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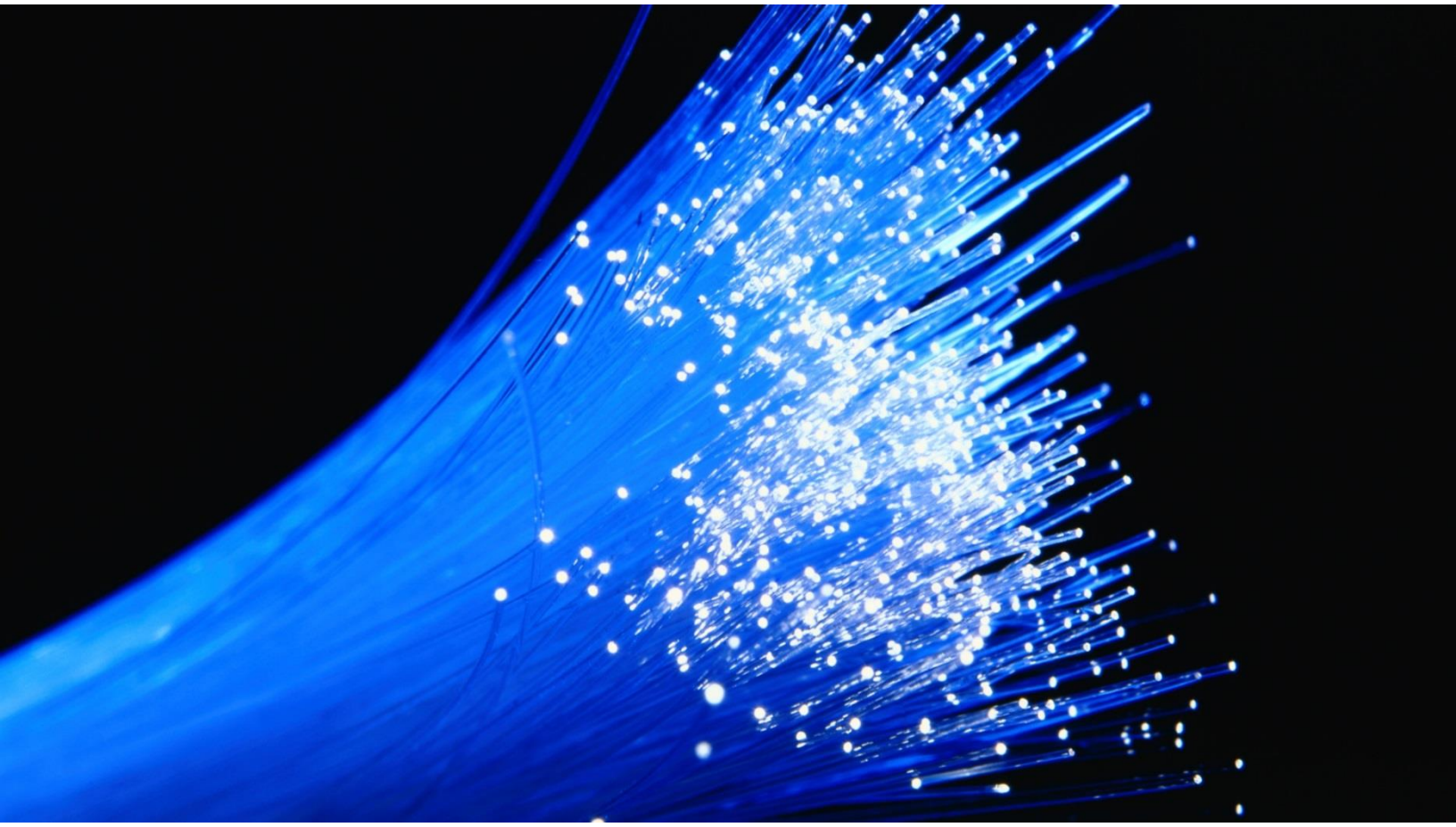

Municipal Digital Equity Plan

Prepared for the City of Peabody, Massachusetts

January 2024

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1 Executive summary

The City of Peabody commissioned CTC Technology & Energy (CTC) to engage in a study to document gaps in digital equity—a condition in which all residents have access to adequate broadband service and devices and possess the skills to use these resources—and develop strategies to bridge these gaps. This report presents findings and recommendations to the City. This project was funded by the Massachusetts Broadband Institute (MBI) at the MassTech Collaborative under its Municipal Digital Equity Planning Program. Funding came from State and Local Fiscal Recovery Funds provided under the American Rescue Plan Act (ARPA). This report will also be considered by MBI as it develops strategies for addressing digital equity gaps under the Massachusetts State Digital Equity Plan.[1]

1.1 Project overview

This report presents findings (summarized in Section 2) and recommendations (summarized in Section 3) informed by the following tasks CTC performed over a six-month period:

- Analysis of the availability of broadband service, competition, and pricing in Peabody. See Section 4.
- Examination of enrollment in the Affordable Connectivity Program (ACP) which offers a $30 monthly subsidy toward broadband bills, including estimation of the gap in utilization by eligible households. See Section 4.2. Although as of late January this program was set to end new enrollments on February 7, 2024, the gap in ACP enrollment illustrates the need for enrollment support in any other current or future subsidy or low-cost program—or to the ACP program itself should Congress provide additional funding for the program.
- Interviews with 22 stakeholders from 11 local and seven regional entities in several meetings and follow-up interviews to further illuminate gaps, existing programs, and the ability of stakeholders to start or expand programs. This information was entered into MBI's Asset Inventory portal. See Section 5.
- Promotion of MBI's statewide residential digital equity survey and reporting on Peabody-specific findings. See Section 6 and Appendix A.
- Development of recommendations with respect to strategies and activities designed to address gaps using potentially available funding. See Section 7.

[1] The Digital Equity Act is a $2.75 billion federal program that, in part, funds state planning processes to establish a vision for digital equity that will guide overarching strategies and goals. The first draft of MBI's "Massachusetts State Digital Equity Plan" (SDEP) was released for public comment on November 13, 2023, and can be viewed here: https://broadband.masstech.org/news/mass-broadband-institute-announces-municipal-digital-equity-planning-program-participants. The SDEP report was in the process of being finalized for submission to the NTIA at the time this report was provided to the City.

- The City of Peabody decided to convene a public meeting after the report was finalized so as to discuss findings and next steps. CTC is prepared to facilitate such a meeting and, in any case, has provided the City with a "Broadband 101" slide deck as an ongoing resource, which can be used for future public engagement.

At a high level, this study finds the City is well served by broadband providers (see Section 4), with near-ubiquitous Comcast and widespread RCN/Astound cable service, limited fiber service, and some coverage from other providers. Additionally, the City provides free Wi-Fi at certain locations in public buildings, and other entities do the same elsewhere in Peabody (for example, Citizens Inn provides free Wi-Fi in its community center). While there might be specific places where more Wi-Fi would be helpful—such as in Peabody Housing Authority buildings, as noted later—digital equity gaps in Peabody are not about a lack of infrastructure. Rather, these gaps result from residents' inability to afford services and devices and from deficits in skills—especially among lower-income and older residents—to maintain and effectively use these resources. The data collected and analyzed during this project indicate significant gaps exist in these areas.

Access, affordability, and gaps in digital skills and literacy are complex problems that touch every aspect of civic life. Recognizing this, many entities in the City are already engaged in various efforts to close digital equity gaps. Funding for some of these efforts has come from MBI and the Essex County Community Foundation (ECCF).

The organizations based in Peabody, as well as organizations that provide services to Peabody residents, are well positioned to start or expand digital equity programs and solutions at scale. Through the coordination and stewardship of the City of Peabody, along with regional ecosystem support by ECCF, MBI has a potential pathway to deploying funds to a network of trusted and experienced organizations to address these gaps in Peabody.

1.2 Digital equity funding landscape

To implement strategies recommended in this report, the City and its stakeholders can potentially leverage a variety of federal and state funding sources.

Section 7 discusses the grant and funding landscape, including programs stemming from multiple COVID-19 relief efforts, as well as the federal Infrastructure Investment and Jobs Act (IIJA) and Digital Equity Act. Additional support through the Federal Communications Commission's E-Rate program may also be available as discounts on eligible internet access, telecommunications services and related equipment to eligible schools and libraries, including programs to close the homework gap. These programs will create opportunities for state and local entities to strengthen digital equity and inclusion within their communities. While the exact level of funding that will be available for programs in Massachusetts is unknown, it is likely that millions of

additional funding dollars will be available in the state over the next five years to help the City close digital equity gaps.

In Massachusetts, these programs include MBI's Broadband Innovation Fund, a $50 million fund that will support grants under the Digital Equity Partnerships Program and the Municipal Digital Equity Planning Program. This American Rescue Plan Act (ARPA) funding will support qualified organizations to work as partners to implement a suite of digital equity projects in six key issues areas to bridge the digital divide and will support municipalities to develop local digital equity plans (such as this plan). The City can also leverage upcoming opportunities for federal funding under the $2.75 billion Digital Equity Act. This funding will support two large grant programs administered by National Telecommunications and Information Administration (NTIA). This funding will support programs that will require states to distribute federal digital equity funding over a five fiscal-year period, and will enable state and local organizations to create projects intended to advance digital equity goals. However, this level of funding is unlikely to meet all needs.

MBI may consider the findings of this and other studies in devising grant programs. NTIA will also review digital equity planning documents from each of the states as it launches its own grant programs likely in the second half of 2024. After the NTIA finalizes its $1.44 billion Digital Equity Capacity Building Grant Program,[2] it will invite states to apply for grants based on a set amount of funding allocated to each. NTIA is expected to launch this program in the second half of 2024 and allocate funding over the course of five years. At least some of Massachusetts' allocation is expected to flow to local entities in the form of subgrants through MBI.

It is anticipated that in 2025, NTIA will launch its nationwide direct competitive grant program—the Digital Equity Competitive Grant Program— where individual entities will apply for a portion of an additional $1.25 billion. If state and federal funds are not adequate to meet local needs, the City could consider developing a modest funding source for targeted digital equity programs.

If these state and federal funds are not adequate to meet local needs, the City could consider developing its own grant program for targeted digital equity efforts.

[2] "Digital Equity Act Programs," NTIA, https://broadbandusa.ntia.doc.gov/funding-programs/digital-equity-act-programs.

2 Key findings

The following sections describe this study's key findings.

2.1 Competition among Peabody's high-speed wired internet service providers (ISP) is widespread, but 1,186 addresses are only able to get service from Comcast

Although wired service is ubiquitous from Comcast—and RCN/Astound provides a second cable option in much of the City—this competition is not uniform, with 1,186 addresses only able to obtain high-speed wired service from Comcast.[3] Lack of competition leaves consumers without the ability to choose a potentially lower-cost service or continue to enjoy low promotional pricing.

On the positive side, 588 addresses in various parts of the City have the option of fiber optic connections, either from RCN/Astound or Verizon as an alternative to Comcast. And both T-Mobile and Verizon offer fixed wireless home services (leveraging the networks previously used only for mobile service) to some areas of Peabody. These services provide a relatively affordable option, but with the significant caveat that performance of these networks is dependent on individual subscribers' distance from wireless facilities, and the data speeds may be cut (or "throttled") by these providers during times of congestion.

2.2 The cost of broadband subscriptions is a major challenge for lower-income Peabody residents

Affordability is very much an issue for many residents of Peabody. According to the U.S. Census Bureau's American Community Survey (ACS), most of the households lacking an internet subscription are lower-income households. Data indicate that 24.7 percent of (or approximately 5,639) households in Peabody lack a wireline internet subscription, which lags the state's average of 20.3 percent but is ahead of the national average of 28 percent. The great majority of those are low-income families. After accounting for the number of households in these income brackets, an estimated 86.6 percent of the Peabody households that lack wireline internet subscriptions earn below $75,000 per year, suggesting a significant gap in affordability or interest.

[3] FCC data used in the following analysis discusses broadband service in terms of "locations," which generally means addresses. But addresses may have more than one household or unit, as with duplexes or apartment buildings. If an address has broadband service, this analysis assumes that all households or units contained therein have the same service.

2.3 Lack of devices also represents a major challenge to low-income families in Peabody

According to ACS data, 21.2 percent of households in Peabody (approximately 4,828) do not own a desktop or laptop computer device—which presents an obvious barrier to internet adoption. The City slightly lags both the state and nation in this category, with 17.5 percent of Massachusetts households and 21.1 percent of households nationwide lacking a desktop or laptop, respectively. Efforts to ameliorate this gap are underway; as one example, ECCF and Tek Collaborative[4] have distributed 600 refurbished devices to 11 nonprofit and municipal partners across the North Shore. And Tech Goes Home has partnered with Citizens Inn in Peabody to provide free devices, as described later in this report. But more funding is needed to meet the needs of Peabody residents.

2.4 Utilization of the FCC's Affordable Connectivity Program (ACP) is very low in Peabody

At the time of this report, the ISPs serving Peabody all participated in the Affordable Connectivity Program, which pays a $30 monthly subsidy for broadband service for eligible low-income residents. As of October 1, 2023, estimates based on FCC-reported enrollment by ZIP code suggest that only 1,700 City households were receiving the ACP subsidy—about 17 percent of the estimated 9,800 eligible households.[5] This enrollment rate is lower than the statewide average of 29 percent and the national figure of 38 percent. The low enrollment rates are likely due to low awareness, a challenging sign-up process, and perhaps reluctance among some Peabody residents.

2.5 Several entities in Peabody currently run digital equity programs, but more resources are needed to help these programs grow in scale and capacity

Digital education and literacy classes are offered by a few stakeholder organizations, with some offering free devices with their services. The Peabody Council on Aging, North Shore Community Health, Citizens Inn, North Shore Community Action Programs, Peabody Community TV, Peabody Institute Library, and others are engaged in various digital equity efforts, some of them covering overlapping populations. Classes range from how to operate a computer or phone, to how to pay bills online, to how to enroll in state and federal benefits online.

[4] In response to the digital equity needs illuminated by the Covid 19 pandemic, TEK Collaborative was established to help close the digital divide by providing adequate internet enabled devices at no cost to those in need. TEK Collaborative forms strategic partnerships with businesses, organizations, schools, and government to create an ecosystem of device access, internet access, and education.

[5] Estimates are based on 2021 American Community Survey reported data on household income, food stamp recipiency, Medicaid recipiency, supplemental security income, and public assistance income.

2.6 Peabody Public Schools are closing household device ownership gaps by providing a Chromebook to all students in kindergarten through grade 12

Peabody Public Schools is a significant contributor to device distribution in the City of Peabody. Since the Covid-19 Pandemic, the district has provided Chromebook devices to all students attending Peabody Public Schools from Kindergarten through to grade 12 at no cost. Devices are refreshed at the start of the school year for students in grades 3, 6 and 9, and for any new student entering the Peabody Public School System in their first year. In the 2022/2023 school year there were 5,881 students enrolled across the eleven Peabody Public Schools, and approximately 30 percent of that student population was eligible for Free and Reduced-Price School Lunch.

2.7 Citizens Inn partners with a nonprofit that provides laptops for residents, and such a partnership could be expanded to other entities in the city

Citizens Inn, a Peabody nonprofit organization that for 40 years has been serving individuals and families facing food and housing insecurity in the North Shore, partners with Tech Goes Home, a nonprofit that is providing the organization with laptops for residents that cannot afford to purchase a device. In addition to distributing laptops, Tech Goes Home provides its community partners with curricula and operates classes to enhance digital access and literacy.

Other Peabody-based stakeholders have expressed interest in offering digital literacy classes or device distribution programs but lack the resources to do this. For example, Peabody's Council on Aging mentioned that individuals at their senior center have shown interest in taking digital literacy classes. The organization does not have the staff capacity to develop a curriculum and operate classes each week, but they might be interested in partnering with a third party to roll these classes out at their location

Additional organizations that could benefit from a partnership with Tech Goes Home are Peabody Public Schools and Peabody Institute Library—both of which have expressed interest in offering digital literacy and skills classes to Peabody residents in their respective facilities.

2.8 Despite existing efforts, significant gaps exist in access to broadband, devices, and skills among Peabody residents

Stakeholders who offer digital equity programs suggested their class capacities, current staffing, and funding fall short of meeting the community's need. Stakeholders suggested that more devices are needed to disseminate to all Peabody residents who cannot afford to purchase one on their own. Some stakeholders indicated the populations they serve rely on smartphones using cellular data plans and public hotspots and cannot afford broadband subscriptions at home or do not have internet at shelters and temporary housing units. ACS data support stakeholder input on this, showing that 5.7 percent of (or 1,306) households use a smartphone only. Additionally, it became clear during this project that not all stakeholders are aware of each other's efforts.

2.9 Low-income residents report significant difficulty in paying their monthly broadband, pointing to the need for wider enrollment in subsidy and low-cost programs

Of respondents to the MBI survey from households with income lower than $60,000 per year, 68 percent said it was somewhat hard or very hard to pay their internet bill each month, compared to 41 percent of respondents with household income of more than $60,000 per year. The average monthly cost of home internet service for all Peabody residents who participated in the MBI survey is $117 for bundled service and $75 for unbundled service. Given that all Peabody broadband providers participate in the ACP and offer their own low-cost programs, this finding underscores the need for wider enrollment support among low-income Peabody residents.

2.10 Peabody respondents to the MBI survey who had household income of less than $60,000 reported significantly lower confidence in performing common online tasks

For example, whereas 87 percent of respondents with household income above $60,000 reported that using telehealth services was "easy," only 63 percent of the respondents from lower-income households said so. Additionally, while 78 percent of respondents earning over $60,000 find it "easy" to search and apply for benefits or resources online, only 57 percent of those earning less than $60,000 said the same.

2.11 Across the income spectrum, Peabody residents are very concerned about privacy and security online

Peabody residents who participated in the MBI residential survey expressed deep concerns about online safety and privacy, and these sentiments held across the income spectrum. Respondents are most concerned about their data being stolen or used without their consent—a concern cited by 82 percent of respondents. Additionally, 70 percent are most concerned that they or a loved one could get scammed or tricked, and 63 percent are most concerned about being harassed or abused online. This suggests a need for skills training and education generally in the community.

More detail on these findings and supporting data can be found in Sections 4, 5, and 6.

3 Recommendations

These recommendations reflect strategies and funding sources the City and its stakeholders might explore to help close digital equity gaps in Peabody. Most recommendations involve work that established, proven, and trusted community partners could perform.

These recommendations are informed by the outreach, analysis, and information gathered during this project, including from local organizations that provided information about their current programs, planning, and operational needs.

Table 1 summarizes the recommendations. The remaining subsections provide detail on these recommendations. Additional supporting material is contained in the later sections of the report.

It is important to note that this table and associated recommendation language does not reflect a full list of all deserving entities. Section 5 of this report contains additional budgetary amounts and statements of need not included in this table.

Table 1: Summary of recommendations

Recommendation	Access and affordability	Devices	Skills	Privacy/ security	Potential annual cost
1. Form a Citywide Digital Equity Coalition	X	X	X	X	N/A
2a. Establish a central City point of contact and distributor of state grant funds within Peabody	X	X	X	X	N/A
2b. Consider starting a small City grant fund to fill local gaps	X	X	X	X	Start with $25,000
3. Develop night school digital skills classes at Peabody Public Schools		X	X		$100,000
4. Fund digital skills programs at Peabody TV	X		X	X	$30,000
5. Continue and expand partnership with Tech Goes Home at Citizens Inn and establish TGH partnership with the Council on Aging and potentially other organizations		X	X	X	Up to $1,500 per person served and provided a laptop

Recommendation	Access and affordability	Devices	Skills	Privacy/ security	Potential annual cost
6. Fund a digital navigator to assist developing telehealth and other digital skills at North Shore Community Health Center	X	X	X		$80,000
7. Hire one additional digital navigator to help with enrollment in broadband subsidy or low-cost ISP plans, for the library and school community	X	X			$80,000
8. Pursue potential grants for expanding Wi-Fi access in Peabody Housing Authority facilities	X				No cost in first year; cost TBD in subsequent years
9. Explore cybersecurity programming/partnership opportunities				X	TBD based on MBI programs

3.1 Form a Citywide Digital Equity Coalition and convene annual or biannual meetings to harmonize efforts and support outreach to funders

City government is well suited to implementing some solutions, especially with respect to infrastructure, staffing, and certain kinds of programs, but it cannot address all challenges related to digital equity: connecting residents with subsidy programs, providing devices, assisting with device maintenance and updates, and helping people develop better computer skills.

Given these considerations, an important role the City of Peabody could play is in forming a Digital Equity Coalition to convene the many organizations already providing or planning to provide services in Peabody.

Entities including Peabody Council on Aging, North Shore Community Health, Citizens Inn, North Shore Community Action Programs (NSCAP), Peabody Community TV, Peabody Institute Library, the Peabody School Department and others are engaged in various digital equity efforts, some of them covering overlapping populations. A coalition meeting annually or biannually—with the structure to encourage members of the coalition to distribute timely and relevant information and opportunities throughout the rest of the year—would help inform a holistic programmatic strategy and make recommendations to funders and philanthropies.

Such coalitions are critical to engage stakeholders and drive change. The ECCF has served in this role on the North Shore and would be a logical partner. Another model in Massachusetts is the Alliance for Digital Equity, established in 2021 by Baystate Health and the Community Foundation of Western Massachusetts to address broadband affordability, access, and digital literacy for residents of Berkshire, Hampden, Hampshire, and Franklin counties in western Massachusetts.

Elsewhere in the country, the Digital Inclusion Alliance in San Antonio, Texas, is cultivating and promoting public policies and initiatives that prioritize digital equity. The City of San Jose, California, created the Digital Inclusion Partnership with a statewide organization that has deep expertise in digital equity work to coordinate digital inclusion programming for local nonprofits that are trusted in the communities they serve.

As resources permit, including the gap funding program discussed below, the City could expand the coalition and incorporate a broader set of organizations that serve the residents of Peabody with critical support services but are not currently directly engaged in this effort. By working with MBI, ECCF, and other larger regional entities the City could expand partnerships with libraries, senior/aging groups, social services distribution agencies, and public health entities to coordinate efforts.

3.2 Establish the City of Peabody as the central hub for state grant funds within Peabody, and consider a City grant program

The City of Peabody helped play a lead role in bringing stakeholders together for this plan. The City is well positioned to understand the relationships between local organizations, track the progress of local initiatives, and serve as a liaison and communications channel with MBI and other state and federal agencies working on digital equity issues.

