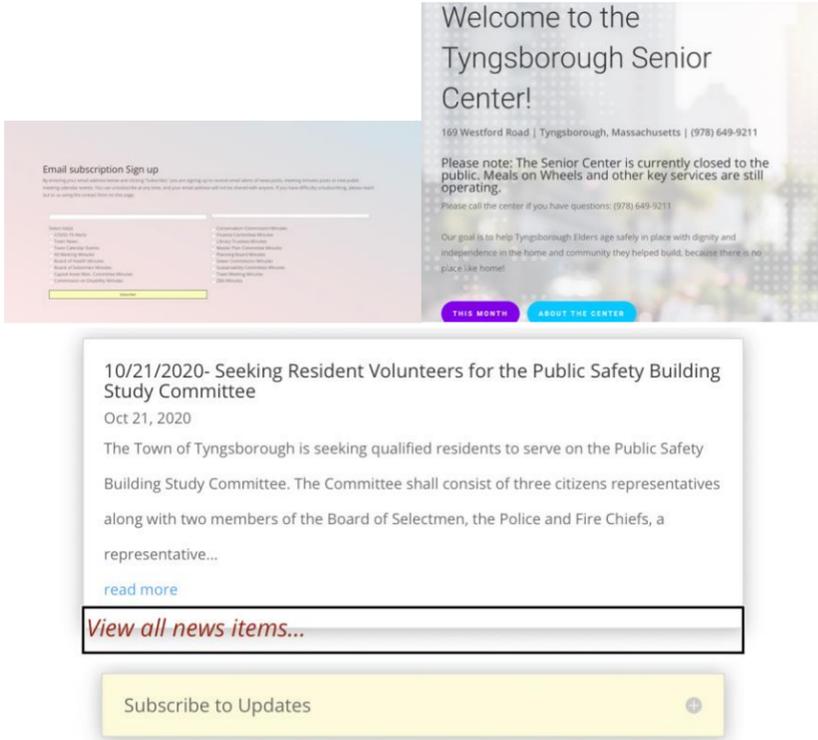
Recommendation

Provide a solid background with a single color and ensure all text elements have at least 4.5:1 contrast for small text and 3:1 for large text. Avoid gradients and breaks in the background that make readability difficult.

IHCD recommends the Paciello Group's Color Contrast Analyzer:
<https://developer.paciello.com/resources/contrastanalyser/>

Low-Vision, Brain-Based Functional Limitations, 65+

WCAG 2.1 AA
1.4.3 Contrast Minimum

	 <p>Welcome to the Tyngsborough Senior Center!</p> <p>169 Westford Road Tyngsborough, Massachusetts (978) 649-9211</p> <p>Please note: The Senior Center is currently closed to the public. Meals on Wheels and other key services are still operating.</p> <p>Please call the center if you have questions: (978) 649-9211</p> <p>Our goal is to help Tyngsborough Elders age safely in place with dignity and independence in the home and community they helped build, because there is no place like home!</p> <p>10/21/2020- Seeking Resident Volunteers for the Public Safety Building Study Committee</p> <p>Oct 21, 2020</p> <p>The Town of Tyngsborough is seeking qualified residents to serve on the Public Safety Building Study Committee. The Committee shall consist of three citizens representatives along with two members of the Board of Selectmen, the Police and Fire Chiefs, a representative...</p> <p>read more</p> <p>View all news items...</p> <p>Subscribe to Updates</p>				
26	<pre><img loading="lazy" src="https://www.tyngsboroughma.gov/wp-content/uploads/2019/07/recycle-medicine.jpg" alt="Unwanted or Expired Medication" class srcset="https://www.tyngsboroughma.gov/wp-content/uploads/2019/07/recycle-medicine.jpg 479w, https://www.tyngsboroughma.gov/wp-content/uploads/2019/07/recycle-medicine.jpg 480w" sizes="(max-width:479px) 479px, 100vw" width="150" height="150" = \$0</pre> <p>Read below for suggestions of how to properly dispose of the following items.</p> <p>Have something else or still unsure of how to recycle/dispose of something? Visit Beyond the Bin's Recycle Search.</p> <p>All Construction Materials Electronics Household Personal Items Vehicles</p>  <p>Unwanted or Expired Medication Personal Items</p>  <p>Tires Vehicles</p>  <p>Televisions Electronics</p>  <p>Smoke Detectors Household</p> <p>1 2 3 4 Next</p>	General Content	Missing Proper Alternative Text and Image Descriptions	<p>Background</p> <p>All images must have alternative text to convey their purpose and meaning to screen reader users. Providing concise and accurate alternative text is essential to making images accessible to users with visual or certain brain-based disabilities.</p> <p>Current</p> <p>The alt text provided for the images currently do not provide users with the description of what is displayed in the image but instead provides what it's labelled as. For example: The image on the left showing pills has an alternative text for the image as 'unwanted or expired medication' which is what the label has and that is not the purpose of alt text.</p> <p>Similarly, the image used for the Tyngsborough town office has the entire website linked with the image instead of a description of what is shown in the image.</p> <p>Recommendation</p> <p>Ensure that every element has alternative text. The alternative text must be a description of the image shown and not the title. For Example: 'Unwanted or</p>	Low-Vision, Blind WCAG 2.1 AA 1.1.1 Non-Text Content

