State of Maryland

Statewide Digital Equity Plan

DRAFT | November 2023

This document is a draft of the State of Maryland's Statewide Digital Equity Plan and is being released for public comment in advance of its submission by the Maryland Office of Statewide Broadband (OSB) to the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce.

All are welcome to submit comments regarding the draft document. Comments regarding the draft should be submitted via email to OSB.DE@maryland.gov by 11:59 p.m. on December 2, 2023.

This report was prepared by OSB using federal funds from the National Telecommunications and Information Administration (NTIA), U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of NTIA or the U.S. Department of Commerce.

Maryland
DEPARTMENT OF HOUSING
AND COMMUNITY DEVELOPMENT

CONNECT Maryland
High Speed Internet For A Better Future.

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1 Executive summary

The State of Maryland recognizes that digital equity is crucial in today's interconnected world because the internet serves as a gateway to information, services, and opportunities that impact education, employment, health care, civic participation, and economic opportunity. Ensuring the availability of broadband and achieving digital equity will mean that all residents of the State can access educational resources, engage in remote learning, pursue online job opportunities, connect with others globally, access vital health care information, and participate in government services and democratic processes.

Given this recognition of the criticality of achieving digital equity, the Maryland Office of Statewide Broadband (OSB) hereby submits to the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce this Statewide Digital Equity Plan (the Plan). OSB is designated by the State of Maryland as the Eligible Entity for purposes of the federal Digital Equity Act.

As detailed in this Plan, OSB has conducted a comprehensive outreach effort, developed a data-driven broadband and digital equity needs assessment, and identified a clear implementation path for achieving digital equity objectives. The Plan includes all 15 requirements outlined in NTIA's State Digital Equity Planning Grant Program Notice of Funding Opportunity (NOFO).

1.1 Vision and principles for digital equity

The State of Maryland envisions a future where every individual, regardless of their background, location, or abilities, has equal access to and the necessary skills to leverage digital resources, technologies, and opportunities. In this vision, Maryland will achieve equity for the digital age, ensuring that no one is excluded or left behind due to disparities in access, skills, or resources.

This vision includes the following essential elements:

1. Access to affordable, reliable internet connectivity at home
2. A computing device and the opportunity to maintain it
3. Opportunity to learn digital skills
4. Tools and information to be safe online
5. Online State resources that are accessible and usable

Maryland's digital inclusion efforts will be guided by the following set of core principles:

1. Inclusivity and accessibility

2. Equitable access
3. Community engagement and collaboration
4. Sustainability
5. Data-driven decision making

1.2 Current state of digital equity: Barriers and assets

The ecosystem working to further digital inclusion for all residents of Maryland—and members of covered populations[1] in particular—includes a range of efforts by public and private entities, as catalogued in Section 3.1.

OSB and its predecessor, the Office of Rural Broadband,[2] have been administering broadband grant programs since 2018 to fund efforts including broadband expansion, network infrastructure, federal application assistance, and digital inclusion.

To reduce the number of Marylanders that are unable to afford broadband connectivity, the State used $45 million in American Rescue Plan Act (ARPA) funding to create the Maryland Emergency Broadband Benefit (MEBB) Program, which provides a $15 State subsidy in addition to the Affordable Connectivity Program (ACP) subsidy. As of July 2023, an estimated 33 percent of households in the State who are eligible for the ACP are enrolled in the program.[3]

On July 18, 2023, Governor Wes Moore announced a new program, "Maryland ActNow," in partnership with EducationSuperHighway to increase awareness of the ACP and MEBB

[1] Covered populations are defined in the Internet Infrastructure and Jobs Act, Section 60301 et seq. (known as the Digital Equity Act of 2021) as: "(A) individuals who live in covered households; (B) aging individuals; (C) incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility; (D) veterans; (E) individuals with disabilities; (F) individuals with a language barrier, including individuals who (i) are English learners; and (ii) have low levels of literacy; (G) individuals who are members of a racial or ethnic minority group; and (H) individuals who primarily reside in a rural area." "Internet Infrastructure and Jobs Act, Section 60302 (Definitions), paragraph 8," Congress, https://www.congress.gov/bill/117th-congress/house-bill/3684/text. Covered households are those for which "the income of which for the most recently completed year is not more than 150 percent of an amount equal to the poverty level, as determined by using criteria of poverty established by the Bureau of the Census." "Internet Infrastructure and Jobs Act, Section 60302 (Definitions), paragraph 7," Congress, https://www.congress.gov/bill/117th-congress/house-bill/3684/text. For the definition of "aging individuals," the statute uses the definition of "older individual" as "an individual who is 60 years of age or older" from the United States Code. "42 U.S.C. Section 2003, paragraph 40," Findlaw, https://codes.findlaw.com/us/title-42-the-public-health-and-welfare/42-usc-sect-3002.html.

[2] OSB was established by the Digital Connectivity Act (SB 66) in 2021 to succeed the Office of Rural Broadband, which was created by executive order in 2017 (01.01.2017.14).

[3] See ACP Connectivity Tracker at ACP Enrollment and Claims Tracker - Universal Service Administrative Company (usac.org) (last accessed July 31, 2023). See also "Bipartisan Infrastructure Law State Fact Sheet: Maryland," the White House, March 2023, https://www.whitehouse.gov/wp-content/uploads/2023/03/Maryland-Fact-Sheet-March-Edition.pdf.

programs.[4] Understanding that a lack of devices prohibits some Marylanders from participating in online activity, the State will also use $30 million in ARPA funding to provide approximately 145,000 devices to low-income families in fiscal year 2023, distributed through local governments.

In addition to affordability, service availability remains a barrier to digital equity for some Marylanders. According to analysis of the FCC's address fabric (June 2023), 98.3 percent of Maryland locations are served at 100/20 Mbps—reflecting that OSB has achieved much, but that there is still work to be done.

For these reasons, this Plan prioritizes extension of digital infrastructure, adoption, affordability, and skills training as key areas of digital equity effort.

1.3 Needs assessment

Through data collection, community engagement,[5] and analysis,[6] OSB has identified a range of barriers associated with the needs of Maryland households and communities. These are described in detail below. In brief, the key identified challenges include:

1. Lack of broadband availability to households
2. Low-income households struggle to afford broadband services, devices, and technical support
3. Low-income households and aging individuals lack needed digital skills

[4] "Governor Moore Launches Maryland ActNow Campaign to Close the Digital Divide in Maryland," Office of Governor Wes Moore, News Release, July 18, 2023, https://governor.maryland.gov/news/press/pages/governor-moore-launches-maryland-actnow-campaign-to-close-the-digital-divide-in-maryland.aspx.

[5] The State's comprehensive stakeholder outreach program included extensive efforts to identify the needs of all residents of Maryland with an emphasis on those belonging to covered populations. Outreach and data collection efforts were made to assess the baseline from which the State is working and to identify the barriers to Digital Equity faced generally and by each of the covered populations in Maryland. The research and analysis are based on available and relevant data from the American Community Survey (ACS), NTIA's Internet Use Survey (administered as a supplement to the Current Population Survey), FCC's National Broadband Map, and OSB's custom scientific phone survey (administered in 2023). As described in detail in Section **Error! Reference source not found.**, the d ata and analysis are intended to facilitate understanding of the extent to which: (1) broadband internet service is available to and adopted by residents; (2) residents are confidently performing various digital skills; (3) residents are aware of and impacted by online security and privacy concerns; (4) computer devices are abundant and adequate for meaningful internet use; and (5) online government resources and services are accessibly built and maintained.

[6] Analysis was undertaken to benchmark Maryland against national averages, and to benchmark its residents belonging to covered populations against those that do not belong to covered populations. Analytical tools include a range of statistical tools and models, including regression analysis, in order to isolate factors and make appropriate conclusions regarding correlation and causation, thereby shaping the selection of metrics.

The table below summarizes key barriers revealed by OSB's outreach and research for each covered population identified by the Digital Equity Act.

Table 1: Key barriers and obstacles for covered populations

Covered population	Identified barriers and obstacles
Aging individuals	• Lack of digital skills and lack of confidence in protecting themselves from online security and privacy threats • Lower rates of broadband and device adoption compared to younger individuals
Incarcerated individuals	• Lack of adequate broadband services and adequate funding for digital literacy and workforce training inside correctional institutions • Lack of broadband availability for formerly incarcerated individuals that would enable online job training and job searches to expand employment opportunities
Individuals who are members of a racial or ethnic minority	• Barriers that come from historic underrepresentation in programs and opportunities that may have provided digital skills and access to robust broadband • Crossover barriers with limited English speaking and low-income populations • Less likely to own desktop or laptop computers than white individuals
Individuals who primarily reside in a rural area	• Lack of access to reliable broadband that, in turn, creates barriers to developing digital skills • Affordability of service as well as high costs of paying for service drop installation for those with long driveways
Individuals with disabilities	• Less likely to be served by broadband • Lag those without disabilities in internet and device adoption • Necessary adaptive technology can be expensive, scarce, and hard to use • Lack of specialized digital skills training • Availability of adequate services to allow work, education, and health care at home
Individuals with language barriers	• Lack of in-language digital skills training
Low-income individuals	• Barriers affording service with the speeds and data capacity to meet their digital needs • Lack of knowledge or access to discount subsidy programs, including for devices • Challenges affording computing devices and tech support

Covered population	Identified barriers and obstacles
	• Insufficient infrastructure in buildings with inadequate wiring
Veterans	• Crossover challenges with aging individuals, individuals from racial and ethnic minorities, individuals with disabilities, individuals living in rural areas, and low-income individuals • Challenges receiving broadband services

1.4 Collaboration and stakeholder engagement

OSB conducted a comprehensive and coordinated external engagement and data-collection process in preparation of this Plan.

The comprehensive stakeholder outreach program included extensive efforts to identify the needs of covered populations. Outreach and data collection efforts included questionnaires, mapping efforts, desk research, and meetings with key State and local stakeholders to develop broadband strategic plans and objectives; current and ongoing outreach and engagement with key stakeholders during local and regional meetings; and data collection through end user surveys with ongoing analysis of results.

This outreach approach included:

- **In-person regional engagements** to solicit input, insights, priorities, and guidance
- **Stakeholder organization engagement** through virtual workshops and distribution of online surveys for government agencies, nonprofit entities, internet service providers (ISP), community anchor institutions, and other institutional stakeholders
- **Scientific phone survey of Maryland households** on digital equity topics
- **Ongoing meetings** with State agencies and community organizations that represent covered populations

OSB conducted a series of virtual workshops with government agencies and anchor institutions, community-based organizations representing covered populations, and ISPs. In parallel to outreach through in-person engagements, OSB used a statistically valid data collection methodology to conduct a statewide residential phone survey to inform this Plan and capture resident input across the State. OSB also consulted with higher education and workforce organizations in workforce development.

1.5 Implementation plan

Achieving digital equity in Maryland will likely involve multiple coordinated initiatives and efforts associated with each strategy and objective. OSB looks forward in particular to the opportunity to use its Digital Equity Capacity Grant to support and develop further digital equity capacity in Maryland, in partnership with the many local entities that have already been strong partners in OSB's community engagement work and existing digital inclusion grant programs.

OSB has established a strong partnership model both with other State agencies and with local governments and nonprofit organizations. This is because of the multiple grant funding programs that OSB has previously established to build both needed broadband infrastructure as well as accelerate internet adoption among vulnerable and historically underrepresented populations within the State.

OSB notes that sustainability of any initiatives undertaken is of primary concern.

To address the potential that resources may not be available to support the full range of proposed initiatives, OSB plans a multi-pronged strategy focused on strategic partnerships with local businesses, ISPs, community-based organizations, and Maryland's many engaged cities and counties. OSB also seeks to maximize the potential to work with philanthropy and to support Maryland communities and nonprofits to apply for federal Digital Equity Competitive Grant programs when they become available.

OSB also sees its own role as critical to fostering a cycle of sustainable funding for digital equity efforts in Maryland, through regular data collection and measurement of program impact that make a data-driven case for continued support. In these ways, OSB anticipates an ambitious digital equity strategy for Maryland, but one that recognizes that resources are not unlimited.

As described in detail (including activities and timelines) in Section 5, the following are potential strategies aligned with each key digital equity challenge:

1. Barrier: Lack of broadband availability

    Strategy 1: Increase access to residential broadband infrastructure

    Strategy 2: Require ISPs to provide a basic level of service for rural and remote communities.

    Strategy 3: Partner with and strengthen the capabilities of Community Anchor Institutions to broaden free public access to broadband for all residents in covered populations.

2. Barrier: Low-income households struggle to adopt and afford broadband services, devices, and technical support

   Strategy 1: Increase Affordable Connectivity Program and ISP low-cost program enrollment among eligible households

   Strategy 2: Increase low-cost service offerings

   Strategy 3: Expand access to computing devices and tech support

   Strategy 4: Develop data and informational resources to enable application of a digital equity lens to infrastructure and program decisions

3. Barrier: Low-income households and aging individuals lack digital skills

   Strategy 1: Enable digital skills development through training courses

   Strategy 2: Expand opportunity to learn online safety and privacy

   Strategy 3: Expand accessibility of information

4. Barrier: Local communities require resources and expertise for digital equity efforts

   Strategy 1: Build collaboration among State, local, ISP, and nonprofit entities

   Strategy 2: Expanding technical assistance to local and nonprofit entities to engage in robust digital equity efforts

   Strategy 3: Increasing local government digital equity plans, enhancing commitments to data-driven, community-informed approaches

2 Introduction and vision for digital equity

2.1 Vision

Broadband access and digital equity are integral to the wellbeing of the State of Maryland in the 21st century, serving as a linchpin for economic opportunity and community development, offering a pathway to increased innovation, entrepreneurship, and overall prosperity.

The State of Maryland envisions a future where every individual, regardless of their location or background, has full access to high-speed internet connectivity and the tools necessary to harness its transformative potential. In this vision, urban and rural communities alike can fully participate in the digital economy. In this vision, comprehensive infrastructure investment will eliminate connectivity gaps, bridging the urban-rural divide and fostering a connected ecosystem that empowers residents, businesses, and governments to thrive in a digital society.

In this vision, digital equity goes beyond infrastructure, emphasizing digital literacy and skills development as critical components. Citizens are equipped with the knowledge to confidently navigate the digital landscape, access online resources, and protect their privacy and security. Digital skills training is integrated into educational curricula, workforce development programs, and community initiatives to create an informed and empowered citizenry. Furthermore, the vision envisions targeted support for underserved communities, ensuring that they are not left behind in the digital transformation.

In this vision, all Maryland residents will have access to the following **five critical elements of digital equity:**

1. **Access to affordable, reliable internet connectivity at home:** Access to affordable and reliable internet connectivity at home is a cornerstone of digital equity as it ensures that individuals, regardless of their socioeconomic background, can participate fully in the digital world. In an increasingly interconnected society, essential services, education, job opportunities, and civic engagement largely occur online. Lack of affordable internet access can occur in both rural and urban communities. Closing this divide will ensure that residents located in every part of Maryland have equal access to critical information and resources that drive personal and professional growth.

2. **A computing device and opportunity to maintain it**: A modern and fully capable computing device is a necessary element of effective internet use and a gateway to education, employment, healthcare, and social interactions. Access to a computing device, with technical support to maintain it, means that all Maryland residents have the tools necessary to succeed in the digital age.

3. **Opportunity to learn digital skills**: The opportunity to learn digital skills is a linchpin of digital equity because it empowers individuals to harness the potential of technology effectively and safely. Digital literacy is essential for navigating online platforms, communicating, evaluating information, and engaging in the modern world.

4. **Tools and information to be safe online**: Providing tools and information to be safe online is a critical component of digital equity, ensuring that all individuals can navigate the digital landscape securely. Cyber threats and privacy breaches are risks faced by everyone online.

5. **Online State resources that are accessible and usable**: Ensuring that online State resources are accessible and usable for all residents supports equal access to government services, information, and civic participation. An inclusive approach to digital design ensures that individuals with disabilities, limited digital literacy, or language barriers can fully engage with State resources.

Maryland's digital equity efforts will be guided by a set of core principles that prioritize inclusivity, effectiveness, and sustainability. These principles lay the foundation for ensuring that State of Maryland digital equity efforts address the digital divide comprehensively, prudently, and responsibly. OSB therefore adopts the following framework principles for digital equity efforts:

- **Inclusivity and accessibility:** Digital equity programs should prioritize inclusivity. Programs should be designed with accessibility in mind, accommodating different needs and preferences.

- **Equitable access:** Efforts should focus on equitable access to affordable high-speed internet connectivity, computing devices, and necessary software. This involves identifying underserved areas and populations, working to bridge the urban-rural digital divide, and ensuring that economic disparities do not hinder access to essential digital tools and services.

- **Community engagement and collaboration:** Efforts should prioritize active participation and collaboration among government agencies, community organizations, private sector partners, educational institutions, and residents. Engaging stakeholders ensures that strategies align with local needs, leverage available resources, and create a collective impact.

- **Sustainability:** Digital equity planning should aim for long-term sustainability. Sustainable funding models, public-private partnerships, and leveraging existing infrastructure can contribute to the ongoing success of these programs.

- **Data-driven decision making:** Using data to inform strategy, program design, implementation, and evaluation is vital. Regularly collecting and analyzing data helps identify gaps, measure outcomes, and refine strategies for continuous improvement.

By adhering to these core principles, OSB seeks to develop a Digital Equity Plan that affords all individuals the opportunity to harness the benefits of the digital world.

2.2 Alignment with existing efforts to improve outcomes

OSB's role in administering broadband infrastructure development and digital equity efforts is fully aligned with State priorities. This section of the Plan describes other State of Maryland programs and priorities and how they align with, and in some cases complement, this Plan and OSB's overall broadband expansion efforts. These programs and outcomes, which apply to each covered population, include:

Measurable objective	Key agency partners	Plan	Goals / priorities	Digital equity alignment
Economic & workforce development	OSB	Capital Projects Fund, 2023 Report[7]	Use funding to close the digital divide	Improved services to covered populations
	Maryland Department of Labor (MD Labor) and partners	Maryland Workforce Innovation and Opportunity Act (WIOA) State Plan 2020-2024[8]	Sets digital equity and digital literacy goals for specific covered populations	Improved opportunities for covered populations

[7] "Capital Projects Fund, 2023 Report," OSB, https://dbm.maryland.gov/budget/Documents/operbudget/ARP_MD_2023_OSB_CPF_Performance_Report.pdf.
[8] "Maryland Workforce Innovation and Opportunity Act (WIOA) State Plan 2020-2024," MD Labor, https://www.dllr.state.md.us/wdplan/wdstateplan.pdf.

Measurable objective	Key agency partners	Plan	Goals / priorities	Digital equity alignment
Education	Maryland State Department of Education (MSDE) and the Accountability & Implementation Board (AIB)	Blueprint for Maryland's Future: Initial Comprehensive Implementation Plan[9]	MSDE plans to build a digital recruitment platform in order to reach a more diverse and talented pool of candidates	Improved employment opportunities for covered populations and improved services to covered populations
	Maryland Higher Education Commission (MHEC)	2022 State Plan for Higher Education[10]	Utilize the internet and ensure that a diverse population is treated equitably	Improved services to covered populations
	University System of Maryland	Vision 2030[11]	Calls for continued digital transformation of education and sets equity goals	Improved services to covered populations
Health	Maryland Health Care Commission (MHCC)	Maryland Quality Reporting website[12]	Improve online availability of health-related information and services	Improved services to covered populations

[9] "Blueprint for Maryland's Future: Initial Comprehensive Implementation Plan," AIB, https://drive.google.com/file/d/1QLzNBADpbiOI5xi2qf795LTZ4P_wvJJm/; "AIB Initial Comprehensive Plan," AIB, https://aib.maryland.gov/Pages/blueprinttimeline.aspx.

[10] "2022 Maryland State Plan for Higher Education," MHEC, https://dlslibrary.state.md.us/publications/Exec/MHEC/ED11-105(b)(3)(i)_2022.pdf; "Maryland State Plan for Higher Education," MHEC, https://mhec.maryland.gov/Pages/2021-2025-Maryland-State-Plan-for-Higher-Education.aspx.

[11] "Vision 2030," University System of Maryland, https://www.usmd.edu/strategic-plan/USM-Strategic-Plan-Vision2030.pdf; "Vision 2030: From Excellence to Preeminence," University System of Maryland, https://www.usmd.edu/vision2030/.

[12] "Maryland Quality Reporting," MHCC, https://healthcarequality.mhcc.maryland.gov/.

Measurable objective	Key agency partners	Plan	Goals / priorities	Digital equity alignment
	Maryland Health Care Commission (MHCC), Interstate Telehealth Workgroup	Report in progress on telehealth[13]	Summarize data from stakeholders regarding telehealth	Improved services to covered populations
Civic and social engagement	Maryland Department of Aging	State Plan on Aging, 2022-2025[14]	Use connectivity to address the social isolation of older adults, working with partners	Improved services to covered populations
	Maryland Department of Information Technology (DoIT)	Statewide Information Technology Master Plan, July 1, 2020 - June 30, 2023[15]	Make it easier to access government services online	Improved services to covered populations
	Maryland Transit Administration (MTA), a division of the Maryland Department of Transportation (MDOT MTA)	Rebuilding Better: Committed to an Equitable Transit Future, September 2021[16]	Center equity around the rebuilding of MDOT MTA	Improved services to covered populations

[13] See, "Interstate Telehealth Workgroup," MHCC, https://mhcc.maryland.gov/mhcc/pages/home/workgroups/workgroups_interstate_telehealth.aspx, noting that a report is due on December 1, 2023.
[14] "State Plan on Aging, 2022-2025," Maryland Department of Aging, https://aging.maryland.gov/SiteAssets/Pages/StatePlanonAging/MD%20State%20Plan%202022-2025.pdf.
[15] "Statewide Information Technology Master Plan, July 1, 2020 - June 30, 2023," DoIT, https://doit.maryland.gov/Publications/Information-Technology-Master-Plan-2020-2023.pdf.
[16] "Rebuilding Better: Committed to an Equitable Transit Future, September 2021," MDOT MTA, https://s3.amazonaws.com/mta-website-staging/mta-website-staging/files/Strategic%20Plan/StrategicPlan-2021-lo.pdf; "About the Strategic Plan," MDOT MTA, https://www.mta.maryland.gov/strategic-plan.

Measurable objective	Key agency partners	Plan	Goals / priorities	Digital equity alignment
Delivery of essential services	Maryland Transit Administration (MTA), a division of the Maryland Department of Transportation (MDOT)	Strategic Plan for Connected and Automated Vehicles (CAV Plan)[17]	Improve safety; deliver technology-led economic development	Improved safety for covered populations

2.2.1 Economic and workforce development goals, plans, and outcomes

This Plan aligns with the equity goals articulated in OSB's Capital Projects Fund, 2023 Report.[18] As the report states:

> Our outcomes and goals vary greatly as the office would like to see the greatest impact for our projects to close the digital divide. The divide is between those geographic areas that have access equal to or greater than the latest FCC broadband standard and those areas that have access to speeds under the standards. It is important to note that the divide also exists between households who have the digital skills, literacy and perceived need to adopt and utilize broadband technologies and those who do not. Rural areas are particularly affected by both aspects of the digital divide.

This Plan will be able to use data obtained from the State of Maryland Disparity Study,[19] a study designed to "determine whether there is racial and/or gender business discrimination in the markets in which the State does business—both public and private sectors." The study will collect qualitative and quantitative data on these issues and a consulting group will analyze the data.

The Maryland Workforce Innovation and Opportunity Act (WIOA) State Plan 2020-2024[20] sets goals for the State regarding equity and digital skills. It provides targeted recommendations regarding partnerships for the delivery of services to specific covered populations. Published by

[17] "Strategic Plan for Connected and Automated Vehicles (CAV Plan)," MDOT MTA, November 5, 2018, https://mdta.maryland.gov/sites/default/files/Files/About/18-11-05%20MDTA%20CAV%20Strategic%20Plan%20Oct%202018%20w%20links_23-01ClearBkCover.pdf.
[18] "Capital Projects Fund, 2023 Report," OSB, https://dbm.maryland.gov/budget/Documents/operbudget/ARP_MD_2023_OSB_CPF_Performance_Report.pdf.
[19] State of Maryland Disparity Study, https://stateofmddisparitystudy.com/.
[20] "Maryland Workforce Innovation and Opportunity Act (WIOA) State Plan 2020-2024," MD Labor, https://www.dllr.state.md.us/wdplan/wdstateplan.pdf.

the Maryland Department of Labor, the 436-page plan contains extensive data analysis and predictions. It describes sources of funding for specific programs and highlights the agency or agencies responsible for those programs. Partners in the plan include the Maryland Department of Housing and Community Development (DHCD, parent agency of OSB), the Maryland Department of Human Services (DHS), and the Maryland Division of Rehabilitation Services (DORS, part of the Maryland Department of Education).

2.2.2 Educational outcomes

This Plan aligns with one goal of the education plan of the Maryland State Department of Education (MSDE) and the Accountability & Implementation Board (AIB), the Blueprint for Maryland's Future: Initial Comprehensive Implementation Plan.[21] One goal of the plan is to "build a digital recruitment platform and outreach program focused on candidates from historically underrepresented populations and fields experiencing teacher shortages." The result should be a more highly skilled and diverse educational workforce that will be better positioned to deliver services to covered populations. The creation of such a workforce will also offer new employment opportunities to covered populations.

This Plan aligns with the 2022 State Plan for Higher Education[22] of the Maryland Higher Education Commission (MHEC), whose plan is governed by an equity framework and lens that is dictated by statute. Public institutions of higher education have a duty under the Maryland Charter for Higher Education to "Assure that women and minorities are equitably represented among faculty, staff, and administration, so that the higher education community reflects the diversity of the State's population."[23] The University System of Maryland has a duty to "Increase access for economically disadvantaged and minority students."[24] The 2022 State Plan for Higher Education frames its recommendations with these statutory goals in mind, highlighting equity ideas too numerous to mention here.

[21] "Blueprint for Maryland's Future: Initial Comprehensive Implementation Plan," AIB, https://drive.google.com/file/d/1QLzNBADpbiOI5xi2qf795LTZ4P_wvJJm/; "AIB Initial Comprehensive Plan," AIB, https://aib.maryland.gov/Pages/blueprinttimeline.aspx.
[22] "2022 Maryland State Plan for Higher Education," MHEC, https://dlslibrary.state.md.us/publications/Exec/MHEC/ED11-105(b)(3)(i)_2022.pdf; "Maryland State Plan for Higher Education," MHEC, https://mhec.maryland.gov/Pages/2021-2025-Maryland-State-Plan-for-Higher-Education.aspx.
[23] "Maryland Charter for Higher Education, §10-204," Justia, https://law.justia.com/codes/maryland/2022/education/division-iii/title-10/subtitle-2/section-10-204/.
[24] "Maryland Charter for Higher Education, §10-209," Justia, https://law.justia.com/codes/maryland/2022/education/division-iii/title-10/subtitle-2/section-10-209/.

The University System of Maryland's (USM) Vision 2030[25] plan reflects the system's "deep and abiding commitment to advancing diversity, equity, inclusion, and social justice for all Marylanders." The plan also calls for USM to adopt innovative teaching methods in order to prepare students "to succeed and to lead in a global, digital economy." It notes that USM already encompasses one of the largest online universities, the University of Maryland Global Campus.[26]

2.2.3 Health outcomes

The Maryland Quality Reporting website[27] of the Maryland Health Care Commission (MHCC) is designed to ensure that those who have access to broadband will have access to high quality information about medical providers. The Maryland Quality Reporting website provides a variety of resources, including information about medical providers (including nursing homes, urgent care, and telehealth), data to assist price comparisons, and enables the public to file complaints.

The Maryland Health Care Commission (MHCC)'s Interstate Telehealth Workgroup is working on a report on telehealth that is due to be complete on December 1, 2023.[28] The goal is to provide recommendations and data concerning the potential use of out-of-state practitioners via telehealth.

2.2.4 Civic and social engagement

This Plan aligns with the goals of the Maryland Department of Aging's State Plan on Aging, 2022-2025.[29] The plan calls for addressing social isolation through connectivity including "the provision of connected tablets, technical skills training, and connections to available virtual services. The Department is partnering with multiple providers, including one that is experienced in facilitating connections between healthcare providers and community-based services, especially in association with access to evidence-based health promotion programs." More broadly, the plan calls for continued efforts to improve online access to services and to accurate and comprehensive information about aging.

This Plan aligns with the Enhanced Citizen Access goal of the Statewide Information Technology Master Plan, July 1, 2020 - June 30, 2023[30] of the Maryland Department of Information

[25] "Vision 2030," University System of Maryland, https://www.usmd.edu/strategic-plan/USM-Strategic-Plan-Vision2030.pdf; "Vision 2030: From Excellence to Preeminence," University System of Maryland, https://www.usmd.edu/vision2030/.
[26] University of Maryland Global Campus, https://www.umgc.edu/.
[27] "Maryland Quality Reporting," MHCC, https://healthcarequality.mhcc.maryland.gov/.
[28] See, "Interstate Telehealth Workgroup," MHCC, https://mhcc.maryland.gov/mhcc/pages/home/workgroups/workgroups_interstate_telehealth.aspx, noting that a report is due on December 1, 2023.
[29] "State Plan on Aging, 2022-2025," Maryland Department of Aging, https://aging.maryland.gov/SiteAssets/Pages/StatePlanonAging/MD%20State%20Plan%202022-2025.pdf.
[30] "Statewide Information Technology Master Plan, July 1, 2020 – June 30, 2023," DoIT, https://doit.maryland.gov/Publications/Information-Technology-Master-Plan-2020-2023.pdf.

Technology (DoIT). DoIT aims to deliver "user experiences similar to or better than those commonly available in the marketplace" building on successes such as the Maryland.gov website as well as initiatives such as Maryland's OneStop licensing portal.[31] The plan highlights the need for new skills at MDOT MTA, the potential for valuable partnerships, and the need for new studies and data.

2.2.5 Delivery of other essential services

This Plan aligns with the strategic plan of The Maryland Transit Administration (MDOT MTA), a division of the Maryland Department of Transportation, which centers its strategic plan around equity. The plan, Rebuilding Better: Committed to an Equitable Transit Future, September 2021,[32] defines equity as "providing full and equitable transportation for Marylanders of diverse races, ethnicities, ages, genders, abilities, and incomes." Connectivity plays a role in this vision. MDOT MTA plans to use its website and social media to deliver service updates. MDOT MTA is also exploring, "new technologies that will improve communication flows and increase engagement with operators." Although the NTIA does not list transportation as an essential service, it is a necessity for many in their daily lives.

This Plan aligns with the improved safety and technology-led economic development envisioned in MDOT MTA's Strategic Plan for Connected and Automated Vehicles (CAV Plan).[33] The CAV Plan anticipates that connected and automated vehicles would reduce traffic fatalities and could provide additional data about road conditions, further improving road safety. The CAV Plan also anticipates that MDOT MTA would need new skills and should embrace partnerships as it takes on new responsibilities.

2.3 Strategy and objectives

This section of the Plan describes, at a high level, the key strategies and objectives of the Plan, which are designed to address the key digital equity challenges described below. Additional detail regarding the strategies and their associated initiatives is provided in Section 5, which details OSB's plans for execution.

2.3.1 Strategies

In brief, OSB adopts the following strategies (see Section 5 for detail), organized based on the barrier they are designed to address:

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[31] "Welcome to the Maryland OneStop Portal," Maryland OneStop, https://onestop.md.gov/.
[32] "Rebuilding Better: Committed to an Equitable Transit Future, September 2021," MDOT MTA, https://s3.amazonaws.com/mta-website-staging/mta-website-staging/files/Strategic%20Plan/StrategicPlan-2021-lo.pdf; "About the Strategic Plan," MDOT MTA, https://www.mta.maryland.gov/strategic-plan.
[33] "Strategic Plan for Connected and Automated Vehicles (CAV Plan)," MDOT MTA, November 5, 2018, https://mdta.maryland.gov/sites/default/files/Files/About/18-11-05%20MDTA%20CAV%20Strategic%20Plan%20Oct%202018%20w%20links_23-01ClearBkCover.pdf.

1. **Barrier: Lack of broadband availability.** Lack of broadband availability acts as a significant barrier to achieving digital equity, as it creates a stark divide between those who can access the wealth of online resources and opportunities and those who cannot. Without reliable internet connectivity, individuals are deprived of crucial educational materials, job search platforms, healthcare information, government services, and social interactions that have become integral to modern life. Through this Digital Equity Plan—and OSB's associated broadband infrastructure plans—the State of Maryland seeks to ensure the availability of broadband for all Maryland residents.

    Strategy 1: Increase access to residential broadband infrastructure

    Strategy 2: Require ISPs to provide a basic level of service for rural and remote communities.

    Strategy 3: Partner with and strengthen the capabilities of Community Anchor Institutions to broaden free public access to broadband for all residents in covered populations.

2. **Barrier: Low-income households struggle to adopt and afford broadband services, devices, and technical support.** The struggle of some Maryland residents to adopt and afford broadband services, devices, and technical support restricts their ability to fully engage in the digital world. The data show that the costs associated with internet subscriptions, necessary hardware, and technical assistance disproportionately affect lower-income families in Maryland, preventing them from accessing essential online resources such as education, job opportunities, and government services. Through this Digital Equity Plan, OSB seeks to increase affordability of broadband services and devices through collaboration with local, State, and community partners.

    Strategy 1: Increase enrollment in the Affordable Connectivity Program and ISPs' low-cost programs among eligible households

    Strategy 2: Increase low-cost service offerings

    Strategy 3: Expand access to computing devices and tech support

    Strategy 4: Develop data and informational resources to enable application of a digital equity lens to infrastructure and program decisions

3. **Barrier: Low-income households and aging individuals lack digital skills, including to protect security and privacy.** The data show that low-income and aging individuals in Maryland disproportionately lack digital skills, including the ability to protect security and privacy online. This challenge represents a significant barrier to participation in the digital world because it leaves those individuals unable to navigate online platforms or access vital information online. Lack of digital skills can not only limit their access to educational resources, job opportunities, and essential services but also expose them to risks such as cybercrimes and privacy breaches. Bridging this gap in digital skills can enable individuals to confidently and safely engage online, ensuring that they are not left behind in an increasingly digital society and that they can fully benefit from its opportunities. Through this Digital Equity Plan, OSB seeks to develop partnerships and strategies to expand access to digital skills training and support local entities that train Maryland residents to access the internet and to do so with their safety and privacy protected.

    Strategy 1: Enable digital skills development through training courses

    Strategy 2: Expand opportunity to learn online safety and privacy

    Strategy 3: Expand accessibility of information

4. **Barrier: Local communities require resources and expertise for digital equity efforts.** The areas of Maryland that demonstrate the greatest need are precisely those areas that are most likely to lack the resources to address them. Through partnerships and collaboration, even the areas that face the greatest challenges will find the resources to address local digital equity needs. When they do so, digital access will ameliorate other problems.

    Strategy 1: Build collaboration among State, local, ISP, and nonprofit entities

    Strategy 2: Expand technical assistance to local and nonprofit entities to engage in robust digital equity efforts

    Strategy 3: Increase local government digital equity plans, enhancing commitments to data-driven, community-informed approaches

2.3.2 Measurable objectives and key performance indicators

In connection with each of the key digital equity challenges described above, OSB has established the following measurable objectives and key performance indicators (KPI) toward achieving digital equity in Maryland.

2.3.2.1 Barrier: Lack of broadband availability

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
Every Maryland resident can access 25/3 Mbps at home[34]	Percentage of locations with access to 25/3 broadband	97%	98%	99%	FCC National Broadband Map
	Percentage for aging individuals	96%	98%	99%	
	Percentage for incarcerated individuals (other than in a federal facility)	Data not available	98%	99%	
	Percentage for veterans	96%	98%	99%	
	Percentage for individuals with disabilities	96%	98%	99%	
	Percentage for individuals with a language barrier	96%	98%	99%	
	Percentage for members of racial or ethnic minorities	97%	98%	99%	

[34] These coverage metrics reflect current state as reported by the FCC in the National Broadband Map as of July 25, 2023. They do not include grant funded or planned deployments for the future.

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
	Percentage of rural residents	89%	98%	99%	
Every Marylander can access 100/20 Mbps at home[35]	Percentage of locations with access to 100/20 broadband	97%	98%	99%	FCC National Broadband Map
	Percentage for aging individuals	96%	98%	99%	
	Percentage for incarcerated individuals (other than in a federal facility)	Data not available	98%	99%	
	Percentage for veterans	96%	98%	99%	
	Percentage for individuals with disabilities	96%	98%	99%	
	Percentage for individuals with a language barrier	96%	98%	99%	

[35] These coverage metrics reflect current state as reported by the FCC in the National Broadband Map as of July 25, 2023. They do not include grant funded or planned deployments for the future.

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
	Percentage for members of racial or ethnic minorities	97%	98%	99%	
	Percentage of rural residents	84%	98%	99%	
Every Community Anchor Institution that wants it can access 1/1 Gbps	Percentage of community anchor institution locations with access to 1/1 Gbps	Data currently under development by SBO to support BEAD challenge process	95%	98%	SBO data based on Anchor surveys and mapping efforts

2.3.2.2 Barrier: Low-income households struggle to adopt and afford broadband services, devices, and technical support

Measurable objective	KPI	Baseline (current state)	5-year goal	10-year goal	Data source
Increase enrollment in the Affordable Connectivity Program and ISPs' low-cost programs	Percentage of eligible households participating in ACP	28%	60%	70%	USAC

Measurable objective	KPI	Baseline (current state)	5-year goal	10-year goal	Data source
Increase the percentage of ISPs that offer low-cost products for lower-income households	Percentage of ISPs that offer low-cost products for lower-income households	64%	95%	95%	USAC[36]
All Maryland residents have access to a workable, internet-enabled computing device	Percentage of all survey respondents who report that they can get a broken or lost computing device fixed or replaced within a month	95%	93%	95%	OSB phone survey
Members of covered populations have access to a workable, internet-enabled computing device	Percentage of all covered population survey respondents who report that they can get a broken or lost computing device fixed or replaced within a month	94%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	OSB phone survey

[36] Baseline estimate based on ACP participation data from USAC and known ISPs in Maryland from OSB's internal data.

Measurable objective	KPI	Baseline (current state)	5-year goal	10-year goal	Data source
	Percentage of households with individuals 65 or older	93%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	
	Percentage of households with an incarcerated individual	100%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	
	Percentage of households with a veteran	97%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	
	Percentage of households with an individual with a disability	93%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	
	Percentage of households with an individual with a language barrier	95%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	
	Percentage of households with a member of a racial or ethnic minority	94%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	

Measurable objective	KPI	Baseline (current state)	5-year goal	10-year goal	Data source
	Percentage of households in rural zip codes	90%	93% (to achieve parity with the general population)	95% (to achieve parity with the general population)	

2.3.2.3 Barrier: Low-income households and aging individuals lack digital skills, including to protect security and privacy

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
All Maryland residents are able to use the internet if they so choose	Average number of key digital skills performed (out of 14 measured)	11.6	8/14	10/14	OSB phone survey
Members of covered populations are able to use the internet if they so choose	Average number of key digital skills performed by members of covered populations (out of 14 measured)	11.2	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	OSB phone survey
	Percentage of households with individuals 65 or older	9.7	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	
	Average for incarcerated individuals (other than in a federal facility)	12.5	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
	Average for veterans	11.4	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	
	Average for individuals with disabilities	9.8	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	
	Average for individuals with a language barrier	10.9	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	
	Average for members of racial or ethnic minorities	11.9	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	
	Average of residents in rural zip codes	11.3	8/14 (to achieve parity with the general population)	10/14 (to achieve parity with the general population)	
All Maryland residents can access information or training to learn how to protect their security online	Percentage of all survey respondents who say they are confident they can protect their security online	87%	85%	90%	OSB phone survey
Members of covered populations can access information or training to	Percentage of all covered population survey respondents who say they are	85%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	OSB phone survey

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
learn how to protect their security online	confident they can protect their security online				
	Percentage for aging individuals (60+)	76%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an incarcerated individual	87%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with a veteran	86%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an individual with a disability	72%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an individual with a language barrier	85%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with a member of a racial or ethnic minority	86%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households in rural zip codes	84%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
All Maryland residents can access information or training to learn how to protect their privacy online	Percentage of all survey respondents who say they are confident they can protect their privacy online	78%	85%	90%	OSB phone survey
Members of covered populations can access information or training to learn how to protect their privacy online	Percentage of all covered population survey respondents who say they are confident they can protect their privacy online	74%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	SBO phone survey
	Percentage for aging individuals (60+)	58%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an incarcerated individual	78%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with a veteran	74%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an individual with a disability	63%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
	Percentage of households with an individual with a language barrier	74%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with a member of a racial or ethnic minority	81%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households in rural zip codes	69%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
All Maryland residents can access government services online	Percentage of all survey respondents who say they use the internet to access government services online	98%	50%	75%	OSB phone survey
Members of covered populations can access government services online	Percentage of all covered population survey respondents who say they are confident accessing government services online	97%	50% (to achieve parity with the general population)	75% (to achieve parity with the general population)	NTIA Internet Use Survey
	Percentage for aging individuals (60%)	97%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
	Percentage of households with an incarcerated individual	99%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with a veteran	98%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an individual with a disability	94%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with an individual with a language barrier	97%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households with a member of a racial or ethnic minority	98%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	
	Percentage of households in rural zip codes	90%	85% (to achieve parity with the general population)	90% (to achieve parity with the general population)	

2.3.2.4 Barrier: Local communities require resources and expertise for digital equity efforts

Measurable objective	KPI	Baseline (current state)	Short-term goal	Long-term goal	Data source
Partnership opportunities are available via convening events	Number of convening events per year that are communicated	3	4	5	OSB data
Program providers have access to grant writing guidance and expertise for accessing federal and State opportunities	Number of grant support virtual online open houses per year	1	2	3	OSB data

3 Current state of digital equity: Barriers and assets

This section describes the current state of digital equity in Maryland, as documented through rigorous and comprehensive data collection and outreach efforts. It describes the resources and relationships available to OSB to promote digital equity; presents detailed asset inventories related to digital equity and broadband adoption, affordability, and access; and presents a needs assessment.

3.1 Asset inventory

This section identifies assets that promote digital equity for each of Maryland's covered populations. These assets include public and private resources, programs, plans, and strategies.

3.1.1 Digital inclusion assets by covered population

Through its outreach and research, OSB has identified key digital inclusion assets that support covered populations in the State, including workforce development training and employment services related to broadband adoption; technical assistance programs aimed at supporting digital inclusion; and nonprofits, partnerships, and coalitions that work toward digital inclusion. Table 2 lists a selection of representative digital inclusion assets and indicates the primary population(s) they serve; additional assets can be found in Appendix A.

Table 2: Digital inclusion assets by covered population(s)

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
Digital Harbor Foundation	This Baltimore-based nonprofit opened a Tech Center in 2013 that provides youth programming and workforce development around technology and has expanded into multiple initiatives including a Center of Excellence that supports educators in delivering equity-focused STEM programming and sponsorship for technology-focused social impact projects.[37]						x		x
Baltimore County Public Library – NorthStar Digital Literacy	Baltimore County Public Library offers NorthStar Digital Literacy training, which covers computer and internet skills for daily use and employment and education opportunities. [38]	x		x	x	x	x	x	x
Baltimore County Career Center	Baltimore County's three Career Centers offer job seekers access to computers as well as training in introductory computer skills. Services are free for county residents who are economically disadvantaged or dislocated workers per federal eligibility guidelines. Eligible individuals can also receive an occupational training scholarship for the IT field.[39]	x		x	x	x	x		x

[37] "Homepage," Digital Harbor Foundation, https://digitalharbor.org/.
[38] "Areas of Learning," Baltimore County Public Library, https://www.bcpl.info/services/digital-literacy.html.
[39] "Get Started With Career Services," Baltimore County Government, https://www.baltimorecountymd.gov/departments/economic-development/job-seekers/adult-job-seekers/.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
Baltimore County Department of Aging (BCDA)	BCDA is partnering with University of Maryland Extension to offer aging residents free one-on-one technical support for personal devices and applications through a Tech Helpline, as well as free training classes through the CyberSeniors Technology Mentors program. Additional classes are offered through a partnership with Senior Planet from AARP. BCDA can also provide Chromebooks and iPads for low-income households, depending on device availability.[40]	x							x
University of Maryland Grand Challenges Grant Program: Digital Equity Mapping Research and Training Program	A faculty member at the University of Maryland School of Architecture, Planning & Preservation received a grant from the University in 2023 to create a digital equity research and training program for priority neighborhoods in Prince George's County. Working with community leaders, the program will deploy a longitudinal broadband access survey and create a digital access map that will inform community-based solutions to bridge the digital divide in local neighborhoods.[41]	x		x	x	x	x		x

[40] "Tech Support," Baltimore County Government, https://www.baltimorecountymd.gov/departments/aging/programs-services/technology-resources/index.html.
[41] "Grand Challenges: Digital Equity Mapping Research and Training Program," University of Maryland, https://research.umd.edu/digital-equity-mapping.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
Baltimore Digital Equity Coalition	Composed of over 50 local organizations and entities,[42] the group works to bridge the digital divide through four main objectives—greater internet connectivity, affordable device access, digital skill training and tech support, and advocacy—each of which has a dedicated working group.[43] The Coalition held a Digital Equity Day event in Annapolis on March 14, 2023, to promote digital equity and connectivity efforts.[44]	x		x	x	x	x		x
Maryland Center for Veterans Education and Training (MCVET)	In 2023, Comcast awarded $20,000 to the nonprofit MCVET to support broadband adoption and digital skills training for veterans in Baltimore. 100 laptops were donated to participating veterans.[45]			x					
Baltimore Gas and Electric (BGE) Scholars	BGE has committed a total of $3 million over four years (2023-2026) to sponsor scholarships at three HBCUs in the State: Bowie State University, Coppin State University, and Morgan State University ($1 million each). The funding will support scholarships for full-time STEM majors,						x		x

[42] "Members," Baltimore Digital Equity Coalition, https://digitalequitybaltimore.org/members/.
[43] "Baltimore Digital Equity Coalition," https://digitalequitybaltimore.org/our-focus/.
[44] Alanah Nichole Davis, "Maryland HBCUs also get a $3 million boost from Baltimore Gas and Electric," Technical.ly, March 9, 2023, https://technical.ly/diversity-equity-inclusion/maryland-hbcus-funding-digital-equity-day/.
[45] "Md. vets get digital training help from Comcast," The Daily Record, April 18, 2023, https://thedailyrecord.com/2023/04/18/md-vets-get-digital-training-help-from-comcast/.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	"persistence funding" to enable students of any major to graduate, and funding for research projects. The partnership was launched in 2021, and as of February 2023 had awarded scholarships to 45 students and provided persistence funding to 94 additional students.[46]								
Veterans Transition to Technology	This program is designed by Carroll Technology & Innovation Council to assist with digital equity and inclusion efforts for Maryland veterans. The program provides free hardware and software, workforce training, and digital literacy training through an online platform.[47]			x					
Allegany County Pathways in Technology Early College High (P-Tech) Program	P-Tech is an early college program based on the high school and beyond (9-14) model, in which incoming ninth graders in Allegany County Public Schools can elect to study to earn an Associate of Applied Science Degree in Computer Technology with a Cybersecurity option within two years of graduating, and gain workplace experience and mentoring through a partnership with Western Maryland Health System (WMHS). Further degree							x	x

[46] "BGE to Provide $3 million in Grants to Continue BGE Scholars Partnership with Three Maryland HBCUs," BGE news release, February 28, 2023, https://www.bge.com/News/Pages/Press%20Releases/230228-BGE-to-Provide-3-million-in-Grants-to-Continue-BGE-Scholars-Partnership-with-Three-Maryland-HBCUs.aspx.

[47] "Veterans Transition to Technology," Carroll Technology & Innovation Council, https://carrolltechcouncil.org/veterans-transition-to-tech/.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	options are available once students earn their Associate Degree.[48]								
Girls Who Code	Girls Who Code, a national nonprofit that works to bridge the gender gap in the tech field, offers free training in coding skills and computer science programming through clubs at 285 locations in Maryland.[49] Clubs are launched in partnership with libraries, schools, and after school programs.[50]						x	x	x
St Mary's County Library – computer classes	The library offers computer and technology instruction through scheduled classes and one-on-one appointments, which can include training on Microsoft Office, computer basics, and social media.[51]	x		x	x	x	x	x	x
MY Tech Clinic	A nonprofit based in Easton, Maryland, focused on bridging the digital divide. MY Tech Clinic offers 3 types of services: monthly free tech clinics at the Talbot County Free Library, private one-on-one sessions for a small donation, and outreach to local high school students.[52]	x						x	

[48] "Secondary Education," Allegany County Public Schools, https://www.acpsmd.org/Page/2186.
[49] "Locations," Girls Who Code, https://girlswhocode.com/locations.
[50] "Clubs," Girls Who Code, https://girlswhocode.com/programs/clubs-program.
[51] "Computer And Technology Instruction," St Mary's County Library, https://www.stmalib.org/events/computer-and-technology-instruction/.
[52] My Tech Clinic, https://www.mytechclinic.org/.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
NPower	NPower, which has locations in East and West Baltimore neighborhoods, offers no-cost technology training and certifications and job placement for young adult job seekers and transitioning veterans. The organization also runs a Community Helpdesk through which IT professionals give free tech support to community members.[53]	x		x			x		x
EARN Maryland – Cyber/IT	This economic development initiative from the Maryland Department of Labor takes a regional approach and focuses on specific industry sectors, funding partners to provide workforce training and development.[54] Through its cybersecurity and IT pathway, job seekers can obtain training and certifications from 14 partners across the State.[55]	x		x	x	x	x	x	x
East Baltimore Development Inc. (EBDI) – East Baltimore Development Initiative	The nonprofit EBDI includes digital equity and access as a core component of its revitalization effort in the Eager Park neighborhood in East Baltimore, near Johns Hopkins University.[56] Pursuant to the project, $650 million has been invested, with a planned total of $1.6 billion of	x		x	x	x	x		x

[53] "Maryland," NPower, https://www.npower.org/locations/maryland/.
[54] "EARN Maryland," Maryland Department of Labor, https://www.dllr.state.md.us/earn/earnwhatisearn.shtml.
[55] "Cyber/IT industry," EARN Maryland, https://www.dllr.state.md.us/earn/earncyber.shtml.
[56] "Master Plan," EBDI, http://www.ebdi.org/master_plan.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	public and private investment.[57] The digital equity and access portion of the project is currently in its fact-finding phase.[58] EBDI partnered with Airband, Microsoft's digital equity initiative, and community organizations to survey residents around digital equity needs and gaps to inform the development of its strategy.[59]								
Emergency Connectivity Fund	Provided about 214,000 connected devices, including hotspots, to 101,000 Maryland students.[60]								x
University of Maryland Extension: Tech Extension	A $6 million award from the State of Maryland utilizing ARPA SLFRF that will focus on broadband adoption. $4 million of the award will be utilized for training, competency, and education initiatives; the remaining $2 million will be utilized to help sign people up for internet access subsidies and acquire a device. Resources include a call center tech hotline and the hiring of 10	x		x	x	x	x	x	x

[57] "Financial Information," EBDI, http://www.ebdi.org/financial_information.
[58] "EBD: Core Values: Digital Equity & Access," EBDI, http://www.ebdi.org/digital_equity; "Digital Equity & Access Fact Sheet," EBDI, http://www.ebdi.org/uploads/DigitalAccessFactSheet_1.pdf.
[59] "Digital Equity & Access," East Baltimore Development Inc., http://www.ebdi.org/digital_equity.
[60] "American Rescue Plan State by State: Maryland," the White House, https://www.whitehouse.gov/wp-content/uploads/2023/03/ARP-State-by-State_Maryland.pdf.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	digital navigators who will work throughout Maryland with vulnerable populations.[61]								
University of Maryland, Baltimore County (UMBC) Albin O. Kuhn (AOK) Library Laptop Lending Program	The AOK Library at UMBC provides short-term laptop loans for the UMBC community.[62]			x	x	x	x		x
Pass IT On	Pass IT On is a nonprofit organization that provides technology skills training programs for youth and adults in disadvantaged and under-represented communities. The organization offers STEM-related programming to engage younger students around technology as well as workforce development to help participants enter the IT field. [63]						x		x
Montgomery County Public Libraries – hotspot loans	Outdoor public Wi-Fi is available at the Aspen Hill, Davis (N. Bethesda), Gaithersburg, Germantown, Long Branch, Maggie Nightingale (Poolesville), Marilyn Praisner (Burtonsville), Rockville Memorial, Twinbrook, Wheaton, and White Oak	x		x	x	x	x		x

[61] "$6M Award From State to Help Extension Bridge Digital Divide," University of Maryland, June 1, 2022, https://today.umd.edu/6m-award-from-state-to-help-extension-bridge-digital-divide.
[62] "AOK Library Laptop Loans," University of Maryland, https://lib.guides.umbc.edu/c.php?g=961173&p=6941114.
[63] "About Us," Pass IT On, https://www.passitonmd.org/about-us.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	MCPL locations. All branches except for the Noyes Library for Young Children have wireless hotspots that can be checked out for two weeks at a time.[64]								
Senior Planet	Funded by the AARP, Senior Planet provides technology training for seniors in Montgomery County.[65]	x							
Kind Works	Kind Works provides free refurbished computers to students and families in need.[66]					x	x		x
Mac Recycle Clinic	A nonprofit which refurbishes donated Macintosh computers and Chromebooks and donates to students, families, individuals, and veterans in need on a referral basis.[67]			x					x
Gilchrist Immigrant Resource Center	The Gilchrist Immigrant Resource Center offers free computer skills classes to immigrant residents in Montgomery County.[68]					x	x		
PCs for People Maryland	PCs for People, a nonprofit with several locations across the country, recycles and refurbishes computers to provide them at a low cost to low-income families. The organization also offers low-						x		x

[64] "Computers and Technology," Montgomery County Public Libraries, https://montgomerycountymd.gov/library/services/computers.html.
[65] "Welcome to Senior Planet in Montgomery County," Senior Planet, https://seniorplanet.org/locations/montgomery-county/.
[66] "How Kind Works, Works," Kind Works, https://dokindworks.org/about/.
[67] "About," Mac Recycle Clinic, https://www.macrecycleclinic.org/site/about-2/.
[68] "Basic Computer Classes and Programs," Gilchrist Immigrant Resource Center. https://www.montgomerycountymd.gov/gilchrist/classes/computer-class.html.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	cost internet service and digital skills training. Since opening in July 2020, the organization's Baltimore location has distributed over 4,000 computers and provided internet service to more than 3,000 people.[69]								
Enoch Pratt Library free computer training classes	The Enoch Pratt Library system in Baltimore offers free computer training classes at six branches across the city, including their SeniorTec series, geared towards seniors. Each computer center has a wheelchair-accessible computer workstation, and many computers have assistive software for individuals with a visual disability. Pratt Library also offers online training outside of classes for computer application trainings, technology courses, as well as online tutorials for new computer users, available in both English and Spanish.[70]	x		x	x	x	x		x
Phoenix Computers	Phoenix Computers is a nonprofit in North Bethesda that provides low-cost refurbished computers, equipment, and software to low-income residents and individuals with a disability, as well as nonprofit and charitable organizations.[71]				x				x

[69] "Baltimore, MD, Electronics Recycling Center," PCs for People, https://www.pcsforpeople.org/locations/baltimore/.
[70] "Computer Training," Enoch Pratt Free Library, https://www.prattlibrary.org/services/computer-training.
[71] "Homepage," Phoenix Computers, http://www.phoenixcomputers.info/index.htm.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
Lazarus Foundation	This community-based nonprofit provides refurbished computers and technology to educational institutions, other nonprofit organizations, and individuals in the Baltimore area.[72]								x
Baltimore County Public Library	The Baltimore County Public Library allows eligible county residents to borrow a Wi-Fi-enabled Chromebook and/or a 5G LTE internet router for up to six months. Assistance with Affordable Connectivity Program (ACP) signup to establish permanent in-home internet access is also provided to eligible residents.[73]	x		x	x	x	x		x
Prince George's County Memorial Library System	All branches of the Prince George's County Memorial Library System lend Chromebooks with built-in LTE wireless internet service to county residents for free through the Online 2Go program.[74] The Library was also awarded $2.2 million in the FY23 federal budget to deploy a library vehicle ("Rover: Library2Go") which will provide internet access in areas without access to a library branch, as well as multilingual assistance,	x		x	x	x	x		x

[72] "Request Computers For Your Organization," Lazarus Foundation, http://www.lazarus.org/request.
[73] "Long Term Lending Program," Baltimore County Public Library, https://www.bcpl.info/services/longterm-lending.html.
[74] "Online 2Go," Prince George's County Memorial Library System. https://www.pgcmls.info/online2go.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	job search services, and immigrant and refugee support.[75]								
Maryland State Library for the Blind and Print Disabled (LBPD)	LBPD provides a variety of services for eligible blind and print disabled residents of the State, including one-on-one training and a Technology User Group (T.U.G.) around assistive technologies,[76] ADA-compliant computer workstations, and accessible reading materials.[77]				x				
Baltimore Community Foundation	The Baltimore Community Foundation issued digital equity grants during the Covid-19 pandemic and is raising awareness of the ACP.						x		x
Carroll Technology & Innovation Council (CTIC)	CTIC offers programs designed to assist in digital equity and inclusion efforts in Maryland by addressing the challenges veterans, aging individuals, and people of underserved populations face when seeking work and support. CTIC will provide them with the technology and training needed to successfully navigate an increasingly digital world. They provide software and hardware at no cost, workforce training	x		x		x	x	x	X

[75] "Prince George's Library Awarded $2.2 Million To Acquire A Mobile Library Vehicle: Library 2Go," Prince George's Suite Magazine, January 5, 2023, https://www.pgsuite.com/news/2023/1/5/mobile-library-coming-back.
[76] "LBPD Assistive Technologies," LBPD, https://www.marylandlibraries.org/Documents/LBPD%20Assistive%20Technology%2008.22.pdf.
[77] "Maryland State Library for the Blind and Print Disabled," Maryland State Library Agency, https://www.marylandlibraries.org/Pages/Maryland-Library-for-the-Blind-and-Print-Disabled.aspx.

Asset name	Description	Aging	Incarcerated	Veterans	Disabilities	Language barrier	Racial/ethnic minority	Rural	Low-income
	through community partnerships, and digital literacy through an online platform.[78]								
Strong City Baltimore Adult Learning Center	Supported by grant funding from Maryland Literacy Works and the Department of Labor, Licensing, and Regulation, the Strong City Baltimore Adult Learning Center provides classes in Adult Basic Education (ABE) and English Language Acquisition (ELA/ESL/ESOL) to Baltimore residents, all at no cost to the learner.[79]	x				x			x
Neighborhood Service Center, Inc.	The Neighborhood Service Center, Inc. is a non-profit Community Action Agency that provides services and assistance to low-income families and elderly residents in Talbot County Maryland.	x							x
Geekhat's Giveback - Trinity Episcopal Church	Geekhat's Giveback is a Baltimore-area teaching ministry that matches free computers with those who need them.[80]								x

[78] Carroll Technology & Innovation Council, https://carrolltechcouncil.org/.
[79] "Adult Learning Center," Strong City Baltimore, https://www.strongcitybaltimore.org/adult-learning-center/.
[80] Website under construction as of September 15, 2023; https://geekhat.com/.

3.1.2 Existing digital equity plans

Several Maryland counties have developed broadband strategic plans, including:[81]

- Baltimore City (2023); publication forthcoming as of the writing of this Plan
- Charles County (2020)[82]
- Frederick County (2020)[83]
- Garrett County (2012);[84] updated study forthcoming as of the writing of this Plan[85]
- Harford County (2020)[86]
- Montgomery County (2023)
- Queen Anne's County (2020)[87]
- Somerset County (2020)[88]
- Worcester County (2019)[89]

The County plans above are primarily focused on strategies for infrastructure deployment to expand broadband access, and do not include additional elements around digital inclusion (apart from a mention in Garrett County's 2012 plan that the County should devote resources to promoting broadband adoption[90]).

[81] Baltimore County states that it has developed a broadband strategic plan, but the plan is not available online (see, https://www.baltimorecountymd.gov/departments/information-technology/digital-equity/serviceability); the County is also developing a Digital Equity Plan as of the writing of this report (see, https://www.baltimorecountymd.gov/departments/information-technology/digital-equity/index.html).
[82] "Broadband Strategic Plan," Charles County, https://www.charlescountymd.gov/home/showpublisheddocument/3945/637202087537630000.
[83] "Rural Broadband Study," Frederick County, Maryland, https://www.frederickcountymd.gov/DocumentCenter/View/329057/Rural-Broadband-Study---Frederick-County---Sept-2020?bidId=.
[84] "Broadband in Garrett County: A Strategy for Expansion and Adoption," Garrett County, Maryland, https://www.garrettcounty.org/resources/broadband/pdf/Broadband-Feasibility-Study.pdf.
[85] "Rural Broadband Expansion," Garret County, Maryland, https://www.garrettcounty.org/broadband.
[86] "Broadband Strategic Plan," Harford County, Maryland, https://www.harfordcountymd.gov/DocumentCenter/View/15397/Broadband-Strategic-Plan.
[87] "Broadband Strategic Plan," Queen Anne's County, Maryland, https://www.qac.org/DocumentCenter/View/14063/Broadband-Strategic-Plan---Final---20200820.
[88] "Broadband Strategic Plan," Somerset County, Maryland, https://cms7files1.revize.com/somersetcountymd/Broadband%20Strategic%20Plan%20-%20Somerset%20County%20-%20Final%20-%2020200717.pdf.
[89] "Broadband Feasibility Study," Worcester County, Maryland, https://www.co.worcester.md.us/sites/default/files/2022-06/Completed%20Broadband%20Feasibility%20Study%20-%20Worcester%20County%20-%2020191231_0.pdf.
[90] "Broadband in Garrett County: A Strategy for Expansion and Adoption," Garrett County, Maryland, https://www.garrettcounty.org/resources/broadband/pdf/Broadband-Feasibility-Study.pdf, p. 20.

As of 2022, Howard County states that it is in the process of developing a broadband strategic plan that includes "concrete action items to increase digital equity over the next 3-5 years"[91] as part of its Transform Howard initiative (see Table 4).

Some regional economic development and planning entities in the State also include objectives around increasing broadband availability in recent strategic documents, including the Upper Shore Regional Council,[92] the Mid-Shore Regional Council,[93] and the Tri-County Council for the Lower Shore of Eastern Maryland—which discusses increasing broadband availability in rural areas to support economic outcomes across multiple sectors in its Comprehensive Economic Development Strategy (2023-2027).[94]

Calvert County also includes a goal to "enhance connectivity for businesses and support technology-led employment opportunities" in its Economic Development Strategic Plan (2021-2024).[95]

OSB's research and outreach did not identify digital equity plans by State-recognized Tribes in Maryland, or current strategic planning documents that include related elements.

The following table lists municipal and regional plans that are focused on or include elements of digital equity. These plans, which have informed the preparation of this Plan, include:

Table 3: Existing digital equity plans

Plan name	Description
Baltimore City Digital Equity Framework 2.0	The Office of Broadband and Digital Equity, which leads Baltimore City government's digital equity efforts with a mission of closing the City's digital divide by 2030,[96] has published a publicly available Digital Equity Framework that guides its work. The first version of the Framework was

[91] "Howard County Ensures Broadband to 85% of Unserved Households," Howard County press release, March 1, 2022, https://www.howardcountymd.gov/News030122b.
[92] Upper Shore Regional Council 2019-2021 Impact Report, https://usrcmd.org/wp-content/uploads/2023/06/USRC-impact-report-WEB.pdf.
[93] Mid-Shore Regional Council FY24 Scope of Work, https://www.midshore.org/documents/msrc/MSRC%20FY24%20Scope%20of%20Work%20-%20FINAL.pdf.
[94] Comprehensive Economic Development Strategy for the Lower Eastern Shore Of Maryland," https://tcclesmd.org/download/ceds-2023-24-brochure/.
[95] Calvert County, MD Economic Development Strategic Plan 2021-2024, https://md-calvertcounty.civicplus.com/DocumentCenter/View/39271/Calvert-Strategic-Plan-2021-2024?bidId=.
[96] "Broadband and Digital Equity," Baltimore City, https://technology.baltimorecity.gov/broadband-and-digital-equity.