The structure and landscape of federal and state digital equity funding is evolving. MBI has issued the first draft of a State Digital Equity Plan and federal agencies are crafting rules for federal grant programs that will distribute billions of dollars nationwide. The City of Peabody would be an appropriate and experienced entity to serve as a conduit for distributing federal and state digital equity funds to local organizations, if such an opportunity arises. In this scenario, the City could serve as the central point of contact and distributor for state grant funds within Peabody. (The potential roles of local nonprofits and government agencies in the administration of this funding is currently unclear.)

Additionally, and especially given the uncertainty at the state level, the City of Peabody would benefit from augmenting state and federal funds by using its own local resources to create a grant fund to address specific gaps in digital equity and inclusion within the City. The City could consider creating a modest grant fund of $25,000 in the first year, with awards in the range of

$5,000 to $10,000 to local nonprofits and community organizations to support existing programs and provide seed funding for new ones.

For example, North of Boston Library Exchange (NOBLE) is working to upgrade all public libraries along the North Shore. Peabody Institute Library was just upgraded to a 1 Gigabit network, funded by ECCF, with ongoing maintenance and operating costs covered by NOBLE. However, Peabody has two other public libraries that could use Wi-Fi upgrades—the South Branch library and the West Branch library. A microgrant of as little as $2,500 per library could facilitate and execute the network upgrades from 100 Mbps download to 1 Gbps symmetrical speeds.

A simple grant application, organized and managed by the City, could allow local organizations serving Peabody to submit specific proposals for training, enrollment support for affordability programs, or device subsidy and assistance programs. The City could develop metrics and reporting on timelines, financial accountability, and program results that will demonstrate the effectiveness of the use of these awarded funds and how they help meet digital equity goals and objectives created by MBI.

3.3 Launch adult digital equity programming at Peabody Public Schools

Peabody Public Schools expressed interest in developing off-hours adult education programming at Peabody schools that could include digital skills programs and that might reach and include assistance to parents in migrant families who have been housed at hotels along Route 1.

The district superintendent mentioned the potential model of Revere's Community School, a night school that has offered adult education programming at an elementary school in Revere since 2013. CTC engaged with a Revere official and learned that the Revere district started the Community School for adult learners to encourage parents and guardians to participate in their child's school-related activities and support adult learning, including developing computer literacy and increasing digital skills. In its first year, the Community School filled three classes of about 20 students each. Today, the Community School has 13 10-week classes operating each semester. In total, 195 to 325 adults attend night classes each semester.

The classes, which include digital skills classes, are staffed by 12 instructors, most of them retired teachers who are paid $25 per hour for eight hours of classroom and prep time per week. Funds are augmented by community contributions, and students are asked to pay what they can afford, making them feel more invested. The school is currently receiving money from a digital equity grant program to partner with Tech Goes Home. Tech Goes Home supports the school's computer literacy and workforce computer classes.

An official with the Revere Community School indicated that the annual budget is $200,000 from a mix of sources. The recommended starting budget estimate for the City of Peabody is $100,000

until the scope and scale of such an effort is better defined by the community. This scope definition could be carried out by a City coalition as recommended above.

3.4 Provide Peabody TV an annual grant to support digital skills programs

Peabody's population suffers from significant broadband and digital skills gaps. Peabody TV is a trusted and proven community partner that already provides digital skills training around creating, promoting, and hosting content online. Additionally, Peabody TV provides fast Wi-Fi, a media lab, and youth skills training; it also serves significant numbers of Peabody residents for whom English is a second language (with some programs geared to Spanish-speaking audiences).

Peabody TV's annual budget is facing pressure as the funding from cable providers is declining in line with declining cable video subscriptions. The current budget is about $1,251,435, which covers staff and programming and is relatively high compared to neighboring cities; however, operating costs are rising. And the needs are increasing. According to Peabody TV, a $30,000 annual grant to serve the City beyond its current capacity would allow the organization to support the technical support team, upgrade its media lab, and expand its youth programming to residents of all ages with a focus on digital literacy training.

3.5 Continue and expand the partnership with Tech Goes Home at Citizens Inn and connect it with new and interested entities like the Peabody Council on Aging and Peabody Institute Library

Peabody residents lag both the state and the nation in computer device ownership. ACS data show that 21.2 percent, or approximately 4,800 households, lack a desktop or laptop. Tech Goes Home (TGH) is an organization that partners with schools, healthcare providers, and community organizations to provide curated technology-based support through device distribution, internet access, digital literacy, and education at a general overhead cost of $1,500 per person. TGH is a longstanding partner with MBI and ECCF, which have partnered to fund and connect TGH with community-based organizations across the North Shore.

TGH offers device support to Citizens Inn but does not offer device or educational support to any other organization in the City. However, TGH has expressed its desire to develop new partnerships with interested organizations in Peabody.

Other organizations that might partner with TGH or similar training and device programs include the following, based on stakeholder conversations conducted for this study:

- **Council on Aging (COA)** to offer device distribution and hybrid (virtual/in-person) digital literacy classes to seniors. COA has expressed interest in offering this but, due to capacity constraints, is hoping to partner with a third party to roll out the program. This class could be one to two hours per week, either virtual or in person.

- **Peabody Institute Library** to offer device distribution and digital skills and literacy classes to Peabody residents at the library's computer lab located in the main library in Peabody's downtown. Peabody Institute Library has been hoping to launch digital skills programming but needs specialized instructors, language translation, and devices.
- **North Shore Community Action Programs (NSCAP)** to support existing adult education classes for immigrants and English as a second language (ESL) learners. TGH can help to secure more devices at NSCAP for class participants.

3.6 Fund digital navigators to assist developing telehealth and other digital skills at North Shore Community Health

North Shore Community Health (NSCH) is a network of three family health centers, including the Peabody Family Health Center (PFHC) on Foster Street, that serves more than 13,000 patients on the North Shore. PFHC plays a critical role providing healthcare and a range of other services to low-income diverse segments of the Peabody community.

Recognizing that digital skills enable low-income residents to access healthcare and related services, the Essex County Community Foundation, via MBI, provided a grant to the FQHC Telehealth Consortium[6] in November 2021 that allowed NSCH to hire a digital navigator for a two-year period, which began in early 2022. This staff position was funded with half of a $226,600 grant from MBI and the Commonwealth's Partnerships for Recovery initiative in Essex County. (The second half of this grant was given to Lynn Community Health Center for the same purpose.)

The funding for this staff position has expired, but the need has not. Among other things, NSCH was able to enroll 1,500 patients in its telehealth platform across all three locations in the first two months of the pandemic and has served 293 Peabody residents since the program was established with this navigator's help, but would benefit from a continuation and an expansion of this digital navigator staff role.[7] Two or more multilingual digital navigators could facilitate telehealth signups at patient intake. Navigators could also help patients improve their digital skills and their ability to access information online, which could in turn promote health indicators like connections to jobs, housing, and nutrition information.

[6]FQHC Telehealth Consortium was founded by Community Care Cooperative (C3) and the Massachusetts League of Community Health Centers in 2020.

[7] "North Shore Community Health Reports Growth of Telehealth Model Amid COVID-19 Pandemic," https://www.nshoremag.com/community-news/north-shore-community-health-reports-growth-of-telehealth-model-amid-covid-19-pandemic/.

On December 5, 2023, MBI announced that it was awarding $3.7 million to the Massachusetts Leage of Community Health Centers for the expansion of telehealth services for community health centers across the state.[8]

3.7 Hire a digital navigator at Peabody Institute Library to increase efforts to enroll residents in government subsidy programs or ISPs' low-cost programs

The digital navigator roles described above, and in this section, should include enrollment support for government broadband subsidy programs and ISPs' low-cost programs as a core function.

For the last four years, the federal government has been operating a federal discount program, the ACP, offering $30 per month to go toward a qualifying household's home internet bill to increase internet subscription rates nationwide. AS noted above, as of the time this report was delivered, the FCC said the ACP would stop accepting new applications as of February 7, 2024. However, ACP enrollment numbers by municipality have been a helpful indicator of the gap in enrollment for any other current or future programs. Peabody lags the state average in the percentage of eligible households enrolled in the ACP, and as many as 8,100 potentially eligible households remain unenrolled as of October 1, 2023.[9].

A digital navigator with a presence at the Peabody Institute Library and at the Peabody Public Schools could potentially help residents learn how to access lower-cost internet services like Comcast's Internet Essentials and RCN's Internet First.

3.8 Pursue potential grants for expanding Wi-Fi access in Peabody Housing Authority facilities

Low-income Peabody residents subscribe to broadband at lower rates than the population as a whole. Representatives from the Peabody Public Schools, North Shore Community College, and Citizens Inn noted that students often do not have adequate connectivity at home. The Peabody Housing Authority also expressed a desire to have greater Wi-Fi access in its facilities.

[8] "Healey-Driscoll Administration Awards $20 Million to Boost Digital Equity", MBI, https://broadband.masstech.org/news/healey-driscoll-administration-awards-20-million-boost-digital-equity.

[9] It is worth noting that some of these households may have chosen to not subscribe or are covered by other means, but accelerating enrollment efforts in any ACP successor programs or the low-cost programs offered by Peabody's broadband providers will help close the affordability gap and reinforce other digital equity programmatic efforts. Future funding under the ACP is being proposed in Congress and the status of this program should be monitored by the City of Peabody and other stakeholders.

A new opportunity through the Metropolitan Area Planning Council (MAPC) is a program to allow housing authorities and affordable housing developers to build Wi-Fi networks for their residents. MAPC has been awarded a grant as part of MBI's Digital Equity Partnerships program to continue this work and is accepting expressions of interest from public and non-profit affordable housing providers to participate in its "Apartment Wi-Fi" program.[10]

The program provides funding, project management, and procurement support to enable the construction of Wi-Fi networks to provide residents with service equal or superior to what is available from local ISPs, at no cost to residents. The funding covers all capital costs associated with network design, construction, and equipment, and the first year of ongoing operating expenses.

3.9 Explore cybersecurity programming/partnership opportunities

Concerns about online safety and privacy in Peabody are significant, with 81 percent of Peabody respondents to the MBI survey stating they are either somewhat concerned or very concerned about their online safety, and 82 percent of Peabody respondents saying their main concern online is having personal data stolen or used without their consent. MBI's draft state digital equity plan (SDEP) states that a future action to address online safety will include the development of a statewide cyber security curriculum. Additional actions will include training existing digital navigators, so they support, protect, and inform clients about their online safety, and embedding cyber security awareness into youth digital literacy programming.

In the near term, Peabody stakeholders could scale North Shore Community College's programming efforts by informing local stakeholders of the "KnowBe4" curriculum, or programs similar to it. Additionally, Peabody stakeholders can leverage the resources of MassTech Collaborative's MassCyberSecurity online safety initiatives. As part of this, there is also a timely opportunity to apply for a state grant to enhance cybersecurity awareness grant for anyone using City or other government networks.[11]

[10] "Apartment Wi-Fi," MAPC, https://www.mapc.org/our-work/expertise/digital-equity/apartment-wi-fi/; "MAPC Apartment Wi-Fi Interest Form," https://forms.gle/kmPKy3h7RPBPmcWH6.

[11] "About the Municipal Cybersecurity Awareness Grant Program," Mass.gov, https://www.mass.gov/info-details/about-the-municipal-cybersecurity-awareness-grant-program#how-to-apply-.

4 Broadband availability conditions and participation in the ACP in Peabody

This section provides an analysis of current broadband conditions in Peabody related to infrastructure availability, level of competition, uptake of services (and of available subsidies) by residents, and device ownership. Data is based on publicly available information including from the U.S. Census Bureau, the American Community Survey (ACS), and the Federal Communications Commission (FCC).

4.1 Peabody has robust and ubiquitous wired broadband coverage, but competition is not fully present for 1,186 households, limiting options for some consumers

CTC reviewed FCC data, researched websites of broadband providers operating in Peabody, and engaged in phone conversations with representatives of ISPs to collect market data on residential broadband pricing, availability, and level of competition.

On the wireline side, both Comcast and RCN/Astound provide cable service. Of note, however, is that for 1,186 addresses, only Comcast is available. The lack of competition for these households means they are unable to switch to take advantage of lower promotional pricing from a competitor. Often the reason a new market entrant does not reach all premises is that they could not gain access to all apartments in multiple-dwelling units or MDUs.

Some households have the benefit of a fiber provider as an alternative to cable. At 588 addresses, either RCN/Astound or Verizon provide fiber service as an alternative to Comcast. Unlike cable, fiber service provides symmetrical (upload speeds are the same as download speeds).

In terms of fixed wireless coverage, both Verizon and T-Mobile offer new residential services leveraging their existing networks. Some consumers may still be using Verizon's slow DSL services over copper phone lines.

Additionally, fixed wireless services (distinct from mobile services) are available from Verizon Wireless and T-Mobile to some households. These reflect a more recent dimension to the market and add choice for consumers, but they are inferior to wireline services in terms of availability and capacity.

Table 2 shows the breakdown of households by number of providers. Although there are a handful of addresses (eight) where FCC data shows that service is available only from a fixed-wireless provider or are under- or unserved, these are likely not residential addresses or reflect errors in the data.

Table 2: State of high-speed broadband competition in Peabody per FCC data

Availability of wireline broadband service		**Addresses**
Served addresses where 100 Mbps download, 20 Mbps upload (100/20) or greater is available	Comcast plus RCN/Astound cable	13,142
	Comcast plus fiber (fiber option from RCN/Astound or Verizon)	588
	From only one wireline provider (usually Comcast)	1,186
Addresses served only by licensed fixed wireless		2
Underserved addresses—meaning they cannot receive 100/20 service but can get at least 25/3 (wireline or licensed fixed wireless)		3
Unserved addresses-- meaning that cannot get 25/3 (wireline or licensed fixed wireless)		3
Total locations		**14,336**

Figure 1 (below) shows at a high level the limited areas where RCN/Astound (and in some cases Verizon) are providing fiber. Because CTC does not have access to address-level data from the FCC's National Broadband Map, the figure below only shows this as a percentage of premises within census blocks.

Some residents have the option to add residential fixed wireless service from Verizon or T-Mobile. These are known as "licensed fixed wireless" or LFW because they use licensed spectrum under the exclusive control of the respective companies and cannot be used by others.

While the FCC has repeatedly noted that mobile service is an inadequate substitute for fixed broadband services,[12] an estimated 15 percent of U.S. adults continue to rely on their smartphones as the only source of home broadband connectivity[13] – a trend that is more common among young adults and low-income households.[14] Most smartphones can be used as

[12] E.g., 2020 Broadband Deployment Report, para 11.
[13] Andrew Perrin, "Mobile Technology and Home Broadband 2021," Pew Research Center, June 3, 2021, https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/.
[14] Andrew Perrin, "Mobile Technology and Home Broadband 2021."

wireless hotspots to connect other computing devices to the internet. But these new services from Verizon and T-Mobile in Peabody are "fixed wireless" services to dedicated hotspots in the home. The speeds will vary by location, and these plans come with the risk that the carriers will throttle or limit available speeds during times of congestion.

The FCC notes that mobile wireless providers have been making these offerings an increasingly attractive alternative to fixed services with more competitive pricing,[15] yet mobile wireless technologies remain a complement of, and not a full replacement to, widespread fixed broadband availability.

Figure 2 (below) shows reported coverage levels by fixed wireless providers. This coverage may be overstated in terms of how many premises can receive this service at adequate speeds.

[15] 2020 Broadband Deployment Report, para 11.

Figure 1: Fiber availability in Peabody as a percentage of total locations within census blocks

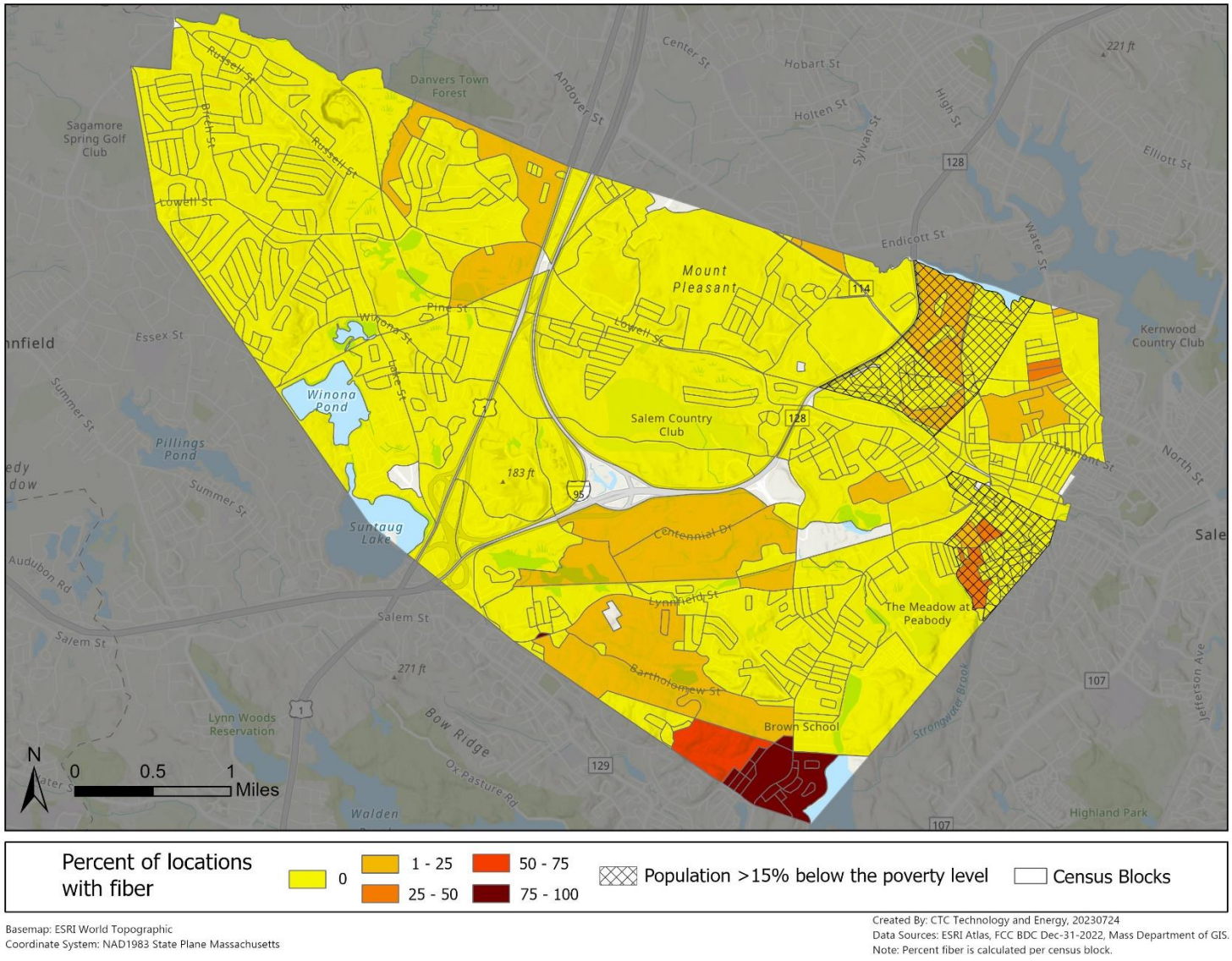
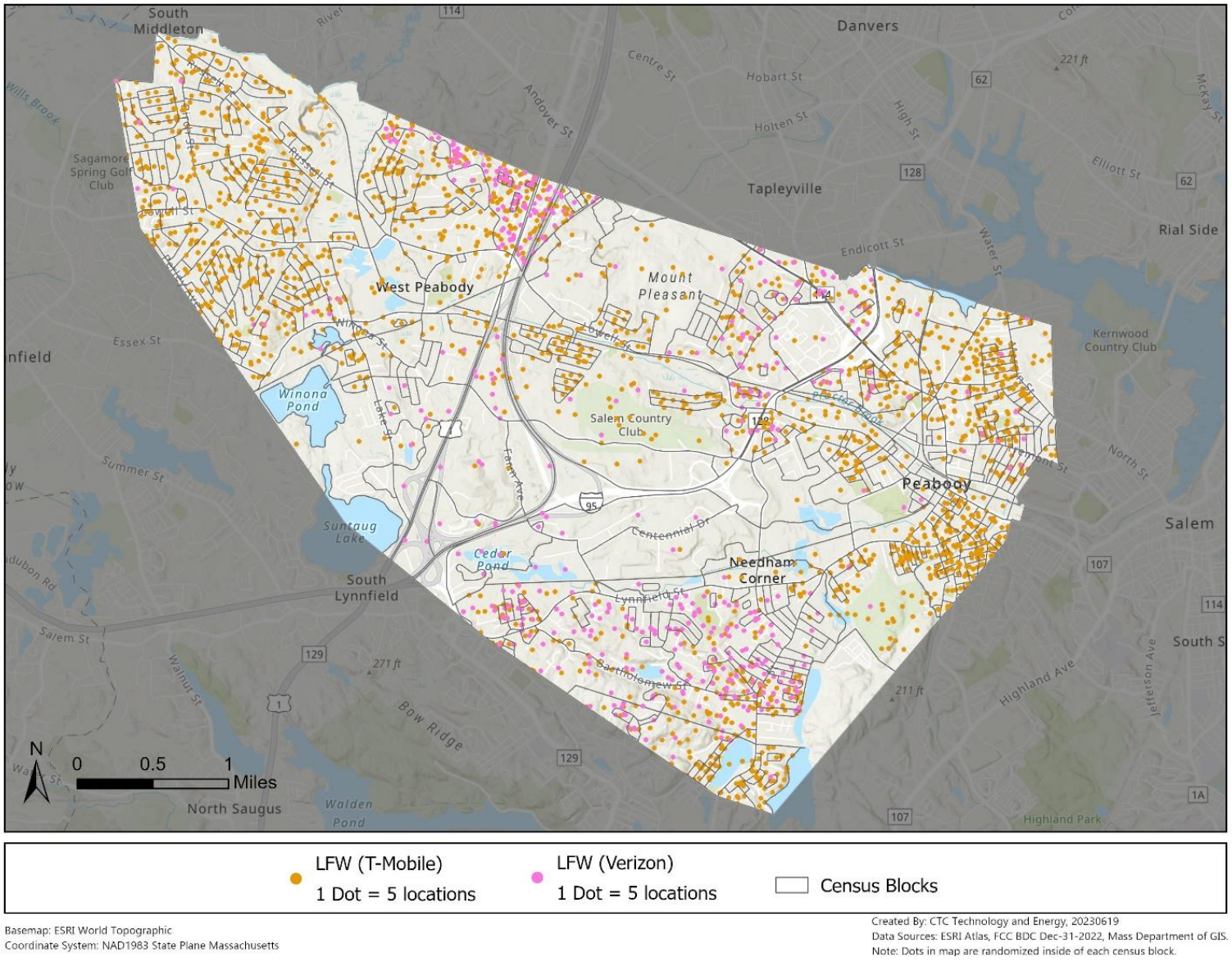


Figure 2: Reported fixed wireless coverage in Peabody



Basemap: ESRI World Topographic
Coordinate System: NAD1983 State Plane Massachusetts

Created By: CTC Technology and Energy, 20230619
Data Sources: ESRI Atlas, FCC BDC Dec-31-2022, Mass Department of GIS.
Note: Dots in map are randomized inside of each census block.

