



# City of Worcester Website Review Report

**DRAFT**

June 30, 2015



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## Executive Summary

The ‘*WorcesterMA.gov*’ website contains a number of features that enable users with a wide spectrum of abilities the opportunity to access information about the City of Worcester and the many programs, services and benefits offered through the website. Currently, it meets some applicable portions of the World Wide Web Consortium/Web Accessibility Initiative (W3C-WAI) Web Content Accessibility Guidelines (WCAG 2.0) and Section 508 of the Rehabilitation Act, but a few steps could be taken to fully meet these web accessibility standards. The standards presented in Section 508 and the W3C/WAI’s WCAG 2.0 provide the most robust set of guidance for a website that works well for users with the widest range of physical, sensory or cognitive abilities.

### Requirements for non-discrimination in web information

The U.S. Department of Justice has clarified expectations that the websites of state and local governments are covered by ADA title II as well as under Section 504 for recipients of federal financial assistance. The City of Worcester’s responsibility as an ADA Title II entity, based on guidance from the US Department of Justice (DoJ), is to meet the WCAG 2.0 AA guidance.

Websites should be considered ‘programs’ of the City. (See more detail from

DoJ: [http://www.ada.gov/anprm2010/web%20anprm\\_2010.htm](http://www.ada.gov/anprm2010/web%20anprm_2010.htm).)

Though the obligation is not ambiguous, the Department of Justice (DoJ) is expected to revise the regulations implementing ADA title II relative to the accessibility of web information and an announcement is expected at any time. DoJ is responding to the need for clarification in the face of inconsistent court decisions, differing standards for web accessibility, and calls by people with disabilities to end any misperceptions about the requirements.

Given the significance of web-based information for residents interacting with local government, web accessibility should also be viewed as an obligation to non-discrimination for state and local governments under the overarching responsibility to ensure “programmatic

access” to people with disabilities and as a responsibility to provide “effective communication,” a core administrative responsibility under both Section 504 and the ADA.

## **Web Content Accessibility Guidelines - WCAG 2.0**

Web Content Accessibility Guidelines (WCAG 2.0) are the most commonly recognized standard for web accessibility globally. It has been developed through a global participatory process and maintained by the **World Wide Web Consortium (W3C)**: an international community where member organizations, a full-time staff, and the public work together to develop web standards. Led by web inventor Tim Berners-Lee and CEO Jeffrey Jaffe, W3C's mission is to lead the web to its full potential. The first design principle that guides W3C's work is: Web for All.

The social value of the web is that it enables human communication, commerce, and opportunities to share knowledge. One of W3C's primary goals is to make these benefits available to all people, whatever their hardware, software, network infrastructure, native language, culture, geographical location, or physical or mental ability.

Web Content Accessibility Guidelines (WCAG) 2.0 covers a wide range of recommendations for making web content more accessible. Following these guidelines will make content accessible to a wider range of people with disabilities, including people who are blind or low vision, deaf or hard of hearing, have learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and combinations of these. Following these guidelines will also often make your web content more usable to users in general.

There is a global trend toward bringing the mix of guidance on web accessibility into agreement – “harmonization” - so that shared guidance will result in reliable and predictable accessibility across more nations.

## **Synopsis of WorcesterMA.gov**

Users with disabilities, including those with low or no vision, limited or no hearing, physical /motor impairments, and cognitive disabilities will find that portions of the website are accessible but they will encounter difficulties with the usability or ease of use with certain aspects of the site. The biggest challenge for users is with the organization of the main website and the ability to find information. The City of Worcester also uses numerous external web-based service providers (e.g., pay online parking ticket) that are found to be partially inaccessible. The City could limit this problem in the future by including requirements for accessibility as a core procurement requirement of the service provider and could mandate that payment will be contingent on satisfactory performance for required accessibility.

The other set of websites reviewed *WorcesterMass.org*; *WorcesterEnergy.com*; *BuyWorcesterNow.com*; *CMWIB.org*; *Job1ForYouth.com* did not equal the accessibility quality of *WorcesterMA.gov*, so specific attention should be given to those other websites.

## Overview of Web Evaluation Process

The Institute for Human Centered Design (IHCD) conducted a review of the *WorcesterMA.gov* website in order to identify any significant and recurring accessibility and usability problems. The basis for the review was under the guidance from Section 508 of the Rehabilitation Act, the W3C-WAI's WCAG 2.0 guidelines, and IHCD's expertise in universal or inclusive design. IHCD's review focused on central functions, key pages, and navigation throughout *WorcesterMA.gov* and the following auxiliary websites:

WorcesterMass.org

Worcesterenergy.com

BuyWorcesterNow.com

CMWIB.org

Job1ForYouth.com

## Objectives

The objective of this website review was to learn how the experiences with the *WorcesterMA.gov* website could be improved for all visitors, but specifically for people that experience functional limitations such as low/no vision, cognitive limitations, and dexterity or other physical limitations.

## Method of Evaluation

IHCD used a mix of methods to evaluate the website including:

- The use of automated evaluation and validation tools: A checker, WAVE Accessibility Toolbar.
- Testing by our own staff experts using manual testing techniques, including disabling JavaScript, CSS, a contrast analyzer, and other web applications on a page-by-page basis to assess accessibility.

- User/Expert Testing - A user/expert is a person who has developed expertise by means of their lived experience in dealing with the challenges of the environment due to a physical, sensory, or cognitive functional limitation. The environment is understood holistically to include the physical, information, communication, policy, and attitudinal/social environments but individual testing may focus on just a single issue such as a website.

IHCD’s primary research method is contextual inquiry. This method focuses on the engagement of user/experts. IHCD invited user/experts with a variety of functional limitations to review the Worcester sites while being observed and documented by the IHCD team. Some but not all user/experts used Assistive Technology (AT) that they commonly use when accessing websites. Their AT included screen readers and screen magnifiers. The site was reviewed on a variety of platforms, using different browsers and operating systems.

### Profile of User/Experts Participating in this Review

The following table provides a brief profile of the four (4) user/experts who assisted with the *WorcesterMA.gov* evaluation. Understanding how different users navigate through the website with a range of abilities and assistive technologies helps to frame the significance of the identified issues and recommended solutions.

User/Expert	Age	Functional Limitation	Individual characteristics for navigating websites
Jade	19	Totally blind since birth, Primarily uses Mac and iOS devices (iPhone) with VoiceOver screen reader	By using the TAB function, she navigates through links on the website. She primarily uses headings to navigate through a page, she likes when they are grouped in logical ways. She also navigates by a list of links or looks for specific links, buttons, and text areas. She considers herself to be a

			“technology enthusiast,” and began using assistive technologies from an early age.
Paul	69	Legally blind with no vision in left eye - greater contrast allows for better vision. He cannot differentiate between green and red.	Member of the Worcester Commission on Disabilities for 2 years. Regularly deals with disabled access for all types of users.  Retired
Maggie	22	Low vision, legally blind and uses a service animal.	The user/expert uses screen reader technology for long bodies of texts, and a screen magnifier for words or short sentences. For this review Zoom Text 10 was used on Windows, with a combination of screen magnification and a read aloud feature for some portion of the text.
Willa	26	Learning disability (Dyslexia)	Uses the main menu bar extensively to navigate; appreciates when alternative formats are provided to bypass large amounts of text; prefers information to be provided visually and particularly likes videos. Consistency of layout and button placement eases her navigation. When it is required that she reads a large portion of text, she will copy and paste it into other software (e.g., Word) so that she can use text to speech technology and listen to it.

## Context of Use in the Test

Each user/expert was provided with a list of selected WorcesterMA.gov webpages to review. They were then asked to review the pages in the method that was most natural to them. Most of the participants accessed the website through their personal computers. The participants tested the website using different browsers (e.g., Internet Explorer 10, Safari, Mozilla Firefox, and Chrome) and platforms (e.g., Windows and Mac OS). The participants used their own assistive technology, including screen readers (e.g., VoiceOver, JAWS 14, NVDA) and screen magnifiers (ZoomText & Safari built-in zoom application).

## Tasks

The user/experts were then given a set of tasks to perform while reviewing the website, such as finding their polling location, applying for a job with the city, and finding information about the airport. They focused on several key pages, noting their experiences with navigation and accessing specific types of features such as menus, forms, search fields, and specific types of content such as linked documents. Each user/expert provided feedback on selections from the WorcesterMA.gov website and reported what worked and what didn't, according to their individual style of navigating and accessing content.

Below is a list of the general questions that were presented to each of the user/experts. Follow-up questions were also asked in response to specific issues or challenges that users individually encountered during their review in order to understand the problem as accurately as possible.

## Participant General Questions

- If you are using an assistive device, what type are you using?
- What was your experience navigating through the various links and pages on the website?
- Were you able to access any interactive features such as search engines? Or forms?
- Were you able to access any content in video or image format?
- What did you like about the layout of the website?

- What did you not like about the layout of the website?
- What are your recommendations for improving the website?
- Were you able to locate general information about accessibility in the City of Worcester?

## **Expert Review Tools**

In its analysis of the user/expert experience, IHCD staff primarily used screen reader software (JAWS, NVDA and VoiceOver), screen magnifier software (ZoomText 10), along with a variety of online tools to check the accessibility of the website. These were used, in some cases, to try and re-create issues that the user/experts encountered while navigating through the website.

## **Experiment Design**

Aside from providing a list of website pages to access and a general set of post-review questions, user/experts were not provided specific instructions. This was done in order to ensure that the feedback obtained would be based on each user's natural navigation pattern.

## Review of Findings

### Use of appropriate headings

Headings are present on *WorcesterMA.gov* and the City's peripheral websites, but not always in a logical order. On most pages, the first header encountered was not a top-level header (H1) and there were many instances of empty header tags. While the primary purpose of headers is to denote section breaks in webpages, screen readers and other assistive technology users have the ability to navigate web pages by structure. This means that the user can read or jump directly to top level elements heading level 1 (<h1>), next level elements heading level 2 (<h2>), third level elements heading level 3 (<h3>), and more. Viewing or listening to this outline would provide a good sense of the content and structure of the page very similarly to how a sighted user would visually scan an outline. Additionally, there are certain pages that would benefit visually from the implementation of proper headers as well.

### Use of form labels to appropriately correspond with input fields

Users with disabilities, especially those who are blind or visually impaired, need to know the purpose of a specific form control and how to interact with it. Most forms encountered on City of Worcester websites did have corresponding labels, however we encountered a few that were missing appropriate labelling (see the pay your bill online section). Markups should properly associate a *form label* with the input element. If a user comes to an area where they have to enter information, then it should be labeled correctly as to what information they are being asked for so the user knows. Without properly labeled forms, it is confusing and unclear. Users can get disorganized, confused, or just get frustrated by the labels not being clear. Form labels are accepted by a variety of assistive technologies and useful whether the user is navigating using keyboard shortcuts, tabbing through or filling out forms with assistive technology such as JAWS.

## Label all images with descriptive information

All images should have associated alternative text (alt text). In instances where the image is not significant to understanding the content of the page (decorative image) it is acceptable to enter a null alt text. However, it is preferable, in those instances, to have the decorative images handled through the Cascading Style Sheets (CSS) so that screen reader users don't have to encounter unnecessary image fields. On *WorcesterMA.gov*, most of the images are labeled with alternative text, but sometimes lack appropriate descriptive information. The consistency of alt text is not present in the peripheral sites. Find details about how to provide adequate alternative text here: <http://webaim.org/techniques/alttext/>

## More Attention to Low Vision

*WorcesterMA.gov* accessibility focus seems primarily geared toward users who are fully blind, but not on those who might have some usable sight (e.g. users with low vision and/or those who are 'legally blind'). The City of Worcester should continue its attention to meeting the needs of people who are fully blind but build capacity to design for meeting the needs of users with low vision. Of the total population of individuals with visual impairments, approximately 90 percent have some functional vision. This means that just 10 percent of individuals with visual impairments are unable to use their vision in any way to complete daily tasks (Source: American Foundation for the Blind).

### Common Types of Low Vision

- **Loss of Central Vision** – The loss of central vision creates a blur or black spot, but side (peripheral) vision remains intact. This makes it difficult to read, recognize faces, and distinguish most details at a distance. However, mobility is usually unaffected because side vision remains intact.
- **Loss of Peripheral (Side) Vision** – Loss of peripheral vision is typified by an inability to distinguish anything to one side or both sides, or anything directly above and/or

below eye level. However, central vision remains intact making it possible to see directly ahead. Typically, loss of peripheral vision may affect mobility and if severe, can slow reading speed as a result of seeing only a few words at a time. This is sometimes referred to as "tunnel vision."

- **Blurred Vision** – Blurred vision means that objects both near and far appear to be out of focus, even with the best conventional spectacle correction possible.
- **Generalized Haze** – Generalized haze causes the sensation of a film or glare that may extend over the entire viewing field.
- **Extreme Light Sensitivity** – Extreme light sensitivity exists when standard levels of illumination overwhelm the visual system, producing a washed out image and/or glare disability. People with extreme light sensitivity may actually suffer pain or discomfort from relatively normal levels of illumination.

[Source: <http://www.aoa.org/patients-and-public/caring-for-your-vision/low-vision/common-types-of-low-vision>]

## Use appropriate font sizes

Make sure font sizes can be increased independently of the styling on a webpage, and the default text is *at least* 9-10 points/pixels high. A size of 12-14 points/pixels for body is generally recommended for body text (depending on audience). The WCAG Guidelines recommends text can be zoomed to 200 percent. Use relative font sizes to ensure the text can scale.

