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State of Nebraska Digital Equity Plan: Understanding the Digital Equity Needs of Covered Populations in Nebraska

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STATE OF NEBRASKA DIGITAL EQUITY PLAN

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Understanding the Digital Equity Needs
of Covered Populations in Nebraska



Ainsworth Cell Tower



Ainsworth Community Senior Center Focus Group



Do Space Focus Group



Intercultural Senior Center Focus Group



Do Space

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- ◆ Krystal Rider, director, Do Space
- ◆ Dalia Pacheco, program director, Centro Hispano

INTRODUCTION

According to 2021 estimates from the U.S. Census Bureau’s American Community Survey, 7% of Nebraska households do not have access to a computer and 6% of Nebraska households have access to a computer but no internet. Although recent efforts suggest there is momentum and government action at both the federal and state levels to address lack of broadband (Hammel, 2023; Newman, 2023), this still leaves a considerable number of Nebraskans without access to reliable broadband in the meantime. Furthermore, broadband access is moot if Nebraskans do not have access or cannot afford technology and the cost of internet in the first place. The purpose of this report is to take a deeper look at specific covered populations in Nebraska who are more likely to be without affordable, reliable technology access and, therefore, are disproportionately impacted by the digital divide. The research team, representing the University of Nebraska at Omaha Center for Public Affairs Research and Department of Gerontology, was approached by the Nebraska Information Technology Commission to conduct focus groups with covered populations. Key findings from focus groups are shared. Findings indicate that access to technology and internet is not only vital for all Nebraskans but is also cost-prohibitive for already marginalized populations. Moving forward, these findings will inform the creation of a state digital equity plan for Nebraska.

BACKGROUND

Since the mid 1990s, concerns about inequities related to the access and usage of computing devices (e.g., computers, tablets, mobile and smartphones) and the internet (Mossberger et al., 2003) have been observed. These inequalities have become generically known as the digital divide, a gap between those who have affordable access and skills to effectively engage online and those who do not (National Digital Inclusion Alliance, NDIA, n/d). In the U.S., the digital divide disproportionately affects people of color, people with disabilities, older adults, those living in low-income households, and those in rural areas (Atske & Perrin, 2021, Perrin & Atske, 2021; Vogels, 2021; NDIA, n/d).

The consequences of digital inequity are vast, including disengagement with the labor market, education systems, healthcare, and lower rates of civic engagement, as just some examples (Norris, 2001; Mossberger et al., 2003; Ochillo 2022). As Ochillo (2022) notes: “Americans who perpetually struggle with the ability to get online continually lag behind their connected counterparts in earning power, lifelong learning, healthcare options, and political clout. Meanwhile, those with reliable high-speed internet access, digital dexterity, and ready access to computing devices will continue to produce some of the most influential digital architects of our

According to the Digital Equity Act of 2021 – established by the Infrastructure Investment and Jobs Act – the U.S. Census Bureau and the National Telecommunications and Information Administration identified eight different “covered populations” (U.S. Census Bureau, 2023). Covered populations have historically experienced lower rates of computer and internet use overall. The Nebraska Information Technology Commission has adopted this term for the current study. The covered populations included in the Digital Equity Act of 2021 include:

- ◆ Persons who are 60 years of age or older
- ◆ Incarcerated individuals
- ◆ Veterans
- ◆ Persons with disabilities
- ◆ Members of racial and ethnic minority groups
- ◆ Rural residents
- ◆ Individuals with a language barrier, including English-language learners or those who have low literacy levels
- ◆ Individuals living in households with incomes not exceeding 150 percent of the poverty level

time as they enjoy unmatched opportunities for well-being, longevity, and wealth” (p. vii). More recently, the COVID-19 pandemic exacerbated the digital divide, especially among already marginalized populations (Ochillo, 2022; Nguyen et al., 2021).

The stakes are high for all Americans because digital equity manifests in disparate levels of access to education, employment, economic services (e.g., banking, shopping, tax information), healthcare, as well as rich opportunities for social engagement and civic participation. A marked lack of broadband access can also lead to social isolation. One scholar representing the Imagining the Internet Center at Elon University commented, “[Without reliable internet] your ideas don’t get heard. You can’t contribute. And also, you can’t benefit from the resources and opportunities that can only be accessed online” (Pattman, 2021, p. 6). A specialist at the Greenlining Institute—an organization dedicated to helping communities of color build wealth—argues that internet access is an essential service and ought to be treated as such (Quaintance, 2022, p. 1).

Numerous efforts exist to date to close the digital divide; however, any effort to do so will have to address the “three-legged stool” of digital inclusion: availability, access, and adoption (Siefer and Callahan, 2020; Hegle & Wilding, 2019).



How does infrastructure enable broadband construction, activation, and maintenance?



How widespread is the coverage? How many residents have access to coverage? Do the characteristics of residents (such as age or income) adversely affect their ability to use services? How does access impact affordability and speed?

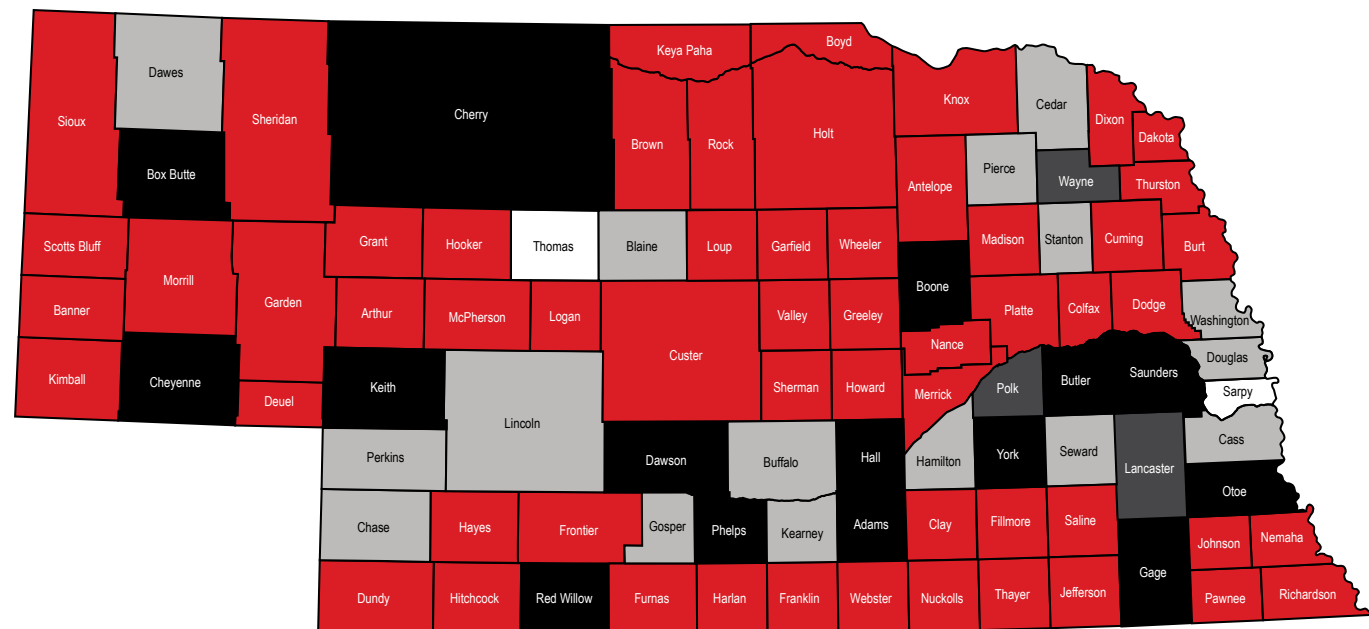


Are residents equipped to have services set up and usable at home and/or on a mobile device? Do residents know how to use each service on each device when needed and how to resume service after an interruption? To what extent do residents possess digital literacy skills?