Plan name	Description
	developed in 2021, with an updated version released in May 2023.[97]
Baltimore County Office of Information Technology Strategic Plan FY2022-2024	The Baltimore County Office of Information Technology's (OIT) strategic plan for FY2022-FY2024 includes digital equity and cybersecurity as key areas of focus for the department in the coming years. OIT intends to "support initiatives in funding reliable, affordable broadband service with the needed technological education throughout the County" and is leading a Digital Divide Committee composed of representatives from County agencies. OIT's plan also states that the County is in the process of creating a "2-3 year Digital Equity plan."[98]
Cecil County Health Department Strategic Plan 2021-2025	Cecil County Health Department's strategic plan includes inclusion and health equity as core values and sets objectives to use telehealth and remote offerings to improve capacity and increase access to services.[99]
Comprehensive Economic Development Strategy 2023-2027 for the Tri County Council for Western Maryland Economic Development District	The plan identifies broadband as a key infrastructure priority area for the region, with a strategy focused on the availability and affordability of service.[100]
Howard County Board of Education Strategic Technology Plan (2021)	The Strategic Technology Plan lays out actions to support the goal of ensuring students across the district will have "equitable access to the standard technology to support student learning."[101]
Howard County Age Friendly Action Plan (2021-2024)	Howard County's Age Friendly Action Plan includes Communication and Information as an action area with recommendations around digital inclusion for the aging population of the County, including increasing the accessibility of the County's website by supporting assistive technology and translation of text into multiple languages.[102]

[97] "Baltimore City's Digital Equity Framework 2.0," Baltimore City Office of Information and Technology, https://technology.baltimorecity.gov/sites/default/files/CoB_Digital%20Equity%20Framework_2.0.pdf.
[98] Baltimore County Office of Information Technology Strategic Plan, https://resources.baltimorecountymd.gov/Documents/infotech/bc_oit_strategic_plan_fy22-fy24.pdf.
[99] Cecil County Health Department Strategic Plan 2021-2025, https://cecilcountyhealth.org/wp-content/uploads/2020/10/cecil-county-health-department-strategic-plan-fy-2021-2025.pdf.
[100] Comprehensive Economic Development Strategy 2023-2027 for the Tri County Council for Western Maryland Economic Development District, https://www.tccwmd.org/wp-content/uploads/CEDS-2023-2027.pdf.
[101] Howard County Board of Education Strategic Technology Plan (2021), https://go.boarddocs.com/mabe/hcpssmd/Board.nsf/files/C74PBX62EBB4/$file/09%2023%202021%20Strategic%20Technology%20Plan%20BR.pdf.
[102] Howard County Age-Friendly Action Plan, https://online.fliphtml5.com/opccl/tbsv/?1635939023471=#p=1.

Plan name	Description
Maryland National Capital Park and Planning Commission Prince George's County – FY23-FY27 Sustainability Action Plan	The Sustainability Action Plan for FY23-27 highlights the County's focus on equity and local economy, and notes over the next five years the intention to focus on increasing "access to reliable internet in our park systems throughout the county."[103]
Montgomery County Public Libraries – Increasing Equity in Access & Opportunity: A Community-Centered Vision	In its equity-focused Strategic Plan for FY2023-FY2026, the Montgomery County Public Library System indicates that one of its four strategic priorities for the fiscal period is to ensure that "residents with limited access to technology and/or the internet can navigate a digital world to get what they need."[104]
Queen Anne's County Library Strategic Plan 2020	The plan outlines the four areas of focus for the library system from 2020 to 2023. Through the Expansion of Library Services focus area, the library aims to "provide equitable service to all county residents" and to "increase remote access to the internet and library services for county residents."[105]

3.1.3 Existing digital equity programs

The following table lists programs and resources in the State related to digital equity, including projects by Historically Black Colleges and Universities (HBCU) and Minority Serving Institutions (MSI) that were awarded funding through NTIA's Connecting Minority Communities pilot program, as well as State policies, mapping, and resources that inform broadband-related activities.

Table 4: Existing digital equity programs

Program name	Description
Montgomery Connects	Montgomery County offers the Montgomery Connects program, a collection of the County's digital equity efforts, run by the Department of Technology & Enterprise Business Solutions (TEBS).[106] The initiative includes the following programs:

[103] "Sustainability Action Plan," MNCPPC Prince George's County, https://www.mncppc.org/DocumentCenter/View/22143/M-NCPPC-Prince-Georges-County-FY23-FY27-Sustainability-Action-Plan?bidId=.
[104] Montgomery County Public Libraries Strategic Plan FY2023-FY2026, https://montgomerycountymd.gov/library/resources/files/about/strategicplan-fy23-fy26.pdf.
[105] Queen Anne's County Library Strategic Plan 2020, https://www.dropbox.com/sh/refiympvvj1cg8m/AAD3fYd64_ZJa4Tb1qxJ9FjNa?dl=0&preview=QACL%20Strategic%20Plan%202020-2023.pdf.
[106] "Montgomery Connects," Montgomery County, https://www.montgomerycountymd.gov/obp/montgomery-connects.html.

Program name	Description
	• Maryland Connected Devices:[107] Provides new Chromebooks to qualified households who are eligible for the ACP. The program has distributed 40,113 free computers, primarily to low-income households, through February 13, 2023.[108] • MoCoNet: A County-operated fiber network provides a free service option for low-income and special needs residents of select affordable housing developments.[109] • ACP outreach: Montgomery Connects also helps eligible residents enroll in the FCC's Affordable Connectivity Program (ACP).[110] • Rural Broadband: Identify solutions to extend broadband service to unserved rural areas of the County, including partnerships with ISPs.[111] • Senior Planet MoCo: Through a partnership with Senior Planet, powered by OATS of AARP, the County offers in-person and online classes for adults ages 60 and over to learn new online skills, as well as other online programming.[112]
Transform Howard	Howard County launched a digital equity initiative in 2021 to enhance digital inclusion and broadband access. The initiative builds on the County's work in 2020 to distribute mobile hotspots and devices to students in partnership with the Howard County Public School System (HCPSS) and the Bright Minds Foundation[113] and provide free public Wi-Fi; the County intends to expand Wi-Fi access in community spaces, provide residents with devices, establish a broadband and digital inclusion office, and develop a digital inclusion study and long-

[107] "Montgomery Connects – Maryland Connected Devices," Montgomery County, https://www.montgomerycountymd.gov/obp/computer-for-you.html.
[108] "Montgomery County to Distribute 10,000 Remaining Free 'Montgomery Connects' Computers to Eligible Low-Income Residents in February, March and April," Montgomery County Press Release, February 14, 2023, https://www2.montgomerycountymd.gov/mcgportalapps/Press_Detail.aspx?Item_ID=42866.
[109] "MoCoNet," Montgomery County, https://www.montgomerycountymd.gov/obp/moconet.html.
[110] "Affordable Connectivity Program," Montgomery County, https://www.montgomerycountymd.gov/obp/affordable-connectivity-program.html.
[111] "Rural Broadband," Montgomery County, https://www.montgomerycountymd.gov/obp/rural-broadband.html.
[112] "Montgomery County, Maryland," Senior Planet from AARP, https://seniorplanet.org/locations/montgomery-county/.
[113] "Transform Howard," Howard County, https://www.howardcountymd.gov/transform.

Program name	Description
	term plan. The County also redesigned its website following Website Content Accessibility Guidelines 2.1.[114]
Garrett County – Rural Broadband Expansion and Connected Devices (Chromebook) Program	In addition to its effort to expand broadband service in rural areas utilizing fixed wireless technology,[115] the County distributes free Chromebooks to eligible low-income households in the County (one member must have an income at or below 200 percent of the federal poverty level; one device provided per household).[116]
Baltimore City Office of Broadband and Digital Equity (BDE)	BDE within the Baltimore City Office of Information and Technology leads the City's mission to "permanently close its digital divide by 2030."[117] Its work is guided by four pillars: deploying open access fiber to provide ubiquitous broadband access, beginning with underserved communities; and providing digital skills training, access to devices, and technical support to promote broadband adoption. Through BDE, the City awarded more than $900,000 in digital equity Fund grants to community organizations in September 2023.[118]
Connecting Minority Communities Pilot Program – University of Maryland Eastern Shore (UMES)	UMES received a grant just under $3 million in 2023 for a program titled "Rebuilding Our Digital Road: Digital Infrastructure Re-imagining," which the University will use to expand broadband access for students at UMES, provide broadband capacity to grow its education and outreach programs, and assess how the University's digital infrastructure supports it as a community anchor institution.[119]
Connecting Minority Communities Pilot Program – Morgan State University	Morgan State received a grant of approximately $4.1 million in 2023 for a program titled "Miles of Education through Technology Access (META)." The project's objectives include distributing laptops and subsidizing internet subscriptions for

[114] "Howard County Executive Launches Digital Equity Initiative, Unveils New County Website," Howard County news release, May 24, 2021, https://www.howardcountymd.gov/News052421.
[115] "Rural Broadband Expansion," Garrett County, https://www.garrettcounty.org/broadband.
[116] "Connected Devices (Chromebook) Program," Garrett County, https://www.garrettcounty.org/broadband/devices.
[117] "Broadband & Digital Equity," Baltimore City Information & Technology, https://technology.baltimorecity.gov/broadband-and-digital-equity.
[118] "Mayor Scott Invests Nearly $1 Million to Close Digital Divide With Grant Awards to Baltimore-Based Organizations," press release from the Mayor's Office, September 8, 2023, https://mayor.baltimorecity.gov/news/press-releases/2023-09-08-mayor-scott-invests-nearly-1-million-close-digital-divide-grant.
[119] "Biden-Harris Administration Announces More Than $175 Million in Internet for All Grants to 61 Minority-Serving Colleges and Universities," NTIA news release, February 22, 2023, https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-announces-more-175-million-internet-all-grants-61.

Program name	Description
	students and community members, upgrading campus Wi-Fi infrastructure, engaging the community around telehealth, and programming related to Smart Tiny Homes.[120]
Connecting Minority Communities Pilot Program – Coppin State University	Coppin State University received a grant of approximately $4 million in 2023 for its "Connect Eagle Nation" project, which will help address the digital divide in Baltimore by distributing laptops to community members, creating a Cyber Apprenticeship Program through which participants can earn industry certification, launching a Digital Navigator program to serve residents, initiating collaboration between Coppin School of Nursing and Baltimore County in which Digital Navigators provide "health and technology assessment" in the City and the County, and creating a committee that will assess broadband services and needs in the community.[121]
Maryland Emergency Broadband Benefit Program	To reduce the number of Marylanders that are unable to have access to affordable broadband connectivity, provides a subsidy up to $15 per month against a low-income household's internet service cost, in addition to the $30 per month provided by the federal ACP.
Connected Devices Program (MD-CDP)	Assist in digital equity and inclusion efforts in Maryland by providing new internet-enabled devices to eligible low-income families who need them. OSB procured laptops for distribution to county and municipal governments, which engaged with local nonprofit organizations for distribution. The program was allocated $30 million in ARPA funding to provide approximately 145,000 devices in FY23[122] and contracted with HP to supply Chromebooks.[123] Distribution in round 1 totaled 98,000 devices to local governments.

[120] "Biden-Harris Administration Announces More Than $175 Million in Internet for All Grants to 61 Minority-Serving Colleges and Universities," NTIA news release, February 22, 2023, https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-announces-more-175-million-internet-all-grants-61.

[121] "Biden-Harris Administration Announces More Than $33.5 Million in Internet for All Grants to 12 Minority-Serving Colleges and Universities," NTIA news release, January 30, 2023, https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-announces-more-335-million-internet-all-grants-12.

[122] "Connect Maryland: FY23 Connected Devices program," OSB presentation, November 29, 2022, https://dhcd.maryland.gov/Broadband/Documents/CDP-Presentation.pdf.

[123] "Provider Resources: Connected Devices Program (MD-CDP)," OSB, https://dhcd.maryland.gov/Broadband/Pages/Provider-Resources.aspx.

Program name	Description
Maryland Digital Equity Scorecard Index Map[124]	This map of Maryland compiles three data points into an index of digital equity. The three data points are: 1) Whether a household has a wireline internet subscription at home, 2) Whether a household is reliant only on a cellular data plan for online connectivity at home, and 3) Whether a household has either zero or just one computing device for internet access.
Maryland SpeedSurvey	The State administers an online speed survey[125] that residents can use to provide data about the speed of their internet service, or report that internet service is not available at their location.
Network Infrastructure Grant Program (MDNI Program)	Offers grants of between $800,000 and $4.5 million to local jurisdictions or their ISP partner to construct new broadband networks to serve unserved areas.[126] The State awarded almost $100 million through the program in 2022[127] and announced an additional $92 million in awards in April 2023 to connect 14,500 locations,[128] utilizing support from the Capital Projects Fund.[129]
Maryland Broadband Advisory Workgroup	A bipartisan workgroup including representatives from the counties and municipalities, as well as members of the General Assembly, to advise the State on the best ways to utilize new investment in broadband infrastructure.
Home Stretch for Public Housing Program	State program that utilizes $45 million from the ARPA Capital Projects Fund to provide grants to local jurisdictions to retrofit public housing to provide broadband capable wiring to individual dwelling units, bringing access to low-income residents.[130] OSB expects the program to provide wiring for approximately 10,400 multi-dwelling units across Maryland.

[124] "Maryland Digital Equity Scorecard Index Map," https://bniajfi.maps.arcgis.com/apps/dashboards/de8d2f55435a4ff58ec80284ddd11fbf.
[125] "Speed Survey," https://maryland.speedsurvey.org/.
[126] Defined by the program as areas that do not have access to service that provides 100 Mbps download, 20 Mbps upload with maximum latency of 50 ms.
[127] "FY22 Broadband Awards List," OSB, https://dhcd.maryland.gov/Documents/PressReleases/FY22BroadbandAwardsList.pdf.
[128] "Governor Moore Announces Nearly $92 Million Awarded to Expand Broadband Access," press release from the Office of the Governor, April 5, 2023, https://governor.maryland.gov/press/pages/Governor-Moore-Announces-Nearly-$92-Million-Awarded-to-Expand-Broadband-Access.aspx.
[129] https://home.treasury.gov/news/press-releases/jy0866.
[130] "Community & Provider Resources | Home Stretch – Public Housing Program," DHCD, https://dhcd.maryland.gov/Broadband/Pages/Provider-Resources.aspx.

Program name	Description
	Projects must also include educational and technical assistance outreach to support adoption of service.[131]
Home Stretch for Difficult to Serve Properties Program	State program that utilizes over $24 million from the ARPA Capital Projects Fund to provide grants to counties to fund projects that will bring high-speed internet access to remote properties that have difficulty obtaining service due to their distance from broadband infrastructure or other geographic challenges.[132] Counties will subgrant funds to ISPs to install service.[133]
Maryland Business Enterprise Program for the Blind of the Division of Rehabilitation Services (DORS) of the Department of Education	The Maryland Business Enterprise for the Blind (MDBEP) provides opportunities for individuals who are legally blind to operate retail concession, gift, or food service businesses in public facilities. According to the most recent available data, BEP participants operate approximately 70 snack/gift shops, espresso stands, delis, convenience stores, and cafeterias with combined annual sales in excess of $18 million.[134]
Carroll Technology & Innovation Council's Digital Inclusion[135] programs	The Carroll Technology & Innovation Council, a nonprofit conceived by the Carroll County Chamber of Commerce,[136] operates three digital inclusion programs. It raises awareness of the ACP,[137] connects aging individuals to programs run by AARP's Senior Planet,[138] and provides Veterans Transition to Technology programming to provide devices, connectivity, and training to veterans.[139]

[131] "Governor Moore Announces $69 Million in Federal Funds to Support High-Speed, Affordable Internet Access for Unserved Marylanders," Office of the Governor press release, October 16, 2023, https://governor.maryland.gov/news/press/pages/governor-moore-announces-69-million-in-federal-funds-to-support-highspeed-affordable-internet-access-for-unserved-marylande.aspx.
[132] "Community & Provider Resources | FY24 Home Stretch - Difficult to Serve Properties Grant Program," DHCD, https://dhcd.maryland.gov/Broadband/Pages/Provider-Resources.aspx.
[133] "Governor Moore Announces $69 Million in Federal Funds to Support High-Speed, Affordable Internet Access for Unserved Marylanders," Office of the Governor press release, October 16, 2023, https://governor.maryland.gov/news/press/pages/governor-moore-announces-69-million-in-federal-funds-to-support-highspeed-affordable-internet-access-for-unserved-marylande.aspx.
[134] "MD Business Enterprise Program for the Blind," DORS, https://dors.maryland.gov/consumers/specialized/OBVS/Pages/OBVS-MBEPB.aspx.
[135] "Digital Inclusion," Carroll Technology & Innovation Council, https://carrolltechcouncil.org/digital-inclusion/.
[136] "About Us," Carroll Technology & Innovation Council, https://carrolltechcouncil.org/programs/.
[137] "Affordable Connectivity Program (ACP)," Carroll Technology & Innovation Council, https://carrolltechcouncil.org/affordable-connectivity-program-acp/
[138] "Senior Planet," Carroll Technology & Innovation Council, https://carrolltechcouncil.org/senior-planet/.
[139] "Veterans Transition to Technology," Carroll Technology & Innovation Council, https://carrolltechcouncil.org/veterans-transition-to-tech/.

Program name	Description
Enoch Pratt Free Library programs	The Enoch Pratt Free Library, a library system established by a philanthropic grant in 1882,[140] provides a wide variety of accessibility services.[141] The library's bookmobile and mobile job center vehicles offer community Wi-Fi.[142]

3.1.4 Broadband adoption

Seventy-nine percent of households in the State subscribe to wireline internet service, according to 2021 data from the American Community Survey.[143]

A range of public and private entities in the State, a sample of which are catalogued in Table 2, are working to support broadband adoption and meaningful use of the internet by Maryland residents in general and members of covered populations in particular. These efforts include, but are not limited to, entities offering digital skills training in service of workforce development, organizations providing refurbished and/or low-cost devices, hotspot loan programs, and coalitions working toward digital inclusion.

Two State grant programs announced in October 2023 will utilize a total of $69 million in funding from the ARPA Capital Projects Fund to provide high-speed, affordable internet access to an estimated 15,000 unserved households in Maryland. The Home Stretch for Public Housing program will provide grants to local jurisdictions to retrofit public housing to provide internet access for low-income households, combined with educational outreach and technical assistance to support adoption of service. The Home Stretch for Difficult to Serve Properties program focuses on remote properties that present geographic challenges for ISPs to serve; the program will provide grants to counties, who will subgrant funds to ISPs to provide service.[144]

The State has also worked to support broadband adoption by low-income households by providing new, internet-enabled devices to families in need through the Connected Devices grant program (MD-CDP). (See Section 3.1.3, above.) Through the program, OSB partnered with county

[140] "History of the Library," Enoch Pratt Free Library, https://www.prattlibrary.org/about-us/history.
[141] "Accessibility Services," Enoch Pratt Free Library, https://www.prattlibrary.org/services/accessibility-services.
[142] "Mobile Outreach Services," Enoch Pratt Free Library, https://www.prattlibrary.org/services/mobile-outreach.
[143] American Community Survey Public Use Microdata 2021 1-year estimates, U.S. Census Bureau.
[144] "Governor Moore Announces $69 Million in Federal Funds to Support High-Speed, Affordable Internet Access for Unserved Marylanders," Office of the Governor press release, October 16, 2023, https://governor.maryland.gov/news/press/pages/governor-moore-announces-69-million-in-federal-funds-to-support-highspeed-affordable-internet-access-for-unserved-marylande.aspx.

and municipal governments to distribute internet-enabled devices to eligible families. The following entities received grants in 2023:[145]

- Baltimore County[146]
- Baltimore City[147]
- Charles County[148]
- Frederick County[149]
- Garrett County[150]
- Kent County Local Management Board (KCLMB)[151]
- Montgomery County[152]
- City of Greenbelt[153]
- Town of North Brentwood[154]
- Queen Anne's County Local Management Board Collective[155]
- City of Crisfield[156]
- Town of Princess Anne[157]
- St. Mary's County Government[158]

In FY22, the State provided additional funding to help communities close the gap for K-12 students who lack necessary internet access or the devices they need to connect to classrooms by awarding approximately $8.4 million through the Maryland Emergency Education Relief (MEER) Grant program.[159] Eligible applicants were schools, libraries, and anchor institutions; the

[145] "Community & Provider Resources," DHCD, https://dhcd.maryland.gov/Broadband/Pages/Provider-Resources.aspx.
[146] Baltimore County, https://www.baltimorecountymd.gov/.
[147] "Baltimore, MD Electronics Recycling Center," PCs for People, https://www.pcsforpeople.org/locations/baltimore/.
[148] Charles County Public Library, https://ccplonline.org/.
[149] United Way of Frederick County, https://www.unitedwayfrederick.org/.
[150] Garrett County, https://www.garrettcounty.org/.
[151] "Kent County Local Management Board," Kent County, https://www.kentcounty.com/personal-services/family-support/kent-county-local-management-board.
[152] Montgomery County, https://www.montgomerycountymd.gov/.
[153] City of Greenbelt, https://www.greenbeltmd.gov/.
[154] Town of North Brentwood, https://www.northbrentwood.com/.
[155] Queen Anne's County Local Management Board Collective
[156] Crisfield Volunteer Fire Department, https://www.marylandvolunteer.org/department/crisfield-volunteer-fire-department/.
[157] Somerset County Library, http://www.somelibrary.org/.
[158] St. Mary's County Government, https://www.stmarysmd.com/.
[159] "FY22 Broadband Awards List," OSB, https://dhcd.maryland.gov/Documents/PressReleases/FY22BroadbandAwardsList.pdf.

program covered 100 percent of the cost of eligible purchases of equipment or broadband services for on- or off-campus use by students, school staff, and community members.[160]

To further digital inclusion efforts at the local level, the State's Digital Inclusion Grant Program (MD-DIG) provided funding to local jurisdictions, 501(c) entities, and community-based anchor institutions to fund projects around digital inclusion planning and implementation. The following entities received State digital equity grants in 2022:[161]

- Bowie State University[162]
- The Computer Foundations program of Byte Back[163]
- Caroline County Department of Social Services[164]
- Carroll Technology Council[165]
- Data Access One's[166] Westport/Mt. Winans/Lakeland broadband internet pilot project
- Central Baltimore Partnership[167]
- Centro de Apoyo Familiar[168]
- City of Baltimore
- City of Takoma Park
- Cross Community's The Equity Center program[169]
- Digital Harbor Foundation[170]
- Faith and Work Enterprises[171]
- AHC Greater Baltimore[172]
- Health Empowerment Network of Maryland[173]
- Islamic Society of Baltimore[174]

[160] "Request for Applications: Connect Maryland: FY22 Maryland Emergency Education Relief Grant Program," OSB, April 20, 2022, https://dhcd.maryland.gov/Broadband/Documents/MEER/FY22-Application-Guide-Form.pdf.
[161] "Community & Provider Resources," DHCD, https://dhcd.maryland.gov/Broadband/Pages/Provider-Resources.aspx.
[162] Bowie State University, https://www.bowiestate.edu/.
[163] "Computer Foundations: Grow Your Digital Confidence with Basic Computer Skills," Byte Back, https://byteback.org/apply/courses-tracks/computer-foundations/.
[164] "Caroline County Department of Social Services," Maryland Department of Human Services, https://dhs.maryland.gov/local-offices/caroline-county/.
[165] Carroll Technology Council, https://carrolltechcouncil.org/.
[166] Data Access One, https://www.dataaccessone.com/.
[167] Central Baltimore Partnership, https://www.centralbaltimore.org/.
[168] Centro de Apoyo Familiar, https://mycaf.org/.
[169] "The Equity Center," Cross Community, https://cross-community.org/equity-center/.
[170] Digital Harbor Foundation, https://digitalharbor.org/.
[171] Faith and Work Enterprises, https://faithandworkenterprises.org/.
[172] AHC Greater Baltimore, https://www.ahcinc.org/ahc-baltimore/.
[173] Health Empowerment Network of Maryland, https://henmaryland.org/.
[174] Islamic Society of Baltimore, https://isb.org/.

- MOCO KIDSCO Inc.[175]
- KindWorks[176]
- LASOS[177]
- Montgomery County Housing Partnership[178]
- Neighborhood Service Center[179]
- NHT Communities[180]
- Open Works[181]
- Rebuild Johnston Square Neighborhood[182]
- Southern Maryland Regional Library Association[183]
- Talbot County Free Library Association[184]
- City of Salisbury[185]
- Interfaith Service Coalition of Hancock, MD[186]
- United Way of Frederick County[187]
- University of Maryland[188]
- Wide Angle Youth Media[189]

3.1.5 Broadband affordability

The Federal Communications Commission's (FCC) Affordable Connectivity Program (ACP), which offers eligible households a discount of $30 per month on their internet service ($75 for households on qualifying tribal lands) and a one-time discount of up to $100 towards the purchase of a device, is one of the most significant programs available to low-income Maryland households to reduce the cost of broadband service.

[175] "MOCO KIDSCO," ProPublica Nonprofit Explorer, https://projects.propublica.org/nonprofits/organizations/454070908.
[176] KindWorks, https://dokindworks.org/.
[177] LASOS, https://www.lasos.org/.
[178] Montgomery County Housing Partnership, https://mhpartners.org/.
[179] Neighborhood Service Center, https://nsctalbotmd.org/.
[180] "NHT Communities," ProPublica Nonprofit Explorer, https://projects.propublica.org/nonprofits/organizations/311662007.
[181] "A Makerspace For All," Open Works, https://www.openworksbmore.org/.
[182] Rebuild Johnston Square Neighborhood, https://rebuildjohnstonsquare.com/.
[183] Southern Maryland Regional Library Association, https://smrla.org/.
[184] "Talbot County Free Library Association," ProPublica Nonprofit Explorer, https://projects.propublica.org/nonprofits/organizations/520629774/201700449349301655/full.
[185] City of Salisbury, https://salisbury.md/.
[186] "Interfaith Service Coalition of Hancock, MD," Town of Hancock, Maryland, https://www.townofhancock.org/bc-interfaith/page/interfaith-service-coalition-hancock-md.
[187] United Way of Frederick County, https://www.unitedwayfrederick.org/.
[188] University of Maryland, https://umd.edu/.
[189] Wide Angle Youth Media, https://www.wideanglemedia.org/.

As of July 2023, 242,252 Maryland households were enrolled in the ACP,[190] representing about 33 percent of the 727,000 estimated eligible households in the State.[191] (See additional analysis in Section 3.2.)

Maryland also offers the Maryland Emergency Broadband Benefit (MEBB) program that provides a $15 monthly broadband subsidy for eligible households in addition to the federal ACP subsidy. The program was set up to seamlessly layer into the federal benefit, so that a household qualifying for ACP automatically also receives the State subsidy as well. During FY 2022, the MEBB program served 121,864 households.[192] (See Appendix A for the full list of ISPs that participate in the ACP and MEBB.)

In July 2023, Maryland launched a statewide initiative (Maryland ActNow) to increase participation in the ACP in partnership with the nonprofit EducationSuperHighway. Recognizing the importance of outreach by trusted local entities to encourage eligible households to enroll, the State will partner with 20 community organizations across Maryland to promote the program.

Several entities in the State have also received grants from the FCC to provide ACP outreach and application assistance, including the Housing Authority of Baltimore City, the Maryland Department of Housing and Community Development, the Prince George's County Memorial Library System, and Montgomery County (see Table 5).

The State's Connected Communities Grant Program (MD-GAPS)[193] also provided funding for local entities and anchor institutions to deploy gap networks/community networks that offer covered

[190] "ACP Enrollment and Claims Tracker," USAC, https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#enrollment-by-state (accessed July 31, 2023).
[191] See also "Bipartisan Infrastructure Law State Fact Sheet: Maryland," the White House, March 2023, https://www.whitehouse.gov/wp-content/uploads/2023/03/Maryland-Fact-Sheet-March-Edition.pdf.
[192] "Maryland Broadband Local Jurisdiction Collaboration Workgroup," DHCD, October 13, 2022, https://dhcd.maryland.gov/Broadband/Documents/10-13-22-MD-local-jurisdiction-workgroup-meeting-presentation.pdf.
[193] "MD-GAPS: Connected Communities," DHCD, https://dhcd.maryland.gov/Broadband/Pages/MD-GAPS.aspx.

populations[194] broadband services at low or no cost. The following entities received grants through the program in FY22:[195]

- Center for Educational Leadership's Westport/Mt. Winans/Lakeland Broadband Access program
- Digital Harbor Foundation[196]
- Islamic Society of Baltimore[197]
- United Way of Central Maryland[198]
- Cecil County[199]
- Montgomery County Government[200]
- Community Services Foundation[201]
- City of Salisbury[202]

As discussed above, the State's Home Stretch for Public Housing program also prioritizes delivering affordable service to low-income households by providing grants to local jurisdictions to retrofit public housing properties with broadband facilities.

The following table lists broadband affordability assets in the State, which are available to all covered populations—including a sampling of ISPs' discounted service and device programs and efforts to increase enrollment in the ACP. The full list of ISPs in the State that participate in the ACP is included in Appendix A.

[194] Per the Notice of Funding Availability, "[t]his grant program and its funding are purposed for the following covered populations who are most at need:

- individuals who live in a household with income less than or equal to 150 percent of federal poverty level;
- aging individuals;
- individuals with disabilities;
- individuals with a language barrier, including individuals who -
    - are English learners; and
    - have low levels of literacy;
- individuals who are members of a racial or ethnic minority group."

"MD-GAPS: Connected Communities," DHCD, https://dhcd.maryland.gov/Broadband/Pages/MD-GAPS.aspx.

[195] "FY22 Broadband Awards List," DHCD, https://dhcd.maryland.gov/Documents/PressReleases/FY22BroadbandAwardsList.pdf.

[196] Digital Harbor Foundation, https://digitalharbor.org/.

[197] Islamic Society of Baltimore, https://isb.org/.

[198] United Way of Central Maryland, https://www.uwcm.org/.

[199] Cecil County, https://www.ccgov.org/.

[200] Montgomery County Government, https://www.montgomerycountymd.gov/.

[201] Community Services Foundation, https://www.csfnd.org/.

[202] City of Salisbury, https://salisbury.md/.

Table 5: Broadband affordability assets

Asset name	Description
Comcast Internet Essentials program	Comcast, an ISP, offers the Internet Essentials plan, priced at $9.95 per month, which is available to qualifying low-income and other households in Maryland.[203] Comcast Internet Essentials delivers speeds up to 50 Mbps and Comcast Internet Essentials Plus delivers up to 100 Mbps for $29.95 per month.[204] Households that subscribe to Internet Essentials can purchase a new Dell laptop or Chromebook for $149.99 plus tax.[205]
Verizon Forward Program	The Verizon Forward Program provides an additional discount on Verizon Home internet plans for customers enrolled in the ACP, offering Verizon's 300/300 Mbps Fios fiber plan at no cost and plans with higher speed tiers at a discounted rate. (The program also offers Verizon 5G Home internet at no cost where available.)[206]
Spectrum Internet Assist Program	Spectrum Internet Assist offers qualifying low-income customers 30/4 Mbps service for $19.99 per month, or no cost with the ACP subsidy.[207]
Breezeline Internet Assist program	The program provides internet access with speeds of 15 Mbps downstream and 1 Mbps upstream, offered to customers who meet specific need-based qualifications, live in Breezeline's serviceable area, and do not have Breezeline service at home.[208] Breezeline reports that the service costs $0 for customers enrolled in the ACP.[209]
MoCoNet	Montgomery County operates a fiber network that provides a free service option for low-income and special needs residents of select affordable housing developments. The County is also partnering with Plume to provide in-home Wi-Fi.[210]
Digital Harbor Foundation – Project Waves	This nonprofit, founded with the goal of bridging Baltimore's digital divide and now a division of the Digital Harbor

[203] Comcast, application for Internet Essentials plan, https://apply.internetessentials.com/.
[204] "Internet Essentials," Comcast, https://www.xfinity.com/learn/internet-service/internet-essentials.
[205] "Low-Cost Computer," Comcast, https://internetessentials.com/low-cost-computer.
[206] "Free Internet with the Verizon Forward Program and ACP," Verizon, https://www.verizon.com/home/free-verizon-internet/.
[207] "Spectrum Internet for Low Income Households," Spectrum, https://www.spectrum.com/internet/spectrum-internet-assist; "Spectrum Internet Assist," Spectrum Support, https://www.spectrum.net/support/forms/spectrum_internet_assist.
[208] "What is the Breezeline Internet Assist program?," Breezeline, https://www.breezeline.com/support/internet/internet-assist-program/what-is-the-breezeline-internet-assist-program.
[209] Per provider data reported to USAC at https://cnm.universalservice.org/.
[210] "MoCoNet," Montgomery County, https://www.montgomerycountymd.gov/obp/moconet.html.

Asset name	Description
	Foundation, offers free high-speed internet services to more than 800 households in the City.[211] Projects include gig-speed service to five low- and mixed-income multi-dwelling-unit buildings through a Hybrid Fiber Coaxial (HFC) network,[212] and a point-to-multipoint wireless network to "fill the affordability gap in some of Baltimore's most historically underserved and inspirational communities."[213]
ACP outreach campaign with EducationSuperHighway	In July 2023, the State announced a partnership with the nonprofit EducationSuperHighway on a statewide initiative (Maryland ActNow) to raise awareness of the ACP and increase enrollment by working with trusted community organizations.[214] The City of Baltimore launched an initial campaign ("Bmore Connected") in May 2023.[215]
Your Home, Your Internet Pilot Program of the FCC	Awards to the Housing Authority of Baltimore City[216] and to the Maryland Department of Housing and Community Development[217] aimed at providing ACP outreach and application assistance to eligible households.[218]
ACP Navigator Pilot Program of the FCC	The Baltimore County Public Library[219] and Montgomery County[220] were granted access to the National Verifier to help low-income households complete and submit their ACP application.[221]
ACP Outreach Grant Program of the FCC – National	Five entities in the State received awards: CASA, Inc. ($740,000), the Maryland Department of Housing and

[211] Project Waves, https://www.projectwaves.net/.
[212] Sean Gonsalves, "Making Waves in Baltimore with Community-Driven Connectivity," *Community Networks*, February 23, 2023, https://communitynets.org/content/making-waves-baltimore-community-driven-connectivity.
[213] "Home internet," Project Waves, https://www.projectwaves.net/waves-home-internet.
[214] "Governor Moore Launches Maryland ActNow Campaign to Close the Digital Divide in Maryland," Office of Governor Wes Moore, News Release, July 18, 2023, https://governor.maryland.gov/news/press/pages/governor-moore-launches-maryland-actnow-campaign-to-close-the-digital-divide-in-maryland.aspx.
[215] "Mayor Scott, BCIT to Bring Affordable Home internet to Baltimore Households," press release from the Mayor's Office, May 18, 2023, https://mayor.baltimorecity.gov/news/press-releases/2023-05-18-mayor-scott-bcit-bring-affordable-home-internet-baltimore-households.
[216] Housing Authority of Baltimore City, https://www.habc.org/.
[217] DHCD, https://dhcd.maryland.gov/Broadband/Pages/Provider-Resources.aspx.
[218] "Consumer and Governmental Affairs Bureau and Wireline Competition Bureau announce ACP Pilot Program Grants target funding," FCC, March 15, 2023, https://docs.fcc.gov/public/attachments/DA-23-219A1.pdf.
[219] Baltimore County Public Library was selected to participate in the program but was not awarded grant funding; "Wireline Competition Bureau Announces Final List of Entities Selected for the Affordable Connectivity Pilot Programs," FCC public notice, April 6, 2023, https://docs.fcc.gov/public/attachments/DA-23-288A1.pdf.
[220] Montgomery County, Maryland, https://www.montgomerycountymd.gov/.
[221] "Wireline Competition Bureau Announces Final List of Entities Selected for the Affordable Connectivity Pilot Programs," FCC, April 6, 2023, https://www.fcc.gov/document/wcb-announces-final-list-entities-selected-acp-pilot-programs.

Asset name	Description
Competitive Outreach Program (NCOP)	Community Development ($250,000), Prince George's County Memorial Library System ($500,000), Goodwill Industries International ($500,000), and the National Association of the Deaf ($740,000).[222]
Baltimore Community Foundation (BCF) – ACP outreach	BCF is raising awareness of the ACP in Baltimore,[223] including commissioning a data-driven report on ACP participation in the city with recommendations to increase enrollment.[224]

3.2 Needs assessment

The State's comprehensive partner outreach program included extensive efforts to identify the needs of all Marylanders with an emphasis on those belonging to covered populations. Outreach and data collection efforts were made to assess the baseline from which the State is working and to identify the barriers to digital equity faced generally and by each of the covered populations in Maryland.

The State's research and analysis are based on available and relevant data from the American Community Survey (ACS), NTIA's Internet Use Survey (administered as a supplement to the Current Population Survey), and FCC's National Broadband Map. Analysis was undertaken to benchmark Maryland against national averages, and to benchmark its residents belonging to covered populations against those that do not belong to covered populations.

The data and analysis are intended to facilitate understanding of the extent to which:

1. Broadband internet service is available to and adopted by residents
2. Residents are confidently performing various digital skills
3. Residents are aware of and impacted by online security and privacy concerns
4. Computer devices are abundant and adequate for meaningful internet use
5. Online government resources and services are accessibly built and maintained

[222] CASA, Inc., Goodwill Industries International, and the National Association for the Deaf were awarded funding to conduct multi-state or national outreach; "Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding," March 10, 2023, https://docs.fcc.gov/public/attachments/DA-23-194A1.pdf.
[223] "Closing Baltimore's Digital Divide," Baltimore Community Foundation, https://bcf.org/closing-baltimores-digital-divide/.
[224] "Closing Baltimore's Digital Divide: Affordable Connectivity Program Challenges & Opportunities," Baltimore Community Foundation, https://bcf.org/digital-divide/.

In brief, a lack of need or interest in home internet use is the primary reason cited by Maryland households that do not subscribe to broadband. This is followed by issues of affordability of service, inadequate computer device access, and a lack of available service offerings. Notably, no respondents claimed that online security or privacy concerns prevented them from home internet use. While data suggests Maryland performs relatively well in many associated metrics of digital equity, data specific to members of covered populations indicate that barriers may still exist even when survey respondents do not cite them in their responses. Reasons cited for a lack of home internet use are outlined in Table 6.

Table 6: Reported reasons for no home internet use[225]

Reasons for no home internet use	Maryland
Can't afford it	12%
Not worth the cost	2%
Can use it elsewhere	3%
Not available in area	4%
Don't need or not interested	63%
Online privacy or security concerns	0%
No or inadequate computing device	5%

More specific data elaborated on in our analysis indicate that Maryland's digital equity needs encompass access to affordable broadband services, increased enrollment in broadband service subsidy programs, device access, and online security and privacy training. The table below summarizes key barriers for each covered population identified through this assessment.

Table 7: Key barriers and obstacles for covered populations

Covered population	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
Low-income households	It is likely that very-low-income households are disproportionately less covered by broadband	Low-income populations display the most urgent needs for more	Low-income populations have the most urgent needs for digital skills and telemedicine	Low-income individuals report needs for increased awareness of and confidence in protecting themselves	Low-income populations display the most urgent needs for increased

[225] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.

Covered population	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
		affordable broadband[226]	programming [227]	from online security and privacy threats[228]	device access[229]
Aging populations		Aging individuals lag younger individuals in internet adoption[230]	Aging individuals indicate need for digital skills and telemedicine training[231]	Aging individuals report needs for increased confidence in protecting themselves from online security and privacy threats[232]	Aging individuals lag younger individuals in device adoption[233]
Incarcerated individuals	Formerly incarcerated individuals are less likely to be served by broadband[234]	While no data are currently available in these areas, Maryland is endeavoring to develop relevant data in partnership with other State agencies			

[226] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[227] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[228] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[229] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[230] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[231] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[232] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[233] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[234] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.

Covered population	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
Veterans	Veterans are less likely to be served by broadband[235]			Veterans report needs for increased confidence in protecting themselves from online security and privacy threats[236]	
Individuals with disabilities	Individuals with disabilities are less likely to be served by broadband[237]	Individuals with disabilities lag those without disabilities in internet adoption[238]	Individuals living with disabilities indicate need for digital skills and telemedicine training[239]	Individuals living with disabilities report needs for increased confidence in protecting themselves from online security and privacy threats[240]	Individuals living with disabilities lag individuals without disabilities in device adoption[241]

[235] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.
[236] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[237] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.
[238] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[239] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[240] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[241] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Covered population	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
Individuals with language barriers	Individuals with significant language barriers are disproportionately unserved by broadband[242]	While no data are currently available in these areas, Maryland is endeavoring to develop relevant data in partnership with other State agencies			
Individuals who are English learners (alone)					English language learners lag those who are fluent in English individuals in device adoption[243]
Individuals who have low levels of literacy (alone)	It is likely that individuals with low levels of literacy are disproportionately unserved by broadband[244]	While no data are currently available in these areas, Maryland is endeavoring to develop relevant data in partnership with other State agencies			
Racial and ethnic minorities			Racial and ethnic minorities could benefit from telemedicine	Racial and ethnic minorities report needs for increased awareness of and confidence	Racial and ethnic minorities were less likely to own desktop or laptop

[242] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.
[243] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[244] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.

Covered population	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
			programming [245]	in protecting themselves from online security and privacy threats[246]	computers than white individuals[247]
Rural residents	Rural individuals are in the most urgent need of increased broadband availability[248]		Rural individuals indicate need for digital skills and telemedicine training[249]	Rural individuals report needs for increased awareness of and confidence in protecting themselves from online security and privacy threats[250]	

3.2.1 Covered populations in Maryland

To understand the challenges of digital equity for covered populations, it is necessary to define those groups. Due to the unique constraints of each data source, various analyses focus on

[245] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[246] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[247] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[248] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.
[249] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[250] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.

different subsets of covered populations. Based on the availability of reliable data,[251] the covered populations analyzed in this needs assessment are as follows:

Covered population	Covered definition	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
Low-income households	Any individual in a household earning less than 150 percent of the federal poverty line	✓	✓	✓	✓	✓
Aging populations	Any individual who is 60 years of age or older	✓	✓	✓	✓	✓
Incarcerated individuals	Any individual currently or formerly incarcerated in a non-federal correctional facility	✓				
Veterans	Any individual formerly on active duty	✓	✓	✓	✓	✓
Individuals with disabilities	Any individual living with a self-identified physical or mental disability	✓	✓	✓	✓	✓

[251] This Plan relies on rigorously collected and reliable data to make statistically-significant conclusions regarding each covered population. The data used include those collected by the U.S. Census Bureau through the American Community Survey. Where the data are not available, the Plan does not attempt to speculate.

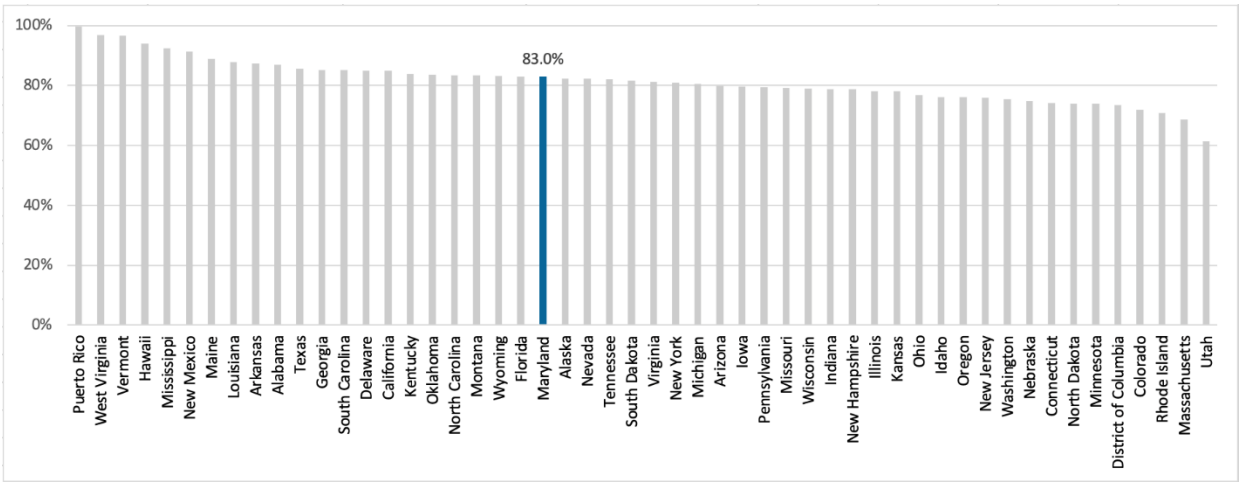
Covered population	Covered definition	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
Individuals with language barriers	Any individual that either reports an English language proficiency less than "very well" or with a literacy level beneath that of a grade 6 student[252]	✓				
Individuals who are English learners (alone)	Any individual that either reports an English language proficiency less than "very well"	✓	✓	✓	✓	✓
Individuals who have low levels of literacy (alone)	Any individual with a literacy level beneath that of a grade 6 student	✓				
Racial and ethnic minorities	Any individual that is not white (non-Hispanic) alone	✓	✓	✓	✓	✓

[252] Grade 6 has been adopted as a reasonable threshold for practical purposes. Neither NTIA nor the U.S. Census Bureau define low literacy. Census has developed probabilistic estimates using National Center for Education Statistics data assigning "low literacy" to Level 1 (i.e., the lowest out of five levels). See "2019 State Total Covered Populations Under the Digital Equity Act of 2021: Quick Guide," U.S. Census Bureau, NTIA. 2022, https://www2.census.gov/programs-surveys/demo/technical-documentation/community-resilience/state_total_covered_populations_quick_guide.pdf.

Covered population	Covered definition	Broadband availability	Broadband adoption	Digital skills	Online security	Device adoption
Rural inhabitants	Any individual living outside of an urban area[253]	✓		✓	✓	

In Maryland, a large proportion of residents belongs to covered populations, with 83 percent[254] of the State belonging to a covered population. This is close to average among all states (by portion of state population in a covered population). The high portion of residents belonging to a covered population implies that the interests of covered populations closely align to those of the whole State: Maryland as a whole and its covered populations are not likely to have misaligned priorities because the latter make up the vast majority of the former. Therefore, by planning to increase digital equity for all population groups, the State is taking meaningful steps to address the entirety of its digital equity needs. The portion of Maryland belonging to at least one covered population is contextualized in Figure 1 below.

Figure 1: Portions of state populations belonging to a covered population[255]



Within Maryland, most individuals belonging to covered populations are racial or ethnic minorities, are older than 59 years old, live in rural areas, and/or have low levels of literacy. These

[253] Urban is defined according to the U.S. Census (based on the 2010 Decennial Survey) as urbanized areas, which contain 50,000 or more people, and urban clusters, which have at least 2,500 people but fewer than 50,000 residents.
[254] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.
[255] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.

covered populations are much larger in the State than those defined by incarceration status, English language proficiency, and veteran status. Perhaps most notable is the size of Maryland's racial or ethnic minority population, making up an estimated 50.2 percent of the State (as opposed to only 40.6 percent nationally). Maryland and national demographics are illustrated in Table 8 below.

Table 8: Portion of Maryland and U.S. in various covered populations[256, 257]

Covered group	Maryland	Nation	Gap
Any covered group	83.0%	81.5%	1.5%
Low income	14.4%	20.1%	-5.7%
Aging	22.6%	22.9%	-0.3%
Incarcerated	0.6%	0.6%	0.0%
Veteran	5.8%	5.3%	0.5%
Disabled	11.6%	13.3%	-1.7%
Language barrier	19.4%	21.4%	-2.0%
English language learner	7.3%	8.4%	-1.1%
Low literacy	20.0%	21.9%	-1.9%
Minority	50.2%	40.6%	9.6%
Rural	22.3%	28.5%	-6.2%

The demographic groups illustrated above are not mutually exclusive and many individuals belonging to a covered population belong to multiple covered populations; for example, many individuals living in rural areas are also low-income. Further, many of these traits are related, and possibly causally so—for example, individuals living with disabilities have higher tendencies to be on fixed incomes because of their disabilities. In this case, their presence in one covered population (individuals living with disabilities) directly affects their likelihood to appear in another covered population (individuals living in lower-income households). Additionally, individuals living with disabilities are in many cases more likely to be precluded from meaningful use of the internet by their relatively low income as opposed to their disability. Therefore, caution

[256] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.

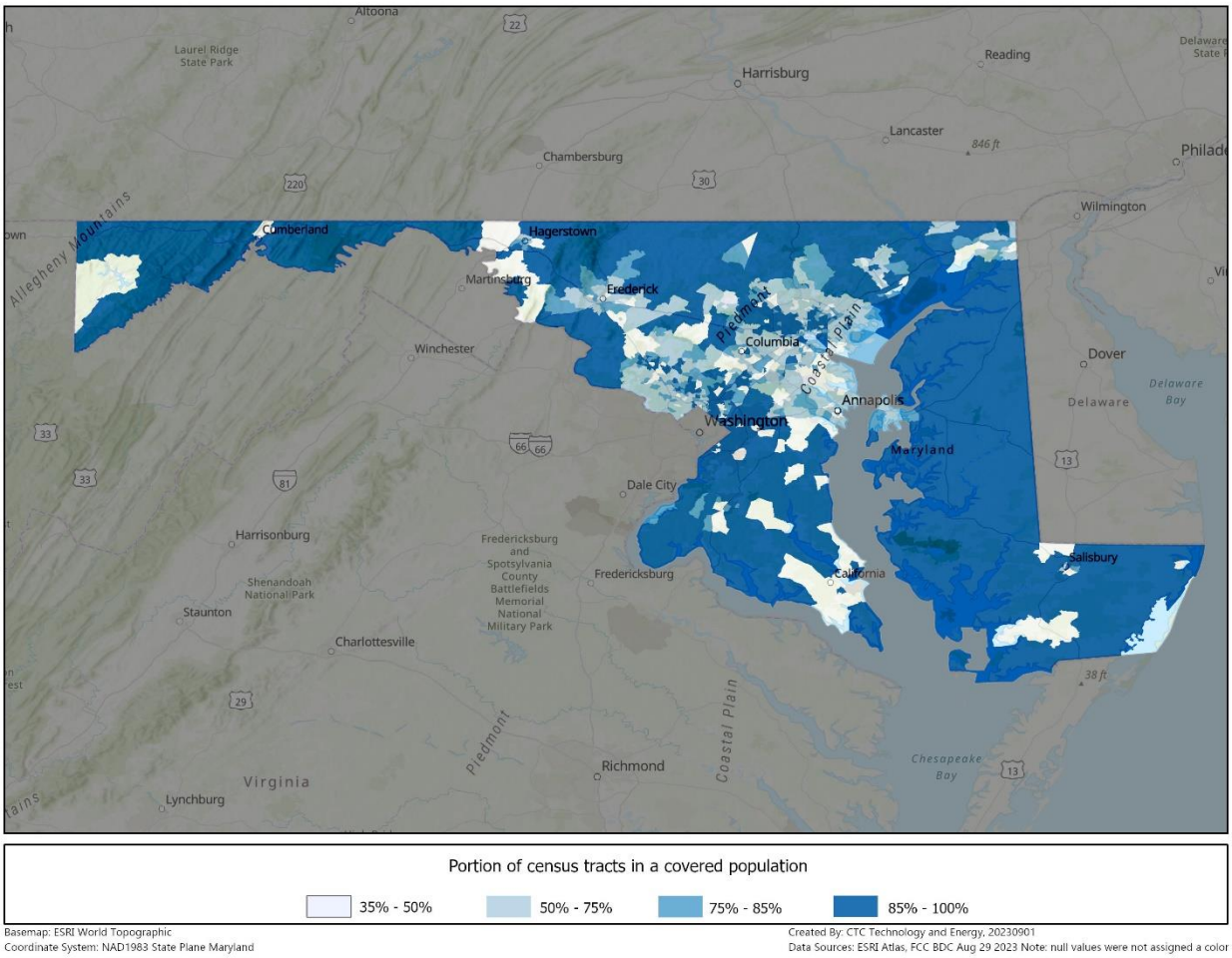
[257] These data are sourced from the Census Bureau's Digital Equity Act of 2021 collection, which includes ACS and NTIA Internet Use Survey data as well as imputations from external data sources such as the National Center for Education Statistics to create the most comprehensive set of covered populations data. However, the data set is slightly outdated, sourcing ACS data from 2019 (most recent) to as far back as 2015. Additionally, the full data set is difficult to update given the limited documentation on the imputations performed. Therefore, for many of the remaining sections wherein analysis is performed on more specific broadband barriers rather than wholistic demographic statistics, more easily repeatable analysis is performed on more up-to-date data from ACS and the NTIA Internet Use Survey (via the Current Population Survey). As a tradeoff with the increased data quality and useability, some insight into covered populations is lost, especially with regard to formerly incarcerated individuals and individuals with low levels of literacy.

is urged in attributing causes of broadband outcomes to the nature of the affected covered populations.

This implies an unintuitive idea that digital equity interventions may not be most impactful by targeting the covered population that appears in most urgent need. To continue the example, individuals living with disabilities might present in some cases as the covered population with the most urgent needs, but tailoring support to low-income households and lowering the costs of broadband acquisition may be the most effective path towards impacting individuals living with disabilities.

Individuals belonging to covered populations are present throughout the entirety of Maryland, and, definitionally, they are uniformly present outside of urban and suburban environments. The geographic distribution of covered populations is shown in Figure 2 below.

Figure 2: Map of covered populations in Maryland[258]



3.2.2 Access to broadband service

Access to broadband service is the primary prerequisite for using the internet meaningfully to participate in the increasingly digital economy and world. For that reason, the State has completed a robust geographic analysis of broadband service offerings, a regression analysis of covered population presence and broadband availability, a comparative analysis of internet adoption rates across covered populations, and an analysis of ACP uptake and eligibility to understand resident's remaining needs in terms of access to broadband internet service. These analyses show:

1. Maryland outperforms the national average in most meaningful indicators of broadband availability.

[258] U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023.

2. Individuals living in rural areas face the most urgent needs for broadband availability. Presence of incarcerated individuals, veterans, individuals living with disabilities, and those with English language barriers (including low levels of literacy) are also correlated with less broadband availability.

3. Maryland outperforms the national average in all indicators of internet adoption and subscription rates.

4. Covered populations in Maryland are uniformly adopting wireline internet subscriptions less frequently than individuals that do not belong to a covered populations. This gap is largest when compared across incomes.

5. Maryland underperforms the national average for the percentage of eligible households enrolled in the ACP subsidy program, suggesting Maryland still has a large opportunity for enrollment growth.

3.2.2.1 Availability of service

Of all Maryland households that do not use internet at home, 4 percent of respondents claimed that a lack of available service was their main barrier to achieving home internet use.[259] This small percentage is consistent with Maryland's relatively strong performance in broadband availability metrics. While this is far from the most frequently cited cause, the availability of service is an absolute prerequisite for all other digital opportunities, and therefore deserves substantial attention.

Maryland outperforms the national average in most meaningful indicators of broadband availability. When considering all internet delivery technologies (including those that are known to be less reliable such as satellite-based services), the FCC reports that Maryland and the nation are entirely served through speeds of 25/3 Mbps (which is the federal threshold for broadband service of any kind). However, Maryland has a 5.1 percentage points greater portion of units served by speeds of at least 100/20 Mbps than the nation, and 9.1 percentage points greater portion for service of at least 250/25 Mbps. This advantage does not continue into the highest speed tier of 1000/100 Mbps, but very few households currently need those levels of service to meaningfully use the internet.

This trend continues once service is limited to wireline technologies which are known to be more reliable than other internet-delivering technologies. 96.7 percent of units in Maryland are within a coverage footprint for wireline internet delivering 25/3 Mbps, as opposed to 89.8 percent nationally. Similarly, Maryland outpaces the nation in 100/20 and 250/25 Mbps wireline

[259] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.

availability. Although to a lesser extent, Maryland also outpaces the nation in licensed fixed wireless availability, which can be helpful for delivering service to rural areas that present difficulty for wireline construction.

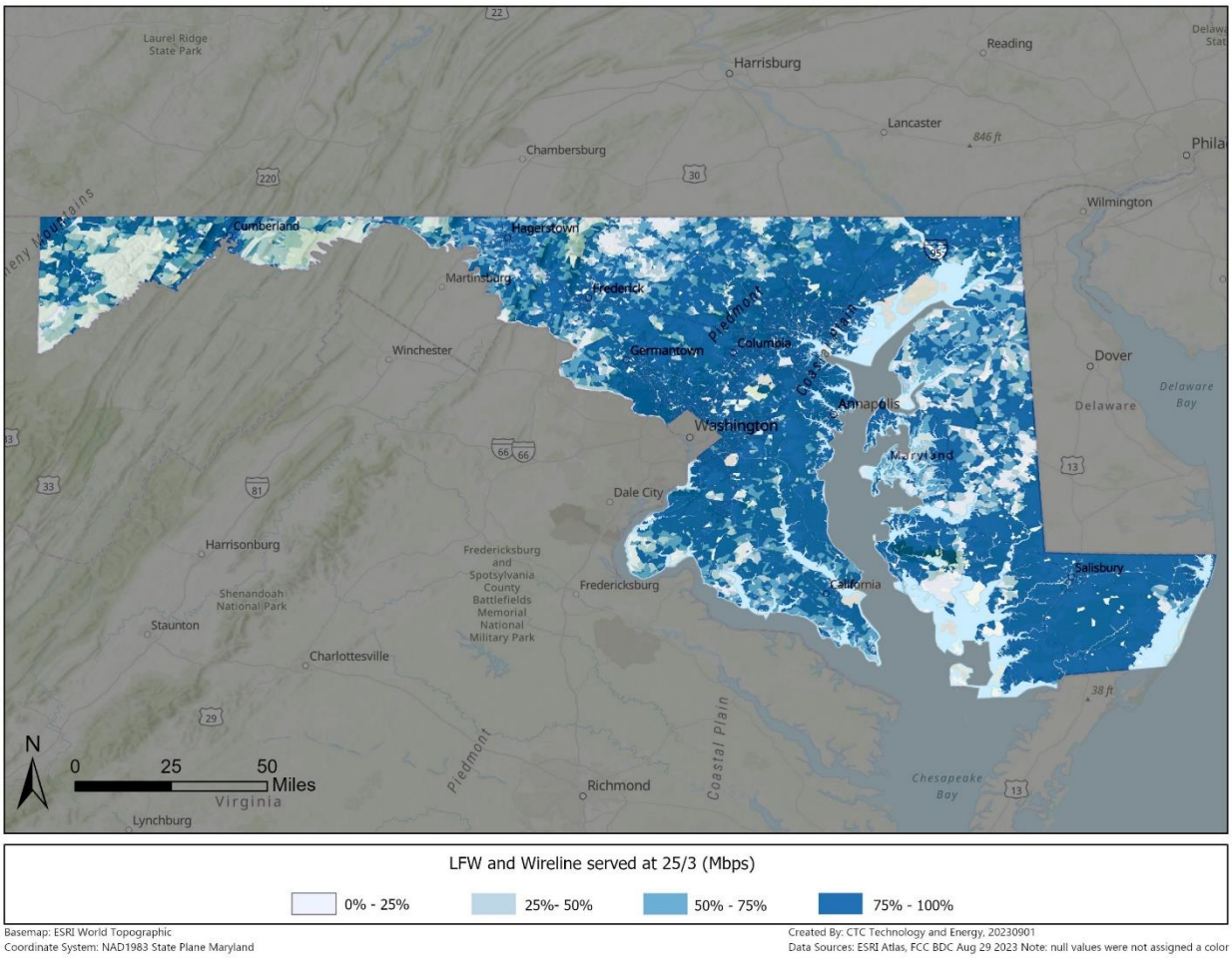
Table 9: Portion of units served with internet at various speeds in Maryland and the U.S. [260]

	Coverage (in Mbps)	Maryland	Nation	Gap
All technologies	0.2 / 0.2	100.0%	100.0%	0.0%
	10 / 1	100.0%	100.0%	0.0%
	25 / 3	100.0%	100.0%	0.0%
	100 / 20	97.2%	92.1%	5.1%
	250 / 25	96.3%	87.2%	9.1%
	1000 / 100	29.1%	33.2%	-4.1%
	Coverage (in Mbps)	**Maryland**	**Nation**	**Gap**
Wireline	0.2 / 0.2	97.7%	93.4%	4.2%
	10 / 1	96.9%	91.7%	5.2%
	25 / 3	96.7%	89.8%	6.9%
	100 / 20	96.7%	88.4%	8.3%
	250 / 25	96.0%	86.6%	9.3%
	1000 / 100	27.7%	32.3%	-4.7%
	Coverage (in Mbps)	**Maryland**	**Nation**	**Gap**
Licensed fixed wireless	0.2 / 0.2	81.3%	79.5%	1.8%
	10 / 1	54.4%	54.9%	-0.5%
	25 / 3	52.3%	51.7%	0.6%
	100 / 20	23.5%	19.2%	4.3%
	250 / 25	5.6%	2.6%	2.9%
	1000 / 100	0.0%	0.2%	-0.2%

While most Marylanders do have service options available to them, coverage is not yet universal. Certain areas of Maryland see low levels of coverage because private ISPs choose to invest elsewhere, where return on investment will presumably be greater. The availability of wireline or robust licensed fixed wireless broadband service in Maryland tends to correlate with the density of population. In more densely populated areas, there are more potential customers relative to construction costs. As a result, consistent with patterns throughout the United States, service in Maryland is more frequently spotty in rural areas, as shown below for speeds of 25/3 Mbps (Figure 3), and 100/20 Mbps (Figure 4).

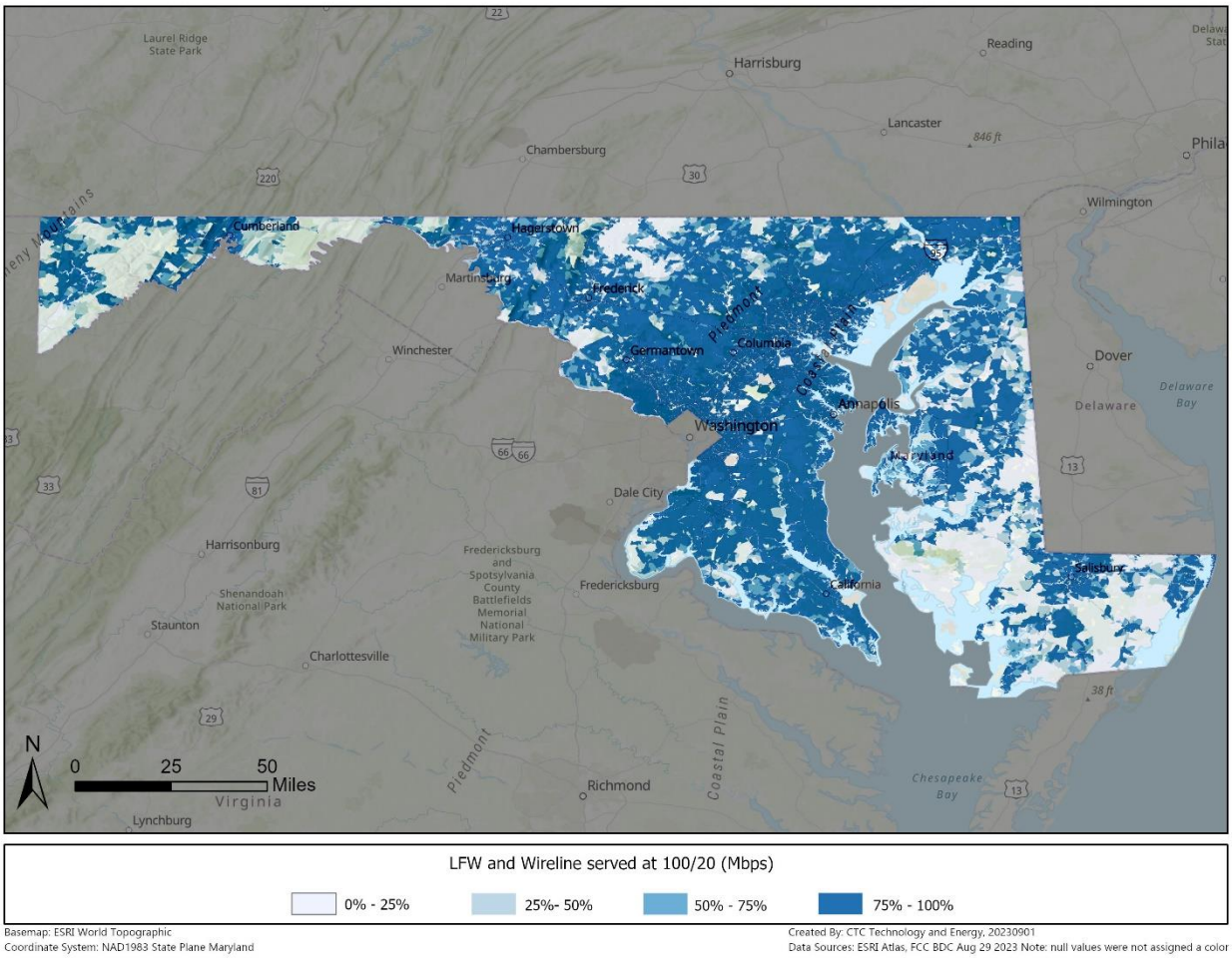
[260] FCC, National Broadband Map, Last updated August 16, 2023. Accessed August 29, 2023.

Figure 3: Map of units served by 25/3 Mbps[261]



[261] FCC, National Broadband Map, Last updated August 9, 2023. Accessed August 29, 2023.

Figure 4: Map of units served by 100/20 Mbps[262]



In order to define needs more clearly in terms of broadband availability, a regression analysis was undertaken by comparing the prevalence of various covered populations in each census tract in Maryland with the portion of units served by at least one broadband internet option with speeds of 25/3 Mbps or greater. The resulting correlation was relatively weak, with an R^2 value of 0.31. However, the analysis does further underline the relationship between increased rurality and a lack of broadband availability, as it was the most statistically significant correlation of all covered populations by a wide margin.

Presence of incarcerated individuals, veterans, individuals living with disabilities, and individuals facing language barriers such as low levels of literacy all were correlated to a statistically significant degree with a lack of available broadband. While deeper geospatial analysis of these populations may yield more insights, it is at this point unclear if any of these populations tend to cluster in specific areas that are less likely to receive broadband (such as very rural areas).

[262] FCC, National Broadband Map, Last updated August 9, 2023. Accessed August 29, 2023.

