Digital Equity Outcomes and Impacts
How investments in high-speed Internet can alleviate digital inequities

INTERNET FOR ALL

WHAT ARE EQUITY OUTCOMES?

Digital Equity is the Goal

Digital equity is the goal, the pursuit of which positively impacts broader areas of life, especially when paired with other equity goals. Subsequently, the outcome of achieving digital equity and Internet for all **includes benefits for health, employment, education, essential services, and civic participation** (DE Planning Grant NOFO, Section IV.C.1.b.i item 3).

Broadband Access is Essential

Investing in broadband infrastructure is not enough to achieve digital equity. Access to high-speed Internet service, affordable plans, appropriate devices, digital skills, and technical support are key mechanisms of achieving digital equity. The COVID-19 pandemic illuminated the importance of digital inclusion efforts as many aspects of life transitioned online. Without the Internet, people are likely to miss out on the ability to participate in telemedicine, work, find a job, do schoolwork, bank, navigate transport, maintain social connections with friends and family, and participate in culture and civic life.[1]

THE BENEFITS OF INVESTMENT

A common question arises about federally funded social programs: **what is the benefit of investment?** Achieving digital equity is a benefit in and of itself. In addition, we know that digital inclusion and equity programs have significant socio-economic impacts, specifically in terms of health, employment, education, essential services, and civic participation. Subsequently, this resource identifies the relationship between digital equity and each of the outcomes and links to real life examples. Aligning these outcomes can help write measurable objectives for Broadband Offices and Administering Entities of the BEAD and Digital Equity Grant Programs (DE Planning Grant NOFO, Section IV.C.1.b.i item 2).

THE EQUITY OUTCOMES

Health   Essential Services   Employment   Civic Participation   Education

1. American Libraries Magazine. (2022, February). *A Broad Look at* Broadband. American Libraries Magazine. https://americanlibrariesmagazine.org/wp-content/uploads/2022/02/de-infographic.pdf

Digital Equity Outcomes and Impacts

Examples and case studies of the relationship between digital equity and each of the equity outcomes.

HEALTH

Over $33M Saved

During the first two years of the COVID-19 pandemic, telehealth **improved patient outcomes** and eliminated **53,664,391 miles** in commuting distance & **$33,540,244** in travel-related costs[2]

CIVIC PARTICIPATION

Almost half feel better informed

49% of adult Internet users reported feeling **better informed** about civic and government activities in their communities[3]

EDUCATION

People of Color experience homework gaps

The "**homework gap**" – which refers to school-age children lacking the connectivity they need to complete schoolwork at home – **is more pronounced** for **Black, Hispanic, and lower-income households**.[4]

ESSENTIAL SERVICES

People living with disabilities are 3x more likely to not go online

People living with disabilities are 3x more likely to say they never go online than those with no disability.
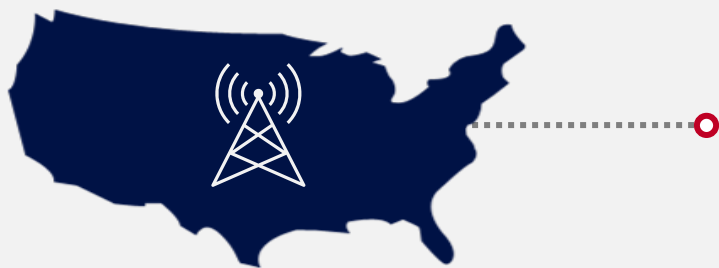
Digital skills training is **critical for people living with disabilities to access and navigate essential services**.[5]

EMPLOYMENT

Hiring sight unseen, as some all-virtual employers do, greatly **reduces the potential for discrimination**.[6]

The Potential Impact of Universal High-Speed Internet Service

INTERNET FOR ALL

AT LEAST 24 MILLION

Households reported no Internet use at home in 2021.[7]

UNEMPLOYED

7.5%

Do not have a high-speed Internet subscription.[8]

RURAL COMMUNITIES

18.5%

Lack an Internet subscription.

Compared to 13% of urban households. This is a **5 percentage-point gap** with urban households.[9]*

SENIORS

7.8%

Lack a high-speed Internet subscription.