All three issues exist in Nebraska to date. Based on prior reports, specific digital equity issues facing Nebraskans include the cost of monthly service for both computers and smart phones, user knowledge of available services and programs, and existing or planned infrastructure for increasing broadband access (Central Nebraska Economic Development District, 2023; Rural Broadband Task Force, 2021; Hegle & Wilding, 2019). Hardware, software, and quality internet service must all come together in confluence for individuals and communities to fulfill their digital needs. Quality in service is comprised of speed, both *upstream* (for sending or uploading content) and *downstream* (for receiving or downloading content). A recent example of these needs is discussed in a 2023 report from the Central Nebraska Economic Development District that includes a regional inventory of assets to address barriers of internet access, digital skills and tech support, access to devices, and user applications and services. As such, bridging these digital gaps for covered populations is of high importance to communities in Nebraska.

Population lacking computer or internet

15% or more
 12.5% to 14.9%
 10.0% to 12.4%
 7.5% to 9.9%
 Less than 7.5%



Source: National Telecommunications and Information Administration and the U.S. Census Bureau. (2023). Digital Equity Act Population Viewer.

The map above depicts the percent of the population that is lacking a computer or internet by Nebraska counties. The interactive map tool was developed by the NTIA and the U.S. Census to highlight demographic and broadband availability by state. Various layers can be included when mapping, such as covered populations, population lacking fixed internet, population lacking computer or internet, population not using the internet, and population not using a device. Additional information is provided about the eight covered populations identified in the Digital Equity Act.

Additionally, there are market tensions in the delivery of internet access that makes ensuring access more difficult, especially for covered populations. For example, rural residents have a range of access issues. A rural resident of North Carolina portrayed the situation as such: “[Internet service providers] want to put more money into fiber optics and making it faster and faster and faster instead of building more towers and running more lines. They cater to what they already have” (Pattman, 2021, p. 5). There is also the “last mile problem” affecting many rural residents who live near population centers with broadband, but not near enough to have quality service inside their homes.

While many efforts to address the digital divide exist to date, few have benefitted all residents of an area. Other research demonstrates that populations of color have not been benefiting from programs to expand coverage. For example, Siefer and Callahan (2020) found, “most Americans who have a chance of benefiting from federal spending on rural broadband deployment subsidies are non-Hispanic white” (p. 1).

Another underrepresented group is students. In 2020, data published by the Pew Research Center indicated that nearly 60% of eighth graders rely on internet access daily or “almost every day” in order to complete their

homework (Auxier & Anderson, 2020, p. 2). Studies note that often students and families without convenient library access may resort to driving to a parking lot with a hot spot or frequenting commercial establishments, such as coffee shops, that offer free Wi-Fi. Hibbler-Britt (2020) notes, “With low internet access, students are reduced to using neighbors’ service, going to the library, or sitting outside of the local Wal-Mart or other businesses that offer free internet access” (p. 35). Personal hotspots are an option but typically result in high costs. Moreover, lack of quality broadband meaningfully inhibits children’s educational potential and all family members’ social connections.

Age is also of interest to researchers studying digital equity: older Americans are often ill-equipped to handle routine tasks such as completing electronic forms and applications, accessing services, or finding critical information if they do not have adequate digital access (Nash, 2019). Individuals without home broadband may find that their local public library is a viable option for meeting some of their internet needs, provided that a library is available and within a reasonable transportation radius.

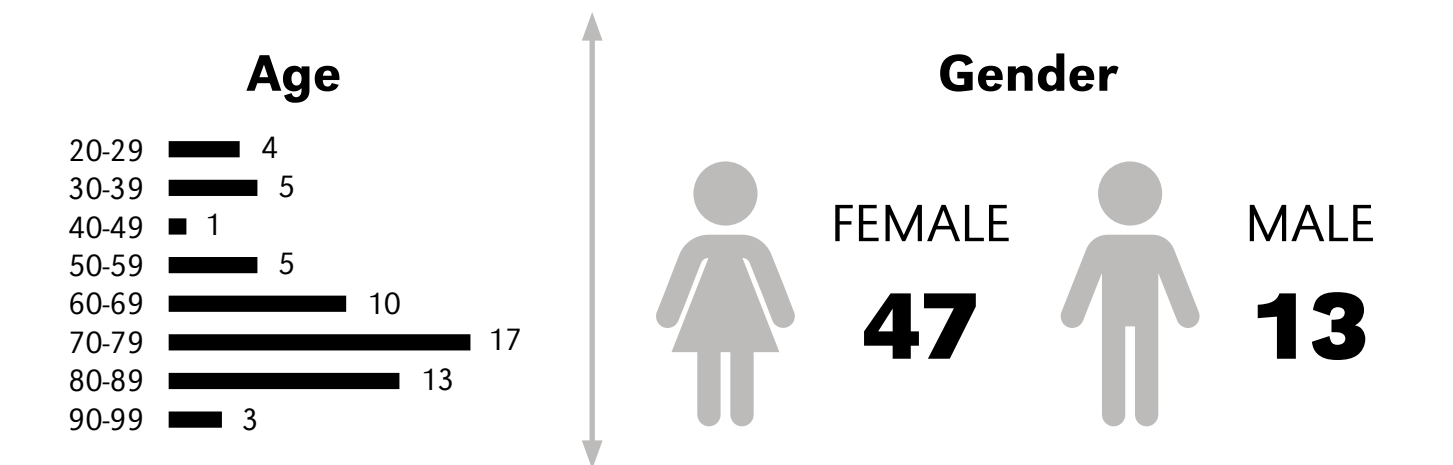
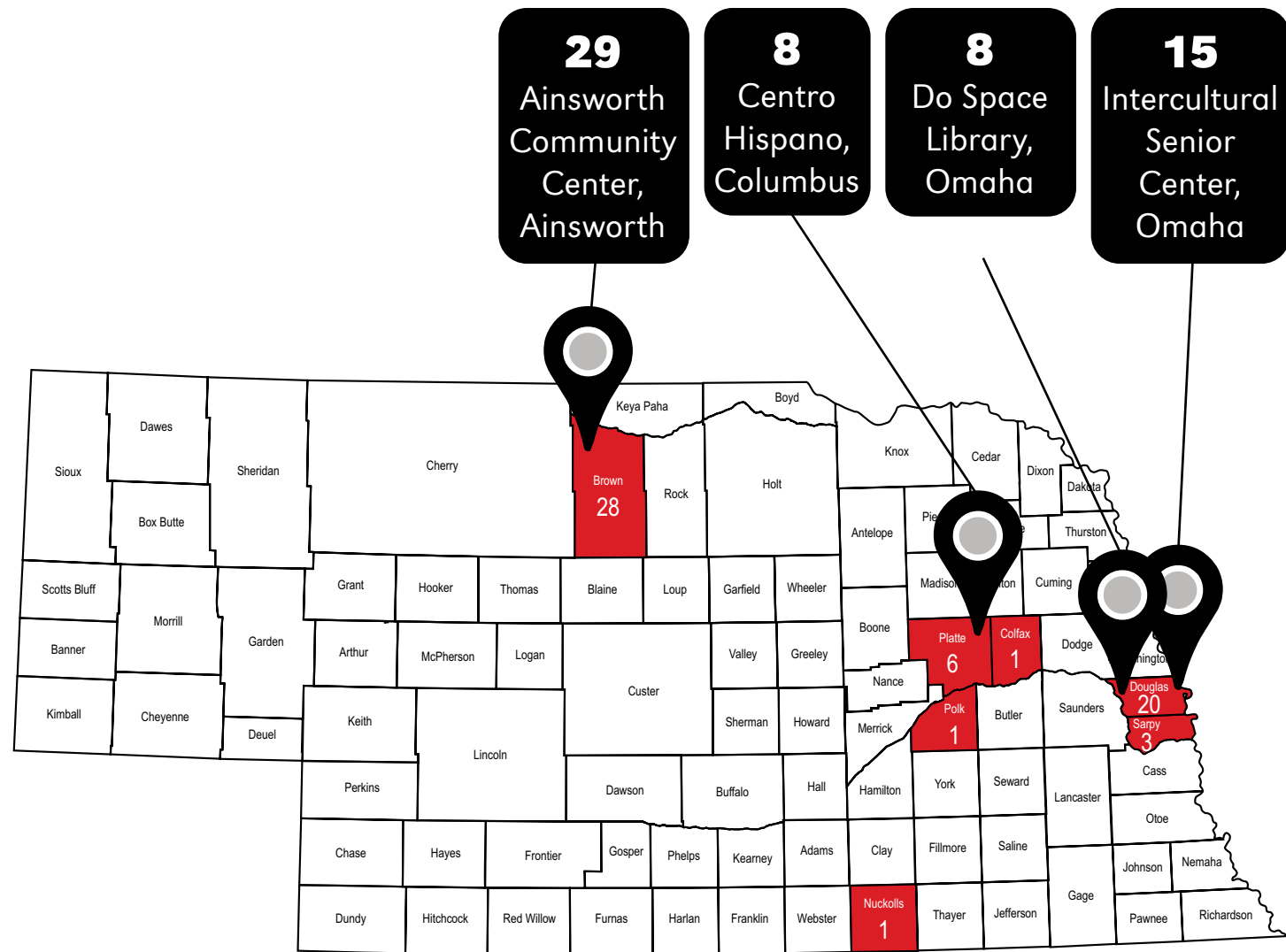
Nebraska, a largely rural state, was the fourth highest state on a 2021 USDA survey of ranchers and farmers who rely on high-speed internet for agricultural technology (Dejka, 2023, p. 1). There is now a multi-million-dollar effort underway to make broadband more accessible—and faster—for the estimated one-third of Nebraskans who lack adequate support for both home (computer) and mobile (phone) service. The plan will include community engagement around the proposed updated service maps, which residents can challenge by coordinating their efforts through one of a number of nonprofit organizations, internet service providers, and municipal offices involved in the upgrade (Dejka, 2023).

