Most State Unemployment Websites Fail Mobile and Accessibility Tests

MICHAEL MCLAUGHLIN AND DANIEL CASTRO | APRIL 2020

ITIF tested the page load speed, mobile-friendliness, and accessibility of all 50 state unemployment websites using publicly available tools. The results show that many of these sites are not just ill-suited to handle significant rises in traffic, but also poorly designed.

KEY TAKEAWAYS

- More than half of U.S. state government unemployment websites have crashed in recent weeks due to surges in applicants.

- 86 percent of state government unemployment websites fail at least one basic test for mobile page load speed, mobile friendliness, or accessibility.

- Congress should provide states funds to modernize their websites as part of any future stimulus package.

INTRODUCTION

In the wake of the coronavirus pandemic, nearly 17 million Americans have filed for unemployment benefits, including approximately 5 million in the last week.[1] Facing stay-at-home orders and physical distancing measures, many workers have applied for unemployment benefits online. Unfortunately, many of the government websites they attempted to use have not been working.[2] Indeed, an ITIF analysis found that at least 26 state government unemployment websites have crashed.[3] And more than 54 percent of the initial unemployment claims filed in the United States during the week ending April 4 were from individuals in states with unemployment websites that had crashed.[4] These crashes have made it more difficult for individuals to apply for and receive benefits.

Moreover, many of these websites are not optimized for people using mobile devices. This is a significant issue because roughly 20 percent of Americans access the Internet at home only via a mobile device, and during the pandemic, they do not have other options, such as going to a library.[5] Some websites explicitly note that they do not work on mobile devices. For example, Florida's unemployment website states that it does not work on "tablets, phones, and other mobile devices."[6] And because the site kept crashing, applicants in Florida were instructed to use pen and paper to file unemployment benefits applications—which not only introduces delays in receiving benefits, but also proves unviable for people who cannot easily print the necessary forms or reach a location where physical applications are available.[7] (Last week, Florida did introduce a new site allowing mobile users to submit an initial application, but this new site is not a full substitute for its main unemployment website.[8])

Furthermore, many of these websites are not designed to be accessible to people with disabilities, such as those with low vision or who use screen readers. More than 8 percent of individuals with disabilities are unemployed, and many individuals with disabilities depend on Internet access to access government services.[9]

To better gauge the overall functionality of state unemployment websites, ITIF tested the page load speed, mobile-friendliness, and accessibility of all 50 state unemployment websites using publicly available tools and converted the results to a score on a 0 to 100 point scale.[10] We tested the government websites that came up first for a Google search of the phrase "[State name]'s unemployment website"—the first webpage a user would likely encounter when attempting to find their state's unemployment website. Despite performing well on desktop page-load speed, state unemployment websites performed poorly on tests for mobile-page load speed, mobile-friendliness, and accessibility. Indeed, 84 percent of state unemployment websites failed at least one test. These poor scores illustrate that not only are many state unemployment websites ill-suited to handle significant rises in traffic, but they are poorly designed.

There are many reasons why government websites should be designed to meet the needs of mobile users and people with disabilities. First, a significant portion of Americans rely on smartphones for Internet access in their homes, and a disproportionate number of these individuals are low-income and from black and Hispanic communities.[11] Likewise, the effects of COVID-19 disproportionately hurt low-wage workers. For example, only 2.5 percent of jobs that pay more than $70,000 are vulnerable to be laid-off, furloughed, or otherwise unproductive during social distancing, compared to 39 percent of jobs with earnings between $30,000-

$40,000.[12] Second, websites that do not adhere to accessibility standards can be more difficult for people with disabilities to use, including the millions of American who have a visual disability.[13]