Access to high-speed Internet for seniors is important for accessing health information and services.[10]

Note: Census Bureau Urban/Rural definitions are used.

COMMUNITIES OF COLOR

Nearly **49%** of all people in the country without a high-speed Internet subscription are people of color.[11]

9.4% of Black households lack a high-speed internet subscription, along with **8.3%** of Hispanic households.[12]

VETERANS

15% of **veterans** lack a high-speed Internet subscription.[13]

LOW-INCOME COMMUNITIES

Only **37.4%**

Of households with incomes under $20,000 have a high-speed Internet subscription, compared to nearly 95 percent of households with incomes above $75,000.[14]

NTIA

The Potential Benefits of Universal High-Speed Internet Service

INTERNET FOR ALL

Telehealth is associated with a **19%** reduction in hospital admissions

And a **25% reduction in** admission duration, leading to a **savings of $1,600 per patient** per year.[15]
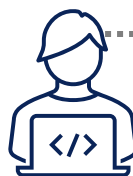
2.5%-3% increase in Single-Family Home Values

With **access to** a minimum of **25 Mbps** high-speed Internet connection compared to similar urban homes in neighborhoods with 1 Mbps.[16]

1.1% Increase in Labor Productivity

Using high-speed Internet service could raise **earnings-weighted** labor productivity by an estimated 1.1%.[17]

At least **$1,900** Economic Benefit per Household connected[18]

Potential **$140B** to the Rural Economy

Greater adoption of digital tools could add $140 billion to the U.S. rural economy.[19]

300% Return on Investment

An Indiana study estimated that every **$1 invested in broadband could return $3-$4 in economic activity.**[20]

$18B to $23B Increase with Precision Agriculture

Precision agriculture technologies from ubiquitous high-speed Internet access would bring a **potential gross economic benefit of $18B to $23B**.[21]

Higher GPAs with Internet

On average, students with fast home Internet service report an overall GPA of 3.18, whereas the average GPA for students with no access is 2.81.[22]

0.9%-1.5% Increase in Annual Per Capita Growth

A 10-percentage point increase in high-speed Internet subscriptions could lead to a **0.9%-1.5% jump in real per capita GDP** growth in developed economies.[23]

30% Higher Small Business Survival Rate

Internet service allows small businesses to access customers worldwide. Those businesses that can access global markets online have **a 30% higher survival rate than unconnected businesses.**[24]

Note that lack of access to broadband infrastructure is just one of the barriers that small businesses face, and the economic benefits are likely to vary by industry and exposure to competition.[25]

Digital Equity Stories

The stories below were compiled from several different sources. These stories highlight the intersectionality of identities within the Covered Populations and underrepresented communities that are disproportionally impacted by digital inequity.

HEALTH

For Hawaii and the U.S. Territories, including Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands, **telehealth is a key component to achieving digital equity in the Pacific**. The Department of Veteran Affairs (VA) Pacific Island System is particularly vital to medical care on the islands, as Pacific Islanders are historically over-represented in the U.S. Army by as much as "249% proportionally to other ethnic groups."[26] Veterans living on the islands face significant digital inequities, particularly medical inequities. Reported on by Honolulu Civil Beat, during the pandemic in 2020, Dr. Adam Robinson was hired as the system's new director. Robinson, as a retired admiral in the U.S. Navy, hopes to serve the "thousands of veterans spread across the world's largest ocean. He hopes to use both new technology and local knowledge as he takes on medicine in the COVID-19 era."[27]

> "When you send people to war, they have injuries of the body. And they also have injuries of the mind. They have injuries, also, of the spirit," Robinson said. "Those are moral injuries of war that occur. And that is a real injury, and it really is something that we need to care for."[28]

Robinson told Honolulu Civil Beat that the VA has come a long way in differentiating the various causes of mental and emotional problems that veterans can face as they try to reintegrate into society. Stay home orders related to the pandemic have exacerbated feelings of isolation. But Robinson said that telemedicine and online tools can better reach people in their homes, whether it's for mental health care or physical ailments. "If you feel that you need to have care, I want to make sure that care comes to you," said Robinson.[29]

Photo of Dr. Adam Robinson used with permission from Patti Epler at Honolulu Civil Beat