Living in a rural area is not the only access problem, though; many people in urban areas do not have equitable digital access and these inequities are exacerbated by investments restricted to low-density populations carrying an official ‘rural’ classification based on U.S. Census data. In fact, federal over-investment in rural-focused initiatives siphons off resources that may otherwise be available to those in need in urban communities. Previous research from the National Digital Inclusion Alliance found that “there are millions more people living in households with no broadband in big cities and urban counties than there are in the most rural and covered counties” (Siefer & Callahan, 2020, p. 4). Additionally, deficient social infrastructure, resulting from unaffordable, inaccessible, or low quality broadband in some urban areas “contributes to a widening of the divide between advantaged and disadvantaged populations” (Reisdorf et al., 2022, p. 300).

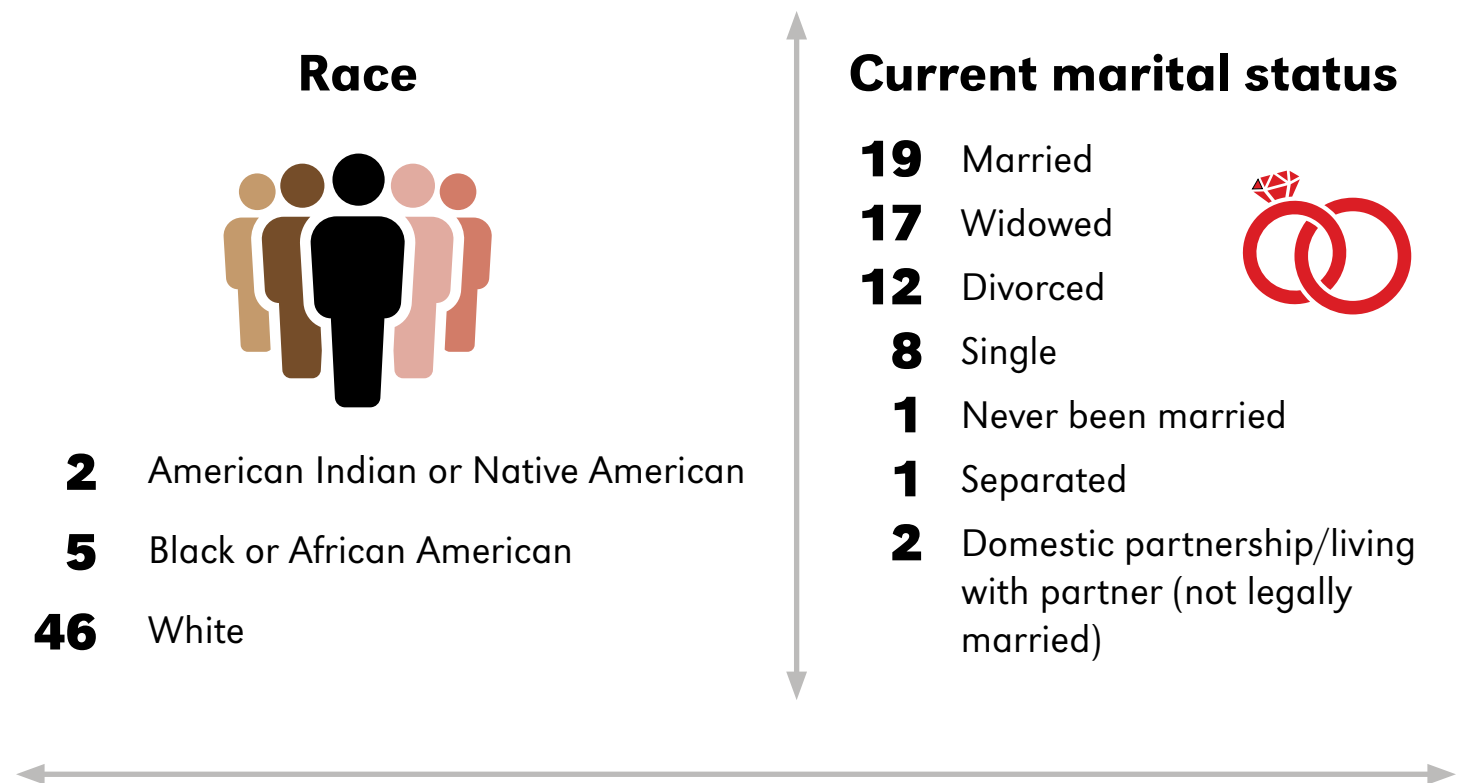
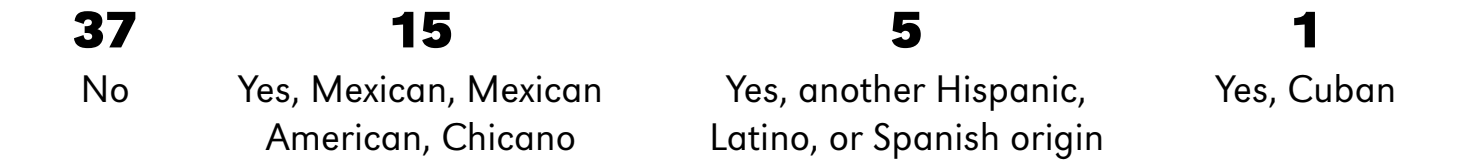
The next section presents findings from four focus groups conducted with covered populations in Nebraska. First, an overview of focus group participant demographics is shared, followed by key findings and themes from focus groups. An overview of the research methodology is provided in Appendix A, along with recruitment and focus group materials. It should be noted that a total of 60 individuals participated in focus group discussions; however, not all participants answered all demographic questions, so the frequency of responses will vary from question to question.