STATE UNEMPLOYMENT WEBSITES PERFORM WELL ON DESKTOP PAGE LOAD SPEED, BUT POORLY ON MOBILE

Slow page-load speeds negatively affect the user experience. We assessed websites' desktop and mobile page-load speeds using Google's PageSpeed Insights, a tool that uses both real-world and lab data to measure a variety of speed measures, such as the time it takes for a browser to load the first piece of content on a page.[14] We marked a website as having passed the desktop page-load speed test if it had a score of 55 or higher, and passed the mobile page-load speed test with a score of 57 or higher.[15] We chose these cutoffs based on a 2017 review of the 20 most popular non-government websites. Each of these cutoffs is approximately one standard deviation below the mean of the average scores of the non-government websites.[16]

We found that 56 percent of state unemployment websites failed the mobile page-load speed test and that 8 percent failed the desktop test.[17] The overall performance by the unemployment websites on desktop speed is impressive, particularly considering that ITIF's 2018 review of 400 state government websites found that 23 percent failed the desktop test. Several state unemployment websites, including Alabama's, received a score of 100. It is important to note that this test primarily evaluates how the design of a website affects load times. For example, users may still experience slow load times on a well-designed website if the site is hosted on servers with insufficient resources.

But while many sites were properly designed for desktop browsers, more than half of the sites failed the mobile page-load speed test. In addition, the websites performed poorly using PageSpeed Insights' benchmarks. The tool considers websites that score above a 90 as fast, between 50 and 90 as moderate, and below 50 as slow.[18] Applying these benchmarks, only 16 percent of the mobile versions of state unemployment websites achieved a fast designation, compared to 48 percent of desktop versions. States can improve the speed of their sites in several ways, including by compressing images, removing unused plugins, and increasing the cache lifetime of certain assets, which can speed up a page's load time for repeat visits.[19]

ONE-THIRD OF STATE UNEMPLOYMENT WEBSITES ARE NOT MOBILE-FRIENDLY

Mobile devices account for more than half of all web traffic.[20] Furthermore, many Americans can access the Internet only through their smartphone. This reality heightens the importance of Americans being able to access critical information and services, such as unemployment benefits information, easily on a mobile device. To test the experience of individuals who visit state government websites on mobile devices, we used a tool from RankWatch, an Internet marketing platform. The tool checks websites for mobile-friendly best practices, such as that text is large enough to read, all the content fits on the screen, and that the website spaces links are far enough apart to make them easy to click. Unemployment websites that scored an 88 or higher passed the test—a score of 88 is one standard deviation below the average score of 96 for popular non-government websites.[21]

We found that roughly one-third (34 percent) of unemployment websites failed the mobile-friendliness test.[22] Moreover, eight of the sites scored a 70 or below, indicating that these websites are likely highly unfriendly to mobile users, with the websites of New York, Connecticut, and Kentucky performing the worst. Despite the poor performance of many sites, others performed well, including Hawaii's unemployment website, which scored a perfect 100. States can quickly solve many issues that reduce the mobile-friendliness of their website. For example, states can ensure all buttons meet minimum size requirements and configure the viewport to scale font sizes across devices.[23]

FOUR-OUT-OF-TEN STATE UNEMPLOYMENT WEBSITES ARE INACCESSIBLE

We assessed the accessibility of state government websites using AChecker's Web Accessibility Checker.[24] It analyzes URLs to identify accessibility issues based on WCAG 2.0, a World Wide Web Consortium (W3C) standard. The tool examines sites for known problems, likely problems, and potential problems.[25] We only penalize websites if the tool detects known issues, and then assign a score on a scale of 0 to 100.[26] Websites pass the test with a score of 85 or higher.[27]

We found that 39 percent of unemployment websites failed the accessibility test, but that six received a perfect score.[28] These results closely mirror the performance of 400 state government websites ITIF tested in 2018, in which 41 percent of state government websites failed the accessibility test. Louisiana's unemployment website received the lowest score (67), indicating that its website is likely highly inaccessible. Seven percent of Louisianans have a vision disability.[29]

RECOMMENDATIONS

Citizens should be able to easily access all government services online, including on a smartphone. In particular, these services should be available in times of crises when demand surges.[30] As such, state governments should improve their websites in several ways. First, state governments should design cloud-based websites and applications that are scalable so that they can withstand surges in online traffic.[31]