4.2 Only 17 percent of eligible Peabody households participate in the ACP and use the $30 monthly benefit, a rate that falls below state and national figures

The Affordable Connectivity Program (ACP), which provides a monthly subsidy toward home internet subscriptions, has presented an opportunity for many low-income residents to purchase a quality broadband subscription more affordably.

As of October 1, 2023, estimates based on FCC ZIP code reported enrollment suggests that roughly 1,700 City households were receiving the ACP subsidy—which is only about 17 percent of the estimated 9,800 eligible households in Peabody.[16] This enrollment rate is lower than the statewide average of 29 percent (as shown in Table **3**) and the national figure of 38 percent.

The relatively low enrollment rates might be ascribed to a lack of awareness of the program and a challenging sign-up process; many eligible residents may need to go to a library or other location with internet access to even start the registration process. As a result, many local governments and other digital divide stakeholders conduct active outreach to candidate populations to make them aware of the program and assist in the sign-up process. And with the program set to end new enrollments as of February 7 (barring new funding from Congress), residents may still need help enrolling in low-cost programs offered by the City's broadband providers, as described in the next subsection. While outreach may increase enrollment in some areas, some eligible residents will be uninterested or unwilling to participate. This may be the case if a household cannot afford internet even if it receives the ACP, feels no need to use the internet, receives satisfactory service from a cellular provider, receives free internet access through a communal source, or does not want to apply for a federal subsidy program—which can be a particular concern for recent immigrants.

Table 3: ACP enrollment in Peabody

	Eligible households enrolled	Enrolled households	Eligible households	Unenrolled eligible households
Peabody	17%	~1,700	9,800	8,100
Massachusetts	29%	339,115	1,156,300	817,185
United States	38%	21,166,936	55,179,000	34,012,064

[16] Estimates are based on 2021 American Community Survey reported data on household income, food stamp recipiency, Medicaid recipiency, supplemental security income, and public assistance income.

4.3 Peabody residents can obtain a range of high-speed service offerings which can be free with the ACP benefit, but initial prices rise sharply after promotional periods end

All the broadband providers in Peabody participate in the ACP, which is available to eligible low-income residents, and both Comcast and RCN/Astound offer low-cost programs; together, the programs enable low-income residents to receive no-cost service. Mobile plans are also ACP-eligible, but each household can only use ACP once—so if a household is using the benefit for a mobile plan, they cannot get the benefit again for a home wireline plan.

Other Peabody residents who choose Comcast can obtain initial pricing of $25 per month, but these prices rise sharply following the promotional period. Those who do not have the option of switching to Verizon are left paying at least $77 for basic service, not including router rental—highlighting the affordability challenge for Peabody residents over the long term and the importance of the available low-cost programs if residents can navigate them.

The tables below list the service options; options that are free with ACP and/or are designed for eligible low-income residents are shaded green. Table **4** shows Comcast's service plans and costs; Table **5** shows RCN/Astound's service plans and costs.

Table 4: Comcast (Xfinity) advertised service plans in Peabody

Package	Internet speed	Monthly cost	Notes
Internet Essentials	50/10 Mbps	$9.95 (free with ACP subsidy)	Available to eligible low-income customers following an application process and subject to certain conditions. Internet Essentials also includes added benefits; customers can purchase a refurbished computer for $149.99.[17]
Internet Essentials Plus	100/20 Mbps	$29.95 (free with ACP subsidy)	Available to eligible low-income customers following an application process and subject to certain conditions. Internet Essentials also includes added benefits; customers can purchase a refurbished computer for $149.99.
Connect More	200/10 Mbps	$25 for the first 24 months, then $77 plus $15 per month router rental fee	Pricing guaranteed for 24 months. No term contract. Includes $10/mo. automatic payments and paperless billing discount with a stored bank account. Discount is $5/mo. when using a stored credit card.

[17] Comcast, "Comcast Broadband Opportunity Program" (accessed July 2023).
Apply for Internet Essentials or Internet Essentials Plus From Comcast - Xfinity Support

Package	Internet speed	Monthly cost	Notes
Fast	400/10 Mbps	$35 for the first 24 months, then $92 plus $15 per month router rental fee	Pricing guaranteed for 24 months. No term contract. Includes $10/mo. automatic payments and paperless billing discount with a stored bank account. Discount is $5/mo. when using a stored credit card.
Superfast	800/10 Mbps	$60 for the first 24 months, then $97 plus $15 per month router rental fee	Pricing guaranteed for 24 months. No term contract. Includes $10/mo. automatic payments and paperless billing discount with a stored bank account. Discount is $5/mo. when using a stored credit card.
Gigabit	1000/20 Mbps	$70 for the first 24 months, then $102 plus $15 per month router rental fee	Pricing guaranteed for 24 months. No term contract. Includes $10/mo. automatic payments and paperless billing discount with a stored bank account. Discount is $5/mo. when using a stored credit card.
Gigabit Extra	1200/35 Mbps	$80 for the first 12 months, then $107 plus $15 per month router rental fee	Pricing guaranteed for 24 months. No term contract. Includes $10/mo. automatic payments and paperless billing discount with a stored bank account. Discount is $5/mo. when using a stored credit card.
Gigabit X2	2,000/2,000 Mbps	$120 plus $15 per month router rental fee	This is a non-promotional rate. No term contract. Includes $10/mo. automatic payments and paperless billing discount with a stored bank account. Discount is $5/mo. when using a stored credit card.

Table 5: RCN/Astound advertised service plans in Peabody

Package	Internet speed	Monthly cost	Notes
Internet First	50/10 Mbps	$9.95	Available only to eligible low-income customers following an application process and subject to certain conditions. [18]
300	300/20 Mbps	$20 plus one-time activation fee of $9.99	Promotional rate reflects a $5 discount for autopay and paperless billing. Includes necessary equipment, two months of free service, and free installation, otherwise $79.95. Pricing good for 24 months. No contract required.

[18] Affordable High Speed Internet Plans For Home | Internet First, accessed July 2023

Package	Internet speed	Monthly cost	Notes
600	600/20 Mbps	$35 plus one-time activation fee of $9.99	Promotional rate reflects a $5 discount for autopay and paperless billing. Includes necessary equipment, two months of free service, and free installation, otherwise $79.95. Pricing good for 24 months. No contract required.
940	940/20 Mbps	$50 plus one-time activation fee of $9.99	Promotional rate reflects a $5 discount for autopay and paperless billing. Includes necessary equipment, two months of free service, and free installation, otherwise $79.95. Pricing good for 24 months. No contract required.
1200	1200/20 Mbps	$60 plus one-time activation fee of $9.99	Promotional rate reflects a $5 discount for autopay and paperless billing. Includes necessary equipment, two months of free service, and free installation, otherwise $79.95. Pricing good for 24 months. No contract required.

The fixed wireless options in Peabody are more affordable but come with the significant caveats that they are not universally available, speeds at individual locations can vary widely, and these services are subject to throttling in times of network congestion.

Table **6** shows pricing for T-Mobile's 5G Home Internet plan at $50 per month for 5G Home Internet-only service. T-Mobile will provide 5G Home Internet at $30 per month if it is bundled with a cellular plan that costs between $60 and $100 per month for a single line.[19] T-Mobile prices its 5G Home Internet plans regardless of provided speeds; as noted above, Table 6 shows how these speeds vary widely.

T-Mobile does not participate in ACP directly for either its 5G Home Internet or mobile data plans.[20] Only T-Mobile affiliates—Metro by T-Mobile and Assurance Wireless—participate in ACP and offer discounts on mobile data plans. Peabody residents who qualify for ACP must sign up with prepaid provider Metro by T-Mobile for 5G Home Internet and can apply the ACP discount to the bundled 5G prepaid mobile plan. Metro by T-Mobile offers a 5G Home Internet plan and a

[19] [19] See T-Mobile Home Internet webpage, https://www.t-mobile.com/home-internet/plans?INTNAV=tNav%3APlans%3AHomeInternetPlan (accessed November 19, 2023).

[20] See T-Mobile Newsroom, February 8, 2023 Press Release, "Taking part in ACP- through both Assurance Wireless and Metro by T-Mobile – is just one way that T-Mobile demonstrates its commitment to bringing wireless access to everyone." https://www.t-mobile.com/news/community/t-mobile-expands-acp; See also, T-Mobile website, "T-Mobile is proud to participate in the new federal Affordable Connectivity Program, which offers internet service payment assistance to eligible households. We're making the program available through Metro by T-Mobile and Assurance Wireless." https://www.t-mobile.com/brand/affordable-connectivity-program?INTNAV=fNav%3AAdditionalSupport%3AAffordableConnectivityProgram.

mobile prepaid voice and data plan for $50 a month without the ACP discount and $20 with the ACP discount.[21] Assurance Wireless does not offer 5G Home Internet.

Table 6: T-Mobile's advertised home internet service plan in Peabody

Package	Internet speed	Monthly cost	
5G Home Internet	75/20 Mbps*	$30 for T-Mobile 5G Wireless customers; $50 for home internet service only	Pricing includes a $5/mo. autopay discount. $30 service is only available to customers with a T-Mobile 5G phone and plan offered between $60-100/mo., plus the cost of a handset. Gateway router provided at no charge but one-time $35 device connection charge at sign up.

* Speeds are estimated and rounded. Quoted download speeds were 76-245 Mbps with claims that 50 percent of customers experience speeds in this range and the remaining customers could receive service faster or slower than this range. Upload speeds were quoted as 21 to 40 Mbps.

Table **7** shows Verizon Wireless' home internet service plans. Unlike T-Mobile, Verizon does not require users to subscribe to Verizon Wireless mobile plans to get these "home internet" options. These plans include a "Verizon Forward" program which can provide 300/300 Mbps service that is free to eligible low-income households with the ACP and Verizon discounts.

Table 7: Verizon Wireless fixed broadband service plans

Wireless home service plans	Internet speed	Monthly price (non-promotional)	Monthly bundled price with 5G phone
LTE Home	25/4 to 50/4 Mbps	$60	$25
5G Home Internet	85/10 to 300/20 Mbps	$60	$25
5G Home Internet (Verizon Forward Program)	85/10 to 300/20 Mbps	Free with ACP and Verizon discounts	
5G Home Plus	5G Ultra Wideband	$80	$35

[21] Metro by T-Mobile 5G Home Internet, https://www.metrobyt-mobile.com/plans/home-internet (accessed November 19, 2023). Customers that are not participating in autopay will pay $25/month. Customers must also purchase a modem for a one-time fee of $49.99.

4.4 American Community Survey data reveal that Peabody residents face significant gaps in subscriptions and device ownership

Data on internet adoption and device ownership is important to fully understanding the nature of the digital divide in Peabody. While the residential survey is still being conducted as of the date of this report, the American Community Survey (ACS) shows that Peabody lags state and national averages in internet adoption and device ownership. And though high-speed wireline broadband services are available throughout the City, data show that many households do not subscribe or own devices necessary to fully use these services—and that those lacking subscriptions or devices are largely lower-income households.

The ACS is conducted yearly and nationwide by the US Census Bureau. However, it includes a five-year sampling period (2016 – 2021)[22] that may not accurately illustrate most recent trends. The survey includes three questions about broadband-related topics.

A preliminary analysis of the available American Community Survey (ACS) data found that in Peabody:

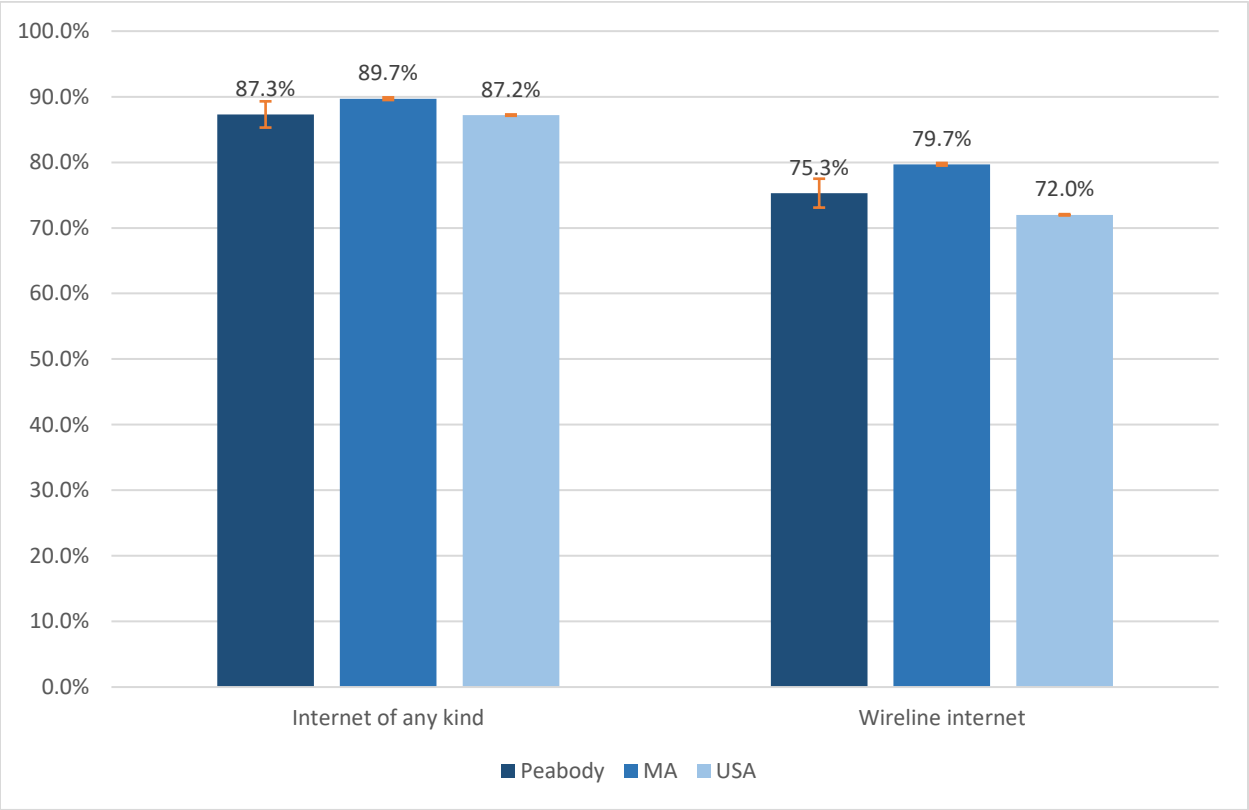
- 24.7 percent of households lack a wireline internet subscription.
- 86.6 percent of households that lack a wireline internet subscription earn less than $75,000 yearly.
- 21.2 percent of households do not own a desktop or laptop computer device.

4.5 Peabody lags state adoption rates for residential internet subscriptions, but is in line with national averages

According to ACS data, 87.3 percent of Peabody households subscribe to residential internet services. Further, many of these subscriptions are via a reliable wireline technology; 75.3 percent of Peabody households subscribe to wireline internet service. The City slightly lags the state adoption rates, but is comparable to national averages in these respects, as shown in Figure **3**.

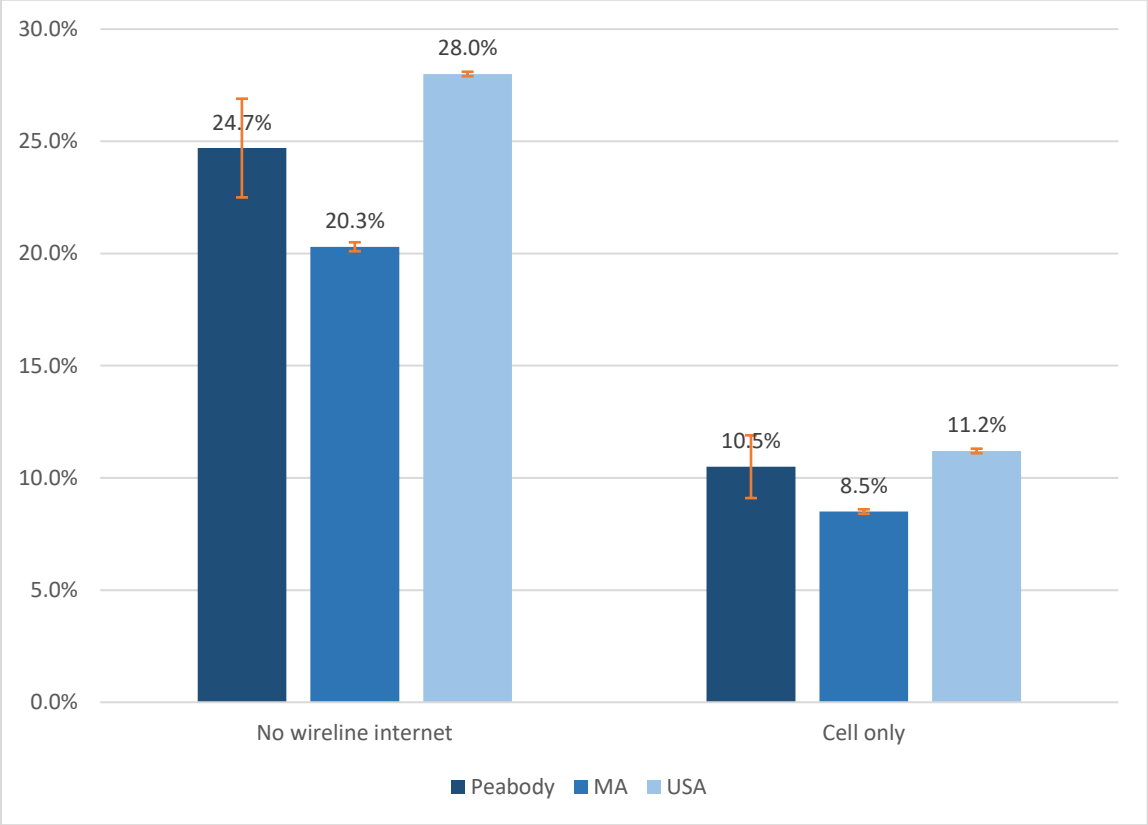
[22] The U.S. Census Bureau does not release data at the city level (for a City of Peabody's size) for sampling periods less than 5 years in order to ensure useable margins of error.

Figure 3: Internet subscription rates in Peabody compared to the state and nation



An estimated 5,539 (or 24.7 percent of) households lack residential wireline internet service. Of those households without wireline service, roughly 2,397 are solely using a cellular internet service from their homes. Lower income households sometimes choose to use their cellular connection and smartphone in lieu of a more robust connection. However, this may not fully enable all members of a household to participate in the digital economy, because of data caps and the potential for the service to be throttled in times of mobile network congestion.

Figure 4: Peabody lags the state on wireline subscriptions, and in exclusive reliance on smartphones

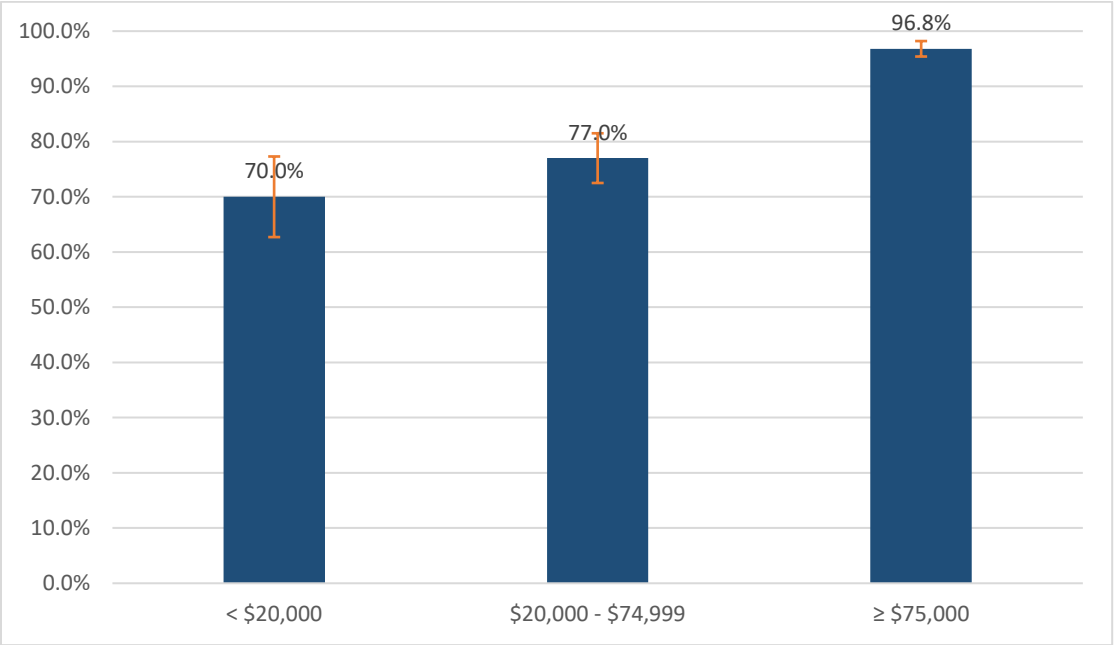


4.6 Connectivity challenges are concentrated among low-income households in Peabody

In Peabody, most of the households lacking an internet subscription are lower-income households. Whereas 96.8 percent of households making more than $75,000 subscribe to wireline internet services, only 75.4 percent of households making less than $75,000 do so.[23] After accounting for the number of households in these income brackets, an estimated 86.6 percent of household that lack wireline internet access earn below $75,000 a year. Figure **5** shows subscription rates by income bracket.

[23] For both of these income brackets, some households are likely able to afford service yet choose not to purchase it because they simply are not interested. For this reason, a 100 percent subscription rate does not represent the ideal or goal rates for any given population.

