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Background

Digital equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy. To achieve a state of digital equity for a community, there are three main barriers that need to be remedied to ensure that all community members have equal access to and effective use of technology. These include access to affordable, reliable, robust broadband internet service; access to devices (e.g. tablets, desktop computers, laptops) that best meet the needs of the user and digital literacy skills to comfortably navigate the internet and use technology as part of daily life activities.

The COVID-19 pandemic has shined new light on the consequences of being disconnected from the Internet — for opportunity, education, jobs, health care, organizing, and staying in contact with friends and family. Communities with inadequate internet access and widespread skills by its residents to use technology face barriers that impact their daily lives.

The City of Sioux Falls partnered with the National Digital Inclusion Alliance and the Purdue Center for Regional Development (PCRD) to work in collaboration with a newly formed IDEA (Inclusive Digital Equity Alliance) Task Force comprised of community stakeholders to better understand the digital landscape and create a long-range plan to ensure that Sioux Falls becomes digitally inclusive for all its residents.

"Digital equity is about improving the quality of life for every resident and visitor to Sioux Falls. Technology impacts virtually every area of our lives but for some within our community, however, that impact has made it even more challenging for accessing and utilizing services and resources around the city. Bridging the digital divide should not be considered a luxury but rather, a responsibility we have to our community." – Mayor Paul TenHaken

Formed in 2020, the IDEA Task Force worked together to identify community assets such as affordable home broadband options, affordable device options, and basic digital literacy training and support that is available for residents—as well as gap areas that need community support and resources. Further, a digital inclusion survey was conducted to gauge digital inclusion variables and use the results to guide the development of the Digital Equity Framework. The development of the framework was made possible through the generous support of Midco.

This Digital Inclusion Framework will guide the community’s efforts to eliminate barriers to technology and ensure that all residents have access to technology and the skills to fully use it in the years to come. The goal of the digital equity framework is to educate and advance public understanding about the impact of lack of broadband access, personal devices and digital literacy skills and identify goals for potential solutions for closing the digital divide in Sioux Falls.

KEY DEFINITIONS

Digital Inclusion: The National Digital Inclusion Alliance (NDIA) defines Digital Inclusion as the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs). This includes 5 elements: 1) affordable, robust broadband internet service; 2) internet-enabled devices that meet the needs of the user; 3) access to digital literacy training; 4) quality technical support; and 5) applications and online content designed to enable and encourage self-sufficiency, participation and collaboration. Digital Inclusion must evolve as technology advances. Digital Inclusion requires intentional strategies and investments to reduce and eliminate historical, institutional and structural barriers to access and use technology.

Digital Equity: A condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy.
Digital Equity Problem Statement

The Internet has dramatically altered the ways that people engage, communicate, and learn about the world around them on a daily basis. The COVID-19 pandemic has brought into focus everyone’s essential need for reliable, universal and affordable broadband. Yet even with the scope and severity of the problem in sharp focus, people throughout the United States are still in need of robust, affordable, and ubiquitous connectivity to the Internet.

There’s a new and growing awareness of the consequences of being disconnected from the Internet — opportunity, education, jobs, health care, organizing, for staying in contact with friends and family. Access to broadband impacts economic development, emergency response efforts, and domestic productivity — issues that touch every corner of the United States.

The speed and convenience in which individuals can work, get healthcare, access education and obtain other critical services online has grown exponentially. For some, the internet may feel like an ever-present resource, but a surprising number of people in our community still do not have fixed broadband internet access. The lack of internet connectivity and access to digital resources disproportionately affects vulnerable groups more than others. In the City of Sioux Falls, lower income households and older residents aged 65+ are more likely to not have a home internet connection or a computer or tablet. They also tend to have lower levels of digital literacy skills. To address this problem, thousands of residents in Sioux Falls need support from community organizations and institutions to get connected with reliable, affordable home internet, find low-cost computers and tablets, and learn basic digital literacy skills.