Second, state governments should pursue a mobile-first design strategy for their sites.[32] A mobile-first design requires states to design applications to work first for mobile devices, and then use responsive design to optimize the content for different-sized screens, including desktops.[33]

Third, states should consolidate their websites and use a consistent design across websites, and this design should meet all accessibility best practices.[34] Too often, the quality and functionality of state websites vary within a state, which can make it difficult for users to find the content they are seeking.[35] In addition, when government agencies launch new websites, they should authorize them to operate only for a fixed period of time, after which time they should replace them, unless a senior government official signs off on their continued operation. This will create more accountability for the quality of sites operated by government agencies. Furthermore, states should collect and report website analytics to monitor their performance across various metrics over time, as well as ensure they are meeting the needs of their users.[36]

Finally, any future stimulus package Congress develops should include funding for states to modernize their websites. Online government services will be particularly important with any future physical distancing, as well as with other future emergencies. But state budgets will face

shortfalls in the coming year, and states will be unlikely to invest in e-government without support from the federal government.

About the Authors

Michael McLaughlin is a research analyst at the Information Technology and Innovation Foundation. He researches and writes about a variety of issues related to information technology and Internet policy, including digital platforms, e-government, and artificial intelligence. Michael graduated from Wake Forest University, where he majored in Communication with Minors in Politics and International Affairs and Journalism. He received his Master's in Communication at Stanford University, specializing in Data Journalism.

Daniel Castro is the vice president of ITIF and the director of ITIF's Center for Data Innovation. He has a B.S. in foreign service from Georgetown University and an M.S. in information security technology and management from Carnegie Mellon University.

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ENDNOTES

1. Patti Domm, "5 Million More Unemployment Claims Expected, But Layoffs Are Now Braod and Could Be More Permanent," *CNBC*, April 8, 2020, https://www.cnbc.com/2020/04/08/five-million-more-unemployment-claims-expected-but-now-layoffs-could-be-more-permanent.html; Dion Rabouin, "The Fed Rescues Wall Street, But Main Street Is Another Story," *Axios*, April 10, 2020, https://www.axios.com/the-fed-rescues-wall-street-but-main-street-is-another-story-7a946388-6f0a-4f31-97f6-2e28e249b01a.html.

2. Christopher Zara, "Unemployment Websites From Oregon to NY Are Crashing Under the Weight of the Coronavirus Crisis," *Fast Company*, March 18, 2020 https://www.fastcompany.com/90478927/unemployment-websites-from-oregon-to-ny-are-crashing-under-the-weight-of-the-coronavirus-crisis.

3. These states include Alabama, Arizona, Arkansas, Colorado, Connecticut, Florida, Hawaii, Illinois, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, Montana, Nevada, New Jersey, New York, North Carolina, Ohio, Oregon, Texas, Virginia, West Virginia, Wisconsin.

4. Unemployment Insurance Weekly Claims, U.S. Department of Labor, news release, April 9, 2020, https://www.dol.gov/ui/data.pdf.

5. "Mobile Fact Sheet" (Pew Research Center), accessed July 9, 2018, http://www.pewinternet.org/fact-sheet/mobile/.

6. "Tablets, phones, and other mobile devices are not currently supported by CONNECT and may result in errors." CONNECT, Florida Department of Economic Opportunity, n.d., https://connect.myflorida.com/Claimant/Core/Login.ASPX (accessed April 13, 2020).

7. Sasha Jones, "Paper Applications Available as State Makes Changes to Unemployment System," *NBC Miami*, April 7, 2020, https://www.nbcmiami.com/news/local/florida-relaunches-unemployment-website-encourages-using-paper-applications-during-pandemic/2216058/; "Need An Unemployment Form?" They're In Boxes Across Central Florida," *Click Orlando*, April 8, 2020, https://www.clickorlando.com/news/local/2020/04/07/careersource-offers-curbside-pickup-for-paper-florida-unemployment-applications/.