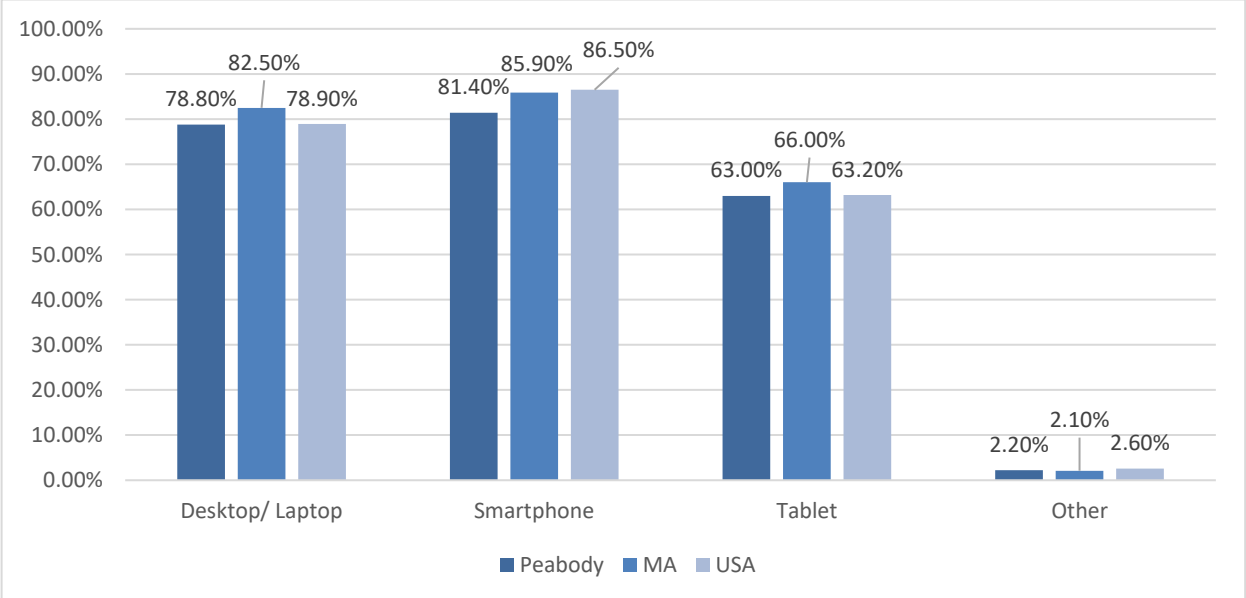
Figure 5: Wireline internet subscription rates decrease with income



4.7 Peabody lags both the state and nation on device ownership rates

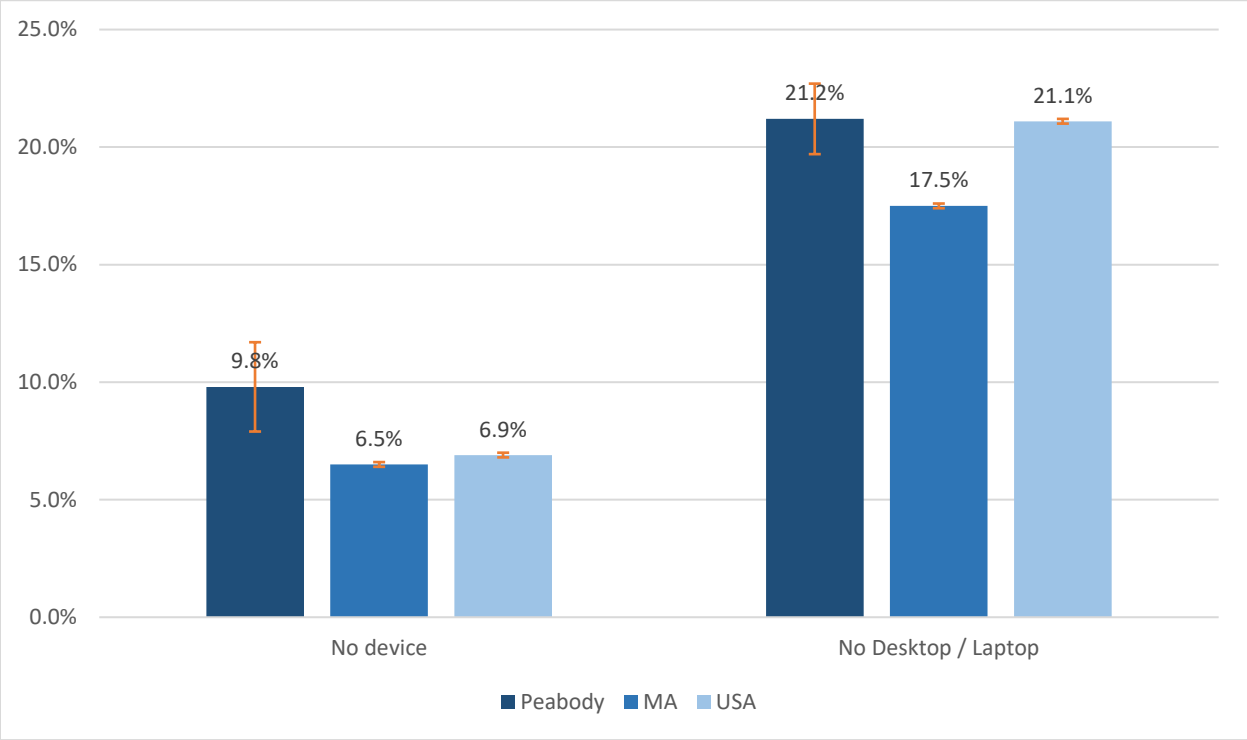
ACS data show that 90.2 percent of households in Peabody own one or more computer devices, a level that slightly lags both the state and nation. Desktop, laptop, smartphone, and tablet ownership figures are shown in Figure 6.

Figure 6: Device ownership rates in Peabody compared to the state and nation



While only 9.8 percent of Peabody households lack a device, 21.2 percent lack a desktop or laptop, which are required for many of today's digital applications. The device gap in Peabody is greater than state and national figures, as shown in Figure 7.

Figure 7: Device ownership in Peabody compared to the state and nation



Additional device barriers may exist even after device ownership numbers are improved. For example, for households with many individuals, a single desktop or laptop will likely not deliver enough capacity for all household members to meaningfully use the internet. Additionally, many households that gain computers for the first time are likely to experience trouble in operating the machines and may need tech support and education.

5 Peabody stakeholders report profound gaps in digital skills and devices, but also point to successful programs that are having an impact and could be expanded if funding allowed

The City of Peabody and CTC convened and facilitated several stakeholder meetings to gather feedback about the digital needs and challenges in Peabody. CTC also prepared and disseminated an online questionnaire to participants in these meetings. The questionnaire was designed, in part, to facilitate orderly data collection about existing programs underway, the services offered, populations served, existing capacity, remaining gaps, and the potential for expanding these programs.

The following subsections identify the participants and organizations in these meetings and summarize the insights provided by each stakeholder during the meetings and in questionnaire responses (if provided).

The questionnaire is provided in Appendix B. The complete package of online responses to the questionnaire was provided to the City under separate cover. Recommendations developed from a synthesis of stakeholder data, survey data, and other research performed for this plan are provided in Section 3.

5.1 Local stakeholders

CTC and the City hosted two stakeholder meetings with local organizations and conducted follow-up communication with participants to collect additional information when necessary. These Peabody-based stakeholders are:

- Citizens Inn
- North of Boston Library Exchange (NOBLE)
- North Shore Children's Museum (NSCM)
- North Shore Community Action Programs (NSCAP)
- North Shore Community Health (NSCH)
- Peabody Council on Aging (COA)
- Peabody TV
- Peabody Public Schools
- Peabody P.R.E.P.
- Peabody Housing Authority (PHA)
- Peabody Institute Library

The following are summaries from each stakeholder.

5.1.1 Citizens Inn

Citizens Inn is a Peabody-based nonprofit organization that has been in operation for 40 years, serving individuals and families facing food and housing insecurity in he North Shore. Citizens Inn operates a Lift Zone in its Citizens Inn Haven From Hunger building, funded by ECCF and Comcast. This Lift Zone has a resource center that provides free Wi-Fi, computers and laptops to its community to support its goal in advancing digital equity. Within this Lift Zone, the organization also operates a food pantry and community meals program, which in the last year has provided over 1,100 unique households per month with healthy meals and groceries in Peabody, Salem, and Lynnfield. Additionally, Citizens Inn owns and operates a shelter with 6 units for emergency cases and connects additional unhoused families to temporary housing in 13 locations across Peabody, Salem and Lynn, serving approximately 25 families at any given time.

Device distribution: In partnership with Tech Goes Home, Citizens Inn has distributed between 35-45 devices to individuals and families living in shelters. To date, this has been completely funded by ECCF. Additionally, Citizens Inn distributes hotspots to those without internet in shelters to support their access to telehealth services and submission of social services applications in their temporary housing. The organization hopes to receive more devices as the demand for computers and hotspots has increased significantly this year.

Digital literacy and education: Citizens Inn operates an ESOL class for non-English speakers once a week that teaches individuals how to navigate life on the North Shore, including how to apply for jobs and prepare for interviews, how to use Google resources, and how to complete homework online. Currently, there are 55 students attending these classes – including 15 migrant families currently living in motel shelters in Peabody. There is only one instructor for these classes, who teaches as a volunteer. Citizens Inn is interested in formalizing these classes by increasing the frequency and variety of what is offered and by hiring a new part-time staff at 20 hours per week. The cost for additional staff is $35,000.

Digital navigator: Citizens Inn has two digital navigators, one volunteer and one staff, working at their Lift Zone. These digital navigators provide application and enrollment support for social services like SNAP (Supplemental Nutrition Assistance Program) and Medicaid, aid in ACP enrollment, and provide other web-based support as needed.

Cybersecurity: Citizens Inn would like to increase the overall safety in its Lift Zone by strengthening its perimeter security through additional cameras and surveillance outside of the building, which operate through their Wi-Fi system. This is essential for all who participate in any programming at Citizens Inn and in its Lift Zone, as many are highly vulnerable individuals that need and deserve the comfort of this security before anything else. The budget for this security upgrade is $50,000 for all necessary infrastructure and installment.

5.1.2 North of Boston Library Exchange (NOBLE)

NOBLE is a network of 17 public and seven academic libraries on the North Shore. Through state telecommunications grants, NOBLE has been able to upgrade most of its library network's internet service to 300 Mbps speeds through Comcast subscriptions.

Internet access: To better equip community anchor institutions with fast internet service on the North Shore, ECCF helped to financially support NOBLE in its effort to make additional internet upgrades at Peabody Institute Library, as well as others in the region. These network upgrades increased internet speeds from 300 Mbps to 1 Gbps service. The cost for NOBLE to upgrade a library's internet from 100 Mbps to 300 Mbps is approximately $2,500; the cost of a further increase to 1 Gbps service is approximately $1,000. NOBLE pays for all monthly connection fees with assistance from a grant from the Massachusetts Board of Library Commissioners.

5.1.3 North Shore Childrens Museum

The North Shore Childrens Museum (NCSM) initially began as a pop-up endeavor called CuriousCity in 2019 and was funded by ECCF. Due to its success in the community, The Peabody Cultural Collaborative and the City of Peabody turned CuriousCity into a permanent children's museum and department in the City on October 15, 2022, on Main Street in the city's downtown.[24]

Broadband access: NCSM has offered public Wi-Fi on its premises since its opening in 2022.

Digital skills: The museum has a science, technology, engineering, arts, and math (STEAM) room, which holds programming for children ages 5-11. To expand its roots in the community, NSCM would like to host or facilitate digital skills and education events in partnership with other entities leading this work in Peabody.

5.1.4 North Shore Community Action Programs

North Shore Community Action Programs (NSCAP) is a nonprofit agency based in Peabody that is focused in reducing poverty across the North Shore. NSCAP served approximately 2,000 individuals in Peabody specifically in 2022, including new immigrants, seniors and families in the shelter system.

Broadband access: Many families that work with NSCAP are new immigrants currently living in temporary shelters, or in the state-funded NSCAP shelter in Peabody, which lacks internet service.[25] During the pandemic, many children in these units relied on their parents' phones as

[24] "Our Mission & Vision at North Shore Children's Museum," https://www.nschildrensmuseum.org/about/mission-vision/.

[25] The state shelter system has been at capacity for years, so with the continued increase in migrants to hotels in Peabody, NSCAP is working to expand its own housing to accommodate those in need of more permanent shelter.

hotspots before schools began disseminating hotspots to families in need. State-funded shelters are restricted in the amenities that can be offered, including cable television and broadband internet connections.

Online classes and device distribution: NSCAP offers adult education classes for immigrants and ESL learners. These classes are offered through a level 1 through 4 curriculum that ends with career pathways work, which provides support in navigating workforce options based on interest or similarities to previous occupations. Everyone who participates in adult education classes has access to a Chromebook, but they must be returned at the end of the academic year. These Chromebooks were purchased through state funding; however, NSCAP has been informed that this funding will be dramatically decreased soon. NSCAP would like to find new funding and third-party support avenues to ensure they can maintain their adult education classes and the Chromebook supply.

5.1.5 North Shore Community Health

North Shore Community Health (NSCH) is a Federally Qualified Health Center (FQHC) with three full-time family practice sites – Peabody Family Health Center, Salem Family Health Center, and Gloucester Family Health. These health centers serve a critical role in their communities by offering medical, dental and behavioral health services, as well as health education, translation, insurance eligibility and enrollment assistance, transportation and a range of other services to low-income diverse segments of the Peabody, Salem, and Gloucester population. Of the total population served at NSCH, 293 patients are currently living in Peabody – 45 percent are Spanish speaking, 18 percent are Portuguese speaking, and 56 percent identify as Hispanic or Latinx.

Digital navigator for telehealth: In recognizing that digital skills are a key part of helping low-income residents access health services, the ECCF provided a grant via MBI that allowed NSCH to hire a digital navigator for a period that ended in late 2023. This staff position was funded by a $226,600 grant from MBI and the Commonwealth's "Partnerships for Recovery" initiative in Essex County, which split between North Shore Community Health and Lynn Community Health Center for the same purposes.

In March 2020, NSCH transitioned to offering telehealth services as a result of Covid-19. Within the first two months of the pandemic, NSCH had enrolled 1,500 patients to its telehealth services, and within 6 months had seen over 8,000 patients over 28,000 telehealth visits in total across all three sites.[26] Building off of this success, the Essex County Community Foundation, via MBI,

[26] "North Shore Community Health Reports Growth of Telehealth Model Amid COVID-19 Pandemic," https://www.nshoremag.com/community-news/north-shore-community-health-reports-growth-of-telehealth-model-amid-covid-19-pandemic/.

provided a grant to the FQHC Telehealth Consortium[27] in November 2021 that allowed NSCH to hire a digital navigator for a two-year period, which began in early 2022. This program has proven to be an extremely successful endeavor; however, the funding period for these digital navigators has ended. NSCH would greatly benefit from more funding to extend this work and increase the number of digital navigators doing this work across the three NSCH locations.

5.1.6 Peabody Council on Aging

The Peabody Council on Aging is a service agency in the City of Peabody, offering transportation, social services, meals, and a senior center with entertainment, fitness, education, daycare and recreation available.

Adult education and digital navigation: Through its senior center, the Peabody COA hosts technology assistance classes in a computer lab setting. Class instructors help attendees operate their personal computers and assist in the completion and submission of necessary paperwork when needed. This digital navigation and education programming has been in operation for 8 years and is fully staffed by social worker volunteers and one paid volunteer coordinator.

Computer lab: The senior center is opening a computer lab for its senior community, and equipment will be free for all senior center attendees to use. Unfortunately, the Council on Aging is concerned about long-term operating costs for IT services that will be needed for maintenance of these devices in the future.

Internet access: The COA would like to bring in programming to support increased internet access for older adults living at home who are unable to visit the senior center. Unfortunately, the COA is operating with very limited resources and capacity to bring in another program but is open to outsourcing this effort if an organization offering digital access support is willing to partner.

5.1.7 Peabody TV

Peabody TV offers the space and range of tools for individuals to transform thoughts and ideas into publicly available media, and aspires to be the go-to resource for digital media creation where everyone has access to the right tools, education and delivery platform to tell their story.[28] In addition to offering free and public on-site Wi-Fi at its downtown Peabody location and fully equipped media lab to its members, Peabody TV offers youth programming and work-study and intern positions for career building experience in broadcast television and portfolio development. While Peabody TV currently focuses predominantly on youth training, it would like to expand to adult education.

[27] FQHC Telehealth Consortium was founded by Community Care Cooperative (C3) and the Massachusetts League of Community Health Centers in 2020.
[28] "Our Story," https://peabodytv.org/about/.

Peabody TV has the skillset and desire to expand its programming toward digital literacy training, but it does not currently have the financial resources to do so. The current annual operating budget is $1,251,435, which includes staff and programming—but operating costs are rising. Peabody TV leadership identified that a $30,000 annual grant would allow the nonprofit to continue to serve all residents of the City beyond its current capacity (which is already strained) and meet the increasing demand on resources.

5.1.8 Peabody Public Schools

There are 11 schools in the Peabody Public School system, with 5,881 students enrolled in the 2022/2023 school year. Approximately 30 percent of students are eligible for Free and Reduced-Price School Lunch program.

Internet access: Peabody School District disseminated 100 hotspots during the pandemic to students in families that did not have internet service at home. The following year, the district provided 28 additional hotspots to new students and their families. These hotspots were funded through Covid relief grants from the federal government. To maintain its efforts to provide internet access in all student households post-Covid relief money, Peabody School District has been providing enrollment support for low-cost internet programs, which are free to households also enrolled in the Affordable Connectivity Program. Unfortunately, the district is unable to properly support new immigrant and homeless students and their families in accessing affordable internet in shelters and hotels. As of mid-2023, there were approximately 100 (and growing) families with school-age children that have been living in temporary housing without internet.

Device access: Peabody Public Schools has a program called 1:1 Chromebook Initiative, which provides a Chromebook device to all students in kindergarten to grade 12. Devices are provided (and refreshed) in grades kindergarten, 3, 6, and 9 at no cost to the student. This device program was established because of the Covid-19 pandemic, and the project budget for fiscal year 2024 is $535,000.

Digital literacy: Peabody Public Schools is interested in addressing digital skills and literacy gaps for parents of school age children through adult education classes in school computer labs. Modeling Revere Public School's adult education programming, the Peabody Public Schools could operate these digital literacy and skills classes in two locations at night—Higgins Middle School and Welch School—due to their recent construction and new and well-equipped computer labs. Based on Revere's operating expenses, the budget for these classes to be developed, staffed, and carried out is currently $200,000 per year.

5.1.9 Peabody Personalized Remote Education System

Peabody Personalized Remote Education System (P.R.E.P.) is a virtual school within the Peabody Public School system that enrolls approximately 110-130 students per school year. Every class is

completely virtual, and there are ESL educators specializing in English for Spanish and Portuguese first language speakers.

Internet access and device distribution: Peabody Virtual Schools has provided two hotspots to students and their families since it began in 2021. Although it is rare for a student in remote education to lack internet at home, Peabody P.R.E.P. will accommodate anyone that currently does not have, or who may lose in the future, access to internet though hotspot distribution. Additionally, Peabody Public Schools 1:1 Chromebook distribution programming extends to Peabody P.R.E.P, providing a Chromebook device to all students in kindergarten to grade 12.

5.1.10 Peabody Housing Authority

Peabody Housing Authority (PHA) is a state agency and the administrator for Section 8 Housing Choice Vouchers, Massachusetts Rental Vouchers (both voucher and project based), and 505 public housing units—240 of which are family units. Four of the PHA residential complexes are adjacent to the Peabody Council on Aging, which could facilitate efforts for digital literacy training.

Internet access: PHA buildings do not have centralized Wi-Fi access, which has proven to be a challenge for seniors who spend a significant amount of time at home. Many seniors cannot afford home internet service and are unable to participate in telehealth. PHA would like to develop a hotspot program for families with school-age children and seniors with low mobility so that they are able to connect to necessary services and communicate online in their units. However, one major concern voiced by PHA is the future need for hotspot maintenance through IT staffing. PHA would not have capacity to provide any support for technology infrastructure breakdown, which is limiting their willingness to proceed with any personalized Wi-Fi programming like hotspots for its residents currently.

5.1.11 Peabody Institute Library

Peabody Institute Library is located on Main Street and has a South Branch and West Branch on Lynn Street and Lowell Street respectively. Opened in 1854, Peabody Institute Library offers a wide scope of programming targeted for all ages, as well as print and electronic resources including desktop computers and strong Wi-Fi connections at no cost.

Device lending: All three Peabody Library locations have 20 Chromebooks and 30 Wi-Fi hotspots available for rent for up to two weeks at a time. The annual budget for this program is $10,000, and it has served over 500 people throughout the three years it has been operating.

Digital skills and literacy: The library would like to develop a program that targets digital skills and literacy for Peabody residents. In order to launch this program, Peabody Institute Library is

in need of specialized instructors, language translation, laptops and devices. The library projects that the annual budget will be $5,000.

5.2 Regional stakeholders

In addition to meeting with Peabody-based stakeholders, CTC met with entities located in adjacent cities that offer digital equity-related programming for residents across the North Shore. These stakeholders are:

- Essex County Community Foundation
- LEO, Inc.
- MassDevelopment
- MassHire North Shore Career Center
- New American Association of Massachusetts
- North Shore Community College
- North Shore Latino Business Association

The following are summaries from each stakeholder.

5.2.1 Essex County Community Foundation

ECCF is a community foundation based in Danvers that inspires philanthropy and works to manage charitable assets, strengthen and support nonprofits, and engage in strategic community leadership initiatives for the communities of Essex County, including Peabody. ECCF has been a leader in advancing digital equity programs in the area and it is clear that ECCF will continue in this role. Kate Machet, Director of Strategic Initiatives and Government Relations at ECCF, was generous with her time and met with CTC on several occasions beyond the initial stakeholder meeting.

5.2.2 LEO, Inc.

LEO, Inc. (LEO) is a Community Action Agency serving Southern Essex County, offering resources and services that provide opportunities for children, families and individuals to thrive. LEO provides early education and care to children from birth to age five through the Head Start and Early Head Start programs.[29] LEO's Home Energy Assistance and Community Services programs aid area household in maintaining safe, warm homes in the winter and ensuring resident's most basic needs are met.

[29] Leading through Empowering Opportunities, https://leoinc.org/about/.

5.2.3 MassDevelopment

MassDevelopment is a state agency that supports businesses, nonprofits, banks and communities by financing and providing resources for economic growth and resiliency. In 2022, MassDevelopment financed or managed 356 projects, facilitated $1.69 billion of investments into the Massachusetts economy, and created or supported 11,080 jobs across the state.[30]

Digital skills: MassDevelopment is involved in a program to assist local restaurants with website development, Google business listings, and the development of a social media presence. Through this program, the organization has recognized a wide variance in digital access and skills among the small business owners they serve, which has impacted the business owners' knowledge of and ability to apply for grants and other potential funding sources.