Ideally provide a tool on the page to resize the font will provide crispier font, easier to read



See guidance from WCAG 2.0 1.3.4 regarding text

sizing <http://www.w3.org/TR/WCAG20/#content-structure-separation>

## **Provide enough contrast throughout the website:**

Make sure to provide sufficient color contrast for text throughout the entire website. The WCAG 2.0 Guidelines require a contrast ratio of at least 4.5:1 for small text and at least 3:1 for bigger text. This is a good tool to check the color contrast when developing your page <http://webaim.org/resources/contrastchecker/>

## **Ensure documents offered on the website (e.g., PDF, Word document) are accessible**

Every document on the website in a PDF format should be accessible to screen reader users and users with low vision. If the PDF has a fillable form, make sure to create an accessible fillable PDF. Adobe Acrobat provides many easy tools to include accessibility features into your document and make them conform to section 508 and WCAG 2.0 Guidelines. See this link for more detailed information:

[http://help.adobe.com/en\\_US/acrobat/using/WS58a04a822e3e50102bd615109794195ff-7d10.w.html](http://help.adobe.com/en_US/acrobat/using/WS58a04a822e3e50102bd615109794195ff-7d10.w.html)

## **Ensure that multi-media and dynamic content are accessible**

Ensure multi-media elements such as video and dynamic content are accessible and that accessibility features such as closed captioning and audio description are available and working. Media players that are embedded in a website should be accessible; the *controls should be operable by keyboard-only access and by screen readers*. Media content, whether audio or video, should not load automatically when a user reaches a webpage. Flash content is generally not accessible so provide alternate means for users to access this content.

## WorcesterMA.gov

### General Comments

#### Website Organization

Every User/Expert experienced some degree of difficulty with how the pages of the WorcesterMA.gov are organized. Of particular problem was the E-Services section. There were many pages under this category that the User was expecting to be elsewhere, particularly “Where Do I Vote?” and “Employment Opportunities”. Although this organizational scheme makes sense from a back end perspective, it is very unclear to users, particularly first time visitors. A better scheme might involve organizing the information around types of users (residents, visitors, city employees) and have the information most pertinent to those people under those headers. The organizational scheme also assumes knowledge of how a city is structured. While it is probably clear to most people employed by the city what a city clerk does and therefore what will be in that section of the website, the average visitor should not be expected to know that.

One very specific link that could be a helpful start would be a “Contact Us” link placed in the footer of the website. Several users commented that they would like the “Contact Us” link to be on every page. Even though the “Contact Us” link was present on every page already, it was contained in the confusing left hand side menu, so users had difficulty locating it.

#### Heading Structure

Most of the pages on all of the websites lacked a sufficient heading structure to be useful for users who navigate via headings. In many of these cases the page had an accurate H1 level heading which was the title of the page; however the remainder of the page lacked structure. Heading can also be helpful to users navigating by sight (when paired with appropriate CSS) and aid in quickly scanning a page and getting a sense of where the information they need is.

## Left Hand Side Menu

There are several issues that apply to the sidebars throughout the website. The following picture is an example image of an instance of the sidebar that has all the issues mentioned.



## Word Spacing

The links in the left hand sidebar on WorcesterMA.gov seemed “smooshed” to several of the User/Experts. One of the low vision User/Experts was unable to read these links and had to switch to a screen reader for this portion of the website mostly due to the spacing and the text being on the small side. The word spacing was most likely reduced due to the large volume of links in many of these lists, but it reduces comprehension for a wide variety of users (those with low vision and learning disabilities)

## Link Organization

There was no identifiable logic apparent to the users that governed the order of links in these various menus. The result of this was that even when the user was sure that a sidebar contained a certain link, it was still very difficult for them to find it. Most users were expecting an alphabetical link order.

## No Left Margin

The text is justified left with no padding/margin on the left. This makes the words more difficult to read and the list feel more cramped which can be stressful for users with a variety of disabilities. One suggestion from a User/Expert is that they prefer to have bullet points for lists like this.

### Indentation not Clear



The increased left hand margin to show that links were part of a nested list was not readily apparent to the majority of User/Experts who navigated via sight. This could be resolved by increasing the added margin or by using some variation in bullet points.

### Top and Bottom Images



These images should be written into the code through the CSS so that screen reader users do not encounter them as they are just for visual decoration. Currently screen reader users encounter images with the alt text “Navigation Top” and “Navigation Bottom” on each side menu section they encounter.

### Horizontal Navigation



The horizontal navigation bar was much more appreciated by the users. Users with low vision navigating with screen magnification found this type of menu much easier to find on the page and to use. Users with cognitive impairments especially appreciated the color coding system. However a few issues were identified.

### Consistency

The navigation should be consistent across the entire website; the main navigation bar is not present on the main page, which is confusing for the user.

### Size

The target size of the button is very small. This could represent a challenge for users with dexterity impairments or senior users. Additionally it is more challenging to use for a user navigating the site via a mobile platform such as a smart phone.

### Hover change of color

There is a slight change of color when the mouse hovers over the button of the menu but this is too subtle and was unnoticed by most users. Bolding the text and having a more contrasted color change would make it more effective.

### Keyboard Navigation

Adding a *:focus* attribute with a change of color will help users navigating via keyboard only knowing where they are on the page.

### Dropdown Menu

One user with low vision mentioned that she would prefer having a dropdown menu navigation on this menu with the entire page listed under each section. This would be easier to navigate for her than the left hand side menu.

### **Justified Text**

**Community Dialogues on Race** - Join the community for a seven-week series of dialogues that will give the community an opportunity to be heard and help develop solutions to concerns related to our increasingly diverse city. [Full Story...](#)

**City, UMass, District Attorney to Hold Gun Buyback** - In an effort to reduce the prevalence of gun-related incidents, City Manager Edward Augustus and the City of Worcester will hold a Gun Buyback event in collaboration with UMass Memorial Medical Center and Worcester County District Attorney, Joseph Early, Jr. [Full story...](#)

The majority of the text in the main body section on the entire website is right and left justified. This creates wildly varied word spacing within paragraphs that makes comprehension much more difficult for those with various learning disabilities. Justified text can also be difficult for low vision users in the instances where the word spacing becomes very tight

## Lack of White Space

### Welcome to Online Payments!

The City of Worcester accepts online payments through our online payment partners. This online service gives customers who do business with the City of Worcester a convenient, efficient and user-friendly way to pay bills or purchase city services 24 hours per day, 7 days a week.

Online payments may be made using checking account information (Electronic Funds Transfer) or credit cards. Available payment options vary among services and our online payment partners. Clicking the payment of choice will display the available options and any associated service fees. Transactions are secure using state-of-the-industry encryption technology. The following [Frequently Asked Questions](#) may help answer your most common question.

Overall the website has a lack of white space. This is of greater importance on the many pages in this site that are very text heavy. Without proper white space, the line length becomes very long which can make the text very difficult to read for those with learning or cognitive disabilities. It is recommended to use line of text no longer than 10 words in average to increase legibility. On the website line of text average 15 to 20 words per line. The overwhelming amount of text can also be very stressful for people with certain cognitive disabilities and mental illnesses which can cause them to leave the website before accomplishing their objective.

The watermark at the back of the page could also represent a challenge to the readability of the website. Generally it is hard for users with learning disability or attention deficit disorder to read a text content when it is over an image. In our testing the users said they were not bothered by it.

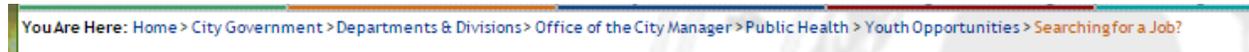
Refer to <http://wave.webaim.org/cognitive> for advice on how to better design your website for cognitive accessibility.

## Repeated Confusing Visual Element



This same picture is used in the same place in many pages on the website. This was a bit confusing for users who navigate visually as they sometimes thought they had returned to a page they had visited previously when this was not the case. Additionally, in many instances the alt text for this image matches the title of the page it is on which is not appropriate alt text for this image.

## Bread Crumbs



Bread crumbs like this can be very helpful for users to orient themselves in the website when they are on a specific page. However this particular bread crumb menu did not prove to be very useful, mostly because users didn't know it was there. The type is so small here that many users passed it by completely, or found it and were unable to read it. Additionally, the color of the active item ("Searching for a Job" in the example above) provides poor contrast with the background.

## Page-by-Page Findings

Home - <http://www.worcesterma.gov/>

Where Do I Vote - <http://www.worcesterma.gov/e-services/where-do-i-vote>

Municipal Calendar - <http://www.worcesterma.gov/calendar>

Office on Disabilities - <http://www.worcesterma.gov/ocm/disabilities>

Online Payments - <http://www.worcesterma.gov/e-services/online-payments>

Public Schools - <http://www.worcesterma.gov/living-working/public-schools>

Dog Licenses - <http://www.worcesterma.gov/e-services/online-payments/dog-license>

Worcester Regional Airport - <http://www.worcesterma.gov/living-working/getting-around-the-city/worcester-regional-airport>

Frequently Asked Questions - <http://www.worcesterma.gov/e-services/faqs>

Employment Opportunities - <http://www.worcesterma.gov/e-services/employment-opportunities>

Search - <http://www.worcesterma.gov/search>

News - <http://www.worcesterma.gov/news>

Search Public Records - <http://www.worcesterma.gov/e-services/search-public-records>

## Home Page

<http://www.worcesterma.gov/>



### Icon size



The icons at the top of the page are quite small and complex. User with low vision could not figure what the print icon stands for. One user first thought that the magnifying icon would increase the font size of the website.

### Sidebars on Both Sides of Page

There are lists of links on both sides of the main content on the home page. It is difficult for a screen reader or screen magnifier user to anticipate that this would be the case. They are therefore likely to miss the information in the right hand sidebar.

### Text at Bottom of Top Banner



The text at the bottom of the header image on the home page proved difficult for those users with and without low vision. The text is very small and in places, the contrast is poor.

Additionally, there was no text equivalent for this information so screen reader users had no idea it was there. Because it is located just below the top banner, many users thought at first that this was a navigation menu and tried to click on the link to explore the website.

### Image Slideshow



City of Worcester, MA | 455 Main St., Worcester, MA 01608 | (508) 929-1300 | Email

One screen reader user got stuck in an infinite loop when they got to the slideshow portion of the home page. It was unclear to the user that they were on a section of images or that they were not accessing the whole page.

### Text Spacing in Right Hand Sidebar

#### Seasonal Info

- [Spring Street Sweeping](#)
- [Out to Lunch Concert Series](#)
- [Recreation Worcester](#)
- [Yard Waste Drop-Off](#)
- [Green Hill Golf Course](#)

The links in the right sidebar have reduced word spacing (word-spacing: -0.1em in the code), this leads to those with lower vision having a much harder time reading the text. It is difficult to tell where one word ends and the next begins. This also created an issue for the user with a learning disability.

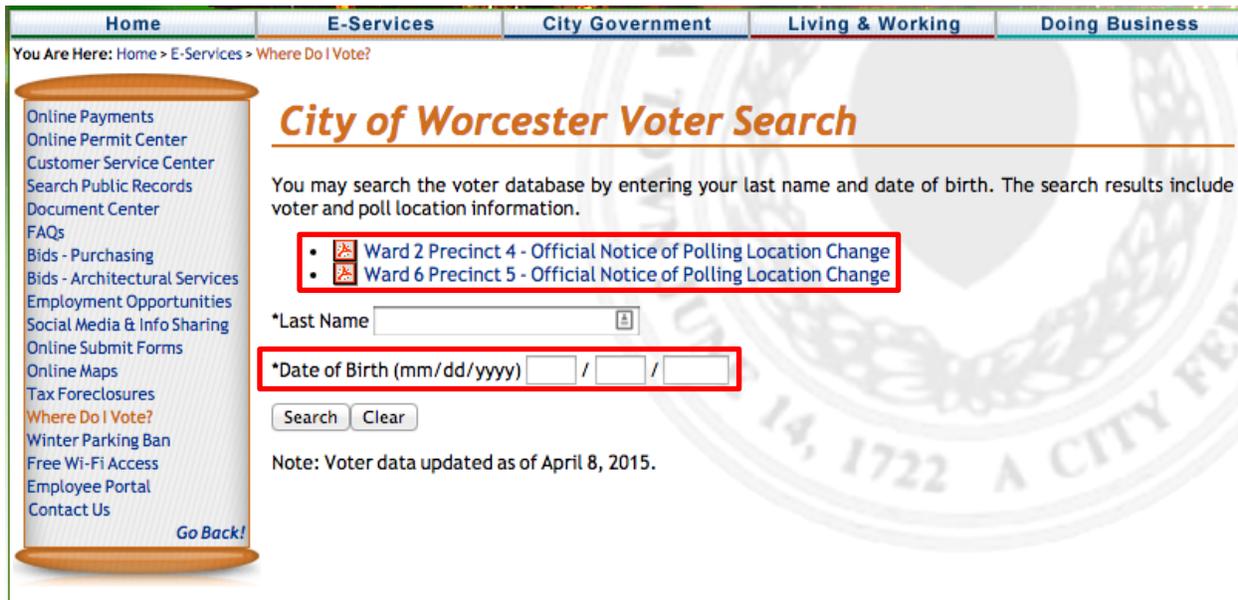
## Heading Structure

- h3 Welcome to Worcester, Massachusetts!
- h2 Announcements
- h2 Meetings & Events
- h3 Stay Informed
- h3 Health & Safety
- h3 Seasonal Info
- h3 Special Interest
- h3 Opportunities

The heading structure for the home page of WorcesterMA.gov contains more information than a lot of the other pages on the website. However, the page is missing a H1 level heading. It is potentially confusing for users to have a page's heading structure begin with a third level heading.

## Where Do I Vote

<http://www.worcesterma.gov/e-services/where-do-i-vote>



### Page Location

Most Users were confused about the location of this page within the website. This was true of both outside visitors and Worcester residents. When asked to find voting information, most users looked in the section titled “Living & Working”.

### PDF Documents

There was some confusion about why the polling changes were in PDF documents instead of an HTML format. Additionally, the way the links were named led to some confusion as the user expected all the wards and precincts to be in this list of links. A possible solution would be to put these under a header of “Alerts” or “Polling Location Changes”.

### Birth Date Fields



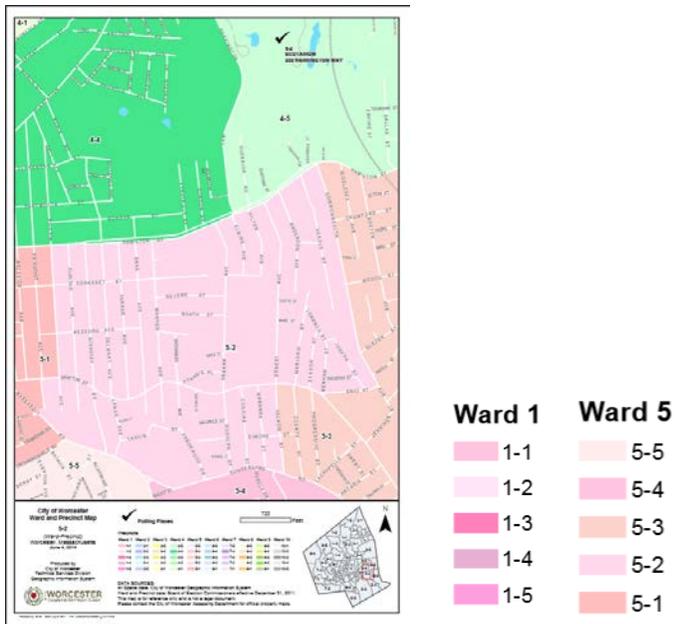
Users experienced some difficulty with the date fields for their birth date. They would much prefer the cursor to automatically advance from one cell to the next after the field has been completed

**Results**

The links at the top of the page “City Clerk” and “Election” are a bit confusing because they come before the content which the user is seeking out.

