

OFFICE OF THE STATE AUDITOR

DIANA DIZOGLIO

Official Audit Report – Issued November 3, 2025

Massachusetts State Employee Retirement Board

For the period July 1, 2023 through June 30, 2024



OFFICE OF THE STATE AUDITOR

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November 3, 2025

Kathryn Kougias, Executive Director
Massachusetts State Retirement Board
1 Winter Street, 8th Floor
Boston, MA 02136

Dear Executive Director Kougias:

I am pleased to provide to you the results of the enclosed performance audit of the Massachusetts State Retirement Board. As is typically the case, this report details the audit objectives, scope, and methodology for the audit period, July 1, 2023 through June 30, 2024. As you know, my audit team discussed the contents of this report with agency managers. This report reflects those comments.

I appreciate you and all your efforts at the Massachusetts State Retirement Board. The cooperation and assistance provided to my staff during the audit went a long way toward a smooth process. Thank you for encouraging and making available your team. I am available to discuss this audit if you or your team has any questions.

Best regards,



Diana DiZoglio
Auditor of the Commonwealth

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
OVERVIEW OF AUDITED ENTITY	2
AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY	7

LIST OF ABBREVIATIONS

EOTSS	Executive Office of Technology Services and Security
IT	information technology
MSRB	Massachusetts State Retirement Board
W3C	World Wide Web Consortium
WCAG	Web Content Accessibility Guidelines

EXECUTIVE SUMMARY

In accordance with Section 12 of Chapter 11 of the Massachusetts General Laws, the Office of the State Auditor has conducted a performance audit of certain activities of the Massachusetts State Retirement Board (MSRB) for the period July 1, 2023 through June 30, 2024.

The purpose of our audit was to determine whether MSRB's website adhered to the World Wide Web Consortium's Web Content Accessibility Guidelines (WCAG) 2.1 for user accessibility, keyboard accessibility, navigation accessibility, language accessibility, error identification, and color accessibility. Adherence to WCAG helps ensure that all users, regardless of ability, can access the content and functions of MSRB's website.

Our audit revealed no significant instances of noncompliance by MSRB that must be reported under generally accepted government auditing standards.

OVERVIEW OF AUDITED ENTITY

In 1911, the Commonwealth of Massachusetts established the Massachusetts State Retirement Board (MSRB) under Chapter 532 of the Acts of 1911 and charged it with administering the Massachusetts State Employees' Retirement System (MSERS), one of 104 public contributory retirement systems in the Commonwealth. MSRB also administers the former Massachusetts Turnpike Authority Employees' Retirement System (MTAERS) and benefits for certain other groups, including employees of the Commonwealth's judiciary.

MSRB processes retirement applications, ordinary and accidental disability retirements, refunds, service purchases, and survivor benefits for members and beneficiaries. It also provides retirement information to state employees. All of these functions are performed in accordance with Chapter 32 of the Massachusetts General Laws and applicable regulations. Investments of MSERS and MTAERS assets are overseen by the Pension Reserves Investment Management Board and are held in the Pension Reserves Investment Trust.

MSRB is a department within the Office of the State Treasurer and Receiver General and is governed by a five-member board established by Section 18 of Chapter 10 of the General Laws. The board consists of the State Treasurer and Receiver General (chair), one member appointed by the Treasurer (a retired member), two members elected by current and active MSERS members, and one member chosen by the other four board members. The board is required to meet at least once a month. MSRB maintains offices at One Winter Street, 8th Floor, in Boston and 436 Dwight Street, Room 109A, in Springfield.

According to MSRB's annual report, as of June 30, 2019, the agency employed 76 permanent full-time, four permanent part-time, and three contract employees, serving more than 89,000 active MSERS and MTAERS members and more than 64,000 retirees and survivors. In recent years, MSRB has expanded its virtual and online member services, including webinars and remote offerings.