In contrast, increased presence of low-income individuals and racial or ethnic minorities had a statistically significant positive correlation with broadband availability. This is possibly a result of low-income individuals and racial or ethnic minorities being concentrated in highly urban environments in Maryland.

The full results of the regression analysis are presented in Table 10.

Table 10: Regression analysis of portion of census tract belonging to covered populations and portion of units served[263]

Regression Statistics	
Multiple R	0.554
R Square	0.306
Adjusted R Square	0.302
Standard Error	0.061
Observations	1269

Variables	Coefficients	Standard Error	t Stat	P-value	Statistically significant
Intercept	1.009	0.008	122.642	0.000	
Income	0.058	0.021	2.790	0.005	✓
Aging	0.024	0.027	0.884	0.377	
Incarceration status	-0.172	0.035	-4.960	8.02E-07	✓
Veteran status	-0.150	0.072	-2.067	0.039	✓
Disability status	-0.103	0.044	-2.359	0.018	✓
Language barrier (including low literacy)	-0.122	0.040	-3.033	0.002	✓
English proficiency	0.039	0.034	1.149	0.251	
Race and ethnicity	0.025	0.009	2.869	0.004	✓
Rurality	-0.087	0.005	-15.993	1.50E-52	✓

Neither broadband availability nor many of these demographic characteristics are uniform throughout census tracts or binary in nature. For example, extremely low-income populations tend to cluster in areas much smaller than census tracts, and they face distinct availability obstacles to other individuals that still belong to the "low-income" covered population. It is possible that very-low-income households are less well served than other households, although those trends would not appear statistically when evaluating this exact partitioning of the State. It is possible that a more granular study would reveal more informative relationships between various covered populations and service availability.

[263] Portion of census tract populations belonging to various covered populations from U.S. Census Bureau, Digital Equity Act of 2021, State Data. https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html. Accessed August 29, 2023. Portion of units served in each census tract from FCC's National Broadband Map. Accessed August 29, 2023. A number of outlier tracts were removed.

Ultimately, Marylanders as a whole would benefit from increased service availability. For rural residents specifically, additional service availability could have significant positive impacts on digital equity metrics.

3.2.2.2 Adoption of service

Of all Maryland households that do not use internet at home an estimated 12 percent[264] claim that a main reason for their lack of internet use at home is an inability to afford service. Therefore, challenges relating to service affordability, and the closely linked concept of reliability, appear to be a large obstacle to internet adoption for many Marylanders.

According to the American Community Survey, 94.1 percent of Maryland residents have a home internet subscription of any kind—surpassing the national rate by 3.8 percentage points (See Table 11). Similarly, Maryland also outperforms the national rate in portion of residents with a wireline home internet subscription with a rate of 81.9 percent compared to the national rate of 75.5 percent. Wireline internet subscriptions tend to be more reliable than others, and therefore can represent a more meaningful measure of useful internet adoption.

Maryland, however, does report a similar portion of residents relying solely on a cellular data plan to the nation: with figures of 10.3 percent and 10.9 percent respectively. Reliance upon cellular data for home internet service is considered insufficient for obtaining the many benefits of broadband. Mobile-only individuals typically cite affordability, their smartphone being good enough, and/or having access to broadband somewhere else as the reasons for not having home internet connectivity.

Table 11: Internet adoption rates in Maryland and the U.S.[265]

Internet in the house	Maryland	Nation	Gap
Internet subscription of any kind	94.1%	90.3%	3.8%
Internet subscription via wireline technology (i.e. fiber, cable, DSL)	81.9%	75.5%	6.4%
Only subscription via cellular data plan	10.3%	10.9%	-0.6%

Within Maryland, individuals belonging to covered populations fare slightly worse than others in home internet adoption. 92.2 percent of individuals belonging to a covered population report having a home internet subscription as opposed to 99.0 percent of those outside of covered populations. The gap widens for wireline internet connections, for which 78.8 percent of individuals belonging to covered populations report adoption compared to 90.0 percent of non-covered populations.

[264] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.
[265] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 12: Internet adoption rates in covered and non-covered populations[266]

Internet in the house	Covered groups	Non covered groups	Gap
Internet subscription of any kind	92.2%	99.0%	-6.8%
Internet subscription via wireline technology (i.e. fiber, cable, DSL)	78.8%	90.0%	-11.2%
Only subscription via cellular data plan	11.2%	8.0%	3.2%

Individuals living in low-income households constitute the covered population with the largest adoption gaps. Low-income individuals are 18.2 percentage points less likely than higher-income individuals to have a home internet subscription, and they are 23.5 percentage points less likely to have a wireline internet subscription. People with disabilities and aging populations constitute two more populations with meaningful adoption gaps; they were 14.4 and 10.7 percentage points respectively less likely to have a wireline internet subscription than their non-covered population counterparts. Full breakdowns of each covered population's adoption rates are included in Table 13.[267]

Table 13: Internet adoption rates in various covered populations[268]

	Internet in the house	Low income	Higher income	Gap
Income	Internet subscription of any kind	79.1%	97.3%	-18.2%
	Internet subscription via wireline technology (i.e. fiber, cable, DSL)	62.6%	86.0%	-23.5%
	Only subscription via cellular data plan	13.0%	9.7%	3.3%
	Internet in the house	**Minority**	**White alone**	**Gap**
Race	Internet subscription of any kind	93.6%	94.5%	-0.9%
	Internet subscription via wireline technology (i.e. fiber, cable, DSL)	80.6%	83.1%	-2.5%
	Only subscription via cellular data plan	11.0%	9.6%	1.5%
	Internet in the house	**Aging**	**Younger**	**Gap**
Age	Internet subscription of any kind	88.9%	95.6%	-6.7%
	Internet subscription via wireline technology (i.e. fiber, cable, DSL)	73.6%	84.3%	-10.7%
	Only subscription via cellular data plan	12.3%	9.7%	2.6%
	Internet in the house	**With disabilities**	**Without disabilities**	**Gap**
Disability	Internet subscription of any kind	84.0%	95.4%	-11.4%
	Internet subscription via wireline technology (i.e. fiber, cable, DSL)	69.1%	83.5%	-14.4%
	Only subscription via cellular data plan	11.7%	10.1%	1.5%
	Internet in the house	**English learner**	**Fluent**	**Gap**
English proficiency	Internet subscription of any kind	96.1%	93.9%	2.2%
	Internet subscription via wireline technology (i.e. fiber, cable, DSL)	78.6%	82.1%	-3.5%
	Only subscription via cellular data plan	15.4%	9.9%	5.5%
	Internet in the house	**Veteran**	**Non-veteran**	**Gap**
Veteran status	Internet subscription of any kind	92.3%	94.2%	-1.9%
	Internet subscription via wireline technology (i.e. fiber, cable, DSL)	78.8%	82.0%	-3.2%
	Only subscription via cellular data plan	10.2%	10.3%	-0.1%

In addition to the considerable gap between low- and higher-income individuals in internet adoption, the reported frequency of inability (and unwillingness) to pay for home internet use

[266] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[267] This Plan follows the U.S. Census Bureau's standards on reporting data related to the terms "minority" and "white." See: "About the topic of race," U.S. Census Bureau, https://www.census.gov/topics/population/race/about.html.

[268] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

suggests that the State has substantial needs for interventions to bring down the cost of home internet subscriptions and use.

Perhaps the most widely known and used intervention to lower the cost of internet access is the Affordable Connectivity Program (ACP). The ACP subsidizes up to $30 per month for broadband for qualifying households in non-Tribal areas and may include a one-time subsidy toward buying a laptop or tablet. However, despite the benefit of the subsidy, the ACP is known to be chronically undersubscribed—which is especially true in Maryland where only about 28 percent of eligible households have enrolled and highlights the significant opportunity for growth.

Table 14: Affordable Connectivity Program enrollment in Maryland and the U.S.[269]

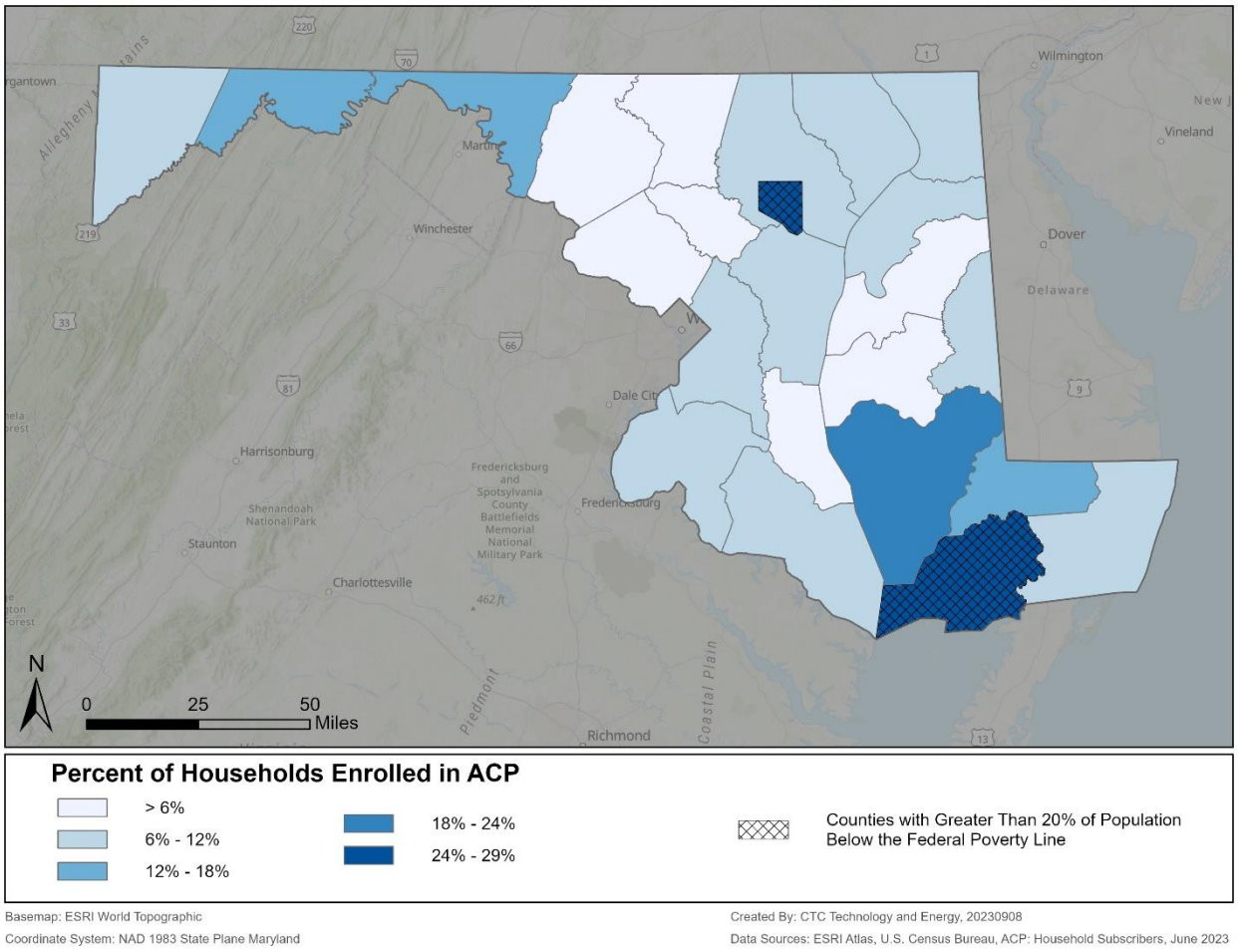
	Maryland	Nation
Households enrolled	251,488	19,903,735
Households estimated eligible	889,500	55,266,900
Portion of eligible households enrolled	28%	36%

Households can be eligible through many criteria, including if they earn up to 200 percent of the federal poverty level or participate in one of many federal or State support programs (e.g., National School Lunch Program). As a result, eligibility for the program is highly aligned with members of covered populations. An estimated 43 percent of individuals belonging to covered populations are eligible for the ACP.

Figure 5 shows the percentage of households in each county that participate in the ACP.

[269] Enrollment counts from USAC's ACP Enrollment and Claims Tracker, accurate as of August 28, 2023. https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/. Accessed August 29, 2023. Estimates of eligible households based on proprietary model that uses American Community Survey Public Use Microdata to estimate number of households qualifying for ACP via several of its eligibility criteria.

Figure 5: ACP enrollment in Maryland by county



3.2.3 Digital literacy

For individuals to meaningfully use the internet, they must practice and be confident in their ability to perform digital skills. Although some individuals may have internet service and a working computer, they are frequently functionally limited by an inability to navigate the internet effectively. In Maryland, 63 percent of households not currently using home internet cited a lack of need or interest as the primary barrier to internet adoption. As the highest priority digital equity barrier investigated, this finding suggests that many Maryland residents may be more inclined to use the internet at home if they understand the full use, and therefore value, of having fluency in various digital skills.

Utilizing data from the Current Population Survey and the NTIA Internet Use Survey, the State of Maryland evaluated the extent to which various covered populations engage in key online activities. These key findings are as follows:

1. Members of covered populations in Maryland underperform compared to non-covered populations for nearly all digital skills.

2. Individuals living in low-income households, at or above 60 years of age, living with disabilities, or living in rural areas express the most urgent need for digital skills programming.

3. Members of covered populations in Maryland tended to underperform compared to non-covered populations in telemedicine-related online activities.

4. Individuals living in low-income households, racial or ethnic minorities, individuals living with disabilities, and individuals living in rural areas express the most urgent need for telemedicinal digital skills programming.

Almost uniformly, a greater portion of Maryland residents regularly perform online activities compared to the national rates. The gap is largest for activities such as requesting services provided by other people via the internet in which Maryland outperforms the nation by 11.0 percentage points and accessing government resources online (such as registering to vote) in which 48.6 percent of Maryland residents regularly engage, a 10.2 percentage point increase from the national average.

The only measured online activities that a lesser portion of Maryland residents regularly perform compared to the nation is in using online social networks such as Facebook or Instagram and in using the internet to sell goods—with gaps of 4.5 percent in the former and 1.4 percent in the latter.

Table 15: Digital literacy in Maryland and the U.S.[270]

Online activity	Maryland	Nation	Gap
Uses text messaging or instant messaging	93.6%	93.3%	0.3%
Uses email	94.3%	91.8%	2.5%
Uses online social networks	70.1%	74.6%	-4.5%
Shops, makes travel reservations, or uses other consumer services online	79.8%	74.1%	5.7%
Uses online financial services like banking, investing, paying bills	76.4%	74.3%	2.1%
Watches videos online	72.5%	70.1%	2.4%
Participates in online video or voice calls or conferencing	75.3%	65.6%	9.7%
Streams or downloads music, radio, podcasts, etc.	61.3%	60.0%	1.3%
Requests services provided by other people via the internet	54.1%	43.0%	11.0%
Accessing government services	48.6%	38.4%	10.2%
Takes class or participates in job training online	25.9%	25.7%	0.1%
Interacts with household equipment using the internet	27.6%	22.3%	5.2%
Telecommutes using the internet	36.6%	27.7%	8.9%
Searches for a job online	23.3%	21.3%	2.0%
Posts or uploads blog posts, videos, or other original content	17.8%	17.0%	0.9%
Uses the internet to sell goods	9.1%	10.5%	-1.4%
Offers services for sale via the internet	13.1%	8.8%	4.4%

[270] 2021 Internet Use Survey, NTIA. Accessed August 29, 2023.

Individuals belonging to covered populations almost uniformly practice digital skills at a lower rate than those that do not belong to covered populations. Here, the largest gaps can be found in telecommuting using the internet (22.1 percentage point gap), streaming or downloading music, radio, podcasts, etc. (15.8 percentage point gap), using online social networks (15.4 percentage point gap), watching videos online (15.3 percentage point gap), and shopping, making travel reservations, or using other consumer services online (15.2 percentage point gap).

The only digital skill for which individuals in covered populations outpace their counterparts is in offering services for sale via the internet, which 13.3 percent of those in covered populations performed recently compared to 11.5 percent of those in non-covered populations. This "reverse" gap likely reflects a bigger need of lower-income populations to use effective means for managing constrained budgets by offering services, including gig service, online.

Table 16: Digital literacy in Maryland covered populations[271]

Online activity	Covered group	Non-covered group	Gap
Uses text messaging or instant messaging	91.9%	97.7%	-5.8%
Uses email	93.8%	95.3%	-1.6%
Uses online social networks	65.8%	81.1%	-15.4%
Shops, makes travel reservations, or uses other consumer services online	75.7%	90.9%	-15.2%
Uses online financial services like banking, investing, paying bills	73.5%	87.3%	-13.8%
Watches videos online	68.3%	83.6%	-15.3%
Participates in online video or voice calls or conferencing	72.7%	82.0%	-9.3%
Streams or downloads music, radio, podcasts, etc.	56.8%	72.6%	-15.8%
Requests services provided by other people via the internet	51.2%	63.7%	-12.5%
Accessing government services	45.4%	58.7%	-13.3%
Takes class or participates in job training online	24.0%	31.9%	-7.9%
Interacts with household equipment using the internet	24.1%	35.9%	-11.8%
Telecommutes using the internet	30.8%	52.9%	-22.1%
Searches for a job online	22.1%	27.5%	-5.5%
Posts or uploads blog posts, videos, or other original content	16.4%	22.3%	-5.9%
Uses the internet to sell goods	6.4%	16.6%	-10.2%
Offers services for sale via the internet	13.3%	11.5%	1.8%

The digital skills discrepancies are greatest for individuals who are at or above 60 years of age or living with disabilities. For these covered populations, not a single online activity is more frequently practiced by the covered populations compared to the non-covered populations. Additionally, individuals living in low-income homes trailed measurably behind higher-income individuals. This suggests that digital skills training is a key need for all three populations.

[271] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 17: Digital literacy in aging and younger populations[272]

Online activity	Aging	Younger	Gap
Uses text messaging or instant messaging	88.0%	95.9%	-7.9%
Uses email	92.8%	94.9%	-2.0%
Uses online social networks	54.0%	76.5%	-22.5%
Shops, makes travel reservations, or uses other consumer services online	73.7%	82.3%	-8.6%
Uses online financial services like banking, investing, paying bills	71.8%	78.3%	-6.5%
Watches videos online	53.3%	80.2%	-26.9%
Participates in online video or voice calls or conferencing	63.1%	80.1%	-17.0%
Streams or downloads music, radio, podcasts, etc.	40.9%	69.5%	-28.6%
Requests services provided by other people via the internet	39.1%	60.0%	-20.9%
Accessing government services	46.6%	49.4%	-2.8%
Takes class or participates in job training online	12.6%	31.2%	-18.6%
Interacts with household equipment using the internet	17.9%	31.4%	-13.5%
Telecommutes using the internet	25.2%	41.1%	-15.9%
Searches for a job online	7.3%	29.7%	-22.4%
Posts or uploads blog posts, videos, or other original content	9.4%	21.2%	-11.9%
Uses the internet to sell goods	8.5%	9.4%	-0.9%
Offers services for sale via the internet	5.8%	16.1%	-10.3%

Table 18: Digital literacy in people with disabilities and people without disabilities[273]

Online activity	People with disabilities	People without disabilities	Gap
Uses text messaging or instant messaging	82.5%	95.2%	-12.7%
Uses email	91.8%	94.6%	-2.9%
Uses online social networks	51.1%	72.7%	-21.6%
Shops, makes travel reservations, or uses other consumer services online	67.0%	81.6%	-14.6%
Uses online financial services like banking, investing, paying bills	66.8%	77.8%	-11.0%
Watches videos online	55.2%	74.9%	-19.7%
Participates in online video or voice calls or conferencing	60.8%	77.3%	-16.5%
Streams or downloads music, radio, podcasts, etc.	39.8%	64.3%	-24.5%
Requests services provided by other people via the internet	37.1%	56.4%	-19.3%
Accessing government services	37.6%	50.0%	-12.4%
Takes class or participates in job training online	16.3%	27.2%	-10.9%
Interacts with household equipment using the internet	22.1%	28.3%	-6.2%
Telecommutes using the internet	20.1%	38.8%	-18.7%
Searches for a job online	16.5%	24.3%	-7.8%
Posts or uploads blog posts, videos, or other original content	10.4%	18.9%	-8.5%
Uses the internet to sell goods	5.0%	9.7%	-4.7%
Offers services for sale via the internet	7.4%	13.9%	-6.5%

[272] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[273] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 19: Digital literacy in low and higher-income populations[274]

Online activity	Low income	Higher income	Gap
Uses text messaging or instant messaging	83.0%	95.2%	-12.3%
Uses email	83.9%	95.8%	-12.0%
Uses online social networks	52.8%	72.7%	-19.9%
Shops, makes travel reservations, or uses other consumer services online	55.1%	83.5%	-28.4%
Uses online financial services like banking, investing, paying bills	60.1%	78.9%	-18.8%
Watches videos online	56.8%	74.9%	-18.1%
Participates in online video or voice calls or conferencing	68.2%	76.3%	-8.1%
Streams or downloads music, radio, podcasts, etc.	39.8%	64.5%	-24.8%
Requests services provided by other people via the internet	35.0%	56.9%	-21.9%
Accessing government services	31.2%	51.1%	-20.0%
Takes class or participates in job training online	14.2%	27.6%	-13.4%
Interacts with household equipment using the internet	11.0%	30.0%	-19.0%
Telecommutes using the internet	10.7%	40.4%	-29.7%
Searches for a job online	27.5%	22.7%	4.8%
Posts or uploads blog posts, videos, or other original content	11.2%	18.8%	-7.6%
Uses the internet to sell goods	1.1%	10.3%	-9.2%
Offers services for sale via the internet	12.2%	13.3%	-1.1%

Despite outpacing their counterparts in some online activities, individuals living in rural areas use other digital skills significantly less frequently than their metropolitan counterparts—most notably in requesting services provided by other people via the internet with a gap of 36.0 percentage points. It is possible that some online services are less accessible as a result of living in a rural area and, in turn, could explain this large gap. For example, using rideshare apps such as Uber or Lyft for personal transportation or feed delivery is frequently not possible in rural areas as a result of a limited pool of individuals offering to drive in very rural areas. However, there are many other online activities where individuals in rural areas fall behind that would be difficult to explain by location—such as streaming or downloading music, radio, and podcasts. As such, individuals living in rural areas may greatly benefit from digital skills training.

[274] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 20: Digital literacy in rural and metropolitan populations[275]

Online activity	Rural	Metropolitan	Gap
Uses text messaging or instant messaging	94.1%	93.6%	0.5%
Uses email	93.1%	94.3%	-1.3%
Uses online social networks	58.5%	70.4%	-12.0%
Shops, makes travel reservations, or uses other consumer services online	84.7%	79.7%	5.0%
Uses online financial services like banking, investing, paying bills	71.0%	76.6%	-5.6%
Watches videos online	93.1%	71.9%	21.2%
Participates in online video or voice calls or conferencing	61.0%	75.7%	-14.7%
Streams or downloads music, radio, podcasts, etc.	44.3%	61.9%	-17.6%
Requests services provided by other people via the internet	19.1%	55.1%	-36.0%
Accessing government services	57.1%	48.3%	8.8%
Takes class or participates in job training online	10.9%	26.3%	-15.4%
Interacts with household equipment using the internet	17.0%	27.9%	-10.9%
Telecommutes using the internet	35.3%	36.6%	-1.3%
Searches for a job online	19.4%	23.4%	-4.1%
Posts or uploads blog posts, videos, or other original content	16.4%	17.9%	-1.4%
Uses the internet to sell goods	11.4%	9.1%	2.3%
Offers services for sale via the internet	0.0%	13.5%	-13.5%

Veterans and racial or ethnic minorities were also evaluated for digital skills use, although neither population illustrated a particularly urgent need for skills training. That said, the frequency of online activity performance does not necessarily imply competence or success in those activities. Therefore, digital skills training still may have a meaningful impact on both populations.

Table 21: Digital literacy in veteran and non-veteran populations[276]

Online activity	Veteran	Non-veteran	Gap
Uses text messaging or instant messaging	95.1%	94.1%	1.0%
Uses email	96.8%	94.3%	2.5%
Uses online social networks	61.7%	71.5%	-9.8%
Shops, makes travel reservations, or uses other consumer services online	81.5%	81.0%	0.5%
Uses online financial services like banking, investing, paying bills	86.1%	77.7%	8.4%
Watches videos online	80.1%	71.7%	8.5%
Participates in online video or voice calls or conferencing	80.5%	75.2%	5.3%
Streams or downloads music, radio, podcasts, etc.	60.1%	62.2%	-2.1%
Requests services provided by other people via the internet	57.2%	55.6%	1.6%
Accessing government services	61.9%	49.0%	12.9%
Takes class or participates in job training online	35.0%	24.6%	10.4%
Interacts with household equipment using the internet	33.3%	27.4%	5.9%
Telecommutes using the internet	40.6%	37.5%	3.1%
Searches for a job online	14.8%	24.5%	-9.7%
Posts or uploads blog posts, videos, or other original content	14.9%	18.3%	-3.4%
Uses the internet to sell goods	6.1%	9.8%	-3.7%
Offers services for sale via the internet	2.3%	14.1%	-11.8%

[275] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[276] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 22: Digital literacy in racial/ethnic minority and white populations[277]

Online activity	Minority	White alone	Gap
Uses text messaging or instant messaging	94.0%	93.3%	0.6%
Uses email	93.5%	94.9%	-1.4%
Uses online social networks	67.7%	71.9%	-4.2%
Shops, makes travel reservations, or uses other consumer services online	72.9%	85.2%	-12.3%
Uses online financial services like banking, investing, paying bills	73.0%	79.0%	-6.0%
Watches videos online	73.4%	71.8%	1.6%
Participates in online video or voice calls or conferencing	74.3%	76.0%	-1.7%
Streams or downloads music, radio, podcasts, etc.	61.4%	61.3%	0.2%
Requests services provided by other people via the internet	57.6%	51.3%	6.3%
Accessing government services	43.0%	52.9%	-9.9%
Takes class or participates in job training online	29.0%	23.5%	5.5%
Interacts with household equipment using the internet	26.4%	28.5%	-2.1%
Telecommutes using the internet	34.0%	38.6%	-4.6%
Searches for a job online	26.9%	20.5%	6.4%
Posts or uploads blog posts, videos, or other original content	18.8%	17.1%	1.8%
Uses the internet to sell goods	4.9%	12.4%	-7.5%
Offers services for sale via the internet	17.7%	9.6%	8.0%

3.2.4 Telemedicine

Increasingly, there is a use and need for a distinguished set of digital skills involved in telemedicine and remote health care. These activities include communicating with health professionals over the internet, researching health information online, using an electronic health monitoring device (e.g., sending data to a provider from a smart watch or pacemaker), and accessing health or health insurance records online. Maryland outperforms the nation in frequency of performance of each of these telemedicine activities. For these set of metrics, it is difficult to definitively claim what a successful state should hope to report — while certainly a state should attempt to make the following telemedicinal activities accessible to their residents, many residents do not have an urgent need for frequent medical care or may deem their access to in-person health care adequate to the extent that these online resources are not necessary. With these caveats, it still appears as though many Marylanders are taking advantage of the potential that telemedicine provides, while still leaving room for improvement.

Table 23: Telemedicinal digital literacy in Maryland and the U.S.[278]

Telemedicine activity	Maryland	Nation	Gap
Communicates with a health professional over the internet	58.2%	48.1%	10.1%
Researches health information online	58.6%	52.9%	5.6%
Uses an electronic health monitoring service	11.6%	8.4%	3.1%
Accesses health or insurance records online	58.3%	53.1%	5.2%

Among Marylanders belonging to covered populations, telemedicine is less practiced compared to non-covered populations. However, these gaps are not especially prevalent; the largest discrepancy between covered and non-covered populations is in researching health information

[277] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[278] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

online, with a gap of 6.8 percentage points. Individuals in covered populations do outpace non-covered populations in the rate of use of electronic health monitoring services, but the gap is relatively small (0.6 percent). Additionally, acknowledgement should be made toward the increased likelihood for a member of a covered population (such as an aging individual or one living with disabilities) to require health monitoring technology (such as an electronic pacemaker). This alone may lead to an increase in use of electronic health monitoring services as opposed to a similar increase derived from access to or fluency with a digital skill.

Table 24: Telemedicinal digital literacy in covered and non-covered populations[279]

Telemedicine activity	Covered groups	Non-covered groups	Gap
Communicates with a health professional over the internet	57.7%	60.4%	-2.7%
Researches health information online	56.9%	63.7%	-6.8%
Uses an electronic health monitoring service	11.4%	10.8%	0.6%
Accesses health or insurance records online	57.0%	62.5%	-5.5%

Among the covered populations, individuals living in low-income households, individuals living in rural areas exhibit the most urgent needs for increased telemedicine skills—based on both their reported frequency of participation in telemedicine (which is notably low) and given the difficulties in traveling long distances and at inconvenient times for rural and lower-income individuals.

Additionally, individuals living with disabilities, and racial or ethnic minorities might benefit from telemedicine skills training as those populations also report less frequent participation in telemedicine than their non-covered counterpart (though to a less disproportionate degree).

Despite consistently outperforming younger individuals, adults at or above 60 years of age may also benefit from specific telemedicine education given their increased risk for medical needs. Veterans also outperformed their non-covered counterparts, perhaps suggesting the efficacy of Maryland's Veteran's Affairs health care facilities.

[279] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 25: Telemedicinal digital literacy in various covered populations[280]

	Telemedicine activity	Low income	Higher income	Gap
Income	Communicates with a health professional over the internet	35.9%	61.5%	-25.6%
	Researches health information online	40.6%	61.2%	-20.6%
	Uses an electronic health monitoring service	5.4%	12.5%	-7.1%
	Accesses health or insurance records online	31.4%	62.3%	-30.9%
	Telemedicine activity	**Aging**	**Younger**	**Gap**
Age	Communicates with a health professional over the internet	65.7%	55.2%	10.5%
	Researches health information online	59.7%	58.1%	1.7%
	Uses an electronic health monitoring service	16.1%	9.8%	6.3%
	Accesses health or insurance records online	60.0%	57.6%	2.4%
	Telemedicine activity	**Veteran**	**Non-veteran**	**Gap**
Veteran status	Communicates with a health professional over the internet	61.2%	59.0%	2.2%
	Researches health information online	65.9%	58.1%	7.8%
	Uses an electronic health monitoring service	11.9%	11.4%	0.5%
	Accesses health or insurance records online	70.4%	58.2%	12.2%
	Telemedicine activity	**With disabilities**	**Without disabilities**	**Gap**
Disability	Communicates with a health professional over the internet	57.1%	58.3%	-1.3%
	Researches health information online	48.4%	59.9%	-11.5%
	Uses an electronic health monitoring service	17.7%	10.7%	7.0%
	Accesses health or insurance records online	44.7%	60.1%	-15.4%
	Telemedicine activity	**Minority**	**White alone**	**Gap**
Race	Communicates with a health professional over the internet	56.0%	59.9%	-3.9%
	Researches health information online	53.6%	62.4%	-8.8%
	Uses an electronic health monitoring service	10.2%	12.6%	-2.4%
	Accesses health or insurance records online	55.5%	60.4%	-4.8%
	Telemedicine activity	**Rural**	**Metropolitan**	**Gap**
Rurality	Communicates with a health professional over the internet	46.9%	58.5%	-11.7%
	Researches health information online	46.7%	58.9%	-12.3%
	Uses an electronic health monitoring service	0.0%	11.9%	-11.9%
	Accesses health or insurance records online	52.4%	58.5%	-6.1%

3.2.5 Online security and privacy

Theft, fraud, phishing, and misinformation are all commonplace on the internet, and fully realizing digital equity in Maryland requires users to be safe from such online risks. In Maryland, less than 1 percent of all households that do not use the internet at home cited online security or privacy concerns as a reason for their lack of use, but in the past year, 19.1 percent of individuals in covered populations report having been the victim of an online security or privacy breach.[281] Therefore, Maryland has used data from the Current Population Survey and the NTIA Internet Use Survey to evaluate the extents to which various covered populations perceive and feel confident in their ability to disarm online security and privacy threats. The key findings are as follows:

1. Maryland residents tend to be slightly more concerned about online security and privacy concerns when compared against the nation.

[280] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[281] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

2. Identity theft and credit card fraud are the two online security breaches that are concerning to most Maryland residents.

3. There are reasons to believe that members of covered populations are less aware of online security and privacy concerns when compared against non-covered populations, with this gap largest for low-income individuals. However, the data are inconclusive in terms of the extent to which various covered populations are well equipped to defend themselves against these concerns.

4. Members of covered populations do not appear meaningfully more dissuaded than non-covered populations to undertake various online activities as a result of security or privacy concerns. Rather, the results varied moderately by online activity. The data still speaks to a need for privacy and security trainings.

Identity theft and credit card fraud were the two online security risks that concerned the most Maryland residents. This is in line with the national ranking. Other concerns such as third-party tracking, government tracking, and online threats were of less concern.

Table 26: Main online security or privacy concerns in Maryland and the U.S.[282]

(Non-exclusive) main online security or privacy concerns	Maryland	Nation	Gap
Identity theft	55.4%	50.7%	4.7%
Credit card fraud	46.2%	42.1%	4.0%
Third party tracking	30.1%	26.4%	3.7%
Government tracking	20.6%	19.0%	1.6%
Online threats	21.1%	23.1%	-2.0%
Other	10.6%	13.1%	-2.5%

Individuals belonging to covered populations were uniformly less concerned about online security or privacy risks than those not in a covered population. However, the members of covered populations did not deviate strongly from Maryland's statewide responses, unlike those not belonging to a covered population. The increased concern over security and privacy among non-covered populations could be caused by increased awareness of extant risks, from which one might conclude that covered populations could benefit from additional educational programming. This seems particularly likely given that there is little evidence to suggest that covered populations are better equipped to protect themselves from these risks.

[282] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 27: Main online security or privacy concerns in covered and non-covered populations[283]

(Non-exclusive) main online security or privacy concerns	Covered groups	Non-covered groups	Gap
Identity theft	55.0%	58.9%	-3.9%
Credit card fraud	46.1%	48.3%	-2.3%
Third party tracking	27.3%	38.6%	-11.3%
Government tracking	18.8%	26.1%	-7.3%
Online threats	19.0%	27.6%	-8.7%
Other	9.5%	13.9%	-4.3%

Among the specific covered populations, veterans and people with disabilities tend to be the most concerned about these risks. Lower-income individuals and racial or ethnic minorities express the least concern over these issues. Similarly, while it is not inherently beneficial to increase concern around privacy and security, online security education may increase awareness of these concerns in a positive way, especially for lower-income households and racial or ethnic minorities.

[283] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 28: Main online security or privacy concerns in various covered populations[284]

	(Non-exclusive) main online security or privacy concerns	Low income	Higher-income	Gap
Income	Identity theft	55.0%	55.5%	-0.5%
	Credit card fraud	41.8%	46.8%	-5.1%
	Third party tracking	12.8%	32.7%	-19.9%
	Government tracking	12.5%	21.8%	-9.3%
	Online threats	11.2%	22.6%	-11.4%
	Other	3.8%	11.6%	-7.8%
	(Non-exclusive) main online security or privacy concerns	**Aging**	**Younger**	**Gap**
Age	Identity theft	62.2%	52.7%	9.5%
	Credit card fraud	49.9%	44.7%	5.3%
	Third party tracking	30.5%	29.9%	0.6%
	Government tracking	19.9%	20.9%	-1.0%
	Online threats	21.1%	21.2%	-0.1%
	Other	11.1%	10.4%	0.7%
	(Non-exclusive) main online security or privacy concerns	**Veterans**	**Non-veterans**	**Gap**
Veteran status	Identity theft	59.3%	56.5%	2.8%
	Credit card fraud	53.4%	46.6%	6.8%
	Third party tracking	38.5%	30.3%	8.2%
	Government tracking	29.7%	20.5%	9.2%
	Online threats	38.3%	20.2%	18.1%
	Other	17.6%	9.9%	7.7%
	(Non-exclusive) main online security or privacy concerns	**With disabilities**	**Without disabilities**	**Gap**
Disability	Identity theft	63.0%	54.4%	8.7%
	Credit card fraud	48.0%	45.9%	2.1%
	Third party tracking	32.3%	29.8%	2.6%
	Government tracking	24.9%	20.0%	4.9%
	Online threats	23.7%	20.8%	3.0%
	Other	19.4%	9.4%	10.1%
	(Non-exclusive) main online security or privacy concerns	**Minority**	**White alone**	**Gap**
Race	Identity theft	53.8%	56.6%	-2.8%
	Credit card fraud	42.1%	49.3%	-7.2%
	Third party tracking	23.9%	34.9%	-11.0%
	Government tracking	15.2%	24.8%	-9.6%
	Online threats	13.9%	26.8%	-12.9%
	Other	7.8%	12.7%	-4.9%
	(Non-exclusive) main online security or privacy concerns	**Rural**	**Metropolitan**	**Gap**
Rurality	Identity theft	49.6%	55.6%	-5.9%
	Credit card fraud	53.3%	45.9%	7.3%
	Third party tracking	21.1%	30.4%	-9.2%
	Government tracking	21.1%	20.6%	0.6%
	Online threats	30.5%	20.8%	9.6%
	Other	5.1%	10.8%	-5.6%

It may be more meaningful for the identification of barriers to examine the impacts of concern rather than level of concern. An estimated 20.8 percent of Maryland residents chose not to buy goods or services online in the past year because of concerns regarding privacy or security.

[284] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Similarly, 17.8 percent chose not to post photos or other information to social media for these reasons. Maryland residents are uniformly more likely to be dissuaded from online activities because of security concerns than the rest of the nation.

Table 29: Portion of individuals dissuaded from performing online activities by privacy or security concerns in Maryland and the U.S.[285]

Concerns about privacy or security stopped someone in your household from:	Maryland	Nation	Gap
Conducting financial transactions online	5.7%	3.2%	2.5%
Buying goods or services online	20.8%	18.0%	2.8%
Posting photos or other information to social media	17.8%	13.5%	4.2%
Expressing an opinion on a controversial or political issue online	17.7%	13.7%	4.0%
Searching for information on a web search engine	15.1%	13.0%	2.1%

The comparison of covered populations and non-covered populations by these metrics did not yield uniform data by any means; these data varied moderately across online activities. For example, covered populations were 14.1 percentage points more likely to be dissuaded from buying goods or services online because of privacy or security concerns than non-covered populations. Covered populations also demonstrated an increased concern regarding posting photos or other information to social media—with a gap of 8.3 percent between covered and non-covered populations. However, non-covered populations were 11.2 percentage points more likely to be dissuaded from searching for information on a web search engine and 4.3 percentage points more likely to be dissuaded from expressing an opinion on a controversial or political issue online than their covered population counterparts. Because both covered and non-covered populations expressed apprehension in performing online activities due to privacy or security concerns, it is likely that security and privacy-based educational programming may be similarly beneficial to covered and non-covered populations.

Table 30: Portion of individuals dissuaded from performing online activities by privacy or security concerns in covered and non-covered populations[286]

Concerns about privacy or security stopped someone in your household from:	Covered populations	Non-covered populations	Gap
Conducting financial transactions online	6.1%	4.8%	1.3%
Buying goods or services online	24.5%	10.4%	14.1%
Posting photos or other information to social media	19.8%	11.5%	8.3%
Expressing an opinion on a controversial or political issue online	16.2%	20.5%	-4.3%
Searching for information on a web search engine	12.2%	23.4%	-11.2%

[285] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.
[286] U.S. Census Bureau, Current Population Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Given the absence of more conclusive data, it appears as though most members of covered and non-covered populations may benefit from opportunities to improve online security and privacy literacy. This may be a fruitful topic for further research going forward.

3.2.6 Device adoption

Meaningful use of the internet requires the meaningful use of internet-enabled devices—such as desktop and laptop computers, tablets, and, in some instances, smartphones. Only 5 percent of Maryland residents who do not use the internet at home self-identified inadequate computer device access as a barrier to their households' connectivity; other data suggest a computer device ownership gap among covered populations. Therefore, the State of Maryland has used data from the American Community Survey to evaluate the extent to which Maryland residents as a whole, and various covered populations specifically, have access to computer devices in their homes. The key findings are as follows:

1. Maryland outperforms the nation in desktop or laptop access rates.
2. Desktop and laptop ownership rates are uniformly lower for members of covered populations compared to non-covered populations.
3. Low-income households are in the most urgent need for increased desktop or laptop computer access, and individuals at or above 60 years of age, individuals living with a disability, and English language learners also significantly lag their non-covered counterparts.

The State of Maryland performs similarly to the nation in computer device ownership of any kind, with 95.7 percent of individuals claiming to have access to a computer in the house compared to 95 percent nationally. However, these devices are not uniformly capable. While tablets and smartphones are increasingly effective for many online tasks, they are still ultimately not adequate for full realization of digital opportunities. In Maryland 87.3 percent of individuals have access to a desktop or laptop in their home, which is 6.8 percentage points more than the national rate of 80.5 percent. Device adoption statistics for the State and nation are presented in Table 31 below:

Table 31: Device adoption rates in Maryland and the U.S.[287]

Computer in the house	Maryland	Nation	Gap
Computer device of any kind	95.7%	95.0%	0.7%
Desktop or laptop	87.3%	80.5%	6.8%
Tablet	75.0%	63.8%	11.2%
Smartphone only	4.8%	9.1%	-4.3%

[287] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Device ownership is reportedly somewhat stratified by membership in covered populations. For example, 99.6 percent of individuals not belonging to a covered population have access to a computer at home, while only 94.2 percent of individuals belonging to covered populations report the same access. This device gap grows when limiting the inquiry to desktop or laptop devices, or to tablets, to which members of covered populations are reportedly 12.4 and 13.4 percentage points less likely to have access at the home, respectively.

Additionally, 6 percent of members of covered populations (compared to 1.7 percent of non-covered populations) report only having access to a smartphone at home. While this is technically counted as a computer device of any kind, a smartphone alone is insufficient for a myriad of key online activities. These data suggest that device ownership is still a moderate barrier to connectivity for members of covered populations in Maryland.

Table 32: Device adoption rates in Maryland covered populations[288]

Computer in the house	Covered groups	Non-covered groups	Gap
Computer device of any kind	94.2%	99.6%	-5.4%
Desktop or laptop	84.0%	96.3%	-12.4%
Tablet	71.3%	84.8%	-13.4%
Smartphone only	6.0%	1.7%	4.2%

Among various covered populations, individuals living in low-income households display the most urgent needs for adequate computer devices. Low-income individuals greatly underperformed higher-income individuals in ownership of computer devices of any kind (16 percentage point gap), desktop or laptop computers (26.3 percentage point gap), and tablet computers (24.8).

People with disabilities and aging individuals also demonstrate relatively urgent needs for adequate computer devices—with gaps between people with disabilities and people without disabilities of 15.4 percentage points and gaps between aging and younger individuals of 9.7 percentage points for laptop or desktop device ownership. These gaps might be explained by accessibility concerns regarding various devices. As such, accessibility concerns regarding devices themselves serve to reemphasize the need for *adequate* devices.

English language learners also exhibit a need in device adoption. Notably, an outsized portion of English language learners only use a smartphone at the home. This is related to their tendency to only subscribe to cellular data plans, although it is unclear which factor influences the other. In either case, smartphone only use is not sufficient for fully realizing the benefits of internet use.

[288] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

Table 33: Device adoption rates in various covered populations[289]

	Computer in the house	Low income	Higher income	Gap
Income	Computer device of any kind	82.6%	98.5%	-16.0%
	Desktop or laptop	65.7%	92.0%	-26.3%
	Tablet	54.6%	79.4%	-24.8%
	Smartphone only	10.6%	3.6%	7.0%
	Computer in the house	**Minority**	**White alone**	**Gap**
Race	Computer device of any kind	95.4%	96.0%	-0.6%
	Desktop or laptop	85.0%	89.7%	-4.7%
	Tablet	74.2%	75.8%	-1.6%
	Smartphone only	6.1%	3.5%	2.6%
	Computer in the house	**Aging**	**Younger**	**Gap**
Age	Computer device of any kind	91.8%	96.8%	-5.0%
	Desktop or laptop	79.8%	89.6%	-9.7%
	Tablet	61.9%	78.9%	-17.0%
	Smartphone only	7.2%	4.1%	3.1%
	Computer in the house	**With disabilities**	**Without disabilities**	**Gap**
Disability	Computer device of any kind	87.0%	96.8%	-9.9%
	Desktop or laptop	73.7%	89.1%	-15.4%
	Tablet	60.3%	76.9%	-16.7%
	Smartphone only	8.2%	4.4%	3.8%
	Computer in the house	**English learner**	**English fluency**	**Gap**
English proficiency	Computer device of any kind	97.9%	95.5%	2.4%
	Desktop or laptop	81.2%	87.8%	-6.6%
	Tablet	69.2%	75.4%	-6.3%
	Smartphone only	11.3%	4.3%	7.0%
	Computer in the house	**Veteran**	**Non-veteran**	**Gap**
Veteran status	Computer device of any kind	94.4%	95.8%	-1.3%
	Desktop or laptop	86.8%	87.4%	-0.5%
	Tablet	70.6%	75.2%	-4.7%
	Smartphone only	4.3%	4.9%	-0.6%

In addition to the need for devices, many of the above populations may have needs for access to device repair and tech support programs. For many individuals learning how to use a computer for the first time, a lack of proper training or support may dissuade continued adoption. These data unfortunately do not suggest meaningful insights on those needs.

[289] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

3.2.7 Online accessibility and inclusivity of public resources and services

Without accessible online content and resources, many individuals will be precluded from meaningfully using the internet. In addition to the above, experts consider the accessibility of online content and services to be an essential measurement for benchmarking digital equity. Unfortunately, no robust data sets currently exist.

In order for accessibility to be measured, a finite choice of websites and online resources must be selected. And for accessibility best practices to be actualized, web developers from each of those (assumedly) diverse sources must play key roles. In practice, measuring or coordinating holistic web accessibility is not realistic, but localities can ensure all online government resources and services are accessible to residents.

An audit of government websites would organize, document, and measure the accessibility of the various resources and services offered online. There are low burden means by which State or local agencies can review individual websites via online accessibility calculators. These calculators examine source code for websites to check against the most recent WCAG 2.1 [290] online accessibility standards. These standards include best practices for content perceivability, resource operability, information understandability, and tool robustness.

[290] W3C, Web Content Accessibility Guidelines (WCAG) 2.1. https://www.w3.org/TR/WCAG21/. Accessed August 19, 2023.

4 Collaboration and partner engagement

This section of the Plan describes OSB's approach to engaging and collaborating with key stakeholders and partners throughout Maryland through a thorough, extensive, inclusive, and transparent engagement process. To develop this Digital Equity Plan, as well as the plans required for the Broadband Equity, Access, and Deployment (BEAD) Program, OSB undertook the activities described below.

OSB has been working to build relationships with stakeholders and covered populations throughout its history. As described in more detail below, OSB has established regular meetings with key stakeholders and holds outreach and engagement sessions designed to reach Maryland's covered populations. OSB combines in-person, virtual, and hybrid meetings to ensure that the broadest possible audience has an opportunity to attend meetings and provide feedback and input. OSB has supplemented those meetings with a statewide phone survey and targeted online stakeholder questionnaires.

4.1 Coordination and outreach strategy

OSB, housed in the Maryland Department of Housing and Community Development, was created in 2017 with the mission to ensure that every Marylander has access to broadband services. To achieve its goal, OSB has established a strong collaborative partnership with both private sector entities and local jurisdictions to fulfill the mission of working towards ensuring that all Maryland communities and residents are served affordable high-speed broadband internet.

Maryland has established strong inter-agency coordination. Maryland's workforce development agencies, which are accustomed to working together as Maryland's Workforce System, comprise the Governor's Workforce Development Board,[291] Maryland's Division of Rehabilitation Service (DORS),[292] the Maryland Department of Labor,[293] the Maryland Department of Housing and

[291] "Governor's Workforce Investment Board," Maryland Manual On-Line, https://msa.maryland.gov/msa/mdmanual/25ind/html/80wo.html.
[292] "Division of Rehabilitation Services," Maryland State Department of Education, https://dors.maryland.gov/Pages/default.aspx.
[293] Maryland Department of Labor, https://www.dllr.state.md.us/.

Community Development, [294] the Maryland Workforce Association (comprising 12 local Workforce Directors),[295] and Maryland's Department of Human Services.[296]

OSB has pursued its mission by, in part, utilizing its existing relationships with private and public entities and organizations to develop and continuously update its stakeholder contact list—creating a foundation for research that encompasses a wide-ranging group of constituents. The stakeholder list was actively updated throughout the engagement process to both diversify and expand OSB's outreach efforts with the aim to create an inclusive, comprehensive engagement strategy that provides multiple opportunities to meaningfully participate in the development of the Five-Year Action Plan.

OSB utilized multiple modes of engagement to obtain vital feedback from stakeholders and the public—including in-person regional engagements, virtual listening sessions, social media outreach, and phone surveys.

OSB intentionally engaged representatives of covered populations (as defined by the State Digital Equity Planning Grant Program Notice of Funding Opportunity) to facilitate critical feedback from communities that have historically not been included in the public planning process. OSB intends to continue its comprehensive engagement of and outreach to stakeholders, the public, and covered populations to inform future planning efforts.

OSB initiated stakeholder engagement through four in-person regional community engagements across the State. The fourth engagement was held in partnership with the City of Baltimore. The engagements were designed to occur in geographically distinct areas to maximize access to organizational representation from urban, suburban, and rural communities.

Engagements were day-long events with multiple workshop panels convened. The workshops started with an introduction from Maryland State officials outlining the planned broadband and digital equity activities of the State of Maryland. Next, an infrastructure panel comprising private and public representatives discussed details regarding broadband deployment. For the third panel, public representatives discussed digital equity programs and needs. Finally, a public panel

[294] Maryland Department of Housing and Community Development, https://dhcd.maryland.gov/.
[295] Maryland Workforce Association, https://marylandworkforceassociation.org/. The Maryland Workforce Association includes the Anne Arundel Workforce Development Corporation, (Baltimore City) Mayor's Office of Employment Development, Baltimore County Department of Economic & Workforce Development, Frederick County Workforce Services, (Salisbury-based) Lower Shore Workforce Alliance, WorkSource Montgomery Inc., Employ Prince George's, (Hughesville-based) Tri-County Council for Southern Maryland, Susquehanna Workforce Network, Inc., Upper Shore Workforce Investment Board (serving the portions of the Eastern Shore located in Caroline, Dorchester, Kent, Queen Anne's, and Talbot Counties), and Western Maryland Consortium (with offices in Allegany County, Garrett County, and Washington County).
[296] Department of Human Services, https://dhs.maryland.gov/.

featured representatives of nonprofits and faith-based organizations to discuss the specific needs of covered populations.

Attendees had numerous opportunities to participate in the discussions, ask questions, and provide invaluable feedback to inform the State's activities.

Additionally, OSB hosted four virtual meetings to address individual groups of stakeholders: State and regional agencies, ISPs, community anchor institutions, and covered populations and workforce development organizations.

Participants were provided with a customized overview of broadband technology, broadband funding and programmatic opportunities, opportunities specific to their organizations and constituents, and avenues for engagement and input. After each virtual engagement, participants were given the opportunity to respond to surveys specific to their stakeholder group. All surveys were publicly available on the Maryland.gov website along with a speed test for residents to test their internet connection speed.

OSB additionally engaged the public through a statistically significant, residential phone survey to sample broadband availability, digital skills, and the broadband needs of adults in Maryland. The residential phone survey obtained randomized data from 1,932 adult residents in Maryland. To correct for potential bias based on household income, ethnicity, and the age of the respondent, responses were weighted based on region, household income, respondent age, and ethnicity since respondents in lower income households, racial or ethnic minorities, and younger individuals were less likely to respond.

The Five-Year Action Plan development process, utilizing multiple modes of engagement of the public and a diverse range of governmental and private stakeholders, demonstrates OSB's commitment to establishing an inclusive and effective Plan.

4.1.1 Full geographic coverage

To ensure the entire geographic range of the State of Maryland was engaged, OSB held engagements in western, central, and eastern Maryland and OSB partnered with the City of Baltimore to host a fourth engagement (central Maryland). These locations were selected to maximize the geographic range of these meetings and to engage underrepresented communities by hosting events at locations that are accessible, public, and provide and enable community support.

The engagements were held at the following locations:

Figure 6: Community engagement events

Central Maryland

- University of Maryland, College Park (April 17, 2023)

Western Maryland

- Frostburg State University (May 16, 2023)

Eastern Shore Maryland

- University of Maryland, Eastern Shore (May 24, 2023)

Central Maryland

- Coppin State University, Baltimore (May 25, 2023)

The following figures represent examples of the outreach conducted to inform potential attendees about these sessions.

Figure 7: Broadband Conference 2023 announcement (1)

Figure 8: Broadband Conference 2023 announcement (2)

The University of Maryland, Eastern Shore, and Coppin State University are HBCU higher education institutions. Representatives from the hosting universities also served as panel members to share both the broadband needs of their students and the initiatives the universities are leading within adjacent communities to extend internet access and adoption.

Panel topics at each of the four forums were broken out into the following: NTIA program processes and opportunities; understanding the infrastructure needs of Maryland organizations and the residents who they serve; digital equity opportunities and challenges; and avenues to participate in the future grant process. Attendees were given multiple opportunities to provide feedback throughout the forums.

Virtual stakeholder meetings were also held online. By hosting these meetings online, OSB was able to meaningfully engage with a geographically diverse range of stakeholders who may otherwise be unable to attend and provide valuable input.

Virtual stakeholder engagements were held on the following dates:

- Monday, March 13, 2023, State and Regional Agencies
- Wednesday, March 15, 2023, Internet Service Providers
- Wednesday, March 22, 2023, Anchor Institutions and Covered Populations
- Wednesday, March 29, 2023, Workforce Development

In addition to these engagements, OSB hosts quarterly meetings with State, county, and local agencies to address the entire geographic range of the State. Meetings are held with the Department of Information Technology, the State Department of Education, the State Department of Transportation, the Maryland State Library, the Department of Commerce, the Department of Agriculture, the Maryland Department of Health, the Department of Planning, units of local government, the Maryland Association of Counties, and the Maryland Municipal League. Meetings with County and State agencies are held separately.

4.1.2 Meaningful engagement and outreach to diverse stakeholder groups

At each engagement, whether online or in-person, OSB implemented several strategies to ensure that stakeholders were informed of Maryland's digital equity goals and were able to provide meaningful feedback. OSB utilized accessible engagement locations, variable announcement modes, and multiple modes of engagement (in-person and online meetings) to maximize the diversity of attendees. OSB tailored each event to the audience, including the substantive overview of each program and broadband technologies as well as the opportunities for stakeholder engagement.

OSB advertised the regional engagements through several avenues, including a public announcement on the Maryland.gov website, Maryland Department of Housing & Community

Development social media, direct emails to OSB partners and announcements by the hosting universities. Announcements were also advertised on the Maryland Economic Development Association and the Maryland Association of Counties websites. The range of announcements aimed to inform a diverse group of stakeholders to enable comprehensive feedback.

Participants at engagements in central Maryland provided feedback primarily on digital equity opportunities, including the need for digital navigators to assist residents with effectively adopting broadband through device and internet training.

Organizational representatives who attended the Baltimore City engagement were concerned about the accuracy of the FCC mapping. Specifically, multi-family housing structures may be designated as served although individual units are not. The building may, for example, be designated as a fiber drop location although the inside wiring is not sufficient to enable connectivity; or the building may appear to be served by fixed wireless even though some units may not have the line of sight to be served. Representatives expressed concern that unserved locations may actually be undercounted and could impact the receipt of BEAD resources.

Participants in the Eastern Shore of Maryland were concerned about the timeline for BEAD program implementation, noting that their need for broadband access is immediate. (This need highlights the synergy between the BEAD and Digital Equity programs; when broadband infrastructure funded by BEAD reaches previously unserved areas, digital equity programs can help ensure that everyone can take advantage of the newly available service.)

4.1.3 Regular engagements

As mandated by Maryland State law,[297] OSB meets regularly with the appropriate units of State government to gather input and share plans related to broadband deployment and digital equity, including the Department of Information Technology, the State Department of Education, the State Department of Transportation, the Maryland State Library, the Department of Commerce, the Department of Agriculture, and the Maryland Department of Health.

OSB also meets with representatives of Maryland's counties and local government entities—including the Maryland Association of Counties (MACO), which consists of representatives from the State's 23 counties and Baltimore City, and the Maryland Municipal League (MML), which represents the 157 cities and towns in the State.

4.1.4 Multiple awareness and participation mechanisms

To pursue its goal of ensuring that every Marylander is informed of forthcoming digital equity programs, OSB implemented multiple awareness mechanisms and opportunities to participate

[297] "Senate Bill 66, Chapter 74: Digital Connectivity Act of 2021," Maryland General Assembly, https://mgaleg.maryland.gov/2021RS/chapters_noln/Ch_74_sb0066E.pdf, at 6.5-104(D), p.10.

in the planning process. OSB drew on its existing relationship with public and private stakeholders to develop and actively update a diverse and inclusive stakeholder list. OSB used this stakeholder list to send invitations to the virtual stakeholder sessions and in-person regional community engagements across the State. In total, stakeholders numbered over 175 for BEAD engagement including organizations representing hundreds of contacts.

OSB additionally advertised the regional engagements through multiple methods, aiming to inform a diverse group of stakeholders. These included public announcements on the Maryland.gov website, Maryland Department of Housing & Community Development social media, direct emails to OSB's partners and announcements by the hosting Universities. Announcements were also advertised on the Maryland Economic Development Association and the Maryland Association of Counties websites.

Attendees at both the in-person and virtual engagements had numerous opportunities to provide feedback through discussion and questions. In addition to participating in meetings, surveys were available afterwards as well as posted publicly online on the OSB website to collect data on agency asset inventories, ISPs, community anchor institutions, and workforce development.

OSB also engaged the public through a phone survey which collected 1,932 responses from adult Marylanders about broadband availability, digital skills, and the broadband needs. The survey data are listed in Appendix C.

4.1.5 Clear procedures to ensure transparency

OSB took significant steps to ensure compliance with all applicable laws and best practice procedures. Participants were able to attend all meetings anonymously and closed-caption transcripts were available in real time to enable additional engagement for some participants with differing abilities. The surveys allowed respondents to choose which questions to answer, allowing individuals to control the level of personal detail provided.

Information was collected from meeting chats, Q&A sessions, and surveys. If contact information was provided, individuals were added to the stakeholder list. The intent to include the participants in future stakeholder outreach was clearly communicated during meetings.

After meetings, the slide deck was sent to all attendees that provided OSB their contact information along with all invited stakeholders for that topic (e.g., the Community Anchor Institutions meeting slide deck was sent to all health care facilities, libraries, schools, higher education facilities, and other relevant organizations.) The slide deck and engagement surveys were also publicly available on OSB's website.

4.1.6 Outreach and engagement of unserved and underserved communities

OSB took a proactive approach in advance of all forums to engage representatives of and organizations that serve defined covered populations by ensuring the contact list used for outreach was both comprehensive and inclusive.

OSB additionally engaged with unserved and underserved communities by ensuring accessibility to materials, meetings, and information. The virtual stakeholder presentations were accompanied by closed captions and the slide decks were made publicly available online.

To maximize the engagement of historically underrepresented populations, two of the four public meetings were hosted at HBCUs. Representatives from these universities actively participated in the engagements as panel members.

OSB will continue to find opportunities to present to members of community organizations and meet constituents where they are. OSB will also host virtual town halls to give updates on digital equity plans and programming and will provide additional opportunities for the public to provide feedback on how OSB can best achieve its mission of ensuring that every individual, regardless of their background, location, or abilities, has equal access to and the necessary skills to leverage digital resources, technologies, and opportunities.

4.2 Collaboration to implement this Plan

Comprehensive, continued engagement with partners has informed the development of this Plan and will be key to its implementation. OSB has also aligned this Plan with the efforts and priorities of State agencies.

As described above—especially in Section 3.1.1, which lists digital inclusion assets—OSB has identified potential digital equity partners that serve all of the covered populations identified in the Digital Equity NOFO and IIJA statute. OSB plans to engage with some of these potential partners, especially workforce agencies, labor organizations, institutions of higher learning, and organizations that represent or serve each of the covered populations, in the implementation of this Plan.

Also noted above, OSB already has relationships with public and private stakeholders that have been useful in the development of this Plan and will be useful in the execution of the Plan. Furthermore, OSB's ongoing outreach and engagement will reach new partners and contributors.

5 Implementation

This section of the Plan describes, at a high level, the implementation strategy and potential future initiatives that relate to each of the key strategies of the Plan, as well as potential timelines.

Achieving digital equity in Maryland will likely involve multiple coordinated initiatives and efforts associated with each strategy and objective. OSB looks forward in particular to the opportunity to use its Digital Equity Capacity Grant to support and develop further digital equity capacity in Maryland, in partnership with the many local entities that have already been strong partners in both OSB's community engagement work and existing digital inclusion grant programs.

OSB notes that sustainability of any initiatives undertaken is of primary concern.

To address the potential that resources may not be available to support the full range of proposed initiatives, OSB plans a multi-pronged strategy focused on strategic partnerships with local businesses, ISPs, community-based organizations, and Maryland's many engaged cities and counties. OSB also seeks to maximize the potential to work with philanthropy and to support Maryland communities and nonprofits to apply for federal Digital Equity Competitive Grant programs when they become available.

OSB also sees its own role as critical to fostering a cycle of sustainable funding for digital equity efforts in Maryland, through regular data collection and measurement of program impact that make a data-driven case for continued support. In these ways, OSB anticipates an ambitious digital equity strategy for Maryland, but one that recognizes that resources are not unlimited.

5.1 Implementation strategy and key activities

The following are potential strategies, initiatives, and timelines tied to the digital equity barriers described in the sections above.

5.1.1 Barrier: Lack of broadband availability

Lack of broadband access can occur in both rural and urban communities and closing this divide ensures that residents located in every part of Maryland can be full participants in the digital world, achieving educational, employment, and health goals and achieving access to community resources and events.

5.1.1.1 Strategy 1: Increase access to residential broadband infrastructure

Activity	Description	Timeline
Execute BEAD Program	Extend last-mile broadband infrastructure throughout Maryland	2023 to 2030 (consistent with IIJA BEAD requirements)
Execute Home Stretch for Public Housing program to improve broadband to affordable housing	Using ARPA Capital Projects Fund dollars, fund deployment of broadband to and within affordable housing facilities in urban, suburban, and rural areas of Maryland[298]	2023 to 2026 (consistent with ARPA CPF requirements)

5.1.1.2 Strategy 2: Require ISPs to provide a basic level of service for rural and remote communities

Activity	Description	Timeline
Execute BEAD Program	Extend last-mile broadband infrastructure and include requirements for basic level of service for rural and remote communities	BEAD funding to begin in late 2024 and early 2025

5.1.1.3 Strategy 3: Partner with and strengthen the capabilities of Community Anchor Institutions to broaden free public access to broadband for all residents in covered populations

Activity	Description	Timeline
Digital Inclusion Grants (DIG)	Re-open future rounds of DIG program initiatives as funding allows	2024 to 2029

[298] "Governor Moore Announces $69 Million in Federal Funds to Support High-Speed, Affordable Internet Access for Unserved Marylanders," Office of the Governor press release, October 16, 2022, https://governor.maryland.gov/news/press/pages/governor-moore-announces-69-million-in-federal-funds-to-support-highspeed-affordable-internet-access-for-unserved-marylande.aspx.

5.1.2 Barrier: Low-income households struggle to adopt and afford broadband services, devices, and technical support

Maryland aims to ensure that every household that is eligible for support is aware of support programs. Maryland will prioritize device access, recognizing that the benefits of the internet cannot be attained without modern and fully capable computing tools to reach it. As in every other area of this Plan, Maryland is working to build the resources necessary to power data-driven decision making in order to use resources efficiently and to target resources where they are needed.

5.1.2.1 Strategy 1: Increase Affordable Connectivity Program and ISP low-cost program enrollment among eligible households

Activity	Description	Timeline
Develop educational materials	Provide content and support for educational campaigns among organizations that focus on ACP and ISPs' low-cost programs as well as for localities, community anchor institutions, and nonprofits that have not previously worked to extend ACP and ISP-offered discount program enrollment	2023 and thereafter
Encourage ISP partnerships for ACP enrollment drives	Encourage ISPs to partner with localities, community anchor institutions, and nonprofits to develop ACP and low-cost ISP program enrollment drives and initiatives	2023 and thereafter
Fund library-based ACP enrollment drives	Provide funding for libraries to offer ACP and ISP low-cost	2024 to 2029, based on availability of Digital Equity Capacity Grant

Activity	Description	Timeline
	program enrollment drives for eligible households[299]	
Improve broadband for residents of affordable housing	Using ARPA Capital Projects Fund dollars, deploy new broadband infrastructure to and within affordable housing facilities in urban, suburban, and rural areas of Maryland through the Home Stretch for Public Housing program	2023 to 2026 (consistent with ARPA CPF requirements)[300]

5.1.2.2 Strategy 2: Increase low-cost service offerings

Activity	Description	Timeline
Require grantee low-cost offerings	Build requirements and enhanced scoring for affordable service offerings into BEAD grant program	2023 to 2025, with monitoring and enforcement thereafter
Encourage ISP low-cost offerings	Work with ISPs throughout the State to encourage adoption and expansion of low-cost offerings for lower-income households	2023 and thereafter

[299] "Governor Moore Launches Maryland ActNow Campaign to Close the Digital Divide in Maryland," Office of Governor Wes Moore, News Release, July 18, 2023, https://governor.maryland.gov/news/press/pages/governor-moore-launches-maryland-actnow-campaign-to-close-the-digital-divide-in-maryland.aspx.
[300] "Governor Moore Announces $69 Million in Federal Funds to Support High-Speed, Affordable Internet Access for Unserved Marylanders," Office of the Governor press release, October 16, 2022, https://governor.maryland.gov/news/press/pages/governor-moore-announces-69-million-in-federal-funds-to-support-highspeed-affordable-internet-access-for-unserved-marylande.aspx.