The information labels (Ward, Precinct) should be more prominent so the user can easily find them when scanning down the page.

**Map**



**Duplicated polling location**

In one of the maps the polling location marker appeared twice on the map. This confused the user who did not know which marker was the correct one.

**Color Coding**

The color coding of the map was not very helpful because the colors were so faint and many of them were indistinguishable from one another. The user/expert with color blindness had a difficult time distinguishing the different shades of pink.

**Text Size**

The text size for street names was so small that once the map was enlarged enough for the names to be legible, all sense of context within the city map was lost.

**PDF format**

This map would be no use for a user relying on a screen reader to navigate, we suggest providing a written address of the polling location, not in a PDF format but available on the website. Additionally, most users are now more comfortable using Google Maps think about using a link to that location within Google Maps or provide an embedded interactive map.

## Municipal Calendar

<http://www.worcesterma.gov/calendar>

Day	Week	Month	List	Search	iCal
« Previous Week   <b>Jun 14 2015 - Jun 20 2015</b>   Next Week »					
<b>June 14, 2015 to June 20, 2015</b>					
SUNDAY		14			
MONDAY		15	<ul style="list-style-type: none"> <li>Grafton Street School Council Meeting</li> <li>Standing Committee on Economic Development Meeting-POSTPONED TO JUNE 16, 2015</li> <li>Zoning Board of Appeals Meeting</li> <li>Community Dialogues on Race</li> </ul>		
TUESDAY		16	<ul style="list-style-type: none"> <li>Worcester Senior Center 15th Anniversary</li> <li>Public Library Board of Directors Ad Hoc Committee on Foundation Funding Meeting</li> <li>Commission on Disability Meeting</li> <li>Standing Committee on Economic Development Meeting</li> <li>Indian Lake Neighborhood Watch Group Meeting</li> <li>City Council Meeting</li> </ul>		
WEDNESDAY		17	<ul style="list-style-type: none"> <li>K.G.H. Crime Watch Meeting</li> <li>Standing Committee on Public Works Meeting</li> <li>Brown Square Neighborhood Watch Meeting</li> </ul>		
THURSDAY		18	<ul style="list-style-type: none"> <li>Worcester Regional Transit Authority Advisory Board Meeting</li> <li>Retirement Board COLA Meeting</li> <li>Retirement Board Meeting</li> <li>Worcester Housing Authority Board of Commissioners Meeting</li> <li>Public Library Board of Directors Community Services Committee Meeting</li> <li>License Commission Meeting</li> <li>Book Discussion</li> <li>Public Library Board of Directors Meeting</li> <li>School Committee Meeting</li> <li>M.S.P.S. Crime Watch Meeting</li> <li>Lincoln Village Neighborhood Meeting</li> <li>School Committee Meeting in Executive Session</li> <li>School Committee Meeting in Regular Session</li> <li>Shrewsbury Street Neighborhood Watch</li> </ul>		
FRIDAY		19	<ul style="list-style-type: none"> <li>Fathers Day Event</li> </ul>		

### Color Contrast

There are a lot of text and background choices in the calendar that do not provide sufficient contrast to comply with WCAG 2.0 AA. The only three combinations that work are the selected tab at the top (“Week” in the picture above), the days of the week, and day number

Contrast ratio: 3.57:1  Short / Full

Text	<input checked="" type="checkbox"/> Fail(AA) <input checked="" type="checkbox"/> Fail(AAA)	Large text	<input checked="" type="checkbox"/> Pass(AA) <input checked="" type="checkbox"/> Fail(AAA)
------	---	------------	---

### Event Listing Contrast



## Current Day Event Listing

### iCal

The users that noticed this feature found it interesting. There were suggestions of making it more apparent as users who use screen magnifiers would most likely miss it. Also using some kind of icon would be helpful for recognizing its purpose

### Showing Past Events

Even though there was the color-coded background to indicate which section contained events for today, some users were confused at the presence of events that had already taken place. With the events in a chronological list format, the expectation was that the top of the list will have events from the current day.

### Missing Event Descriptions

Many of the events are lacking descriptions when the user clicks on the event link. It would be helpful for users that have brain related disabilities if there were at least a link to get more information about the event. The calendar listings seem to assume that the user already has a lot of information about what each type of event would entail and which events they would be welcome at. This is generally not the case.

## Office on Disabilities

<http://www.worcesterma.gov/ocm/disabilities>

You Are Here: Home > City Government > Departments & Divisions > Office of the City Manager > Office on Disabilities



### Office on Disabilities



City Hall Room 303, Intake Coordinator  
 Phone: (508) 799-8483  
 City Hall Room 311, Director & ADA Coordinator  
 455 Main Street, Worcester, MA 01608  
 Phone: (508) 799-1152, Fax: (508) 799-1208  
 Email: [disabilities@worcesterma.gov](mailto:disabilities@worcesterma.gov)  
 Office Hours: Monday - Friday 8:30 AM - 5:00 PM



The Office on Disabilities ensures that all Worcester residents and visitors with disabilities have access to city programs and services by providing information and referral, advocacy, outreach and educational programs. In addition, this office:

#### Notices & Announcements

- Provides services and referrals to the roughly 25% of the Worcester population with disabilities and their families;
- Monitors the city's development for the proper accessibility protocols;
- Encourages public awareness of disability issues;
- Reviews and make recommendations about policies, procedures, services and activities of city departments and agencies as they affect people with disabilities;
- Works in cooperation with city departments and agencies to bring about full and equal participation by people with disabilities;
- Advises and assists city officials and employees in ensuring compliance with local, state and federal laws and regulations that affect people with disabilities;
- Provides information, referrals, guidance and technical assistance to individuals, public agencies, businesses and organization in all matters pertaining to disabilities on a confidential and free basis.

- [ADA 25th Anniversary Celebration](#)
- [Draft ADA Review of Polling Locations](#)
- [City's Draft ADA Self-Evaluation Available for Review](#)
- [ADA Hearing Video \(2:16:56\)](#)

#### Notify Us of Accessibility Issues

Have you encountered an accessibility issue within the City of Worcester? Whether it's an excessively heavy door, an inappropriate curb cut, an inaccessible entryway or any other problem or issue, we'd like to know about it. Please use our [Feedback Form](#) and select "Accessibility" as the category so that we may investigate and respond accordingly.

### Location of Page

This page proved very difficult for users to locate. The placement of the page within the website structure seems to assume knowledge of the how the municipal government is structured which is a lot to expect from someone visiting a city website for the first time.

Ideally there should be a link directly accessible from the home page named "Accessibility" that will talk about the accessibility of the city and where the commission should be linked to.

### Icons

The "PDF" and "video" icons were appreciated. It really helps the user to know in advance what will happen when clicking on a link.

## Video



The media player is not accessible for users navigating via keyboard only and for users navigating via a screen reader. We recommend using an embedded YouTube video with an accessible media player interface.

All of the videos encountered on the WorcesterMA.gov are missing captioning and no transcript is made available or offered to access the content of the video.

-  [Helping Worcester Vote - The AutoMARK Voter Assist Terminal \(11:40\)](#)
-  [How to Use the AutoMARK Voter Assist Terminal](#)

We experienced difficulties opening the video about AutoMARK voter Assist. That video had some captioning but it did not match the audio content of the video.

## Online Payments

<http://www.worcesterma.gov/e-services/online-payments>

You Are Here: Home > E-Services > **Online Payments**

**Online Payments**

- Online Permit Center
- Customer Service Center
- Search Public Records
- Document Center
- FAQs
- Bids - Purchasing
- Bids - Architectural Services
- Employment Opportunities
- Social Media & Info Sharing
- Online Submit Forms
- Online Maps
- Tax Foreclosures
- Where Do I Vote?
- Winter Parking Ban
- Free Wi-Fi Access
- Employee Portal
- Contact Us

[Go Back!](#)

### Online Payments

**Welcome to Online Payments!**

The City of Worcester accepts online payments through our online payment partners. This online service gives customers who do business with the City of Worcester a convenient, efficient and user-friendly way to pay bills or purchase city services 24 hours per day, 7 days a week.

Online payments may be made using checking account information (Electronic Funds Transfer) or credit cards. Available payment options vary among services and our online payment partners. Clicking the payment of choice will display the available options and any associated service fees. Transactions are secure using state-of-the-industry encryption technology. The following [Frequently Asked Questions](#) may help answer your most common question.

***A service fee may be assessed by our online payment partners for each online payment processed, which will be detailed on their respective websites.***

Below are listed the bills and services currently available for online payment:

Bill Payments	Dept/Division	Partner	
Motor Vehicle Excise	Treasurer & Collector	UniBank	<a href="#">PAY NOW!</a>
Personal Property	Treasurer & Collector	UniBank	<a href="#">PAY NOW!</a>
Real Estate	Treasurer & Collector	UniBank	<a href="#">PAY NOW!</a>
Water/Sewer	Treasurer & Collector	UniBank	<a href="#">PAY NOW!</a>
Hope Cemetery	Public Works & Parks	UniBank	<a href="#">PAY NOW!</a>

### Heading Structure

#### h1 Online Payments

There is only one heading element on this page. Although this is an appropriately named top level header, the lack of lower level headings makes navigation of the page more difficult for screen reader users whose primarily use headings for navigation within a page.

### Table Navigation

Marriage Certificate	CityClerk	UniBank	<a href="#">ORDER NOW!</a>
----------------------	-----------	---------	----------------------------

The way that the table was laid out made it difficult for screen reader users to comprehend what was going on. They had very little context for the cells “City Clerk” and “UniBank”. By the time they got to “ORDER NOW!” it was not entirely clear to them that they would be ordering a marriage certificate.

### Text Contrast

You Are Here: [Home](#) > [E-Services](#)

Although the orange-brown color used in the E-Services section of the website has sufficient contrast for large text such as the title of this page. It does not have sufficient contrast for normal body text and especially not for text as small as this example. The color is also used with the same sized text in the left side menu on a background that provides even less contrast.

### Link placement and style

#### **Parking Tickets**

City of Worcester parking tickets may be paid through our online payment partner Kelley & Ryan Associates by using checking account information (EFT), MasterCard or Visa cards.

If you have any questions, please contact the [Treasurer & Collector of Taxes](#) by email at [treasurer@worcesterma.gov](mailto:treasurer@worcesterma.gov) or call (508) 799-1075. The Treasurer & Collector of Taxes is open weekdays from 8:00 AM to 5:00 PM.

Do you wish to continue online payment? [YES, PAY NOW](#) | [NO THANK YOU](#) | [FAQs](#)

 Service Fees Apply

The “Yes, pay now” link was first missed by users for several reasons:

- The all caps font makes those links hard to read
- It is embedded in the text at the very bottom of the page. A large contrasted button would be preferred for users with low vision
- The text is not left justified. Users navigating with a screen magnifier always read information from left to right and they are more likely to miss a link or a line of text if it is right-justified or centered.

The need for the “no thank you” button is unclear, because it is just a “back” button

## Pay your parking ticket

<https://www.kelleyryan.com/epay/>

Step 1: Identify Step 2: Select Step 3: Pay By Step 4: Confirm Step 5: Receipt

DO NOT USE THE BACK BUTTON - Use the PREVIOUS STEP and NEXT STEP buttons.

**Notice of Online Convenience Fees**  
 Electronic Checks: \$0.50 Credit Cards: 3.20% (minimum \$3.00)

Find your municipal bills or parking tickets in one of two ways.

**IDENTIFY YOUR BILL:** Enter the information from the municipal bill or parking ticket. For the LAST NAME, individuals should enter the last name of the first person listed on the bill and companies need to enter the full company name EXACTLY as it appears on the bill. All the fields that are marked with a red asterisk \* must be filled in.

<b>*City/Town</b>	<b>*Bill Type</b>	<b>*Bill Year</b>	<b>*Bill Number</b>
WORCESTER, MA	ABANDONED VEHICLE	2015	
<b>*Last Name or Company</b>	<b>*Plate State</b>	<b>*Plate Number</b>	
	MASSACHUSETTS	NONE	

Start Over Next Step

OR

Start Over Next Step

OR

**IDENTIFY YOURSELF:** Enter information about yourself and we will try to find all the unpaid municipal bills and parking tickets that we have for you. For several reasons, some unpaid bills may not show up. You may need to identify those bills individually or pay them at another site. This advanced search is not available to companies. All the fields that are marked with a red asterisk \* must be filled in.

<b>*Last Name</b>	<b>*First Name</b>	<b>Middle Name</b>
<b>*Drivers License #</b>	<b>*Plate State</b>	<b>*Plate Number</b>
	MASSACHUSETTS	

Start Over Next Step

We accept payment by:








**Municipal ePayment System**

Powered by  
*Kelley & Ryan*

Privacy Policy

### Missing alternative text

The image on this page lacks an alternative text. This makes it impossible for a user with no vision to know what types of card are accepted for payment.

### Table missing header label

Using a table is not recommended for layout content in this case. It slows down the navigation for user using a screen reader. The headers of the table are not labelled so it does not help navigating the content

**Text field not labelled appropriately**

This form is not accessible for users using a screen magnifier because the form field is not labeled. When using a screen reader it will just read “blank” for each field which does not provide users with the necessary information to fill in this form.