DEMOGRAPHICS

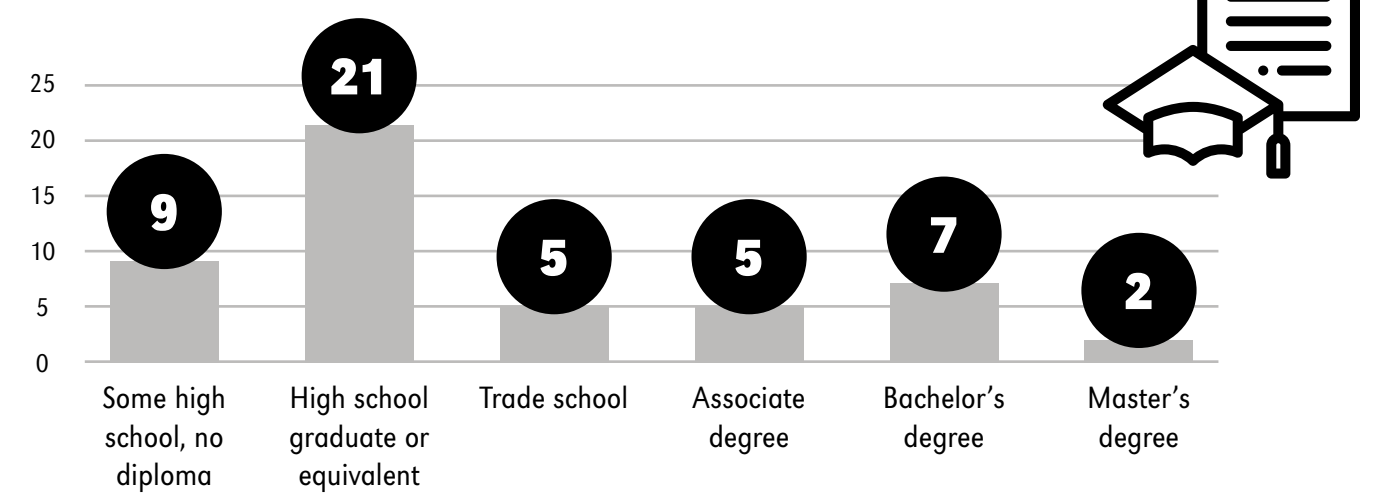
Number of Participants at each Focus Group Location and Counties of Residence



Are you of Hispanic, Latino, or Spanish origin?



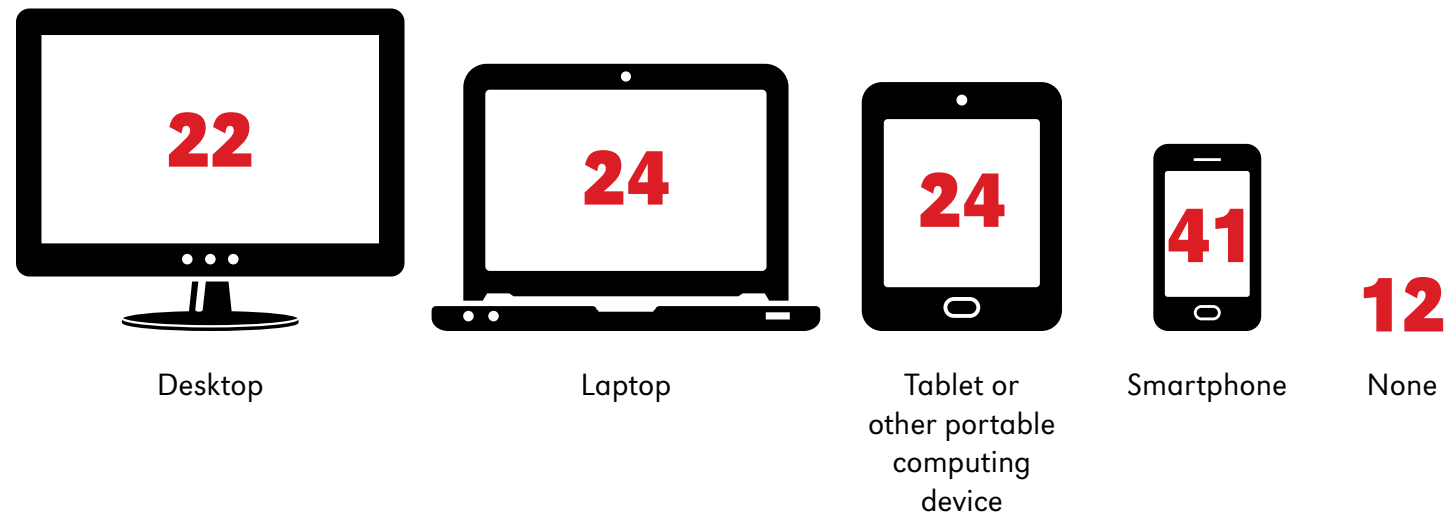
What is the highest level of education you have completed?



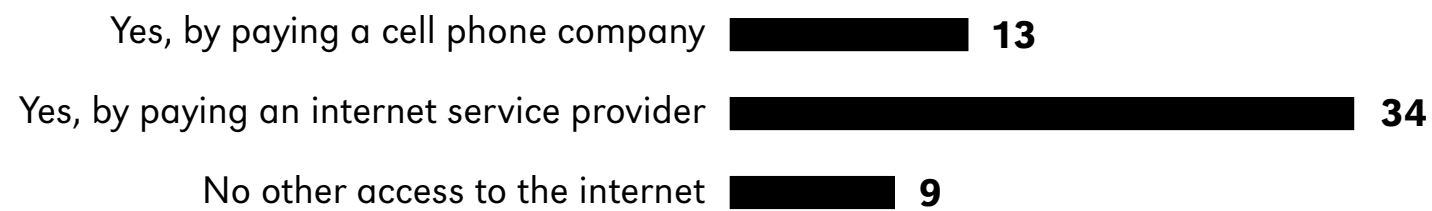
What best describes your current work status?



Do you or anyone in your household own any of the following?



Do you or anyone in your household have access to the internet?



KEY FINDINGS

Access and Usage

Understanding the current context in which Nebraskans access and use technology is the first step to tackling issues of digital equity within Nebraska communities. Focus group participants were asked to share all of the places where they currently access computing devices and the internet.