5.2.4 MassHire North Shore Career Center

MassHire is the Massachusetts state agency providing workforce development and employment resources, including training programs, networking events, apprenticeship programs and youth development. MassHire has a North Shore Career Center that is based in Salem. MassHire operates the North Shore Youth Career Center in Lynn and offers services at North Shore Community College's Lynn campus.

Device gaps: In a pilot program, MassHire recently provided 75 laptops to clients of the career center, but noted demand for devices far exceeded this number. MassHire would like to meet this need but lacks the budget and capacity to provide and support the program.

Internet training gaps: MassHire offers digital skills classes on topics ranging from resume writing to how to use a computer and navigate the internet. Demand for these classes exceeds MassHire's capacity.

Digital navigators: In December 2023, MBI awarded the Metro North Workforce Investment Board $4.1 million to increase its digital equity initiatives through the Digital Justice, Equity, Diversity, and Inclusion (JEDI) Consortium.[31] With the support through this grant, the Consortium will hire 32 digital navigators for employment and career counseling, digital literacy training and classes, distribution of refurbished devices, IT services, and community collaboration with other organizations focused on closing the digital divide. The digital navigators will be working from sixteen different organizations throughout northeast Massachusetts, including the North Shore Career Center, and will service 39 cities and towns under the MassHire umbrella.

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[30] "FY2022 Annual Report," MassDevelopment, https://www.massdevelopment.com/assets/pdfs/annual-reports/MassDev-Annual-Report-2022-V5.pdf.

[31] "Healey-Driscoll Administration Awards $20 Million to Boost Digital Equity. Five State-Funded Projects Aim to Grow Access to Training, Devices, and Digital Education", MBI, https://broadband.masstech.org/news/healey-driscoll-administration-awards-20-million-boost-digital-equity.

5.2.5 New American Association of Massachusetts

The New American Association of Massachusetts (NAAM) is a nonprofit based in Lynn that works with refugees, political asylees and new immigrants in Lynn and its surrounding areas to provide the economic, social, and cultural support necessary for individuals as they navigate their new home in America. In 2022, NAAM served approximately 900 people, and this number is increasing each year. NAAM is the only service provider of this kind on the North Shore and receives federal and state funding through the U.S. Office for Refugee Resettlement and Massachusetts Office for Refugees and Immigrants.

Digital training: NAAM offers multiple classes, events, workshops, and forums online, and has developed educational curricula to enhance digital literacy to their community of English learners, new immigrants, and refugees as they navigate applications and digital communication in the United States. Digital literacy levels vary among participants, and demand for these educational resources is significant. Classes are all offered virtually with a capacity of 20 individuals per class, and those without adequate home internet access are able to participate in classrooms at NAAM's office in Lynn. In 2022, more than 450 people attended NAAM's adult ESL and digital literacy classes.

Device support: NAAM has a tablet loan program but does not expect to receive many of these devices back. This program was funded by the Massachusetts Office for Refugees and Immigrants in 2022-2023 but it is uncertain whether such funding will continue. Due to the significant demand for the organization's ESL program, NAAM runs out of devices rapidly. For 2024, NAAM estimates that it will need 250 devices—100 Chromebooks at $229 per device, and 150 tablets at $129 per device for a total of $42,250.

5.2.6 North Shore Community College

North Shore Community College (NSCC) has a campus in Lynn and offers automatic admission to any graduate of Lynn English, Classical or Vocational-Technical High Schools.[32] In the 2022-2023 academic year, the NSCC student body consisted of 6,800 credit students and approximately 1,800 non-credit students—314 of whom were Peabody residents. The following key insights were offered by NSCC.

Internet security: NSCC rolled out a program for its staff members in November 2021 called "KnowBe4" to help avoid phishing and other online scams. The annual project budget for KnowBe4 Training is $21,000 and was offered to 674 of all 867 full and part-time employees in

[32] "NSCC offers Lynn High School Grads Direct Admission & Financial Support," NSCC, May 11, 2023, https://www.northshore.edu/news/2023/direct_admission_scholarships_for_lynn_hs_grads.html.

2023. However, NSCC has identified a need for students to also receive this training, at a cost of approximately $73,000 for the entire student body.

Device support: North Shore Community College provides a program called "Here to Help" to assist students who need financial support for housing, food, and other basic needs. NSCC also provides laptops under this program. In the past year, NSCC provided 125 laptops to students. The year prior, NSCC provided 398 laptops. The program also provides students with local resources such as support with signing up for internet essentials, a program offered through Comcast. In the past, NSCC also provided students with hotspots. NSCC said it would like to expand this program and add a digital skills program for recipients.

Workforce development: In 2021, NSCC began offering the IT Technical Support Specialist program through the school's Corporate and Professional Education Division. This curriculum teaches the fundamentals of IT skills and certifies students in Cyber Safety and CompTIA A+, an industry standard set of exams for any IT career. This program is free to all enrolled students, including supplies and services. Although NSCC has received over 150 applications for this program since 2021, only eleven students have been accepted each year due to limited seating capacity, competing demands on lab space and the availability of instructors.

5.2.7 North Shore Latino Business Association

The North Shore Latino Business Association (NSLBA) is a business association that supports and advocates for Latino entrepreneurs and business owners to grow through education, networking, skills training, and facilitating access to capital resources.[33]

Digital training: The North Shore Latino Business Association offers on-site digital literacy classes called "From the Traditional to the Digital" to its members of various skills levels. Class topics vary from how to use a device, to how to create and foster an online presence for an individual's business online through professional postings and website development. Since these classes began, there have been 43 graduates of its 15-hour training program. The annual budget of this program is $50,000 and is free to all participants. Although these classes are in high demand, NSLBA does not have the resources, space or staffing to scale up this program currently.

[33] 'Who We Are," NSLBA, https://mynslba.com/#about.

6 Results from MBI survey completed by Peabody residents show access, device, and skills gaps and major concerns about privacy and security

This section is based on data collected from Peabody residents who responded to a survey instrument created by the Massachusetts Broadband Institute (MBI) and posted online. PDFs of paper copies in nine languages were also made available to residents of the City. Both the online and PDF versions of the survey were promoted through posting on the City's website, Peabody Public Schools outreach to parents and guardians, and by word of mouth. Statewide answers were analyzed and reported separately as part of MBI's State Digital Equity Plan.

The results presented in this section are based on analysis of information provided in the survey by 633 residents of Peabody. Unless otherwise indicated, the percentages reported are based on valid responses from those who provided an 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 results are noted where appropriate.

The survey sample was self-selected and is not necessarily representative of the larger population. Because lower-income residents were underrepresented, the report separately highlights answers from respondents reporting households earning less than $60,000. This threshold was used because in the MBI survey, the highest income tranche respondents were able to describe was "$60,000 or above."

This summary focuses on data collected that is unambiguous with regard to meaning or accuracy, relevant to the topic of digital equity, and provides insights that are potentially actionable. As such, not all information from this survey was included. For example, the datapoint that only 34 percent of surveyed residents use mobile data plans was discarded because it seems to reflect respondent confusion due to how the question was phrased. (Nationwide, 85 percent or more adults own smartphones, and typically these are used with data plans.)

The full survey instrument is posted in Appendix A.

6.1 Residential internet service

Respondents were asked about internet connection types and providers. This information provides valuable insight into residents' need for various internet and related communications services.

6.1.1 Internet access

Though 94 percent of Peabody respondents report having either a home internet or mobile subscription, only 65 percent said they have wireline internet service in the home. Respondents with an annual household income below $60,000 (46 percent) and those with a high school level

or less education (47 percent) are less likely to have a home broadband subscription. Table 8 highlights the saturation of home internet subscriptions by key demographic groups.

Table 8: Home internet subscriptions by key demographics

	Percent having a home internet subscription	*Count*
TOTAL	**65%**	***633***
Respondent Age		
Less than 45	66%	*325*
45 to 59	74%	*123*
60 or older	51%	*39*
Income		
Less than $60,000	46%	*195*
$60,000 or more	89%	*217*
Education		
High School education or less	47%	*191*
2-year associate degree	75%	*83*
4-year college/university/bachelor's degree	81%	*118*
Postgraduate or professional degree	91%	*74*
Race/Ethnicity		
White, non-Hispanic	78%	*290*
Racial/ethnic minority	51%	*139*
Household Size		
1-2 HH members	29%	*38*
3-4 HH members	67%	*114*
5-6 HH members	72%	*216*
7+ HH members	68%	*115*
Children in Household		
No children in HH	34%	*47*
Children in HH	70%	*436*
Gender Identity		
Man	74%	*114*
Woman	64%	*360*
Other gender identity	67%	*6*
Other demographics		
Identify as person with disability	55%	*62*
Member of LGBTQIA+ community	52%	*21*
Serve on active duty in US Armed Forces	83%	*12*
Live in affordable housing	35%	*68*

6.1.2 Questions for those with home internet service

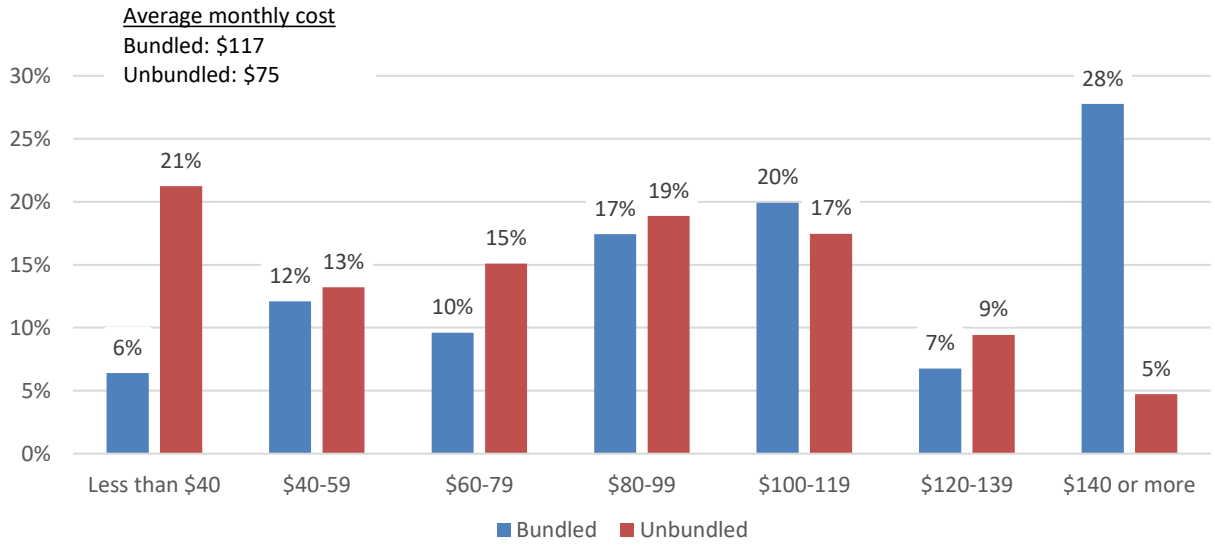
Respondents subscribing to home internet service were asked a series of questions about their service, including provider used and price paid.

Home internet service provider: The leading provider used by households with wireline internet service is Comcast/Xfinity (72 percent). A small percentage of households use another provider, such as RCN/Astound Broadband (12 percent), Verizon (4 percent), or T-Mobile (3 percent). (CTC combined answers in cases where the survey instrument listed the same provider twice, but under different brand or company names.)

Quality and sufficiency of home internet service: Most internet subscribers (75 percent) said their service is good enough to meet their household's needs, but 23 percent said it is not good enough and 2 percent said they do not know.

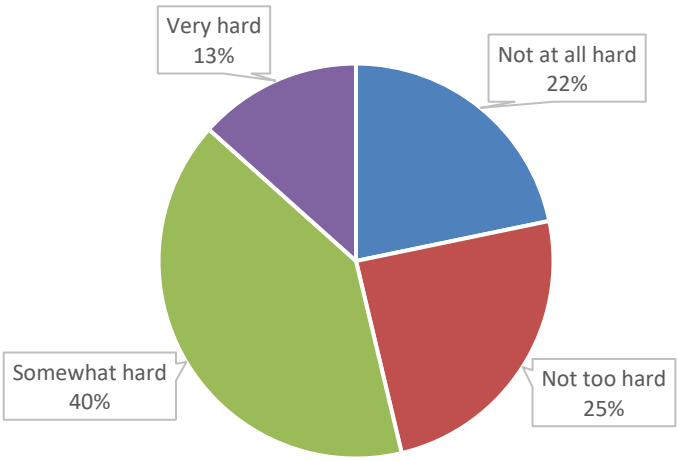
Internet service cost: Respondents were asked to give the cost of their home internet service, as well as indicate whether or not they bundle internet with TV and/or phone service. Overall, 60 percent of subscribers bundle their internet service. Respondents pay an average of $117 per month for bundled internet service and an average of $75 per month for unbundled internet service (see Figure 8). 54 percent of those with bundled service pay at least $100 per month, compared with 32 percent of those with internet-only service.

Figure 8: Monthly price for internet service



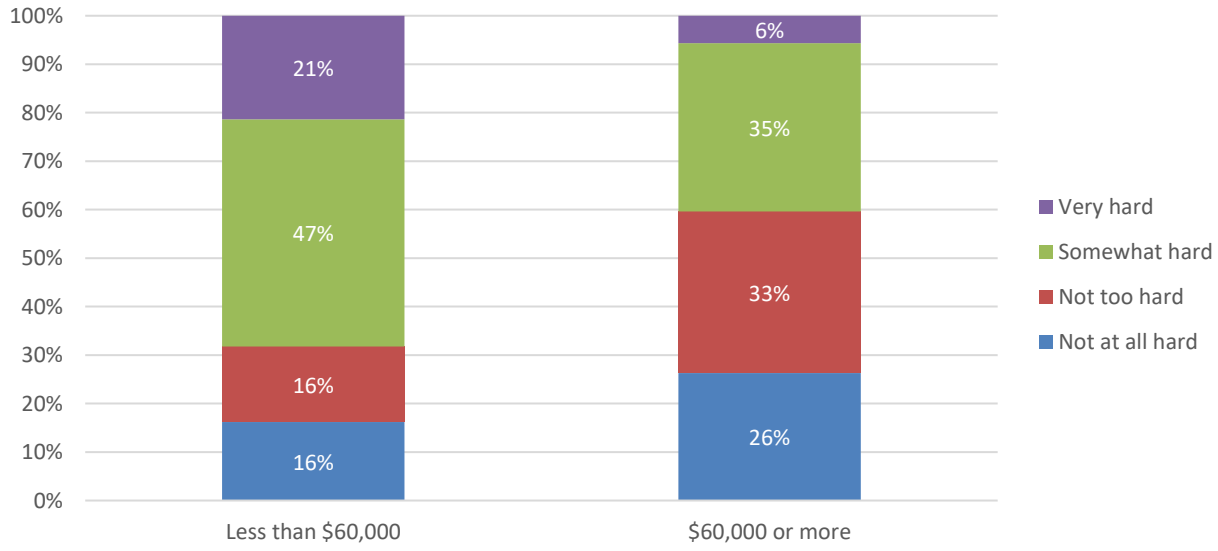
Respondents were also asked how hard it is to pay their internet bill. More than one-half of subscribers said it is somewhat hard (40 percent) or very hard (13 percent) to pay, as illustrated in Figure 9. More than one-fifth of subscribers said it is not at all hard, and 25 percent said it is not too hard.

Figure 9: Difficulty in paying internet bill



As may be expected, respondents in lower income households were more likely than those in higher income households to say it is somewhat or very hard to pay their internet bill (see Figure 10). Specifically, 68 percent of those earning less than $60,000 per year said paying their bill was "somewhat hard" or "very hard." This data contributes to our finding that affordability is a significant concern for lower-income residents of Peabody.

Figure 10: Difficulty in paying internet bill by household income



6.1.3 Questions for those without any home internet service

Respondents without internet service—including home internet or smartphone service—were asked about their reasons for lack of subscription. The survey asked this question only of the very

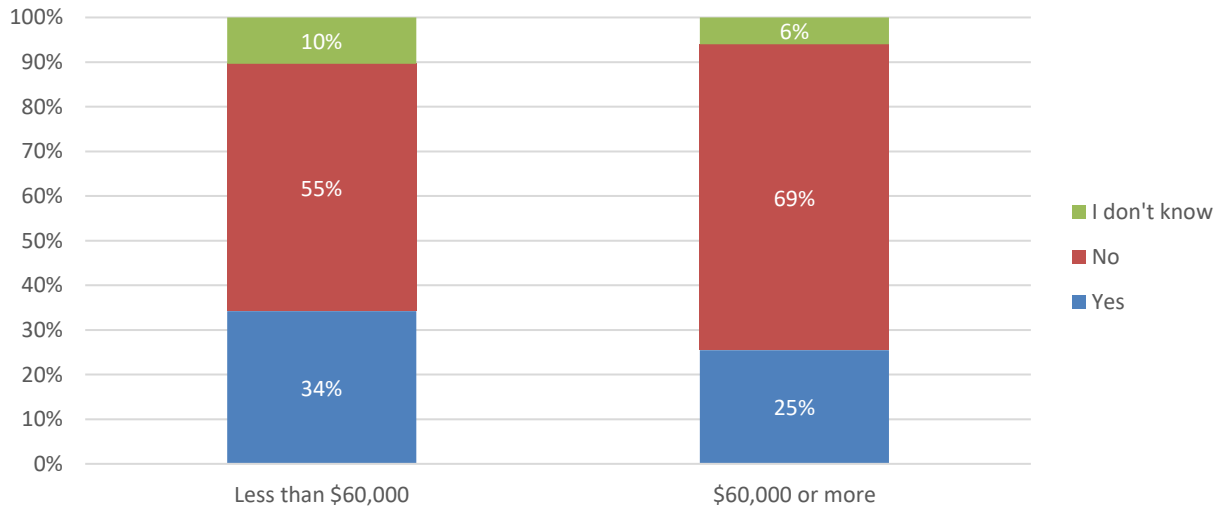
small number of people who lack any kind service, not the larger number who, while they might have a smartphone, do not have home internet subscriptions specifically.

Given that only 36 people who responded lack either a home subscription or mobile subscription, the sample is too small to analyze. Nineteen of the 36 cited the high expense as the barrier. Thirteen of 36 respondents without mobile or home internet service go to a friend's or family member's home, 10 go to a business, nine visit a library or community center, seven visit a workplace, and seven use a school, college, or university to access the internet.

6.1.4 Internet subsidy programs

All respondents were asked if they had heard of the Affordable Connectivity Program (ACP), which is available to eligible low-income households. As shown in Figure 11, only 34 percent of respondents with an annual household income of less than $60,000, and who thus might be able to take advantage of the ACP, are aware of this program. This datapoint informs our recommendation that enrollment support efforts be expanded in Peabody.

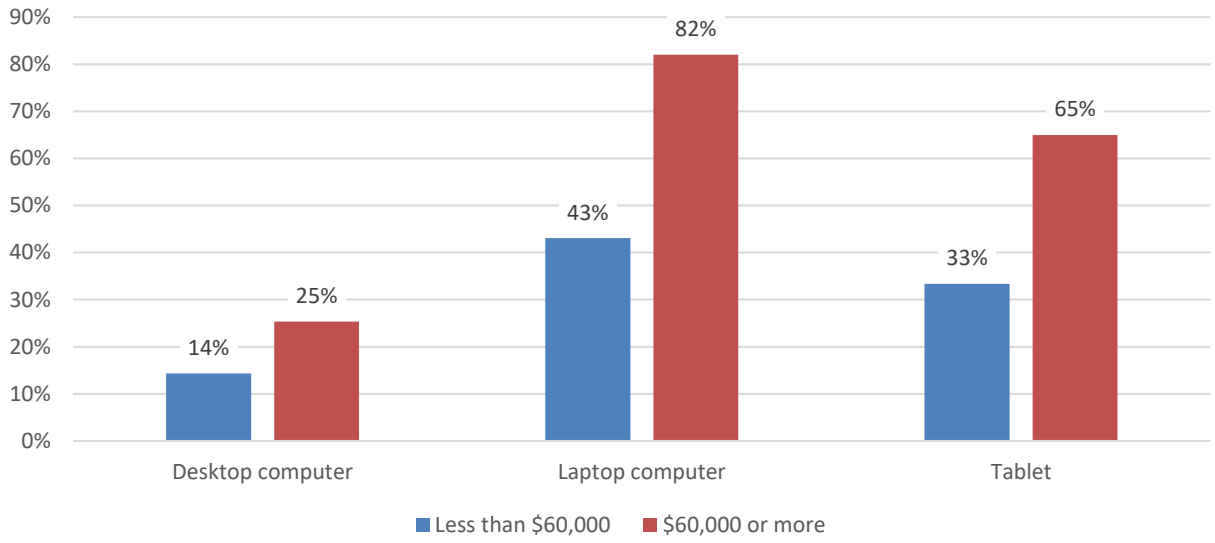
Figure 11: Awareness of the Affordable Connectivity Program by household income



6.1.5 Computing devices used in household

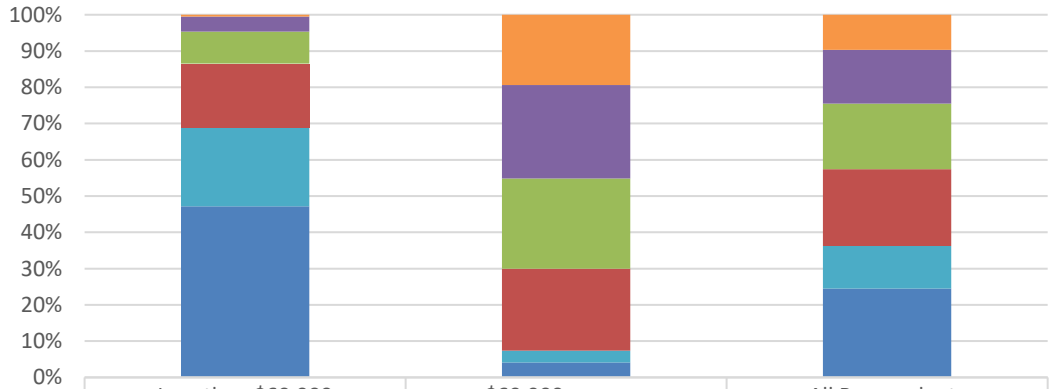
Respondents were asked a series of questions about access to computing devices and types of devices used. Most respondents (86 percent) said everyone in their household has access to the computing devices they need to meet their everyday needs for internet use. However, those with an annual household income under $60,000 are less likely than those in higher income households to use a desktop, laptop, or tablet computer to connect to the internet (see Figure 12). This informs our recommendation that device access programs for low-income residents of Peabody be expanded.