For the City of Sioux Falls, the American Community Survey’s (ACS) 2019 five-year estimates found that there are digital inequities in both access to the internet and personal technology devices. Specifically:

One in four homes have no home internet subscription. Over a quarter of homes (26.2%) lack internet subscription. 19,825 Sioux Falls households did not have a cable modem, DSL or fiber internet accounts in 2019.

Over ten percent of households have no internet subscription at all. 10.6% percent of households have no broadband subscription or mobile data plan. About 8,000 households - with no data plan in 2019.

Nearly ten percent of households can only access the internet using their mobile phone data plan. Nearly ten percent (9.6%) of households only had internet access through a mobile data plan. (7,200 households) in the city.

Over ten percent (11.9%) of households only have mobile devices. Approximately 9,000 Sioux Falls homes only have mobile devices (do not have a desktop or laptop computer).

In Sioux Falls, Hispanic households are nearly twice as likely as White families to own a computer but not have an internet subscription.

The share of low income households with no internet is ten times higher than wealthier households. Sioux Falls households without internet are disproportionately lower-income. Close to one-third of homes making less than $35,000 per year did not have internet compared to only 3% of homes making $75,000 or more per year.

Older residents are especially likely to be unconnected. According to the ACS, about 7% of residents or 1,600 age 65 or older had a computer but no internet subscription; while an additional 17.3% or 4,000 residents did not have a computer but did have internet service.

For residents under 18 years of age, roughly 4% have a computer but no internet subscription and 3.2% of children are without a computer.
Collective Vision for Digital Equity

SIOUX FALLS DIGITAL EQUITY VISION STATEMENT
To achieve digital equity through universal residential broadband adoption including availability, affordability, devices, technical support, and digital life skills training. We must ensure Sioux Falls residents have the tools necessary to support education, health, well-being, economic prosperity, and the ability to fully participate in society.

Sioux Falls Digital Equity Priorities

1. Broadband Affordability
The digital divide is driven by huge disparities in home broadband adoption. Without home internet, many people are forced to employ a patchwork approach to accessing the online resources they need. Public Wi-Fi at libraries, community-based organizations, and businesses, or borrowing access at a friend’s, neighbor’s, or family member’s home are often the best available options. However, these solutions have serious drawbacks: it can be time-consuming and challenging to arrange, availability is restricted to certain hours and time limits may apply. Additionally, these options lack the privacy and dignity that those with home internet take for granted. The COVID-19 pandemic has demonstrated the impracticality of using public Wi-Fi or other alternative options for critical uses such as remote education and work, which can have high bandwidth needs and require prolonged access. Affordable, reliable home broadband for every Sioux Falls household must be a priority in order to fully achieve digital equity.

While service is available to nearly every resident, options of ISP providers are limited, particularly in low-income areas. Midco and CenturyLink, hold the majority of the residential broadband market in Sioux Falls, with Vast Broadband (Clarity LLC) being the only other ISP to offer broadband service over 25/3.

Despite ubiquitous coverage by at least one provider in all neighborhoods, the cost of broadband service remains a barrier for many households, particularly where provider options are limited. The NDIA report “Measuring the Gap” cites that cost is the chief reason for not having broadband. https://www.digitalinclusion.org/measuring-the-gap/

The standard price for broadband service throughout Sioux Falls ranges from about $45 per month to over $100 per month, not including taxes, fees, and equipment charges.

Residents in multi-family units are often also subject to exclusivity agreements enacted by the property owner. These agreements limit the choice of the building’s residents to a single ISP, effectively eliminating competition and the ability to shop around for more affordable broadband options.