Common responses included:

- ◆ Using their smartphones
- ◆ Using computers or tablets at home
- ◆ Using computers at local libraries and community centers, such as the Intercultural Senior Center, Catholic Charities, Do Space in Omaha, and Centro Hispano in Columbus

Nearly 30 focus group participants said the primary mechanism they use for accessing the internet is their smartphone. As participants noted later in discussions, while smartphones are a resource and deemed essential in today's high-speed environment, smartphones do have limited capabilities for completing more extensive tasks that require a computer (e.g., homework assignments, job applications, immigration paperwork, etc.). Among participants, 35 said they use a computer, laptop, or tablet at home for access to a computing device and the internet. It should be noted that 13 of those 35 participants only have access to a computing device by participating in technology access programs through Do Space Library and the Intercultural Senior Center, both in Omaha. Therefore, without these programs, findings suggest many vulnerable populations would still lack technology access.

Based on responses, participants use computing devices and the internet for a variety of reasons. Interestingly, top reasons for using computing devices were slightly different based on the composition of participants. For example, for focus groups conducted at the Ainsworth Community Center and Intercultural Senior Center, both of which cater to serving older adults, the top reasons for using computing devices centered around connecting with family and entertainment.

Some examples include:

- ◆ Communicating with grandchildren and family
- ◆ Accessing email and social media sites like Facebook and WhatsApp
- ◆ Online shopping
- ◆ Listening to music and playing games
- ◆ Online banking
- ◆ Using Google to access information

For the focus groups conducted at Do Space and Centro Hispano, which both included younger adults, participants shared different reasons for using computing devices, emphasizing education and job opportunities in addition to expanding social connections.

For example, participants discussed:

- ◆ Using computing devices for creating resumes and submitting job applications
- ◆ Doing research to start their own businesses
- ◆ Completing their GED or adult education classes
- ◆ Completing their immigration paperwork

Again, among younger participants, computing devices are used for household activities like online banking and online shopping, accessing social media, and staying connected with family and friends. Only a handful of participants among all four focus groups said they do not use a computing device and/or the internet, citing lack of knowledge of technology, lack of access to the internet, and language barriers as the primary reasons.

Participants, particularly older adults, shared that they rely on others for help with using their computing devices and internet. Helpers are often grandchildren, caregivers, or neighbors. Close to 30 participants admitted to relying on others for help using their devices. Others mentioned how staff at the specific locations (i.e., Intercultural Senior Center, Centro Hispano, and Do Space) provide assistance for using computing devices and offer technology classes to teach digital literacy skills.

Top Reasons for Using Computing Devices

- ◆ Accessing social media and entertainment apps
- ◆ Connecting with family and friends
- ◆ Applying for jobs
- ◆ Researching information and getting news
- ◆ Taking online classes and training
- ◆ Submitting immigration paperwork
- ◆ Household activities (banking, ordering groceries, etc.)

Barriers to Access

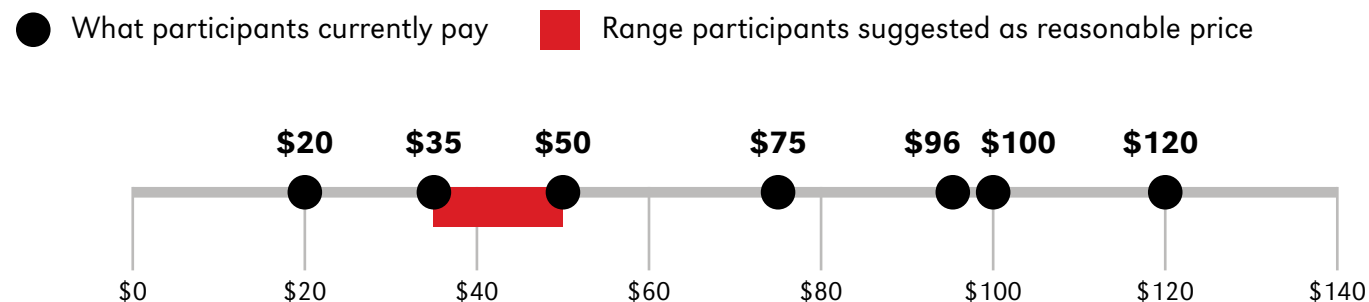
When asked about the major barriers that prevent people from accessing computing devices and the internet, participants engaged in robust discussions about the prominent barriers they face in accessing technology.

Broadly, barriers include:

- ◆ Cost
- ◆ Unstable internet
- ◆ Accessibility of devices and digital formats
- ◆ Lack of knowledge of how to use technology
- ◆ Lack of internet providers in rural areas

Cost

Across focus groups, the number one barrier participants cited for accessing technology was the cost, including both the cost of computing devices as well as the cost of internet service. Put simply, one participant said, "Internet is really, really expensive." Participants were asked to share how much they pay monthly for internet service currently, and pricing ranged from \$20 to \$120. Facilitators also asked participants what they feel is a reasonable price to pay for internet service per month. Across all four focus groups, answers ranged between \$35 to \$50.



Participants also shared suggestions for how internet cost might be addressed. For example, one participant suggested, "Internet price should depend on your budget. It should be a sliding scale. For example, Amazon offers discounts to students or people on SNAP. It should be the same way with internet." Many participants mentioned that finding grants or other resources would be helpful to assist with paying for internet service, but also cautioned that sometimes grants create unintended consequences. For instance, as one participant explained, "The Affordable Connectivity Program is out there for those who need help paying for the internet. But internet companies take advantage of that and increase prices in different areas." Thus, some constraints on internet pricing still seem necessary, particularly in areas where there is a lack of market competition among providers. The cost of internet service was unanimously agreed upon as the most prominent barrier to accessing technology.

Unstable internet

Another barrier participants shared was paying for internet service but frequently experiencing unstable internet. According to one participant, "The wind can blow hard and it's going to go out." Obviously, unstable internet is disruptive for many reasons. For example, participants described instances when the internet goes down and they need it for work or school. This disruption then requires them to go somewhere else, which can be an additional challenge for remote workers if they need a secure network. Some participants said when the internet goes down, they use their mobile hotspot, but that causes an additional cost when their mobile fee goes up. Put simply, one participant said, "When the internet goes down, it shuts us down." Participants also explained that the internet is not as stable when you get it at a reduced price or when it is being overused.

Accessibility of devices and formats

Participants shared that, for some, not having access to the appropriate type of computing device is a major barrier and hampers future opportunities. In short, this is a problem of accessibility. There are some things best viewed on a desktop computer, for example a resume that needs editing. Participants explained that people want to make everything accessible, but sometimes "just accessible" is not a practical solution. As one participant said, "there are layers to accessibility that people don't understand." For example, participants discussed needing to review and submit immigration and legal documents which can be difficult to

“

Internet is so needed that it feels bizarre paying for something that is needed for everything.

“

With inflation, families do not have money to spend on internet even though they need it. When kids are at school, they use [the internet] at school. But when they need it for homework, where do they go?

“

It's frustrating when the internet goes out.

comprehensively review on a tablet or smartphone device. Additionally, several participants shared that applications for state social assistance programs are not mobile friendly and, therefore, are difficult for people to access on a smartphone if they do not own a different computing device.

Lack of knowledge of how to use technology

Many participants acknowledged that they are deficient in technological skills and capabilities. Thus, a barrier to accessing technology or the internet is knowing how to use devices. This was especially prevalent among older adults in focus groups. One participant shared an anecdote that she recently had access to a mobile hotspot provided through the Do Space Tech Pack Program, but the hotspot kept going out. It wasn't until her cousin explained that the hotspot needed to remain plugged in that she understood the problem. Her reaction was "duh, but I didn't know." Although community centers like Do Space, Centro Hispano, and the Intercultural Senior Center do offer technology classes, we must recognize the learning curve for some individuals who have historically had very limited access to technology. Understanding how to use technology requires lifelong learning for many as opposed to a one-time education session.