5.1.2.3 Strategy 3: Expand access to computing devices and tech support

Activity	Description	Timeline
Provide information	Provide guidance regarding best practices, expertise, and partnership opportunities to localities, and nonprofits to develop and expand existing programs that provide free devices to lower-income households	2024 and thereafter
Support ACP enrollment	Work with partners to support eligible households to purchase computing devices under the Affordable Equity Program	Ongoing
Fund library-based tech support	Provide funding for libraries to offer tech support for library users	2024 to 2029, based on availability of Digital Equity Capacity Grant
Support device refurbishment and device repair	Work with State and local partners to provide opportunities for devices to be refurbished and/or repaired, then provided to low-income families	2024 to 2029, based on availability of Digital Equity Capacity Grant

5.1.2.4 Strategy 4: Develop data and informational resources to enable application of a digital equity lens to infrastructure and program decisions

Activity	Description	Timeline
Provide map information	Add Digital Equity data to the Maryland Broadband Map	2023 and thereafter
Provide asset information	Update OSB's Digital Equity Asset Inventory periodically so that communities have access	2023 and thereafter

Activity	Description	Timeline
	to resources for identifying partners and best practices	
Develop education and informational resources	Work with collaborators to design and share data and informational resources promoting internet safety, ACP and ISP-offered low-cost program awareness, and device donation and refurbishment, and develop online resources on digital equity best practices for reference by stakeholders statewide	2023 and thereafter

5.1.3 Barrier: Low-income households and aging individuals lack digital skills, including to protect security and privacy

Achieving universal digital literacy requires opening opportunities for everyone in Maryland to learn the needed skills to navigate the digital world with confidence and to feel safe and protected on the internet.

5.1.3.1 Strategy 1: Enable digital skills development through training courses

Activity	Description	Timeline
Enable partnerships	Connect localities with expert partners that have established training courses, working with a full range of stakeholders that are engaged in digital equity efforts to enable partners to benefit from each other's expertise and lessons learned	2023 and thereafter
Fund library-based training	Provide funding for libraries to offer digital skills training, based on standardized and	2024 to 2029, based on availability of Digital Equity Capacity Grant

Activity	Description	Timeline
	tested curricula that reflect cultural appropriateness	
Provide informational resources and guidance	Distribute relevant materials to share expertise and guidance so that communities have access to resources for identifying partners and best practices	2023 and thereafter

5.1.3.2 Strategy 2: Expand opportunity to learn online safety and privacy

Activity	Description	Timeline
Enable partnerships	Use OSB's convening capabilities to connect localities with expert partners that have established training courses, to enable stakeholders to benefit from each other's expertise and lessons learned	2023 and thereafter
Provide informational resources and expert data and guidance	Develop and distribute relevant materials to share expertise and guidance so that communities have access to resources for identifying cost-effective strategies and best practices	2023 and thereafter
Fund library-based training	Provide funding for libraries to offer training at the local level regarding online safety and privacy, based on standardized and tested curricula that reflect cultural appropriateness	2024 to 2029, based on availability of Digital Equity Capacity Grant

5.1.3.3 Strategy 3: Expand accessibility of information

Activity	Description	Timeline
Develop and distribute accessibility guidance	Provide guidance materials to State and local agencies regarding best practices for website design and maintenance that align with accessibility standards and that enable cost-effective use of critical support tools	2023 and thereafter

5.1.4 Barrier: Local communities require resources and expertise for digital equity efforts

5.1.4.1 Strategy 1: Build collaboration among State, local, ISP, and nonprofit entities

Activity	Description	Timeline
Convene stakeholders	Build structures to enable stakeholders to work together across the State and across different demographics, to enable shared lessons and resources to support those who face the greatest barriers to digital equity, as well as to help organizations to leverage others' capabilities and help stakeholders serving particular regions or specific covered populations to share best practices and digital equity expertise	2024 and thereafter
Enable funders to connect with program experts	Convene a range of stakeholders to enable organizations that run digital equity programs to request	2024 and thereafter

Activity	Description	Timeline
	resources from various stakeholders, including private sector partners, ISPs, and philanthropy	

5.1.4.2 Strategy 2: Expand technical assistance to local and nonprofit entities to engage in robust digital equity efforts

Activity	Description	Timeline
Enhance the availability of technical assistance resources	Enhance and support the availability of technical assistance resources available to local and nonprofit entities	2024 to 2029

5.1.4.3 Strategy 3: Increase local government digital equity plans, enhancing commitments to data-driven, community-informed approaches

Activity	Description	Timeline
Enhance local planning efforts	Enhance the development and enhancement of local digital equity planning efforts	2024 to 2029

5.2 Timeline

This timeline of potential implementation activities is an estimate, contingent on the availability of State and federal government resources, and subject to change depending on conditions that could extend or escalate the State's ability to develop and sustain these initiatives.

Challenge	Strategy	Key activities	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lack of broadband availability	Increase access to residential broadband infrastructure	Execute BEAD program to extend last-mile broadband infrastructure throughout Maryland									
		Execute CPF Program to improve broadband to affordable housing									
Low-income households struggle to adopt and afford broadband services, devices, and technical support	Increase Affordable Connectivity Program and ISP low-cost program enrollment among eligible households	Develop educational materials									
		Encourage ISP partnerships for ACP enrollment drives									
		Fund library-based ACP enrollment drives									
		Improve broadband for residents of affordable housing									
	Increase low-cost service offerings	Require grantee low-cost offerings									
		Encourage ISP low-cost offerings									
	Expand access to computing devices and tech support	Provide information									
		Support ACP enrollment	Ongoing								
		Fund library-based tech support									
		Support device refurbishment and device repair									
	Develop data and informational resources to enable application of a digital equity lens to infrastructure and program decisions	Provide map information									
		Provide asset information									
		Develop education and informational resources									
Low-income households and aging individuals lack digital skills	Enable digital skills development through training courses	Enable partnerships									
		Fund library-based training									
		Provide informational resources and guidance									
	Expand opportunity to learn online safety and privacy	Enable partnerships									
		Provide informational resources and expert data and guidance									
		Fund library-based training									
	Expand accessibility of information	Develop and distribute accessibility guidance									
Local communities require resources and expertise for digital equity efforts	Build collaboration among State, local, ISP, and nonprofit entities	Convene stakeholders									
		Enable funders to connect with program experts									

6 Conclusion

The State of Maryland has been a consistent leader in helping to close the digital divide for all residents. As the backbone of the digital age, broadband empowers individuals with access to information, education, job opportunities, health care services, and civic engagement. It serves as a gateway to innovation and entrepreneurship, enabling businesses to reach broader markets, fostering the growth of startups, and promoting economic diversification.

Broadband enhances communication, connecting people across distances and cultures, while its potential to deliver digital services expands the ways in which governments can interact with residents.

The State of Maryland understands its crucial role in facilitating and achieving digital equity and expanding broadband access. Recognizing that access to high-speed internet is fundamental to social and economic opportunity, Maryland has developed strategies to remove barriers to connectivity.

Leveraging partnerships with ISPs, OSB plans to incentivize affordable plans and extend coverage to unserved and underserved communities, narrowing the digital divide. Furthermore, OSB plans to encourage digital training programs that equip residents with the skills needed to navigate the digital landscape, ensuring that no one is left behind due to lack of know-how.

Through strategic collaborations, OSB plans to create an environment where broadband access is a broadly available tool that empowers residents, fosters economic growth, and advances community interests. Connecting everyone to the digital world and ensuring they have the necessary skills and knowledge to achieve full participation is critical to achieving this goal.

The State will achieve its vision of digital equity through the coordinated efforts of key constituencies and stakeholders across Maryland, and through ongoing engagement and collaboration with partners working together toward shared goals.

Appendix A: ISPs that participate in the ACP

The following table lists ISPs in the State (including mobile service providers) that participate in the ACP.[301] The table also notes which ISPs offer a plan that delivers service at effectively no cost with the application of the ACP subsidy ("no cost with ACP"), whether the provider offers eligible customers the option to purchase a device at a discount,[302] and whether the provider also participates in the MEBB. (Households must be enrolled in the ACP to receive the MEBB benefit.)[303]

Table 34: ISPs participating in the ACP (including no-cost plans and device discounts)

Provider name	Service type	No cost with ACP	Device discount	Participates in MEBB
AFNET, LLC	Mobile Internet		Yes	
Airtalk Wireless	Mobile Internet		Yes	
All Points Broadband	Home internet			
American Assistance and Your Call Wireless	Mobile Internet		Yes	Yes
Antietam Broadband	Home internet			Yes
Armstrong Telecommunications, Inc.	Home internet			
Armstrong Utilities Inc.	Home internet			
Assist Wireless, LLC	Mobile Internet		Yes	Yes
Assurance Wireless	Mobile Internet	Yes		Yes
Astound Broadband powered by RCN	Home internet	Yes		
AT&T Mobility LLC	Mobile Internet	Yes		
Bay Country Communications	Home internet			
Bloosurf LLC	Mobile Internet		Yes	Yes
BlueSkies Communications	Mobile Internet		Yes	
Boomerang Wireless, LLC	Mobile Internet		Yes	

[301] Based on data provided to USAC by service providers, available at https://cnm.universalservice.org/. Note that this list includes ISPs that offer mobile broadband, satellite internet, and fixed wireless services, some of which may not count as broadband under the BEAD program.
[302] Per USAC, customers must pay more than $10 but not more than $50 and must purchase the device through the provider; "Companies Near Me," USAC, https://cnm.universalservice.org/.
[303] "Maryland Emergency Broadband Benefit," DHCD, https://dhcd.maryland.gov/Broadband/Pages/MEBB.aspx.

Provider name	Service type	No cost with ACP	Device discount	Participates in MEBB
Boost Mobile	Mobile Internet		Yes	Yes
Cellspan Inc.	Mobile Internet		Yes	
Choptank Fiber, LLC	Home internet			Yes
Cintex Wireless, LLC	Mobile Internet	Yes	Yes	Yes
City Communications, Inc.	Home internet	Yes	Yes	
City Communications, Inc.	Mobile Internet	Yes	Yes	
Clear Wireless, LLC	Home internet		Yes	
Clear Wireless, LLC	Mobile Internet		Yes	
Cogeco US Finance, LLC d/b/a Breezeline	Home internet	Yes		
Comcast Xfinity	Home internet	Yes		
Comcast Xfinity	Mobile Internet	Yes		Yes
Comlink Total Solutions Corp	Mobile Internet			
Cricket Wireless	Mobile Internet	Yes		
Crowsnest Broadband LLC	Home internet			
Culture Wireless	Home internet		Yes	
Culture Wireless	Mobile Internet		Yes	
Culture Wireless Group, LLC	Mobile Internet		Yes	
Declaration Networks (NeuBeam)	Home internet		Yes	Yes
Digital Aid, LLC	Mobile Internet		Yes	
EARTHLINK, LLC	Home internet			
Easton Utilities Commission	Home internet			
Easy Wireless	Mobile Internet	Yes		
Excess Telecom, Inc.	Mobile Internet	Yes	Yes	Yes
Fibercreek	Home internet			
Figgers Communication Inc.	Home internet		Yes	
Gen Mobile, Inc.	Mobile Internet		Yes	
Global Connection Inc. of America	Mobile Internet	Yes	Yes	Yes
GO MD USA LLC	Mobile Internet	Yes	Yes	
GR8 CONNECT CORP.	Mobile Internet	Yes	Yes	
Hadodo Wireless	Mobile Internet		Yes	

Provider name	Service type	No cost with ACP	Device discount	Participates in MEBB
Hello Mobile Telecom LLC	Mobile Internet	Yes		
Hoop Wireless, LLC	Mobile Internet	Yes	Yes	
Hughes Network Systems, LLC	Home internet			Yes
IDT Domestic Telecom, Inc.	Mobile Internet		Yes	
IJ Wireless	Home internet		Yes	
IJ Wireless	Mobile Internet		Yes	
Infiniti Mobile	Mobile Internet			Yes
Insight Mobile, Inc.	Mobile Internet		Yes	
Integrated Path Communications, LLC	Home internet	Yes		Yes
InterConnection	Mobile Internet		Yes	
K20 Wireless	Mobile Internet	Yes	Yes	Yes
KGI Communications LLC	Home internet			
Liberty Mobile Wireless	Mobile Internet		Yes	
Life Wireless	Mobile Internet		Yes	Yes
Lingo	Home internet			
LTE Wireless	Mobile Internet		Yes	
Maxsip Telecom Corporation	Home internet		Yes	Yes
Mediacom LLC	Home internet	Yes		
Metro by T-Mobile	Mobile Internet			
Metro Communications LLC	Home internet			Yes
National Wireless	Mobile Internet		Yes	
NewPhone Wireless, LLC	Mobile Internet	Yes	Yes	
North American Local, LLC	Mobile Internet		Yes	
PCs for People	Mobile Internet	Yes	Yes	
Point Broadband Fiber Holding, LLC	Home internet			Yes
Port Networks, Inc.	Home internet			Yes
Project Waves	Home internet			Yes
Prosper Wireless, LLC	Mobile Internet		Yes	Yes
Public Wireless, LLC	Mobile Internet		Yes	

Provider name	Service type	No cost with ACP	Device discount	Participates in MEBB
Q Link Wireless LLC*	Mobile Internet	Yes	Yes	
QCOL, Inc.	Home internet		Yes	Yes
Quantum Telecommunications, Inc.	Home internet	Yes		
Red Pocket & FreedomPop	Mobile Internet		Yes	
Rogue Mobile Inc.	Mobile Internet		Yes	Yes
Rural4G	Mobile Internet	Yes	Yes	
SafetyNet Wireless	Mobile Internet	Yes	Yes	
Sage Telecom Communications, LLC	Mobile Internet	Yes	Yes	Yes
Sano Health LLC	Mobile Internet	Yes	Yes	
Sarver Wireless	Mobile Internet	Yes	Yes	
Selectel Wireless	Mobile Internet	Yes	Yes	
Shentel, Glofiber, and Beam Wireless	Home internet			Yes
SkyPacket Networks, Inc.	Home internet			Yes
Snapfon	Mobile Internet	Yes	Yes	
Spectrum (Charter Communications Operating, LLC)	Home internet	Yes		
Spot On Networks, LLC	Home internet			
SprintFone	Home internet		Yes	
Starry, Inc.	Home internet			
Straight Talk, Total Wireless, Simple Mobile, Walmart Family Mobile, TracFone, Net10, Page Plus & Go Smart	Mobile Internet		Yes	Yes
SurgePhone Wireless LLC	Mobile Internet		Yes	
SWA Connect, LLC	Home internet		Yes	Yes
TAG Mobile, LLC	Mobile Internet		Yes	
Talkie Communications, Inc.	Home internet		Yes	

Provider name	Service type	No cost with ACP	Device discount	Participates in MEBB
Talkie Communications, Inc.	Mobile Internet		Yes	Yes
Telispire, Affinity Cellular, Club Cellular, Flex Cellular	Home internet	Yes	Yes	
Tempo Telecom, Inc.	Mobile Internet		Yes	
TerraCom, Inc.	Mobile Internet		Yes	
ThinkBig Networks, LLC	Home internet			
Ting Internet	Home internet		Yes	Yes
Tone Communication Services LLC	Mobile Internet			Yes
Torch Wireless	Mobile Internet			
True Wireless	Home internet	Yes	Yes	
Twigby	Mobile Internet			
Unity Wireless, Inc.	Mobile Internet		Yes	Yes
US Connect	Mobile Internet		Yes	Yes
Verizon Maryland LLC	Home internet	Yes		Yes
Verizon Wireless	Home internet			Yes
Verizon Wireless	Mobile Internet			Yes
Via Wireless, LLC	Mobile Internet		Yes	
Viasat	Home internet			
Whoop Connect Inc.	Mobile Internet		Yes	Yes
Wireless Brands Co.	Mobile Internet		Yes	
Wrazzle, Inc.	Mobile Internet		Yes	
Z1 Wireless	Mobile Internet			
Ztar Mobile, Inc.	Mobile Internet		Yes	

The following ISPs are not included in the above list[304] but are included in the State's list of providers that participate in the MEBB program and the ACP:[305]

- AirVoice Wireless[306]
- i-wireless, LLC DBA Access Wireless[307]

[304] ACP participation based on data provided to USAC by providers (see Table 34).
[305] "Maryland MEBB and ACP Provider List," DHCD, https://dhcd.maryland.gov/Broadband/Documents/Participating-Internet-Service-Providers.pdf.
[306] AirVoice Wireless, https://www.airvoicewireless.com/.
[307] Access Wireless, https://www.accesswireless.com/.

Appendix B: Organizations with which OSB collaborated in developing the Plan

The following table lists the partners and others who provided input and insights through a range of engagement mechanisms, including in-person meetings, follow-up calls, and completion of OSB's online questionnaires.

Stakeholder engagement session: Anchor institutions

Organization name
Alexander Lance Booker Child Safety Foundation
Annapolis Maritime Museum
Avanath
Baltimore City
Baltimore Community Foundation
Baltimore Family Alliance
Carroll County
Carroll Technology & Innovation Council
Cecil County, Maryland
Communications Workers of America
Community Support Services, Inc.
Comprehensive Housing Assistance, Inc. (CHAI)
DABS Consulting, LLC
Digital Harbor Foundation
Digital Harbor, Inc.
Enoch Pratt Free Library
Forest Park Action Council, Inc.
Frederick County Public Libraries
Homes for America
Howard Community College
Independence Now
Johns Hopkins Medicine
KSC Consultant Services LLC
Maryland Department of Housing and Community Development (DHCD)
Montgomery Housing Partnership (MHP)
New Hope Academy
Prince George's County Memorial Library System (PGCMLS)
Purple Line Corridor Coalition
RowdyOrb.it
Schools, Health & Libraries Broadband (SHLB) Coalition
Shepherd's Spring, Inc.
St. Mary's County Library
Strong City Baltimore

Organization name
The Arc Maryland
The CT Group
ThinkBig Networks
University of Maryland
Victory Housing, Inc. (VHI)
Washington County Free Library

Stakeholder engagement session: ISPs

Organization name
Baltimore City,
Bay Country Communications
Bloosurf
Breezeline
Choptank Electric Cooperative (Choptank Fiber)
Comcast
Crown Stone Farm, LLC
Easton Utilities
Enoch Pratt Free Library
Klein Law Group, PLLC
KSC Consultant Services LLC
Maryland Department of Housing and Community Development (DHCD)
Maryland Division of Workforce Development and Adult Learning (DWDAL)
Mediacom Communications
National Telecommunications and Information Administration (NTIA)
Port Networks, Inc.
Prince George's County Memorial Library System (PGCMLS)
Project Waves
QCOL, Inc.
Quantum Telecommunications, Inc.
RowdyOrb.it
Schurz Communications
Simple Fiber Communications
ThinkBig Networks, LLC
University of Maryland
Upward Broadband
Verizon Wireless

Stakeholder engagement session: State agencies

Organization name
Anne Arundel County
Baltimore County
BioTechnical Institute of Maryland
Bowie, city of
Caroline County
Carroll County
Cecil County
Community Action Council (CAC) of Howard County, Maryland
Community Housing Partners
Dorchester County
Enoch Pratt Free Library
Garrett County
Harford County
Hollins Market
Howard County
Indian Cultural Association of Howard County, Inc.
Interagency Information Technologies, Frederick County, Maryland
JAV General Service LLC
Jonathan Street Community Outreach Center
KSC Consultant Services LLC
Light House
Maryland Department of Commerce
Maryland Department of Labor
Maryland Department of Housing and Community Development (DHCD)
Maryland Department of Information Technology (DoIT)
Maryland Department of Planning
Maryland Office of Statewide Broadband
Maryland State Highway Administration (MDOT-SHA)
Maryland State Library
Montgomery County Public Libraries (MCPL)
Mount Rainier, city of
National Telecommunications and Information Administration (NTIA)
Prince George's County Memorial Library System (PGCMLS)
Prince George's County
RowdyOrb.it
Shore Up! Inc.
Somerset County
St. Mary's County
The Arc of Howard County

Organization name
The Community Builders
U.S. Small Business Administration
University of Maryland
University of Maryland Extension
Volunteers of America Chesapeake and Carolinas
Wicomico County
Winn Development LLC
Worcester County
Zoe Grace Healthcare Services

Stakeholder engagement session: Workforce development

Organization name
ABD Communications
Abilities Network
Action BayBrook
Annapolis Maritime Museum
Anne Arundel Workforce Development Corporation (AAWDC)
Baltimore Family Alliance
Because We Care LLC
BioTechnical Institute of Maryland
Breezeline
Bridges to Success
CareFirst BlueCross BlueShield
Carroll County Department of Economic Development
Carroll County Workforce Development
Cecil County
Centro De Apoyo Familiar
Charles County Department of Social Services (CCDSS)
Charter Communications
Chesapeake College
Bowie, city of
City of Refuge Baltimore, Inc.
Community College of Baltimore County
DABS Consulting
Digital Harbor
Enoch Pratt Free Library
Ethiopian Community Center
Expanding Boundaries International
Frederick Community College
Frederick County Workforce Services (FCWS)

Organization name
Harford Community College Adult Literacy
Harford County
Housing Opportunities Commission
Howard Community College
Howard County Department of Social Services
Howard County Office of Workforce Development
Human Resources Development Commission (HRDC) of Allegany County
Klein Law Group, PLLC
KSC Consultant Services LLC
Loflj Preservation
Lower Shore Workforce Alliance
Maryland Department of Labor
Maryland Office of Attorney General
Maryland Apprenticeship and Training Program (MATP)
Maryland Department of Housing and Community Development
Maryland Department of Human Resources
Maryland Department of Labor – Veterans Services
Maryland Department of Labor – Division of Workforce Development and Adult Learning (DWDAL)
Maryland Governor's Workforce Development Board
Maryland's Coast – Worcester County Tourism & Economic Development
Mayor's Office of Employment Development – City of Baltimore
Montgomery County Public Libraries
Montgomery County Office of Eligibility and Support Services (OESS)
National Telecommunications and Information Administration (NTIA)
NPower
Optimal Health
Park Heights Renaissance
Per Scholas
Prince George's Community College
Prince George's County Department of Social Services
Prince George's County Memorial Library System (PGCMLS)
Purple Line Corridor Coalition (PLCC)
Queen Anne's County Department of Social Services (QACDSS)
RowdyOrb.it
Rural Maryland Council
Saltzberg Consulting
South Baltimore Learning Center
The Arc Maryland
CareerCatchers
Tri County Council for Southern Maryland

Organization name
Upper Shore Workforce Investment Board
Upper Shore Workforce Scholarship Office
Western Maryland Consortium
Wicomico County Department of Social Services
Wilcome Human Services, Inc.
Worcester County Department of Social Services State of Maryland
Worcester County Public Schools Adult Education Program
Worksource Montgomery

Online survey: Agency asset inventory

Organization name
Allegany County Library System
Baltimore County Office of Information Technology
Carroll County Department of Technology Services – Broadband Project Management
Community Development Network of Maryland
Johns Hopkins Medicine
Landover Hills, town of
Neighborhood Service Center, Inc.

Online survey: Community anchor institutions

Organization name
Adult Learning Center (Strong City Baltimore)
Carrol Technology & Innovation Council
Chesapeake College
Community College of Baltimore County
Community Support Services, Inc.
East Baltimore Development Inc
Frederick County Public Libraries
Homes for America
Independence Now
Landover Hills, town of
Laurel, city of
Neighborhood Service Center, Inc.
Older Adults Technology Services (OATS)
Towson University
Trinity Episcopal Church
University of Maryland – Maryland Research and Education Network (MDREN)

Online survey: ISPs

Organization name
Antietam Broadband
Charter Communications
Choptank Electric
Neighborhood Service Center, Inc.
QCOL Inc
Schurz Communications
Verizon

Online survey: Workforce development

Organization name
Baltimore City Office of Information & Technology (BCIT)
CareerCatchers
Carroll County Department of Economic Development
Carroll Technology & Innovation Council
Communications Workers of America
Ethiopian Community Center
Focus on Communities United for Success (FOCUS)
Job Opportunities Task Force
Lower Shore Workforce Alliance
Neighborhood Service Center, Inc.
Pass IT On
Per Scholas
Prince George's Community College
Prince George's County Memorial Library System – Workforce & Community Development Team
The Training Source, Inc.

Appendix C: Residential broadband and digital equity needs assessment survey

The results presented in this section are based on analysis of information provided by 1,932 residents of Maryland, from an estimated 2,355,652 households. Results are representative of the set of households with a confidence interval of ±2.2 percent at the aggregate level.

The survey responses were entered into SPSS[308] software and the entries were coded and labeled. SPSS databases were formatted, cleaned, and verified prior to the data analysis. The survey data was evaluated using techniques in SPSS including frequency tables, cross-tabulations, and means functions. Statistically significant differences between subgroups of response categories are highlighted and discussed where relevant.

The survey responses were weighted based on household income, respondent age, and ethnicity. Since respondents in lower income households, racial or ethnic minorities, and younger individuals were less likely to respond, the weighting corrects for the potential bias based on the household income, ethnicity, and age of the respondent. In this manner, the results more closely reflect the opinions of the State's adult population.

Unless otherwise indicated, the percentages reported are based on the "valid" responses from those who provided a definite answer and do not reflect individuals who said "don't know" or otherwise did not supply an answer because the question did not apply to them. Key statistically significant results ($p \leq 0.05$) are noted where appropriate.

Survey analysis

As noted in the data below, only 3 percent of surveyed households report they do not receive home internet service.

Even with this near-universal service, there is a digital divide, with 4 percent of households earning less than $50,000 reporting that they do not receive home internet service, while nearly all households earning $50,000 or more report they do receive home internet service. Only 91 percent of households with at least one senior (age 65 or older) report they receive home internet service, compared to 98 percent of households without a senior member.

Of households who report they do not purchase home internet service, 45 percent claim they do not purchase because it is not worth the cost and 25 percent of households say they cannot afford to purchase internet. (Respondents were allowed to select more than one answer.)

Eligible Maryland households are under-enrolled in federal subsidy programs. Only 7 percent of households earning less than $50,000 report they are enrolled in the federal Affordable

[308] Statistical Package for the Social Sciences (http://www-01.ibm.com/software/analytics/spss/).

Connectivity Program (ACP) and only 9 percent of households report being enrolled in Lifeline. Given that 82 percent of low-income households report they are not enrolled in any subsidy programs, increasing enrollment could be a digital equity goal.

Of households that do have home internet service, 3 percent report their home internet service to be not at all reliable, while 8 percent report it to be only slightly reliable.

Sixteen percent of households earning less than $50,000 report they do not own a computer. Compared to 10 percent of households earning $100,000 or more, low-income households suffer from lower computing device ownership rates.

In addition, 21 percent of primarily non-English speaking households report now owning a computer. Households with an actively enrolled student are less likely to not own a computer, as only 5 percent report they do not have a computing device. Households with a formerly incarcerated individual are the most likely to not own a computer, with 28 percent of households reporting they have no computers.

Only 4 percent of households report they could not replace a lost or damaged computing device within six months. Again, there is a digital divide, as 8 percent of low-income households report it would take longer than six months to replace a lost or damaged device, whereas no households earning between $100,000 and $150,000 report it would take six months or longer to replace a device.

For all online activities, low-income households report feeling less confident in their abilities to complete critical online tasks compared to high-income households. For example, 82 percent of households earning less than $50,000 report they are confident in accessing governmental services, compared to 96 percent of households earning $100,000 to $150,000.

For all online activities, fewer households with a senior member report feeling very confident in their ability to complete tasks; 81 percent of households with a senior feel very confident in accessing medical services or resources, compared to 93 percent of households without a senior member.

Low-income households are reportedly less likely to be able to identify false or misleading information online: 43 percent of households earning less than $50,000 strongly agree that they are able to identify false or misleading information, compared to 55 percent of households earning more than $100,000.

Survey results

Does your household receive home internet service – not mobile data?

Figure 9: Percent of households that receive home internet service

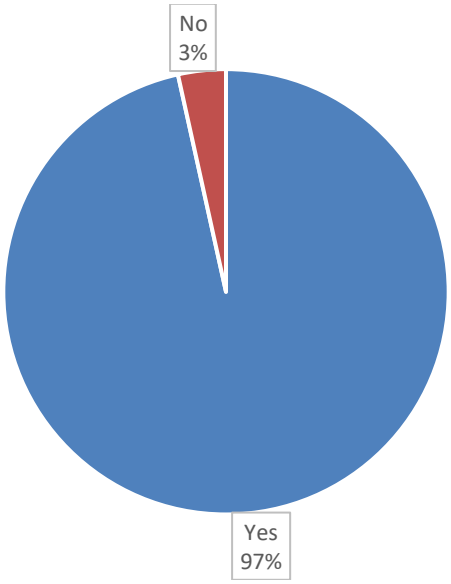


Figure 10: Percent of at-risk households that receive home internet service

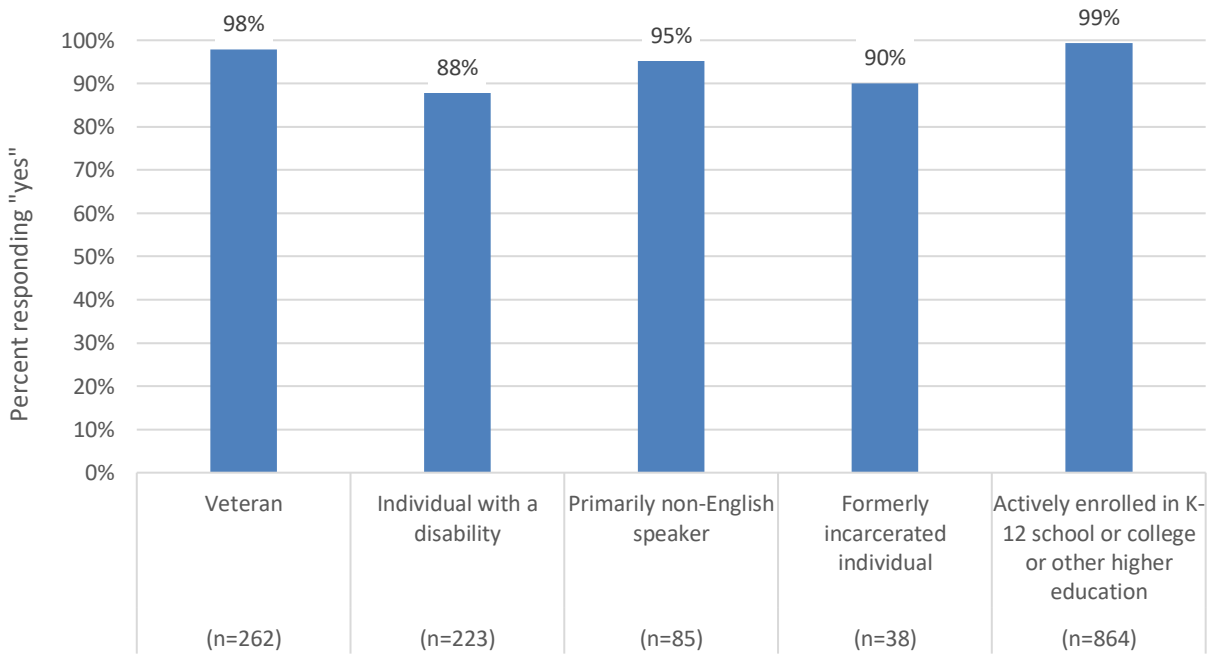


Figure 11: Percent of households that receive home internet service by household income

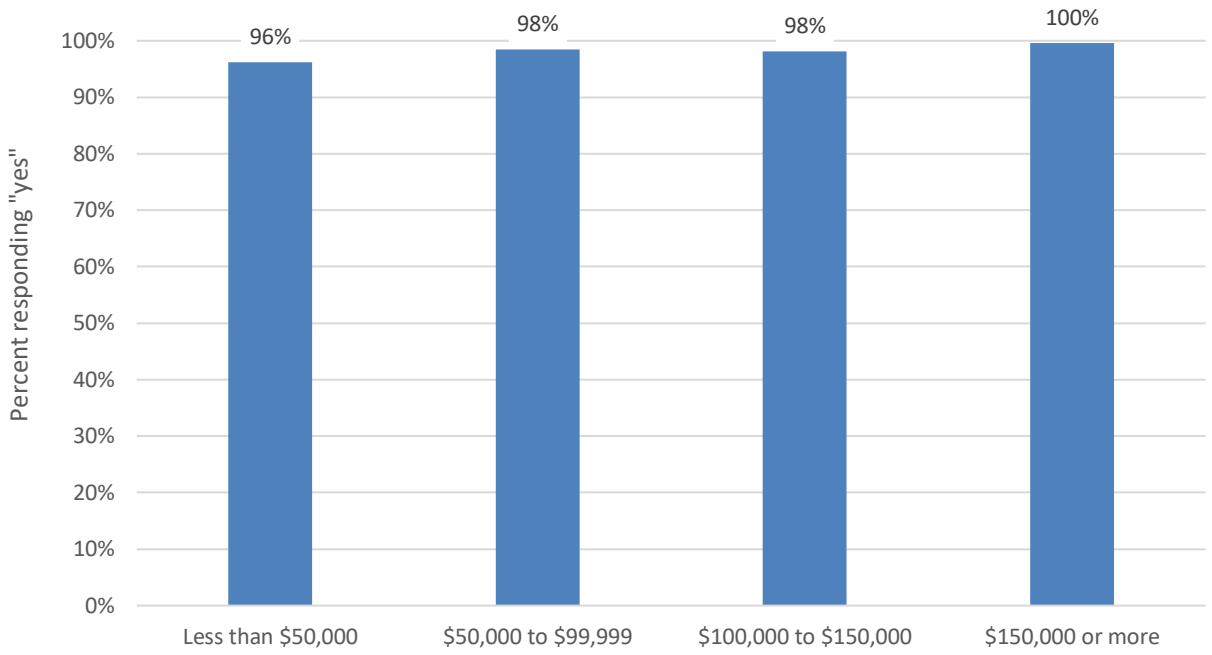


Figure 12: Percent of households that receive home internet service by race/ethnicity

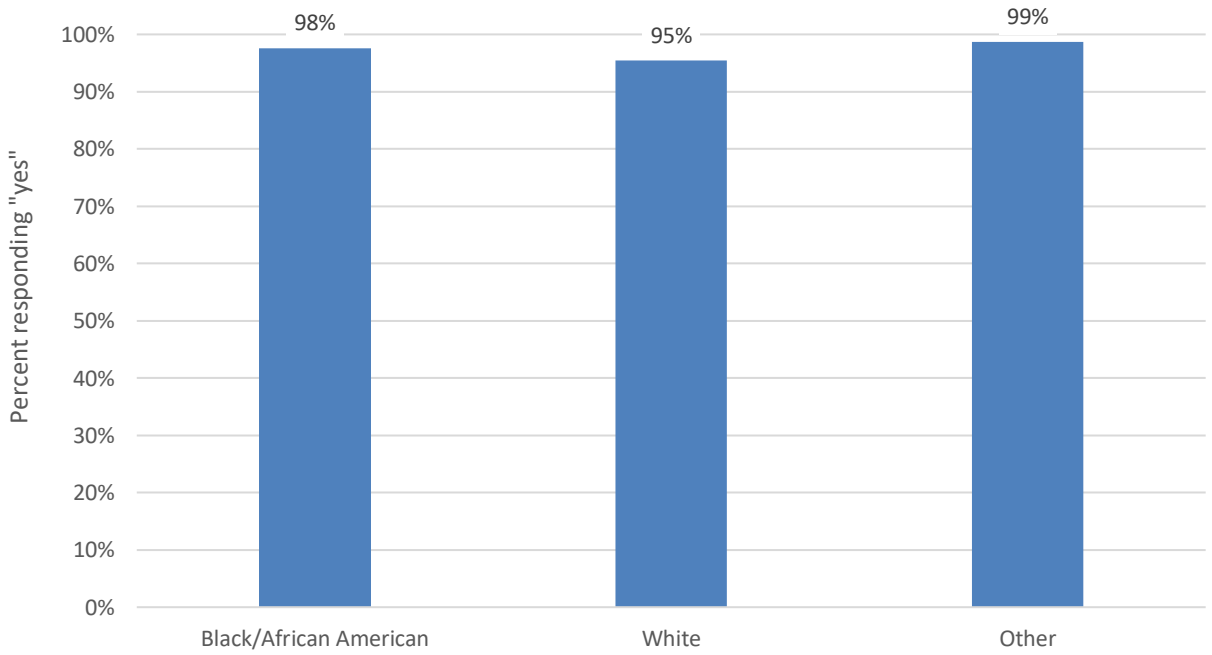


Figure 13: Percent of households that receive home internet service by student in household

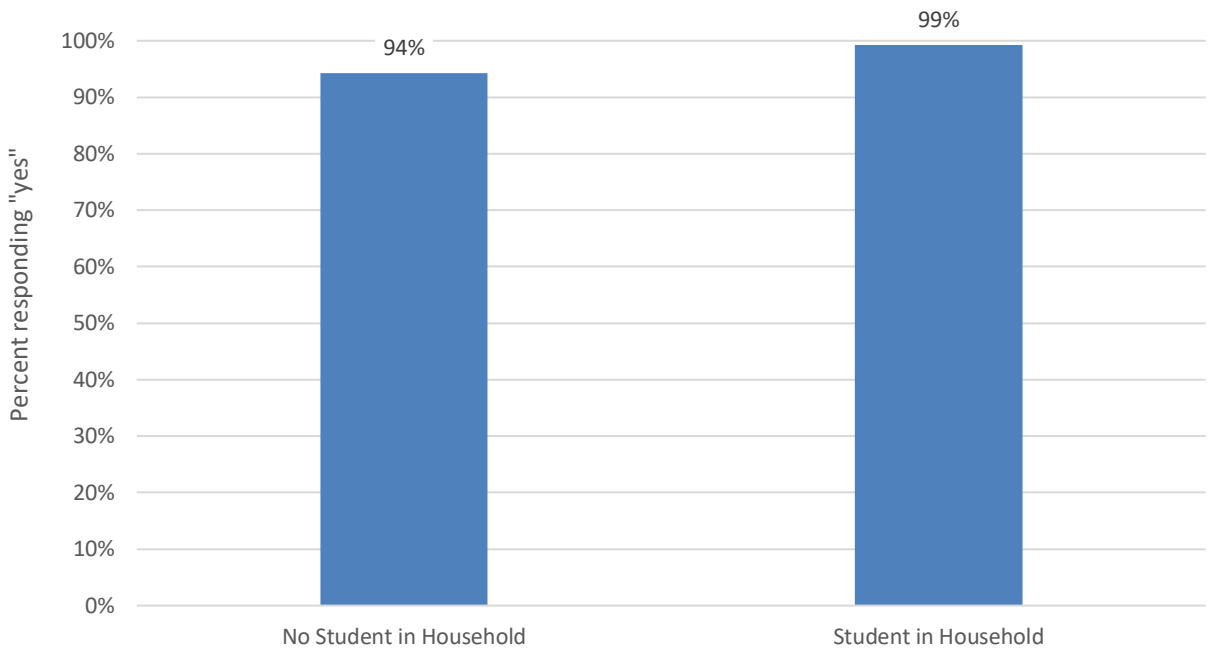


Figure 14: Percent of households that receive home internet service by household size

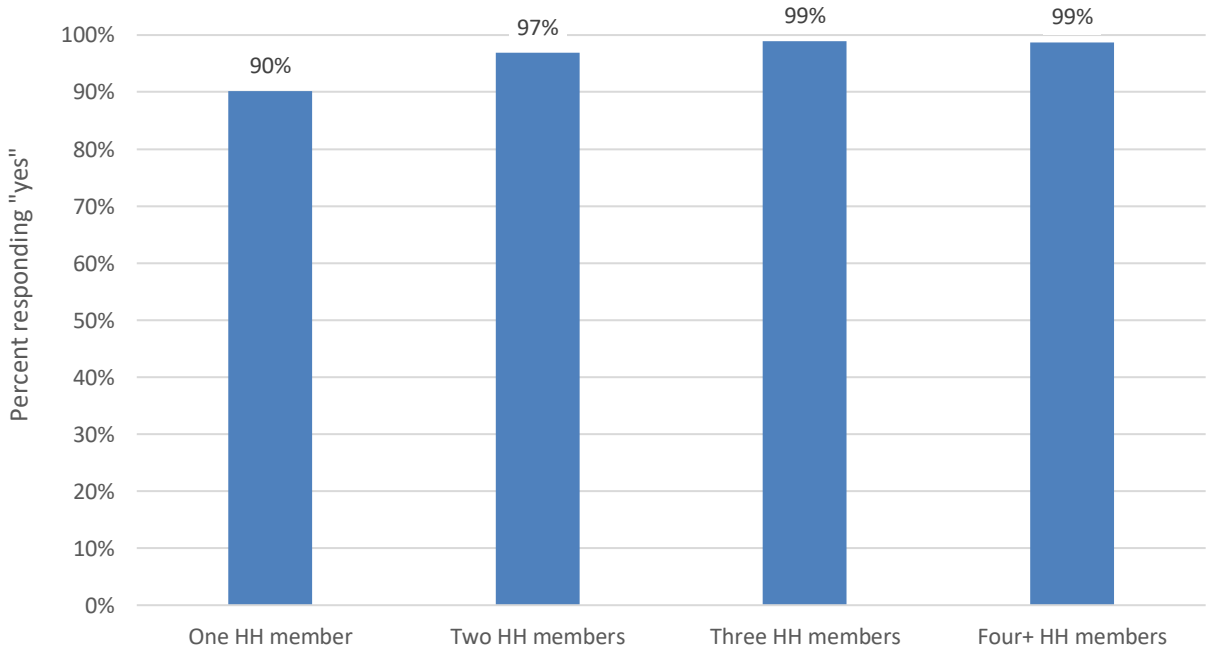


Figure 15: Percent of households that receive home internet service by children in household (at least one household member under age 18)

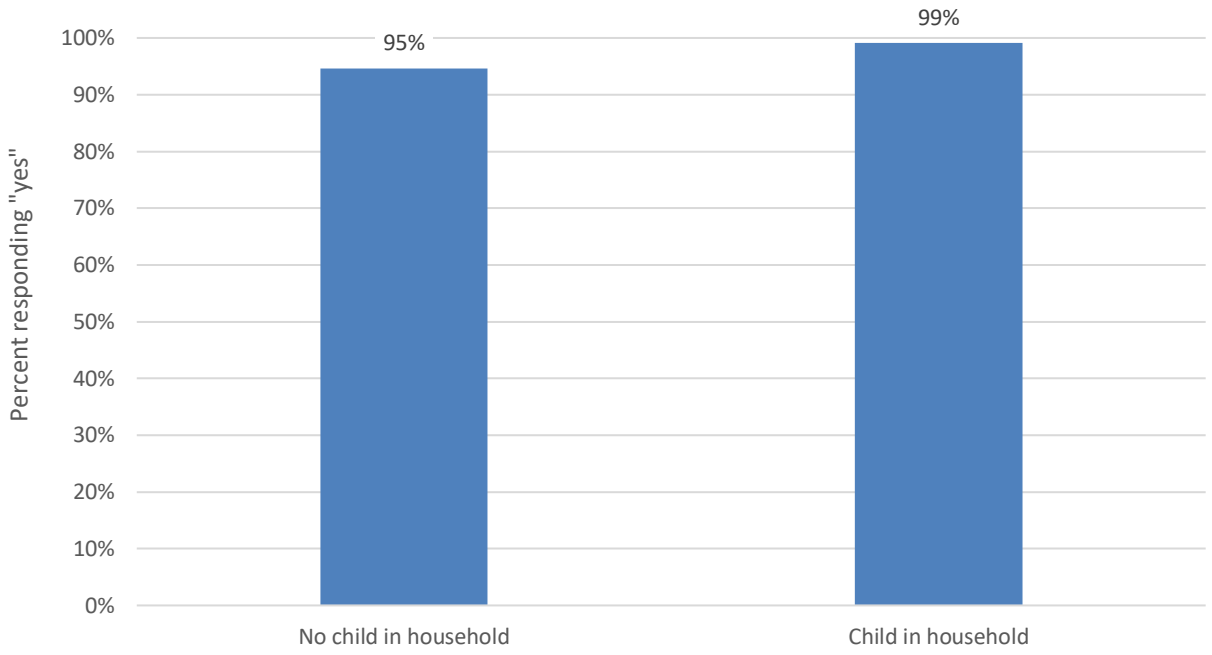


Figure 16: Percent of households that receive home internet service by seniors in household (at least one household member age 65 or older)

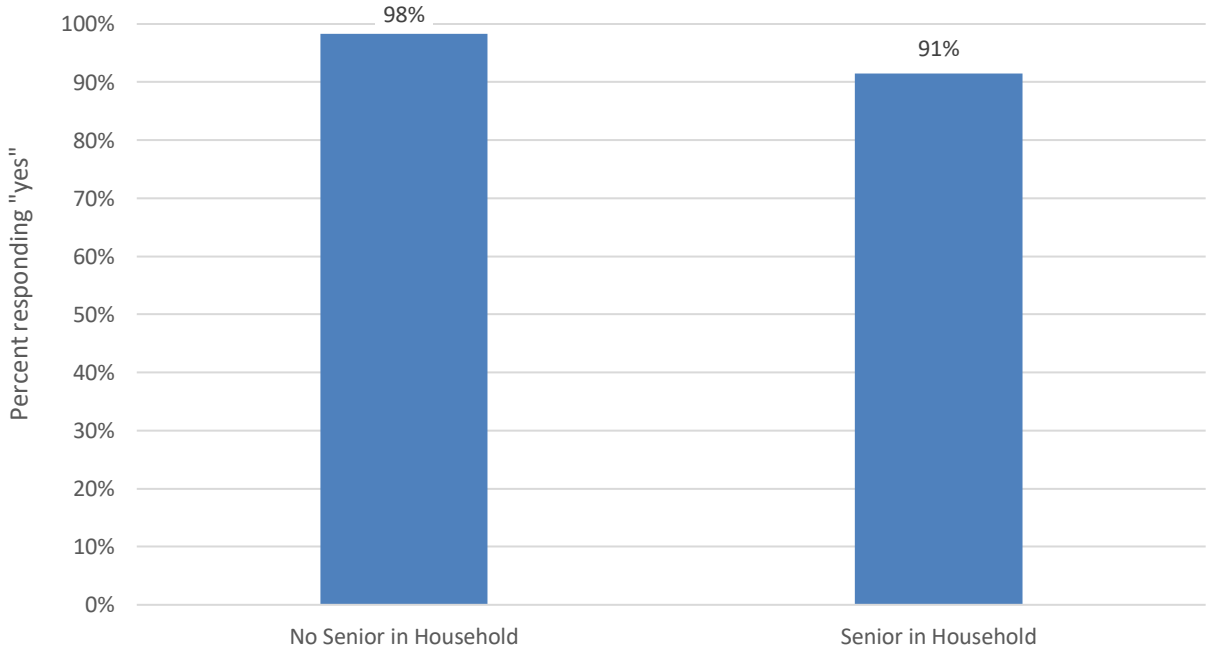
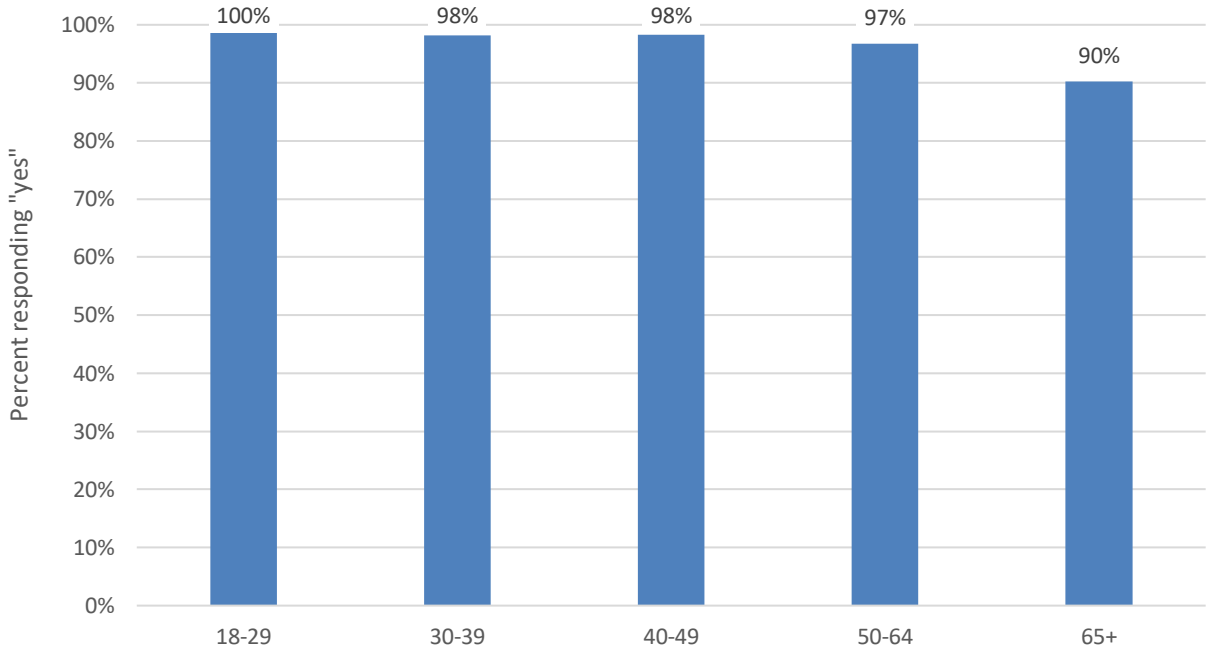


Figure 17: Percent of households that receive home internet service by respondent age



Does your household purchase home internet service from an internet service provider?

Figure 18: Percent of households that purchase home internet service

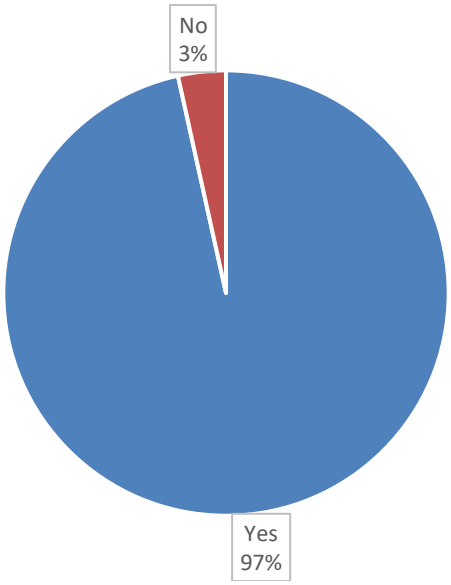


Figure 19: Percent of at-risk households that purchase home internet service

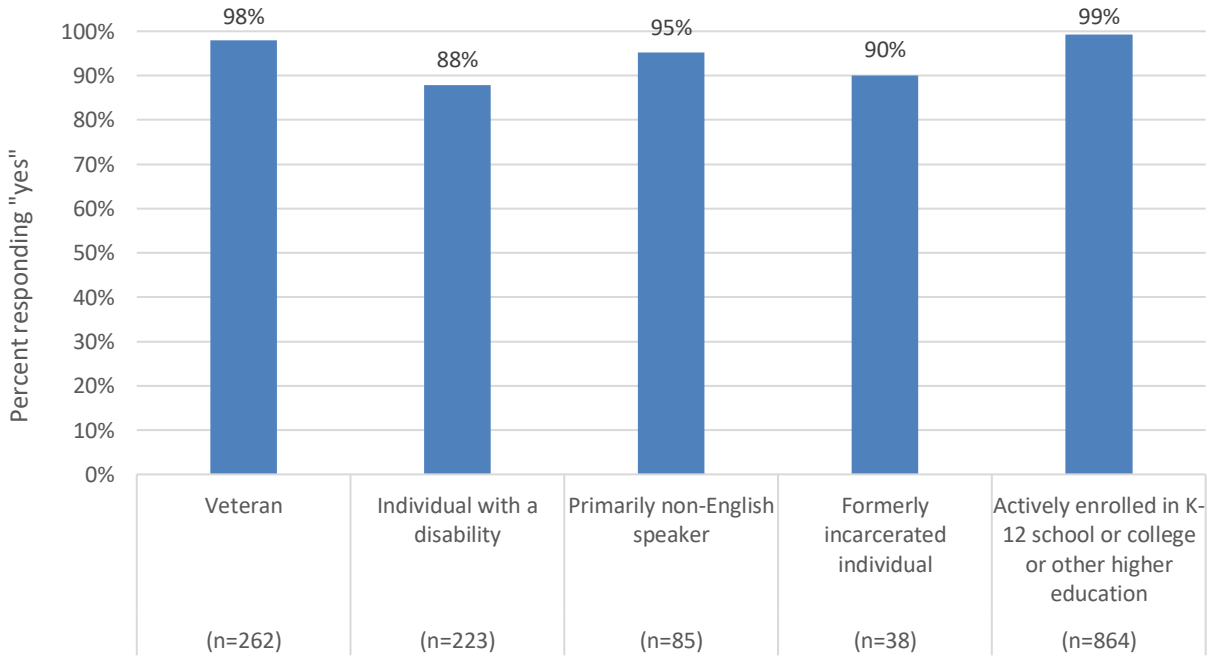


Figure 20: Percent of households that purchase home internet service by household income

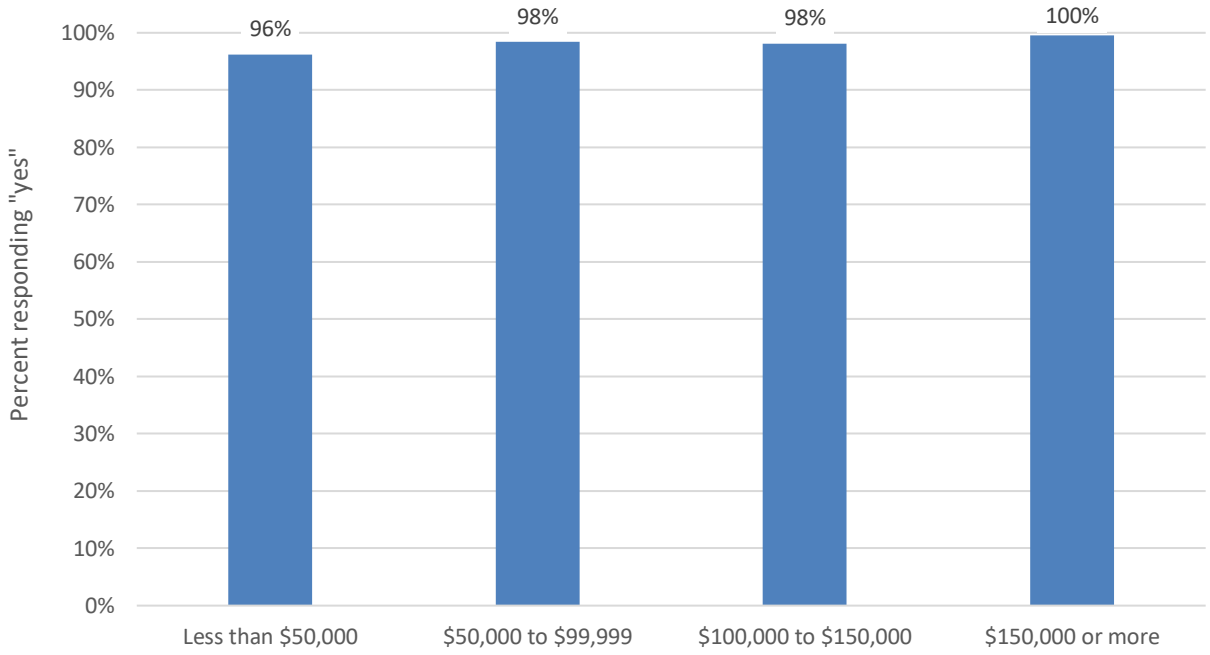


Figure 21: Percent of households that purchase home internet service by race/ethnicity

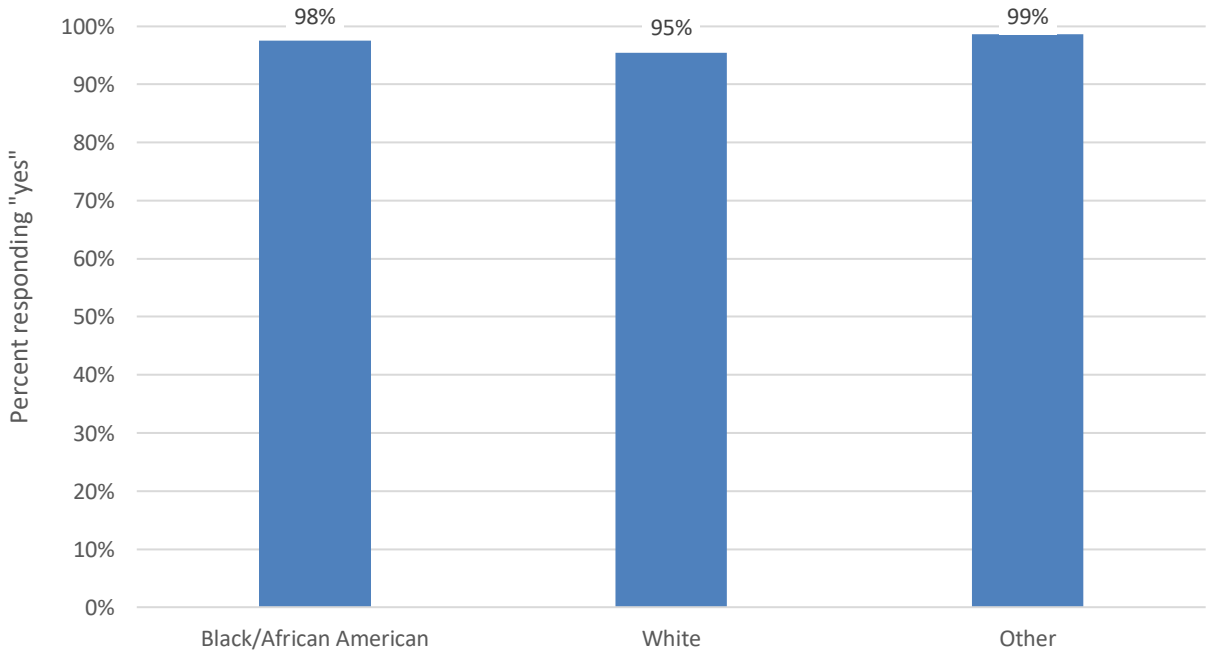


Figure 22: Percent of households that purchase home internet service by student in household

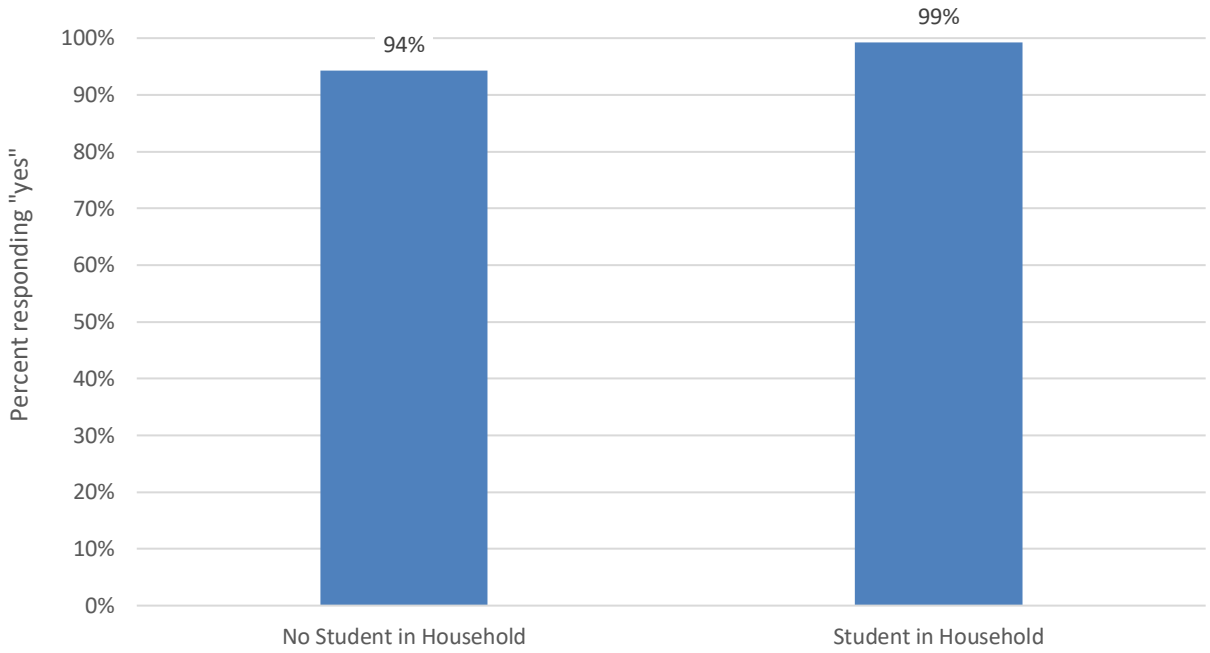


Figure 23: Percent of households that purchase home internet service by household size

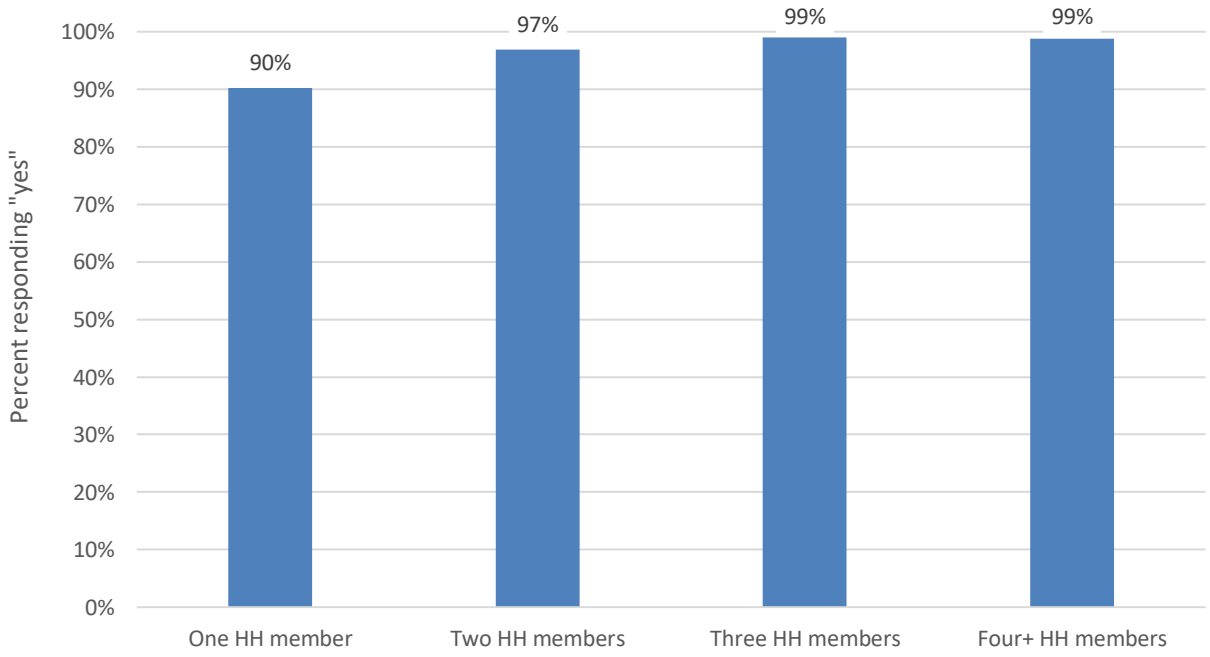


Figure 24: Percent of households that purchase home internet service by children in household (at least one household member under age 18)