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<span class="et_pb_image_wrap">
 = $0
</span>

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Visiting Town Offices

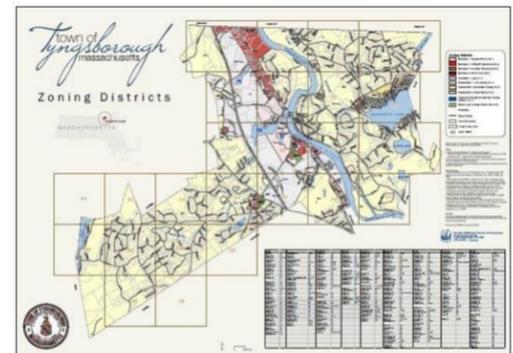
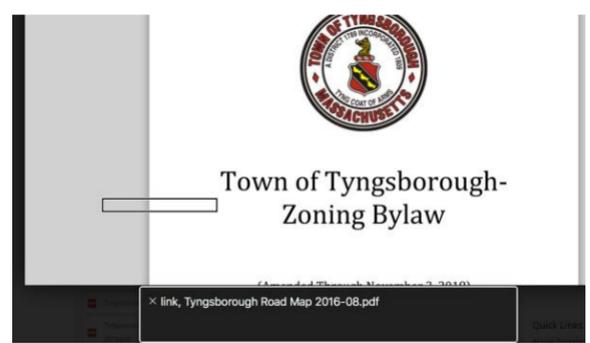
Visiting Tyngsborough Town Offices soon? Click here to learn more about hours and view our location.

It's Thursday 3:54 PM — Closing in 6 minutes

Expired Medication' the alternative text must be "many pills of different colors, shapes and sizes". Decorative images should have null alt text to signify to screen reader users that they are not missing important contextual information.

Resources:
<https://webaim.org/techniques/alttext/>
<https://www.w3.org/TR/UNDERSTANDING-WCAG20/text-equiv.html>

27



Zoning Map
 Use the map to identify areas of potential development.