The fact is that even the lower end of the market rate offerings from ISPs are unaffordable to a large number of Sioux Falls households. There are a few discount broadband options available to qualified households based on income or participation in other government assistance programs. The three discount offerings available to Sioux Falls residents are:

- Federal Communications Commission (FCC) Lifeline Program: $9.25 monthly discount on phone or internet service, including broadband. CenturyLink and Vast provide the service in Sioux Falls
- Midco Internet Basics: provides up to 25 Mbps downloads and 3 Mbps uploads for $14.95 per month, including modem lease.

These are valuable programs that make home broadband attainable for many households that otherwise could not afford it. Unfortunately, they tend to be underutilized due to a combination of onerous eligibility and verification requirements and low levels of awareness among those who would benefit from them.

With the onset of the COVID-19 pandemic, a state initiative was developed in response to the increased urgency for broadband access.
2. Device Access

Having an appropriate device to access the internet is as important as the access itself. Rather than “making do” with the most readily or only available device, all residents should have access to a device that meets their needs.

Low-income households often rely upon a mobile phone as their only computing device. While mobile devices offer convenience and are useful for intermittent internet access, they do not meet the needs of remote work or school, and relying on them as one’s sole source of access can significantly limit a person’s ability to engage with digital resources and complete online activities such as writing a resume, completing school work or conducting internet searches to create price comparisons for good or services.

The cost of a desktop, laptop, or even a tablet is a substantial expense for many low-income households. This often means that when a device is purchased, it must last for several years, often beyond the point of becoming obsolete. The inability to maintain hardware and software at the pace of advancing technology can also severely constrain one’s digital participation. Older devices are often not supported with internet security updates; users are vulnerable to hacking or access to their personal identifiable information.

Many households also rely on devices issued through school or work. While they may functionally be the “right tool for the job”, the lack of ownership comes with drawbacks as well, including usage and access restrictions, inability to set up accessibility features as a default setting if older adults and younger children are using the same device, lack of privacy and ability to store content, and personal risk or financial liability for accidental damage or misuse of the device. It is critical to provide every household with the ability to obtain devices that meet their specific digital needs and provide them with ownership of the device.

Limited access to devices is a large barrier to digital inclusion for residents of Sioux Falls. During the pandemic, only eight computers were available through the main library. However, results of the digital inclusion survey results found that 95% of respondents own a smartphone and that device access to a desktop or tablet is strongly related to educational attainment and household income.

During the Covid-19 Pandemic, only eight computers were available for use at the Public Training Lab at the Downtown Library. The lowest cost option to provide computers to households is by using refurbished devices. PCs for People, a national nonprofit providing refurbished used digital devices and makes them available to low-income families at very low cost – typically $60-$100 for desktop computers and $100-$250 for laptops. The computers are typically donated by local companies and public agencies, which has the added benefit of creating community partnerships.

There is not currently a digital device vendor or refurbisher located in Sioux Falls that caters to low-income residents; although, PCs for People does make online sales and ships nationwide. While Sioux Falls residents can purchase devices through their site, the lack of a physical presence is a barrier for many potential users, especially those lacking the skills or comfort to purchase a device online. Additionally, all devices donated by local partners could be transported to Sioux Falls for refurbishing, which misses an opportunity to create tech industry jobs for varying skill levels in Sioux Falls.

3. Digital Life Skills and Technical Support

Without users having the skills necessary to leverage digital devices and high-speed, reliable and affordable internet, access to these resources means little, and progress toward digital equity will remain elusive. Low digital literacy and a lack of comfort with technology contributes to low broadband adoption rates, particularly among older adults (citation) and English language learners. A variety of skill-building and technical support resources are key to digital equity efforts; from basic supports like setting up a computer for use, troubleshooting, internet searching, and establishing an email account to technical training and professional development supports for those interested in tech careers.

It is also important to recognize the fact that, as other priorities are achieved such as increased broadband subscriptions and access to computer devices, more Sioux Falls households will need digital guidance. These services are labor intensive and require community partnerships providing digital skills training, digital navigation and technology support. Apps alone cannot solve the digital literacy divide.
One-on-one support (in-person or virtual) can lead to a community member then being able to take advantage of online digital literacy classes and tutorials. Now, more so than ever before, trust is essential to digital inclusion work. Digital navigators providing guidance must be from trusted community organizations in Sioux Falls.