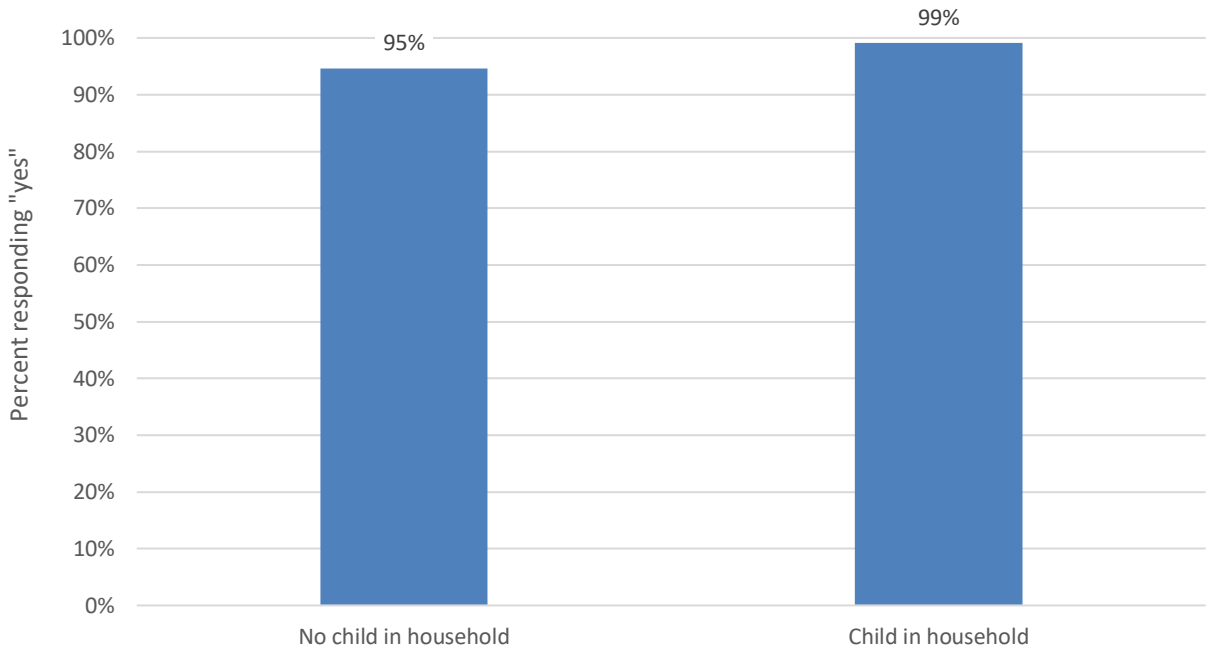


Figure 25: Percent of households that purchase home internet service by seniors in household (at least one household member age 65 or older)

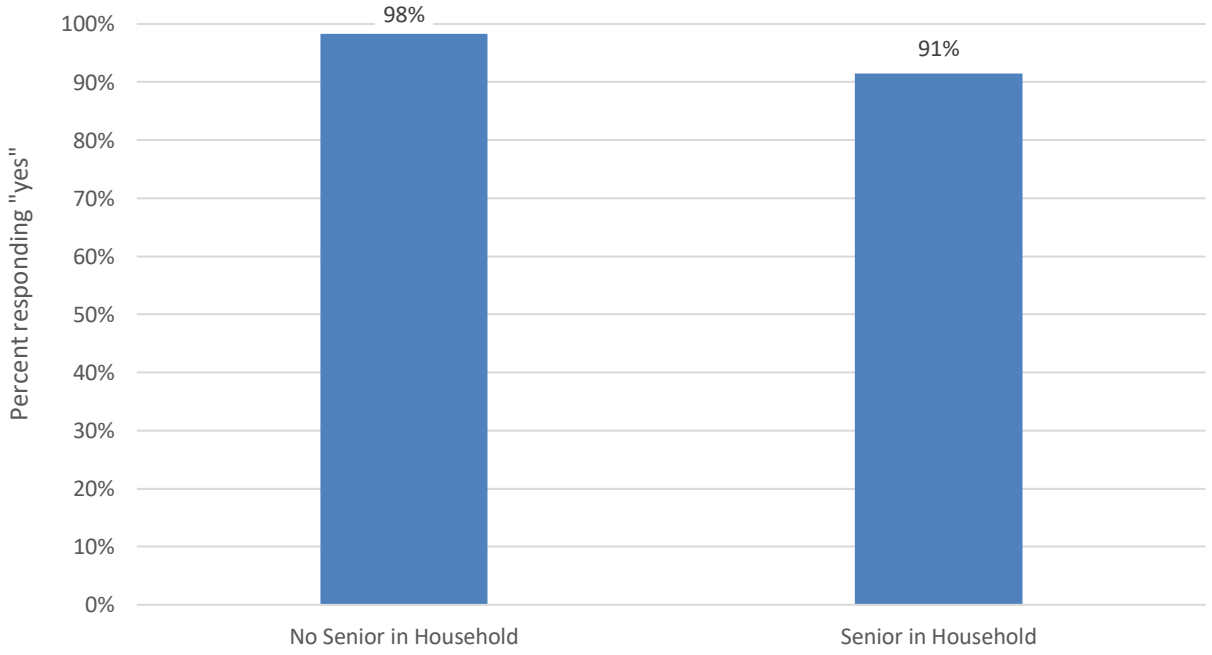
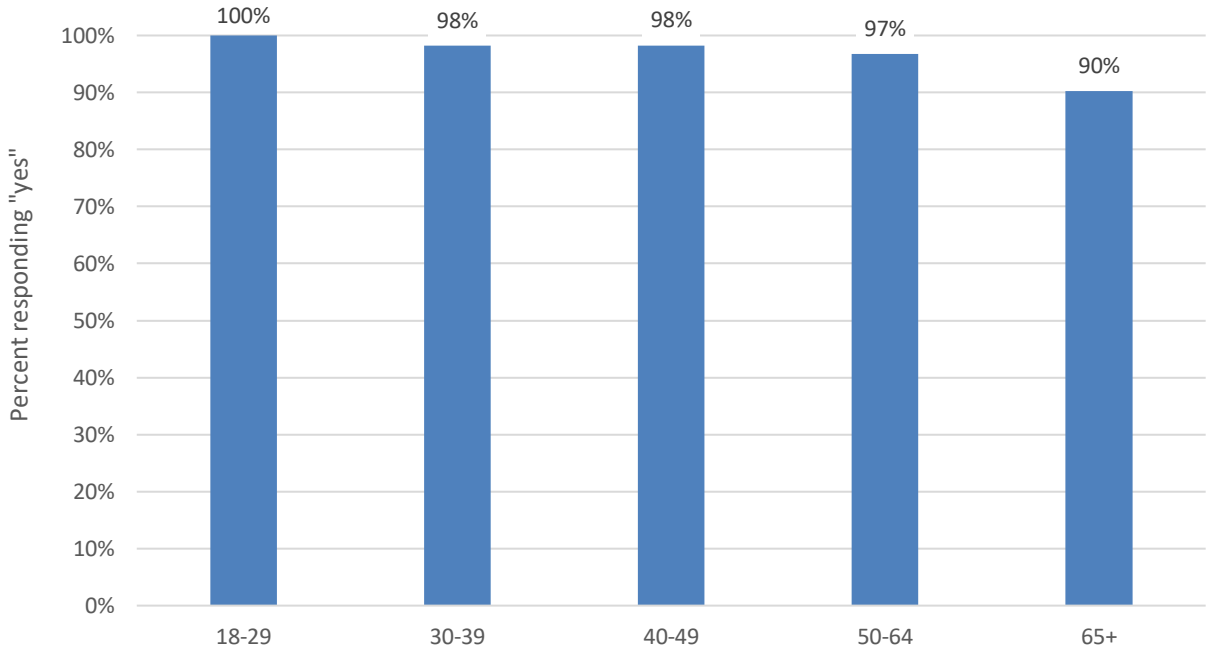
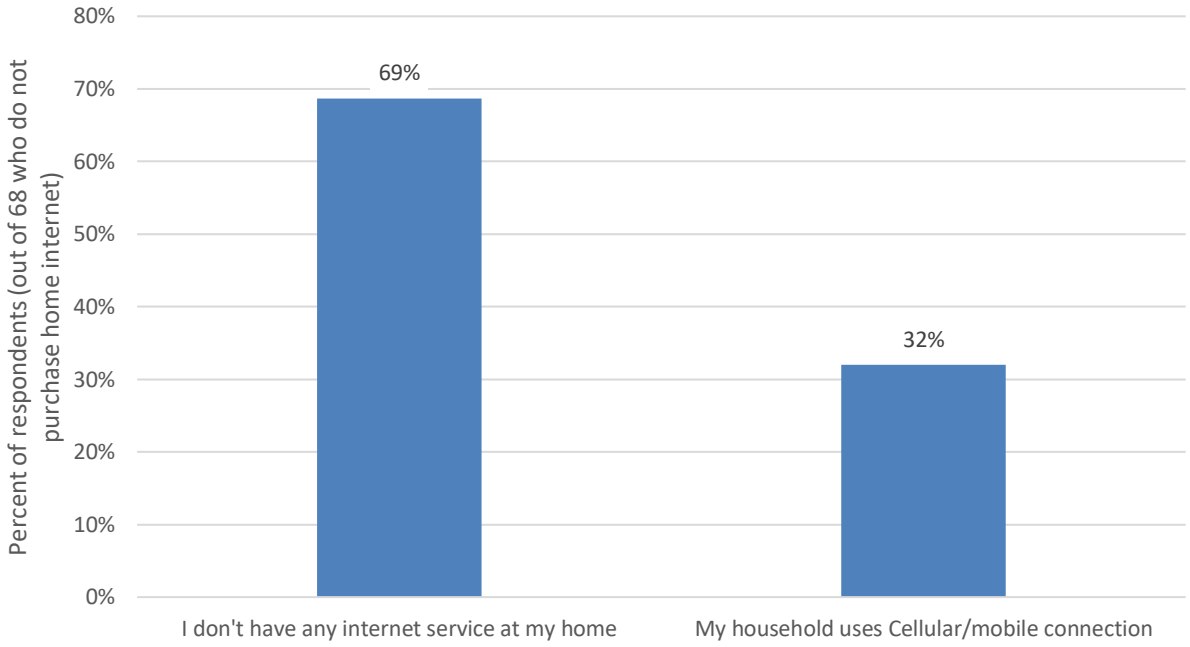


Figure 26: Percent of households that purchase home internet service by respondent age



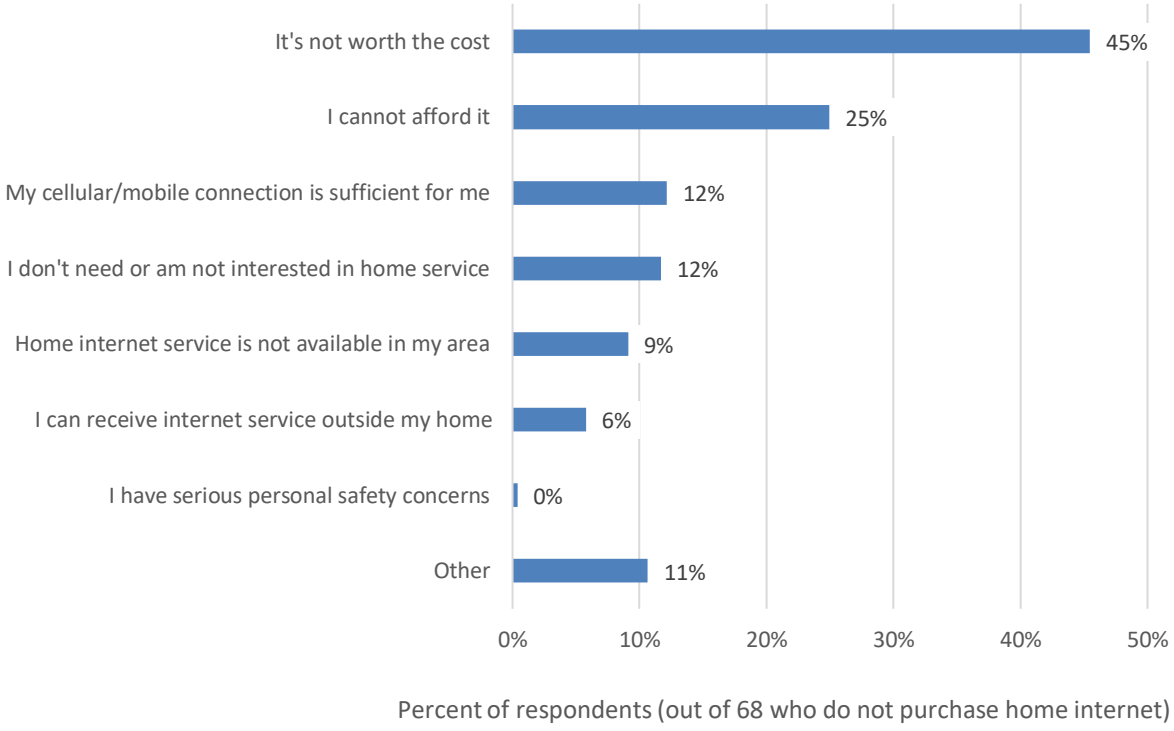
We understand that you don't purchase a home internet service. If you access the internet at home in other ways, which of the following about your service at home is correct:

Figure 27: Percent of households without home internet service who access the internet in other ways



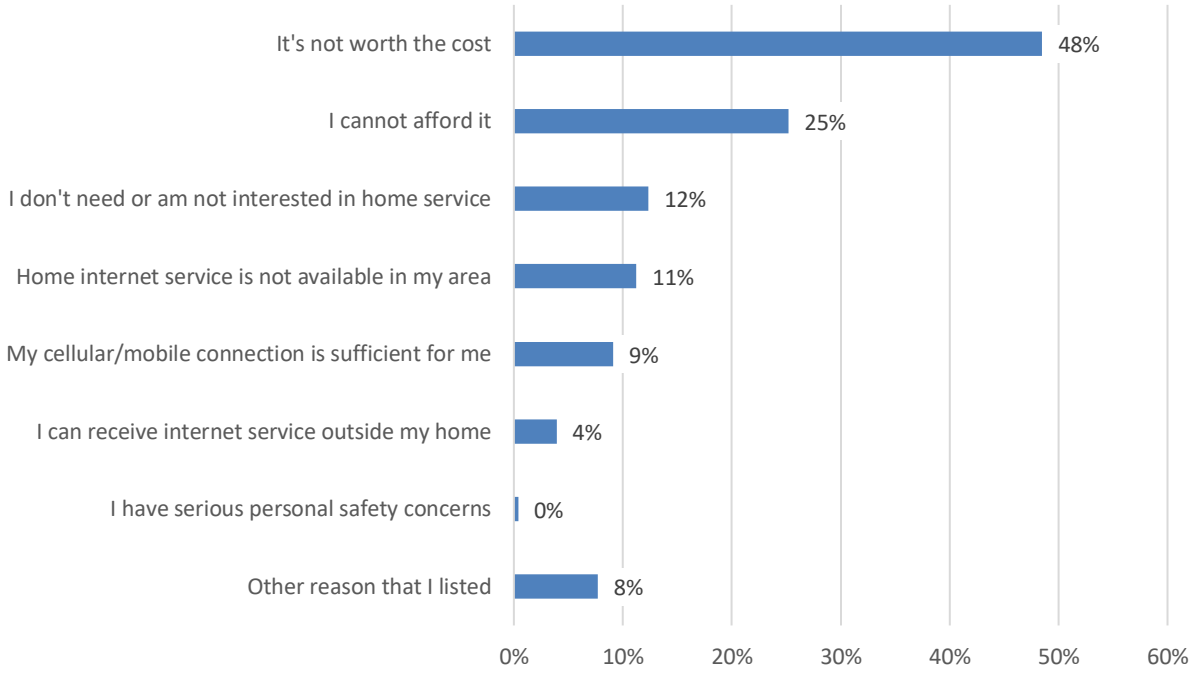
What are the reasons why your household does not purchase home internet service?

Figure 28: Reasons households do not purchase home internet service



Of the reasons you picked for not purchasing a home internet service, which do you and the members of your household consider to be the most important?

Figure 29: Most important reason households do not purchase home internet service



How reliable is your home internet service? For example, unreliable service could mean that the service is not available, or experiences sudden drops in speed.

Figure 30: Reliability of home internet service

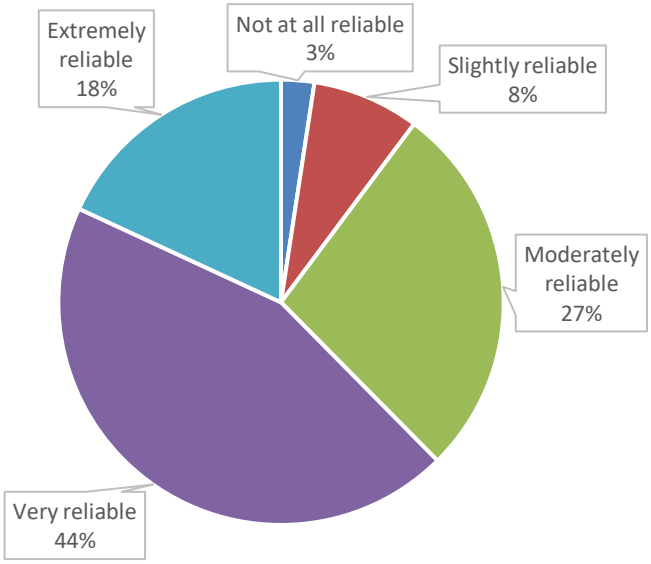


Figure 31: Reliability of home internet service by household income

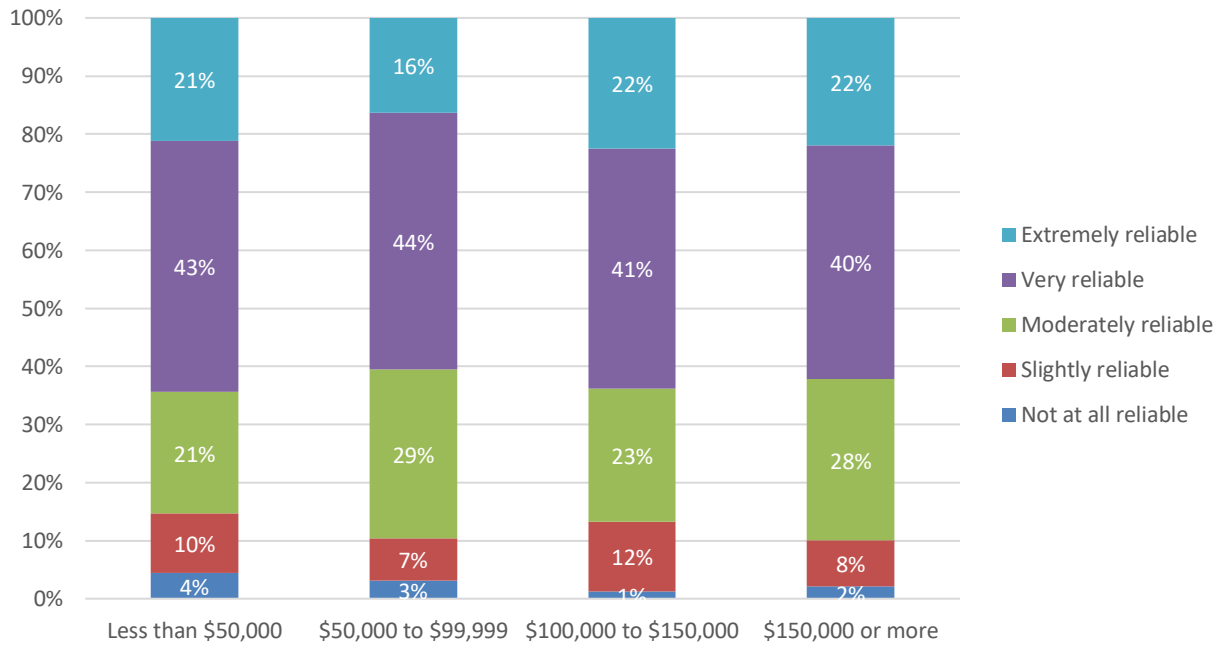


Figure 32: Reliability of home internet service by race/ethnicity

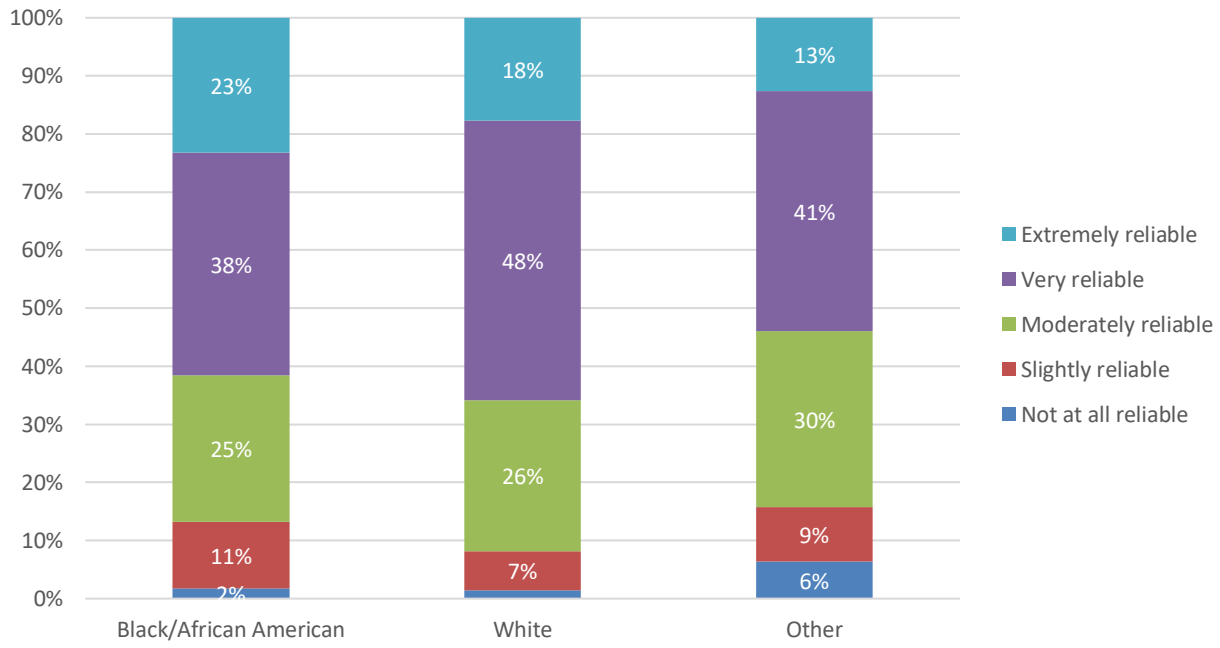


Figure 33: Reliability of home internet service by student in household

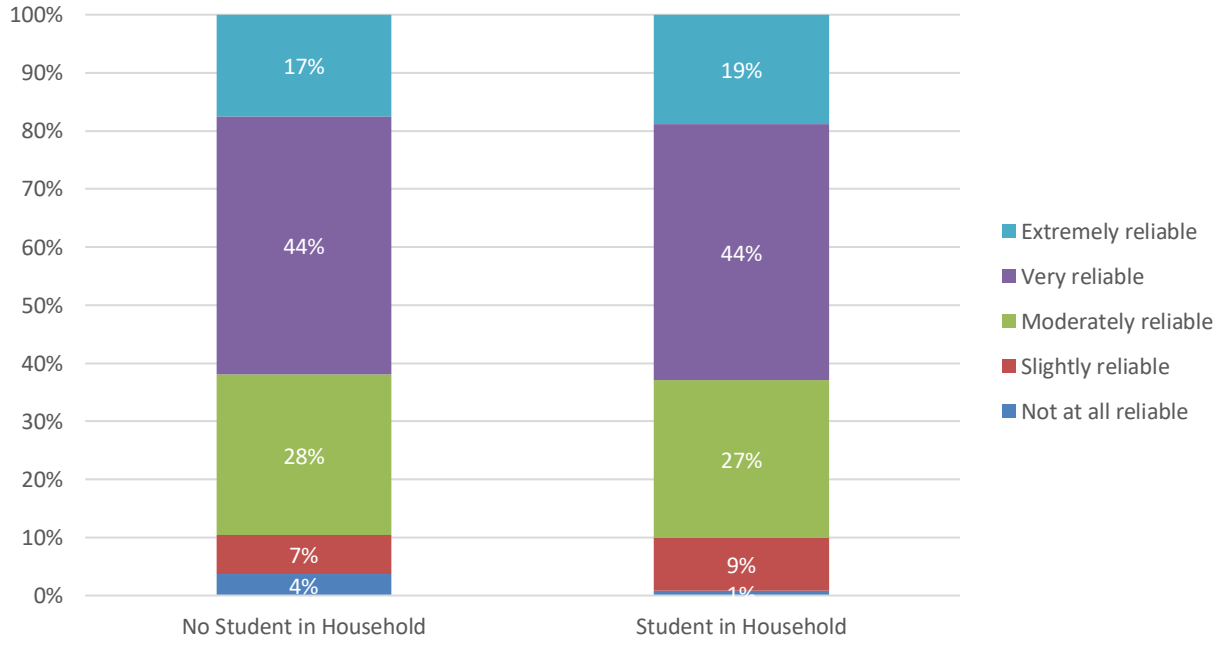


Figure 34: Reliability of home internet service by household size

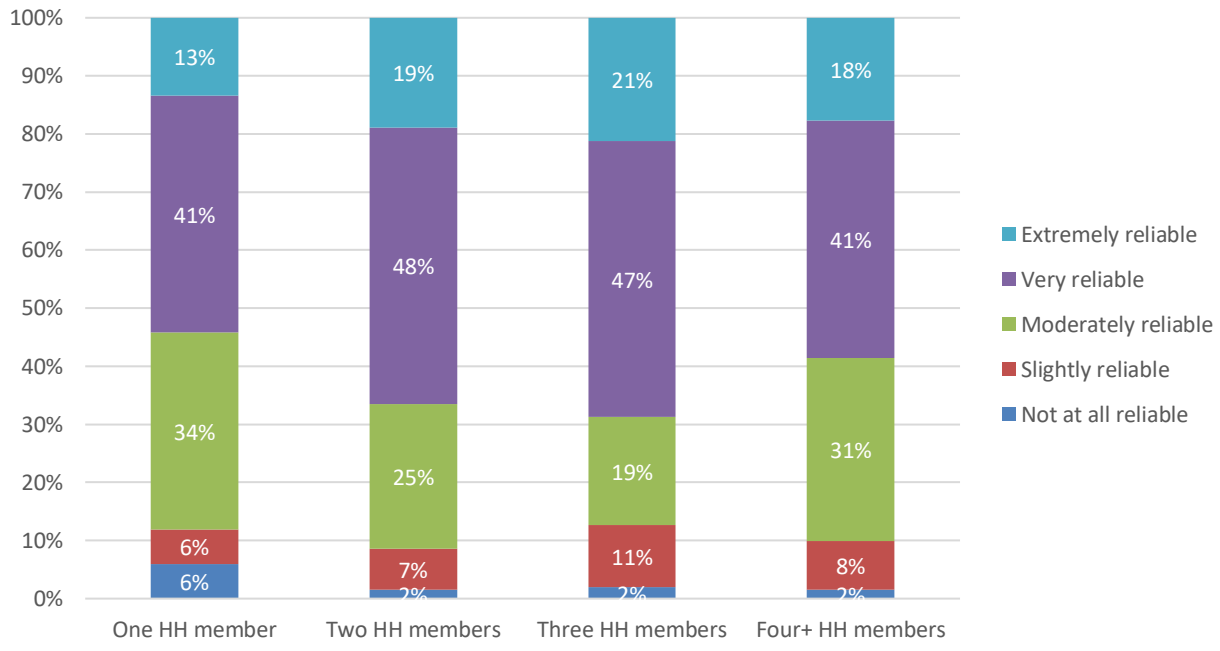


Figure 35: Reliability of home internet service by children in household (at least one person under age 18 in the household)

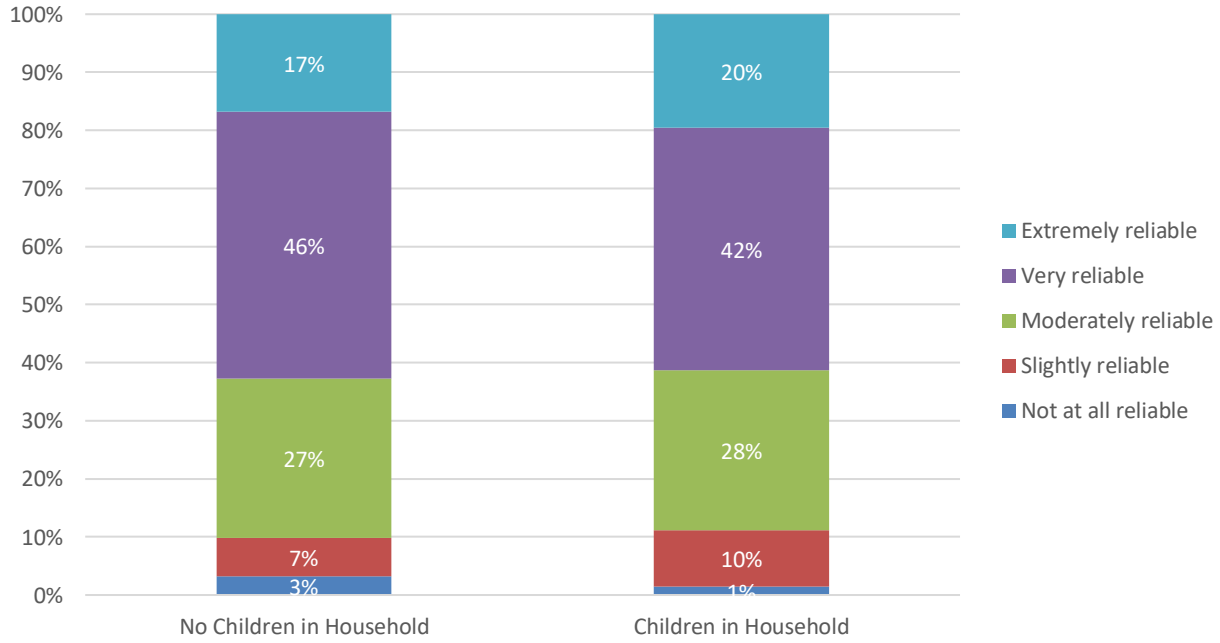


Figure 36: Reliability of home internet service by seniors in household (at least one person age 65+ in the household)

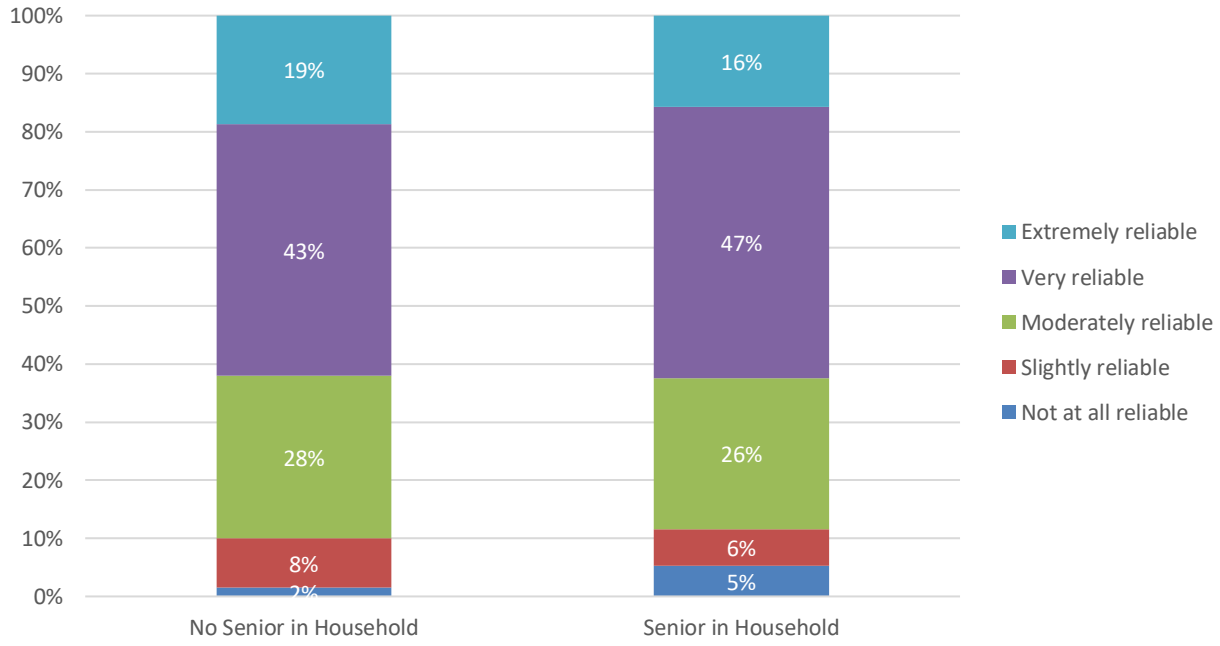
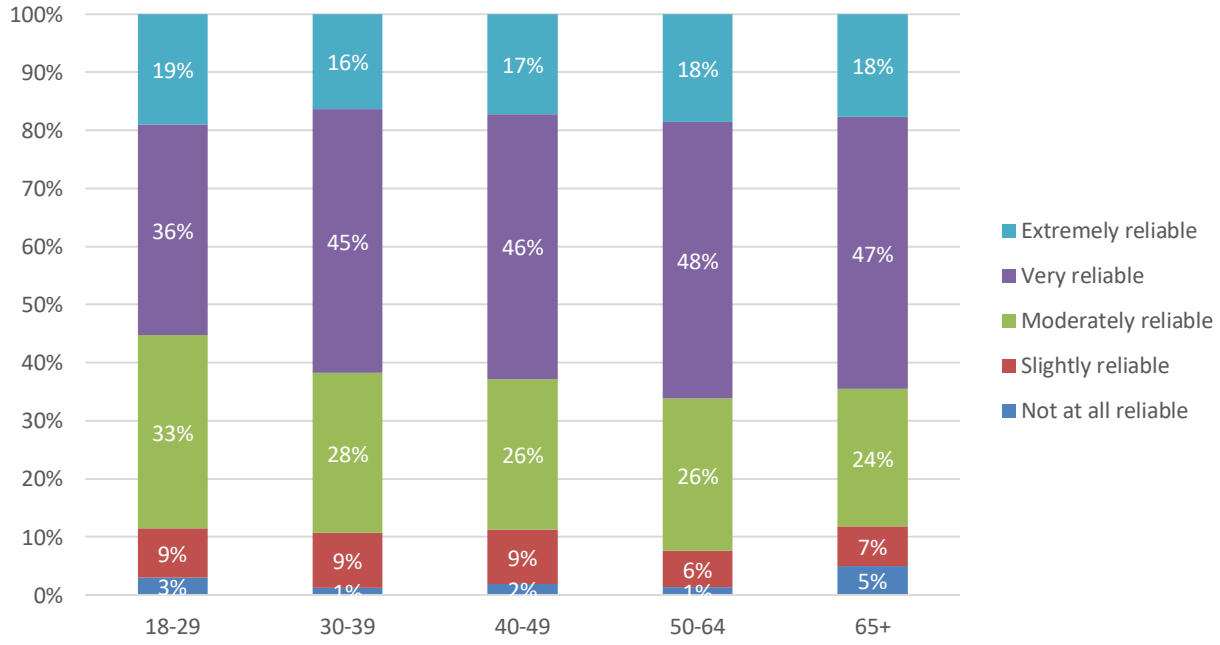


Figure 37: Reliability of home internet service by respondent age



Are you currently enrolled in the Affordable Connectivity Program, Lifeline, or a subsidy program offered by your internet service provider?

Figure 38: Percent of households with home internet service that are enrolled in subsidy programs

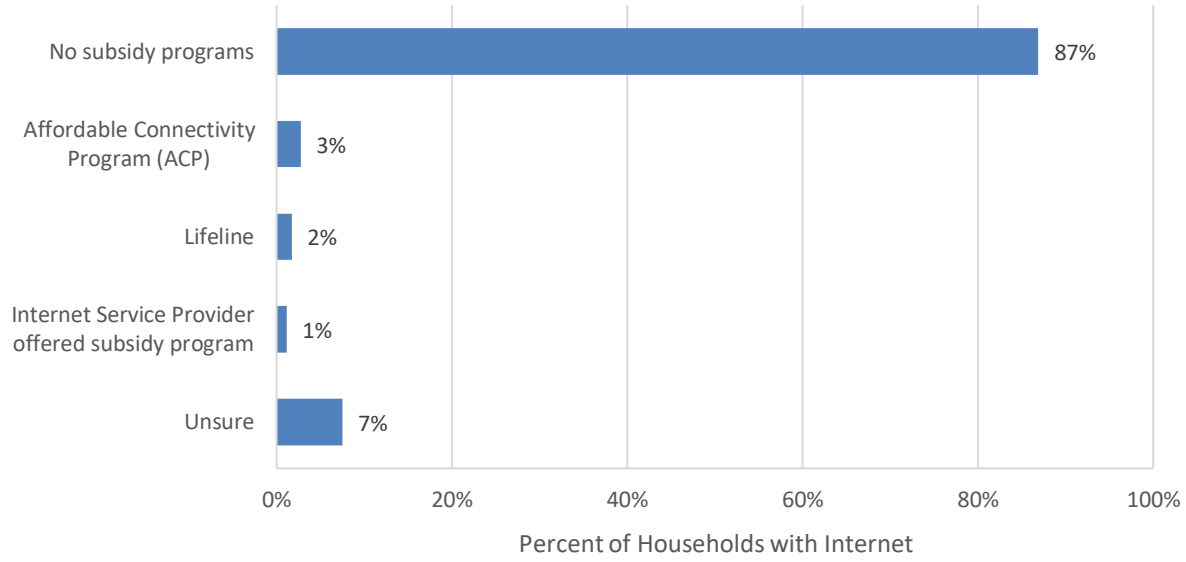
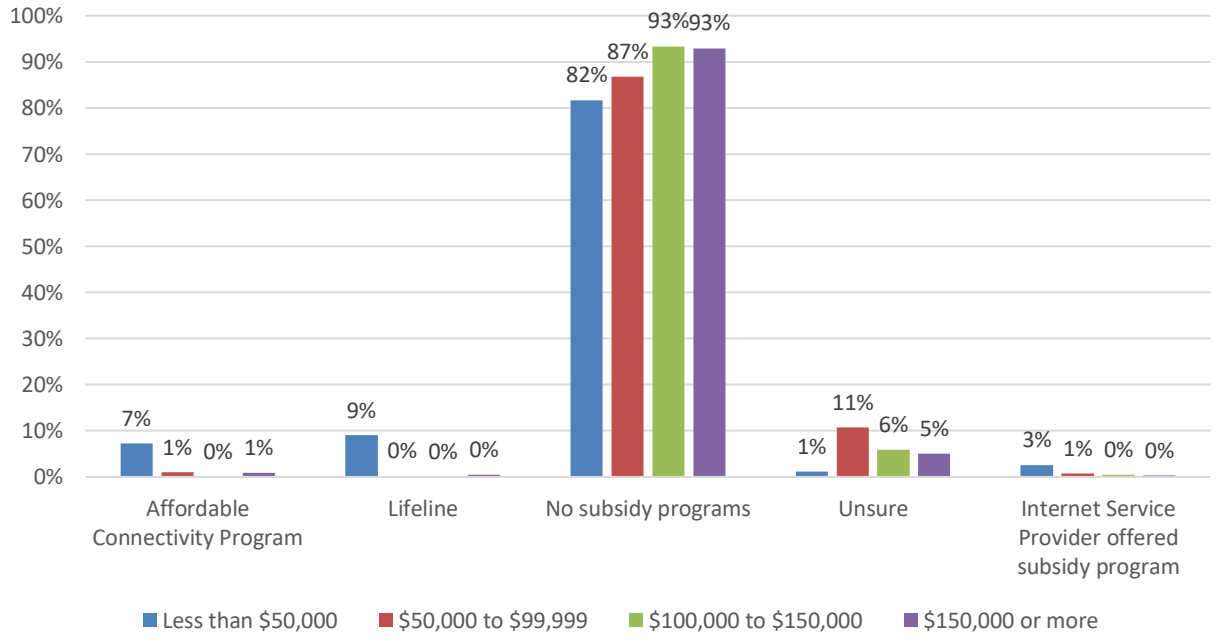


Figure 39: Percent of households with home internet service that are enrolled in subsidy programs by household income



Please estimate how much you pay per month for your home internet service.

Figure 40: Monthly cost of home internet service

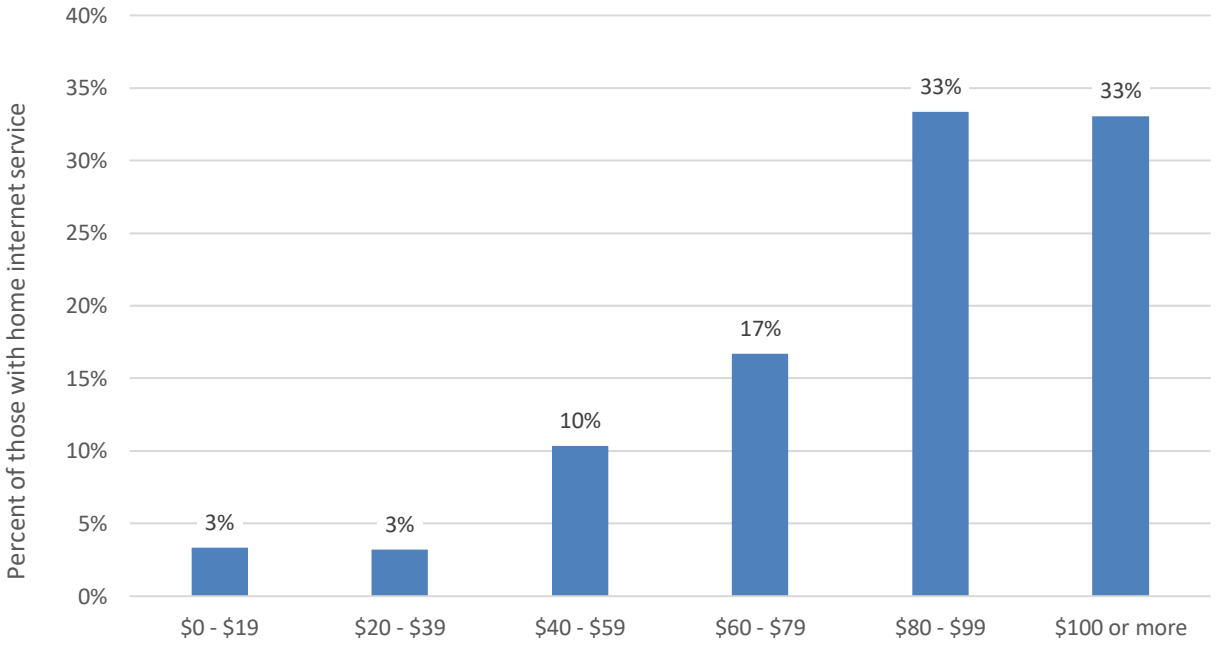
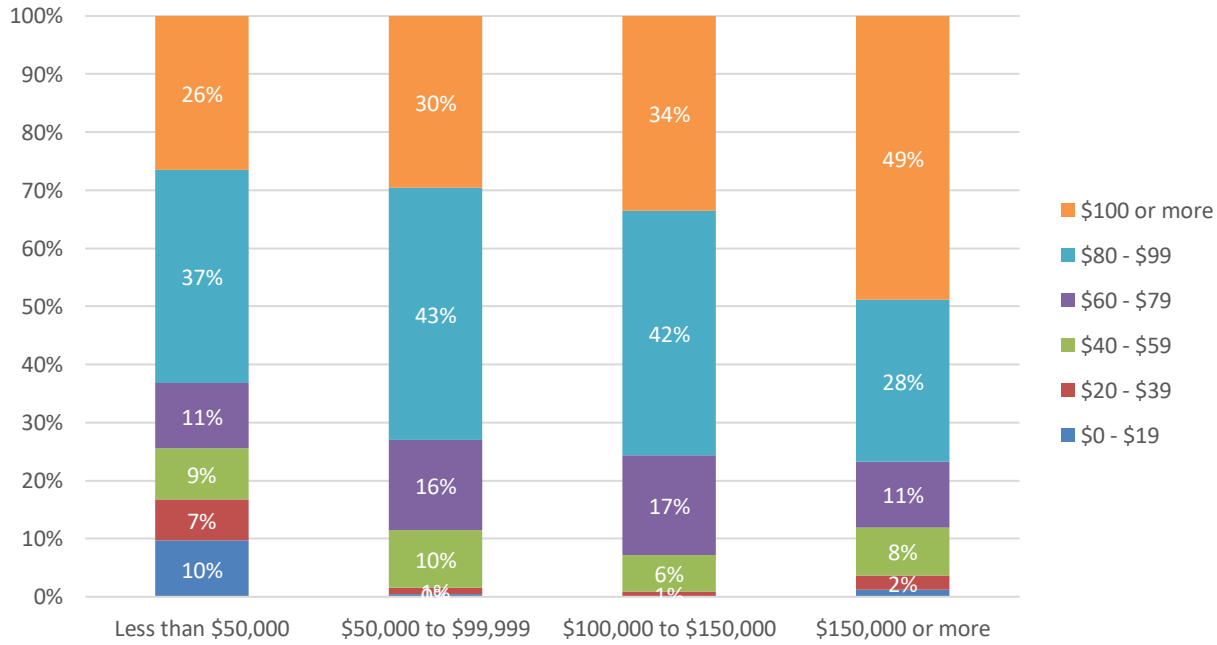


Figure 41: Monthly cost of home internet service by household income



Please estimate how much you are willing to pay per month for high-speed, reliable home internet service.

Figure 42: Amount willing to pay for high-speed, reliable home internet service

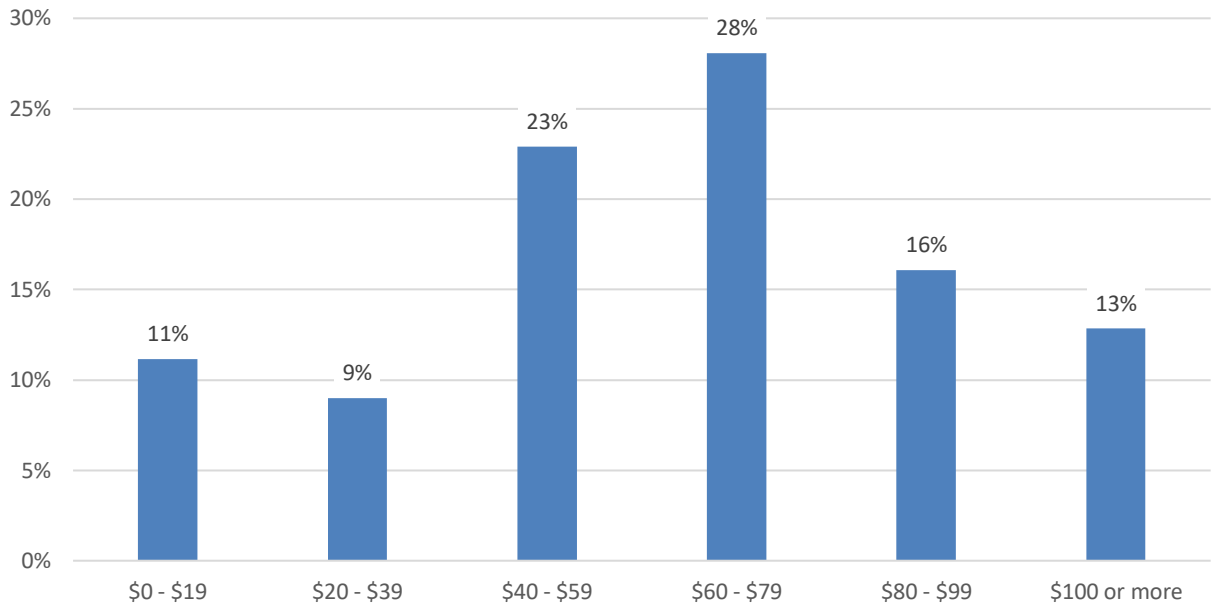
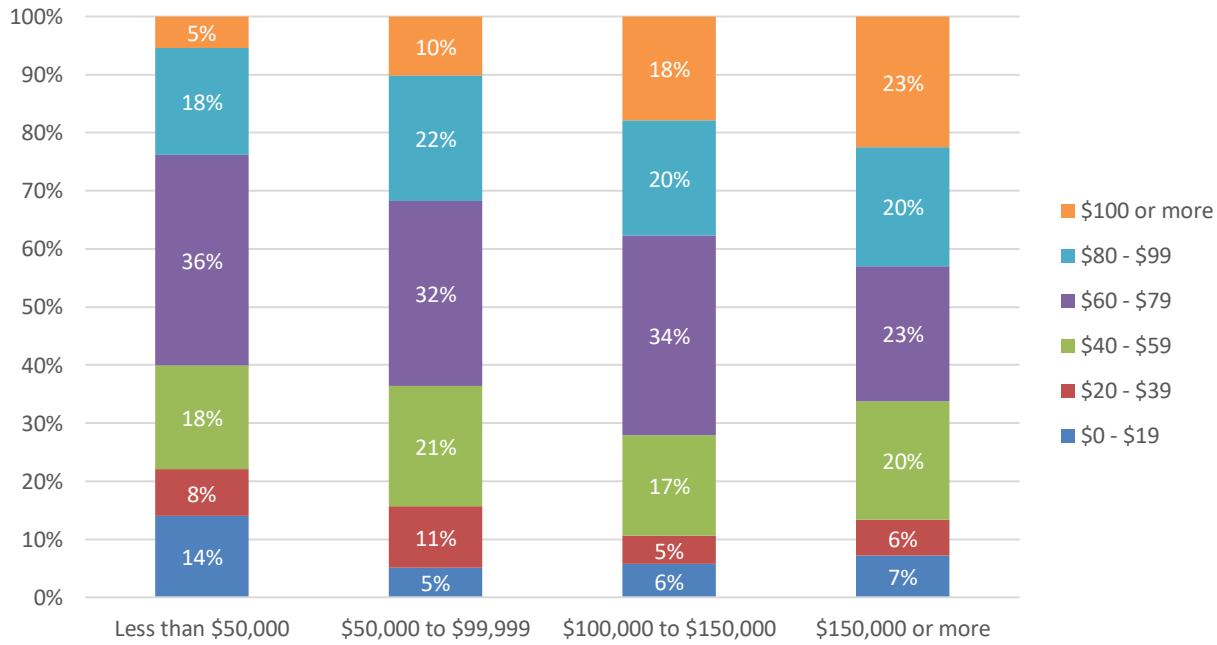


Figure 43: Amount willing to pay for high-speed, reliable home internet service by household income



For each of the following devices, how many does your household use that are in good working condition?

Figure 44: Number of computing devices in the household

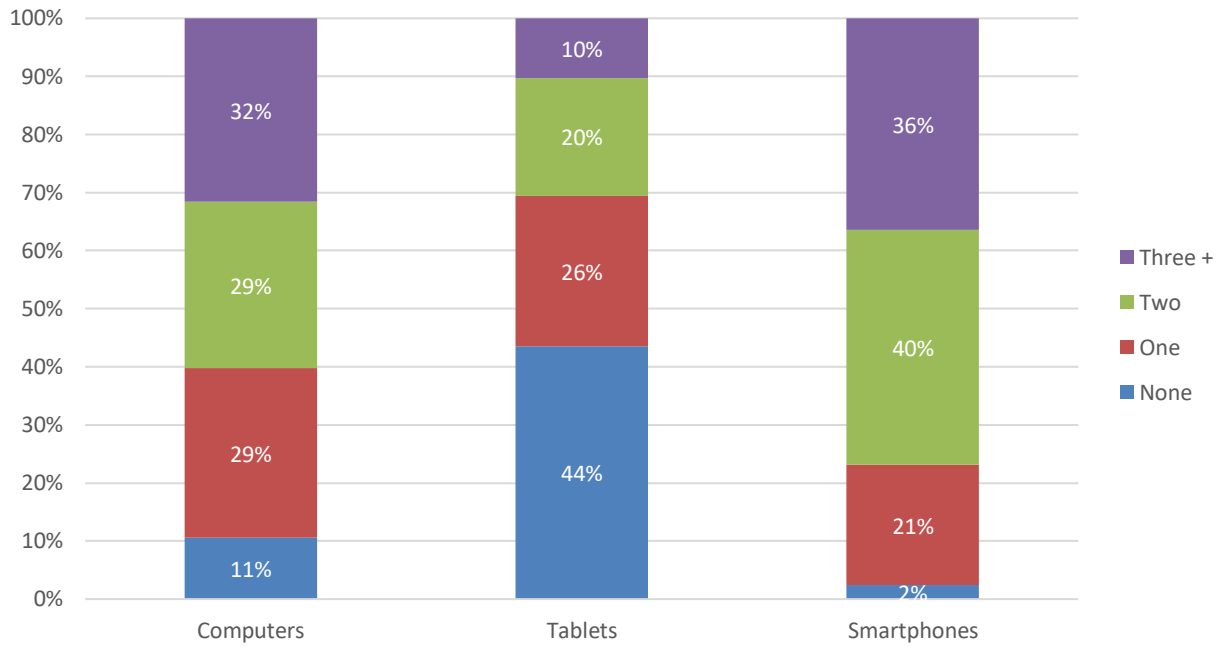


Figure 45: Average number of computing devices in the household (among households with at least one device)

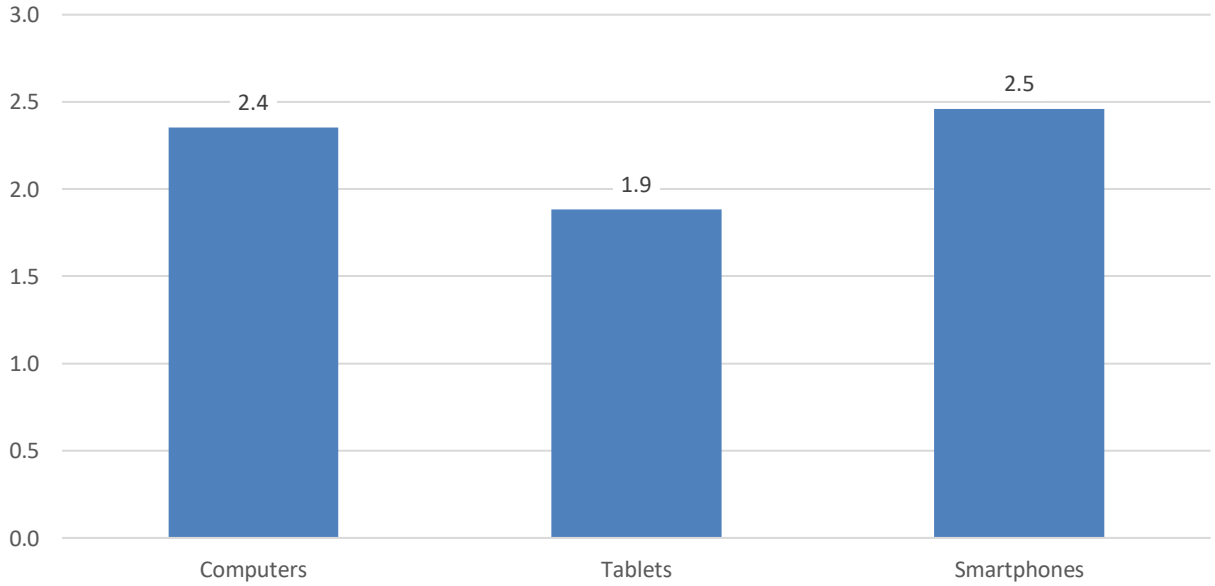


Table 35: Number of computing devices by household income

		Less than $50,000	$50,000 to $99,999	$100,000 to $150,000	$150,000 or more
Computers	None	16%	10%	7%	3%
	One	39%	38%	20%	11%
	Two	34%	30%	30%	24%
	Three or more	11%	22%	43%	62%
	Total Weighted Count	342	350	243	345
Tablets	None	53%	47%	44%	34%
	One	24%	29%	26%	24%
	Two	19%	15%	19%	25%
	Three or more	3%	8%	11%	17%
	Total Weighted Count	342	350	243	345
Smartphones	None	3%	0%	0%	0%
	One	44%	24%	13%	6%
	Two	32%	51%	41%	40%
	Three or more	21%	25%	46%	54%
	Total Weighted Count	342	350	243	345

Figure 46: Number of computers by household income

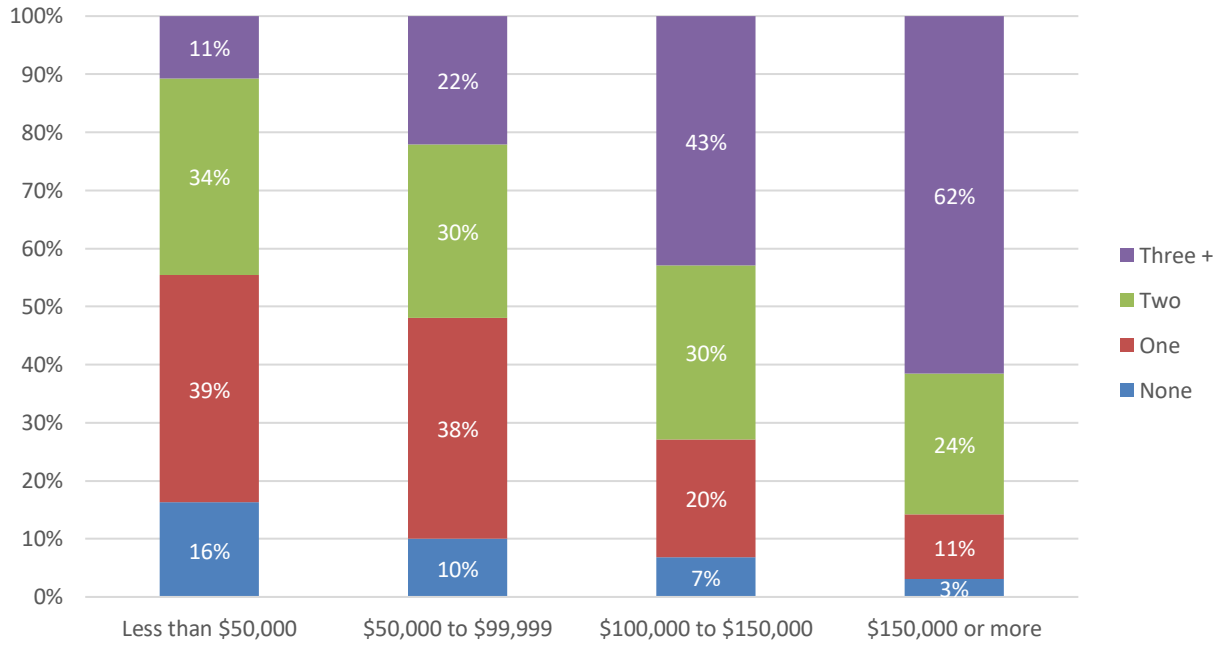


Figure 47: Number of tablets by household income

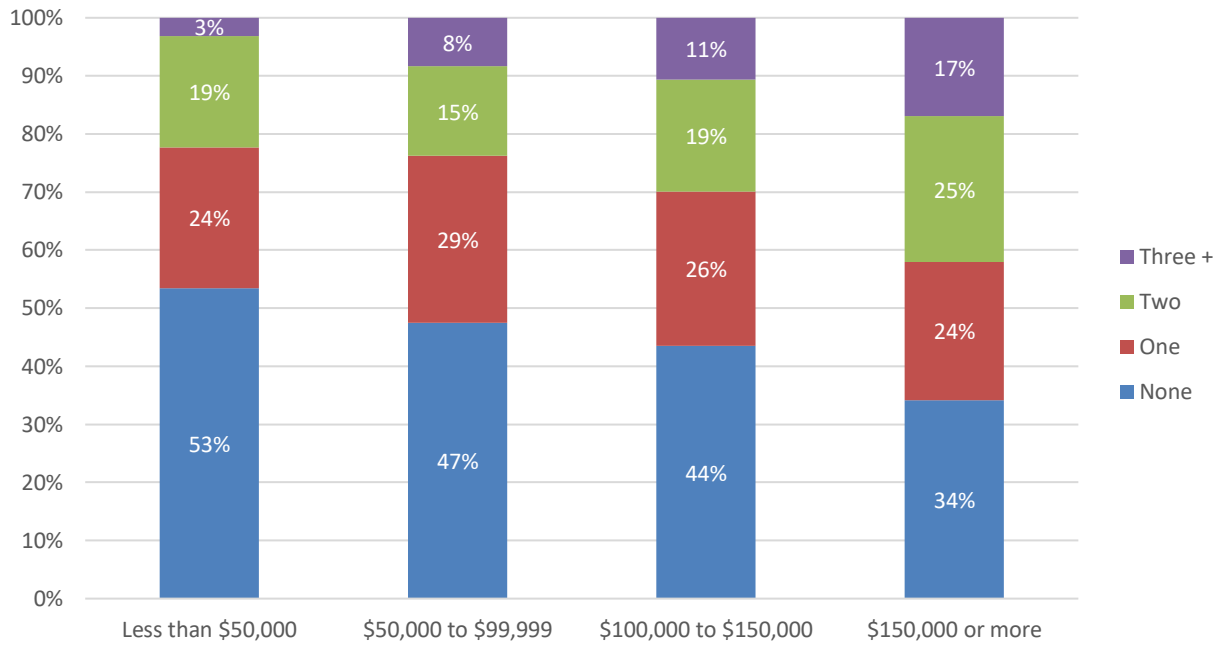


Figure 48: Number of smartphones by household income

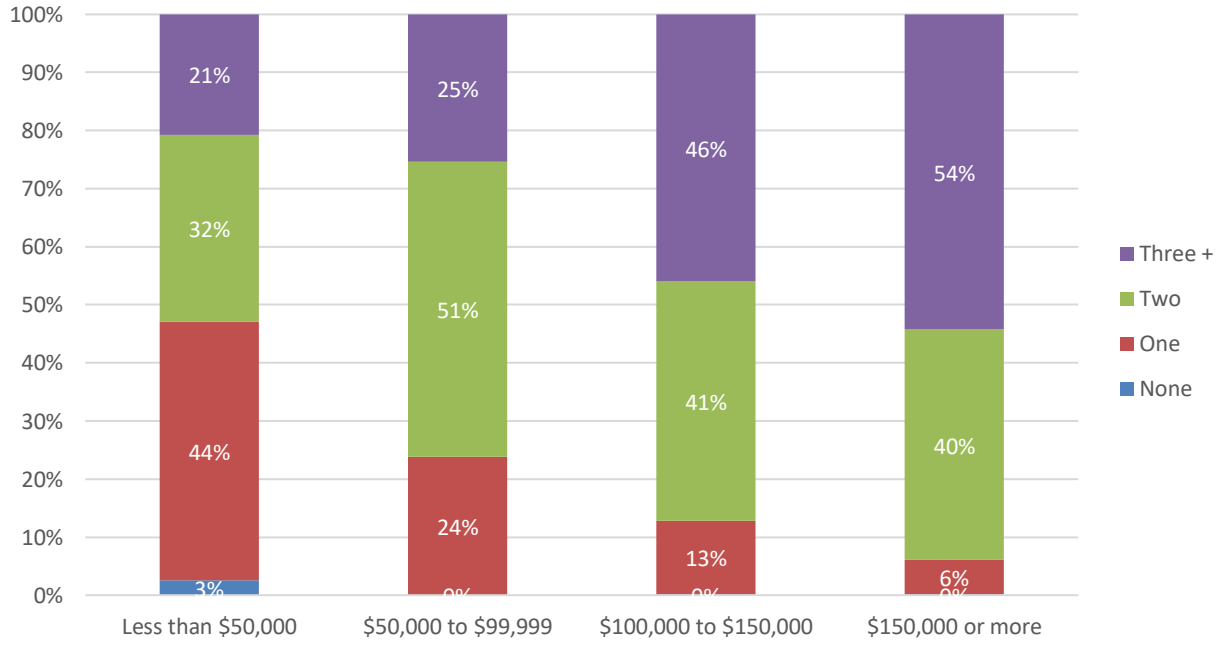


Table 36: Number of computing devices by race/ethnicity

		Black/African American	White	Other
Computers	None	11%	10%	9%
	One	28%	30%	25%
	Two	28%	29%	32%
	Three or more	32%	31%	35%
	Total Weighted Count	455	939	280
Tablets	None	41%	42%	57%
	One	26%	29%	18%
	Two	22%	21%	16%
	Three or more	12%	9%	8%
	Total Weighted Count	455	939	280
Smartphones	None	0%	3%	0%
	One	22%	19%	29%
	Two	38%	45%	26%
	Three or more	39%	33%	44%
	Total Weighted Count	455	939	280