## Public Schools

<http://www.worcesterma.gov/living-working/public-schools>

**Home** | **E-Services** | **City Government** | **Living & Working** | **Doing Business**

You Are Here: Home > Living & Working > Public Schools

- Sites & Sounds
- Getting Around the City
- Buying a Home?
- Cost of Living
- Public Schools**
- Public Library
- Senior Center
- Municipal Calendar
- Neighborhood Development
- Ordinances & Regulations
- Parking Administration
- Private Street Information
- Seasonal Information
- Trash & Recycling
- Contact Us

### Public Schools

Worcester offers a wealth of educational opportunities for young people. Worcester is proud to have one of the strongest urban public school systems in the state with numerous quality public elementary and secondary schools.

Worcester Technical High School located at 1 Skyline Drive opened for the 2006-2007 academic year. The \$94 million dollar state-of-the-art school takes vocational education to a whole new level.

Additionally, the City of Worcester completed the construction of a new North High School located at 150 Harrington Way. The \$73 million dollar project finished on-time and within budget for the opening of the 2011-2012 school year.

These multi-million dollar projects demonstrate the commitment to education by the State of Massachusetts, City Manager, City Council and School Committee.

For complete information visit the official [Worcester Public Schools](#) website.

*Go Back!*

### Navigation to Page

The user had some confusion about how to get to this page. When given the task of finding information about the public schools, it was not readily apparent to them that it would be located here on the website.

## Dog Licenses

<http://www.worcesterma.gov/e-services/online-payments/dog-license>

You Are Here: Home > E-Services > Online Payments

Online Payments

Online Permit Center

Customer Service Center

Search Public Records

Document Center

FAQs

Bids - Purchasing

Bids - Architectural Services

Employment Opportunities

Social Media & Info Sharing

Online Submit Forms

Online Maps

Tax Foreclosures

Where Do I Vote?

Winter Parking Ban

Free Wi-Fi Access

Employee Portal

Contact Us

Go Back!

### Dog License

City of Worcester Dog Licenses may be renewed through our online payment partner UniBank Government Services by using checking account information (EFT), MasterCard, Discover or Visa cards.

The Worcester City Clerk issues dog licenses to individuals who own or keep a dog in the City of Worcester. Licenses are issued yearly beginning April 1st. If you are not certain whether a dog license is filed with the Worcester City Clerk, use our [Public Records Search](#) before renewing online. The City Clerk's Office is open weekdays from 8:45 AM to 4:15 PM (5:00 PM on Mondays).

Renewal Fee:  
\$20.00 each  
\$17.00 if Spayed/Neutered

- Enter the license number (six digits in length). Example: license number 87 would be entered as 000087.

**Please note:** if any information related to your license is incorrect on our online payment partner's website, please contact the City Clerk at (508) 799-1121. We are only able to process online dog licenses if we have a current rabies certificate on file for your dog.

Do you wish to continue online payment? YES, PAY NOW | NO THANK YOU | FAQs

Fees Apply \$0.25 Fee

NOTE: License renewal may also be completed in person by visiting the City Clerk's Office, City Hall Room 206, during office hours or via US Mail. Please see the City Clerk [Licensing Your Dog](#) page for more details.

### Lack of Whitespace

The lack of margins on both side of the main body of text makes the page overwhelming for some users. Additionally this causes a long line length which is very difficult for people with learning disabilities such as dyslexia and ADD.

### Link Location on Page

Users responded negatively to the placement of the action links on this page. They were expecting the links to be at the very bottom of the page. Having them in the middle of the text as they are currently made them harder for users to find.

### License Request Form

Any person who fails to obtain an annual dog license on or before May 31st shall be charged when applying for a license, in addition to the license fee, a late fee of **\$15.00**.



This pdf

(<http://www.worcesterma.gov/uploads/3c/ac/3cac23cb90df2f7877893af50345e6bb/dog-license.pdf>) works fairly well in terms of being a fillable form. However at the end of it there is

an image that looks like a button at the bottom of the form that says “Print Form” and when the user clicks on it, nothing happens. This could be a problem for users who are not as computer savvy as they may think that the form has printed in some way.

## Worcester Regional Airport

<http://www.worcesterma.gov/living-working/getting-around-the-city/worcester-regional-airport>

### Worcester Regional Airport

375 Airport Drive, Worcester, MA 01602   
 Phone: (508) 799-1350, Fax: (508) 799-1866  
 24-Hour Security: (508) 799-1348  
 Office Hours: Mon - Fri 8:30 AM - 5:00 PM  
 Worcester Regional Airport on Facebook!   
 Worcester Regional Airport on Twitter!   
 Worcester Weather 



#### Welcome to Worcester Regional Airport!

The primary elements of any airport's mission must be to provide a safe and secure airport, and so it remains for Worcester Regional Airport and its owner/operator, [Massport](#). Worcester Regional Airport is conveniently located in the heart of Central Massachusetts.

Worcester Regional Airport (ORH) offers a \$15.7 million passenger terminal, which provides state-of-the-art passenger comfort and accessibility and features four jetway gates, two ramp level gates, two baggage carousels and a TSA installed passenger and baggage screening system.



New for 2013, JetBlue Airways will be offering one flight daily between Worcester Regional Airport and Orlando and another daily flight to Ft. Lauderdale, Florida, starting November 7, 2013. The airline will fly 100-seat Embraer 190 aircraft. [Full story...](#)

The airport has extensive general aviation services & amenities including a [fixed base operator](#).

Regarding the critical need to continue to review and strengthen our security procedures, the Airport Director and Chief of the Airport ARFF/Security Force continue TSA mandated certification as Airport Security Coordinators. This involves monthly security meetings with all tenants of the airport as well as top security officials from Massport, the Massachusetts State Police, The Transportation Security Administration (TSA) and airport staff.

#### Link Location on Page

Users did not respond well to the social media links being before the main body of text on this page. It would seem more appropriate to have those links at the end of the page, after the main content that the user is seeking.

## Frequently Asked Questions

<http://www.worcesterma.gov/e-services/faqs>

### Frequently Asked Questions

The following is a list of links to Frequently Asked Questions (FAQs). Click the appropriate link to learn more about a particular topic. We hope this helps answer your most common questions. Note: the FAQs can also be accessed from their respective Department/Division web pages.

Subject	Number of Questions
General Information	8
Online Payments	12
911	5
Abandoned Vehicle Removal	7
Air, Water & Hazardous Materials	4
ALB - Notice of Infestation & Tree Removal	12
Animal Control	8
Anonymous Crime Tips	10
Bird Flu	8
Boards & Commissions	13
Body Art	7
Building Permits & Inspections	6
Cable Services	6
Chemical Emergencies	4
Childhood Lead Poisoning Prevention Program	8
Elder Affairs	4
Electrical Permits & Inspections	4
Energy Task Force	6

### Search FAQs

Enter a keyword:

## Table Formatting

There was some question here as to why the table formatting was necessary. Users were fairly uninterested in the number of questions in each section before they clicked through. It also took users some time to figure out what the number on the right was referring to when they scrolled down so that they could no longer see the top of the table. It might be more useful to arrange the links in an unordered list.

## Search

On a positive note, users very much appreciated being able to use the search box to cut through the large number of FAQs and find the information they were looking for. The placement of the box at the very bottom of the page made it hard for them to see.

### Search FAQs

Enter a keyword:

Matching FAQs:

When a search yields no result, we recommend displaying a “no result found” message. Right now it is just blank and can give the user the impression that the search query was not processed.

## Employment Opportunities

<http://www.worcesterma.gov/e-services/employment-opportunities>

### Employment Opportunities

Friday, June 19, 2015

**Special Notice** - Applicants now have the ability to Apply Online for open positions! Click on a job title for further information and a link to Apply Online (some positions require candidates to apply in person only when noted).

#### City of Worcester - Where Diversity Works

The City of Worcester is proud to be a city with a well educated and diverse work force. With the City of Worcester employees enjoy paid vacation and sick days, paid holidays and group health insurance. Full Time, Part Time as well as Paid and Non-Paid Internship positions are offered.

Click on the Title of the position to view the complete listing which includes additional information such as department/division, job description, wage, etc. Interested candidates should follow the instructions for each opening in order to apply for the position(s) of interest.

The City of Worcester is an Equal Opportunity/Affirmative Action Employer. Preference is given to Worcester residents.

The City of Worcester assures that every individual shall have equal access to all City employment opportunities. The City is all inclusive and will not discriminate on the basis of disability, gender identity & expression, sexual orientation, race, age, color, religious creed, national origin, genetic information, ancestry, military service or source of income.

Title	Application Deadline	Type
<a href="#">SENIOR/PRINCIPAL BUDGET ANALYST</a>	Jun 19, 2015	Full Time
<a href="#">SENIOR BUYER</a>	Jun 19, 2015	Full Time
<a href="#">PRINCIPAL CLERK</a>	Jun 19, 2015	Full Time
<a href="#">SPECIAL PROJECTS ASSISTANT</a>	Jun 19, 2015	Full Time
<a href="#">EXECUTIVE ADMINISTRATIVE ASSISTANT</a>	Jul 3, 2015	Full Time
<a href="#">MOBILE SERVICES LIBRARIAN</a>	Jul 3, 2015	Full Time
<a href="#">SENIOR CLERK</a>	Jul 3, 2015	Full Time
<a href="#">YOUTH SERVICES BRANCH MANAGER</a>	Jul 6, 2015	Full Time
<a href="#">WATER DISTRIBUTION SYSTEM SUPERVISOR</a>	Jul 10, 2015	Full Time
<a href="#">ASSISTANT DIRECTOR OF MAINTENANCE</a>	Jul 1, 2015	Seasonal
<a href="#">CAMP COUNSELOR</a>	Jul 3, 2015	Seasonal

### Civil Service Exams

Additionally, the City of Worcester offers Civil Service open examinations as the service need may require. Promotional exams are ONLY for current employees of the City of Worcester. Civil Service promotional examinations will be offered according to the departments' requests.

TITLE	TYPE	DATE	FEE	DEADLINE	POSTER
None at this time.					

### Location of Page

It was very unexpected that the employment opportunities would be found in “E-Services”. Users looked in “City Government” and “Living & Working” before being told to look in the “E-Services” section.

## Job Listing

### Job Details

**Related Pages:** Human Resources

The City of Worcester is an **EEO/AA Employer**. Preference is given to Worcester residents.

If you wish to apply for this position, the deadline is **Friday, July 03, 2015**. Please note the following application options for this position:

- Applicants are Encouraged to **Apply Online**
- By Mailing to the Department of Human Resources, ATTN: SENIOR CLERK, 455 Main Street, Room 109 Worcester, MA 01608  
(If applying via US Mail, **please include** a completed **Application Questionnaire & VSID**)
- In Person at Human Resources (See Special Notes in Description Below If Any)

Title	SENIOR CLERK
Department/Division	Police Department
Apply Start Date	06/16/2015
Apply End Date	07/03/2015
Type	Full Time
Hours	
Wage	
Description	<p>The City of Worcester has an opening for a Senior Clerk in the Worcester Police Department. The position requires moderate level clerical duties, be familiar with office procedures, data entry, maintain and retrieve files and records, handle correspondence, respond to inquiries and provide information on department services. Candidate must have computer experience, including Microsoft Word and Excel, and have the ability to work independently and as a team member in a fast-paced environment. Candidate must also have the ability to work under the direction of uniformed police officials and work easily with uniformed police officers, department administration, and the general public. Proven customer service, interpersonal, and organizational skills are required.</p> <p>The starting salary is \$538.00 per week with an excellent benefit package.</p> <p>The City of Worcester is an Affirmative Action Equal Opportunity Employer. Preference is given to Worcester residents.</p>

### Undefined Acronyms

Within the job listings themselves, there were acronyms which the user did not understand such as “EEO.” It is important that the first instance of any acronym is defined so that a user does not get lost for lack of knowledge of jargon.

Acronyms can be hard for everyone and are very difficult to comprehend for non-native speakers; we suggest the use the “[<abbr>](#)” Tag

- NASA pronounced "Nassa"
- [NAS](#) National Aeronautics and Space Administration

The HTML abbreviation element contains abbreviated text and is commonly used together with the "title" attribute to expand/explain the abbreviation. Visual browsers usually render the content of the "title" attribute as a "tool tip".

### Link Location on Page

Users with low vision mentioned that they would prefer to have an “Apply Now” button at the bottom of the page, instead of having just a text link embedded in the body of text. This would allow them to easily find the ‘apply’ link immediately after they finish reading the entire job description.

### Font Change

It was unclear to the user why the font switched to a serif font for the job description when the rest of the website seems to use the same non-serif font. For one low-vision user in particular, this change was not a welcome one and reduced their ability to read the text comfortably.

## Application

### Job Position Information

Job Title: SENIOR CLERK  
Department: Police Department

### Name

\*First Name   
Middle Initial   
\*Last Name

### Contact Information

\*Address Number   
\*Street Name   
Apartment Number   
PO Box   
\*City/Town   
\*State



### Text Boxes

The boxes to insert text into were difficult to locate for low vision users. Having a border that provides greater contrast with the background would be beneficial. Additionally, there is a lot of space between the labels and the text boxes themselves which makes tracking from the label to the box more difficult. We recommend placing the boxes right beside the label.

**CAPTCHA**

In general CAPTCHAs are not recommended as they produce multiple accessibility issues and are useless for users who are both low vision and hard of hearing. If they must be used, a User/Expert with low vision mentioned they would have liked to know about this earlier so they can make sure they have the proper equipment to listen to the audio captcha.

## Search

<http://www.worcesterma.gov/search>

### Search

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Use the form below to search for pages containing specific words or combinations of words. The text search engine will display a weighted list of matching documents, with better matches shown first. Each list item is a link to a matching document. Search terms must contain at least four (4) characters, and quotes can be added around a group of words to search for an exact phrase.

### Text Box

Users appreciated the search page in terms of function and ease of use. Like in the job application form, low vision users had difficulty finding the text box to enter their search queries. Increasing the contrast of the box border should greatly increase the ease with which low vision users can navigate this page.

### Autocorrect function

To ease the navigation of users with cognitive impairments or learning disabilities like dyslexia, we highly recommend adding an autocorrect feature within the text field. Alternatively having the field auto filling likely result could be a nice add-on.