As of December 2020, digital literacy and skills opportunities were mainly offered intermittently by Siouxland Libraries. A handful of additional social service and community based organizations also had a variety of classes, such as the Multi-Cultural Center of Sioux Falls, Dress for Success, Goodwill, and EmBe. These ranged from job skills, English Language Learning classes, to basic and intermediate computer skills. A comparison framework for expanding offerings is available from the Technology & Social Change Group at the University of Washington (National Digital Inclusion Alliance members) who compiled options in partnership with the City of Seattle.

Moving forward, information about where opportunities can be found should be tracked, maintained, published, and marketed regularly by the City of Sioux Falls.

For residents seeking support, it is unclear where to go. Many turn to trusted resources such as the 2-1-1 system for referrals, but without an inventory of available resources, any referrals from someone serving as a system navigator is likely to be limited to that individual’s first-hand knowledge or resources, which may be limited.

The State of Digital Inclusion in the City of Sioux Falls

This section provides an overview of digital inclusion in the City of Sioux Falls. While not meant to be comprehensive, it sets the stage for the city’s digital inclusion framework. First, a series of indicators obtained from the U.S. Census Bureau and the Federal Communications Commission are discussed. Second, the information below captures select results from the digital inclusion survey specifically for broadband affordability, device access and digital life skills and technical support to gauge multiple digital inclusion related variables to better inform local efforts. Together, these metrics tell a story of the state of digital inclusion in the city of Sioux Falls.

What factors contribute to Digital Inequities?
Digital inequities are the result of not having the internet and devices to engage in a technologically driven world. As internet technology continues to evolve those who do not have the necessary tools to operate internet technology, experience the greatest impacts of the Digital Divide. Digital inequality stems from a comparative perspective of social and information inequality; there are benefits associated with internet access and negative consequences with lack of access [citation]. People with greater access to economic and social resources are known to use the internet more efficiently and productively (citation). According to the 2015-2019 American Community Survey, there were approximately 74,188 occupied households in the City of Sioux Falls. Factors that contribute to the Digital Divide such as socioeconomic status, race/ethnicity, age, and education levels all play a role in who has access to both the internet and devices and who does not.

Factor 1: Socioeconomic Status - Individual Poverty Rate
This map shows the individual poverty rate in Sioux Falls. Tracts are divided into quartiles or four groups based on the percent of individuals in poverty. Red tracts indicate a higher individual poverty rate while green tracts indicate a lower individual poverty rate.
No Internet Access: Reasons

This map demonstrates the reasons for no home internet. 86.5% said it was too expensive, 35.9% say the internet was not available, 37.4% had expressed that the internet was not reliable, while 42.1% indicated it was too slow.

Factor 2: Savings and Earnings for Community Groups

When looking at average earnings and savings between community groups, differences emerge that shed light on existing non-digital inequalities. For example, survey respondents with a bachelor’s degree or higher earned on average $2,184 compared to $1,496 on average for those with a high school degree or less. This is not surprising given that the share of respondents who work remotely daily with a bachelor’s or higher was significantly higher compared to those with a high school degree or less. Likewise, individuals earning $75,000 or more earned on average $2,405 compared to $1,130 of individuals earning less than $35,000.
While the perception that internet use improved the quality of life for most survey respondents, more educated and higher earning individuals benefited more from internet use—earning and saving more online—compared to their less educated and lower earning counterparts. Many internet benefits accrued from savings, leaving ample room to expand the share accrued from earnings. Efforts need to be made to ensure less advantaged groups benefit more from internet use by earning or saving online.