Figure 49: Number of computers by race/ethnicity

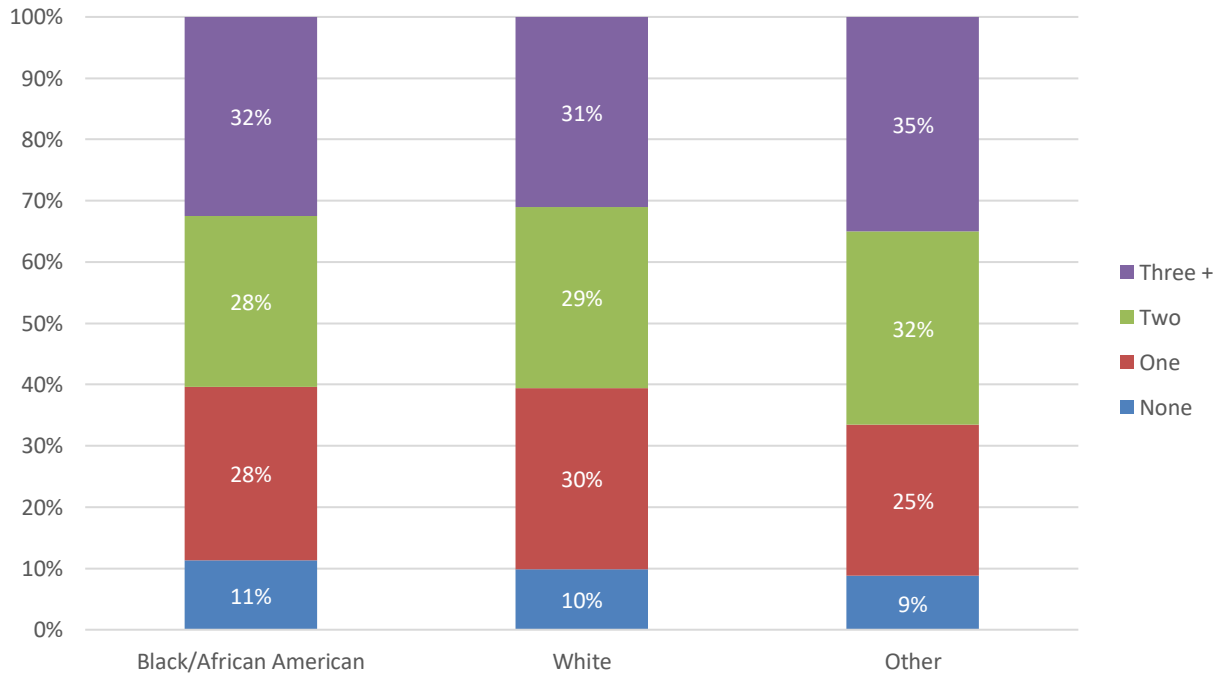


Figure 50: Number of tablets by race/ethnicity

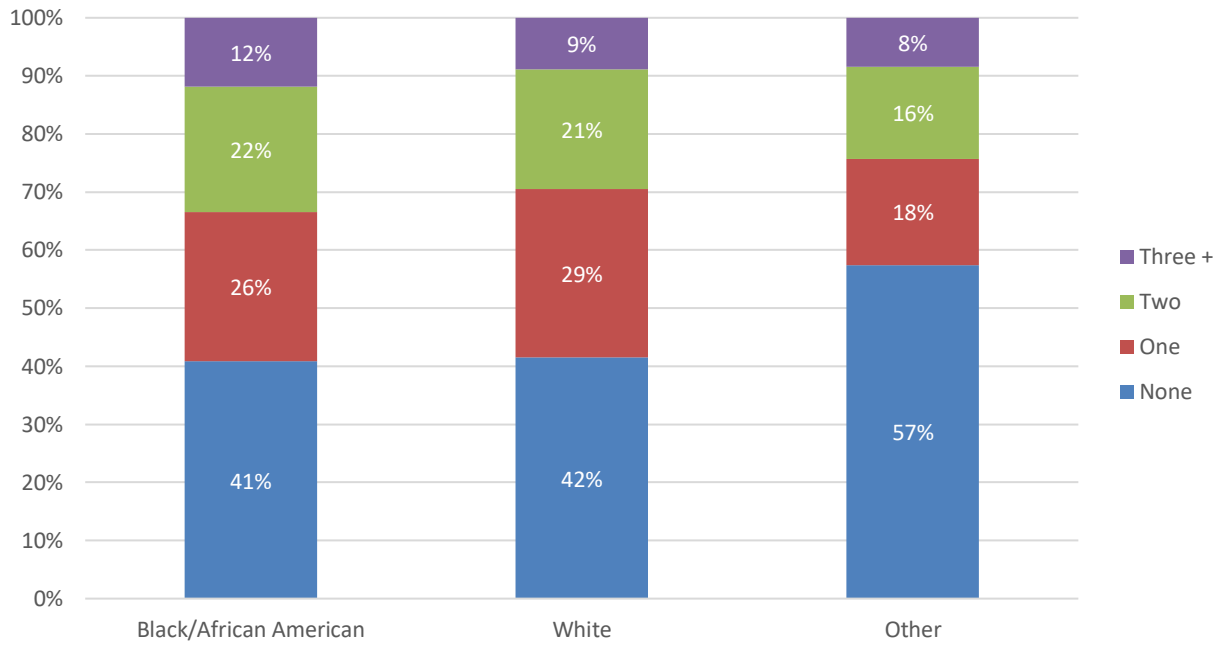


Figure 51: Number of smartphones by race/ethnicity

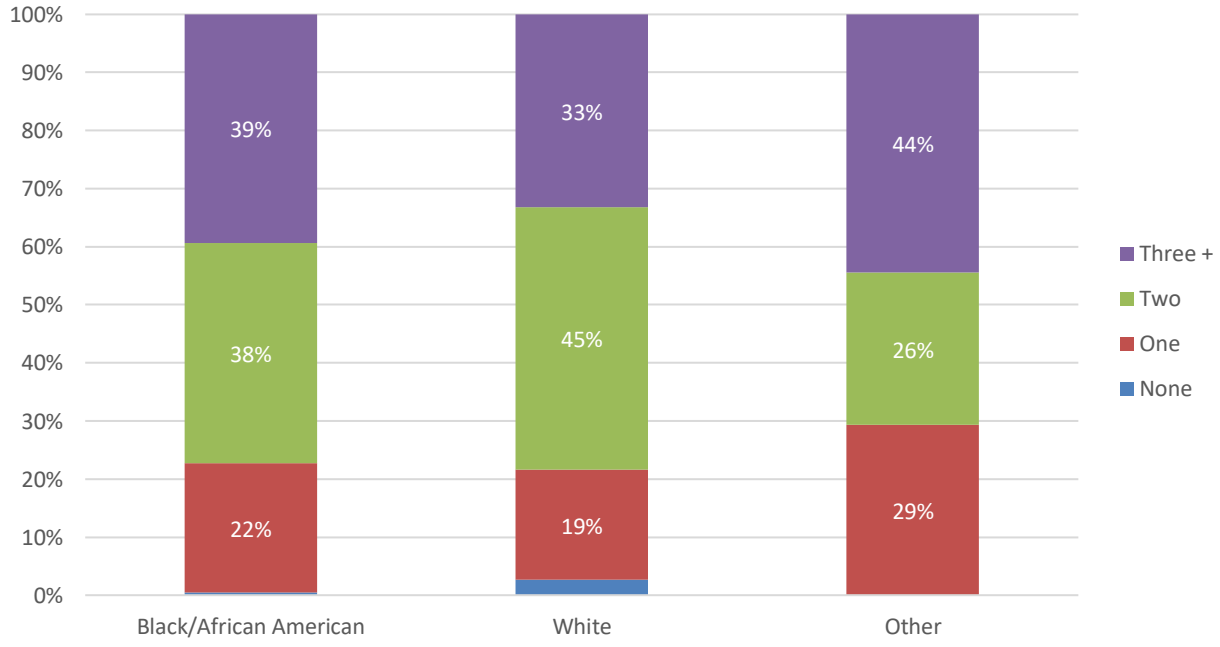


Table 37: Number of computing devices in at-risk households

		Veteran	Individual with a disability	Primarily non-English speaker	Formerly incarcerated individual	Actively enrolled in K-12 school or college or other higher education
Computers	None	12%	19%	21%	28%	5%
	One	26%	23%	41%	34%	27%
	Two	27%	28%	16%	16%	28%
	Three or more	35%	31%	22%	21%	40%
	Total Weighted Count	262	223	85	38	864
Tablets	None	32%	44%	81%	19%	36%
	One	24%	24%	8%	15%	24%
	Two	30%	17%	8%	56%	27%
	Three or more	15%	16%	3%	10%	13%
	Total Weighted Count	262	223	85	38	864
Smartphones	None	1%	8%	1%	0%	0%
	One	15%	22%	36%	23%	13%
	Two	50%	34%	32%	52%	34%
	Three or more	34%	36%	32%	24%	53%
	Total Weighted Count	262	223	85	38	864

Figure 52: Number of computers by student in household

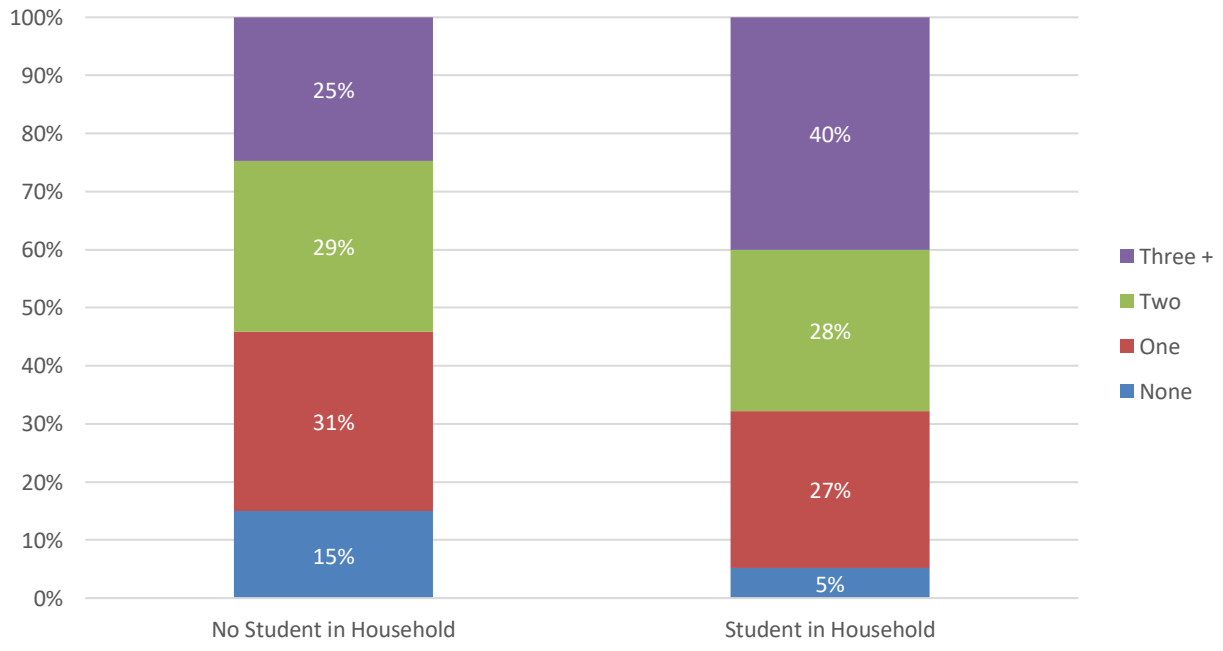


Figure 53: Number of tablets by student in household

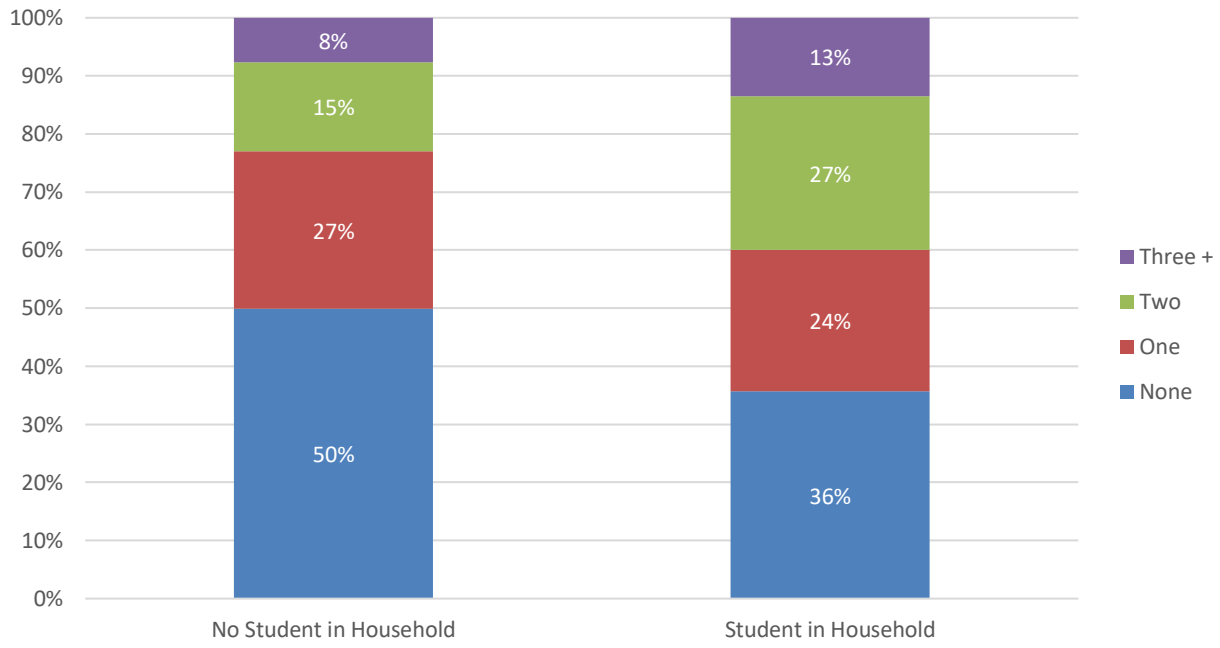


Figure 54: Number of smartphones by student in household

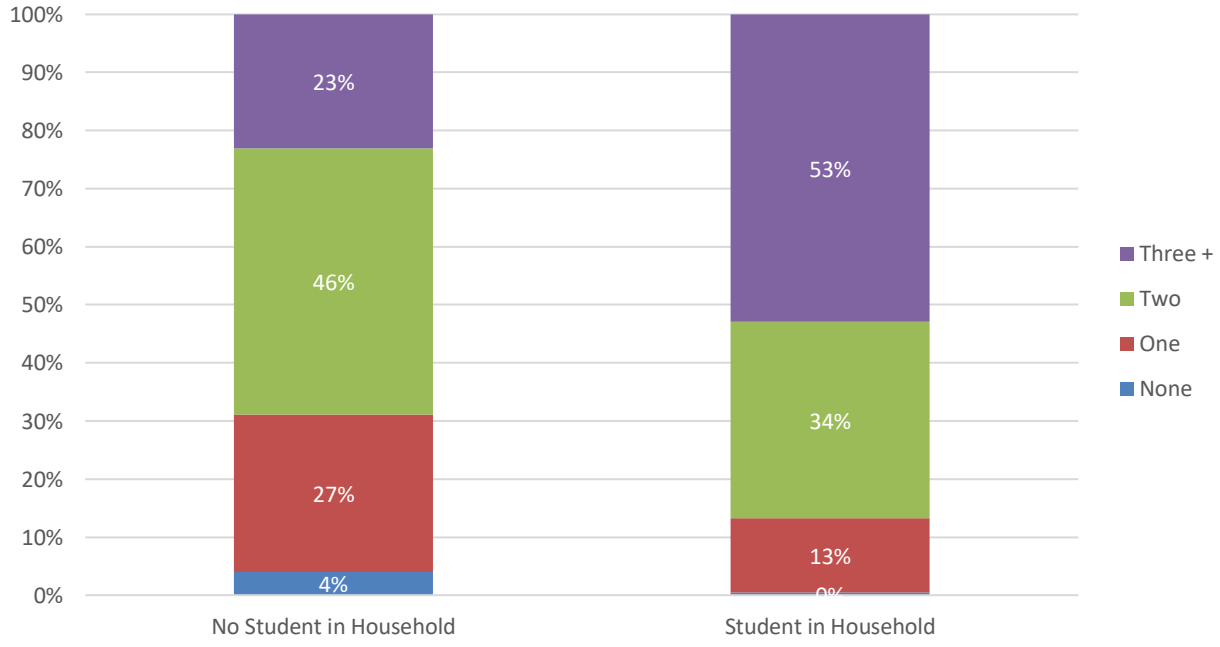


Table 38: Number of computing devices by household size

		One household member	Two household members	Three household members	Four+ household members
Computers	None	22%	12%	8%	2%
	One	58%	26%	24%	17%
	Two	14%	39%	36%	24%
	Three or more	6%	22%	32%	57%
	Total Weighted Count	368	579	346	578
Tablets	None	59%	45%	37%	35%
	One	31%	28%	30%	18%
	Two	8%	21%	20%	28%
	Three or more	1%	5%	14%	19%
	Total Weighted Count	368	579	346	578
Smartphones	None	5%	2%	1%	0%
	One	73%	10%	8%	5%
	Two	13%	76%	41%	23%
	Three or more	8%	12%	50%	71%
	Total Weighted Count	368	579	346	578

Figure 55: Number of computers by household size

Figure 56: Number of tablets by household size

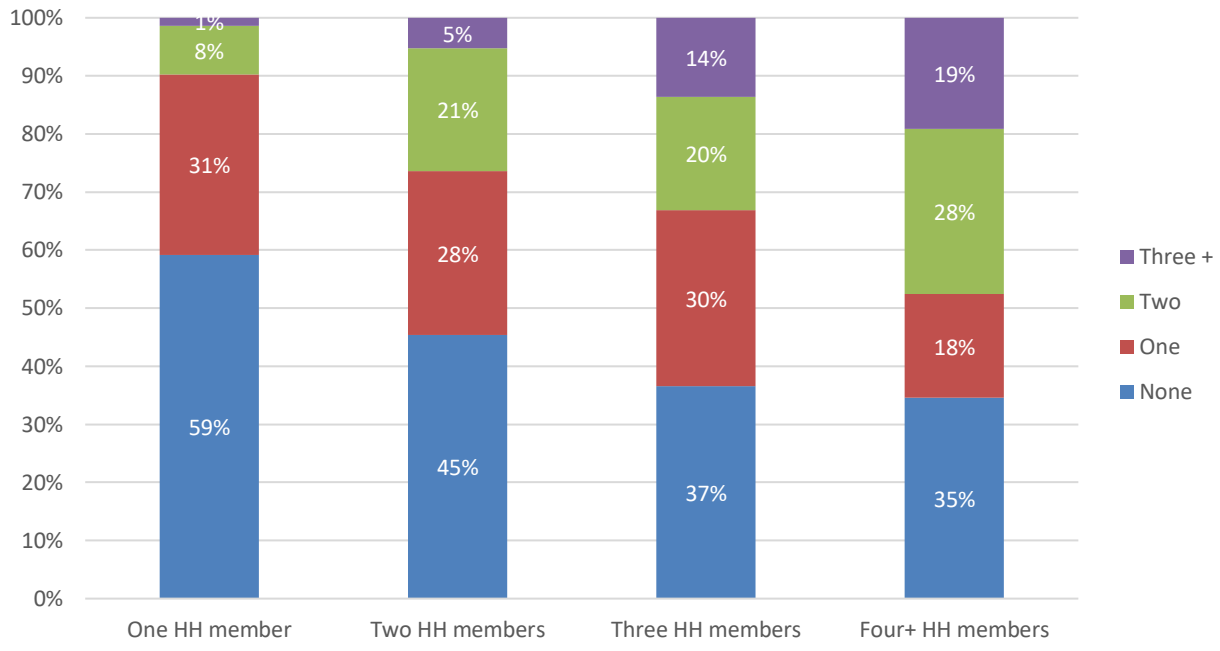


Figure 57: Number of smartphones by household size

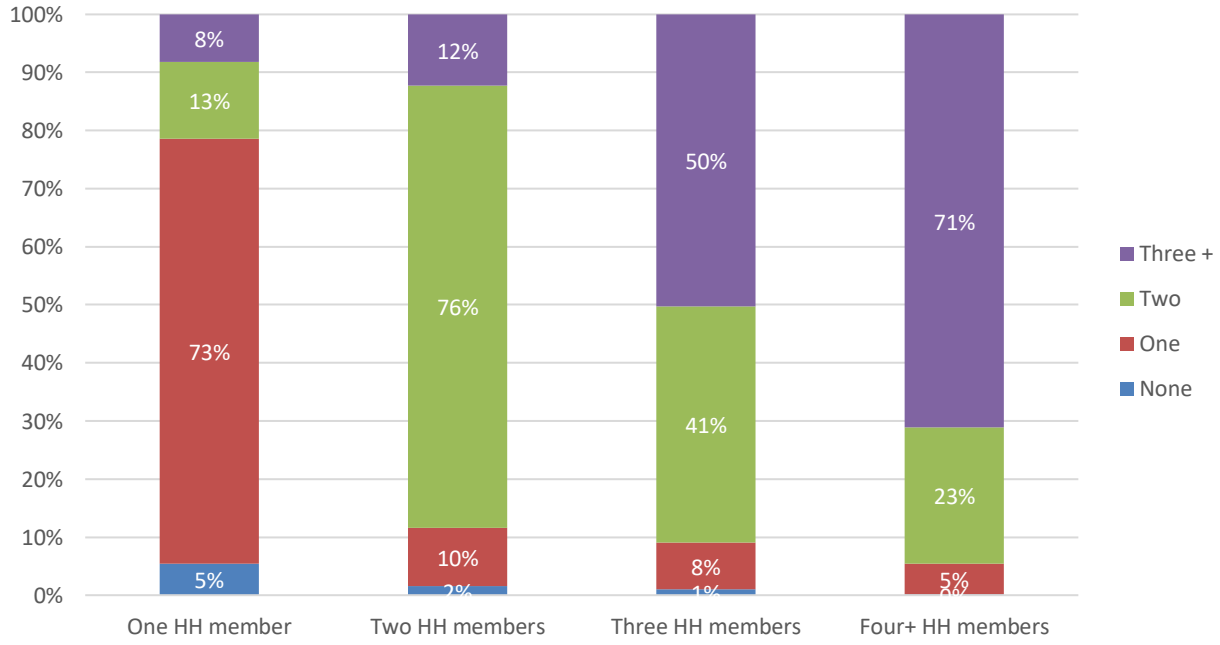


Table 39: Number of computing devices by ages of householders (percent of households with at least one householder in each age group)

		Under 18	18-29	30-39	40-49	50-64	65+
Computers	None	5%	7%	5%	5%	6%	18%
	One	25%	20%	30%	21%	21%	29%
	Two	29%	30%	30%	31%	27%	26%
	Three or more	41%	44%	35%	42%	46%	27%
	Total Weighted Count	781	591	448	411	629	480
Tablets	None	33%	42%	42%	39%	34%	53%
	One	24%	25%	22%	24%	29%	20%
	Two	27%	21%	20%	22%	24%	18%
	Three or more	16%	13%	17%	15%	13%	9%
	Total Weighted Count	781	591	448	411	629	480
Smartphones	None	0%	0%	0%	1%	1%	5%
	One	10%	11%	18%	9%	10%	27%
	Two	34%	28%	44%	34%	33%	45%
	Three or more	55%	61%	37%	57%	56%	23%
	Total Weighted Count	781	591	448	411	629	480

Figure 58: Number of computers by children in household (at least one household member under age 18)

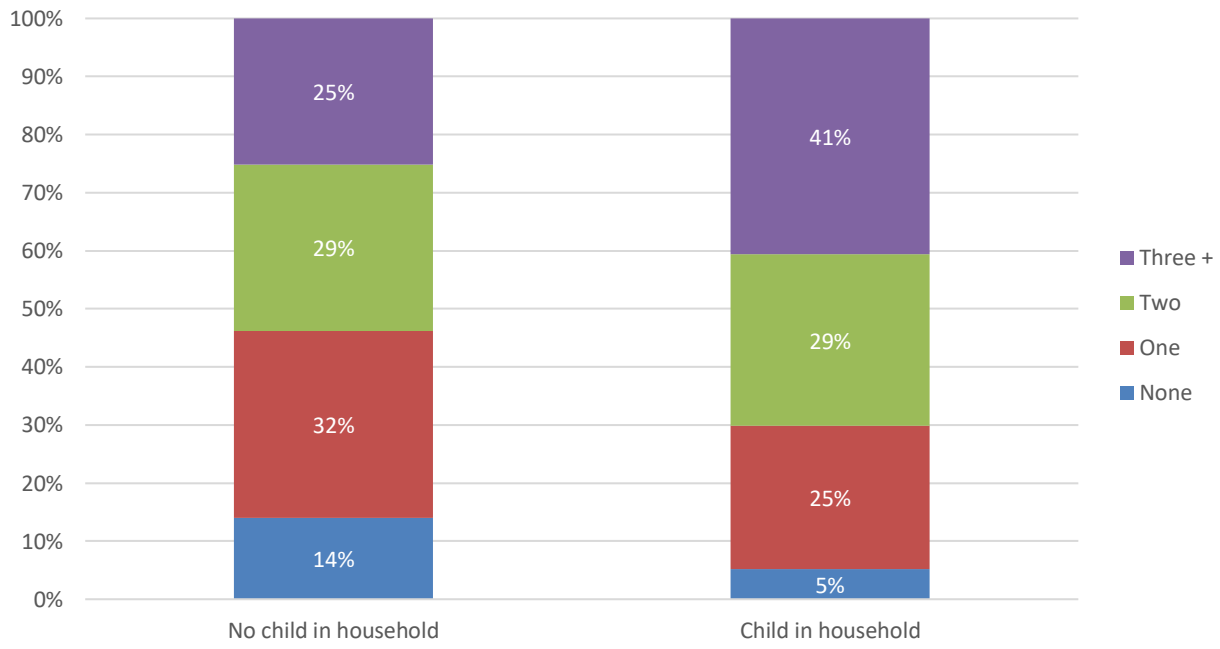


Figure 59: Number of tablets by children in household (at least one household member under age 18)

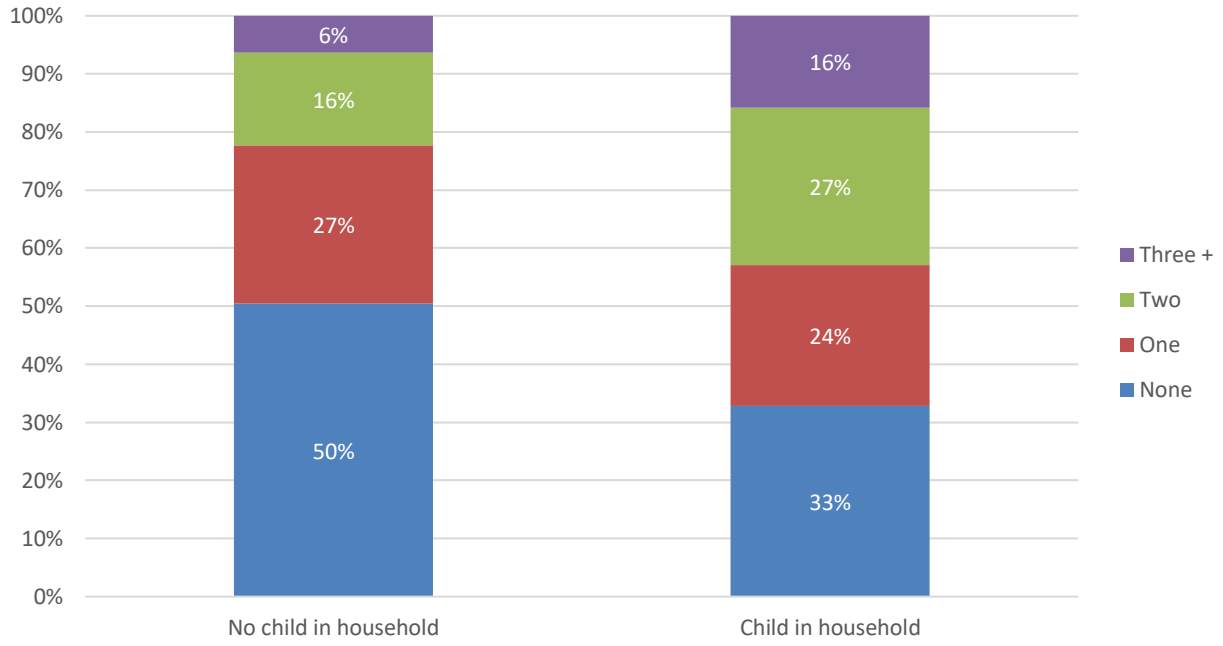


Figure 60: Number of smartphones by children in household (at least one household member under age 18)

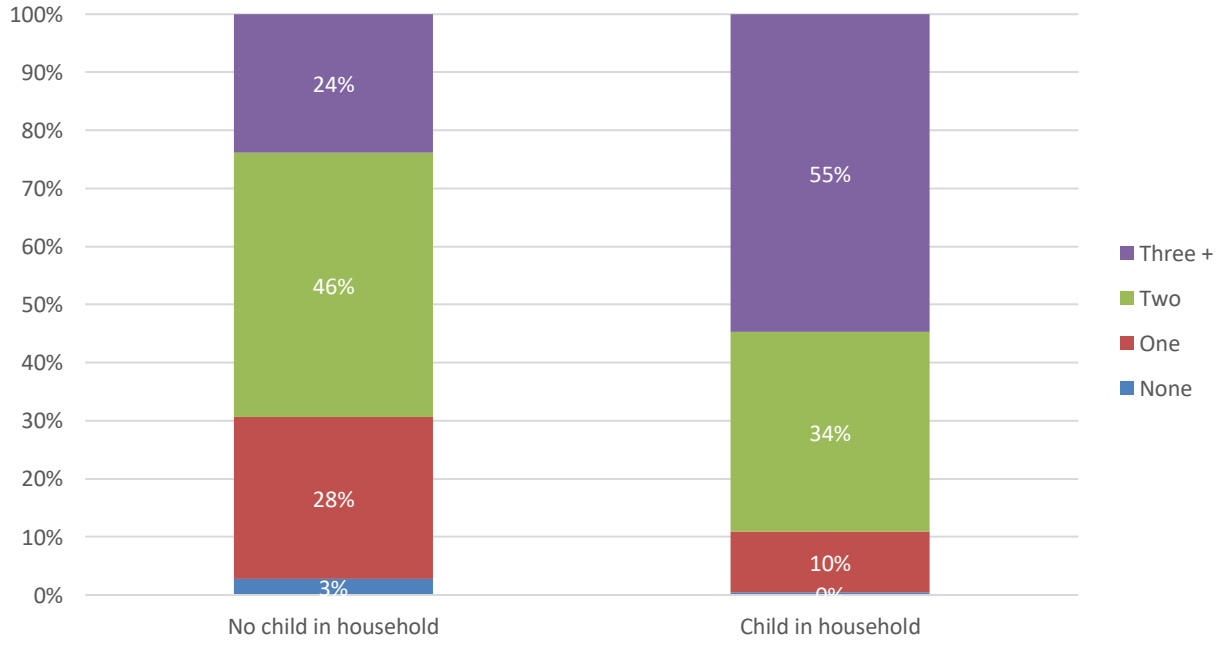


Figure 61: Number of computers by seniors in household (at least one household member age 65 or older)

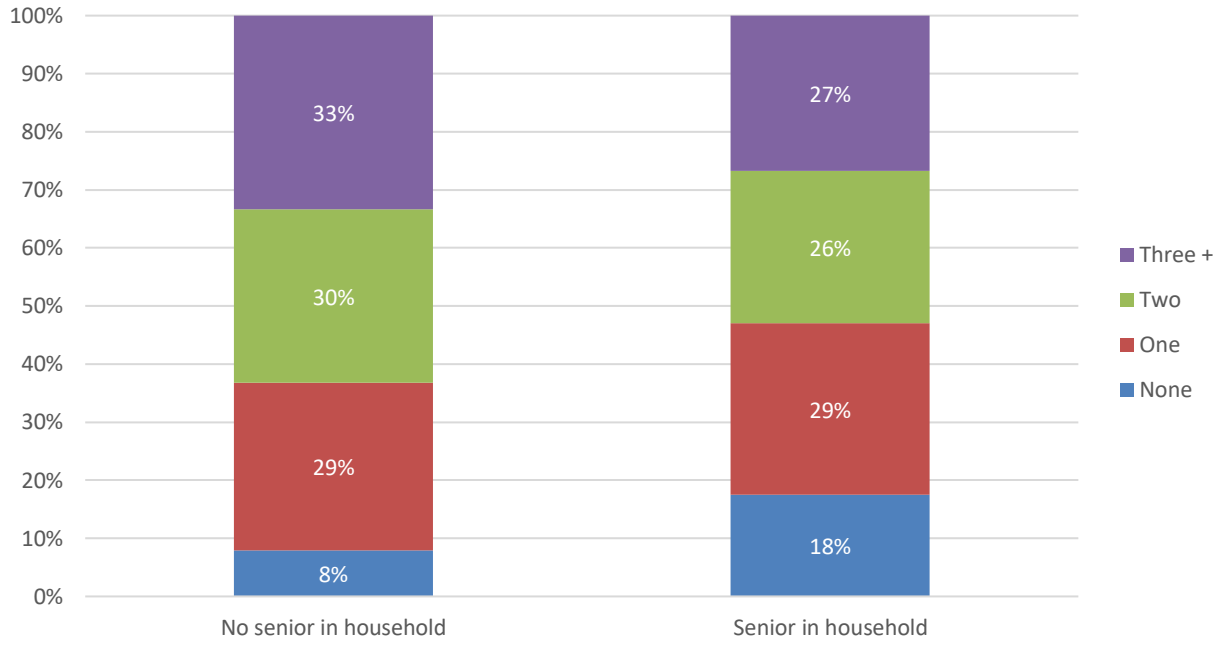


Figure 62: Number of tablets by seniors in household (at least one household member age 65 or older)

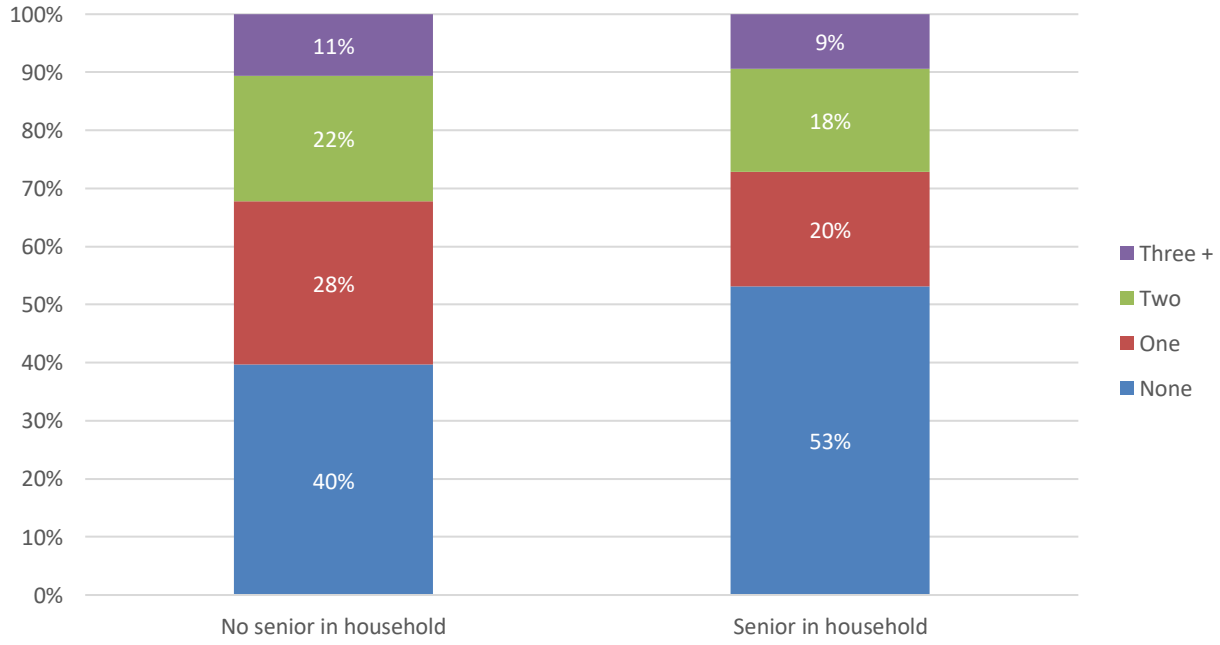


Figure 63: Number of smartphones by seniors in household (at least one household member age 65 or older)

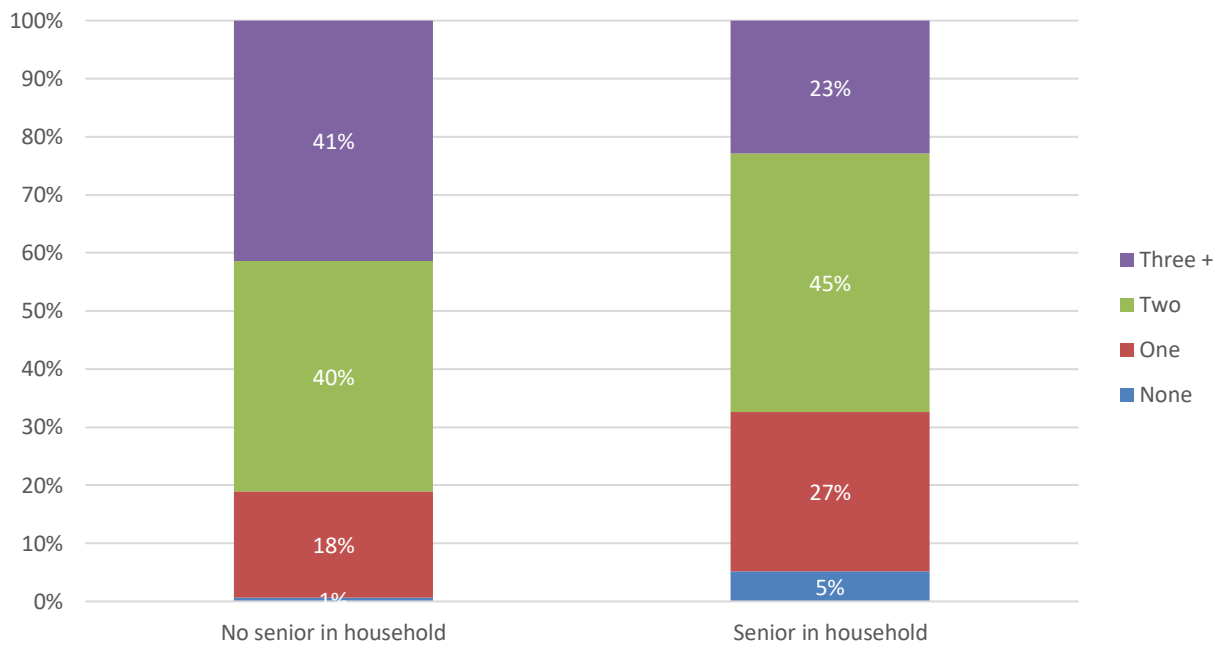


Table 40: Number of computing devices by respondent age

		18-29	30-39	40-49	50-64	65+
Computers	None	11%	6%	7%	7%	20%
	One	30%	38%	24%	24%	31%
	Two	32%	30%	28%	29%	25%
	Three or more	27%	26%	40%	41%	24%
	Total Weighted Count	364	340	305	492	396
Tablets	None	42%	41%	36%	36%	59%
	One	30%	25%	27%	29%	20%
	Two	22%	20%	22%	22%	15%
	Three or more	7%	13%	15%	12%	5%
	Total Weighted Count	364	340	305	492	396
Smartphones	None	1%	0%	1%	1%	6%
	One	21%	26%	13%	12%	33%
	Two	39%	43%	35%	36%	49%
	Three or more	39%	31%	51%	51%	11%
	Total Weighted Count	364	340	305	492	396

Figure 64: Number of computers by respondent age

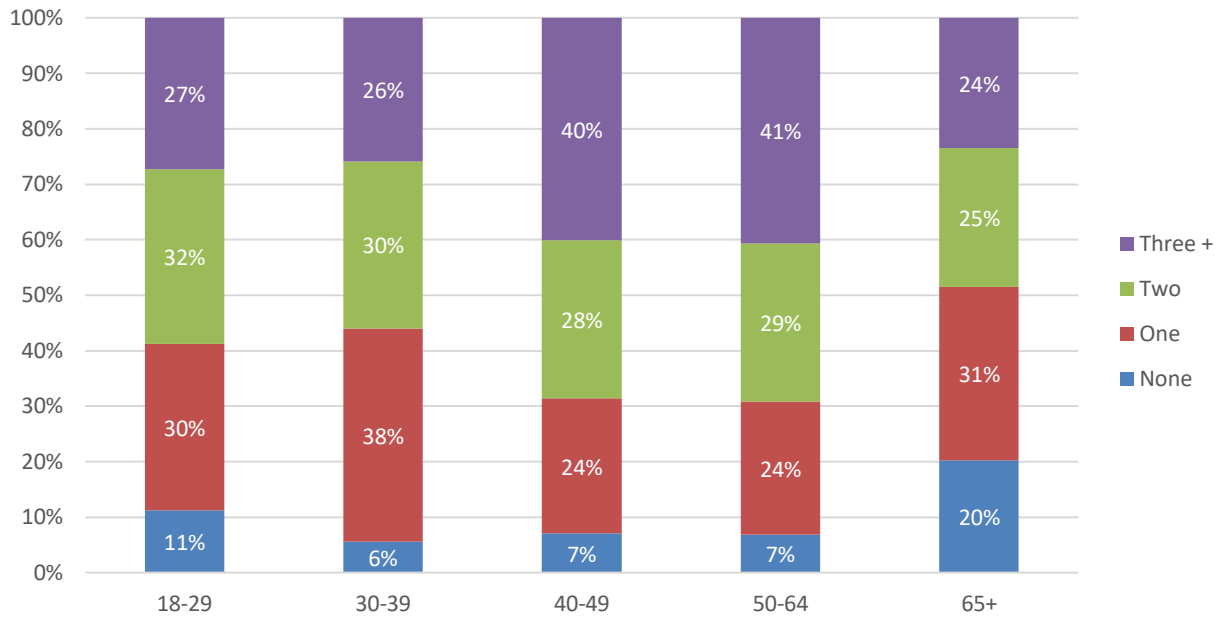


Figure 65: Number of tablets by respondent age

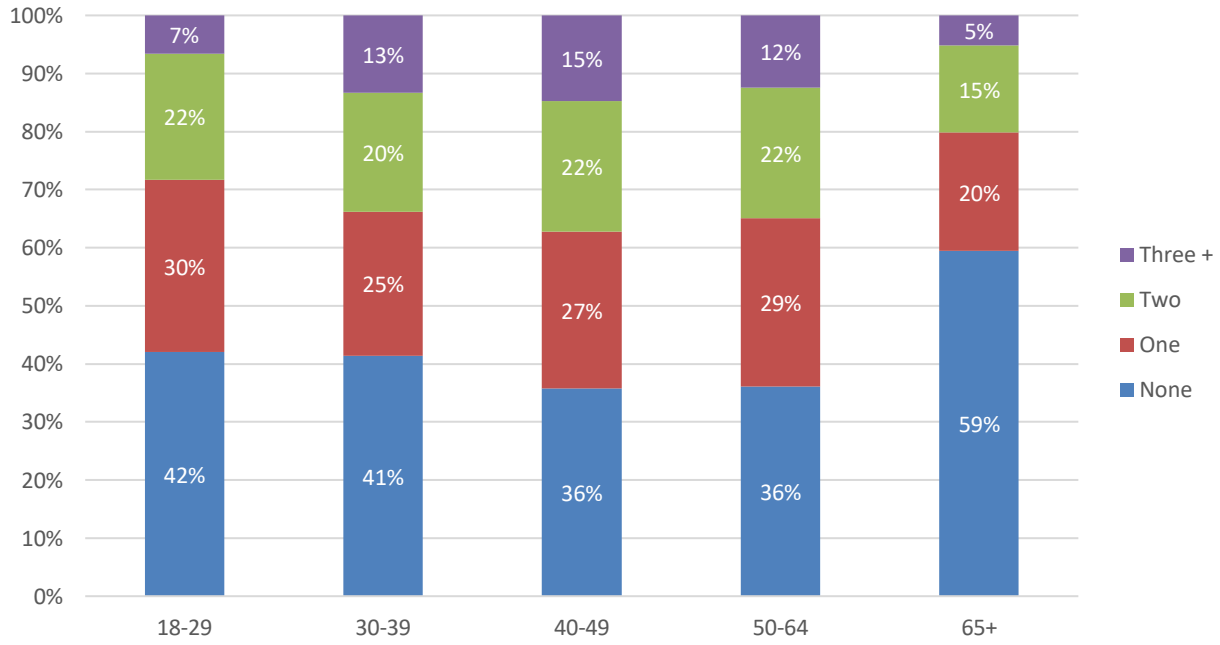
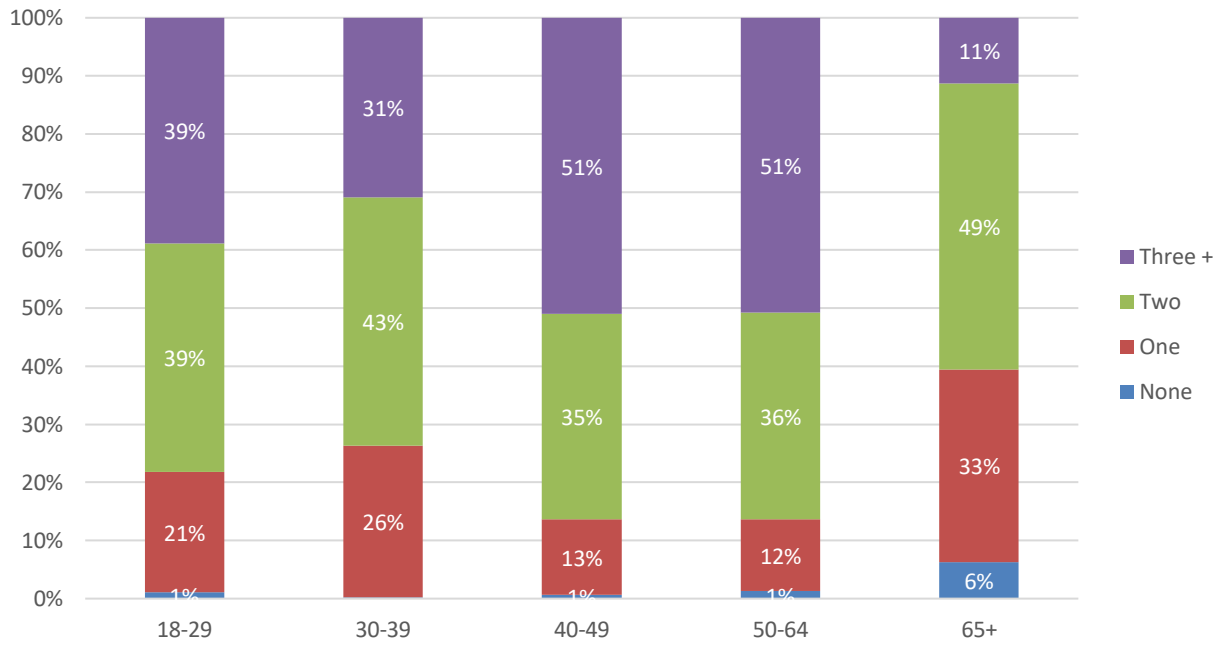


Figure 66: Number of smartphones by respondent age



Thinking about the computing device you primarily use, if it were lost or damaged beyond repair, how long do you think it would take you to replace it?

Figure 67: How long it would take to replace a lost or damaged computing device

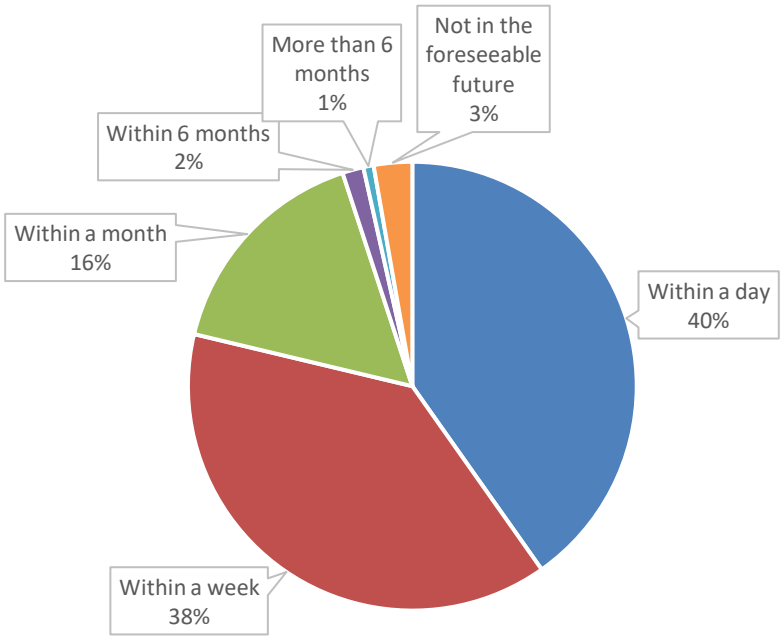


Figure 68: How long it would take to replace a lost or damaged computing device by household income

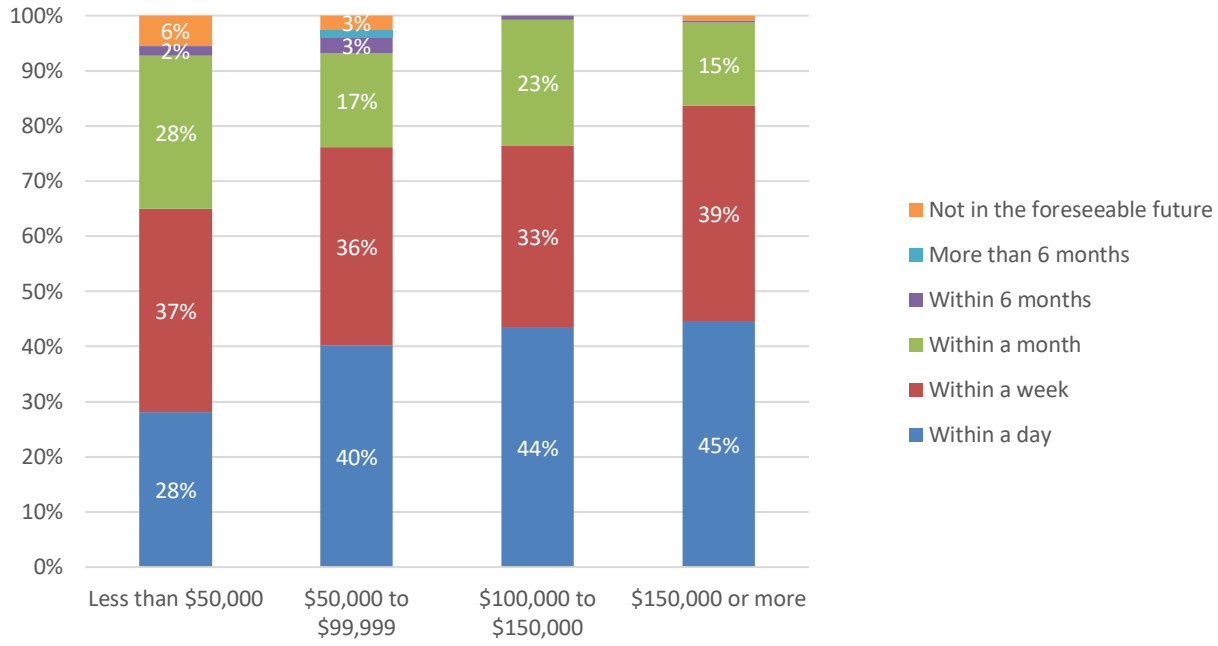
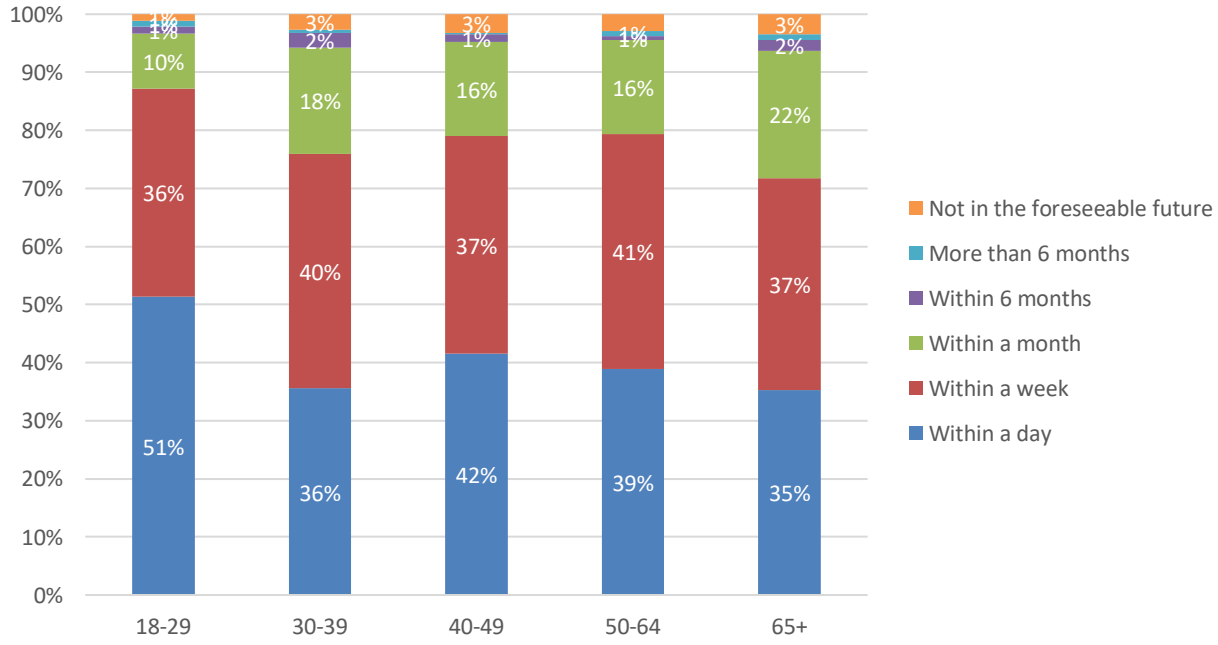


Figure 69: How long it would take to replace a lost or damaged computing device by respondent age



Please rate how confident you or the primary user are in doing the following activities on the internet?

Figure 70: Confidence in using the internet for various activities

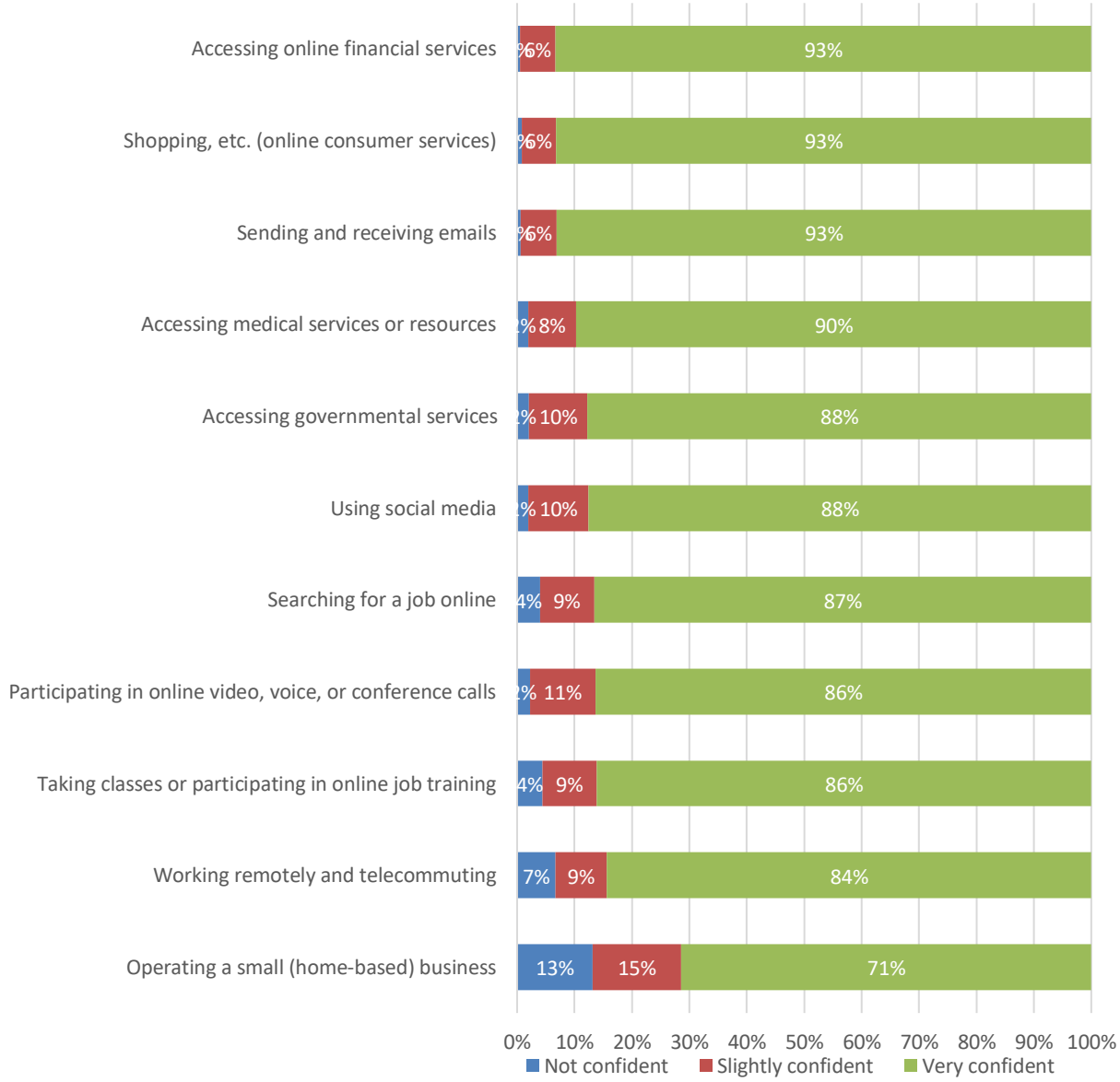


Table 41: Confidence in using the internet for various activities by household income

		Less than $50,000	$50,000 to $99,999	$100,000 to $150,000	$150,000 or more
Sending and receiving emails?	Not confident	2%	0%	0%	0%
	Slightly confident	12%	8%	2%	0%
	Very confident	86%	92%	98%	100%
	Total	341	348	243	344
Using social media?	Not confident	3%	1%	1%	0%
	Slightly confident	18%	10%	6%	5%
	Very confident	79%	89%	92%	95%
	Total	306	341	240	317
Participating in online video, voice, or conference calls (such as Zoom, Skype, or FaceTime)?	Not confident	7%	2%	0%	1%
	Slightly confident	18%	16%	6%	4%
	Very confident	75%	82%	94%	96%
	Total	282	338	237	343
Operating a small (home-based) business?	Not confident	17%	17%	9%	3%
	Slightly confident	21%	24%	11%	8%
	Very confident	62%	59%	80%	90%
	Total	139	213	137	236
Working remotely and telecommuting?	Not confident	11%	8%	2%	1%
	Slightly confident	9%	14%	6%	3%
	Very confident	80%	79%	92%	96%
	Total	173	281	209	316
Searching for a job online?	Not confident	10%	3%	1%	1%
	Slightly confident	8%	12%	8%	2%
	Very confident	82%	85%	91%	97%
	Total	213	282	170	220
Taking classes or participating in online job training?	Not confident	11%	4%	1%	1%
	Slightly confident	11%	11%	8%	3%
	Very confident	78%	85%	91%	96%
	Total	198	266	174	266
Accessing medical services or resources?	Not confident	4%	1%	0%	2%
	Slightly confident	14%	9%	4%	5%
	Very confident	82%	90%	96%	93%
	Total	332	327	225	330
Accessing governmental services (such as DMV, benefits enrollment, etc.)?	Not confident	4%	1%	0%	4%
	Slightly confident	14%	14%	4%	5%
	Very confident	82%	86%	96%	91%
	Total	324	342	239	341
Shopping, making travel reservations, or using other online consumer services?	Not confident	2%	0%	0%	0%
	Slightly confident	8%	10%	2%	2%
	Very confident	90%	90%	98%	98%
	Total	325	346	242	334
Accessing online financial services such as banking and paying bills?	Not confident	2%	0%	0%	0%
	Slightly confident	11%	6%	2%	2%
	Very confident	87%	93%	98%	98%
	Total	325	345	240	337

Figure 71: Very confident in using the internet for various activities by household income

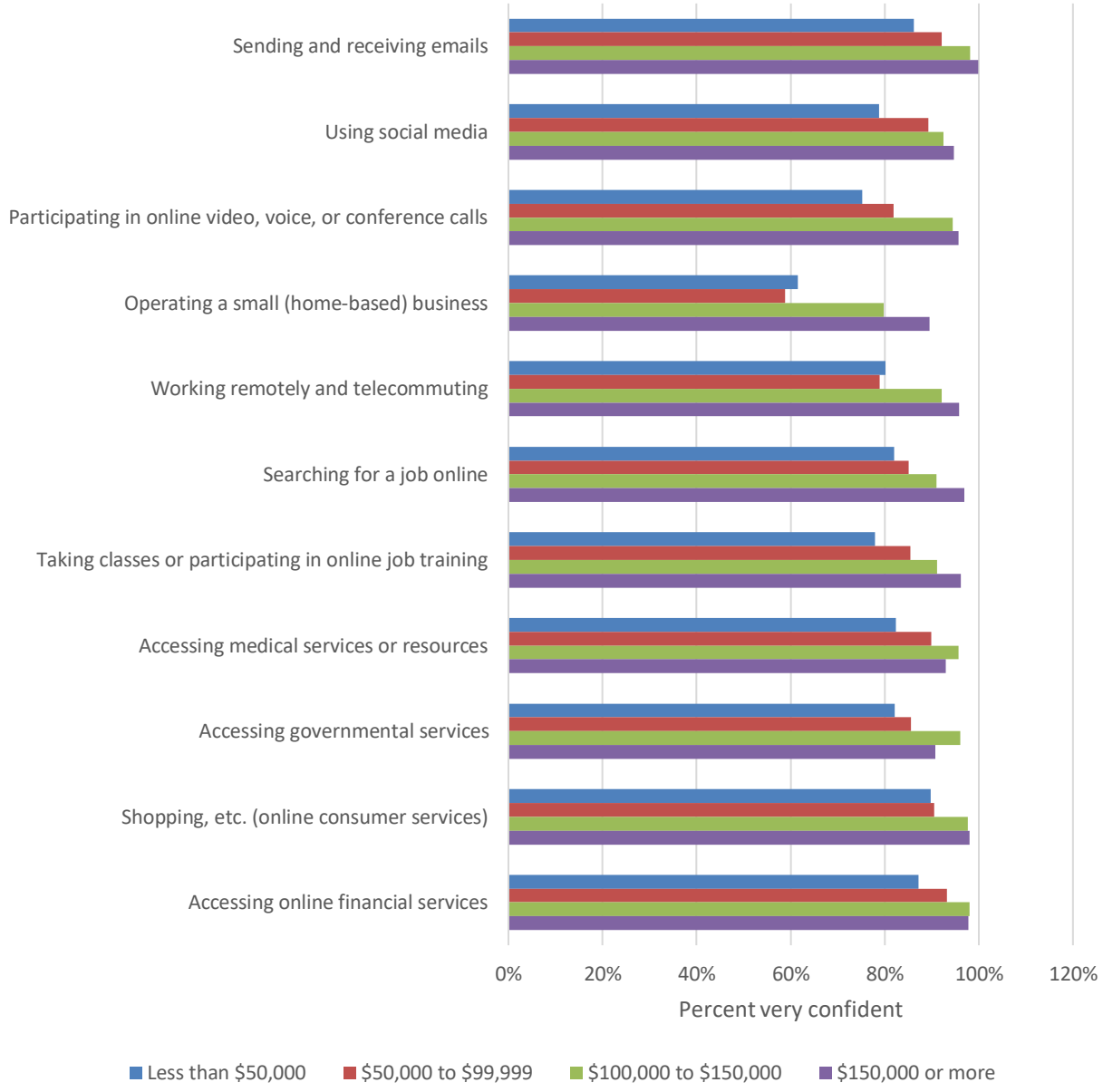


Table 42: Confidence in using the internet for various activities by household size

		One HH member	Two HH members	Three HH members	Four+ HH members
Sending and receiving emails?	Not confident	2%	0%	1%	0%
	Slightly confident	11%	8%	5%	3%
	Very confident	87%	92%	94%	97%
	Total	349	563	346	572
Using social media?	Not confident	3%	3%	1%	0%
	Slightly confident	15%	13%	10%	6%
	Very confident	82%	84%	89%	93%
	Total	326	515	328	554
Participating in online video, voice, or conference calls (such as Zoom, Skype, or FaceTime)?	Not confident	7%	2%	1%	0%
	Slightly confident	12%	16%	14%	5%
	Very confident	81%	81%	86%	95%
	Total	310	532	339	546
Operating a small (home-based) business?	Not confident	27%	10%	12%	8%
	Slightly confident	11%	19%	19%	13%
	Very confident	62%	70%	69%	79%
	Total	201	316	230	338
Working remotely and telecommuting?	Not confident	17%	7%	6%	3%
	Slightly confident	10%	11%	8%	7%
	Very confident	74%	82%	86%	90%
	Total	228	411	276	499
Searching for a job online?	Not confident	9%	5%	3%	1%
	Slightly confident	11%	12%	9%	6%
	Very confident	80%	84%	88%	93%
	Total	256	370	280	431
Taking classes or participating in online job training?	Not confident	11%	5%	4%	1%
	Slightly confident	9%	12%	11%	6%
	Very confident	80%	83%	85%	93%
	Total	251	384	260	456
Accessing medical services or resources?	Not confident	2%	2%	1%	1%
	Slightly confident	11%	11%	7%	5%
	Very confident	86%	87%	92%	94%
	Total	333	528	335	545
Accessing governmental services (such as DMV, benefits enrollment, etc.)?	Not confident	3%	3%	1%	2%
	Slightly confident	14%	11%	8%	7%
	Very confident	83%	86%	91%	91%
	Total	335	546	335	571
Shopping, making travel reservations, or using other online consumer services?	Not confident	2%	1%	0%	0%
	Slightly confident	9%	7%	7%	3%
	Very confident	89%	92%	93%	97%
	Total	338	557	345	562
Accessing online financial services such as banking and paying bills?	Not confident	2%	0%	0%	0%
	Slightly confident	11%	8%	5%	3%
	Very confident	87%	92%	94%	97%
	Total	335	554	344	561