For fiscal years 2018 and 2019, MSERS disbursed approximately \$2.23 billion and \$2.34 billion, respectively, and MTAERS disbursed approximately \$15.59 million and \$15.16 million, respectively, in annuities and pensions.

MSRB maintains a web presence on Mass.gov, where users can find information about the board, office locations, meeting schedules, and other resources for members and retirees.

Massachusetts Requirements for Accessible Websites

In 1999, the World Wide Web Consortium (W3C), an international nongovernmental organization responsible for internet standards, published the Web Content Accessibility Guidelines (WCAG) 1.0 to provide guidance on how to make web content more accessible to people with disabilities.

In 2005, the Massachusetts Office of Information Technology,¹ with the participation of state government webpage developers, including developers with disabilities, created the Enterprise Web Accessibility Standards. These standards required all executive branch state agencies to follow the guidelines in Section 508 of the Rehabilitation Act amendments of 1998. These amendments went into effect in 2001 and established precise technical requirements to which electronic and information technology (IT) products must adhere. This technology includes, but is not limited to, products such as software, websites, multimedia products, and certain physical products, such as standalone terminals.

In 2008, W3C published WCAG 2.0. In 2014, the Massachusetts Office of Information Technology added a reference to WCAG 2.0 in its Enterprise Information Technology Accessibility Standards.

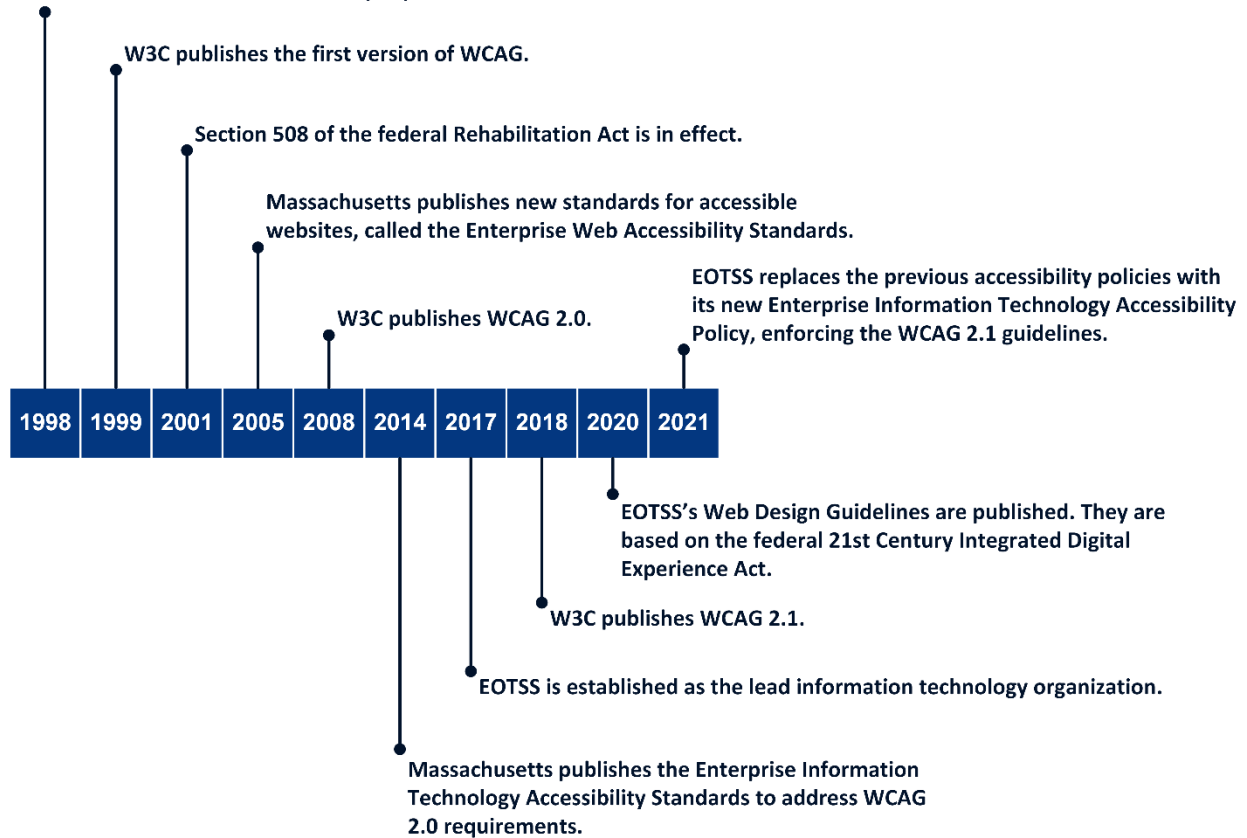
In 2017, the Executive Office of Technology Services and Security (EOTSS) was designated as the Commonwealth's lead IT organization for executive branch state agencies. EOTSS is responsible for the development and maintenance of the Enterprise Information Technology Accessibility Standards² and the implementation of state and federal laws and regulations related to accessibility. As the principal executive agency responsible for coordinating the Commonwealth's IT accessibility compliance efforts, EOTSS supervises executive branch state agencies in their efforts to meet the Commonwealth's accessibility requirements.