**Factor 3: Education**

1. Broadband Access in the City of Sioux Falls

In the City of Sioux Falls, 94% of residents have internet access at home. Three-quarters of residents have cable technology in their homes meanwhile 8.5% utilize DSL which can result in a slow internet connection impacting the quality of working online. Access to faster broadband technology at home varies by demographics.

High-income households, predominately white residents, and those with post-secondary education have access to both the internet and devices. Of the households making $75,000 a year or more, 99% have access to the internet. Of the residents with a bachelor’s degree or higher, 98.4% have access to the internet.

Although, a vast majority of residents have access to the internet. Minority populations, those who are less educated, and households that have low earnings are more likely to lack home internet access and computer devices. The lack of internet access among minorities is seven times higher compared to their white, non-Hispanic, educated, and high earning counterparts.
Among those without home internet access, 88.6% use a smartphone because internet service and computer devices are too expensive. Households can afford either a smartphone data plan or home internet, but not both. Minorities utilize mobile devices significantly more which includes a tablet, smartphone, or both. Minorities make up 17.6% of those utilizing DSL at home compared to 7.3% of their White counterparts.

**Households with no internet access:**

Regarding homes subscribing to the internet, Figure 3 shows the share of households with no internet access by Census tracts. Notice how most of the Census tracts inside interstate’s 229 loop had a higher share of households with no internet access (orange and red tracts) compared to other areas of the cities, such as the southeastern area (dark green). Keep in mind that the Census does not indicate why these homes did not have internet access. In the end, close to 13% of households did not have access to the internet.

**Figure 3. Percent of Households with No internet Access**

Income:

However, uneven distribution of homes without internet access are also visible among income groups. Figure 4 shows the percent of homes with no internet access by income cohort. Close to 4.5% of homes making $75,000 or more did not have internet access compared to 44% of those making less than $10,000.
Figure 4. Percent Households with no internet Access by Income Cohort

Source: ACS 2015-2019

Figure 5 shows the share of homes with no internet access by census tract and income groups. Red tracts indicate areas where there is no internet while green tracts indicate a lower share. Also notice an area on the inner side of the eastern portion of I-229 (right beside the interstate symbol on the map) that has a high share of households both making less than $35,000 and making $75,000 or more. This map highlights households who make less than 35,000 a year with no internet access.

FIGURE 5. PERCENT HOUSEHOLDS WITH NO INTERNET ACCESS MAKING LESS THAN $35,000 PER YEAR

Figure 7 shows areas with a higher share of homes that rely only on a mobile data subscription to access the internet or have no internet access as well as those relying only on mobile devices or have no computing devices at all. Research shows that homes relying on a mobile data plan or mobile devices only cannot take advantage of the technology’s potential due to limited data plans and smaller screens. Overall, a little over of one-fifth of households in Sioux Falls relied on mobile data only or had no internet access while 18.8% of households relied on a mobile device only or had no computing devices.
The cost of broadband service remains a barrier for many. The average cost for broadband service throughout Sioux Falls ranges from about $45 per month to over $100 per month, not including taxes, fees, and equipment charges. Among those without home internet access, 88.6% reported use of a smartphone plan being the main reason followed by too expensive. In other words, these homes can afford either a smartphone data plan or home internet, but not both.

Device Access

Limited access to devices is a large barrier to digital inclusion for residents of Sioux Falls. Device access to a desktop or tablet is strongly related to educational attainment and household income. And, in Sioux Falls, ownership of devices is unequally distributed across community groups as is the quality of the performance of devices.

According to results from the digital inclusion survey:

Most respondents own a smartphone. Over 95% of respondents reported owning a smartphone while one-third of respondents owned a desktop and 67% owning a laptop.

College graduates are more likely to own a laptop. Almost half of respondents with a high school degree or less owned a laptop compared to 86.3% of those with a bachelor’s degree or higher.

Those with mobile devices only (smartphone or tablet) are representative of underserved groups. A significantly higher share of respondents with a mobile device only, including a tablet and/or smartphone were minority, less educated, younger, and low earning individuals.