Figure 72: Very confident in using the internet for various activities by household size

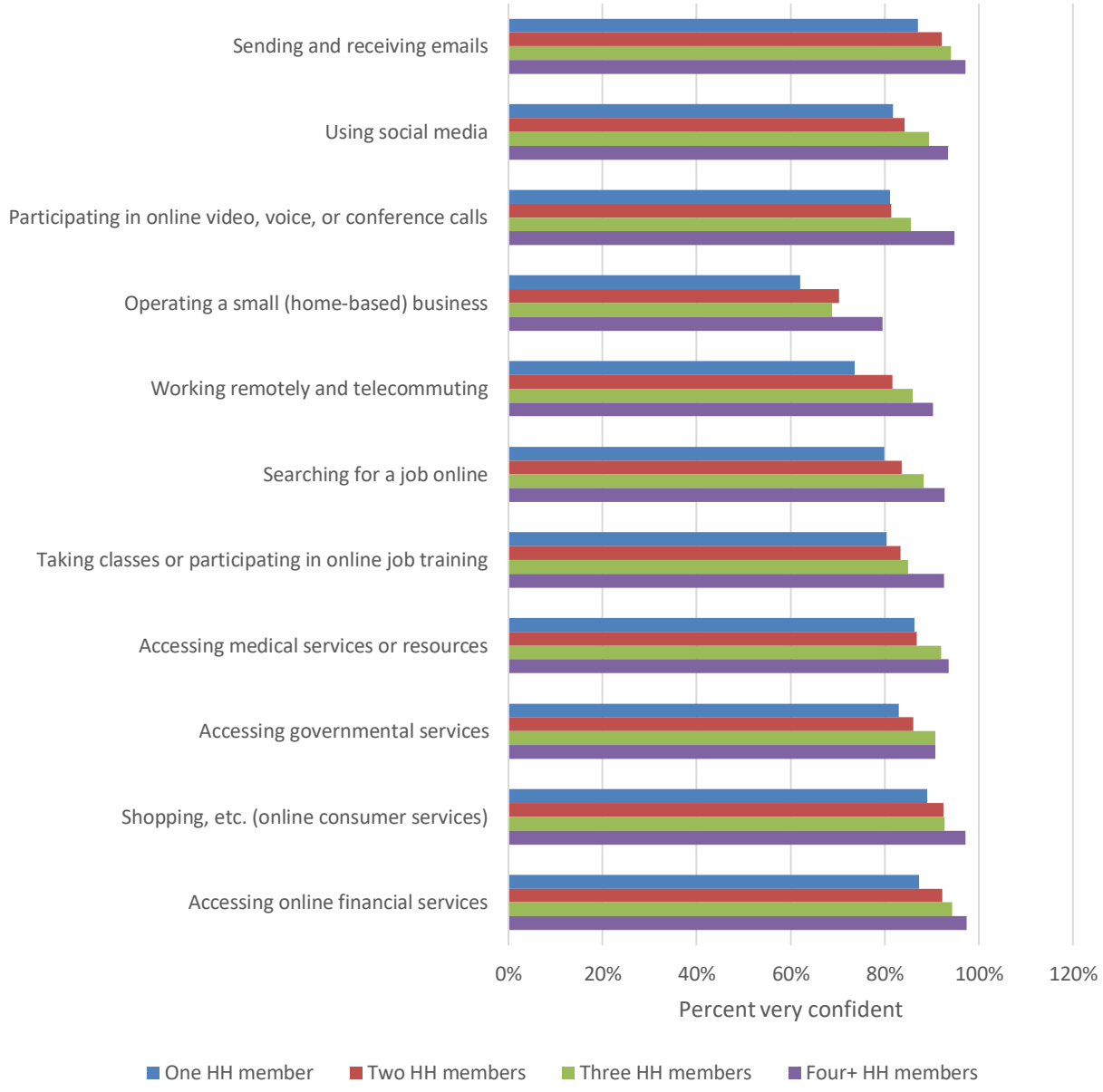


Table 43: Confidence in using the internet for various activities by student in household

		No student household	Student in household
Sending and receiving emails?	Not confident	1%	0%
	Slightly confident	7%	6%
	Very confident	92%	94%
	Total	1025	858
Using social media?	Not confident	3%	0%
	Slightly confident	12%	9%
	Very confident	85%	90%
	Total	943	827
Participating in online video, voice, or conference calls (such as Zoom, Skype, or FaceTime)?	Not confident	4%	0%
	Slightly confident	12%	11%
	Very confident	84%	89%
	Total	950	829
Operating a small (home-based) business?	Not confident	15%	11%
	Slightly confident	13%	18%
	Very confident	72%	71%
	Total	552	563
Working remotely and telecommuting?	Not confident	9%	4%
	Slightly confident	8%	10%
	Very confident	83%	86%
	Total	694	762
Searching for a job online?	Not confident	7%	1%
	Slightly confident	7%	11%
	Very confident	86%	87%
	Total	673	701
Taking classes or participating in online job training?	Not confident	7%	2%
	Slightly confident	9%	10%
	Very confident	84%	88%
	Total	679	711
Accessing medical services or resources?	Not confident	2%	1%
	Slightly confident	9%	7%
	Very confident	88%	91%
	Total	975	818
Accessing governmental services (such as DMV, benefits enrollment, etc.)?	Not confident	2%	2%
	Slightly confident	11%	9%
	Very confident	87%	89%
	Total	987	848
Shopping, making travel reservations, or using other online consumer services?	Not confident	1%	0%
	Slightly confident	6%	6%
	Very confident	93%	93%
	Total	1003	847
Accessing online financial services such as banking and paying bills?	Not confident	1%	0%
	Slightly confident	6%	6%
	Very confident	93%	93%
	Total	998	847

Figure 73: Very confident in using the internet for various activities by student in household

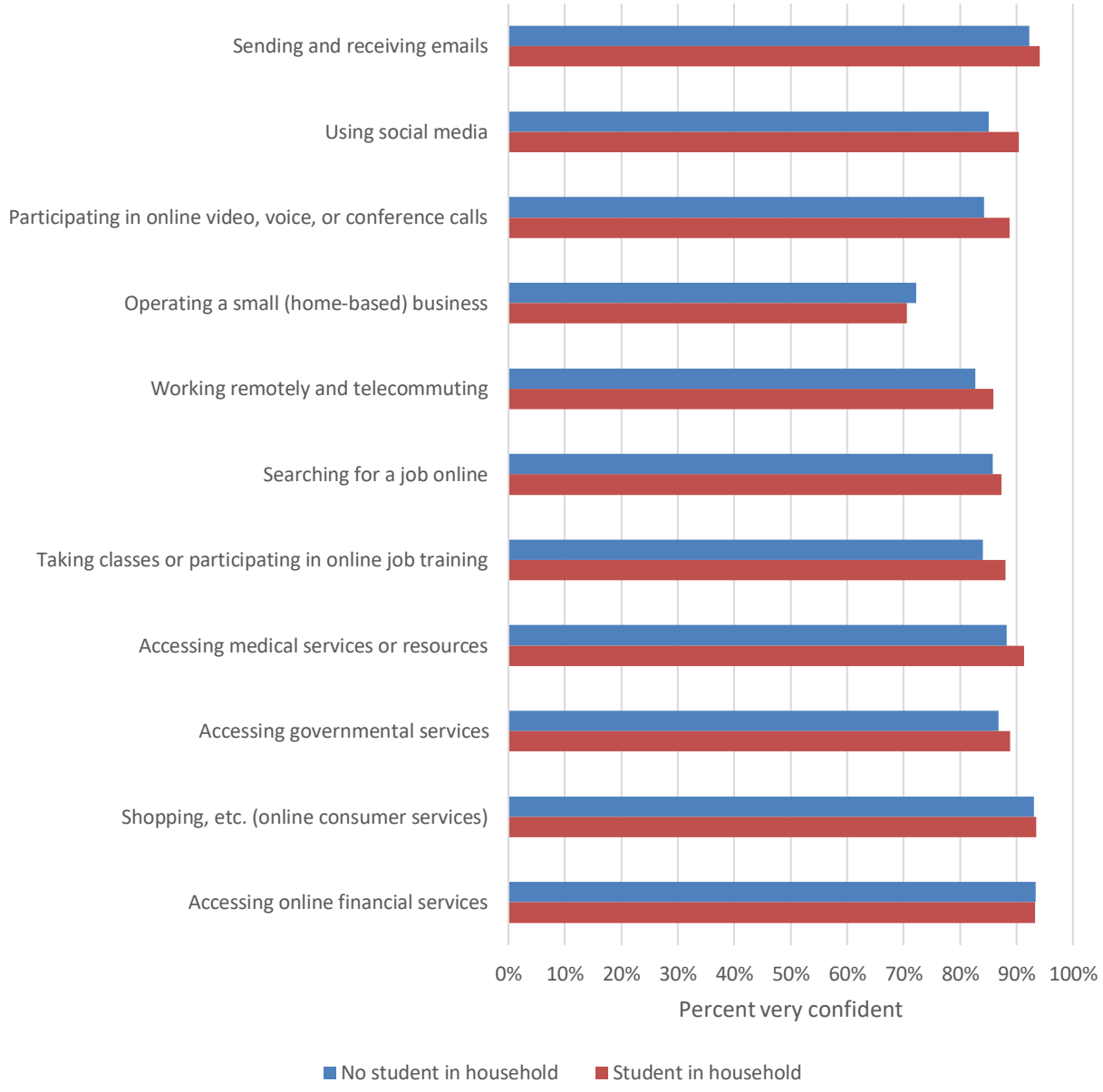


Table 44: Confidence in using the internet for various activities by ages of householders

		No child in household	Child in household	No senior in household	Senior in household
Sending and receiving emails?	Not confident	1%	0%	0%	2%
	Slightly confident	7%	6%	5%	11%
	Very confident	92%	94%	95%	87%
	Total	1056	775	1379	452
Using social media?	Not confident	3%	0%	1%	5%
	Slightly confident	12%	9%	8%	20%
	Very confident	86%	90%	91%	75%
	Total	973	750	1332	391
Participating in online video, voice, or conference calls (such as Zoom, Skype, or FaceTime)?	Not confident	4%	0%	1%	7%
	Slightly confident	12%	11%	10%	16%
	Very confident	85%	89%	89%	77%
	Total	982	745	1337	390
Operating a small (home-based) business?	Not confident	17%	9%	12%	20%
	Slightly confident	12%	19%	16%	13%
	Very confident	71%	72%	72%	67%
	Total	584	502	891	194
Working remotely and telecommuting?	Not confident	10%	3%	5%	14%
	Slightly confident	8%	10%	8%	12%
	Very confident	82%	86%	86%	74%
	Total	743	671	1183	231
Searching for a job online?	Not confident	7%	1%	2%	13%
	Slightly confident	9%	10%	10%	7%
	Very confident	85%	89%	88%	79%
	Total	707	629	1125	212
Taking classes or participating in online job training?	Not confident	7%	1%	3%	12%
	Slightly confident	8%	11%	9%	10%
	Very confident	85%	88%	88%	77%
	Total	723	628	1114	237
Accessing medical services or resources?	Not confident	2%	1%	1%	3%
	Slightly confident	9%	8%	6%	16%
	Very confident	89%	91%	93%	81%
	Total	1004	738	1311	430
Accessing governmental services (such as DMV, benefits enrollment, etc.)?	Not confident	2%	2%	2%	3%
	Slightly confident	10%	10%	7%	19%
	Very confident	87%	88%	91%	78%
	Total	1021	765	1357	429
Shopping, making travel reservations, or using other online consumer services?	Not confident	1%	0%	0%	2%
	Slightly confident	6%	6%	5%	10%
	Very confident	93%	93%	95%	88%
	Total	1038	764	1363	438
Accessing online financial services such as banking and paying bills?	Not confident	1%	0%	0%	1%
	Slightly confident	5%	7%	5%	10%
	Very confident	94%	93%	95%	88%
	Total	1031	764	1361	434

Figure 74: Very confident in using the internet for various activities by children in household (at least one household member under age 18)

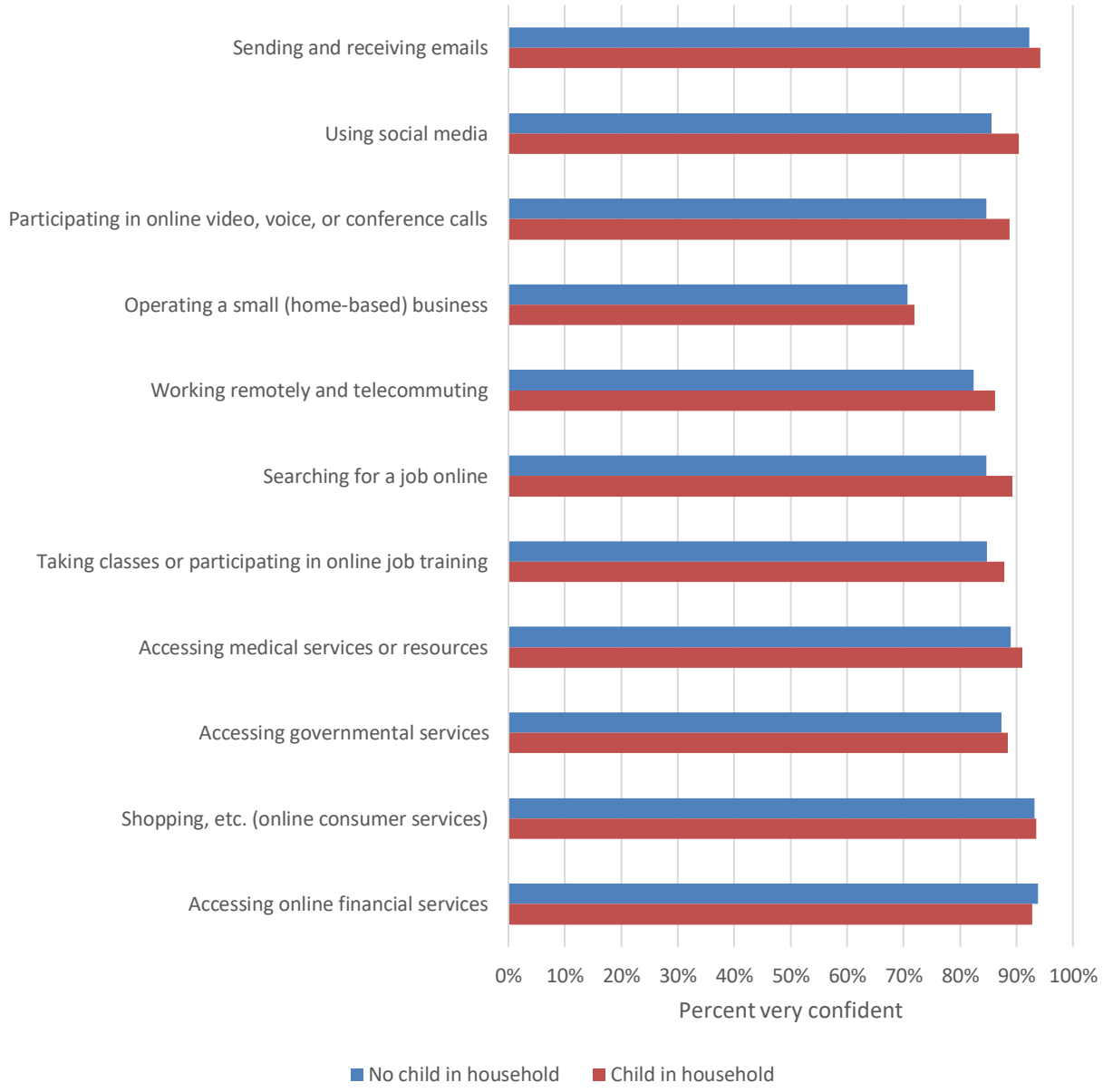


Figure 75: Very confident in using the internet for various activities by seniors in household (at least one household member age 65 or older)

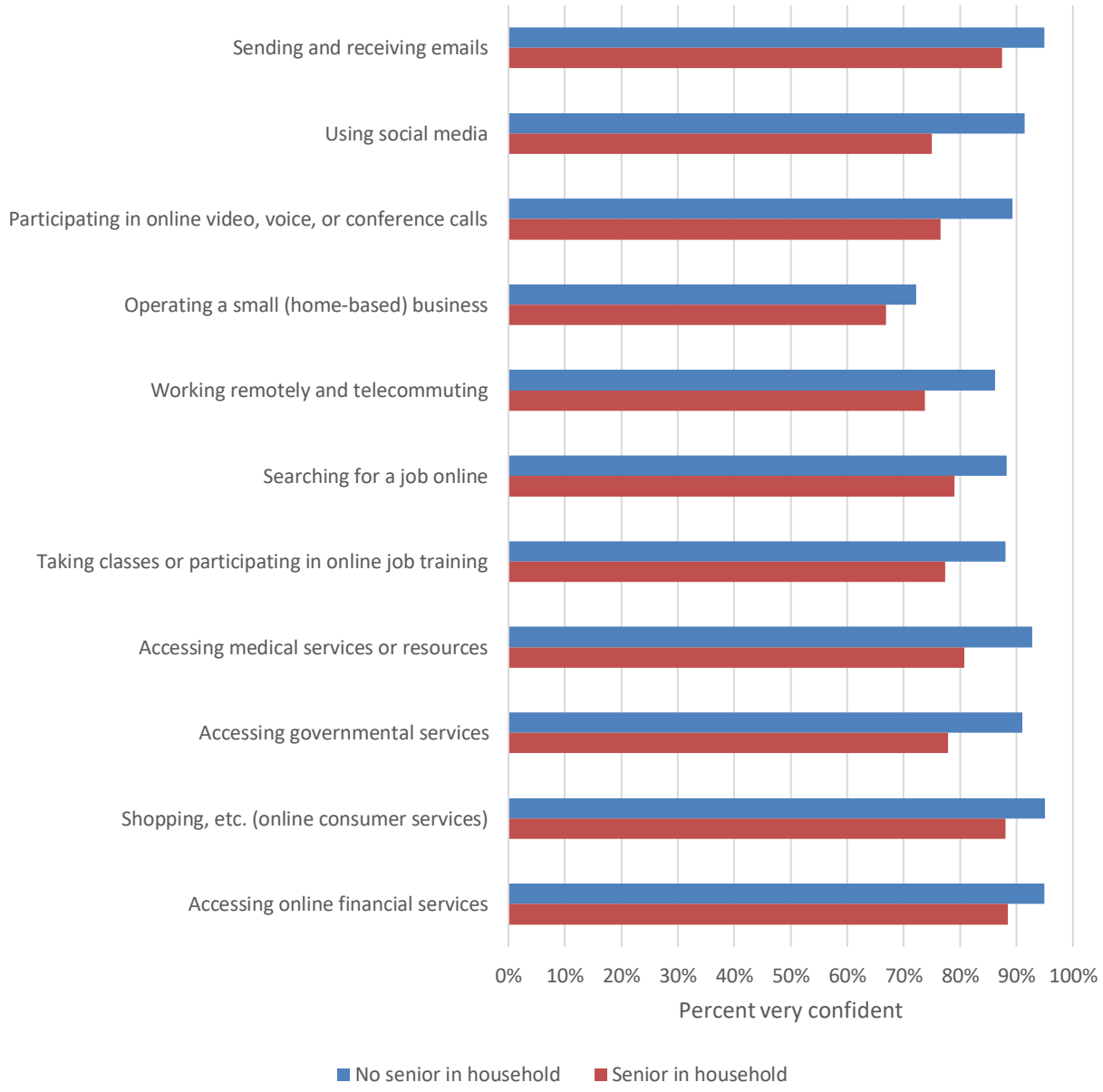
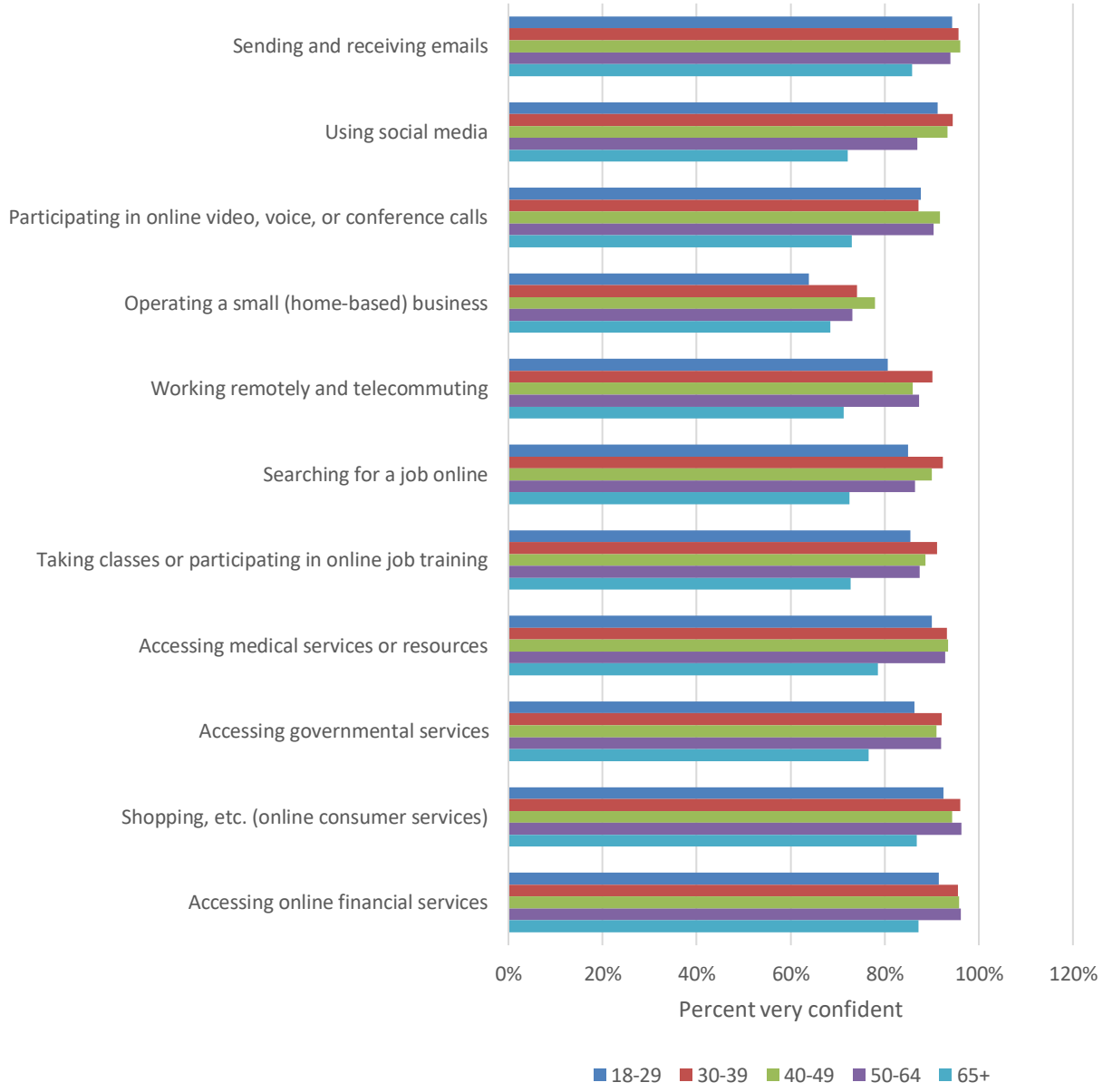


Table 45: Confidence in using the internet for various activities by respondent age

		18-29	30-39	40-49	60-64	65+
Sending and receiving emails?	Not confident	0%	0%	0%	0%	2%
	Slightly confident	5%	4%	3%	6%	12%
	Very confident	94%	96%	96%	94%	86%
	Total	360	338	301	487	368
Using social media?	Not confident	0%	0%	0%	2%	6%
	Slightly confident	9%	5%	6%	11%	22%
	Very confident	91%	94%	93%	87%	72%
	Total	358	327	286	463	309
Participating in online video, voice, or conference calls (such as Zoom, Skype, or FaceTime)?	Not confident	0%	1%	0%	1%	9%
	Slightly confident	12%	12%	8%	9%	18%
	Very confident	88%	87%	92%	90%	73%
	Total	352	328	289	472	310
Operating a small (home-based) business?	Not confident	13%	10%	12%	12%	22%
	Slightly confident	23%	16%	10%	14%	10%
	Very confident	64%	74%	78%	73%	68%
	Total	270	210	199	279	141
Working remotely and telecommuting?	Not confident	7%	3%	5%	6%	18%
	Slightly confident	12%	7%	9%	7%	11%
	Very confident	81%	90%	86%	87%	71%
	Total	320	289	255	409	162
Searching for a job online?	Not confident	2%	0%	2%	3%	20%
	Slightly confident	13%	7%	8%	10%	7%
	Very confident	85%	92%	90%	86%	72%
	Total	341	286	244	348	136
Taking classes or participating in online job training?	Not confident	3%	1%	3%	3%	18%
	Slightly confident	12%	8%	9%	9%	10%
	Very confident	85%	91%	89%	87%	73%
	Total	311	281	244	373	161
Accessing medical services or resources?	Not confident	3%	1%	1%	1%	4%
	Slightly confident	7%	6%	5%	6%	18%
	Very confident	90%	93%	93%	93%	79%
	Total	349	323	284	462	347
Accessing governmental services (such as DMV, benefits enrollment, etc.)?	Not confident	1%	1%	2%	2%	4%
	Slightly confident	12%	7%	7%	6%	20%
	Very confident	86%	92%	91%	92%	77%
	Total	364	332	297	465	350
Shopping, making travel reservations, or using other online consumer services?	Not confident	0%	0%	0%	1%	3%
	Slightly confident	8%	4%	5%	3%	11%
	Very confident	92%	96%	94%	96%	87%
	Total	364	332	302	472	355
Accessing online financial services such as banking and paying bills?	Not confident	0%	0%	0%	1%	2%
	Slightly confident	8%	5%	4%	3%	11%
	Very confident	92%	95%	96%	96%	87%
	Total	363	335	298	471	352

Figure 76: Very confident in using the internet for various activities by respondent age



To what extent do you agree or disagree with the following statements about your internet and computer skills?

Figure 77: Agreement with statements about internet skills

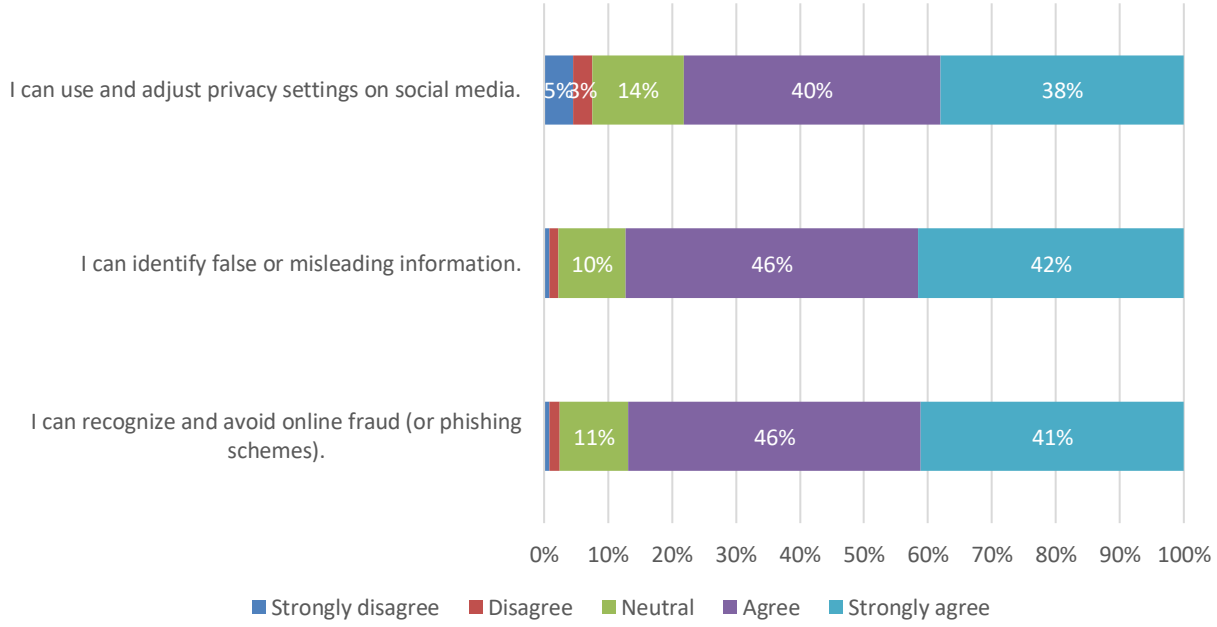


Figure 78: I can use and adjust privacy settings on social media by household income

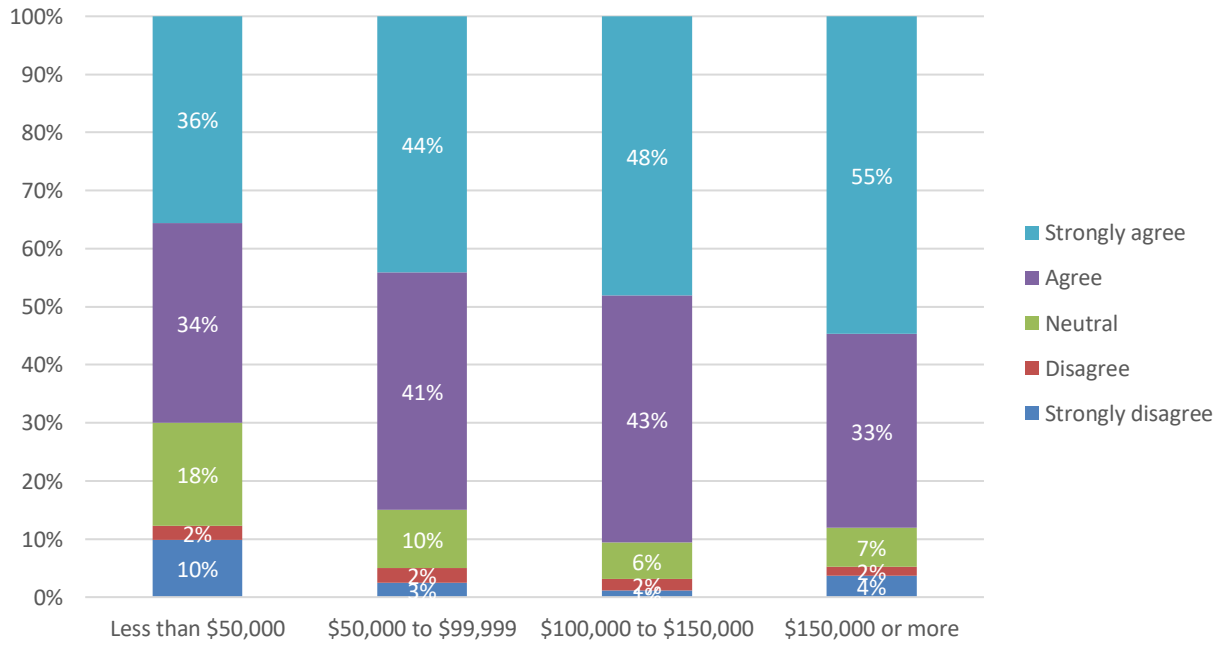


Figure 79: I can identify false or misleading information by household income

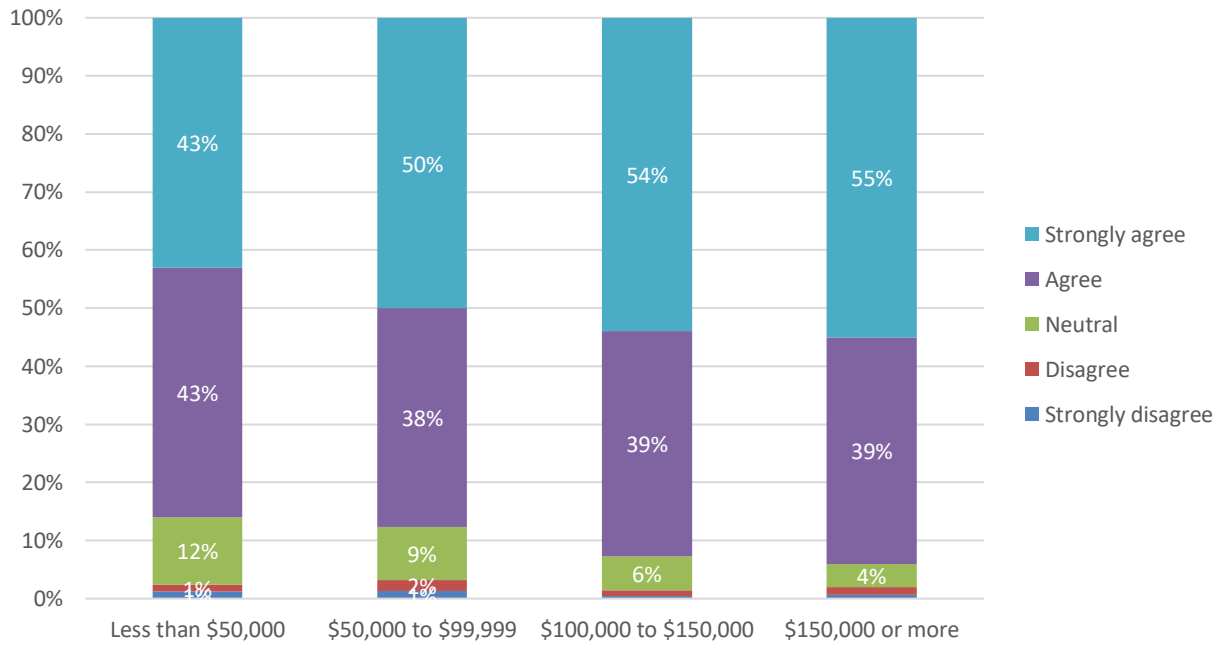


Figure 80: I can recognize and avoid online fraud by household income

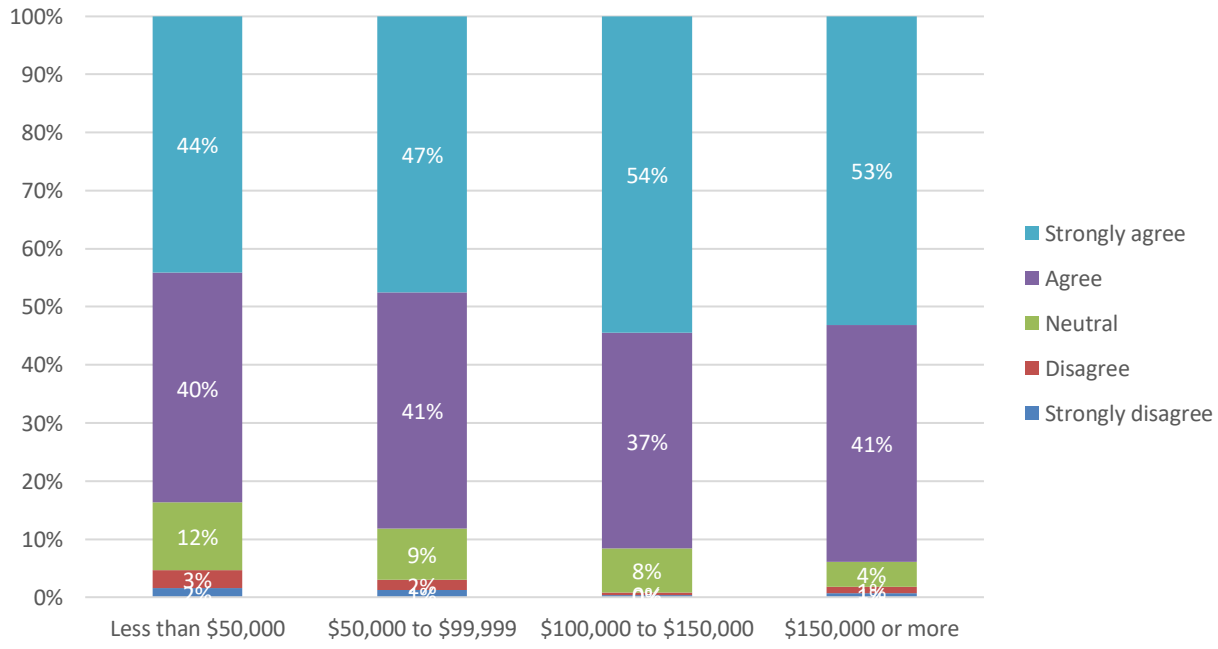


Figure 81: I can use and adjust privacy settings on social media by race/ethnicity

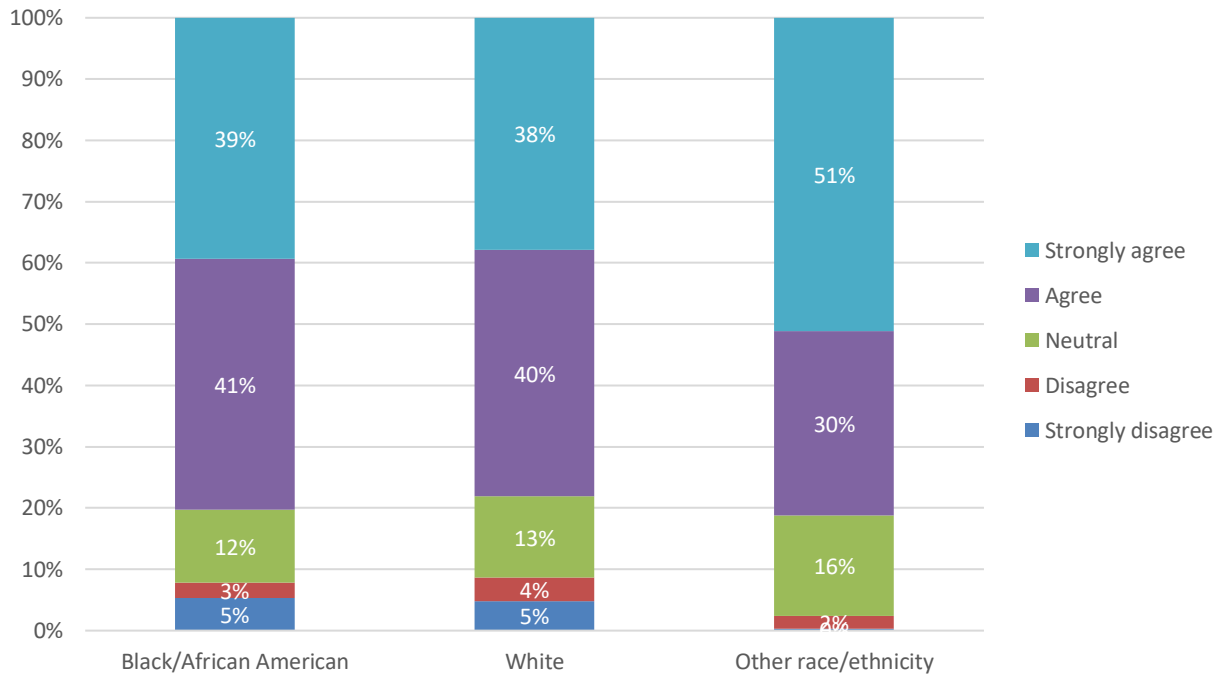


Figure 82: I can identify false or misleading information by race/ethnicity

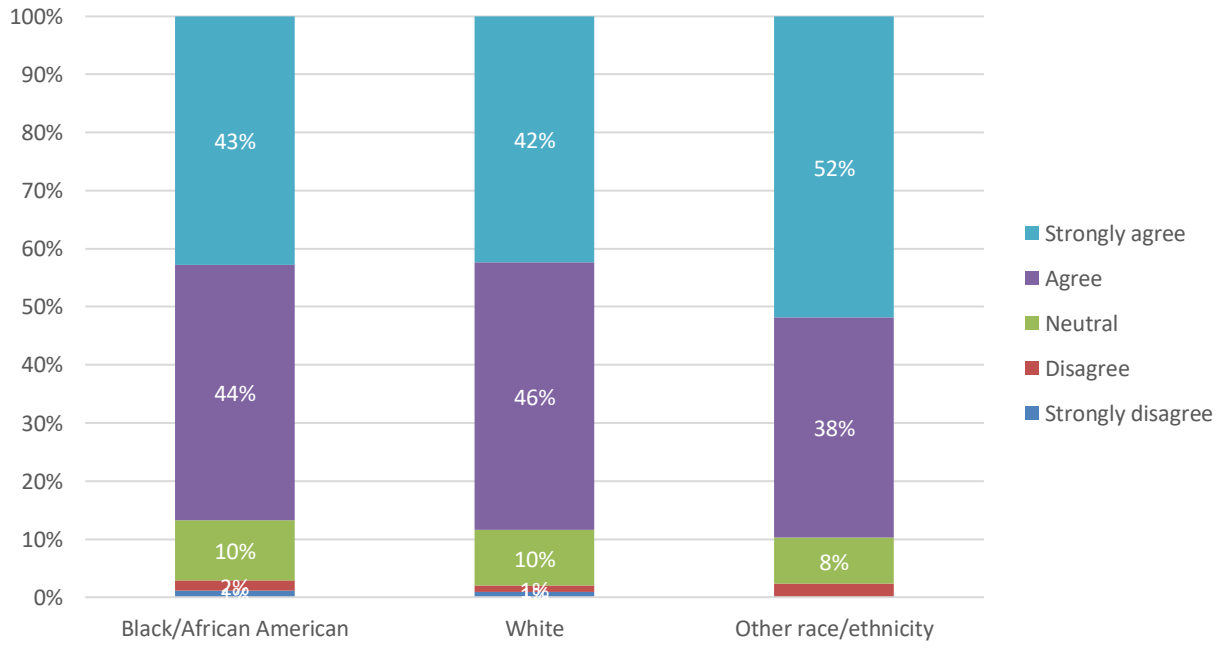


Figure 83: I can recognize and avoid online fraud by race/ethnicity

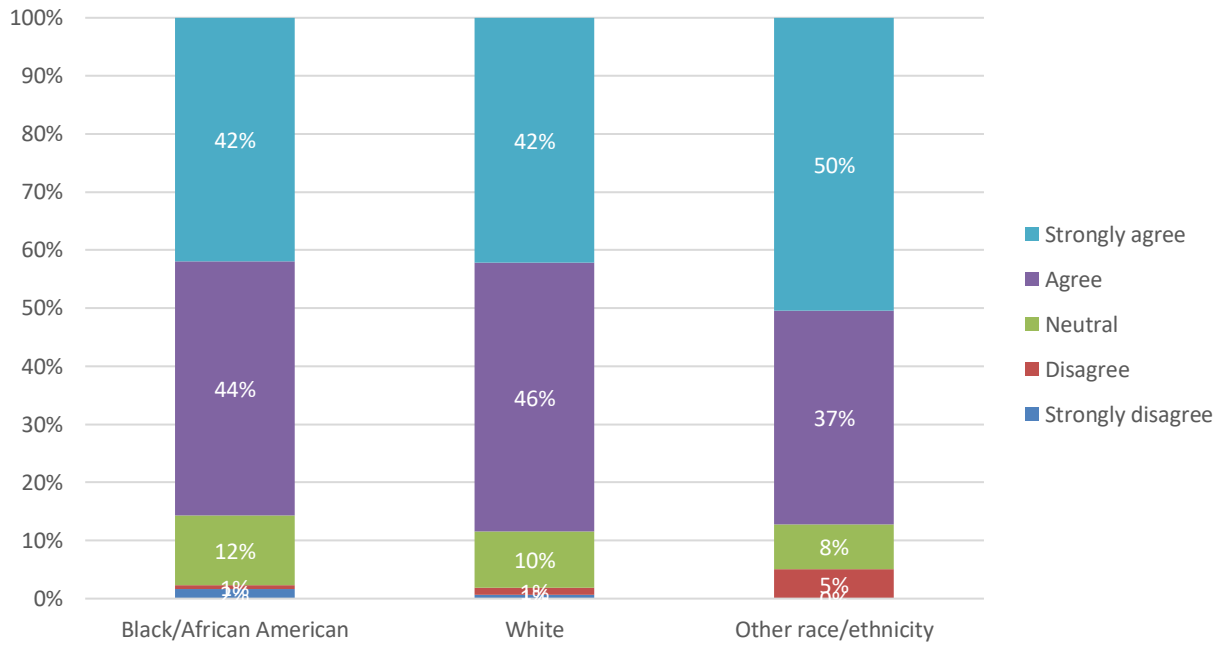


Figure 84: I can use and adjust privacy settings on social media by student in household

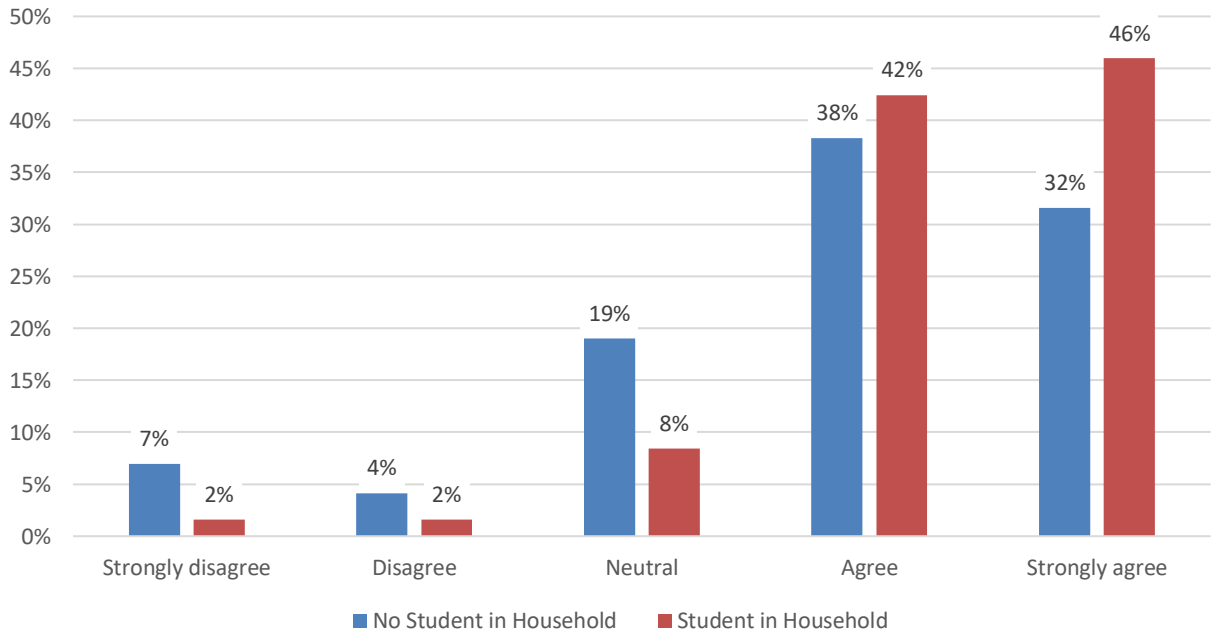


Figure 85: I can identify false or misleading information by student in household

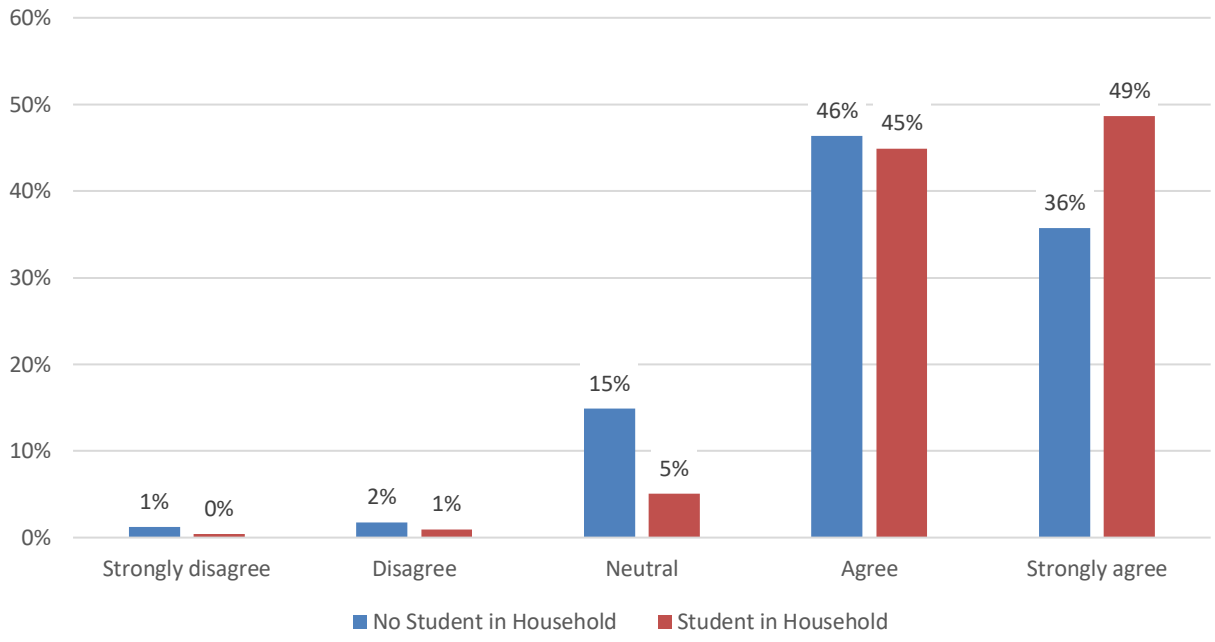


Figure 86: I can recognize and avoid online fraud by student in household

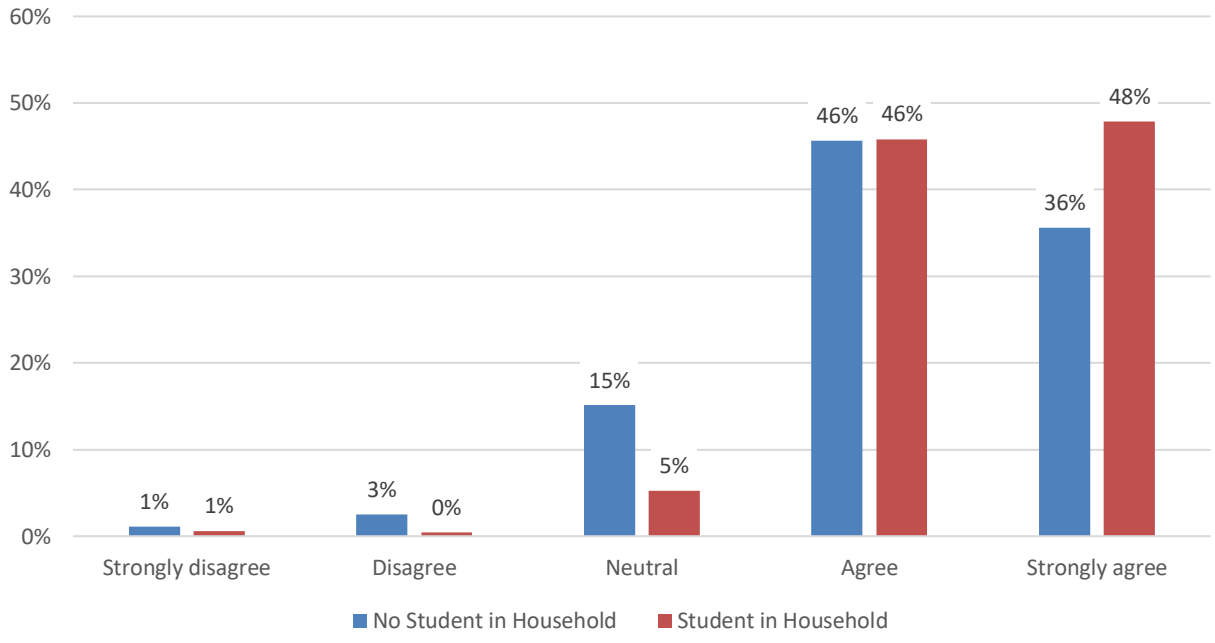


Figure 87: I can use and adjust privacy settings on social media by household size

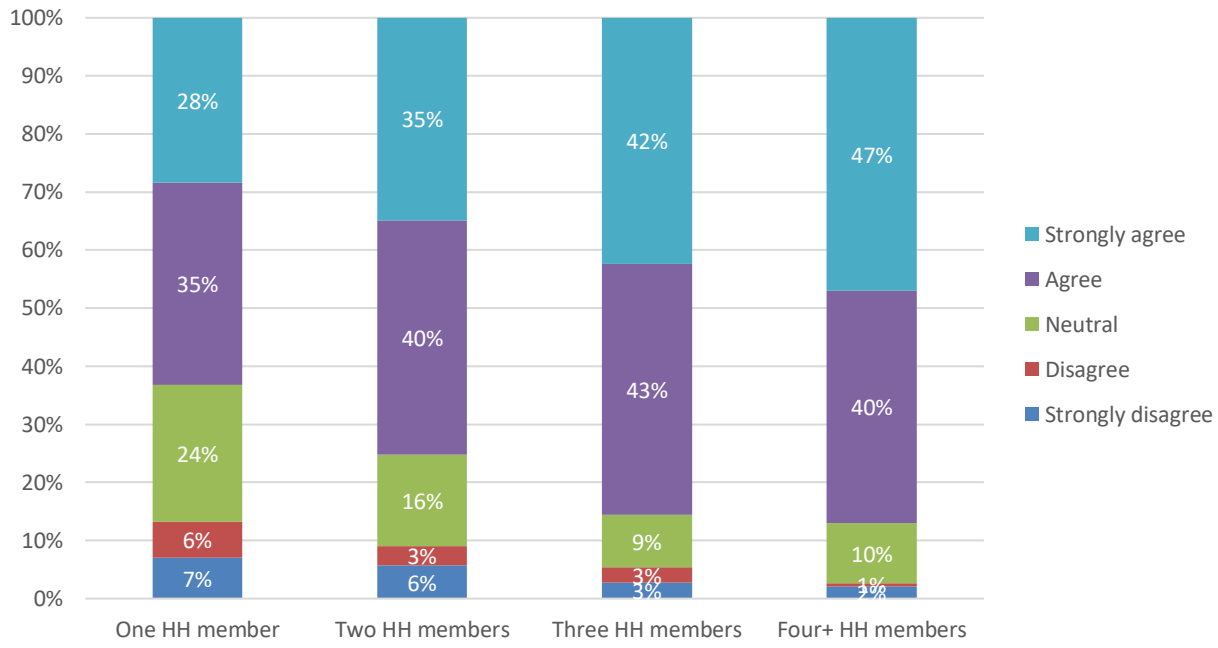


Figure 88: I can identify false or misleading information by household size

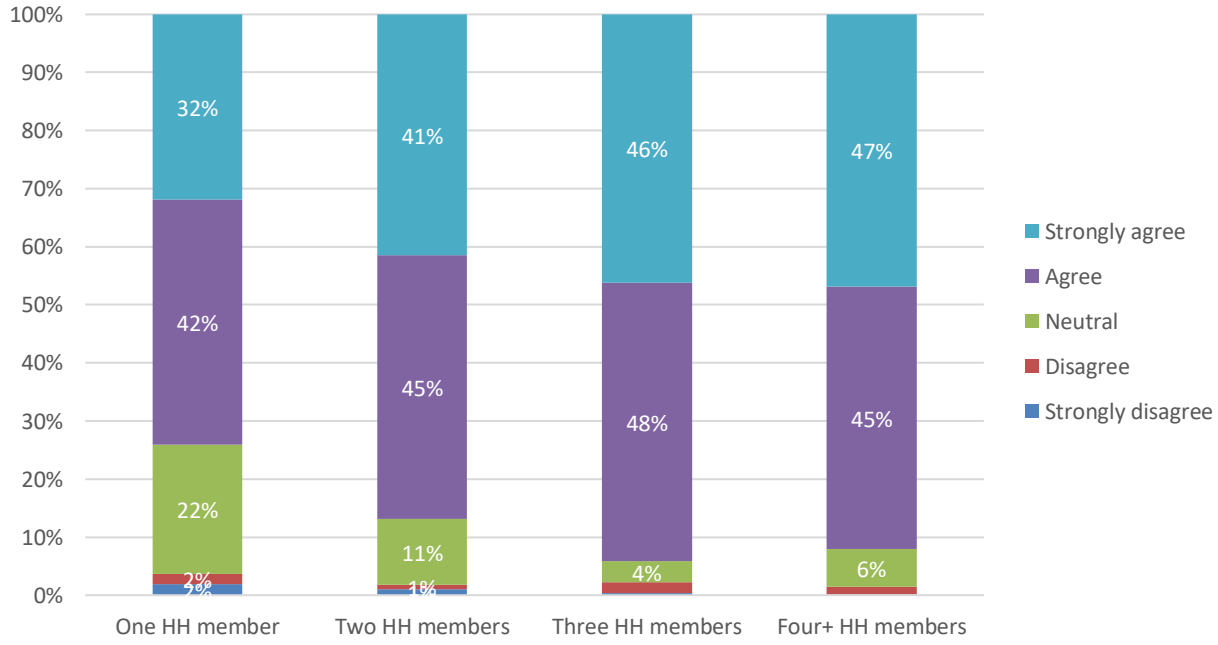


Figure 89: I can recognize and avoid online fraud by household size

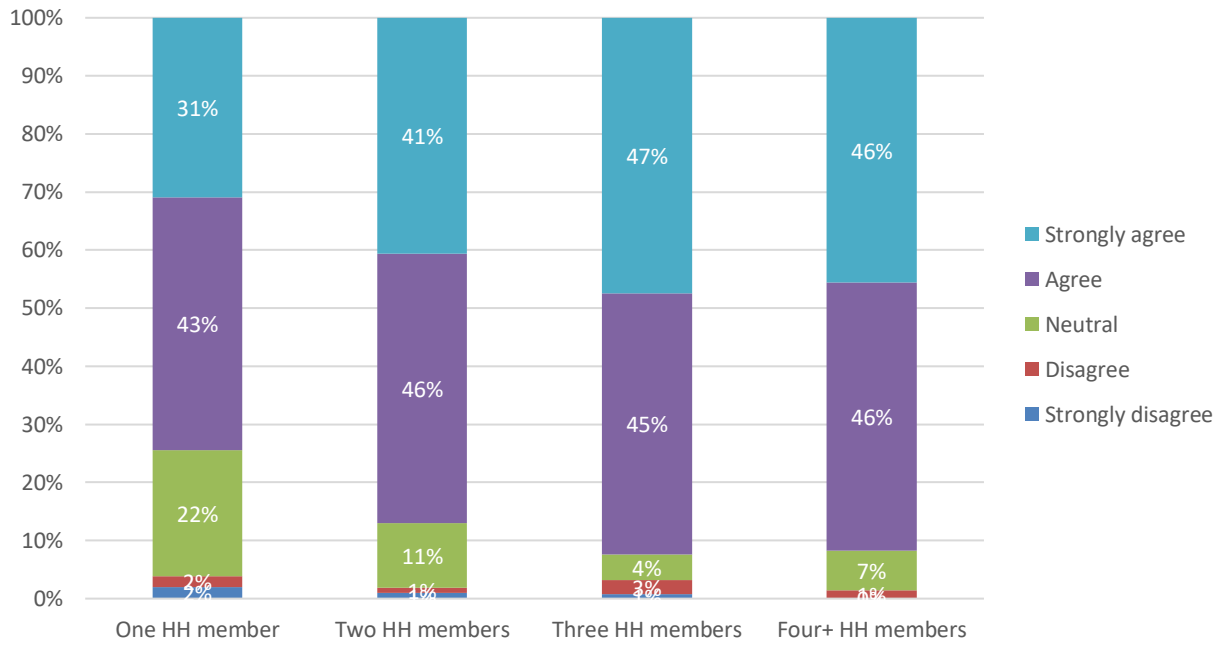


Figure 90: I can use and adjust privacy settings on social media by children in household (at least one household member under age 18)

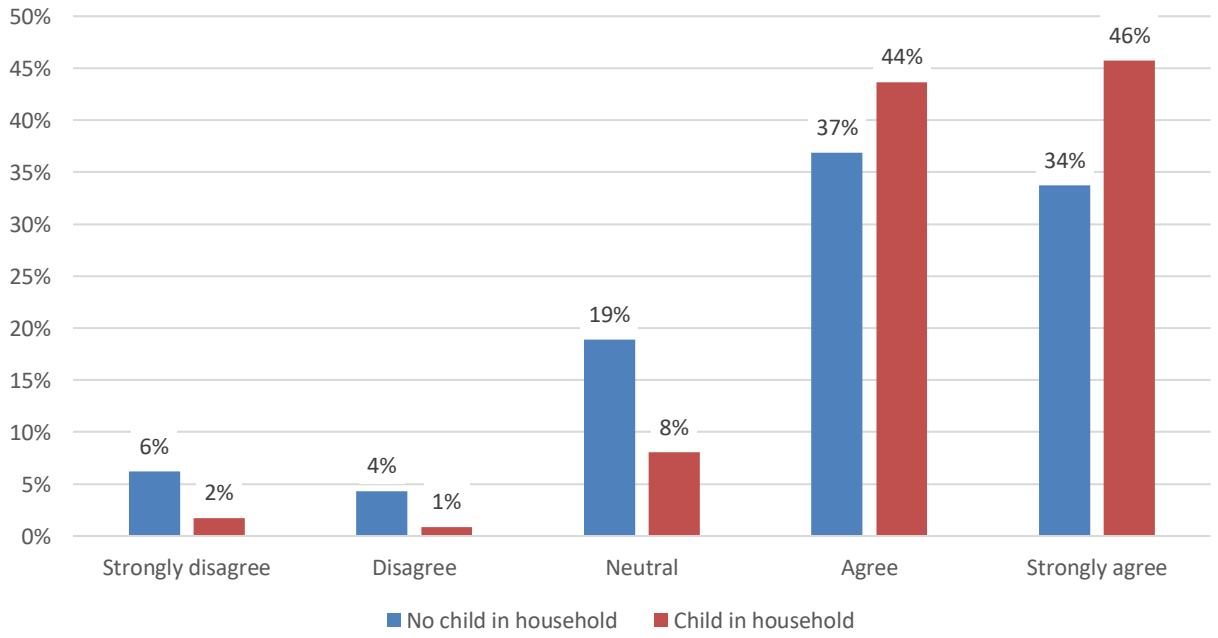


Figure 91: I can identify false or misleading information by children in household (at least one household member under age 18)

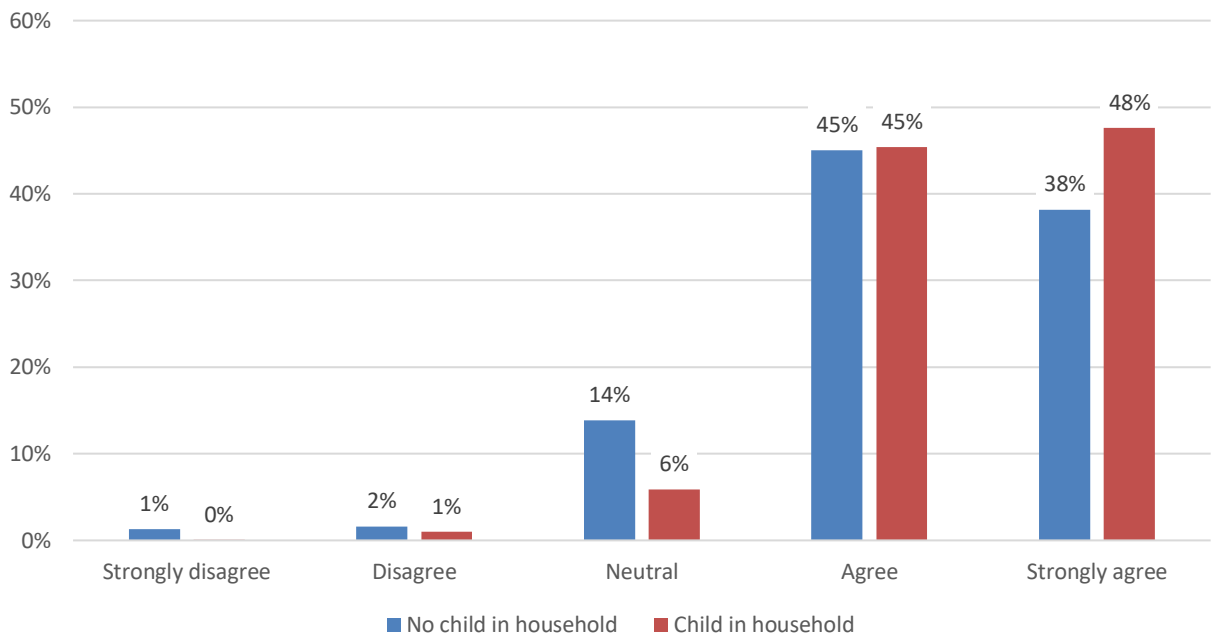


Figure 92: I can recognize and avoid online fraud by children in household (at least one household member under age 18)