Documents

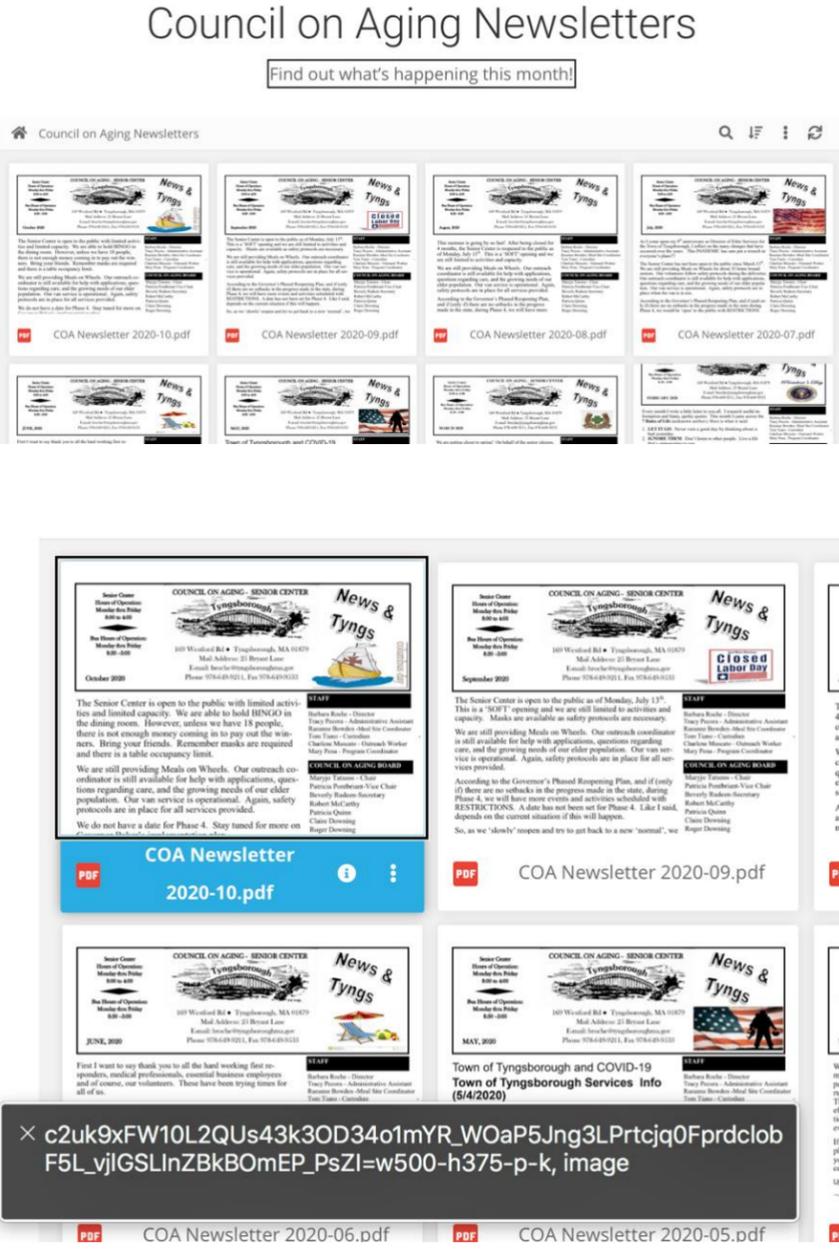
Inaccessible PDF

Background
 Downloadable resources must be made accessible. If only one format of the file is made available, it must be accessible. Accessible alternatives should be made available for any inaccessible documents shared on the website. This is especially crucial for forms and documents that serve as the only or primary way for residents to obtain information about the Town and to take necessary action.

Current
 Many PDFs are inaccessible to screen reader-dependent users and users with low vision, including image PDFs of text.

Recommendation
 PDFs and other resource documents should be made accessible. This includes following WCAG guidelines for color contrast, image labels, and most importantly using rich text as opposed to images of text. Provide alternative way to access documents and forms that are not yet accessible, such as providing plain text versions of PDFs that have not yet been made following PDF accessibility techniques.

Design Notes

				<p>Refer to resources for PDF accessibility techniques: https://www.w3.org/TR/WCAG-TECHS/pdf.html And please review Adobe's Accessibility Training: https://www.adobe.com/accessibility/products/acrobat/training.html</p>	
<p>28</p>		<p>Senior center</p>	<p>Indiscernible Name</p>	<p>Background Name and role of an element must be programmatically determined to let screen reader users define the element and know how to interact with it. For all user interface components, notification of changes in states must be available to user agents including assistive technologies. This is especially important for the users who are blind or have low vision who rely on screen readers to navigate web content. For example, when expandable menus collapse or expand, there should be a notification available for all sensory modalities.</p> <p>Current On Chrome, the thumbnail images for the PDFs lack alternative text and the search function is labelled as collapsible but when expanded the user cannot close it and would have to refresh using the last icon show to go back to the original state.</p> <p>On Safari, the alternative text for the PDF image is an indiscernible long list of alphabets and the search button receives no focus making it inaccessible.</p> <p>On both Chrome and Safari, the 'more actions' icon can be expanded but the user cannot interact further to change the format to List view using only keyboard navigation. The Home button reads as "back to first folder" but just refreshes the page when it's clicked.</p> <p>Recommendation Ensure that the search button clearly signifies its purpose by providing appropriate accessible name and functions correctly. Ensure accurate use of ARIA attributes to make the button accessible across all platforms.</p> <p>Provide appropriate alt text for the thumbnail images so that users know what file they are interacting with and can independently access the information they are looking for. They should also be made aware of the file format and be notified if it downloads automatically upon selection.</p>	<p>Low-Vision, Blind</p> <p>WCAG 2.1 AA 4.1.2 Name, Role, Value</p>

[Redacted]					