Quality of device performance varies by community group. Respondents who had college degrees and higher income had devices that worked better enabling them to conduct online activities more effectively.

13.8% of minorities that own a desktop said it worked poorly or very poorly compared to less than 6% of White, non-Hispanic respondents.

8.8% of respondents with some college reported their tablets working poorly or very poorly compared to 3.3% of those with a bachelor’s degree or higher.

In addition, 8.8% of individuals earning less than $35,000 that owned a tablet reported it worked poorly or very poorly compared to 2.5% of those individuals making $75,000 or more.
A common term related to digital inclusion is the “homework gap” and the “senior gap”. These two terms refer to a situation where either children (under 18 years) or seniors (ages 65 and older) do not have access to the internet at home. In this situation, children cannot complete homework and e-learning while seniors potentially miss out on telehealth consultations and/or communicating with friends and family. Figures 10 & 11 show the percent of children and seniors with a computer but no internet access. Again, orange/red areas indicate a higher share.
Populations such as older adults and low income communities need to have trust-based relationships with the organizations providing training before they can take the next step of getting comfortable and familiar with technology.
Digital Life Skills and Technical Support

To achieve digital equity for Sioux Falls residents, in addition to internet subscriptions and access to devices, they also need access to opportunities and training to build both foundational and advanced digital literacy skills.

Skill-building and technical support resources are key to building digital equity efforts; such as basic foundational skills, learning how to set up a computer, connecting to the internet, performing internet searches, creating an email account, and professional development support for those interested in careers related to technology or informatics. It is also important to recognize that as other goals are achieved, more households will need additional support. As the number of home internet services and computers increase, they also will need digital literacy training and technical support. Using mobile-based apps alone cannot solve the digital literacy divide. Many smartphone users are familiar with apps only and need training on how to navigate websites which requires different user behaviors to complete tasks online—such as additional clicks and navigating taskbars. As a result, one-on-one support (in-person or virtual) can lead to community members utilizing online digital literacy classes and tutorials. Now, more than ever before, trust is essential to digital inclusion work. Using Digital Navigators is one option to provide guidance to community members through trusted organizations. Digital Navigators are individuals who address the whole digital inclusion process — home connectivity, devices, and digital skills — with community members through repeated interactions.

Digital Navigators can be volunteers or cross-trained staff who already work in social service agencies, libraries, health, and more who offer remote and socially distant in-person guidance. Often at trusted community-based organizations, Digital Navigators are familiar with resources that relate to digital equity, and they help residents learn to use critical online services that provide guidance with food support, rent, education, employment, childcare, government benefits and more. They recommend resources and provide routine check-ins with clients check.

According to the digital inclusion survey results:

- There is a community need to provide technical support. One-fifth of respondents reported needing help setting up a new device. Regarding having someone to rely on, the share of less educated and lower earning individuals was lower compared to their more educated and higher earning counterparts. Difference was not as high between White, non-Hispanic and minorities.
- Well educated and higher-income respondents used the internet more than older, less-educated adults. A higher share of respondents that were younger, more educated, and higher earning individuals used the internet in ways that required advanced skills compared with their older, less educated, and lower earning counterparts.
• Minorities used the internet in more ways than White, Non-Hispanics. Digital skills were measured through frequency and diversity of online interactions and internet uses. A higher share of respondents that were younger, more educated, and higher earning used the internet that requires advanced skills compared with their older, less educated, and lower earning counterparts. This was not the case between White, non-Hispanic and minorities. In fact, minorities had a greater breadth of daily internet uses (and thus, digital skills), but on average have less economic benefit from earnings and savings.

• More minority survey respondents than white respondents are interested in training. When looking at community groups, close to one-fifth of minority respondents were interested in internet/device training compared to less than 6% of White, non-Hispanic respondents.