In 2018, W3C published WCAG 2.1, which built on WCAG 2.0 to improve web accessibility on mobile devices and to further improve web accessibility for people with visual impairments and cognitive disabilities. EOTSS published the Enterprise Information Technology Accessibility Policy in 2021 to meet Levels A and AA of WCAG 2.1.

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1. The Massachusetts Office of Information Technology became the Executive Office of Technology Services and Security in 2017.
 2. EOTSS has since changed the titles and numbers of at least some of its policies and standards between the end of the audit period and the publication of this report. In this report, we reference the titles and numbers of EOTSS's policies and/or standards as they were during the audit period (unless stated otherwise).

Timeline of the Adoption of Website Accessibility Standards by the Federal Government and Massachusetts

The federal Rehabilitation Act is amended. Section 508 of the act mandates that standards establish functional criteria to make information accessible to people with disabilities.



Executive branch state agencies, such as MSRB, must comply with EOTSS's policies and standards when using an EOTSS web domain,³ as established by EOTSS's Website Domain Policy. Part of this policy states that any government organization using an EOTSS web domain must comply with EOTSS's Web Design Guidelines, which were published in 2020 and were based on the federal 21st Century Integrated Digital Experience Act. This law helps state government agencies evaluate their website design and implementation decisions to meet state accessibility requirements.

3. EOTSS web domains, according to its Website Domain Policy, include Mass.gov, Massachusetts.gov, Ma.gov, State.ma.us, related subdomains (e.g., example.mass.gov), and all domains that EOTSS owns and manages.

Web Accessibility

Government websites are an important way for the general public to access government information and services. Deloitte's⁴ 2023 Digital Citizen Survey found that 55% of respondents preferred to interact with their state government services through a website instead of face-to-face interaction or a call center. Commonwealth of Massachusetts websites have millions of webpage views each month.

However, people do not interact with the internet uniformly. The federal government and nongovernmental organizations have established web accessibility standards intended to make websites more accessible to people with disabilities, such as visual impairments, hearing impairments, and others. The impact of these standards can be significant, as the federal Centers for Disease Control and Prevention estimates that 1,488,012 adults (26% of the adult population) in Massachusetts have a disability, as of 2022.⁵ Among the estimated 26% of the adult population, 14% reported having serious difficulty with cognition, 10% reported having serious difficulty with mobility, 6% reported having deafness or serious difficulty hearing, and 5% reported having blindness or serious difficulty seeing (even when wearing glasses).⁶ Examples of web accessibility measures include, but are not limited to, having captioning on videos to help people with difficulty hearing understand the contents of the video, having form fields describe what data needs to be input into them to help people who have cognitive difficulties, and ensuring that people can interact with a webpage using keyboard commands alone to help people who have difficulty with mobility.