Figure 12: Devices used most of the time to connect to the internet by household income



As shown in Figure 13, nearly one-half of respondents earning under $60,000 per year could pay up to $50 for a computer, and another 22 percent could pay $50 to $100. Conversely, 45 percent of those earning $60,000 or more per year could pay at least $500 for a device, compared with 5 percent in lower-income households. Again, this informs our recommendation that device access programs for low-income residents of Peabody be expanded.

Figure 13: Amount able to pay for laptop or desktop computer

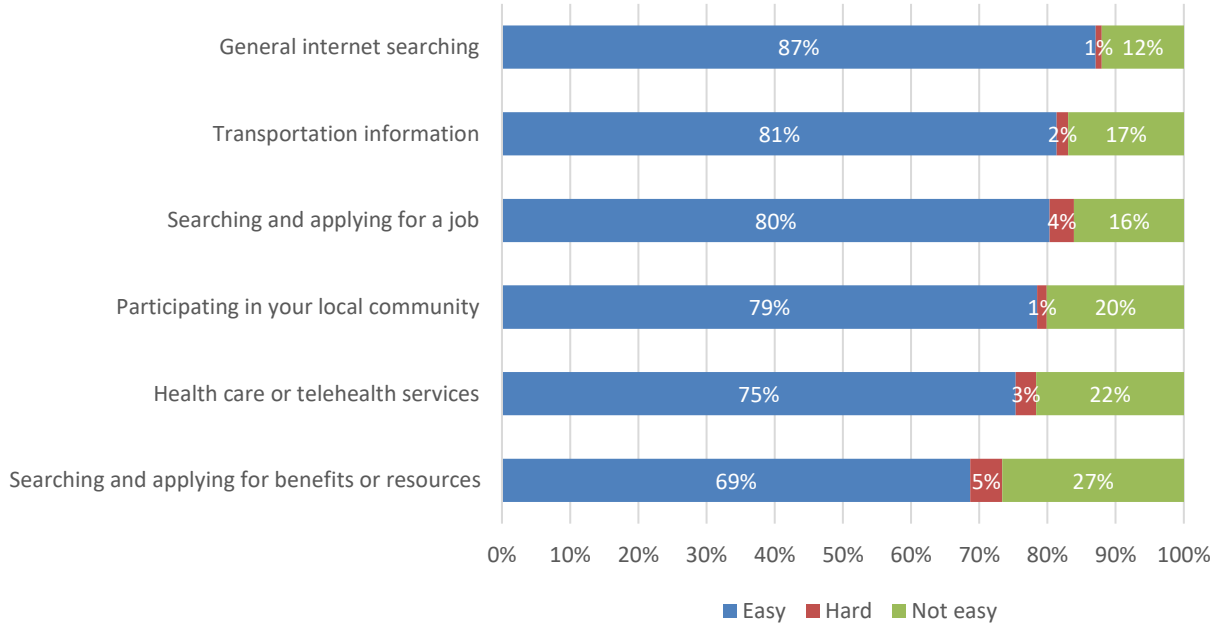


	Less than $60,000	$60,000 or more	All Respondents
More than $1,000	1%	19%	10%
$500-1000	4%	26%	15%
$250-500	9%	25%	18%
$100-250	18%	23%	21%
$50-100	22%	3%	12%
$0-50	47%	4%	24%

6.2 Digital skills

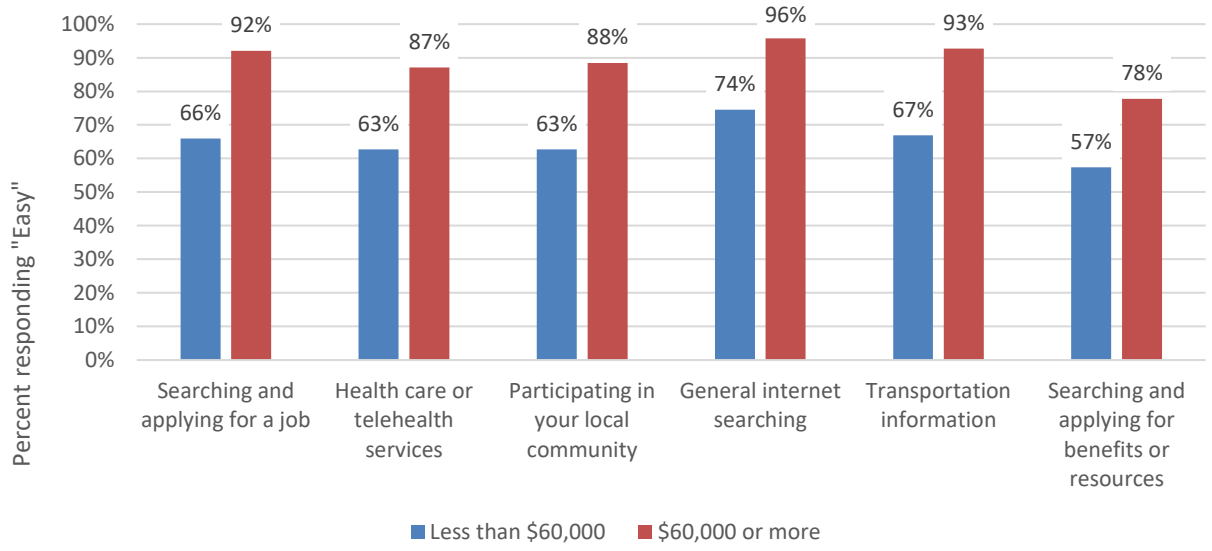
Respondents were asked a series of questions on how skilled they are using the internet in general and for specific activities. This information provides valuable insight into where there may be gaps in abilities and opportunities to educate residents. Most (87 percent) respondents said using the internet for general searching is easy, as shown in Figure 14. Approximately eight in 10 respondents said it is easy to use the internet for transportation information (81 percent), searching and applying for a job (80 percent), and participating in your local community (79 percent). Three-fourths of respondents said it is easy to use the internet for health care or telehealth services, and 69 percent said it is easy to use the internet for searching and applying for benefits or resources.

Figure 14: Difficulty in using the internet for various tasks



However, as shown in Figure 15, respondents with a household income of less than $60,000 were less likely than those in higher-income households to say using the internet for various tasks is easy, demonstrating that lower-income residents are most in need of skills programs. This informs our recommendation that skills programs for low-income residents of Peabody be expanded.

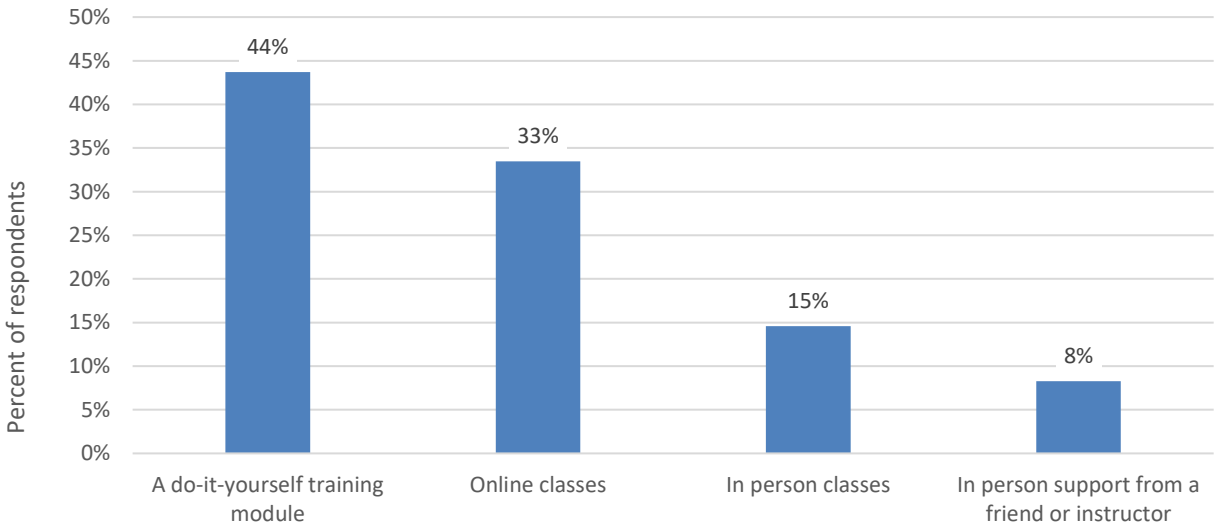
Figure 15: Ease in using the internet for various tasks by household income



Nearly three-fourths of respondents were able to indicate the type of digital skills support they would be most interested in. Among this segment of respondents, 44 percent said they would be most interested in a do-it-yourself training module, and 33 percent would be most interested in online classes (see Figure 16).

The question did not provide respondents with the opportunity to say they were not interested in taking any kind of class. In other jurisdictions, CTC has found that significant numbers of people, even those lacking skills, are not interested in attending classes. As such, these results should not be taken to mean that Peabody needs to expand skills-training programs at the levels indicated here.

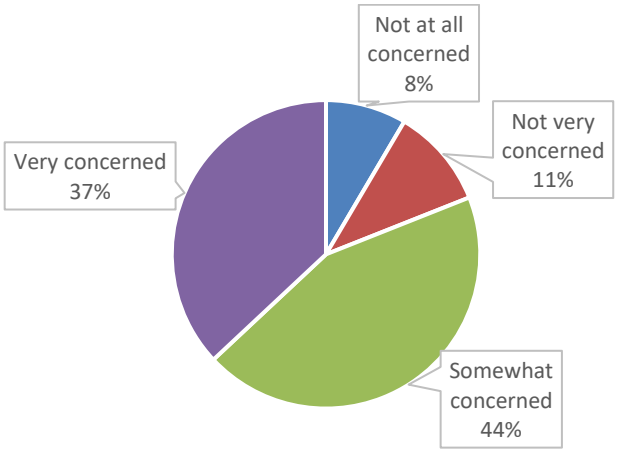
Figure 16: Digital skills support most interested in



6.3 Internet safety

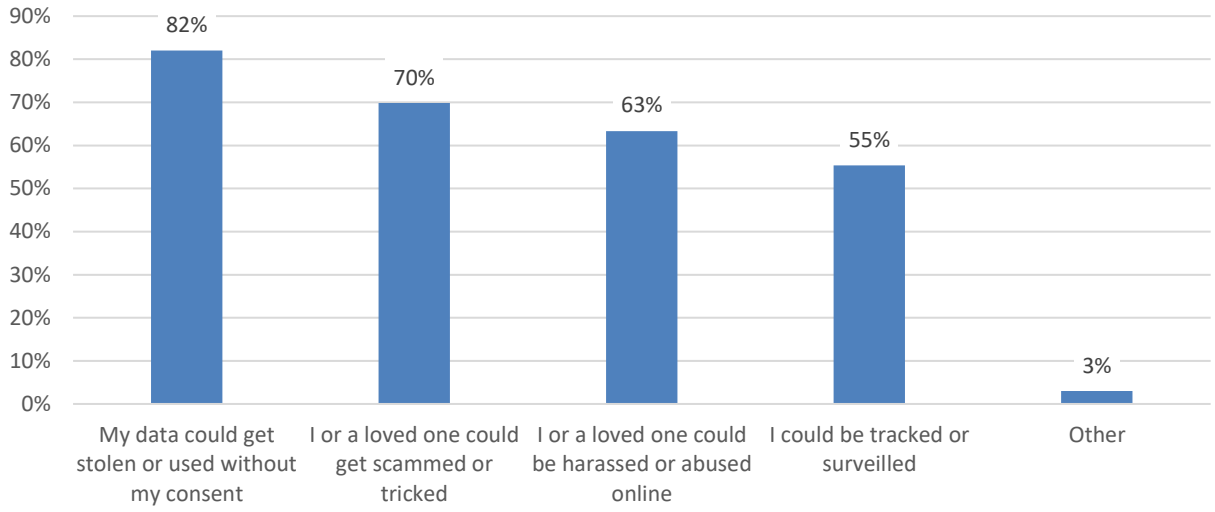
Peabody residents across the income and other demographic categories have significant concerns about online safety and privacy. Respondents were asked a series of questions pertaining to individual awareness of, and the use of, measures to secure online privacy and internet safety. Most respondents are either somewhat concerned (44 percent) or very concerned (37 percent) about online safety (see Figure 17). Concern is high across all demographic groups.

Figure 17: Concern about online safety



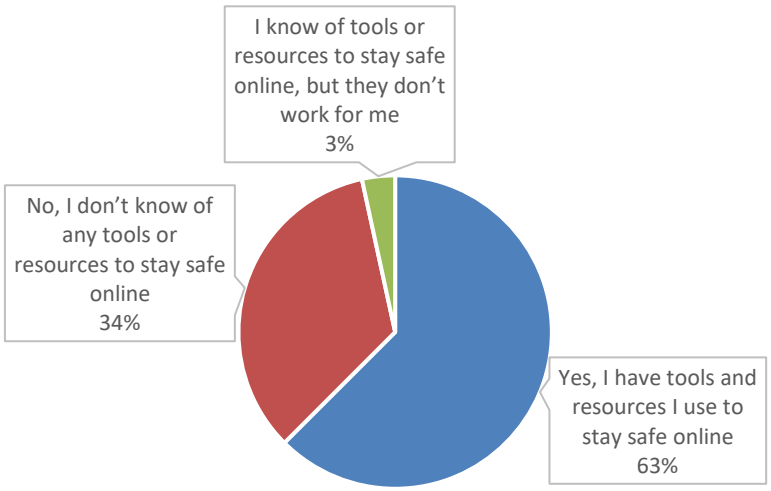
Respondents are most concerned about their data being stolen or used without their consent, cited by 82 percent (see Figure 18). Seven in 10 are most concerned that they or a loved one could get scammed or tricked, and 63 percent are most concerned about being harassed or abused online (43 percent). They are somewhat less likely to be most concerned they could be tracked or surveilled (55 percent).

Figure 18: Issues of most concern regarding internet safety



Sixty-three percent of respondents who were asked said they have the tools and resources they need to stay safe online (see Figure 19). (This question was asked only of those who reported they were not at all concerned, or not very concerned, about internet safety.) Another 34 percent of respondents said they do not know of any tools or resources to stay safe online. Three percent of respondents said they know of tools and resources to stay safe, but they do not work.

Figure 19: Awareness of tools or resources respondents can use to stay safe online

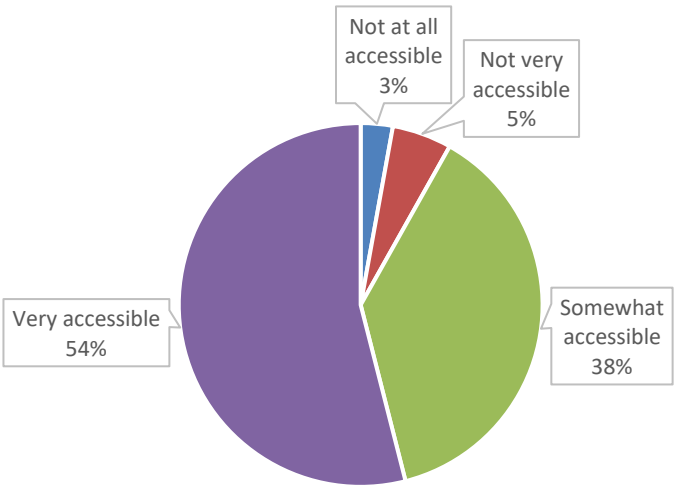


Number of respondents (out of 88 respondents)

6.4 Online accessibility and inclusivity

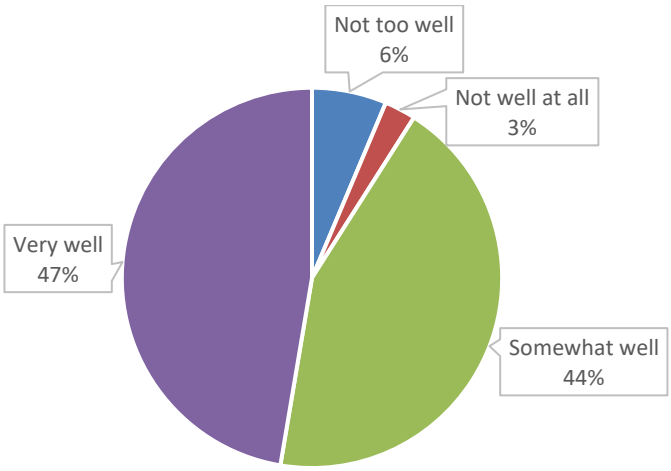
Respondents were asked questions related to online accessibility and inclusivity of public resources and services. Most respondents said online government services are somewhat accessible (46 percent) or very accessible (37 percent), as shown in Figure 20.

Figure 20: Accessibility of online government services



Most respondents said online government services have worked somewhat well (44 percent) or very well (47 percent), as shown in Figure 21. Online government services are assessed highly across demographic groups.

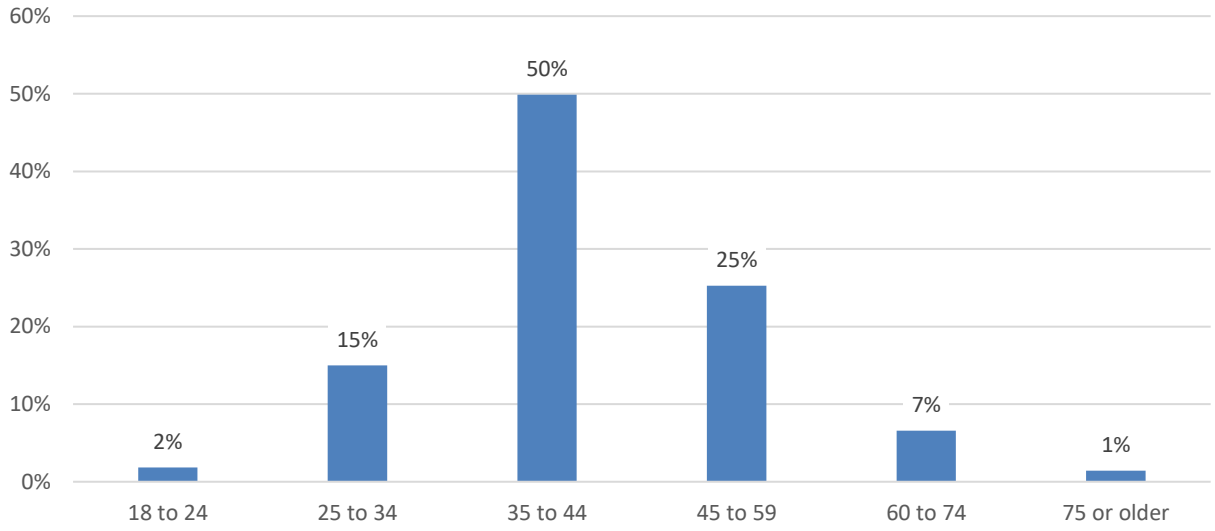
Figure 21: How well online government services have worked



6.5 Respondent information

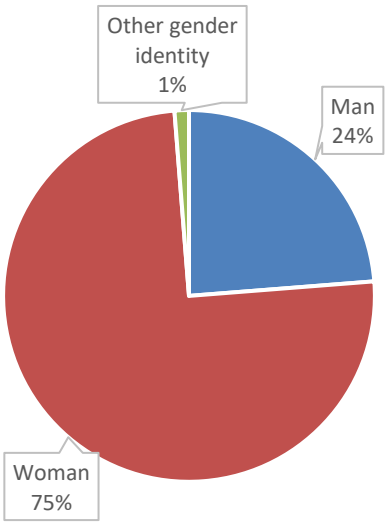
Basic demographic information was gathered from survey respondents and is summarized in this section. Several comparisons of respondent demographic information and other survey questions were provided previously in this report. As shown in Figure 22, one-half of respondents are ages 35 to 44 years, and 25 percent are ages 45 to 59 years.

Figure 22: Age of respondents



Three-fourths of respondents identify as a woman, and 24 percent identify as a man (see Figure 23). One percent of respondents have another gender identity.

Figure 23: Gender identity



Respondents were asked to indicate the number of adults and children in their household. Approximately nine in 10 respondents have children living in the household and/or have three or more household members (see Figure 24 and Figure 25). Keep in mind this survey was heavily promoted by the school district; as a result, survey respondents will be skewed toward households with children present.