**No results were found.**

## Search Public Records

<http://www.worcesterma.gov/e-services/search-public-records>

You Are Here: [Home](#) > [E-Services](#) > [Search Public Records](#)

- [Online Payments](#)
- [Online Permit Center](#)
- [Customer Service Center](#)
- [Search Public Records](#)
- [Vendor Check Register](#)
- [Property Values](#)
- [Real Estate Tax / CML](#)
- [Birth Certificates](#)
- [Marriage Certificates](#)
- [Death Certificates](#)
- [Business Certificates](#)
- [Dog Licenses](#)
- [Document Center](#)
- [FAQs](#)
- [Bids - Purchasing](#)
- [Bids - Architectural Services](#)
- [Employment Opportunities](#)
- [Social Media & Info Sharing](#)
- [Online Submit Forms](#)
- [Online Maps](#)
- [Tax Foreclosures](#)
- [Where Do I Vote?](#)
- [Winter Parking Ban](#)
- [Free Wi-Fi Access](#)
- [Employee Portal](#)
- [Contact Us](#)

[Go Back!](#)

### Search Public Records

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All available public record searches are listed in the navigation menu to the left.

The City of Worcester is pleased to make available these data searches which will allow you to search our databases for the existence of a record(s). This feature will help us provide a more efficient service to the public.

The City Clerk is responsible for the records related to Birth, Marriage and Death Certificates, Business Certificates and Dog Licenses. The Assessing Division is responsible for the records related to Property Values. The Treasurer & Collector of Taxes is responsible for the records related to Real Estate Taxes/ Certificates of Municipal Lien and the Vendor Check Register.

Should you have any questions or problems with any of the Records Searches, please contact the Department/Division responsible for the related data as mentioned above.

### Link in Sidebar

Users were confused that when they clicked on the “Search Public Records” link there were no links within the main content of the page to interact with. This, combined with the issues of the left hand sidebar mentioned earlier, made it difficult for users to know how to proceed from here.

### Search Public Records

---

All available public record searches are listed in the navigation menu to the left.

For users navigating with a screen reader it is very tedious to navigate from the main page content to the left hand side menu, additionally the indent under “search public record” is not recognizable for users using a screen reader so it is hard to know which links are part of the “search public record” section.

### Headings in Search Results

One of the User/Experts who navigates via screen reader was expecting more headings within the page of search results in order to ease in navigation. Like many pages on the site, the search results page only had the single H1 level heading.

## h1 Search Public Records

## Other City of Worcester Websites

Websites addressed in this section are WorcesterEnergy.com, BuyWorcesterNow.com, CMWIB.org, and Job1ForYouth.com

### General Comments

#### No Tool to Easily Change Font Size

Add a way to personalize preferred font size. Due to the dynamic content and responsive design on most pages, changing font size should not disturb the content and will ease the navigation considerably. One of the User/Experts uses the built-in magnification setting from her browser. However, she had to re-set the zoom level to 125% every time she moved to a new page, and this considerably slowed down her navigation.



Make sure font sizes can be increased independently of the styling on a webpage and that the default text is at least 9-10 points/pixels high. A size of 12-14 points/pixels is generally recommended for body text (depending on audience). It is also important to keep in mind that different fonts vary in size (some 11 point fonts look like 12 point and vice versa). The WCAG Guidelines recommend that text can be zoomed to 200 percent. Use relative font sizes to ensure that the text can scale. See guidance from WCAG 2.0 1.3.4 regarding text sizing: <http://www.w3.org/TR/WCAG20/#content-structure-separation>

#### Lack of Appropriate Headings

IHCD noticed on most of the pages surveyed that heading structures made it possible for people using screen readers and other assistive technologies to navigate web pages. Viewing or listening to this outline provided them with a good idea of the contents and structure of the page, much in the same way that a sighted user would visually scan an outline. On some pages, headings need to be rearranged, and there seem to be a number of empty headings or places where several heading levels were skipped (jumping from H1 to H3, H2 to H3). This is an easy fix that will considerably improve the user experience.

**Missing Alternative Text for Images**

All images should have associated alternative text (Alt Text). Most of the images are labeled with alternative text, but it is important to provide a meaningful Alt Text that will inform the users about the content of the image. We found that sometimes the Alt Text lacked descriptive information. Rather than providing a description of the image and why the image is there, the text instead references the name of the section they are in, which the user already knows.

More details about how to provide good alternative text can be found

here: <http://webaim.org/techniques/alttext/>

**Inaccessible Documents Offered on the Website (e.g., PDF, Word document)**

Every document on the website in a PDF format should be accessible to screen reader users and users with low vision. If the PDF is a fillable form, make sure to create an accessible fillable PDF. Adobe Acrobat provides many easy tools to include accessibility features in your document and to have them conform to both section 508 and WCAG 2.0 Guidelines. See this link for more detailed information: <http://www.adobe.com/accessibility/resources.html>

## Page-by-Page Findings

### WorcesterEnergy.com

Home - <http://worcesterenergy.com/>

Videos - <http://worcesterenergy.com/videos>

Get the Facts - <http://worcesterenergy.com/get-the-facts>

Rebate Request Form -

[http://worcesterenergy.com/uploads/2d/2c/2d2ccb0986b5339813b92142ec7cc71c/Form\\_Rebate-Request\\_WE-RRP\\_2014-09-30\\_final.pdf](http://worcesterenergy.com/uploads/2d/2c/2d2ccb0986b5339813b92142ec7cc71c/Form_Rebate-Request_WE-RRP_2014-09-30_final.pdf)

Home

<http://worcesterenergy.com/>

The document language is missing, consequently it is difficult for screen readers to identify or change the language.

1. There are 26 errors with low contrast, these issues are presented below.

The screenshot shows the Worcester Energy website homepage. At the top left is the logo "WORCESTER A GREENER FUTURE, TODAY" in green. To the right is a green line-art illustration of a city skyline with wind turbines. Below the logo is a vertical navigation menu with green buttons: "GET THE FACTS", "TAKE ACTION", "OUR COMMUNITY", "RESOURCES", "ABOUT US", and "VIDEOS". Below the menu are three green banners: the first with icons of a leaf, a recycling symbol, and hands; the second with the logo "WORCESTER A GREENER FUTURE, TODAY"; and the third with a city skyline and wind turbines. At the bottom left is the official seal of the City of Worcester, featuring a red heart and the text "CITY OF WORCESTER MASSACHUSETTS INCORPORATED JUNE 14, 1722 A CITY FEBY. 29, 1848". At the bottom left of the page is a small red box containing the text "Visitor :: Login".

On the right side of the page, there is a "Welcome to the Worcester Energy Program!" section. It features a photo of two children holding hands in a field with a wind turbine in the background. Below the photo is a text box with the following content:

**Welcome to the Worcester Energy Program!**

The goal of Worcester Energy is simple: to encourage residents, businesses and institutions throughout the city to save energy through investments in energy efficiency and sustainability.

Please join us! Bookmark this page and click on the links below to learn more information about how to be part of this growing, community-wide energy efficiency and sustainability effort.

Below this section are six more content boxes, each with a title and a "Read more" link:

- Get the Facts**: Worcester Energy is the latest development in Worcester's long-standing commitment to being green.... [Read more](#)
- Resources**: Want to learn about more ways save energy and help the environment? Check out these great resources and [take action!](#) today! [Read more](#)
- Take Action**: Worcester Energy isn't just another green initiative and it isn't just about one person, one city block or one neighborhood... [Read more](#)
- About Us**: Worcester Energy is developed and administered by the Division of Planning & Regulatory Services, City of Worcester... [Read more](#)
- Our Community**: See our community in action! From [solar trash compactors](#) to large scale energy services contracting.... [Read more](#)
- Videos**: Check out these videos and Public Service Announcements about Worcester Energy. And expect new videos soon! [Read more](#)

2. The alternative text for these two images is the same, "Worcester Energy"



- 3. Worcester Energy Video is a downloadable video, and doesn't present captions and its format (.wvx) is not very common, so users might not know what program they might use to open it. The better way to present the video is to upload on YouTube and add captions.
- 4. Links to access the website by visitor or login are presented at the page bottom, which is not very helpful and intuitive to go to access.



- 5. The translate options are at the bottom of the page, which is difficult to access by screen readers.



## Videos

<http://worcesterenergy.com/videos>

1. The videos presented on this webpage are downloadable, but do not offer captions and its format (.wvx) is not the usual. The better way to present the video is to upload on “YouTube” and add a caption.
2. The title attribute text of each link are the same of the alternative text which can lead to screen readers saying the same thing twice.

## Videos

Worcester, MA

Check out these videos and Public Service Announcements about Worcester Energy. And expect new videos soon!

- [WorcesterEnergy - PSA](#)
- [Heating Up - PSA](#)
- [Worcester Residential Rebate Pilot - PSA](#)
- [Earn Up TO \\$5000 in Energy Efficiency Rebates - PSA](#)
- [Municipal Sustainability: Sustainability in Massachusetts](#) - Exerpts from Third MA Sustainable Communities Conference & Second MA Sustainable Campuses Conference, April 24, 2013

**Get the Facts**

<http://worcesterenergy.com/get-the-facts>

- GET THE FACTS
- TAKE ACTION
- OUR COMMUNITY
- RESOURCES
- ABOUT US
- VIDEOS



**WORCESTER**  
A GREENER FUTURE, TODAY




**Get the Facts**

Worcester, MA

The City of Worcester is pleased to offer the **Worcester Energy Program**, a municipal energy efficiency program that encourages residents, businesses and institutions throughout the City to take action to save energy. Worcester Energy (WE) continues Worcester’s long-standing commitment to being green.



The City of Worcester established itself as a leader in adopting energy policies that earned it the State’s prestigious **Green Community** designation. Worcester was one of the first 35 municipalities to achieve that status.

Curious about all the other ways Worcester is creating a greener future, today?

**Worcester’s Climate Action Accomplishments:**

**November 2012**

- Residential audits, retrofits and HERS testing for 22 units
- 25 detailed small business energy assessments
- solar array at the Technical HS September 2012 (interconnection to National Grid’s electric grid still pending)

**October 2012**

Worcester Energy Outreach campaign begins with focus on Residential Rebate Pilot:  
<http://www.worcesterenergy.org/take-action>

**August 2012**

Worcester joins EPA’s Green Power Partnership:  
<http://www.epa.gov/greenpower/partners/partners/cityofworchesterma.htm>

**June 2012**

Worcester becomes a DOE Better Building Challenge Partner: <http://www4.eere.energy.gov/challenge/>

**Jan. 2012**

Worcester Energy announces its Residential Rebate Pilot and Small Business Energy Efficiency & Sustainability Assessment Pilot

**Dec. 2011**

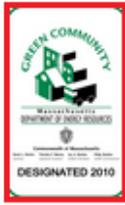
As with the other webpages, this page presents a huge problem with low contrast, making it difficult to read for many users. Also the headers are not accessible by the keyboard using the “Tab” button, which creates problems for many people using screen readers.

1. Presence of empty heading, which can present an issue to screen reader users and others who navigate via keyboard



2. The clickable icon “Designated Green Community” is not well placed and is not informative, this can create confusion about its purpose. Also, the icon has no alt text, so screen reader users do not have much information about it. The size of the

image also creates an issue as those who navigate the site visually will have difficulty making out the text.



The City of Worcester established itself as a leader in adopting energy policies that earned it the State's prestigious Green Community designation. Worcester was one of the first 35 municipalities to achieve that status.

Curious about all the other ways Worcester is creating a greener future, today?

**Rebate Request Form**

[http://worcesterenergy.com/uploads/2d/2c/2d2ccb0986b5339813b92142ec7cc71c/Form\\_Rebate-Request\\_WE-RRP\\_2014-09-30\\_final.pdf](http://worcesterenergy.com/uploads/2d/2c/2d2ccb0986b5339813b92142ec7cc71c/Form_Rebate-Request_WE-RRP_2014-09-30_final.pdf)



**Worcester Energy Program  
Residential Rebate Pilot**

**Rebate Request Form**

Applicant/Project Information	
Project Number:	
Owner's Name:	
Address of Property Where the Work Was Conducted:	

**Certification:**

- I formally request a rebate in the amount of \$ \_\_\_\_\_ for the items I have indicated on the rebate request table on the 2<sup>nd</sup> page of this form.
- I hereby certify that **I provided accurate information regarding any other rebates, incentives, grants or other financial assistance received for my project**, therefore allowing Worcester Energy staff to accurately calculate net (i.e. remaining) cost to me prior to issuance of the rebate.
- I hereby certify that all the indicated measures listed in the Table below have been installed in accordance with my application and Pilot Agreement.
- I understand I may make only one rebate request per property.
- I understand that I will receive my rebate within three to six weeks after verification that all the documents I have submitted with this form comply with Pilot Guide & Requirements and the Residential Rebate Pilot Agreement.

Owner's Name (please print): \_\_\_\_\_

Owner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

1. The pdf file needs to specify the headings since this helps the interaction of screen reader users and the identification of each title and subtitle.
2. Make sure that fields are properly labeled so that screen reader user will be able to figure out where to place their signature and other information.