Lack of internet providers in rural areas

Finally, participants living in rural areas of Nebraska shared that many internet providers still will not provide service in rural areas of the state. In many cases, this leaves one cable company as the only provider in town and enables them to dictate service terms which is unfair for consumers. As one participant said, "Rural areas are last on the list when new technology comes out." Since the size of communities may be too small for some companies, participants suggested that the state could provide incentives for companies to provide service, especially if there are only a few households in the area. Another option would be to assist households with service costs to make it more affordable for those who live in rural areas without many internet service providers. Despite the lack of multiple providers, participants who reside in rural areas did acknowledge that there has been an improvement in cell service recently.

Opportunities for Expansion: How can the state help?

After gaining a better understanding for the barriers covered populations face in accessing technology and the internet, researchers specifically asked participants to share opportunities or areas where the state may be able to expand access and enhance digital equity.

Discussions included four main themes:

- ◆ Address rising costs of internet service
- ◆ Develop innovative programs that provide equipment to covered populations
- ◆ Invest in more technology classes to expand digital literacy
- ◆ Make Wi-Fi accessible across communities in Nebraska

Address rising costs of internet service

By far, the number one concern among focus group participants was the cost of internet service and, not surprisingly, the priority action item for the state to address, at least among this study's participants. In particular, when participants were asked what the state could do to better support access to technology, one participant who did not speak English said, "money, money down." Some participants acknowledged that there were affordability programs during the COVID-19 pandemic which were

helpful but now individuals are left without assistance. Another participant, speaking from her own experience, shared that there are some programs to help people get cell phones and establish home internet connection; for instance, when a person in the family has a child on Medicaid or some other type of public assistance. Even when these opportunities exist, people have to provide proof to companies and there is virtually no communication between the internet provider and the Medicaid program contact. Participants cited applying for grants and instituting protections for vulnerable populations as solutions. For example, many participants recommend a sliding affordability option so that what individuals pay for internet service is based on their income. Other participants recognized the value of applying for federal grants, particularly as a strategy for expanding service in all areas of the state. Ultimately, participants want recognition from the state that internet costs are increasing. As one older adult participant said, "I can afford to have multiple devices but some people can't. A fixed income makes it tough."

Develop innovative programs that provide equipment to covered populations

An important and innovative idea that was recommended as an opportunity for promoting digital equity in Nebraska is developing programs that provide computing devices and other equipment to underserved or vulnerable populations. Two of the four focus groups conducted for this study included participants from similar programs. Most recently, the Do Space Library in Omaha received funding from the Emergency Connectivity Fund from the Federal Communications Commission to provide 945 Omaha residents with laptops and Wi-Fi hotspots for one year. Findings from the Do Space Tech Pack Program final report suggest that over 65% of program participants reported that the program "improved their life a great deal." Among the Tech Pack participants that participated in focus groups, it is clear the impact was substantial in their lives. Similarly, focus groups participants at the Intercultural Senior Center in Omaha shared that they received GrandPads from the Intercultural Senior Center. Older adults appreciated the GrandPads as a way to connect with their families. Thus, any funding that the state can allocate or apply for to provide more people with technology equipment will greatly increase digital equity and literacy in the state. One focus group took this discussion deeper, suggesting that computing devices should be provided to younger generations of Nebraskans. More specifically, one participant said, "Get devices into the hands of young students. They are receiving education on how to use the devices so they are getting raised with the expertise and skills."

“
When there is no access and no affordability, then we get hit as a community.”

“
Expenses are extremely high right now, but the Tech Pack Program cut down the bills so I don't have to pay as much. Before I would accumulate occurrences for missing work, but now I just log in to work from home. Especially when unexpected things happen, we don't miss a beat.”

Invest in more technology classes to expand digital literacy

Across focus groups, participants expressed a need for more technology classes to help people learn how to use computing devices and internet skills. There was overwhelming agreement across focus groups that community centers similar to the Intercultural Senior Center, Centro Hispano, and Do Space are valuable hubs within their communities and people depend on these community centers for help with their technology needs. It is important for the state to recognize the value provided by these community centers (and others with similar missions) in enhancing digital equity and increasing digital literacy skills. Opportunities to provide additional funding or expand access hubs like these should be considered. Similarly, community centers can continue to offer technology classes and training for residents. Making classes more accessible is beneficial for individuals, including evening and weekend offerings, pre-recorded trainings, and online classes.

Make Wi-Fi accessible across communities in Nebraska

Overall, participants recommended that the state needs to commit to making Wi-Fi accessible for all across communities, urban or rural, in Nebraska. One participant shared that the City of Columbus is working to provide Wi-Fi at all of their parks and recreation areas. There is a need for advocacy among legislators and other policymakers to help them understand the importance of internet access, since ultimately they are the individuals who can produce change to improve connectivity.

CONCLUSION

This report provides a deeper understanding of digital inequities that exist in Nebraska for covered populations, notably older adults, low-income persons of color, and residents in rural areas of the state. After conducting four focus group discussions with individuals representing these populations, key findings emerged related to how covered populations access and use technology, as well as the barriers to access and opportunities for expansion in Nebraska. While most individuals have smartphones and admit they are essential, smartphones are limiting in the types of tasks individuals can complete. This is especially challenging for individuals trying to attain further education, seek job opportunities, or review important legal documents. In terms of barriers, the number one barrier across all covered populations in this study was cost. The cost of internet service, in particular, is unaffordable for many Nebraskans, which is especially frustrating for individuals when the internet is vital to engagement and advancement in society today. One notable finding was that there are some innovative equipment distribution programs, such as the Do Space Library Tech Pack Program, that provide covered populations with technology equipment, in an effort to level the digital divide. Many participants recommended that the state look into more investment opportunities like these innovative programs to assist covered populations in obtaining initial access.

REFERENCES

- Atske, S., & Perrin, A. (2021). Home Broadband Adoption, Computer Ownership Vary By Race, Ethnicity In The US. Pew Research Center. <https://www.pewresearch.org/fact-tank/2021/07/16/home-broadband-adoption-computer-ownership-vary-by-race-ethnicity-in-the-u-s/>
- Auxier, B., & Anderson, M. (2020). *As schools close due to the coronavirus, some US students face a digital 'homework gap'* (Fact Tank: News in the Numbers, pp. 1–8). Pew Research Center. https://energyrights.info/sites/default/files/artifacts/media/pdf/some_u.s._students_lack_home_internet_or_computer_for_homework_pew_research_center.pdf
- Central Nebraska Economic Development District. (2023, May). *Baseline Assessment: Broadband Assets of the Central Nebraska Region*. <https://7g22c4.p3cdn1.secureserver.net/wp-content/uploads/2023/06/CNEDD-Baseline-Assessment.pdf>
- Dejka, J. (2023, July 23). Nebraska prepares for \$405M broadband effort. *Omaha World Herald*, 1–2.
- Hammel, P. (2023, February 7). Proposed state broadband office touted as more effective, creative in closing 'digital divide.' *Nebraska Examiner*. <https://nebraskaexaminer.com/2023/02/07/proposed-state-broadband-office-touted-as-more-effective-creative-in-closing-digital-divide/>
- Hegle, J., & Wilding, J. (2019, July). *Disconnected: Seven Lessons on Fixing the Digital Divide*. The Federal Reserve Bank of Kansas City. https://www.kansascityfed.org/Community/documents/7859/Digital_Divide_Final.pdf
- Hibbler-Britt, L. M. (2020). The impact of COVID-19 in the African American community. *Transnational Journal of Business, Reflections on the COVID Crisis—Transitions from Classrooms to Quarantine*, 36–38.
- Krueger, R. A. (1988). *Focus groups: A practical guide for applied research*. Newbury Park, CA: Sage Publications.
- Mossberger, K., Tolbert, C. J., & Stansbury, M. (2003). *Virtual Inequality: Beyond the Digital Divide*. Georgetown University Press.
- Nash, S. (2019, April 13). Older adults and technology: Moving beyond the stereotypes. *Stanford Center on Longevity*. <https://longevity.stanford.edu/older-adults-and-technology-moving-beyond-the-stereotypes/>
- National Digital Inclusion Alliance (n.d.) Definitions. www.digitalinclusion.org/definitions/
- Nebraska Rural Broadband Task Force. (2021, October). Nebraska's Rural Broadband Task Force: Findings and Recommendations. <https://ruralbroadband.nebraska.gov/reports/2021/2021Report.pdf>
- Newman, I. (2023, September 27). For Rural Communities, Broadband Expansion is No Single Thing. *Governing*. https://www.governing.com/infrastructure/for-rural-communities-broadband-expansion-is-no-single-thing?utm_campaign=Newsletter%20-%20GOV%20-%20Daily&utm_medium=email&hsmi=275900899&utm_content=275900899&utm_source=hs_email
- Nguyen, M. H., Hargittai, E., & Marler, W. (2021). Digital inequality in communication during a time of physical distancing: The case of COVID-19. *Computers in Human Behavior*, 120, 106717.