• Basic foundational literacy skills training is needed in the community. One-third of respondents are interested in internet/device use for work followed by a beginner’s training. Specifically, minority and low-income residents need this type of support. Close to one-fifth of minority respondents were interested in internet/device training compared to less than 6% of White, non-Hispanic respondents. The share of lower earning individuals interested in training was also higher compared to higher earning ones (12.2% versus 3.9%).

• Trust is a factor in receiving digital literacy training and support. Approximately twenty-five percent of respondents struggle with knowing if information online is trustworthy. It’s imperative that trusted community organizations embedded in targeted communities provide this level of training and support.

Additional information and a more detailed analysis of the results of the digital inclusion survey can be found in the appendices.
Implementation: Achieving the Digital Equity Vision Through Collective Goals

The following is a list of four collective goals to advance barriers to digital equity as outlined in this framework. For each goal, a series of strategies will be identified to ensure activities are implemented to meet the stated goal.

Goals:

- Goal 1: Help drive reliable, affordable access to broadband connectivity among residents.
- Goal 2: Improve opportunities to develop digital literacy skills among all residents.
- Goal 3: Improve access to affordable, quality devices for low-income residents.
- Goal 4: Establish an organized and sustained Sioux Falls alliance to lead the development of a digital equity ecosystem to promote and advance digital equity.
# Appendices

## IDEA Task Force Members

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<th>Name</th>
<th>Organization</th>
<th>Title</th>
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<td>Sioux Falls Chamber</td>
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<td>Augustana University</td>
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<td>Taneeka Islam</td>
<td>SD Voices for Peace</td>
<td>Executive Director</td>
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<td>Program Admin, City of Sioux Falls</td>
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Data and Research
Full Survey Results and Sioux Falls City - Sioux Falls City - Survey Findings
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American Community Survey Data
Internet Income Ratio

The Internet Income Ratio map shows tracts divided into quartiles or four groups based on the internet income ratio (calculated by dividing the percent of homes making less than $35,000 with no internet access by the percent of homes making $75,000 or more without internet). Red tracts indicate a higher ratio (more inequality) while green tracts indicate a lower share.
According to the latest FCC’s Form 477 December 2019 dataset, the city of Sioux Falls had fourteen providers advertising a minimum of 25 megabits per second (Mbps) download and 3 Mbps upload, or 25/3 for short. The figure above shows the number of 25/3 fixed (does not include satellite) providers per census block in the city. Notice there are several unserved (no 25/3 providers) in the city (red areas). This map shows census blocks by number of providers advertising 25/3 Mbps. Red blocks indicate a lower number of providers while green tracts indicate a higher number of providers.
**Percent Households with Mobile Data Only**

Sioux Falls, South Dakota

Cellular Data Only Households

Source: ACS 2018-2019

- 0.0% - 4.9%
- 5.0% - 9.9%
- 10.0% - 14.9%
- 15.0% - 100%

**Percent of Households with Limited English by Census Tracts**

Sioux Falls, South Dakota

Limited English Households

Source: ACS 2013-2019

- 0.0% - 0.9%
- 1.0% - 1.4%
- 1.5% - 4.9%
- 5.0% - 100%
Percent Households with Mobile Devices Only

Sioux Falls, South Dakota
Mobile Only Households
Source: ACS 2015-2019
Sioux Falls Survey Findings

Daily internet use and digital skills: Selected Characteristics

The share of minority respondents using the internet in ways requiring basic, intermediate, or advanced skills was higher compared to White, non-Hispanic respondents. The largest differences across basic, intermediate, and advanced digital skills and internet use are visible between younger and older respondents.

Home Internet & Device Ownership

Home Internet and Device Ownership (% responses)
Home Internet Technology

How often did you use these devices to access the internet?