## **BuyWorcesterNow.com**

Home - <http://buyworcesternow.com/>

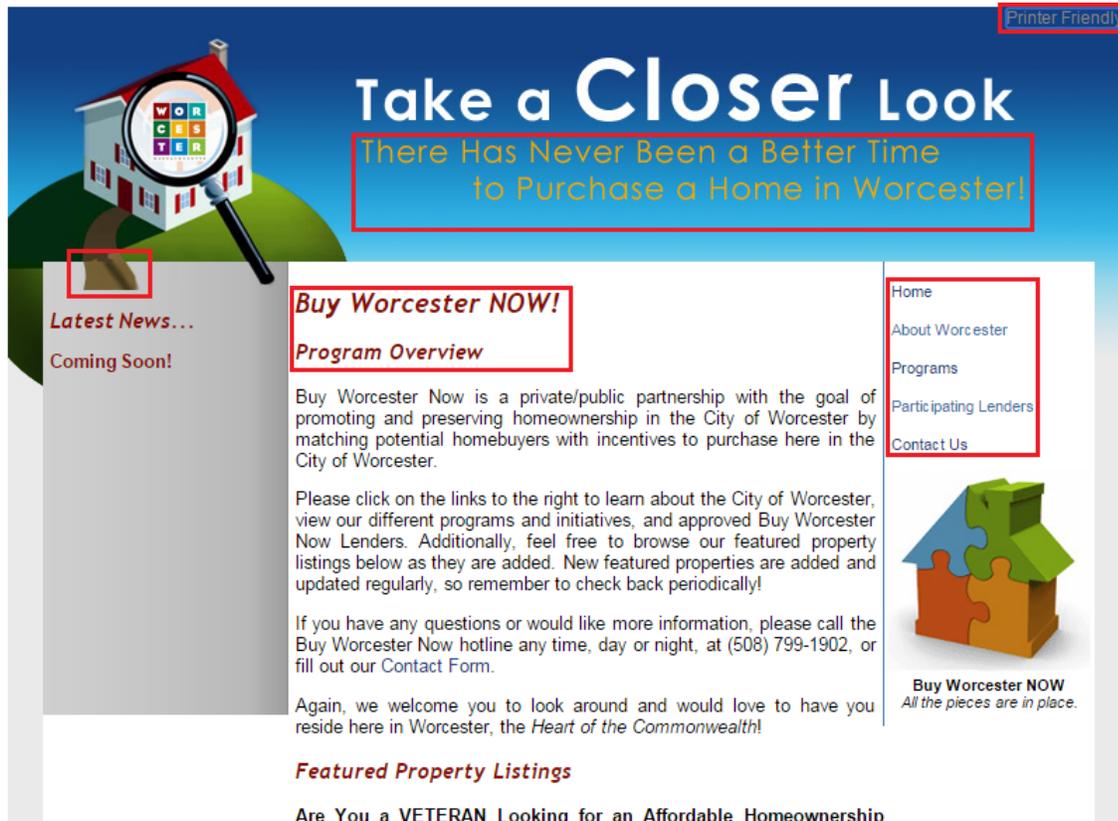
Programs - <http://buyworcesternow.com/programs>

Participating Lenders - <http://buyworcesternow.com/participating-lenders>

Contact Us - <http://buyworcesternow.com/contact-us>

Home

<http://buyworcesternow.com/>



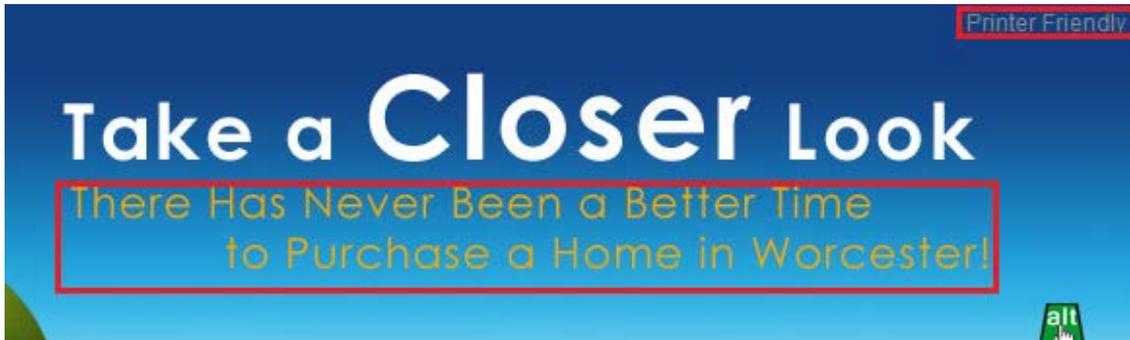
1. The title attribute text of each link are the same as the alternative text.

[Home](#)  
[About Worcester](#)  
[Programs](#)  
[Participating Lenders](#)  
[Contact Us](#)

2. Second heading is skipped; consequently this can create a difficulty to users who navigate using the keyboard.

[h2 Latest News...](#)  
[h1 Buy Worcester Now](#)  
**Programs**  
[h3 First Time Homebuyer  
Down Payment Assistance](#)  
[h3 Worcester Lead  
Abatement Program](#)  
[h3 Additional Resources -  
First Time Home Buyer  
Education Classes and  
Mortgage Foreclosure  
Prevention Counseling](#)

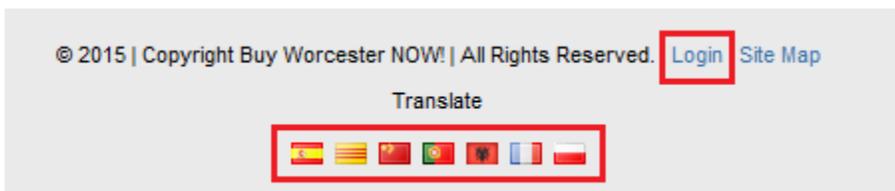
3. The document language is missing, consequently it's difficult for screen readers to identify or change the language.
4. The blue background with the grey font at the top right and the orange font at the bottom present a low contrast issue for users with low vision.



5. The image bellow presents a clickable home button; the area to click is represented by the red square, so it is difficult to access home by clicking there.



6. Link to access the website by login is presented at the page bottom. It's not very helpful and intuitive to go to 'access.'



7. The translate options are at the bottom of the page, which is difficult to access by screen readers.

## Programs

<http://buyworcesternow.com/programs>

1. The title text is the same as the alternative text.

View and download a copy of the City of Worcester's  Down Payment Assistance Application Form.

2. Second heading is skipped; consequently this can create a difficulty to users who navigate using the keyboard.

**h2** Latest News...

**h1** Buy Worcester Now

## Programs

**h3** First Time Homebuyer  
Down Payment Assistance

**h3** Worcester Lead  
Abatement Program

**h3** Additional Resources -  
First Time Home Buyer  
Education Classes and  
Mortgage Foreclosure  
Prevention Counseling

## **Participating Lenders**

<http://buyworcesternow.com/participating-lenders>

1. Each bank name could be a heading to be accessible by screen readers, facilitating the ease of use.

### **Bank of Canton**

Gary Premo, Area Sales Manager  
850 Southbridge Street  
Auburn, MA  
Office: (508) 832-0078

### **Clinton Savings Bank**

John Ryan, AVP/Mortgage Originations  
200 Church Street  
Clinton, MA  
Office: (508) 365-3489

### **Bay State Savings Bank**

Maria Costa, Vice President, Retail Lending  
28 Franklin Street  
Worcester, MA  
Office: (508) 890-9064

### **Southbridge Savings Bank**

Paul Nocivelli, Mortgage Consultant  
70 West Boylston Street  
Worcester, MA  
Office: (774) 230-8869

## Contact Us

<http://buyworcesternow.com/contact-us>

Notes

How did you hear about Buy Worcester Now?  
- Please Make a Selection - ▼

Would you like to be added to our email list?  
 Yes  No

1. A form control doesn't have a corresponding label; consequently the function or purpose of that form control may not be presented to screen reader users. It makes it very difficult to use by those users.
2. Captcha is very difficult to use for screen readers users. Although there is an audio alternative, this can prove difficult for users who are hard of hearing or are not as computer savvy.

Verify Your Humanity

Type the text

[Privacy & Terms](#)

Submit

3. Form fields are not properly labeled to be read by screen reader. This leads to confusion when a user with a screen reader attempts to fill out the form.

- Printer Friendly
- Buy Worcester NOW! - Home
- Home
- About Worcester
- Programs
- Participating Lenders
- Contact Us
- Privacy & Terms
- Get a new challenge
- Get an audio challenge
- Help
- Login
- Site Map
- Español
- tiếng Việt
- 中文 - Chinese
- Português
- Shqip - Albanian
- Français
- Đorleki

### Contact Us

Fields marked with an asterisk (\*) are required.

Subject

\*Name

Company

City

\*Phone

\*Email

Notes

How did you hear about Buy Worcester Now?

- Please Make a Selection - ▼

Would you like to be added to our email list?

Yes  No

**CMWIB.org**

Home - <http://cmwib.org/>

Procurement Policy -

<http://cmwib.org/uploads/df/e6/df662b9d71cc046a64d87e0f3e2f0b0/procurement-policy.pdf>

News & Announcements - <http://cmwib.org/news-announcements>

May 2015 Newsletter -

<http://archive.constantcontact.com/fs106/1102393903611/archive/1120903407801.html>

Working Lunch Show - <http://cmwib.org/working-lunch>

Home

<http://cmwib.org/>

The screenshot shows the homepage of the Central Massachusetts Workforce Investment Board. At the top, there is a header with the organization's name and logo, and a search bar. A navigation menu on the left lists various sections like 'Home', 'About Us', 'CMWIB Members', and 'Labor Market Information'. The main content area includes a 'Welcome!' message, a 'Latest News & Headlines' section with several news items, and a 'Tweets' section displaying recent tweets. A 'Sign Up Now' button for the eNewsletter is highlighted with a red box. At the bottom, there is a footer with copyright information and a 'Translate' section with language options.

1. The low contrast between the foreground and background colors makes this difficult to read.



2. The low contrast between the foreground and background colors, as well as the typeface being too small for people with low vision, makes this difficult to read.

For Email Marketing you can trust.

3. The title attribute text of each link are the same of the alternative text.



4. There is low contrast between the foreground and background colors and it's compounded by the icons presenting another low contrast making it difficult to understand.



5. The "Read More..." does not provide enough information about the purpose of the link.

## Latest News & Headlines

**2014 GROW Awards** - The CMWIB is now accepting nominations for the Growing & Readyng Our Workforce (GROW) Awards.

[Read more...](#)

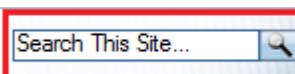
6. The link to login is presented at the page bottom, which is not very helpful and intuitive. Disclaimer and Site Map have title attributes text of each link but they are the same of the alternative text.

©2015 | Copyright Central Massachusetts Workforce Investment Board | All Rights Reserved. [Login](#) [Disclaimer](#) | [Site Map](#)

7. The translate options are at the bottom of the page, which is difficult to access by screen readers.

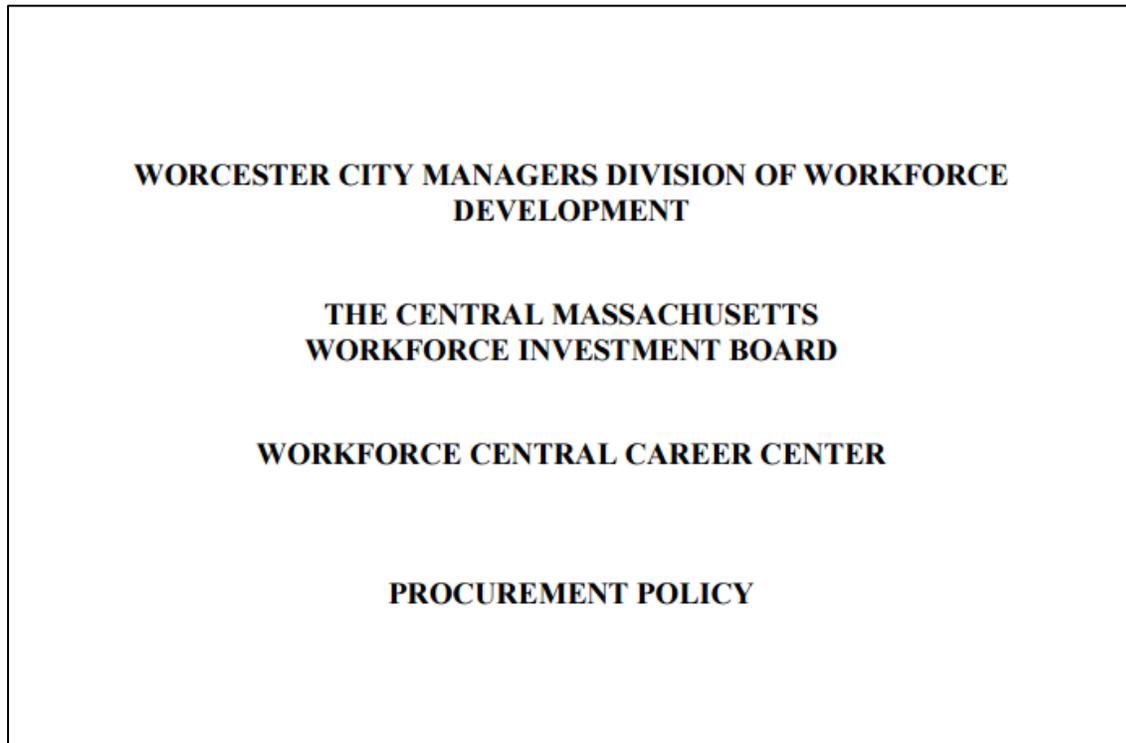


8. Search box very small, which is difficult to see by users using screen magnifiers. The search icon is also small and has low contrast in relation to the background.



**Procurement Policy**

<http://cmwib.org/uploads/df/e6/df662b9d71cc046a64d87e0f3e2f0b0/procurement-policy.pdf>



1. No headings are present to help users who read with screen readers. Consequently, they can't access titles by "tab" and read the text,

**News & Announcements**

<http://cmwib.org/news-announcements>

## News & Announcements

Stay informed as to what's going on with the Central MA Workforce Investment Board. From Special Announcements to Press Releases, you're sure to be in-the-loop with the following News & Announcements:

[Search](#)

Subject	Views	Date Submitted
<a href="#">2014 GROW Awards</a>	533	11/24/2014 @ 10:14 am
<a href="#">Youth Employment One-Pager</a>	541	11/12/2014 @ 4:12 pm
<a href="#">Upcoming Employment Focus Groups</a>	558	11/5/2014 @ 9:40 am
<a href="#">YouthWorks Year Round Program</a>	532	11/3/2014 @ 10:45 am
<a href="#">Member Retreat Presentation</a>	413	10/28/2014 @ 10:19 am
<a href="#">New CMWIB Website Launched</a>	604	7/1/2014 @ 3:14 pm
<a href="#">CMWIB Strategic Plan FY2015 to 2017</a>	632	6/18/2014 @ 8:59 am
<a href="#">Workforce Central Career Center Names New Director</a>	651	6/16/2014 @ 3:52 pm
<a href="#">Welcoming New State Operations Manager Kathy Jackson</a>	625	6/16/2014 @ 3:49 pm

1. There is low contrast between the foreground and background colors.

Views	Date Submitted
-------	----------------

2. The title attribute text of each link are the same of the alternative text. This results in screen readers hearing it twice.