8. "Florida is spending up to $110 million to back up its failed unemployment website," *Miami Herald*, April 9, 2020, https://www.miamiherald.com/news/state/florida/article241903616.html.

9. Economic News Release (Table A-6. Employment status of the civilian population by sex, age, and disability status, not seasonally adjusted), U.S. Department of Labor, accessed April 10, 2020, https://www.bls.gov/news.release/empsit.t06.htm; "Percentage of U.S. Population With Internet aAcess at Home as of November 2017, by Disability Status," Statista, accesed April 10, 2020, https://www.statista.com/statistics/368609/us-online-access-householder-disability-status/.

10. The page speed tests use this tool: "PageSpeed Insights," Google Developers, accessed April 7, 2020, https://developers.google.com/speed/pagespeed/insights/; The mobile friendliness test uses this tool: "The Ultimate Mobile Responsiveness Test," RankWatch, accessed April 7, 2020, https://www.rankwatch.com/tools/mobile-friendly-check.html; The accessibility test uses this tool: "Web Accessibility Checker," AChecker, accessed April 8, 2020, http://achecker.ca/checker/.

11. "Mobile Fact Sheet" (Pew Research Center), accessed July 9, 2018, http://www.pewinternet.org/fact-sheet/mobile/.

12. Kim Hart, "The Coronavirus Pandemic Threatens Low-Wage Jobs," *Axios*, April 8, 2020, https://www.axios.com/coronavirus-low-wage-jobs-7897454f-427d-4e08-b319-28edb72c93e0.html.

13. "Statistical Facts About Blindness in the United States," National Federation of the Blind, page last updated June 2018, https://nfb.org/blindness statistics; Tom Harrington, "Deaf Statistics," Gallaudet University, page last updated February 2014, http://libguides.gallaudet.edu/c.php?g=773916&p=5552995; Daniel Castro and Michael McLaughlin, "Benchmarking State Government Websites" (Information Technology and Innovation Foundation, August 2018), https://itif.org/publications/2018/08/27/benchmarking-state-government-websites.

14. "About PageSpeed Insights," Google, accessed April 8, 2020, https://developers.google.com/speed/docs/insights/v5/about; 'First Contentful Paint," Google, accessed April 8, 2020, https://developers.google.com/web/tools/lighthouse/audits/first-contentful-paint.

15. We chose these thresholds based on our review of the page-load speed of the 20 most popular nongovernment domains from the Majestic Million, which is a free online service that ranks the most popular websites in the world based on how many unique IP addresses refer to a particular domain. The cutoffs for both desktop and mobile page-load speed are one standard deviation below the mean for nongovernment websites from initial "Benchmarking U.S. Government Websites" report published in 2017 by ITIF. We chose to maintain this cutoff because it allows us to make comparisons between reports.

16. These nongovernment websites include google.com, facebook.com, youtube.com, twitter.com, Microsoft.com, Wikipedia.org, linkedin.com, plus.google.com, apple.com, Instagram.com, wordpress.org, wordpress.com, blogpost.com, vimeo.com, maps.google.com, pinterest.com, yahoo.com, amazon.com, and tumblr.com. This data was gathered on October 3, 2017. See Daniel Castro and Alan McQuinn, "Benchmarking U.S. Government Websites" (Information Technology and Innovation Foundation, March 2017), https://itif.org/publications/2017/11/27/benchmarking-us-government-websites.

17. PageSpeed Insights could not test Kentucky's unemployment website (http://www.kewes.ky.gov/). As such, the website is not included in the page speed results.

18. "About PageSpeed Insights," Google, accessed April 8, 2020, https://developers.google.com/speed/docs/insights/v5/about.

19. "Serve Static Assets With An Efficient Cache Policy," Web.Dev, updated October 4 2019, https://web.dev/uses-long-cache-ttl/.