Source: PCRD
Regarding your use of the internet over the past 12 months:

Percent agree/strongly agree responses (n range = 2,742-2,814)

Daily digital interactions with community organizations

Percent responses (n range = 2,834-2,946)
Internet Use: Online Earnings and Savings by Type

Earnings
- Selling: $30,083
- Freelancing: $78,242
- Rentals: $27,568
- Moving: $16,025
- Other: $300,083

Savings
- Coupons: $198,846
- Price Matching: $30,083
- Postage: $24,343
- Driving: $958,866
- Health Insurance: $81,168
- Healthcare: $78,242
- Other: $362,072

Total Earnings: $653,333
Total Savings: $1,681,663
Total: $2,334,996

Home Internet Access: Selected Characteristics

Race/Ethnicity (n range = 455-2,246)
- White, non-Hispanic: 94.7%
- Minorities: 5.3%
- Yes: 98.4%
- No: 1.6%

Educational Attainment (n range = 769-1,075)
- High school or less: 88.7%
- Some college: 94.2%
- Bachelor's or higher: 11.3%
There is a significantly high share of respondents with a mobile device only, including a tablet or smartphone or both but no laptop or desktop were minority, less educated, younger, and low earning individuals.
This map demonstrates that device ownership is unequal. Almost half of respondents with a high school degree or less owned a laptop compared to 86.3% of those with a bachelor’s degree or higher.
More than one-fifth of respondents said they needed help to set up a new device and close to one-quarter said they had difficulty knowing if online information was trustworthy. Close to two-thirds, however, said they were able to find people and/or resources when it came to internet or device use.
Glossary of Terms

25/3: The FCC formally defines broadband service as access to internet services at both 25 megabits per second (Mbps) downstream and 3 Mbps upstream, or what’s commonly listed as “25/3” service.

5G: 5G is shorthand for fifth-generation broadband mobile networks. This technology uses high frequency radio waves (higher than 4G networks) in small areas (or “cells”) to wirelessly transmit information over a network. While the geographic range of 5G is smaller than 4G, it can deliver much faster service of up to 10 gigabits per second or up to 100 times faster than 4G.

Cable Modem: Cable television companies have offered internet access via their cable system for more than a decade. The network architecture uses a loop that connects each subscriber in a given neighborhood, meaning they all share one big connection to the internet. Over time, needs have increased faster than capacity on these networks. Because the cable network shares the last mile connection among hundreds of subscribers, a few bandwidth hogs can slow everyone’s experience.

Digital Equity: A condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy.

Digital Inclusion: The National Digital Inclusion Alliance (NDIA) defines Digital Inclusion as the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs). This includes 5 elements: 1) affordable, robust broadband internet service; 2) internet-enabled devices that meet the needs of the user; 3) access to digital literacy training; 4) quality technical support; and 5) applications and online

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1 Connected Nation Definitions
2 Next Centuries Glossary
content designed to enable and encourage self-sufficiency, participation and collaboration. Digital Inclusion must evolve as technology advances. Digital Inclusion requires intentional strategies and investments to reduce and eliminate historical, institutional and structural barriers to access and use technology.

DSL: Digital Subscriber Line – or internet access offered over the phone lines. DSL allows users to use the internet at speeds greater than dial-up while also using the phone line for telephone conversations. DSL uses frequencies not used by human voices. Unfortunately, these frequencies degrade quickly over distance, meaning customers must live within a mile or even much closer to the central office to get the fastest speeds. In any event, upstream speeds over DSL tend to top out at 5 Mbps.

Fiber internet: This is a broadband internet connection using fiber optic cables to transfer data. It is faster than data transferred via a telephone modem or dial up connection. It is usually laid through conduit.

Internet Service Provider (ISP): A company, such as Midco or CenturyLink, or public organization that sells access to the internet to residential, business, and/or government customers.

**Resources**

[National Digital Inclusion Alliance](#)

[Digital Inclusion Coalition Guidebook](#), (2018) NDIA

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3 Next Centuries Glossary