Norris. (2001). *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. Cambridge University Press.

Ochillo, F. (2022). *The Economic Consequences and Generational Impact of the Digital Divide*. Belfer Center for Science and International Affairs, Harvard Kennedy School. https://issuu.com/belfercenter/docs/tapp-francella_impact_of_the_digital_divide_final_

Pattman, E. (2021, August 17). Citizens in rural N.C. feel left behind with digital divide. *GovTech*. <https://www.govtech.com/network/citizens-in-rural-n-c-feel-left-behind-with-digital-divide>

Perrin, A., & Atske, S. (2021). Americans With Disabilities Less Likely Than Those Without to Own Some Digital Devices. Pew Research Center. <https://www.pewresearch.org/fact-tank/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/>

Quaintance, Z. (2022, April 3). The nuances of digital redlining, explained. *Governing*. <https://www.governing.com/community/the-nuances-of-digital-redlining-explained>

Reisdorf, B. C., Fernandez, L., Hampton, K. N., Shin, I., & Dutton, W. H. (2022). Mobile phones will not eliminate digital and social divides: How variation in Internet activities mediates the relationship between type of Internet access and local social capital in Detroit. *Social Science Computer Review*, 40(2), 288–308.

Siefer, A., & Callahan, B. (2020). *Limiting broadband investment to “rural only” discriminates against Black Americans and other communities of color*. National Digital Inclusion Alliance. <https://www.digitalinclusion.org/digital-divide-and-systemic-racism/>

U.S. Census Bureau. (2023, June 15). Digital Equity Act of 2021. <https://www.census.gov/programs-surveys/community-resilience-estimates/partnerships/ntia/digital-equity.html>

Vogels, E.A., (2021, June 22). Digital Divide Persists Even as Americans With Lower Incomes Make Gains in Tech Adoption. Pew Research Center. <https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/>

APPENDICES

APPENDIX A: METHODOLOGY

In 2023, the Nebraska Information Technology Commission partnered with the Center for Public Affairs Research and the Department of Gerontology both at the University of Nebraska at Omaha to conduct focus groups on specific covered populations in Nebraska on the topic of digital equity. The State of Nebraska received a one-year grant for \$600,000 from the National Telecommunications and Information Administration to develop a state digital equity plan to address state digital equity needs, including internet connectivity, access to appropriate devices, digital literacy skills, awareness of privacy and security best practices, and accessibility and inclusivity of public resources. More specifically, the UNO research team was asked to conduct focus groups with certain covered populations that are less likely to participate in other data collection methods to better understand access to technology and digital equity needs across the state. The covered populations in this study include older adults in rural and urban areas; low income, persons of color in urban areas; and persons of color with limited-English proficiency in rural areas.

The research questions for this project were:

- ◆ What are the digital equity needs for specific covered populations in Nebraska?
- ◆ How does digital equity (or inequity) impact the lives of Nebraskans?

The primary data collection mechanism was focus group listening sessions with the aforementioned covered populations in Nebraska to better understand the gaps in access to technology and opportunities for improvement. Focus group discussions are useful for facilitating discussions on a specific topic with persons from similar backgrounds (Krueger, 1998). Given the goal of generating robust discussion to better understand digital equity in Nebraska, we asked open-ended questions to generate open and honest discussion among participants.

Researchers conducted four focus groups of three covered populations: (1) older adults in rural areas; (2) older adults in urban areas; (3) low-income, persons of color, in urban areas of the state; and (4) persons of color, with limited-English proficiency in rural areas of the state. The four focus groups were conducted between May 17 and June 27, 2023. The focus groups were conducted at the Ainsworth Community Center in Ainsworth, the Intercultural Senior Center in Omaha, the Do Space Library in Omaha, and Centro Hispano in Columbus.

The research team identified the four geographic locations and sites to conduct the focus groups based on the requested covered populations. Each location was chosen because of its central location and convenience for participants representing the covered populations. Drawing on the professional networks of the research team, we obtained approval for site use at the Intercultural Senior Center in Omaha, the Do Space Library in Omaha, the Community Center in Ainsworth, and the Centro Hispano in Columbus. Since these site locations already had contact with persons meeting the inclusion criteria for this study, recruitment materials (see Appendix B) were distributed by the site locations, advertising the date, time, and topic for the focus group discussions. Researchers also obtained approval from site coordinators/directors to recruit research participants from their existing lists of clients.


Participants were also asked to complete a demographic survey upon their arrival that included questions about age, race/ethnicity, gender, and marital status. Included on the form and as part of the general instructions, participants were reminded not to include their names or any other identifying marks.

In order to protect participants' privacy, no identifying information of participants was included in this research report. Protections of confidentiality and anonymity for participants were documented in the participant information sheet which was shared with participants prior to the start of focus groups. Members

of the research team also reiterated this information to participants before beginning each focus group. After reviewing confidentiality and privacy protections with participants, the researchers obtained verbal consent from participants to start the focus group. It should be noted that participants' permission was obtained to take and use the photos included at the beginning of the report.

The four focus groups varied in length but on average lasted about one hour. Researchers decided not to record the focus groups but instead took copious notes with a member of the research team as a dedicated notetaker. Researchers decided not to record focus group discussions so that participants could speak more freely in discussion. In the event that the session included non-native English speakers, a member of the research team provided translation in real-time. Only two of the four focus groups included non-English speakers and Spanish was the preferred language for both. Following the focus groups, the notetaker cleaned and summarized the session's notes and shared them with an additional member of the research team who was in attendance to check for accuracy in themes and discussion, or inter-coder reliability.

APPENDIX B: RECRUITMENT FLIERS

 **GERONTOLOGY**
GERONTOLOGY.UNOMAHA.EDU

JOIN THE CONVERSATION:
Access to Technology Focus Groups

YOUR VOICE MATTERS!

You are invited to participate in a focus group on access and usage of online computing devices!
(i.e., access to the internet on desktop computers, laptops, or smart mobile devices)

.....