Figure 24: Total household size

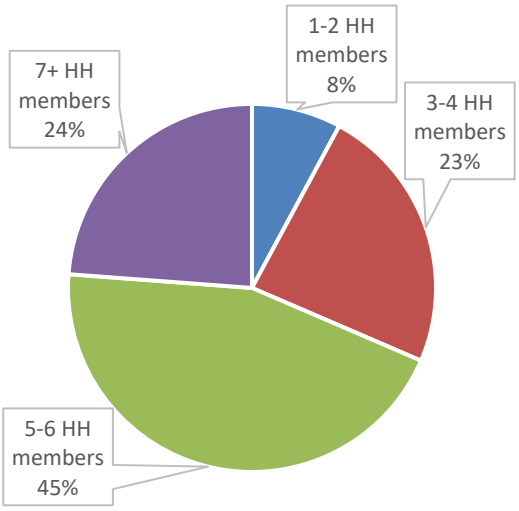
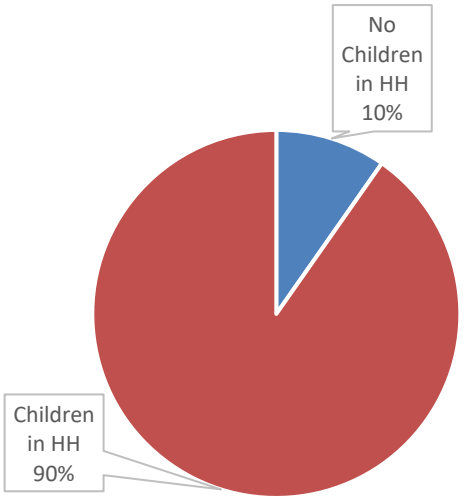
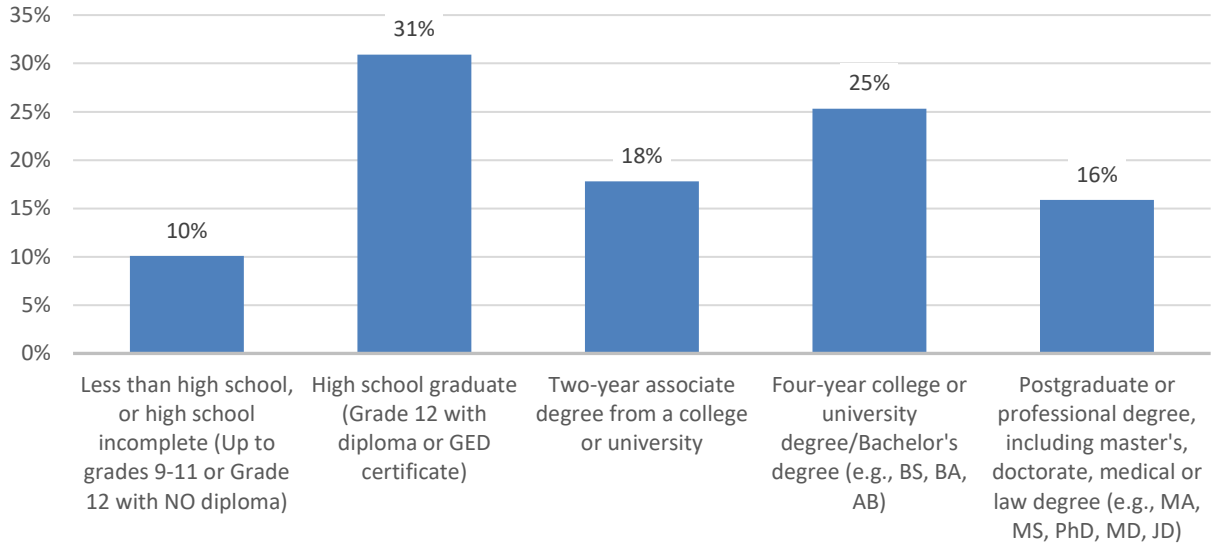


Figure 25: Number of children in household



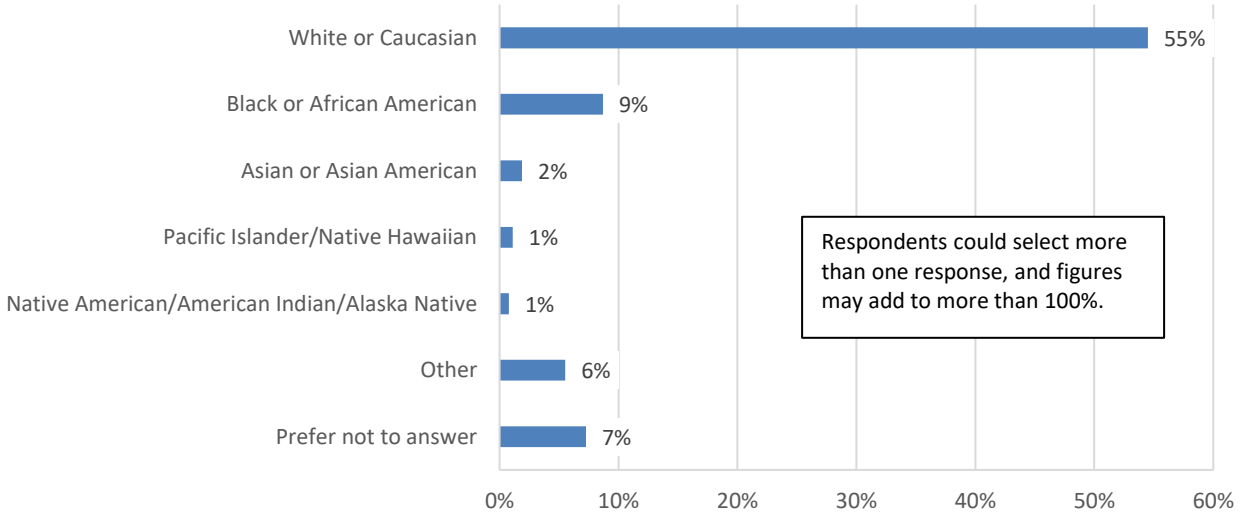
The respondents' highest level of education attained is summarized in Figure 26. Approximately four in 10 respondents have a high school education or less, and 18 percent have a two-year associate degree. Another 25 percent of respondents have a four-year college degree, and 16 percent have a postgraduate or professional degree.

Figure 26: Education of respondent



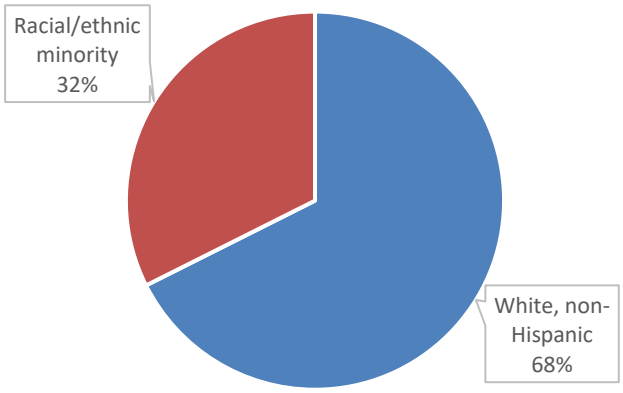
Respondents were asked to indicate what categories best describe their race (see Figure 27). Fifty-five percent of respondents are White or Caucasian, while 9 percent are Black or African American.

Figure 27: Self-identification of racial group



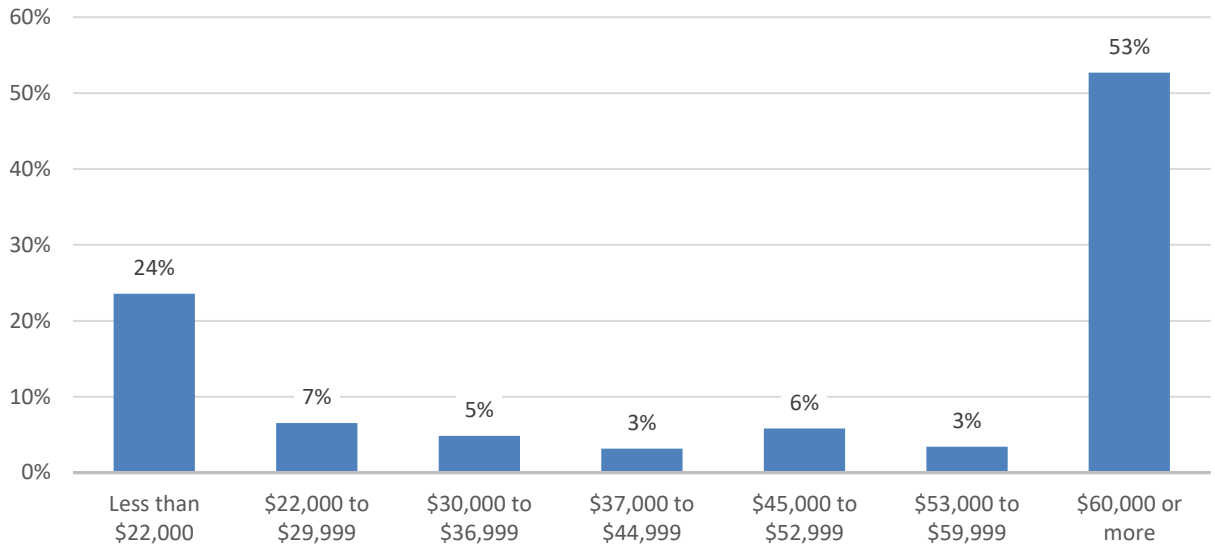
Respondents were also asked to indicate their ethnicity and if they belonged to a North American Indigenous, Native, or Tribal Group. Among respondents, 23 percent said they are of Hispanic, Latino, or Spanish origin. Two percent belong to a North American Indigenous, Native, or Tribal Group. Among those who responded to both the race and ethnicity questions, 68 percent are White and non-Hispanic, and 32 percent belong to a racial or ethnic minority group (see Figure 28). This report notes that 32 percent of respondents could not be classified (i.e., did not respond to race and/or ethnicity questions).

Figure 28: Race and ethnicity



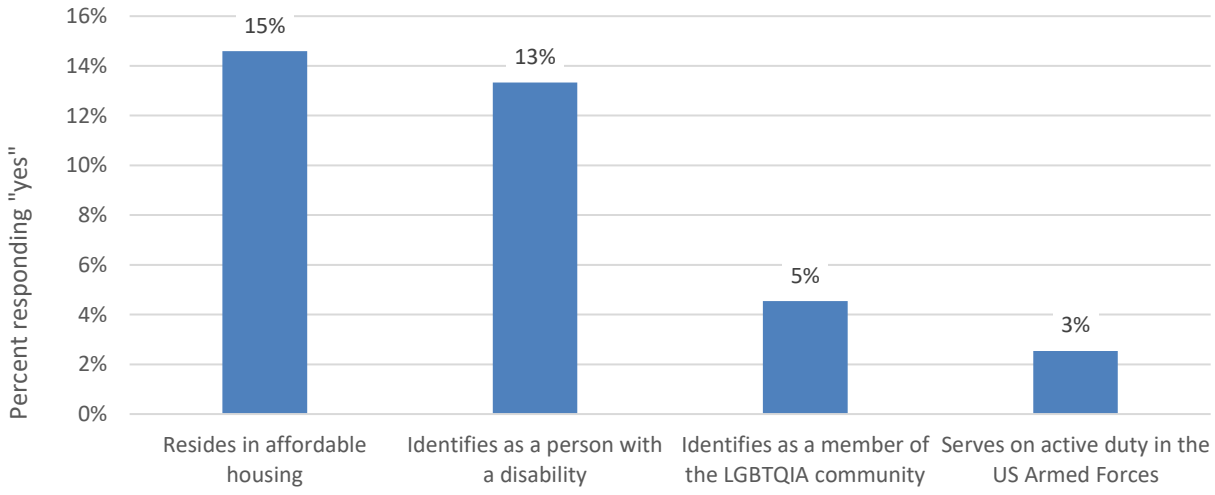
As illustrated in Figure 29, 47 percent of respondents have an annual household income of less than $60,000, and 53 percent earn $60,000 or more per year.

Figure 29: Annual household income



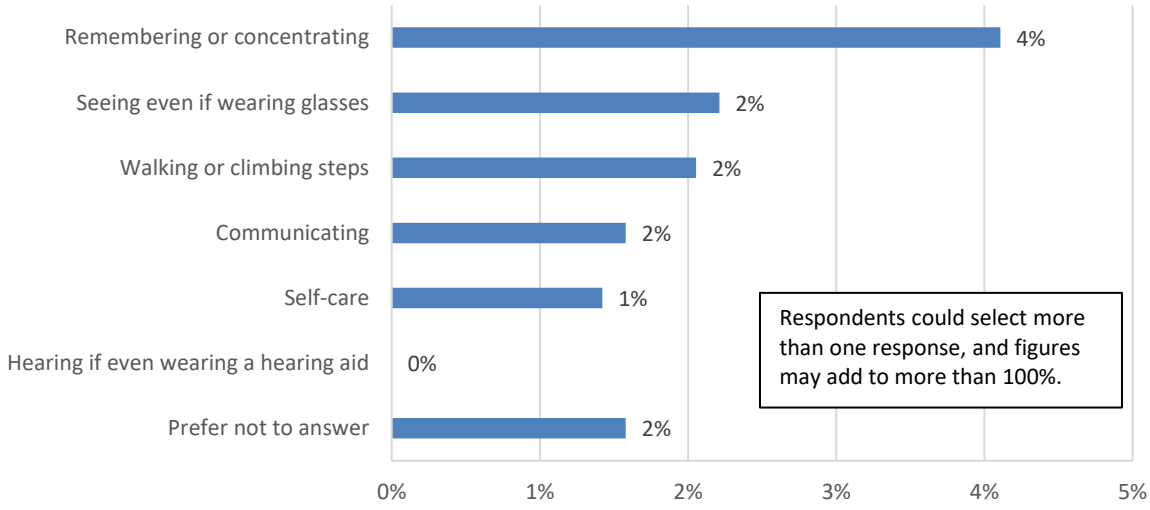
Respondents were asked if they belonged to certain other demographic groups. Fifteen percent of respondents reside in affordable housing, and 13 percent of those who responded said they identify as a person with a disability (see Figure 30). Additionally, 5 percent identify as a member of the LGBTQIA community, and 3 percent serve on active duty in the U.S. Armed Forces.

Figure 30: Respondents' belonging to particular demographic groups



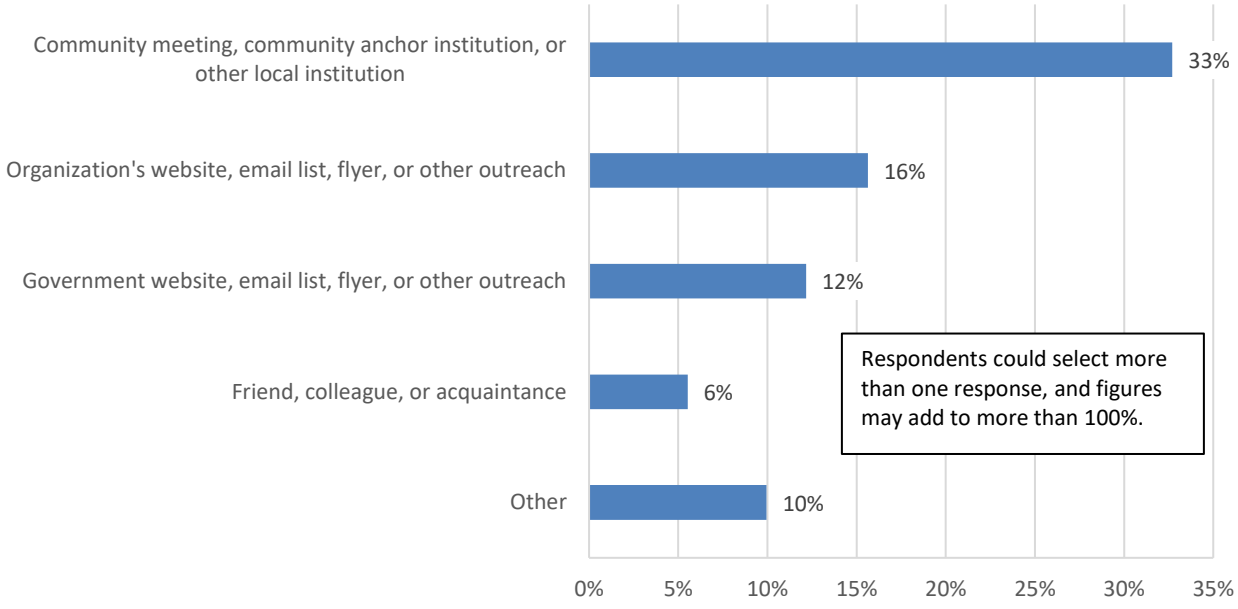
Additionally, respondents were asked if they faced difficulty in a variety of areas, as shown in Figure 31. Most respondents did not indicate any areas of difficulty. A small segment of respondents does face difficulties, such as with remembering or concentrating (4 percent), seeing even if wearing glasses (2 percent), walking or climbing steps (2 percent), communicating (2 percent), and self-care (1 percent).

Figure 31: Areas of difficulty for respondents



Respondents learned about the survey through a variety of sources, including 33 percent who heard about it from community meeting or community anchor institution, such as a library, school, or other local institution (see Figure 32).

Figure 32: Where respondents heard about survey



7 Federal funding may be a long-term resource to advance digital equity goals in Peabody

The City's digital equity and inclusion priorities may be supported by the federal funding and programs stemming from the Infrastructure Investment and Jobs Act and the Digital Equity Act.

7.1 Digital Equity Act funding

The Digital Equity Act allocates $2.75 billion in federal funding to support three national programs intended to create opportunities for state and local entities to strengthen digital equity and inclusion within their communities.[34]

The Digital Equity Act allocates $60 million for planning grants for states, territories, and Tribal governments to develop State Digital Equity Plans. MBI is the lead agency for Massachusetts and is responsible for conducting the planning process and drafting the state Plan with a $1 million federal grant under this program. At the time this report was provided to the City, the Plan was in the process of being finalized for submission to the NTIA.

These state plans incorporate extensive outreach, partnerships, data collection and needs assessments to identify solutions to expand digital inclusion and promote the adoption and use of high-speed broadband services. The state plans will also analyze and incorporate any digital equity plans developed by local or regional jurisdictions in the state as a source of local information and input to develop larger state goals.

Each state's planning and recommendations will be directed especially toward ensuring that underrepresented and high-needs "covered populations" have the skills, capacity and tools to connect, including the aging, formerly incarcerated, veterans, racial and ethnic minorities, people with disabilities, low-income households and those living in rural areas. MBI conducted a grant program using a portion of these planning funds to distribute targeted funding to nonprofits across the state to support outreach and planning for the state's digital equity plan.

The state digital equity plans set the stage for the $1.44 billion Digital Equity Capacity Building Grant Program, expected to launch in the second half of 2024 and allocate funding over the course of several years. Under this program, states will apply for funding to support the implementation of their digital equity plans. States will receive funding based on a legislatively mandated allocation formula. Once received, states will have five years to use this federal funding to develop their own digital inclusion projects, including competitive grant programs for activities by state agencies, local governments, non-profits, and others.

[34] "Digital Equity Act Programs," NTIA, https://broadbandusa.ntia.doc.gov/funding-programs/digital-equity-act-programs.

Following the Capacity Building Grant Program, NTIA will likely begin to implement the $1.25 billion Digital Equity Competitive Grant Program in 2025. This direct funding program will award individual grants to eligible entities, including state and local governments and agencies, Tribal entities, nonprofits, and community anchor institutions. Rules and funding priorities are still being developed, but recipients will have four years after notice of the award to expend these grants that will likely focus almost exclusively on the needs of underrepresented "covered populations" to connect through digital equity and inclusion programs. Funding likely will support programs that address affordability of services and devices, provide education and tools to increase privacy and cyber security while on-line, develop digital literacy and technical skills for personal and professional growth, and provide technical support and training for repair and updates to devices.

7.2 MBI also administers several programs funded by the American Rescue Plan Act (ARPA)

The ARPA State and Local Fiscal Recovery funds went to both the State of Massachusetts and directly to local jurisdictions. Through MBI, the state has allocated $75 million in state ARPA funding to digital equity and directed $50 million to grants through its Broadband Innovation Fund (Digital Equity Partnership & Municipal Digital Equity Planning). There are no grant programs under ARPA that are currently accepting funding applications, but the City should monitor state and local opportunities for future ARPA grant programs, including those that MBI may release. [35]

These opportunities could support the recommendations above, including digital literacy training, device distribution programs, and subsidies for low-income households for services. The City could consider taking advantage of future opportunities through a direct application for funding, or, as part of it convening activities, work with local organizations and EDIC to encourage them to apply for projects that will benefit Baltimore City residents.

The state also has $175 million in Capital Projects Fund resources from ARPA. The state will focus this funding on broadband infrastructure construction and deployment.

7.3 MBI will be launching a direct grant program in February for the implementation of current digital equity planning activities

MBI is launching its direct grant program for municipalities to access implementation funds to carry out the efforts proposed through this and similar reports and other local digital equity programming activities. MBI says the application period is set to open in February, and close on

[35] The Municipal Digital Equity Planning Program is still open and accepting applications for additional cities and towns in Massachusetts.

June 30, 2024. The purpose of this funding is to enable municipalities to access direct grants to implement digital equity strategies identified through ongoing planning activities. This money is intended to help municipalities to make local digital equity investments that will increase access, adoption, and usage of the internet for populations most impacted by the COVID-19 pandemic.

Any municipality that has participated in the Municipal Digital Equity Planning Program or has a pre-existing local digital equity plan or related document can apply for this implementation funding. The City of Peabody should start its application for these funds immediately, using this report and ongoing conversations with local organizations as a guide.

7.4 The federal Public Works and Economic Adjustment Assistance Program has opportunities for distressed communities

The Economic Development Administration (EDA) of the U.S. Department of Commerce administers Local Planning and Technical Assistance Programs as well as federal Public Works and Economic Adjustment Assistance Program funding opportunities for a wide variety of projects with a current allocation of $161 million nationwide.[36]. These programs are designed to address needs in economically distressed areas, and projects must meet specific criteria to show the project area is economically distressed. While this federal agency does not receive many broadband applications, communities that can show broadband is needed as an element of their economic development plan may have a strategic advantage.

Grants made under these programs will help communities plan, build, innovate, and put people back to work through infrastructure construction or non-construction projects designed to meet local needs. EDA encourages applicants to present "new ideas and creative approaches to advance economic prosperity in distressed communities" [37] and will consider projects that incorporate priorities related to equity, entrepreneurship, and workforce development. Several of the recommendations and projects discussed above could be eligible for funding under these programs.

Peabody must apply the "distress criteria"—high unemployment rates or low per capita income relative to the national average—to identify areas and neighborhoods that can take advantage

[36] U.S. Economic Development Administration, Public Works and Economic Adjustment Assistance Programs, Notice of Funding Opportunity, at p. 10 (EDA was appropriated $121.5 million for the Public Works funding program), https://www.grants.gov/search-results-detail/346815; U.S. Economic Development Association, Planning and Local Technical Assistance Programs, Notice of Funding Opportunity, pg. 7 (U.S. EDA was appropriated $43.5 million for these programs), https://www.eda.gov/sites/default/files/filebase/files/programs/eda-programs/FY21-23-Planning-and-LTA-NOFO_FINAL.pdf

[37] U.S. EDA Planning and Local Technical Assistance NOFO. at p. 5 and U.S. EDA Public Works and Economic Adjustment Assistance Programs NOFO at p. 4.

of this opportunity.[38] It is also helpful to consider that projects with a significant showing of "distress" through extremely high unemployment or low per-capita income will generally have the lowest match requirements, and thus more flexibility in how it designs its projects. Peabody should further review the requirements for this program to determine if it will be an applicable source of funding, but it also may encourage other partners to also apply.

7.5 The Federal Communications Commission's E-Rate program can bring discounted services to schools and libraries in the area

The Federal Communications Commission's E-Rate program was created in 1996 to enhance access to advanced telecommunications and information services for all public and nonprofit elementary and secondary school classrooms and libraries.[39] E-Rate is one of four programs comprising the Universal Service Fund (USF) and is funded by fees paid by telecommunications companies to fulfill the Congressional goals of universal service.