How People with Disabilities Use the Web

According to W3C, people with disabilities use assistive technologies and adaptive strategies specific to their needs to navigate web content. Examples of assistive technologies include screen readers, which read webpages aloud for people who cannot read text; screen magnifiers for individuals with low vision; and voice recognition software for people who cannot (or do not) use a keyboard or mouse. Adaptive strategies refer to techniques that people with disabilities employ to enhance their web interactions.⁷ These strategies might involve increasing text size, adjusting mouse speed, or enabling captions.

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4. Deloitte is an international company that provides tax, accounting, and audit services to businesses and government agencies.
 5. This data is collected from surveys conducted using both landline telephones and cellular telephones, and all responses are self-reported.
 6. The percentages do not add up to 26%, as estimated by the federal Centers for Disease Control, because of overlapping data. The self-reported survey allows individuals to report having multiple disabilities.
 7. Web interaction refers to the various actions that users can take while navigating and using the internet. It encompasses a wide range of online activities, including, but not limited to, clicking on hyperlinks, submitting forms, posting comments on webpages, and engaging with web content and services in other forms.
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To make web content accessible to people with disabilities, developers must ensure that various components of web development and interaction work together. This includes text, images, and structural code, users' browsers and media players, and various assistive technologies.

Accessibility Features of a Website⁸

The image shows a screenshot of the Massachusetts State Retirement Board website with several accessibility annotations. Red brackets and boxes connect descriptive text on the left to specific elements on the website. The website elements include a blue navigation bar with a 'Menu' icon, 'Select Language' dropdown, and 'State Organizations' link. Below this is the 'Mass.gov' logo and a search bar labeled 'Search Mass.gov'. The main content area features a blue header for 'Newsletters and Publications (MSRB)' with a sub-header 'Annual reports and Newsletters for active members and retirees.' and a photograph of a building. Below this is a 'Social' section with links to Facebook and Twitter. A second section is titled 'What would you like to do?' and contains a 'Top tasks' area with buttons for 'Newsletters for Retirees (MSRB) +' and 'Active Member eNews Bulletin (MSRB) +', and an 'All other tasks' area with a button for 'Publications (MSRB) +'. The annotations on the left describe: 1) The website's header should appear throughout an entire website and contain hyperlinks to main content areas. 2) Alternative text should provide a description of any images present so that screen readers can describe those images. 3) Properly labeled fields where a user can enter text allow screen readers to read aloud the types of information that the user should enter. 4) Headings organize web content in a logical manner and allow users to navigate that content easily. 5) Screen reader users and people with motor disabilities rely in part on the Tab key to navigate between major portions of a website's content.

8. We resized this webpage to fit in this audit report. To see the unaltered webpage, visit <https://www.mass.gov/newsletters-and-publications-msrb>.

AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with Section 12 of Chapter 11 of the Massachusetts General Laws, the Office of the State Auditor has conducted a performance audit of certain activities of the Massachusetts State Retirement Board (MSRB) for the period July 1, 2023 through June 30, 2024.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusion based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our conclusion based on our audit objective.

Below is our audit objective, indicating the question we intended our audit to answer and the conclusion we reached regarding the objective.

Objective	Conclusion
1. Did MSRB’s website comply with the Executive Office of Technology Services and Security’s Enterprise Information Technology Accessibility Policy and the Web Content Accessibility Guidelines (WCAG) 2.1 for user accessibility, keyboard accessibility, navigation accessibility, language accessibility, error identification, and color accessibility?	Yes

To accomplish our audit objective, we gained an understanding of the MSRB internal control environment relevant to our objective by reviewing applicable policies and procedures and by interviewing MSRB staff members and management. In addition, to obtain sufficient, appropriate evidence to address our audit objective, we performed the procedures described below.