Wednesday, May 17, 2023 | 1-2 P.M.

Ainsworth Community Senior Center
234 W 2nd Street, Ainsworth, NE 69210

.....

Questions? Contact Julie Masters:
jmasters@unl.edu or 402.472.0754

IRB 0195-23-EX

 **GERONTOLOGY**
GERONTOLOGY.UNOMAHA.EDU

JOIN THE CONVERSATION:
Access to Technology Focus Groups

YOUR VOICE MATTERS!

You are invited to participate in a focus group on access and usage of online computing devices!
(i.e., access to the internet on desktop computers, laptops, or smart mobile devices)

.....

Tuesday, May 23, 2023 | 9:30-10:30 A.M.

Intercultural Senior Center
5545 Center Street, Omaha, NE 68106

.....

Questions? Contact Julie Masters:
jmasters@unl.edu or 402.472.0754

IRB 0195-23-EX

YOUR VOICE MATTERS!

You are invited to participate in a focus group on access and usage of online computing devices!
(i.e., access to the internet on desktop computers, laptops, or smart mobile devices)

Tuesday, May 23, 2023 | 5:30-7 P.M.

Do Space
7205 Dodge Street, Omaha, NE 68114

Questions? Contact Josie Schafer:
jgschafer@unomaha.edu or 402.554.2134

IRB 0195-23-EX

YOUR VOICE MATTERS!

You are invited to participate in a focus group on access and usage of online computing devices!
(i.e., access to the internet on desktop computers, laptops, or smart mobile devices)

Tuesday, June 27, 2023 | 11:30 A.M.-1 P.M.

Centro Hispano
3214 25th Street, Suite 1, Columbus, NE 68601

Questions? Contact Josie Schafer:
jgschafer@unomaha.edu or 402.554.2134

IRB 0195-23-EX

APPENDIX C: CONSENT FORM



Information about the Research Project

You are being asked to participate in a research study to better understand access to technology in Nebraska. This study is being conducted by the University of Nebraska at Omaha Center for Public Affairs Research and Department of Gerontology to support development of a statewide digital equity plan.

Your identity will only be known to the researchers and that information will be kept confidential. The insights provided during the focus group listening sessions will not be attributable to you in any way. Only the researchers will have access to the audio recording from the listening sessions and will destroy the recording as soon as it is transcribed. Any reports written from the information gathered during this project will contain *no* mention of your name or any other identifying characteristics. Throughout the course of this project, information about your identity will be kept secured.

You will be asked to share your opinion related to your experiences accessing technology in Nebraska. You will also be asked to complete a demographic survey. Your participation in this study is voluntary. You do not have to provide any information that you do not wish to provide or answer any questions that make you feel uncomfortable. The listening session should last about one hour.

We sincerely appreciate your participation in this research. If you have any questions or concerns about this project, please do not hesitate to contact:

Josie Gatti Schafer, Ph.D.
Director
Center for Public Affairs Research
University of Nebraska at Omaha
402.554.2134
jgschafer@unomaha.edu

Julie L. Masters, Ph.D.
Professor
Department of Gerontology
University of Nebraska at Omaha
402.472.0754
jmasters@unl.edu

APPENDIX D: DEMOGRAPHIC SURVEY



Digital Equity Listening Session Survey

*** PLEASE DO NOT WRITE YOUR NAME ON THIS PAPER ***

1. What county do you currently live in? _____

2. What is your age? _____ years

3. What is your gender? _____

4. Are you of Hispanic, Latino, or Spanish origin such as Mexican, Puerto Rican, Cuban or others? (Mark (X) in one box)

- No
- Yes, Mexican, Mexican American, Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, another Hispanic, Latino, or Spanish origin (Print below name of nationality if you would like to specify, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc.)

5. What is your race? (Mark (X) in all that apply)

- White
- Black or African American
- American Indian or Native American
- Asian
- Native Hawaiian or Pacific Islander

6. What is your marital status? (Mark (X) in one box)

- Single
- Never been married
- Married
- Domestic partnership/living with partner (not legally married)
- Separated
- Divorced
- Widowed



Digital Equity Listening Session Survey

7. What is the highest level of education you have completed? (Mark (X) in one box)

- Some high school, no diploma
- High school graduate or equivalent
- Associate degree
- Trade school
- Bachelor's degree
- Master's degree
- Doctorate or professional degree

8. What best describes your current work status? (Mark (X) in one box)

- Unemployed, but looking for work
- Unemployed, not looking for work
- Full-time employment
- Part-time employment
- Retired
- Temporary employment
- Student
- Military
- Other

9. Do you or anyone in your household own any of the following? (Mark (X) to all that apply)

- Desktop
- Laptop
- Smartphone
- Tablet or other portable computing device
- Other
- None

10. Do you or anyone in your household have access to the internet? (Mark (X) in one box)

- Yes, by paying a cell phone company
- Yes, by paying an internet service provider
- No other access to the internet

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APPENDIX E: FOCUS GROUP PROTOCOL



Connect Nebraska Focus Group Listening Sessions – Discussion Protocol

Welcome and Introduction

Thank you for agreeing to participate in this listening session about access to technology in Nebraska and your experiences with technology. We would like to discuss with you the use of electronic devices, such as smartphones, mobile phones, computers, and tablets. We will refer to these as computing devices. We are also interested in your access to and use of the internet. Our discussion today will help to inform the creation of a statewide digital equity plan for Nebraska.

We want to briefly share reminders and expectations for today's discussion. First, be sure to complete and return the survey you received upon entering. Today, we want to hear from you – there are no right or wrong answers. We don't expect everyone to agree. Please talk one at a time. Everyone will get equal time; if we run out of time, please feel free to email us your comments.

Finally, we would like to record this discussion so that we can accurately transcribe the discussion so we can identify challenges and opportunities for creating a statewide plan. All comments will be de-identified and anonymous. No names will be attributed to any comments that come from the discussion in the final report. Everyone should have also received a participant information sheet, explaining confidentiality. ***Are there any objections to being recorded?***

***START RECORDING MEETING**

Discussion Questions

Section I. Access and Usage

1. Where do you access a computing device and/or the internet? Tell us all the places where you access these resources.
2. What are your top reasons for using a computing device and/or the internet?
3. If you do not use a computing device and/or the internet, why not?
4. What would you be comfortable paying for internet service each month?

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5. Are there times when your internet is unstable or not working? How does this impact you?

6. Do you rely on others for help with your internet or computing devices?

Section II. Barriers to Access and Opportunities for Expansion

7. What challenges or barriers are there to accessing technology?

8. What do you believe are the gaps in access to technology in your community?

9. What do you think is working well and could be expanded to address access to technology in your community?

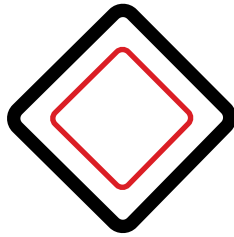
10. How can the state and your community best support expanding access to technology in your community?

11. Nebraska has communities of all sizes and types. How does this variation in community size, economy, and values affect how we approach the gaps in access to technology?

As our discussion comes to a close...

12. Is there anything else you would like to say about access to technology or about your experiences with computing devices and the internet?

That concludes our discussion. We sincerely appreciate you taking the time to talk with us today and share your experiences accessing technology in Nebraska. Thank you.

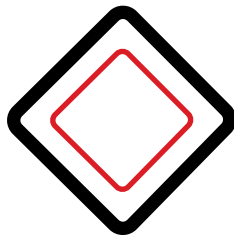


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