<a href="#">2014 GROW Awards</a>
<a href="#">Youth Employment One-Pager</a>
<a href="#">Upcoming Employment Focus Groups</a>
<a href="#">YouthWorks Year Round Program</a>
<a href="#">Member Retreat Presentation</a>
<a href="#">New CMWIB Website Launched</a>
<a href="#">CMWIB Strategic Plan FY2015 to 2017</a>
<a href="#">Workforce Central Career Center Names New Director</a>
<a href="#">Welcoming New State Operations Manager Kathy Jackson</a>

May 2015 Newsletter

<http://archive.constantcontact.com/fs106/1102393903611/archive/1120903407801.html>



MONTHLY NEWSLETTER OF CENTRAL MASSACHUSETTS WORKFORCE INVESTMENT BOARD AND WORKFORCE CENTRAL CAREER CENTER

Welcome to the Central Connection eNewsletter, created to keep you connected to the information that's important to you as an Employer, Job Seeker, Elected Official, or a Board Member.

We're now on Facebook

Like us on Facebook



Oversees and implements local workforce development initiatives.

[Read More](#)



Serves as a link connecting job seekers and employers.

[Read More](#)



A network of One-Stop Career Centers throughout the Commonwealth of Massachusetts.

[Read More](#)

Employers



**Success Story:**  
[The DCU Job Fair Keeps on Giving](#)

**Support Service:**  
[Massachusetts BizWorks](#)

**Employer Events:**  
["Spring Into Summer" Job Fair in Southbridge](#)

Job Seekers



**Success Story:**  
[A Perfect Match Was Perfectly Made](#)

**Workshops:**  
[Worcester](#)  
[Milford](#)  
[Southbridge](#)



The CMWIB and Workforce Central's TV/Radio program highlighting workforce development in Central MA, the state, and the nation [View Episodes](#)



1. The title attribute text of each link are the same of the alternative text, so, again, redundant information for screen readers. Also, text that does not make sense out of context, and that's repetitive, non-descriptive text (such as "Read More") can cause confusion and should be avoided.

[Read More](#)

2. The images are links which have no alternative text, so when users try to access these links with screen readers, they will not understand the information from these links.

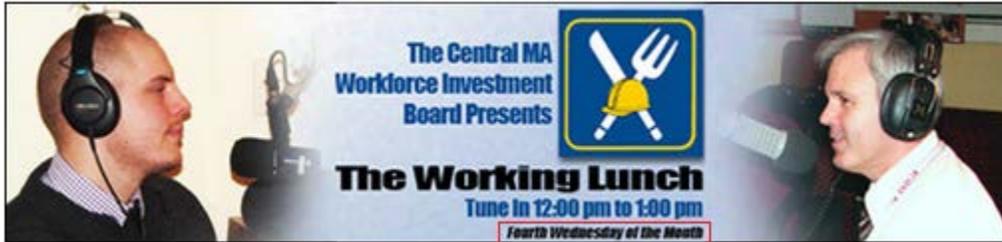


3. The webpage has no headings, is just a table, so this can be an issue for screen readers who use headings to navigate webpages.

## Working Lunch Show

<http://cmwib.org/working-lunch>

1. Banner information is too small for visual readers. There is also no alternative text, so there is no way for screen reader users to get the information presented in the image



2. YouTube videos are presented with auto captions; consequently it's not precisely real captions and can create confusion to readers.



**Job1ForYouth.com**

Home - <http://job1foryouth.com/>

Employers - <http://job1foryouth.com/employers>

Memorandum of Understanding -

<http://job1foryouth.com/uploads/e6/78/e6780ac682cfa1ca4c2d30e1e4546250/partner-mou.pdf>

News, Events, & Resources - <http://job1foryouth.com/news-events>

**Home**

<http://job1foryouth.com/>

## EMPLOYERS

Employers, please visit our [Employers](#) page to find out how you can get involved with a school or youth development program.

## YOUTH

Youth, please visit our [Youth](#) page to learn more about workplace opportunities and resources.

**INFO ALERT**  
• [... View All News, Events & Resources](#)

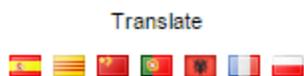
### *In Partnership With*

Blackstone Valley Education Foundation • Bottom Line • Boys and Girls Club of Webster - Dudley • Center of Hope Foundation • City of Worcester Youth Opportunities Office • Colleges of Worcester Consortium • Grafton Job Corps • The Fieldstone School LLC • Training Resources of America Inc • United Way of Central Massachusetts • Worcester Community Action Council Inc • Worcester Interfaith • Worcester Public Schools • Worcester Regional Chamber of Commerce • Worcester Youth Center • Workforce Central Career Center • Y.O.U. Inc

Copyright © 2015 Job1. All Rights Reserved. | 44 Front Street, Suite 300 | Worcester, MA 01608 | (508) 799-1590 ext. 510 | [Site Map](#) | [Login](#)  
Job1 is an initiative coordinated by the [Central Massachusetts Workforce Investment Board](#) and the [North Central Workforce Investment Board](#) funded in part through a grant from the [Commonwealth Corporation](#).  
Site Designed by [PENTA Communications, Inc.](#)



1. The title attribute text of each link are the same of the alternative text here too so it's redundant, repeated words.
2. The translate options are at the bottom of the page, which is difficult to access by screen readers.



3. The blue background does not create enough contrast with the white type.

**INFO ALERT**  
• [... View All News, Events & Resources](#)

Foreground  
Colour select:  Hex: #FFFFFF

Background  
Colour select:  Hex: #597AB0

Show contrast result for colour blindness

Result - Luminosity  
Contrast ratio: 4,34:1  Display details

Text	Large text
<input checked="" type="checkbox"/> Fail (AA)	<input checked="" type="checkbox"/> Pass (AA)
<input checked="" type="checkbox"/> Fail (AAA)	<input checked="" type="checkbox"/> Fail (AAA)

## Employers

<http://job1foryouth.com/employers>

1. The text is very small and can be difficult to read, particularly for users with low vision.

\*Commonwealth Corporation's Building Skills for a Strong Economy

2. The table layout may create problems for some screen reader users. Because the labels and the fields end up being in different columns of the table, the user might be a bit confused about their connection.

**Connect With Us!**

Name of Business or Organization	<input type="text"/>
Name of Contact Person	<input type="text"/>
Position or Title	<input type="text"/>
Telephone	<input type="text"/>
Email Address	<input type="text"/>
Street Address	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
Zip	<input type="text"/>
Organization Type	<input type="text" value="-Select-"/>
Organization Size	<input type="text" value="-Select-"/>
Industry Cluster	<input type="text" value="-Select-"/>

My organization may be interested in participating in the following activities to support youth in their career development. (Please check as many as you wish, and add any comments.)

<input type="checkbox"/>	Job Shadow Days	<input type="text"/>
<input type="checkbox"/>	Guest Speaker Program	<input type="text"/>
<input type="checkbox"/>	Hire a Youth	<input type="text"/>
<input type="checkbox"/>	Internships	<input type="text"/>
<input type="checkbox"/>	Co-operative Education Placements for Career/Vocational Technical Education students	<input type="text"/>

**Tipo:**

**Linguês**     Cabeçalhos     Marcas

- HOME
- EMPLOYERS
- YOUTH
- PARTNERS
- NEWS, EVENTS & RESOURCES
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- North Central Workforce Investment Board
- Commonwealth Corporation
- PENTA Communicaitons, Inc.
- Español
- tiếng Việt
- 中文 - Chinese
- Português

**Memorandum of Understanding**

<http://job1foryouth.com/uploads/e6/78/e6780ac682cfa1ca4c2d30e1e4546250/partner-mou.pdf>

<p><b>Memorandum of Understanding</b>  <b>Between the</b>  <b>Central MA Workforce Investment Board</b>  <b>And the</b>  <b>(Organization name)</b> _____</p>
<p><b>I. Parties</b>  The parties to this Memorandum of Understanding (“MOU”) are the Central Massachusetts Workforce Investment Board (CMWIB) and <b>(Organization name)</b> _____, hereinafter referred to as “JobOne Partner” (collectively the “Parties”).</p>
<p><b>II. Purpose</b>  The purpose of this MOU is to define the roles and responsibilities of the Parties in the formation and implementation of the “JobOne” youth employment/training initiative. This MOU shall have no legally binding effect on either of the Parties, but rather is intended to identify, promote and facilitate the Parties’ mutual understandings for completion of the tasks or conditions described herein.</p> <p>The JobOne initiative is intended to increase the amount of <i>workplace-based, hands-on</i> learning that young people receive in order to better prepare them to enter the job market as adults utilizing and aligning the variety of resources each of the Parties possess.</p>
<p><b>III. Partner Roles of Responsibilities</b>  The Parties are resolved to mutually support the JobOne initiative in the following ways:</p> <p>a. Responsibilities of the CMWIB:</p>

1. No headings are present to help users who read with a screen reader. Consequently, they can’t access titles by “tab” and read the texts.
2. The document is not a fillable form; the user can’t fill the form and can’t sign it. This requires the user to have a printer to fill out the form which does not, in general, work for screen reader users.

## News, Events, & Resources

<http://job1foryouth.com/news-events>



HOME EMPLOYERS YOUTH PARTNERS NEWS, EVENTS & RESOURCES

### Latest News, Events & Resources

Here we have compiled the latest information on Job1 and Job1 Partner events, youth employment news and other helpful resources.

#### Events

- Nothing at this time.

#### Reports

- [Expert Discusses Youth Unemployment](#)
- [Youth and Work - Restoring Teen & Young Adult Connections to Opportunity](#)
- [The Economic Value of Opportunity Youth](#)
- [A Toolkit for Employers Connecting Youth & Business](#)
- [Pathways to Prosperity](#)
- [Signaling Success-Boosting Teen Unemployment Prospects](#)
- [Building Blocks of Labor Market Success](#)

Interested in submitting an item to this page? Please contact [TurgeonJ@worcesterma.gov](mailto:TurgeonJ@worcesterma.gov).

### In Partnership With

Blackstone Valley Education Foundation • Bottom Line • Boys and Girls Club of Webster - Dudley • Center of Hope Foundation • City of Worcester Youth Opportunities Office • Colleges of Worcester Consortium • Grafton Job Corps • The Fieldstone School LLC • Training Resources of America Inc • United Way of Central Massachusetts • Worcester Community Action Council Inc • Worcester Interfaith • Worcester Public Schools • Worcester Regional Chamber of Commerce • Worcester Youth Center • Workforce Central Career Center • Y.O.U. Inc

1. Second heading level is skipped, creating difficulty to users who navigate using the keyboard.

**h1** Latest News, Events & Resources

**h3** Events

**h3** Reports

**h1** In Partnership With

2. The title attribute text of each link are the same of the alternative text. Using the NVDA to the pdf link “Youth and Work - Restoring Teen & Young Adult Connections to Opportunity”, the title is repetitive two times.

## Reports

- [Expert Discusses Youth Unemployment](#) 
- [Youth and Work - Restoring Teen & Young Adult Connections to Opportunity](#)
- [The Economic Value of Opportunity Youth](#)
- [A Toolkit for Employers Connecting Youth & Business](#)
- [Pathways to Prosperity](#)
- [Signaling Success-Boosting Teen Unemployment Prospects](#)
- [Building Blocks of Labor Market Success](#)

## Conclusion

A lot of good work has already been undertaken to improve and maintain the accessibility of *WorcesterMA.gov*. The focus has been on the needs of blind users. This is a great step forward, but the spectrum of people with disabilities to consider goes well beyond people who are blind. Planning should anticipate users with physical (dexterity and reach issues) and sensory (sight, hearing), and the very diverse group of people with brain-based conditions ranging from learning disabilities to mental health conditions to cognitive issues. And it's important to consider how well the sites work for older users who are not digital natives.

A great number of accessibility features were present and worked well for User/Experts. However, users with low vision and users with cognitive impairments (e.g., dyslexia) found the navigation particularly challenging and confusing. *WorcesterMA.gov* is a large website that is very text-heavy. The addition of images or videos as an alternate means to receive information could vastly improve the experience of users who struggle with large amounts of text.

By addressing the key findings identified earlier, much progress can be made to ensure the accessibility and usability of the *WorcesterMA.gov* website. Those will greatly help senior users, users with low vision and user with cognitive impairments. We believe it will also improve the experience of everyone who visits the site.

It is important for the *WorcesterMA.gov* website team to continue to include older users and users with a mix of disabilities across the spectrum of skill and technological ability for ongoing testing and evaluation of the website. It is also critical to success that future online service application procurements stipulate very specific requirements for meeting WCAG 2.0 AA accessibility to avoid the situation of linking city services to inaccessible external service providers.

Given that websites are constantly being updated, it is important to make sure that every person involved in the uploading of content pay the same attention to accessibility. We suggest developing a reference guide for the staff to remind them of those accessibility best practices.

It will build expertise and capacity among all pertinent City staff and ensure long-term accessibility for all residents.

## Reference List of Requirements and Recommendations

The following table lists in more detail some of the issues encountered on the *WorcesterMA.gov* website. For each item, the 'requirement' column has a hyperlink to detailed information about the specific requirement in the WCAG 2.0 and Section 508 Guideline checklist developed by WebAIM. This resource is developed by [WebAIM](#) and was created to help implement [Web Content Accessibility Guidelines \(WCAG\) 2.0](#) (W3C Recommendation 11 December 2008), which is a [Copyright](#) ©WebAIM (Web Accessibility in Mind). © 2008 [W3C](#)<sup>®</sup> ([MIT](#), [ERCIM](#), [Keio](#)), All Rights Reserved.