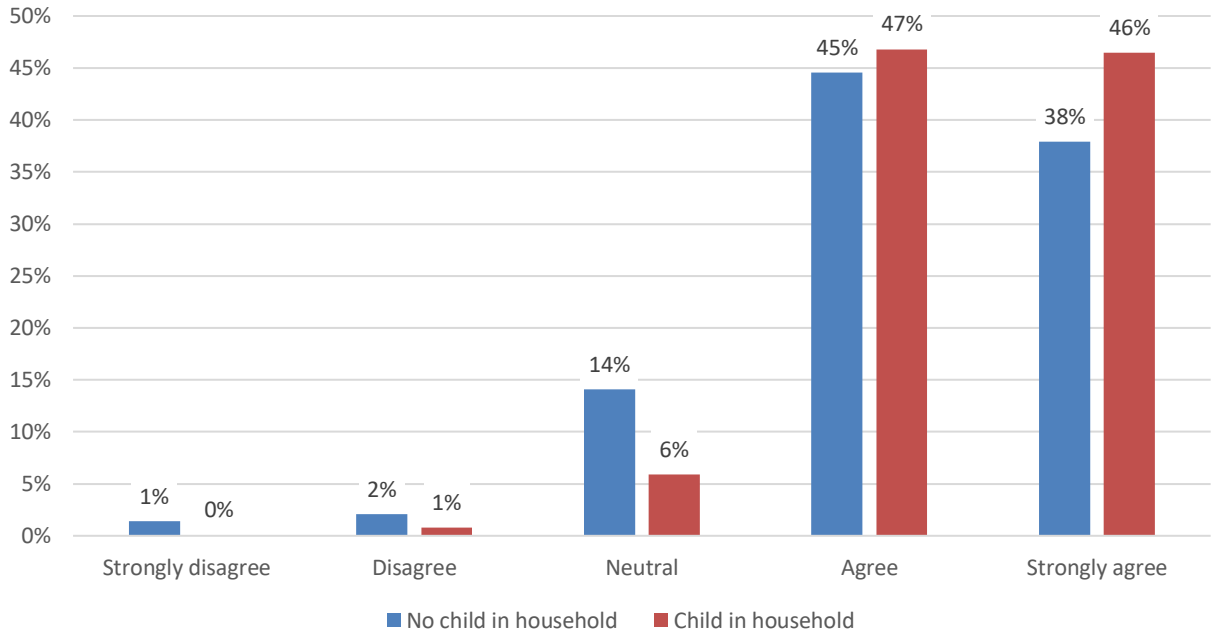


Figure 93: I can use and adjust privacy settings on social media by seniors in household (at least one household member age 65 or older)

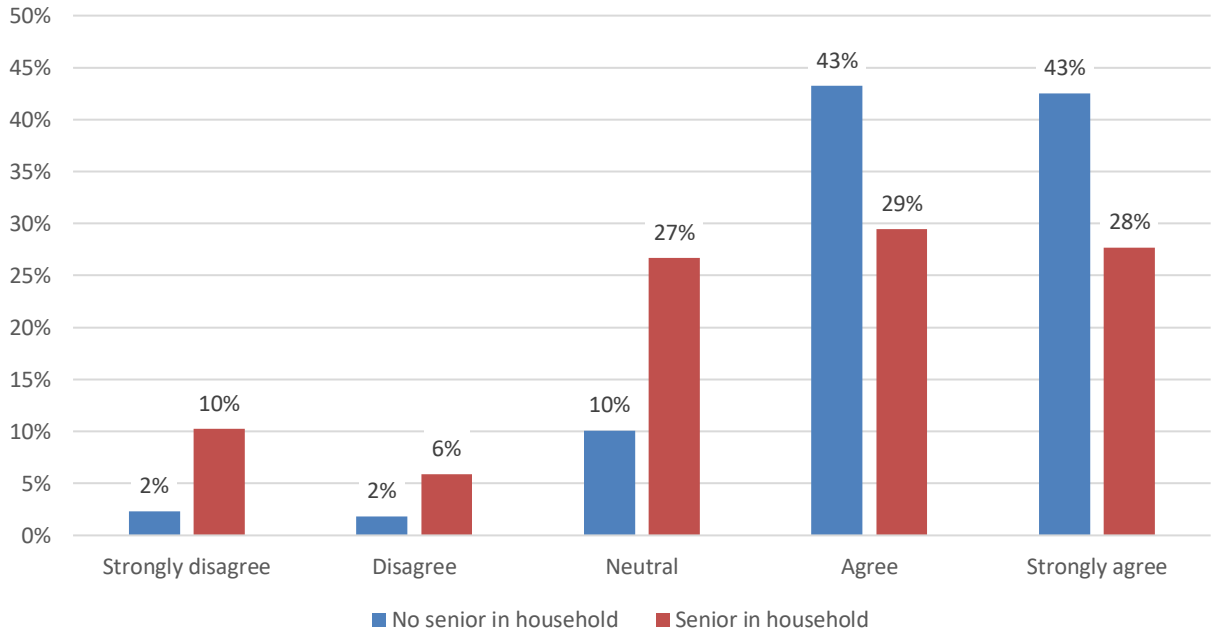


Figure 94: I can identify false or misleading information by seniors in household (at least one household member age 65 or older)

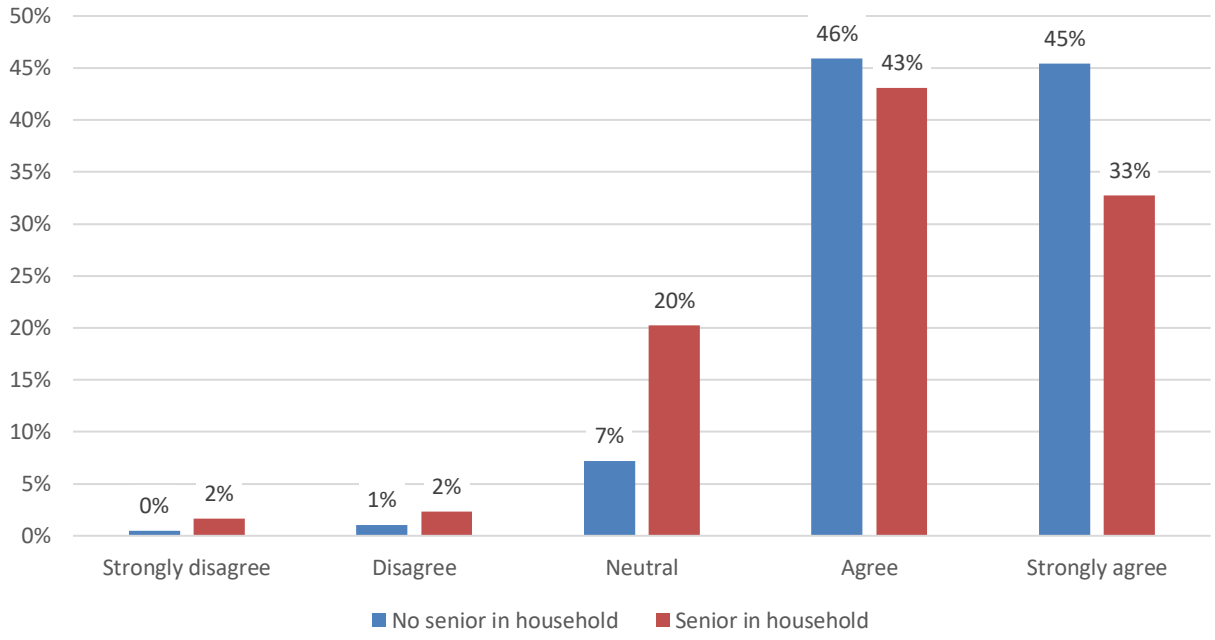


Figure 95: I can recognize and avoid online fraud by seniors in household (at least one household member age 65 or older)

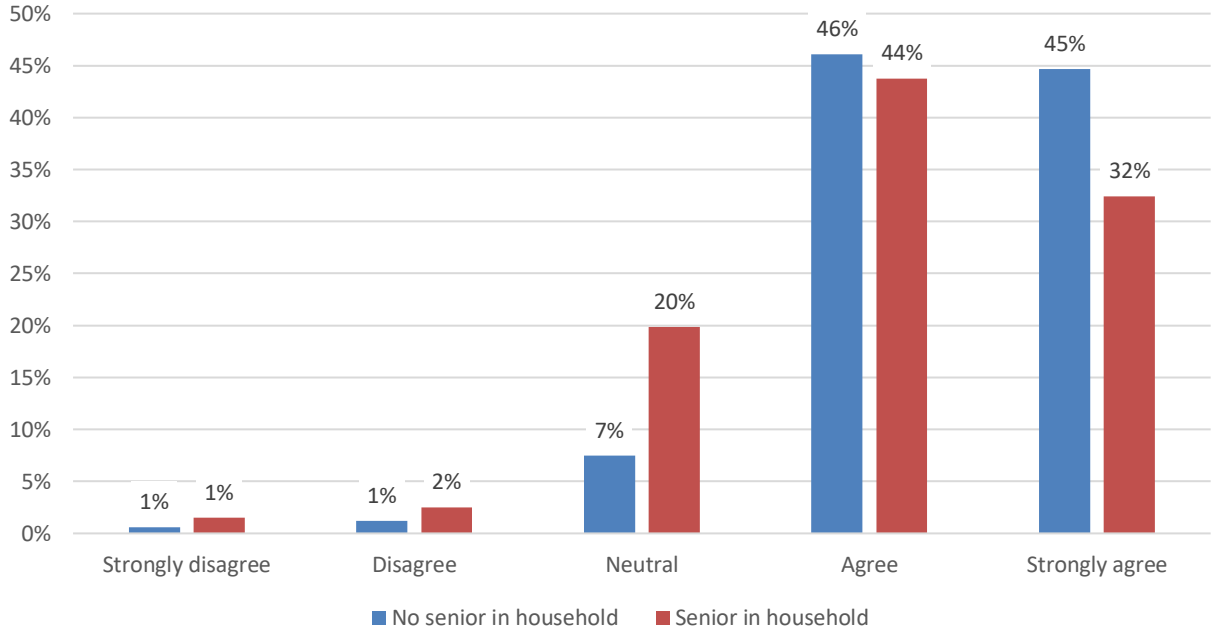


Figure 96: I can use and adjust privacy settings on social media by respondent age

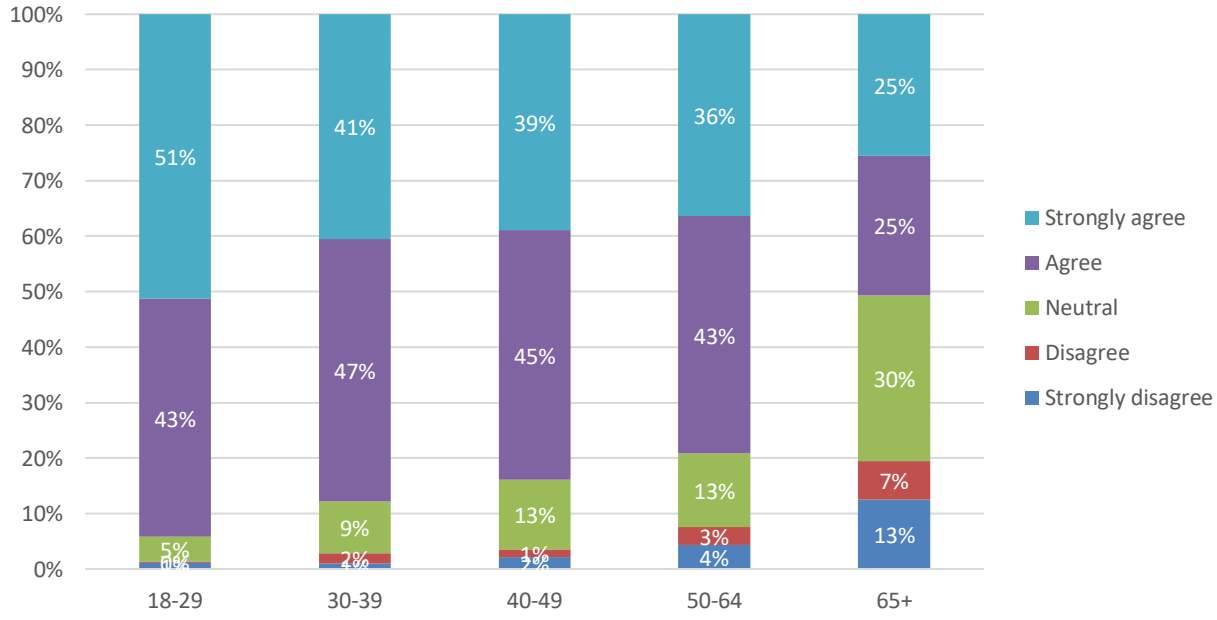


Figure 97: I can identify false or misleading information by respondent age

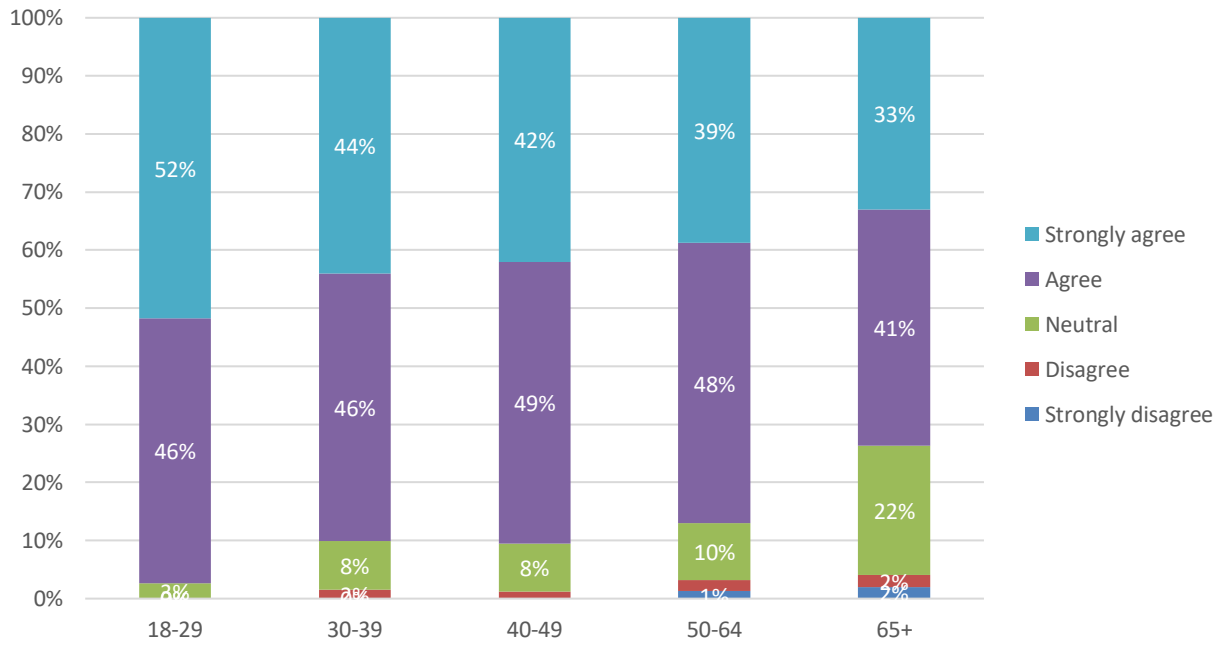
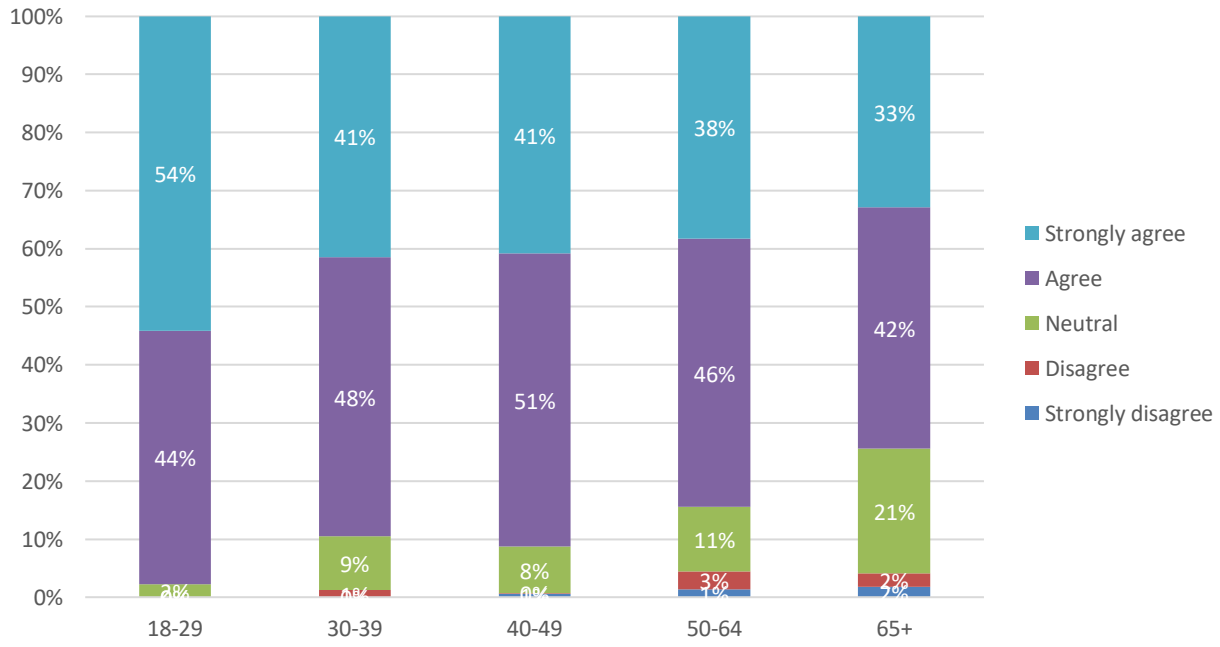
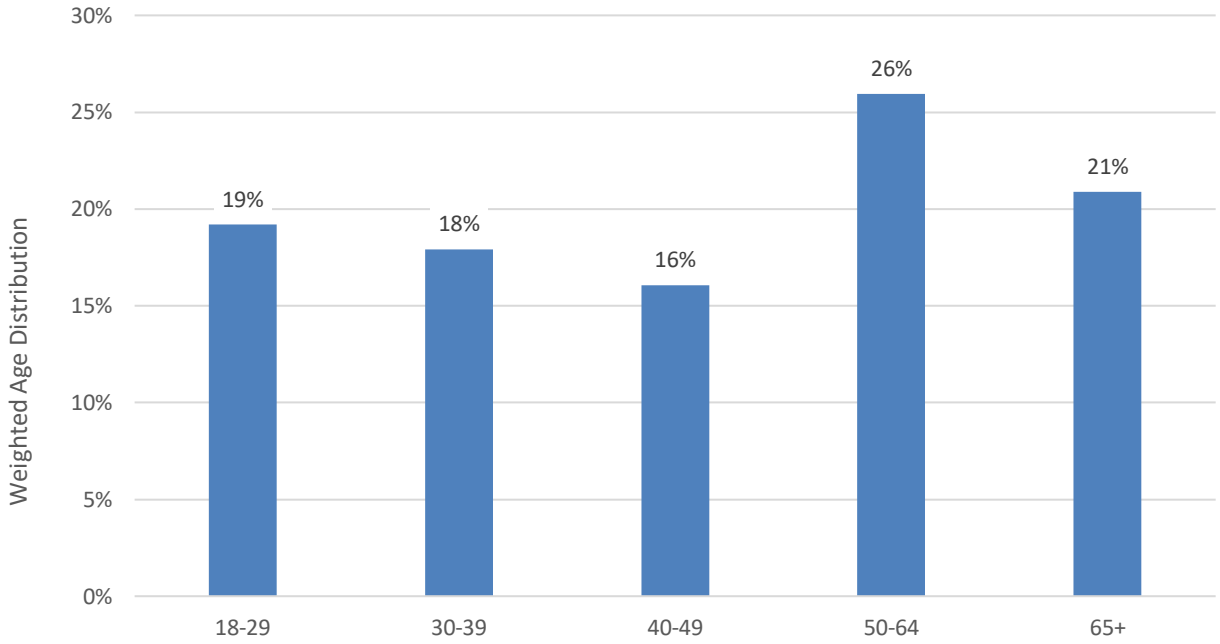


Figure 98: I can recognize and avoid online fraud by respondent age



What is your age?

Figure 99: Age of respondent



How many people live in your household, and what are their approximate ages?

Figure 100: Percent of households with at least one member in each age category

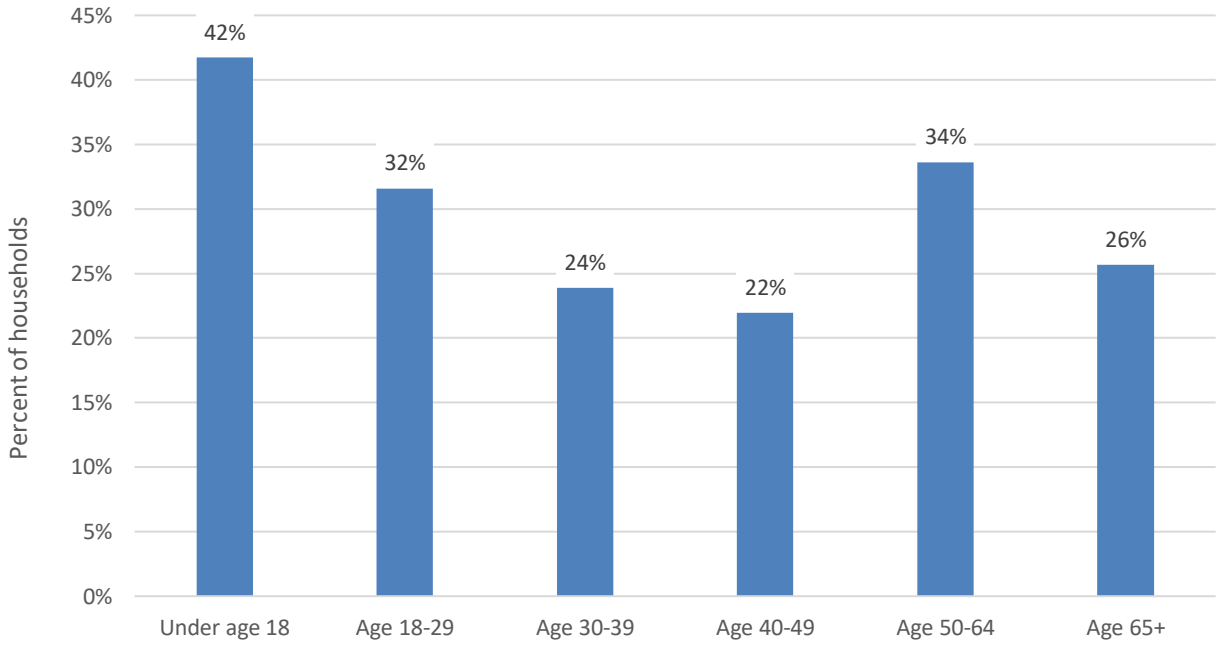


Figure 101: Average number of household members per age category (among households with at least one household member in that age group)

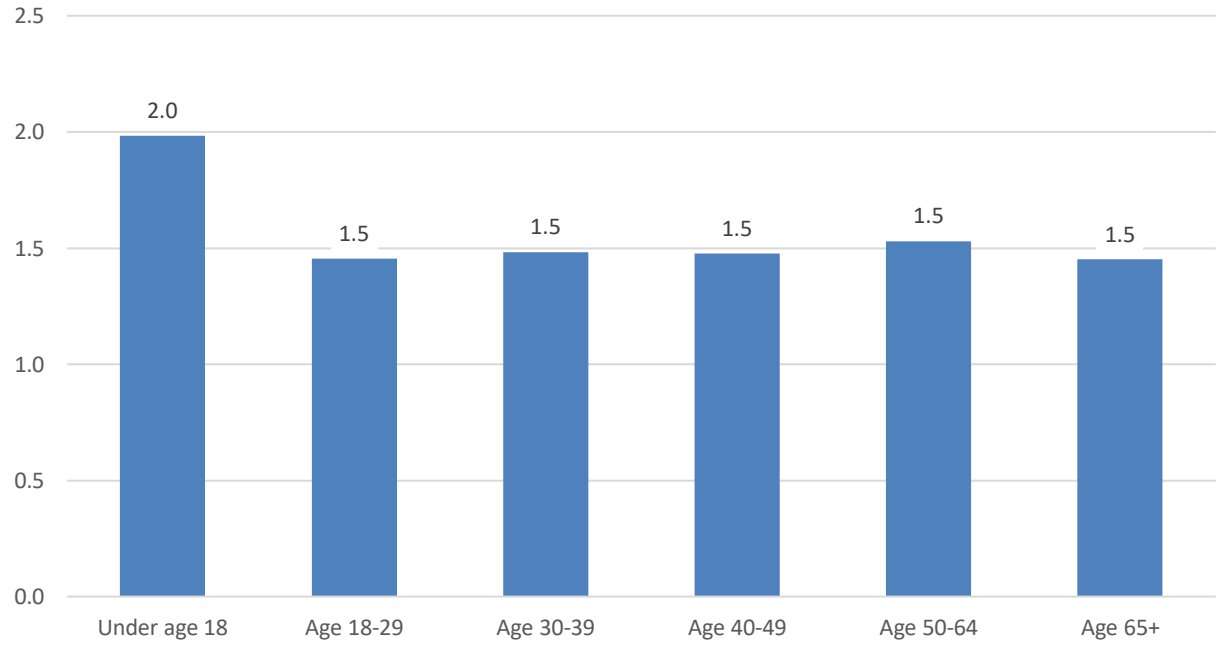
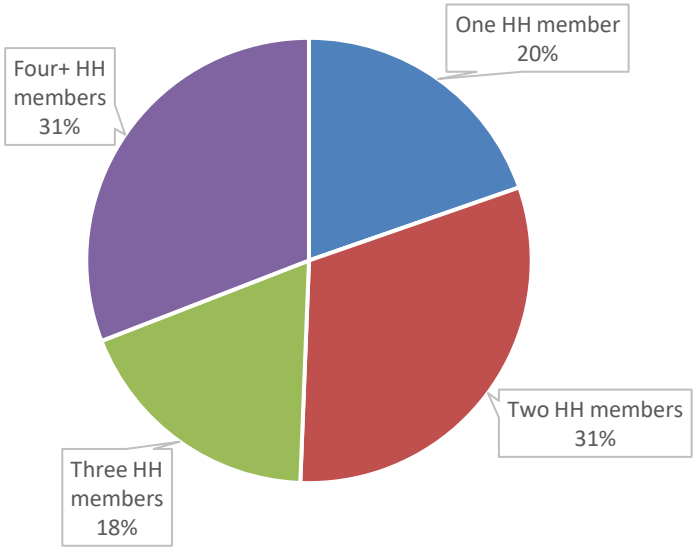
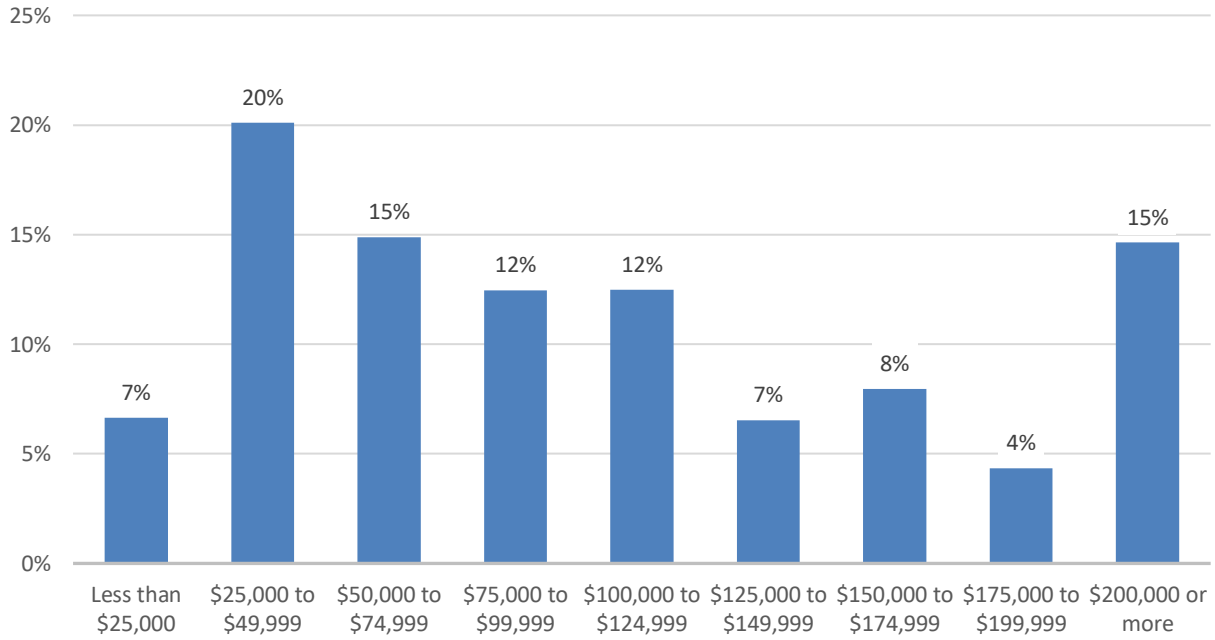


Figure 102: Number of household members (household size)



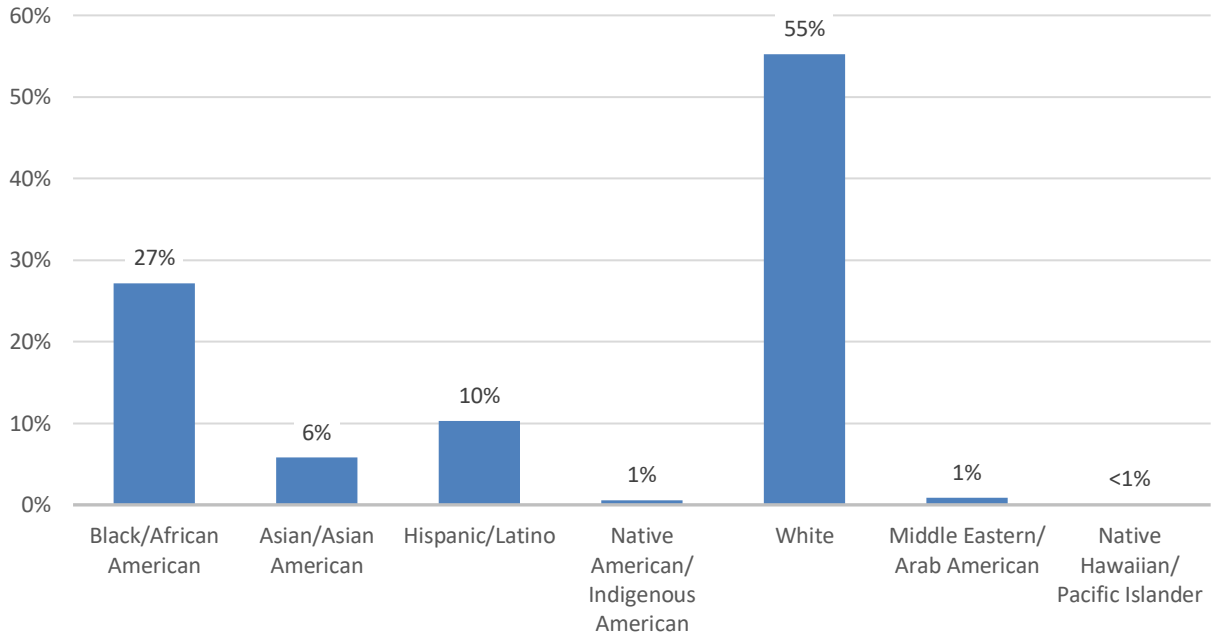
What is your approximate annual household income?

Figure 103: Approximate annual household income



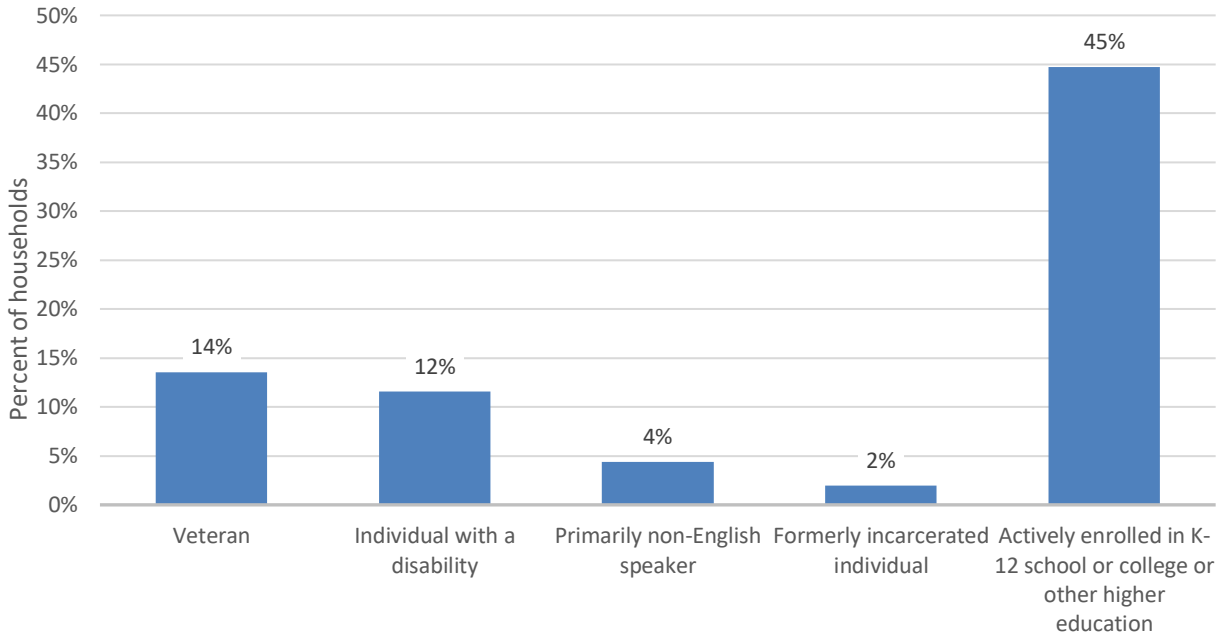
What race/ethnicities are represented in your household?

Figure 104: Race/ethnicity



Are you or anyone else living in your household a(n):

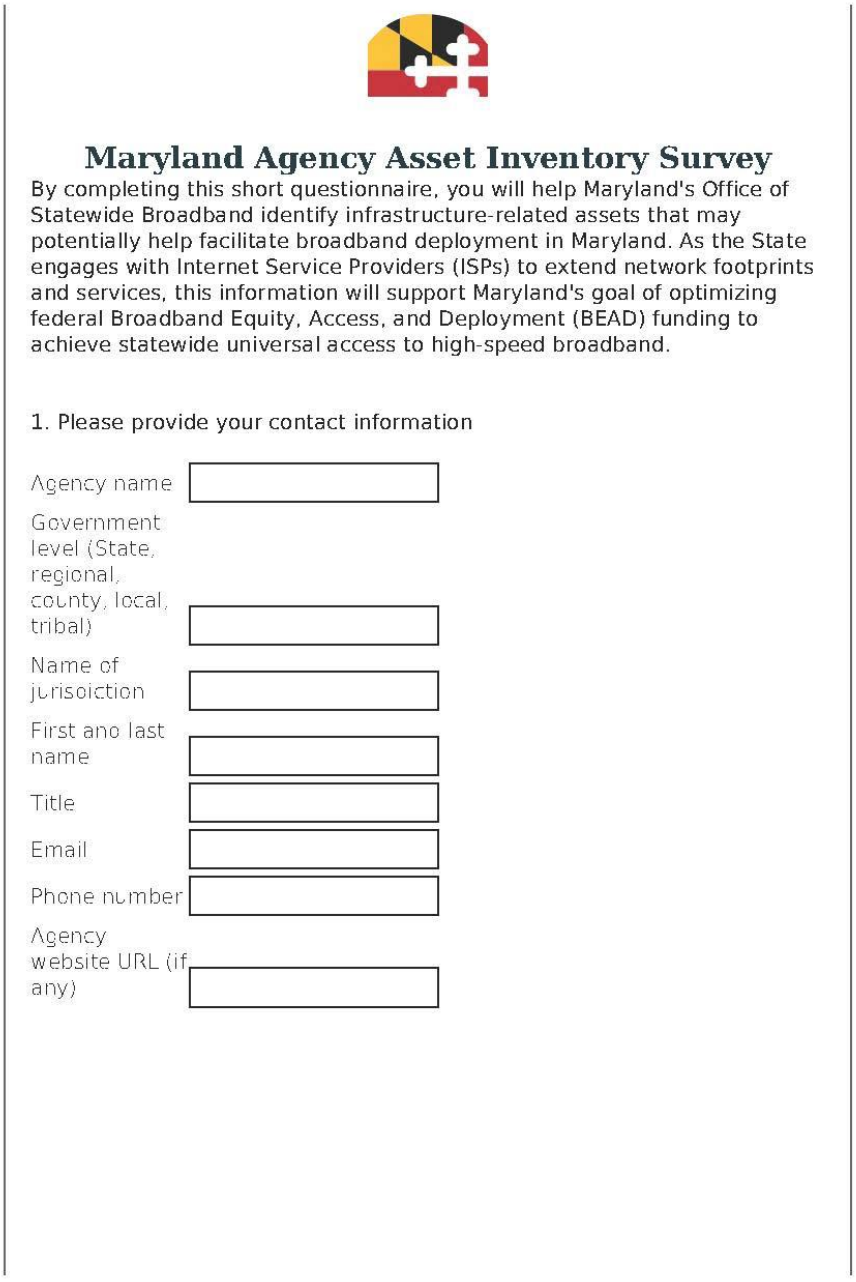
Figure 105: Percent of households with at least one household member in each at-risk group



Appendix D: Survey instruments

OSB gathered input from stakeholders through surveys targeted to individual groups of stakeholders.

Survey instrument 1: Maryland agency asset inventory survey



Maryland Agency Asset Inventory Survey

By completing this short questionnaire, you will help Maryland's Office of Statewide Broadband identify infrastructure-related assets that may potentially help facilitate broadband deployment in Maryland. As the State engages with Internet Service Providers (ISPs) to extend network footprints and services, this information will support Maryland's goal of optimizing federal Broadband Equity, Access, and Deployment (BEAD) funding to achieve statewide universal access to high-speed broadband.

1. Please provide your contact information

Agency name

Government level (State, regional, county, local, tribal)

Name of jurisdiction

First and last name

Title

Email

Phone number

Agency website URL (if any)

2. Does your agency own or manage physical assets (i.e. conduit, fiber, structures, real estate, poles, etc.) that are available for lease to Internet Service Providers (ISP) for broadband deployment?

☐ Yes

☐ No

What information about these leasable assets would you like the State to include in its broadband planning and communications with ISPs?

3. Will your agency oversee capital construction projects between now and 2027 that include opportunities for the placement of communications facilities by your agency, other state or local agencies, regional or local consortia, or ISPs?

☐ Yes

☐ No

What information about these projects (i.e. scope, location, schedule) would you like included in State broadband planning and in communications with ISPs?

4. Has your agency analyzed workforce readiness (i.e., the availability of skilled labor) in Maryland as it may impact State broadband policies and deployment goals?

☐ Yes

☐ No

Please provide a URL link where relevant documents, presentations, or analyses are located or send to the following email address: OSB.BEAD@MARYLAND.GOV

5. Does your agency have a role in workforce development that would support wired or wireless broadband deployment (including training and recruitment for equipment technicians, cable installation and repair, and construction jobs)?

☐ Yes

☐ No

Please describe programs or initiatives that your agency operates or supports or relevant programs operated by other agencies.

6. Are you aware of, or does your agency have reason to track and monitor frequent or widespread broadband or other communications outages that have significant impact on your community (or, if you represent a statewide organization, on the communities in Maryland)?

☐ Yes

☐ No

If yes, please describe your agency's role in monitoring or tracking communications reliability in your community and discuss the impact of significant outages.

7. Are you aware of, or is your agency involved in, planning efforts or development of regulations related to reliable and resilient emergency-level broadband or other communications services, especially services for critical facilities in Maryland (e.g. hospitals, schools, evacuation sites, utilities, data centers, public safety locations)?

☐ Yes

☐ No

Please provide a URL link to any publicly available materials relating to these issues and briefly describe the relevant issues related to critical facilities, including planning for climate and weather-related hazards. You may also email these materials to OSB.BEAD@MARYLAND.GOV

8. Has your agency developed any policies, regulations, or guidance regarding emergency communications, network redundancy, climate resilience, disaster preparedness, or disaster recovery planning applicable to the broadband and communications industry in Maryland?

☐ Yes

☐ No

Please provide a URL link to any publicly available documents and briefly describe policies and other materials that you believe would be helpful to Maryland's broadband planning efforts. You may also email these materials to OSB.BEAD@MARYLAND.GOV

9. Has your agency developed policies or strategic planning documents that will facilitate broadband access efforts in Maryland (e.g. publicly available information that directly addresses digital equity, infrastructure deployment, economic development, network resilience, partnerships, business planning, or other related efforts)?

☐ Yes

☐ No

Please briefly summarize the material and provide a URL link or email information to OSB.BEAD@MARYLAND.GOV

10. If applicable please share information regarding broadband-related planning efforts of other Maryland state and local agencies or contact information for agencies involved in broadband-related planning efforts, that you believe would be helpful to the Office of Statewide Broadband's broadband planning efforts.

11. Please describe how your agency can collaborate with the Office of Statewide Broadband and participate in its efforts to achieve statewide universal access to high-speed broadband.

Survey instrument 2: Maryland community anchor institution survey

Maryland Community Anchor Institution Survey

Community anchor institutions play a critical role in facilitating greater use of broadband by underserved and vulnerable populations. Your responses to this brief survey will help the Office of Statewide Broadband identify programs to advance residents' opportunities to use broadband to work, learn, receive health care, and participate in civic events. This information will be an important part of Maryland's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity Planning programs.

1. Contact information

Your name	
Your job title	
Your e-mail	
Your phone number	
Organization name	
Organization address	
Organization website URL	
Organization's number of employees	
Please indicate if your organization serves statewide, regionally, or locally	

2. Choose the option that best describes your organization. Select the one that best applies.

- ◯ K-12 school
- ◯ Higher education entity
- ◯ Library
- ◯ Health clinic, health center, hospital, or other medical provider
- ◯ Public safety entity
- ◯ Public housing organization (including HUD-assisted housing and tribal housing organizations)
- ◯ Neighborhood organization and community center
- ◯ Faith-based organization
- ◯ Community support organization that facilitates use of broadband service by low-income or other underserved populations

3. Which of the following programs or services do you offer to facilitate the use of broadband services by your constituents or clients? Select all that apply.

- ☐ Support for applicants to broadband subsidy programs such as the Affordable Connectivity Program (ACP)
- ☐ Loans or donations of devices (computers, tablets) to access the internet
- ☐ Hotspots and free or subsidized internet access
- ☐ Cybersecurity training
- ☐ Other digital literacy training
- ☐ Training, equipment, subsidized services, or other resources to facilitate access to telehealth and telemedicine services
- ☐ Training teachers of broadband skills and digital literacy
- ☐ Developing and distributing accessible online content or devices designed for us by persons with disabilities
- ☐ Developing and distributing accessible online content directed at populations with specific needs, such as seniors, low-income residents, those with low-literacy, and those whose first language is not English
- ☐ Broadband internet access services at community centers or other gathering spaces used by clients and constituents
- ☐ Funding of programs that provide any of the above programs, including broadband infrastructure, devices, and subsidies to support affordability
- ☐ Program development and planning of broadband-related services
- ☐ Advocacy for digital inclusion, affordability, and the broadband-related needs of vulnerable populations
- ☐ Emergency and disaster relief services such as evacuation centers, charging stations, replacement equipment, and information on grants, loans, and services to those impacted by disasters
- ☐ My organization does **not** offer programs that facilitate the use of broadband services
- ☐ Other (please specify)

Maryland Community Anchor Institution Survey

4. Does your organization conduct outreach or tailor its broadband-related services to the needs of any of the following communities or groups? Select all that apply.

- ☐ Veterans or current military personnel
- ☐ People with disabilities
- ☐ Seniors
- ☐ Incarcerated or formerly incarcerated residents
- ☐ Those in low-income households or without reliable housing
- ☐ Other (please specify)
- ☐ Those with a language barrier including English learners
- ☐ Those with a low level of literacy
- ☐ Specific racial or ethnic minority group(s)
- ☐ Those living in rural communities
- ☐ Not applicable

5. Based on your organization's observations and experience, please describe the barriers and obstacles (e.g. affordability, lack of digital literacy, language barriers) that prevent members of the communities your organization serves, including Tribal and Native populations, from accessing or using broadband internet services.

6. Do all of your organization's locations, offices, or community centers have access to broadband internet speeds of at least 1 Gigabit per second (Gbps) symmetrical (both upload and download)?

- ☐ Yes
- ☐ No
- ☐ I don't know

If **no**, please provide the addresses of the locations where your organization does not have access to broadband internet services of at least 1 Gbps symmetrical.

7. If your organization does not purchase service with symmetrical speeds of at least 1 Gbps, please describe why. Select all that apply.

- ☐ Service is unavailable
- ☐ Service is unreliable
- ☐ Service is expensive
- ☐ Customer service is inadequate
- ☐ Our operations do not require Gigabit-level services
- ☐ I do not know if 1 Gbps service is available at my location
- ☐ Other (please specify)

8. Does your current internet service meet the needs of your organization to deliver broadband-related programs to your clients and constituents?

- ☐ Yes
- ☐ No, service is unavailable
- ☐ No, service is unreliable
- ☐ No, service is expensive
- ☐ No, customer service is inadequate
- ☐ No, service is too complicated to set up and/or maintain
- ☐ Redundant connectivity necessary for our operations is too expensive/unavailable
- ☐ Other (please specify)

9. How essential is symmetrical Gigabit connectivity at your facilities to your ability to deliver your broadband-related services?

1 - Not important	2	3	4	5 - Critically important
○	○	○	○	○

10. Does your organization provide access to broadband internet services to clients, constituents, or visitors at each of your locations?

- ☐ Yes
- ☐ No

If **yes,** does your broadband internet service provide sufficient capacity to accommodate peak demand for such services at all of your locations? If **no**, is a lack of access to adequate internet services at your location preventing you from serving users?

11. Is it important to your organization's mission and service delivery to maintain communications with critical facilities such as hospitals, schools, data centers, and public safety agencies during natural disasters and emergencies?

- ☐ Yes
- ☐ No

Please briefly describe your organization's need to remain connected to critical facilities and whether you believe your organization's current communications services meet this need.

12. Has your organization been consulted on disaster planning, emergency communications, or disaster recovery by your communications service provider or a local/regional government agency?

- ☐ Yes
- ☐ No

If yes, please briefly describe any plans or reports you think would be useful to the State's broadband and emergency communications planning efforts.

13. Does your organization operate or sponsor any workforce development or training programs in the fields of telecommunications or technology? If so, select all that apply:

- ☐ We do not sponsor programs
- ☐ Mentorships
- ☐ Certification programs
- ☐ Registered apprenticeships
- ☐ Unregistered apprenticeships
- ☐ Pre-apprenticeships
- ☐ Internships
- ☐ Digital literacy training for specific employment opportunities
- ☐ Job placement and recruitment services
- ☐ Sponsorships/scholarships for third-party training and classes
- ☐ Other (please specify)

14. Would your organization offer additional broadband-related services or programs to its constituents or clients if it had additional resources?

- ☐ Yes
- ☐ No

If yes, please describe those additional broadband-related services and the additional resources your organization would need to offer them (e.g. funding, skilled workforce, access to broadband internet services with faster speeds or more capacity).

15. Please describe how your organization can collaborate with the Office of Statewide Broadband and participate in its efforts to achieve statewide universal access to high-speed broadband.

Survey instrument 3: Maryland ISP survey

Maryland Internet Service Provider Engagement Survey

The Maryland Office of Statewide Broadband seeks your input on a range of broadband-related issues. Your responses to this brief survey will be an important part of Maryland's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity Planning programs.

1. Contact information

Your name	
Your job title	
Your email	
Your phone number	
Organization name	
Organization address	
Organization website URL	
Organization's number of employees	

2. Choose the option that best describes your organization and the services it offers:

	Internet service provider (ISP)	Other provider
Provider type		

3. What recruitment and hiring sources does your organization use to hire technicians, lineworkers, engineers, construction laborers and managers, and similar positions? (Select all that apply)

- ☐ Internet-based employment posting sites
- ☐ Workforce development and community job placement centers
- ☐ Communications industry-specific training classes
- ☐ Third-party hiring and recruitment firms
- ☐ Advertisements in trade association publications and websites
- ☐ Incentivizing employee referrals

4. Does your organization offer, sponsor, or participate in any workforce development or apprenticeship programs?

- ◯ Yes
- ◯ No

Maryland Internet Service Provider Engagement Survey

5. If you answered yes to Q.4, please specify the type of programs. (Select all that apply)

- ☐ Mentorship
- ☐ Certification programs
- ☐ Apprenticeship
- ☐ Internship
- ☐ Sponsorships/scholarships for third-party training and classes
- ☐ Other (please specify)

6. How would you propose to work with Maryland on workforce development issues related to broadband deployment, including programs to support diversity among your organization's employees?

7. Does your organization participate in the Affordable Connectivity Program (ACP)?

- ◯ Yes
- ◯ No

Maryland Internet Service Provider Engagement Survey

8. What is the monthly post-subsidy price of your lowest-price ACP-eligible tier for participating subscribers?

- ◯ $0
- ◯ $1 - $10
- ◯ $11 - $20
- ◯ $21 - $30
- ◯ More than $30

9. What is the speed of your lowest-price ACP-eligible tier?

- ◯ 25/3 Mbps
- ◯ Up to 50/5 Mbps
- ◯ Up to 100/20 Mbps
- ◯ Greater than 100/20 Mbps but less than 100/100 Mbps
- ◯ 100/100 Mbps or more

10. How do you advertise or promote your participation in the ACP?

11. Does your organization offer other programs for low-income customers?

- ☐ Yes
- ☐ No

Please provide service speeds, monthly pricing, and a description of your low-income or discounted offerings.

12. Does your organization have programs to support consumer broadband skills or use of the internet?

- ☐ Yes
- ☐ No

If yes, please describe and provide URL links to relevant materials.

13. Does your organization have programs to help consumers strengthen cybersecurity skills

- ☐ Yes
- ☐ No

If yes, please describe and provide URL links to relevant materials.

14. Does your organization have programs to support internet adoption?

- [ ] Yes
- [ ] No

If yes, please describe and provide URL links to relevant materials.

15. Please describe how your organization can collaborate with local communities on efforts to close the digital divide and, if applicable, please provide specific examples where you have done this successfully.

16. What strategies has your organization used to deploy broadband in the areas of Maryland that are most expensive to serve?

17. Please discuss your continuity and disaster recovery plans in the event of a natural disaster or human error, such as a fiber cut, and whether any of your plans target specific geographic areas.

Survey instrument 4: Maryland workforce development survey

Maryland Workforce Development Opportunity Survey

Broadband infrastructure deployment and network operations require a highly skilled workforce. Your responses to this brief survey will help Maryland's Office of Statewide Broadband identify opportunities for workforce training and readiness programs to prepare residents for new job opportunities in this field. This information will be an important part of Maryland's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity Planning programs.

1. Contact information

Your name	
Your job title	
Your e-mail	
Your phone number	
Organization name	
Organization address	
Organization website URL	

2. Type of organization (one selection only)

- ◯ Internet service provider (ISP)
- ◯ Labor union
- ◯ Trade association
- ◯ Industry certification or standards body
- ◯ Government agency (state, county, local, tribal, or regional consortia)
- ◯ Economic development association or agency
- ◯ Regional or local workforce development board or agency
- ◯ K-12 education (private, charter, public)
- ◯ Higher education organization (all levels, public or private)
- ◯ Trade, technical or vocational school (public, nonprofit, or for-profit)
- ◯ Community based or nonprofit organization

Maryland Workforce Development Opportunity Survey

3. Do you offer workforce development programs for job placement and training in the communications industry in Maryland?

- ◯ Yes
- ◯ No

4. Do you offer training in any of the following industries that have transferable skills that can be applied to communications network deployment? (Select all that apply)

- ☐ Utilities such as electricity
- ☐ HVAC
- ☐ Computer science
- ☐ Cybersecurity
- ☐ General electrician
- ☐ General construction
- ☐ Other (please specify)

5. If you answered no to Question 3, are you interested in developing programs specifically targeted at employment opportunities in the communications industry?

- ☐ Yes
- ☐ No

Please describe your interest in developing these programs

Maryland Workforce Development Opportunity Survey

6. What type of workforce development programs do you offer? (Select all that apply)

- ☐ On-the-job training placement
- ☐ Standards certification and safety programs
- ☐ Training programs through a public or private K12 school
- ☐ Training programs through a school of higher education
- ☐ Trade or vocational certificate programs
- ☐ Job placement and recruiting services
- ☐ Formal apprenticeship opportunities

7. Which of the following communications designations are included in your programs? (Select all that apply)

- ☐ Construction laborers and heavy equipment operators
- ☐ Tower, line, equipment, maintenance, and testing specialists
- ☐ Supervisors / project managers
- ☐ Network design roles
- ☐ Locators

8. Does your program specifically reach out to any of the following populations for participation in your programs? (Select all that apply)

- ☐ Veterans or current military personnel
- ☐ People with disabilities
- ☐ Seniors
- ☐ Incarcerated or formerly incarcerated
- ☐ Those in low-income households or without reliable housing
- ☐ Those with a language barrier including English learners
- ☐ Those with a low level of literacy
- ☐ Specific racial or ethnic minority group(s)
- ☐ Those living in rural communities

9. How would you characterize your current capacity for developing and offering training programs to meet current workforce demands in the communications industry? (Select one)

- ◯ Underutilized
- ◯ Adequately utilized
- ◯ At capacity

10. How would you characterize your plans for developing and offering additional programs to meet future workforce demands in the communications industry? (Select one)

- ☐ We have plans to add capacity
- ☐ We have no plans to add capacity
- ☐ We are reducing our training capacity
- ☐ We are interested in adding capacity, but do not have resources to do so

Please describe your plans for additional or expanded programs or explain what additional resources you would need to add capacity.

11. What are the sources of funding for your training programs? (Select all that apply)

- ☐ Federal agencies and programs
- ☐ State agencies and programs
- ☐ County or local funding and programs
- ☐ Private foundations
- ☐ Fundraising and community grants
- ☐ Partnerships with employers
- ☐ Partnerships with unions or trade associations
- ☐ Fee-based services
- ☐ Other (please specify)

12. Do you serve "rural" communities?

- ☐ Yes
- ☐ No

What types of incentives are effective to recruit both skilled and manual labor to your rural community?

13. Please describe barriers to developing a diverse, skilled workforce in your community that can fill employment opportunities in the communications industry. Additionally, please provide examples or ideas of incentives or programs that can mitigate those barriers to create a diverse pool of highly skilled workers.

Maryland Workforce Development Opportunity Survey

14. Do you provide any in-house skills training, workforce development, or apprenticeship programs for your employees to support a highly skilled workforce?

- ◯ Yes
- ◯ No

15. If you answered yes above, please identify the types of programs. (Select all that apply)

- ☐ Mentorship
- ☐ Certification programs
- ☐ Apprenticeship
- ☐ Internship
- ☐ Sponsorships/scholarships for third-party training and classes
- ☐ Other (please specify)

16. In addition to any programs you directly provide, what other sources or programs do you use in Maryland to train and support workforce readiness among your employees? (Select all that apply)

- ☐ Standards certification and safety programs
- ☐ Training programs through a public or private K-12 school
- ☐ Training programs through a school of higher education
- ☐ Trade or vocational certificate programs
- ☐ Formal apprenticeship programs

17. What sources or programs do you use to recruit and hire employees, including technicians, linemen, construction laborers and managers, and similar positions? (Select all that apply)

- ☐ Internet-based employment posting sites
- ☐ Workforce development and community job placement centers
- ☐ Communications industry specific training classes
- ☐ Third-party hiring and recruitment firms
- ☐ Advertisements in relevant trade association publications and websites
- ☐ Incentivizing employee referrals

18. Do you have programs or incentives to support diversity among your employees when considering methods to attract, retain, and promote a skilled workforce?

19. Please describe your vision for workforce readiness programs, recruitment practices, and wrap around services to support broadband expansion in Maryland over the next five years.

Appendix E: Summary of online survey data

Each of the four surveys (Appendix D) elicited feedback or information that has informed this Plan, and allowed organizations to signal to OSB that they were interested in participating in the Digital Equity Plan process.

Eight entities responded to the Maryland agency asset inventory survey and described the offerings they already have as well as their plans for new partnerships and programs. For example, one county "recently hired a position to develop and manage a strategic plan. An agenda has been put in place addressing mapping efforts, public information, grant management, project management, other county agencies support, marketing county owned fiber assets, interface to private sector, and developing new programs such as hard to connect, and digital equity programs."

The community anchor institution online survey drew 20 responses. Only five reported that all of their organization's locations had access to symmetrical 1 Gbps service, although five did not know whether service was available (two of which lease their office space and do not negotiate internet service). The community anchor institutions detailed existing programs as well as plans for the future.

The ISP online survey drew responses from eight companies ranging in size from four employees to over 100,000. ISPs described current and planned programs.

The online workforce survey drew responses from approximately 23 organizations, many of which are already conducting relevant activities and also report they are planning to create additional programs.

Appendix F: Alignment of Plan with Digital Equity Act requirements

The following table displays this Plan's fulfilment of all requirements of the Digital Equity Act as outlined in the NOFO and in other guidance from the NTIA.

	Requirement	Details	Section
Requirement 1			
1	Identification of digital equity barriers for each Covered Population	Individuals who live in covered households	3.2
		Aging individuals	3.2
		Incarcerated individuals	3.2
		Veterans	3.2
		Individuals with disabilities	3.2
		Individuals with a language barrier	3.2
		Individuals who are members of a racial or ethnic minority group	3.2
		Individuals who primarily reside in a rural area.	3.2
Requirement 2			
2a	**Measurable objectives** for documenting and promoting the **availability of, and affordability of access to, fixed and wireless broadband technology**	Individuals who live in covered households	2.3.2.1 2.3.2.2
		Aging individuals	2.3.2.1 2.3.2.2
		Incarcerated individuals	2.3.2.1 2.3.2.2
		Veterans	2.3.2.1 2.3.2.2
		Individuals with disabilities	2.3.2.1 2.3.2.2
		Individuals with a language barrier	2.3.2.1 2.3.2.2
		Individuals who are members of a racial or ethnic minority group	2.3.2.1 2.3.2.2
		Individuals who primarily reside in a rural area.	2.3.2.1 2.3.2.2
2b	**Measurable objectives** for documenting and promoting the **online accessibility and inclusivity of public resources and services**	Individuals who live in covered households	2.3.2.3
		Aging individuals	2.3.2.3
		Incarcerated individuals	2.3.2.3
		Veterans	2.3.2.3
		Individuals with disabilities	2.3.2.3
		Individuals with a language barrier	2.3.2.3
		Individuals who are members of a racial or ethnic minority group	2.3.2.3

	Requirement	Details	Section
		Individuals who primarily reside in a rural area.	2.3.2.3
2c	**Measurable objectives** for documenting and promoting **digital literacy**	Individuals who live in covered households	2.3.2.3
		Aging individuals	2.3.2.3
		Incarcerated individuals	2.3.2.3
		Veterans	2.3.2.3
		Individuals with disabilities	2.3.2.3
		Individuals with a language barrier	2.3.2.3
		Individuals who are members of a racial or ethnic minority group	2.3.2.3
		Individuals who primarily reside in a rural area.	2.3.2.3
2d	**Measurable objectives** for documenting and promoting awareness of and use of, measures to secure **the online privacy of, and cybersecurity** with respect to an individual.	Individuals who live in covered households	2.3.2.3
		Aging individuals	2.3.2.3
		Incarcerated individuals	2.3.2.3
		Veterans	2.3.2.3
		Individuals with disabilities	2.3.2.3
		Individuals with a language barrier	2.3.2.3
		Individuals who are members of a racial or ethnic minority group	2.3.2.3
		Individuals who primarily reside in a rural area.	2.3.2.3
2e	**Measurable objectives** for documenting and promoting **availability and affordability of consumer devices and technical support for those devices**	Individuals who live in covered households	2.3.2.2
		Aging individuals	2.3.2.2
		Incarcerated individuals	2.3.2.2
		Veterans	2.3.2.2
		Individuals with disabilities	2.3.2.2
		Individuals with a language barrier	2.3.2.2
		Individuals who are members of a racial or ethnic minority group	2.3.2.2
		Individuals who primarily reside in a rural area.	2.3.2.2
	Measurable objectives are all:	Future focused	2.3.2
		Quantifiable	2.3.2
Requirement 3			
3	Assessment of how aforementioned measurable objectives interact with States's outcomes, including:	Economic and workforce development goals, plans, and outcomes	2.2 2.2.1

	Requirement	Details	Section
		Educational outcomes	2.2 2.2.2
		Health outcomes	2.2 2.2.3
		Civic and social engagement	2.2 2.2.4
		Delivery of other essential services	2.2 2.2.5
		All five items are mentioned for each covered population	2.2
Requirement 4			
4	A description of how the State plans to **collaborate with key stakeholders** in the State, which may include:	Community anchor institutions	
		County and municipal governments	4.1.3
		Local education agencies	4.1.1 4.1.3
		Where applicable, Indian Tribes, Alaska Native entities, or Native Hawaiian organizations	
		Nonprofit organizations	4.1.1 5
		Organizations that represent:	
		Individuals with disabilities, including organizations that represent children with disabilities	3.1.3 4.1.6 4.2
		Aging individuals	3.1.3 4.1.6 4.2
		Individuals with language barriers	3.1.3 4.1.6 4.2
		Veterans	3.1.3 4.1.6 4.2
		Individuals in Maryland who are incarcerated	3.1.3 4.1.6 4.2
		Civil rights organizations	
		Entities that carry out workforce development programs	4.1.1 4.2
		Agencies of the State that are responsible for administering or supervising adult education and literacy activities in the State	4.1.1 4.1.3

	Requirement	Details	Section
		Public housing authorities in Maryland	
		A partnership between any of the above entities	
Requirement 5			
5	A list of organizations with which OSB collaborated in developing the Plan		Appendix B
Programmatic Requirements			
1	A stated **vision for digital equity**	Vision is stated and defines digital opportunity within Maryland	2.1
2	A digital equity **needs assessment**, including:	A comprehensive assessment of the baseline from which the State is working	3.2
		The State's identification of the barriers to digital equity faced generally	3.2
	The State's identification of **the barriers to digital equity** faced by:	Individuals who live in covered households	3.2.1
		Aging individuals	3.2.1
		Incarcerated individuals	3.2.1
		Veterans;	3.2.1
		Individuals with disabilities;	3.2.1
		Individuals with a language barrier	3.2.1
		Individuals who are members of a racial or ethnic minority group	3.2.1
		Individuals who primarily reside in a rural area.	3.2.1
3	An **asset inventory**, including current resources, programs, and strategies that promote digital equity, whether publicly or privately funded, for:	Individuals who live in covered households	3.1.1 3.1.3
		Aging individuals	3.1.1
		Incarcerated individuals	3.1.1
		Veterans	3.1.1
		Individuals with disabilities	3.1.1 3.1.3
		Individuals with a language barrier	3.1.1 3.1.3
		Individuals who are members of a racial or ethnic minority group	3.1.1 3.1.3
		Individuals who primarily reside in a rural area.	3.1.1
	An asset inventory including existing digital plans and programs already in place among municipal, regional, and Tribal governments		3.1.2
	A **coordination and outreach strategy**,	Individuals who live in covered	4.1

	Requirement	Details	Section
4	including opportunities for public comment by, collaboration with, and ongoing engagement with representatives of:	households	4.1.6
		Aging individuals	4.1 4.1.6
		Incarcerated individuals	4.1 4.1.6
		Veterans	4.1 4.1.6
		Individuals with disabilities	4.1 4.1.6
		Individuals with a language barrier	4.1 4.1.6
		Individuals who are members of a racial or ethnic minority group	4.1 4.1.1 4.1.6
		Individuals who primarily reside in a rural area.	4.1 4.1.6
		The full range of stakeholders within the State	4.1 4.1.1 4.1.2 4.1.3 4.1.4
5	A description of how **municipal, regional, and/or Tribal digital equity plans** will be incorporated into the State Digital Equity Plan		2.2 3.1.2 3.1.3
6	An **implementation strategy** that:	Is holistic	5
		Addresses barriers to participation in the digital world, including affordability, devices, digital skills, technical support, and digital navigation	5.1.1 5.1.2
		Establishes measurable goals and objectives	5.1.1 5.1.2 2.1.2
		Establishes proposed core activities to address the needs of covered populations	5.1.1 5.1.2
		Sets out measures ensuring the plan's sustainability and effectiveness across State communities	5.1.3
		Adopts mechanisms to ensure that the plan is regularly evaluated and updated	5.1.3
7	An explanation of **how the implementation strategy addresses gaps** in existing state, local, and private efforts to address barriers		5.1.1 5.1.2

	Requirement	Details	Section
			3.1.2 2.3
8	A description of how the State intends to accomplish the implementation strategy by **engaging or partnering** with:	Workforce agencies such as state workforce agencies and state/local workforce boards and workforce organizations	4.2
		Labor organizations and community-based organizations	4.2
		Institutions of higher learning, including but not limited to four-year colleges and universities, community colleges, education and training providers, and educational service agencies	4.2
9	A **timeline** for implementation of the plan		5.2
10	A description of how the State will **coordinate its use of State Digital Equity Capacity Grant funding** and its use of any funds it receives in connection with the BEAD Program, other federal or private digital equity funding		5 5.1.1 2.3 2.2