20. J. Clement, "Share of Global Mobile Website Traffic, 2015-2019," Statista, January 29, 2020, https://www.statista.com/statistics/277125/share-of-website-traffic-coming-from-mobile-devices/.

21. These nongovernment websites include google.com, facebook.com, youtube.com, twitter.com, Microsoft.com, Wikipedia.org, linkedin.com, plus.google.com, apple.com, Instagram.com, wordpress.org, wordpress.com, blogpost.com, vimeo.com, maps.google.com, pinterest.com, yahoo.com, amazon.com, and tumblr.com. This data was gathered on April 9, 2020.

22. Florida's unemployment website (https://connect.myflorida.com/Claimant/Core/Login.ASPX) states that "Tablets, phones, and other mobile devices are not currently supported by CONNECT and may result in errors." As such, Florida failed our mobile friendliness test.

23. Meggin Kearney, Dave Gash, and Rob Dodson, "Accessible Styles," Google Developers, last updated July 2, 2018, https://developers.google.com/web/fundamentals/accessibility/accessible-styles#multi-

device_responsive_design; Pete LePage, "Responsive Web Design Basics," Google Developers, last updated July 2, 2018, https://developers.google.com/web/fundamentals/design-and-ux/responsive/.

24. "AChecker Web Service API," AChecker, accessed December 8, 2017, https://achecker.ca/documentation/web_service_api.php.

25. The W3C published updated standards (WCAG 2.1) in June 2018, which build on the previous guidelines (WCAG 2.0) that were published in December 2008; "W3C Web Standard Defines Accessibility for Next Generation" (World Wide Web Consortium), accessed July 25, 2018, https://www.w3.org/2008/12/wcag20-pressrelease.html; Daniel Castro and Michael McLaughlin, "Benchmarking State Government Websites" (Information Technology and Innovation Foundation, August 2018), https://itif.org/publications/2018/08/27/benchmarking-state-government-websites.

26. The formula to calculate the 0-100 score is: =(0.95^(Number of Known Issues ^0.5))*100.

27. We chose these thresholds based on our review of the accessibility of the 20 most popular nongovernment domains from the Majestic Million, which is a free online service that ranks the most popular websites in the world based on how many unique IP addresses refer to a particular domain. The cutoffs for both desktop and mobile page-load speed are one standard deviation below the mean for nongovernment websites from initial "Benchmarking U.S. Government Websites" report published in 2017 by ITIF. We chose to maintain this cutoff because it allows us to make comparisons between reports.

28. A Checker could not test Kansas' unemployment website (https://www.getkansasbenefits.gov/Home.aspx). As such, we excluded it from the results.

29. Disability Impacts All of Us, U.S. Centers for Disease Control and Prevention, accessed April 8, 2020, https://www.cdc.gov/ncbddd/disabilityandhealth/impacts/louisiana.html.

30. Daniel Castro, "Coronavirus Pandemic Exposes Why America's Digital Divide is Dangerous," *USA Today*, April 1, 2020, https://www.usatoday.com/story/opinion/2020/04/01/coronavirus-pandemic-shows-dangers-americas-digital-divide-column/5093365002/.

31. Ibid.

32. Ibid.

33. Daniel Castro and Michael McLaughlin, "Benchmarking State Government Websites" (Information Technology and Innovation Foundation, August 2018), https://itif.org/publications/2018/08/27/benchmarking-state-government-websites.

34. Ibid.

35. Ben Miller, "SeamlessDocs Project Offers Free Web Analytics Dashboard to State, Local Government," Government Technology, March 17, 2017, http://www.govtech.com/pcio/articles/SeamlessDocs- Project-Offers-Free-Web-Analytics-Dashboard-to-State-Local-Government.html.

36. Daniel Castro and Michael McLaughlin, "Benchmarking State Government Websites" (Information Technology and Innovation Foundation, August 2018), https://itif.org/publications/2018/08/27/benchmarking-state-government-websites.