	Issue	Solution	Requirement
<b>Alt Text: Missing on Image</b>	Each image must have an alt attribute. Without alternative text, the content of an image will not be available to screen reader users or when the image is unavailable.	Add an alt attribute to the image. The attribute value should accurately and succinctly present the content and function of the image. If the image is just decorative, it should be given empty/null alternative text (alt="").	<a href="#">Section 508 (a)</a>  <a href="#">1.1.1 Non-text Content (Level A)</a>
<b>Alt Text: Missing on link</b>	An image without alternative text results in an empty link.	Add appropriate alternative text that presents the content	<a href="#">Section 508 (a)</a>  <a href="#">1.1.1 Non-text Content (Level A)</a>

		of the image and/or the function of the link.	2.4.4 Link Purpose (In Context) (Level A)
<b>Alt Text: Missing button</b>	Alternative text is not present for an image button. Image buttons provide important functionality that must be presented in alternative text. Without alternative text, the function of an image button is not made available to screen reader users or when images are disabled or unavailable.	Add appropriate alternative text that presents the function of the image button (e.g., <input src="button.gif" type="image" alt="Submit search">).	<a href="#">Section 508 (a)</a> <a href="#">1.1.1 Non-text Content (Level A)</a> 2.4.4 Link Purpose (In Context) (Level A)
	Issue	Solution	Requirement
<b>Button Labeling: Empty button</b>	A button is empty or has no value text. When navigating to a button, descriptive text must be presented to screen reader users to indicate the function of the button.	Place text content within the <button> element or give the <input> element a value attribute.	<a href="#">1.1.1 Non-text Content (Level A)</a> <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a>
<b>Headings: No headings</b>	The page has no headings. Headings (<h1>-<h6>) provide important document structure, outlines, and navigation functionality to assistive	Provide a clear, consistent heading structure, generally one <h1> and sub-headings as appropriate.	<a href="#">Section 508 (o)</a> <a href="#">1.3.1 Info and Relationships (Level A)</a> 2.4.2 Page Titled (Level A)

	technology users.		2.4.6 Headings and Labels (Level AA)
Headings: Empty headings	A heading contains no content. Some users, especially keyboard and screen reader users, often navigate using heading elements. An empty heading will present no information and may introduce confusion.	Ensure that all headings contain informative content.	<a href="#">Section 508 (o)</a> <a href="#">1.3.1 Info and Relationships (Level A)</a>  2.4.2 Page Titled (Level A)  2.4.6 Headings and Labels (Level AA)
Skip Nav Link: Broken link	A skip navigation link exists, but the target for the link does not exist or the link is not keyboard accessible.	Ensure that the target for the link exists and that the link is not hidden with CSS display: none or visibility: hidden.	<a href="#">Section 508 (o)</a>  <a href="#">2.4.1 Bypass Blocks (Level A)</a>
Links Naming: Link purpose (In Context)	Link text does not make sense out of context, contains extraneous text (such as "click here"), or is the same as another link on the page, but links to a different location.	Reword the link so that it is more descriptive of its destination when read out of context of the rest of the document, remove any extraneous text (such as "click here"), and ensure that links with the same link text link	<a href="#">2.4.4 Link Purpose (In Context) (Level A)</a>

		do not link to different locations.	
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	Issue	Solution	Requirement
Data Table: Table used for layout	While tables are primarily intended for the presentation of tabular information or data, they are often used to control page layout and formatting, thus introducing reading and navigation order issues. We suggest using Cascading style sheet (CSS) instead of a table for the layout of a page.	If it is a data table, provide appropriate header (<th>) cells. Verify that the reading and navigation order of table content (based on underlying source code order) is logical.	
Links Naming: Empty Link	If a link contains no text, the function or purpose of the link will not be presented to the user. This can introduce confusion for keyboard and screen reader users.	Remove the empty link or provide text within the link that describes the functionality and/or target of that link.	<a href="#">2.4.4 Link Purpose (In Context) (Level A)</a>

<p>Data Table: Empty table header</p>	<p>A &lt;th&gt; (table header) contains no text. The &lt;th&gt; element helps associate table cells with the correct row/column headers. A &lt;th&gt; that contains no text may result in cells with missing or incorrect header information.</p>	<p>If the table cell is a header, provide text within the cell that describes the column or row. If the cell is not a header or must remain empty (such as the top-left cell in a data table), make the cell a &lt;td&gt; rather than a &lt;th&gt;.</p>	<p><a href="#">Section 508 (g)</a>  <a href="#">Section 508 (h)</a>  1.3.1 Info and Relationships (Level A)</p>
<p>Form: Feedback</p>		<p>Give users clear and accessible form error messages and provide mechanisms for resolving form errors and resubmitting the form.</p>	
	<p>Issue</p>	<p>Solution</p>	<p>Requirement</p>

<p>Form: Labeling</p>	<p>A form control does not have a corresponding label. If a form control does not have a properly associated text label, the function or purpose of that form control may not be presented to screen reader users. Form labels also provide visible descriptions and larger clickable targets for form controls.</p>	<p>If a text label for a form control is visible, use the &lt;label&gt; element to associate it with its respective form control. If there is no visible label provide an associated label, add a descriptive title attribute to the form control, or reference the label(s) using aria. Labels are not required for image, submit, reset, button, or hidden form controls.</p>	<p><a href="#">Section 508 (n)</a>  <a href="#">1.1.1 Non-text Content (Level A)</a>                  1.3.1 Info and Relationships (Level A)                  2.4.6 Headings and Labels (Level AA)</p>
<p>Keyboard Navigation: Order</p>		<p>Consider restructuring the page so that the corresponding tab order is logical, intuitive, and in navigation order.</p>	<p><a href="#">2.4.3 Focus Order (Level A)</a></p>

Tabindex	A Tabindex is present. Tabindex values of 1 or greater specify an explicit tab/navigation order for page elements. Because it modifies the default tab order, causes confusion, and result in decreased keyboard accessibility, it should be avoided.	If the natural tab order is already logical, remove the tabindex. Otherwise, consider restructuring the page so that tabindex is not needed. If tabindex is maintained, ensure that the resulting navigation is logical and complete.	<a href="#">2.4.3 Focus Order (Level A)</a>
Focus	There is no way to visually follow where you are when navigating with the keyboard only.	Add OnFocus	...
Multimedia	Missing Captioning	On the web, synchronized, equivalent captions should be provided any time multimedia content is present	....
	Issue	Solution	Requirement
Contrast	Very low contrast between foreground and background colors. Adequate contrast is necessary for all users, especially users with low vision.	Increase the contrast between the foreground (text) color and the background color. Large text (larger than 18 point or 14 point	<a href="#">1.4.3 Contrast (Minimum) (Level AA)</a>

		bold) does not require as much contrast as smaller text.	
Color alone used to convey content	Color should not be the sole method of conveying content or distinguishing visual elements.	In addition to color, add another visual element: icons, symbols, or underlining to distinguish between elements.	<a href="#">1.4.1 Use of Color</a> (Level A)
Font Size	The WorcesterMA.gov website has areas in which font size compromises accessibility and usability for many visitors.	The page is readable and functional when the text size is doubled. Make sure the elements on the page reflow well when the text size is doubled.	<a href="#">1.4.4 Resize text</a> (Level AA)
Vocabulary	Words that may be ambiguous, unknown, or used in a very specific way should be defined.	Use adjacent text, a definition list, a hyperlinked glossary, or other suitable method.	<a href="#">3.1.3 Unusual Words</a> (Level AAA) (This is a recommendation – The City of Worcester does not need to comply to level AAA)

<p>Layout Consistency</p>	<p>A mix of layouts across the many Worcester websites compromises accessibility and usability for many.</p>	<p>Elements that have the same functionality across multiple web pages are consistently identified. For example, a search box at the top of a page should always be labeled the same way. Make sure your page layout is consistent across your website.</p>	<p><a href="#">3.2.4 Consistent Identification</a> (Level AA)</p>
	<p>Issue</p>	<p>Solution</p>	<p>Requirement</p>
<p>Time Sensitivity</p>	<p>Rapid sequencing of new information reduces accessibility for many users.</p>	<p>Give users control over time sensitive content changes. Avoid automatic refreshes or redirects. Allow users to control content updates or changes. Avoid unnecessary time-outs or expirations. Allow users to request more time.</p>	<p>...</p>
<p>Orientation</p>	<p>Use breadcrumbs, indicators, or cues to indicate location or progress</p>	<p>Provide multiple methods for finding content. A logical navigation, search</p>	

		<p>functionality, index, site map, table of contents, links within body text, and supplementary or related links section, etc. – all of these provide multiple ways for users to find content.</p>	
<p>Page Titles</p>	<p>Missing or uninformative page title. A descriptive title helps users understand a page's purpose or content. Without a proper title, many users (especially those using screen readers or other assistive technology) may have difficulty orienting themselves to the page.</p>	<p>Add a brief, descriptive, and informative page title. Ideally the page title should correspond with the name of the link you clicked on to get to this page.</p>	<p><a href="#">2.4.2 Page Titled (Level A)</a></p>

	Issue	Solution	Requirement
Page Titles	<p>Missing or uninformative page title. A descriptive title helps users understand a page's purpose or content. Without a proper title, many users (especially those using screen readers or other assistive technology) may have difficulty orienting themselves to the page.</p>	<p>Add a brief, descriptive, and informative page title. Ideally the page title should correspond with the name of the link you clicked on to get to this page.</p>	<p><a href="#">2.4.2 Page Titled (Level A)</a></p>
<b>Use white space for separation</b>	<p>Busy layout that makes reading challenging for Users with learning disability</p>	<p>White space is a design term that refers to empty space between elements in a page. It is not necessarily the color white. White space should be used to separate navigation from main body text, body text from side elements and footers, main content from supplementary items (floating boxes, for example), and to separate headings,</p>	<p>....</p>

		paragraphs, and other body text.	
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## Resources

### Guidelines and Standards

- [ADA](#)  
US Department of Justice ADA Section website. Provides information on the American with Disabilities Act.
- [Web Content Accessibility Guidelines 2.0](#)  
This is the definitive set of web accessibility guidelines, from the World Wide Web Consortium (W3C).
- [W3C Web Accessibility Initiative \(WAI\) Home](#)  
The W3C Web Accessibility Initiative (WAI) develops guidelines and resources to help make the Web accessible to people with auditory, cognitive, neurological, physical, speech, and visual disabilities.
- [Web AIM](#)  
Information, training, resources, guidelines, and standards for Web accessibility and disability access to the Web.
- [Accessible Rich Internet Applications \(ARIA\)](#)  
ARIA is a W3C specification (currently a working draft) that provides a way to make dynamic web applications and advanced user interface controls more accessible to people with disabilities.
- [Section 508](#)  
This site from the U.S. Access Board features the full text of the Section 508 legislation, the Electronic and Information Technology Accessibility Standards and accompanying tutorials, and the latest draft of the soon-to-be-updated standards.

## References/ Resources

- [Raising the Floor initiative](#)  
Providing a central location for people looking for challenges or even grand challenges - that would *raise the floor* of accessibility of ICT.
- [The DO-It Center](#)  
The DO-IT Center promotes the success of individuals with disabilities in postsecondary education and careers, using technology as an empowering tool.
- [Fluid Project](#)  
Library of sharable accessible user interface components.
- [Social Media](#)  
Funded by the Australian Communications Consumer Action Network, the *Sociability: social media for people with a disability* review aims to enable all users to have equal access to the inclusion that social media allows.
- [Video Games Design](#)

Game Accessibility Guidelines written by developers and gamers with disabilities by the AbleGamers Foundation.

- [IBM Web accessibility Checklist](#)  
This resource includes accessibility checklists for software accessibility, web accessibility, Java accessibility, hardware accessibility, and more.
- [WAI Before and After Demonstration](#)  
A multi-page resource that shows an inaccessible website and a retrofitted version of this same website.

## Assistive Technology

- [JAWS Screen Reader](#)
- The Screen reader from Freedom Scientific

- [JAWS Keyboard Commands](#)  
Keyboard commands from The Screen reader from Freedom Scientific
- [NVDA Screen Reader](#)
- Open Source Screen Reader
- [Zoom Text](#)  
The Screen magnifier from AI Squared
- [ATIC information on Assistive technologies](#)  
List of assistive technologies developed by the ATIC (Adaptive Technology Information Center) Lab at MIT

### **Accessibility Evaluation Tools**

- [Web AIM WAVE](#)  
This page by page accessibility evaluation tool developed by Web AIM provides very clear reports using icons and also offers a browser toolbar to check website accessibility.
- [WAI Evaluation tool list](#)  
List of accessibility evaluation tools maintained by the Web Accessibility Initiative.
- [Cynthia Says](#)  
The HiSoftware CynthiaSays™ checks Web content for errors related to Section 508 standards and/or the WCAG guidelines for Web accessibility.
- [A Checker](#)  
Online accessibility checker that tests web pages for conformance with various accessibility guidelines.
- [Cambridge Impairment software](#)  
The inclusive design toolkit developed by Cambridge University tests images for those with different vision impairments and allows you to test sound in various environments for those with hearing impairments.

- [The exclusion calculator](#)  
Also part of the inclusive design toolkit developed by Cambridge University, this tool helps to see what percentage of the population you would exclude by making your design non-accessible to those with certain functional limitations (created using data from the United Kingdom)
- [Functional Accessibility Evaluator](#)  
Analyzes web resources for markup that is consistent with the use of HTML best practices. Developed by the University of Illinois.
- [Reading Effectiveness Tool](#)  
This tool helps to determine if a draft manuscript is at the right Grade Reading Level for the intended audience by asking a series of questions.
- [Color Contrast Analyzer](#)  
The Color Contrast Analyzer is a tool for checking foreground & background color combinations to determine if they provide good color visibility for conformance with Checkpoint 2.2 of the Web Content Accessibility Guidelines 1.0.
- [Color Doctor](#)  
A tool used to visualize your website or graphic material with different visual impairments and color blindness.
- [Photosensitive Epilepsy Analysis Tool](#)  
A tool from the Trace Center at the University of Wisconsin-Madison that allows web content to be tested, based on extensive research of photosensitive seizure disorders.

### **Multimedia Accessibility**

- [MAGpie](#)  
Free tool for adding captions and audio description to videos, from the National Center on Accessible Media (NCAM) at WGBH.
- [Captionate](#)  
Tool from Manitu Group that embeds caption data directly into a Flash video file.

- [Automatic Sync Technologies](#)  
Upload videos and transcripts and have them captioned automatically within minutes.
- [CC For Flash](#)  
Another NCAM product, these tools support closed captioned video within Flash.
- [Adobe Accessibility Blog](#)  
Features several articles on adding captions to Flash video.

### **Web Accessibility for People with Cognitive Disabilities**

- [WAI Article on Cognitive disability](#)  
Information on web accessibility considerations for people with cognitive disabilities.
- [Evaluating Cognitive Web Accessibility](#)  
Web AIM Cognitive Web Accessibility Checklist.
- [New England Index - Cognitive Disabilities](#)  
Clear Helper is a blog about Web Accessibility for People with Intellectual/Cognitive Disabilities. This blog has not been updated in a while but still has some very good resources.
- [Web Standards Sherpa](#)  
An interesting article on how to write websites for accessibility.