Currently, E-Rate is a $4.27 billion federal funding program managed by the Universal Service Administrative Company (USAC) that approves and provides subsidy discounts for telecommunications and information services for schools and libraries. In late 2023, the FCC made the latest addition to the list of eligible services by approving subsidies for Wi-Fi services on school buses as an eligible program expense to help close the "homework gap" for students with limited broadband access at home.

Eligible schools and libraries identify goods or services they need and submit a request for competitive bids to USAC who then posts these requests on its website for vendors to bid on. After reviewing the vendors' bids, the school or library selects the most cost-effective eligible products and services using price as the primary factor. It then applies to USAC for approval for the desired purchases.

Funds are awarded as discounts ranging from 20 to 90 percent of the eligible costs and discount levels are based on the poverty level of the schools. Rural schools and libraries may also receive a higher discount. Recipients must pay a portion of the service costs. Often, schools and libraries will form consortia to centralize and manage the E-Rate application, reporting, and budgeting processes within a central point of contact.[40]

[38] U.S. EDA Planning and Local Technical Assistance NOFO. at p. 11.
[39] Universal Service Administrative Co., E-Rate, https://www.usac.org/e-rate/
[40] Universal Service Administrative Co., E-Rate, Consortia, https://www.usac.org/e-rate/applicant-process/before-you-begin/consortia/

Eligible schools and libraries in Massachusetts received $10.1 million in E-rate disbursements in 2023.[41] The Massachusetts Board of Library Commissioners[42] tracks E-Rate participation by libraries and library networks and provides information and resources about the program. The Department of Elementary and Secondary Education's Office of Digital Learning provides similar outreach and education for schools.[43] While Massachusetts does not manage a state-wide consortium, several of the State's library networks and school districts participate in E-Rate, including the Peabody School District.

[41] Universal Service Administrative Co., E-Rate FRN Status Tool FY2016+, https://opendata.usac.org/E-Rate/E-Rate-FRN-Status-Tool-FY2016-/8xzh-ytkh
[42] E-rate in Massachusetts Libraries, https://mblc.state.ma.us/programs-and-support/e-rate/index.php
[43] Technology Planning and Sustainability, E-Rate, https://www.doe.mass.edu/odl/planning-funding/E-rate/

Appendix A: MBI survey

MBI
MASSACHUSETTS BROADBAND INSTITUTE
at the MassTech Collaborative

Massachusetts Statewide Digital Equity Survey

The Massachusetts Broadband Institute (MBI) wants to hear from you about your experiences with getting and using internet service! This survey is completely anonymous and should be completed by one individual per household. **Your feedback is vital to understand barriers to internet access, affordability, and adoption to help close the digital divide.** Thank you for your time and participation.

Section 1: Please answer the following questions.

1. What is your zip code? _____
2. Which Massachusetts municipality do you live in? _____

Do you have internet service in your home?

- ☐ **YES** – Please proceed to Section 2 below
- ☐ **NO** – Please skip to Section 3 (flip this page over)

Section 2: Please answer the following questions only if you CAN connect to the internet from home.

3. Who is your internet service provider? _____
4. What kind of internet service do you have at home? Please check all that apply.
   - ☐ A data plan for a smartphone, hotspot, or tablet
   - ☐ Home wireline connection (cable, fiber, DSL, etc.)
   - ☐ Dial-up internet
   - ☐ Satellite internet
5. How well does your home internet service work?
   - ☐ Good enough to meet my household's needs
   - ☐ Not good enough to meet my household's needs
   - ☐ I don't know
6. Is your home internet service bundled with other services such as telephone or TV?
   - ☐ Yes
   - ☐ No
7. How much do you pay for the internet every month? $_____
8. How hard is it for you to pay your internet bill?
   - ☐ Very hard
   - ☐ Somewhat hard
   - ☐ Not too hard
   - ☐ Not at all hard
9. Have you heard about the Affordable Connectivity Program (ACP) that provides discounted internet service for low-income households?
   - ☐ Yes
   - ☐ No
   - ☐ I don't know

   For more information and to find out if you qualify for ACP, call the Federal Communication Commission's ACP Support Center: 877-384-2575.

When complete, skip to section 4 below.

Section 3: Please answer the following questions only if you CANNOT connect to the internet at home.

10. If you do not have internet service in your home, what is the reason?
    - ☐ Service is not available in my area
    - ☐ Service is too expensive
    - ☐ I am concerned about online privacy or safety
    - ☐ I don't feel confident navigating the internet or using online tools
    - ☐ I can't afford or access a device to use the internet
    - ☐ I don't want / don't use the internet.
    - ☐ Other (please specify): _____

11. If you do not have internet at home, where do you go to use the internet? Please check all that apply.
    - ☐ A workplace
    - ☐ A friend or family member's home
    - ☐ School, college, or university
    - ☐ A library or community center
    - ☐ A business such as a restaurant, cafe, or bookstore (e.g., McDonald's, Taco Bell, Starbucks, etc.)
    - ☐ A public space such as a park or government building
    - ☐ On public transit
    - ☐ I do not regularly access internet in these or any other spaces
    - ☐ Other (please specify): _____

When complete, proceed to section 4 below.

Section 4: All respondents should answer these questions.

12. Does everyone in your household have access to the computer devices they need to meet their everyday needs for internet use? (Computers, smartphones, tablets, or other internet enabled devices)?
    - ☐ Yes
    - ☐ No

13. Which of the following devices do you use most of the time to connect to the internet? (Check all that apply)
    - ☐ Cellphone
    - ☐ Desktop computer
    - ☐ Laptop computer
    - ☐ Tablet (or similar device)
    - ☐ Other (please specify): _____

14. How much would you be able to pay for a laptop or desktop computer?
    - ☐ $0-50
    - ☐ $50-100
    - ☐ $100-150
    - ☐ $150-250
    - ☐ $250-500
    - ☐ More than $1,000

15. Are you able to regularly use the internet for online activities?
    - ☐ Yes
    - ☐ No

16. Please rank the level of difficulty for what you use the internet for. (Easy, Not easy, Hard)

	Easy	*Not easy*	*Hard*
Searching and applying for a job	☐	☐	☐
Health care or telehealth services	☐	☐	☐
Participating in your local community	☐	☐	☐
General internet searching	☐	☐	☐
Transportation information	☐	☐	☐
Searching and/or applying for benefits or resources for you or your family	☐	☐	☐

17. If you do not have regular access to the internet, what would most like to use it for if you could?
    - ☐ Searching and applying for a job
    - ☐ Health care or telehealth services
    - ☐ Participating in your local community
    - ☐ General internet searching
    - ☐ Transportation information
    - ☐ Searching and/or applying for benefits or resources for you and your family
    - ☐ Something else
    - ☐ I don't want to use the internet regularly

18. What kind of digital skills support would you be most interested in?
    - ☐ In person classes
    - ☐ Online classes
    - ☐ In person support from a friend or instructor
    - ☐ A do-it-yourself training module

19. How concerned are you, if at all, about internet safety?
    - ☐ Very concerned
    - ☐ Somewhat concerned
    - ☐ Not very concerned
    - ☐ Not at all concerned

20. What are you most concerned about? (Select all that apply)
    - ☐ That my data could get stolen or used without my consent
    - ☐ That I or a loved one could get scammed or tricked
    - ☐ That I could be tracked or surveilled
    - ☐ That I or a loved one could be harassed or abused online

21. Are you aware of tools or resources you can use to stay safe online?
    - ☐ Yes, I have tools and resources I use stay safe online
    - ☐ No, I don't know of any tools or resources to stay safe online
    - ☐ I know of tools or resources to stay safe online, but they don't work for me
    - ☐ Other (please specify) : _____

22. How accessible are online government services like benefits portals, RMV services, or paying for permits or tickets to you?
    - ☐ Very accessible
    - ☐ Somewhat accessible
    - ☐ Not very accessible
    - ☐ Not at all accessible

23. When you have used online government services like benefits portals, RMV services, or paying for permits or tickets, how well did they work for you?
    - ☐ Very well
    - ☐ Somewhat well
    - ☐ Not too well
    - ☐ Not well at all

When complete, proceed to section 5 below.

3

Section 5: All respondents should answer these questions. *We collect demographic information so that we can make sure we are representing all neighborhoods, towns, cities and groups across the Commonwealth.*

24. What is your age?
- ☐ 18 to 24
- ☐ 25 to 34
- ☐ 35 to 44
- ☐ 45 to 59
- ☐ 60 to 74
- ☐ 75 and older
- ☐ Prefer not to answer

25. What is your gender identity?
- ☐ Woman
- ☐ Man
- ☐ Non-binary
- ☐ Gender fluid
- ☐ Other
- ☐ Prefer not to answer

26. How many people, including yourself, currently live in your household? *(Note: A household is defined as all the people who currently occupy the housing unit where you live).*
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8 or more
- ☐ Prefer not to answer

27. How many children under age 18, currently live in your household? *(Note: A household is defined as all the people who currently occupy the housing unit where you live).*
- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 or more
- ☐ Prefer not to answer

28. What is the highest level of school you have completed or the highest degree you have received?
- ☐ Less than high school, or high school incomplete (Up to grades 9-11 or Grade 12 with NO diploma)
- ☐ High school graduate (Grade 12 with diploma or GED certificate)
- ☐ Two-year associate degree from a college or university
- ☐ Four-year college or university degree/Bachelor's degree (e.g., BS, BA, AB)
- ☐ Postgraduate or professional degree, including master's, doctorate, medical or law degree (e.g., MA, MS, PhD, MD, JD)
- ☐ Prefer not to answer

29. Are you of Hispanic, Latino, or Spanish origin, such as Mexican, Puerto Rican, or Cuban?
- ☐ Yes
- ☐ No
- ☐ Prefer not to answer

30. Which of the following best describes your race? (Select all that apply)
- ☐ White or Caucasian
- ☐ Black or African-American
- ☐ Asian or Asian-American
- ☐ Native American/American Indian/Alaska Native
- ☐ Pacific Islander/Native Hawaiian
- ☐ Some other race (please specify) _____
- ☐ Prefer not to answer

31. Do you belong to a North American Indigenous, Native, or Tribal group?
    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to answer

32. What is your total annual household income from all sources, and before taxes?
    - ☐ Less than $22,000
    - ☐ $22,000 to $29,999
    - ☐ $30,000 to $36,999
    - ☐ $37,000 to $44,999
    - ☐ $45,000 to $52,999
    - ☐ $53,000 to $59,999
    - ☐ $60,000 or more
    - ☐ Prefer not to answer

33. Do you identify as a person with a disability? *(Note: Disability is defined as physical, emotional, or mental health conditions that result in limitations of activities or restrictions to full participation at school, at work, at home, or in the community).*
    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to answer

34. If you identify as a person with a disability, do you have difficulty in any of the following areas? Please check all that apply.
    - ☐ Seeing even if wearing glasses
    - ☐ Hearing even if using a hearing aid
    - ☐ Walking or climbing steps
    - ☐ Remembering or concentrating
    - ☐ Self-care
    - ☐ Communicating, for example understanding or being understood
    - ☐ Prefer not to answer
    - ☐ I do not identify as a person with a disability

35. Do you identify as a member of the LGBTQIA+ community?
    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to answer

36. Did you serve on active duty in the U.S. Armed Forces?
    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to answer

37. Do you live in affordable housing? *(Note: Affordable housing is defined as housing subsidized by a housing authority, paid for through a voucher, or in a building run by a private developer.)*
    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to answer

38. Where did you hear about this survey? Please check all that apply.
    - ☐ From a government website, email list, flyer, or other outreach
    - ☐ From a friend, colleague, or acquaintance
    - ☐ From a community meeting, community anchor such as a library or school, or other local institution
    - ☐ From an organization's website, email list, flyer, or other outreach
    - ☐ Other (Please specify) _____

Thank you for taking the survey!

Your response will help shape Massachusetts's policies and future funding allocations to close the digital divide for all its residents. If you would like to learn more, please visit **https://broadband.masstech.org/.**

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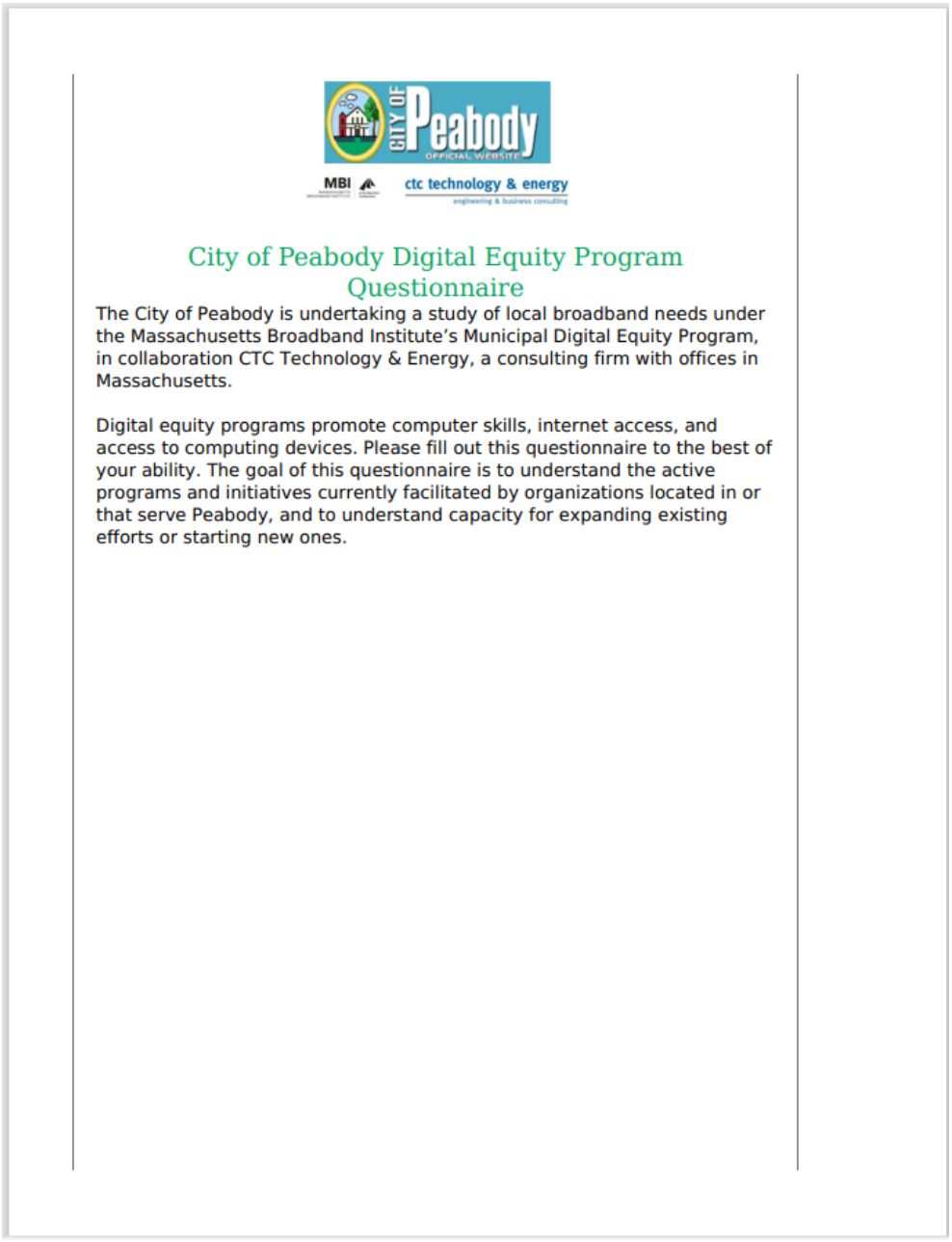
Appendix B: City of Peabody Digital Equity Program Questionnaire



City of Peabody Digital Equity Program Questionnaire

The City of Peabody is undertaking a study of local broadband needs under the Massachusetts Broadband Institute's Municipal Digital Equity Program, in collaboration CTC Technology & Energy, a consulting firm with offices in Massachusetts.

Digital equity programs promote computer skills, internet access, and access to computing devices. Please fill out this questionnaire to the best of your ability. The goal of this questionnaire is to understand the active programs and initiatives currently facilitated by organizations located in or that serve Peabody, and to understand capacity for expanding existing efforts or starting new ones.

1. Which category best describes your organization? Please select all that apply.

- ☐ Public School
- ☐ Community colleges and other institutions of higher education
- ☐ Library
- ☐ Medical and health care providers
- ☐ Municipal government
- ☐ Public housing authority
- ☐ Community organization
- ☐ Workforce development organization
- ☐ Adult literacy organization
- ☐ Internet Service Provider (ISP)
- ☐ Non-profit organization that represents individuals with disabilities
- ☐ Non-profit organization that represents veterans
- ☐ Non-profit organization that represents aging individuals
- ☐ Non-profit organization that represents incarcerated individuals
- ☐ Non-profit organization that represents English learners
- ☐ Other (please specify)

2. Has your organization created a broadband and/or digital equity plan?

- ◯ Yes
- ◯ No

3. Please provide the information for a point of contact in your organization.

Name	
Organization name	
Email address	
Phone number	

MBI ctc technology & energy
engineering & business consulting

City of Peabody Digital Equity Program Questionnaire

Digital Equity Programs Introduction

Digital equity programs aim to ensure that communities, our residents and visitors to Peabody have the skills, technology, and capacity to use broadband to its fullest extent. Examples of digital equity programs include those that promote computer skills, internet access, and computing device access.

4. What do you believe are the most pressing challenges associated with digital equity and access in Peabody, and for whom?

* 5. Does your organization offer digital equity programs?

- ◯ Yes
- ◯ No

City of Peabody Digital Equity Program Questionnaire

Program Details

We want to collect data on all digital equity **programs you currently provide**. Please record as many details as you can about the program you offer. If your organization has more than one active digital equity program, there is an opportunity for you to answer the same questions for a second program.

6. What is the name of the project?

Project name

7. What aspects of digital equity does the program address? Check all that apply.

- ☐ Availability and affordability of internet
- ☐ Digital literacy
- ☐ Cybersecurity
- ☐ Devices and technical support
- ☐ Online accessibility and inclusivity

8. Please describe the program in a few sentences:

9. Does the program focus on certain populations? Check all that apply.

- ☐ Individuals with disabilities
- ☐ Veterans
- ☐ Aging individuals (60 and above)
- ☐ Incarcerated individuals
- ☐ 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
- ☐ Individuals whose household income is lower than 150% of the poverty level
- ☐ No particular focus on a population
- ☐ Other (please specify)

10. What is the annual project budget?

Cost in dollars

11. How much does the program cost to each participant?

Cost in dollars

12. What is the cost per participant served?

Cost in dollars

13. Please give us a sense of the geography you serve.

- ◯ Municipal-wide
- ◯ Neighborhood-wide
- ◯ Other (please specify)

14. How long has the program been active, in months?

Program length in months

15. How many people were served by the program in the last fiscal year?

- ◯ Under 25 people
- ◯ 26 to 50 people
- ◯ 51 to 100 people
- ◯ More than 100 people
- ◯ Other (please specify)

16. How many participants do you expect to serve over the life of the program?

- ◯ 1 to 50
- ◯ 51 to 100 people
- ◯ 101 to 250 people
- ◯ 251 to 500 people
- ◯ More than 500 people

17. If you had the resources, would you want to scale the project to serve more people?

- ◯ Yes
- ◯ No

* 18. Does your organization have another digital equity program?

- ◯ Yes
- ◯ No

City of Peabody Digital Equity Program Questionnaire

Digital Equity Program #2

19. What is the name of the project?

Project name

20. What aspects of digital equity does the program address? Check all that apply.

- ☐ Availability and affordability of internet
- ☐ Digital literacy
- ☐ Cybersecurity
- ☐ Devices and technical support
- ☐ Online accessibility and inclusivity

21. Please describe the program in a few sentences:

22. Does the program focus on certain populations? Check all that apply.

- ☐ Individuals with disabilities
- ☐ Veterans
- ☐ Aging individuals (60 and above)
- ☐ Incarcerated individuals
- ☐ 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
- ☐ Individuals whose household income is lower than 150% of the poverty level
- ☐ No particular focus on a population
- ☐ Other (please specify)

23. What is the annual project budget?

Cost in dollars

24. How much does the program cost to each participant?

Cost in dollars

25. What is the cost per participant served?

Cost in dollars

26. Please give us a sense of the geography you serve.

- ◯ Municipal-wide
- ◯ Neighborhood-wide
- ◯ Other (please specify)

27. How long has the program been active, in months?

Program length in months

28. How many people were served by the program in the last fiscal year?

- ◯ Under 25 people
- ◯ 26 to 50 people
- ◯ 51 to 100 people
- ◯ More than 100 people
- ◯ Other (please specify)

29. How many participants do you expect to serve over the life of the program?

- ◯ 1 to 50
- ◯ 51 to 100 people
- ◯ 101 to 250 people
- ◯ 251 to 500 people
- ◯ More than 500 people

30. If you had the resources, would you want to scale the project to serve more people?

- ◯ Yes
- ◯ No

31. Does your organization have another digital equity program?

- ◯ Yes
- ◯ No

City of Peabody Digital Equity Program Questionnaire

Planned Programs

We would like to collect information on any digital equity programs your organization is currently in the process of planning but has not yet implemented. Please record as many details about the upcoming program as possible.

* 32. Is your organization in the process of developing a digital equity program?

- ◯ Yes
- ◯ No

City of Peabody Digital Equity Program Questionnaire

Planned Programs

33. What kind of digital equity program(s) is your organization developing? Please select the categories that best fit the program type.

- ◯ Digital skills and literacy
- ◯ Data privacy and cybersecurity
- ◯ Devices (Laptops, computers, tablets)
- ◯ Technical support
- ◯ Digital navigators
- ◯ Broadband access
- ◯ Creating accessible and inclusive internet content

34. What is the annual budget need?

35. What else do you need to launch the program?

36. What work (if any) has already been completed to launch the new program?

City of Peabody Digital Equity Program Questionnaire

Future Programs

We would like to hear about any interest your organization has in developing a project in the future to address current gaps in digital equity. Please fill this section out if you have interest in digital equity programming but have not yet started the process of planning for that program.

37. Does your organization want to develop a digital equity program?

- ◯ Yes
- ◯ No

38. What kind of digital equity program(s) is your organization interested in developing? Please select the categories that best fit the program type.

- ☐ Digital skills and literacy
- ☐ Data privacy and cybersecurity
- ☐ Devices (Laptops, computers, tablets)
- ☐ Technical support
- ☐ Digital navigators
- ☐ Broadband access
- ☐ Creating accessible and inclusive internet content

39. What are the most pressing needs you are trying to address?

40. What do you need to launch the program?