Web Accessibility

To determine whether MSRB’s website adhered to WCAG 2.1, for user accessibility, keyboard accessibility, navigation accessibility, language accessibility, error identification, and color accessibility during the audit period, we performed the following procedures for a random, nonstatistical⁹ sample of 60 webpages from a population of 701 MSRB webpages:

9. Auditors use nonstatistical sampling to select items for audit testing when a population is very small, the population items are not similar enough, or there are specific items in the population that the auditors want to review.

User Accessibility

- We determined whether content on each webpage could be viewed in both portrait and landscape modes.
- We determined whether content on each webpage was undamaged and remained readable when zoomed in to both 200% and 400%.

Keyboard Accessibility

- We determined whether all elements¹⁰ on each webpage could be navigated using only keyboard commands.
- We determined whether any elements on each webpage prevented a user from moving to a different element when using only keyboard commands to navigate the webpage in question.
- We determined whether the first focusable control¹¹ on each webpage was a hyperlink that would redirect users to the main content of the webpage.

Navigation Accessibility

- We determined whether each webpage contained a title that was relevant to the webpage's content.
- We determined whether there was a search function present to help users locate content across the whole website.
- We determined whether hyperlinks correctly navigated to the intended webpages.
- We determined whether headings within webpages related to the content of the section below the header.

Language Accessibility

- We determined whether any video content found on each webpage had all important sounds and dialogue captioned.
- We determined whether the words that appeared on each webpage matched the language attribute¹² to which the webpage in question was set.
- We determined whether any webpage sections that contained language differing from that to which the webpage was set contained their own specified language attribute.

Error Identification

- We determined whether mandatory form fields alerted users if they left these fields blank.

10. An element is a part of a webpage that contains data, text, or an image.

11. The first focusable control is the first element a user will be brought to on a webpage when navigating with a keyboard. If first focusable control also redirects users to the main content of a webpage, then it is known as a bypass block or a skip link.

12. A language attribute (also known as a language tag) identifies the native language of the content on the webpage or PDF (e.g., a webpage in English should have an EN language attribute). The language attribute is listed in the webpage's or PDF's properties. This, among other things, is used to help screen readers use the correct pronunciation for words.

- We determined, for form fields that required a limited set of input values, whether users were alerted if invalid values were entered into these types of fields.
- We determined whether there were labels for any elements that required user input. We also determined whether these labels were programmed correctly.
- We determined whether examples were presented to assist users in correcting mistakes (for example, a warning when entering a letter in a field meant for numbers).

Color Accessibility

- We determined whether there was at least a 3:1 contrast in color and additional visual cues to distinguish hyperlinks, which WCAG recommends for users with colorblindness or other visual impairments.

We used nonstatistical sampling methods for testing and, therefore, did not project the results of our testing to any corresponding populations.

Data Reliability Assessment

To determine the reliability of the URL list that we received from MSRB management, we interviewed knowledgeable MSRB staff members and checked that certain variable formats (e.g., dates, unique identifiers, and abbreviations) were accurate. Additionally, we ensured that none of the following issues affected the URL list: abbreviation of data fields, missing data (e.g., hidden rows or columns, blank cells, or absent records), and duplicate records. We also ensured that all values in the dataset corresponded with expected values.

We selected a random sample of 20 URLs from the URL list and traced each to the corresponding webpages on MSRB's website, checking that each URL and webpage title from the URL list matched the information on the MSRB website. We also selected a random sample of 20 URLs from MSRB's website and traced the URL and webpage title to the URL list to ensure that there was a complete and accurate population of URLs on the URL list.

Based on the results of the data reliability procedures described above, we determined that the URL list was sufficiently reliable for the purposes of our audit.

Conclusion

Our audit revealed no significant instances of noncompliance by MSRB that must be reported under generally accepted government auditing standards; therefore, this report contains no findings.