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INTERNET FOR ALL

ESSENTIAL SERVICES

In Detroit, Michigan, Margarita Villaseñor is a full-time mom who cooks tamales and sells them on Facebook to countless relatives and more recently, to local Mexican restaurants. As art of the Benton Institute Digital Divide Diaries, Villaseñor told Benton that at one point, as much as 10 percent of Villaseñor's income went towards providing Internet and TV for her family. Especially since the start of the COVID pandemic, her Internet connection has become a lifeline. It's a way to stay in touch with family across the U.S. and in Mexico. In February, Villaseñor handled a traffic violation by attending an online hearing. She struggled to log on until her kids came and helped. In the long-run, though, she thinks that virtual appointments could be more convenient for her.[30]

Photo of Margarita Villasenor's family used with permission from Adam Echelman, The Benton Institute's Digital Diaries

Villaseñor's story reveals how **digital skills are vital to navigating essential services** and provide unique conveniences that are not available to those still experiencing digital inequities.

Digital Equity Stories

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EMPLOYMENT

Economic stability has a positive relationship with other social determinants, such as wellness and longevity. **Bridging the digital divide among rural areas allows residents to access online jobs** and helps small business owners and entrepreneurs adopt new technologies, like farmers in Texas' Rio Grande Valley who are advancing their businesses with new 'smart' agricultural technologies.

The Foundation for Rural Service featured stories of broadband in real life, writing: America's farms must compete in a global market and an often challenging economic environment. It's essential to maximize productivity, and digital tools make that possible. Spence Pennington and his family grow cotton, grain sorghum, corn, sugarcane and sesame seed. They also raise Brangus cattle in Willacy, Cameron and Hidalgo counties in Texas' Rio Grande Valley.[31]

> "I have 10 to 12 systems — my tractors and all my equipment — and I can link them together to make them all sync, thanks to the broadband at my house."[32]

Photo of Spence Pennington and his family used with permission from Pamela Becker at the Foundation for Rural Service and Michael Shepard at Pioneer Utility Resources

"I have 10 to 12 systems — my tractors and all my equipment — and I can link them together to make them all sync, thanks to the broadband at my house," he says of the service through the VTX1 Companies. "I can run my agriculture systems, security systems, monitor my equipment. I can literally see the water temp in the radiator of one of my tractors, all from home. When I'm at home, I'm still connected to my farm."[33]

Digital Equity Stories

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CIVIC PARTICIPATION

As told by the Benton Institute's Digital Divide Diaries, when Marcellene Norton, a Tribal elder in Hoopa Valley, isn't tending to her farm or looking after her children and grandchildren, she's a watchdog. Norton, 82, has monitored local government for year, formerly serving as a councilmember. "Sometimes my family wants me to just bow out and sit home in my rocking chair," she says with a laugh.[34]

Photo of Marcellene Norton used with permission from Adam Echelman, The Benton Institute's Digital Diaries

But she won't sit still. When Tribal council meetings moved online at the start of the Covid-19 pandemic, she adapted. She asked her daughter for help learning Zoom. When a new, Tribally owned and operated Internet service provider started offering service in 2021 only 15 percent of residents in Hoopa Valley had adequate Internet service. This "new service has been a boon" for Norton and **helped her continue her civic participation throughout the pandemic**.[35]

Digital Equity Stories

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EDUCATION

Hamilton County Schools in Chattanooga are offering an initiative to bridge the digital divide by **providing home WiFi to every qualified family** for at least 10 years for no charge.[36]

Photo used with permission from Joshua Lillard on behalf of WTVC NewsChannel 9, SBG Chattanooga

Kimberly Rios-Gonzalez's daughter Allysia is now learning from home in East Chattanooga, thanks to Hamilton County Schools (HCS) EdConnect. Kimberly lives in East Chattanooga and $10 "was a whole lot" for her monthly Internet subscription, but once she learned that she could get Internet service for free through a program in Hamilton County, she was excited because she "desperately needed service" for her daughter to do her schoolwork.

Allysia was doing virtual only learning and it was "hard at first" because she "was used to going to school." This Internet subscription lets her study her favorite subject, "social studies," and in math she is "learning about integers," all online. Kimberly shared that HCS EdConnect lifted a huge burden by providing stable Internet service for her daughter's schoolwork.[37]
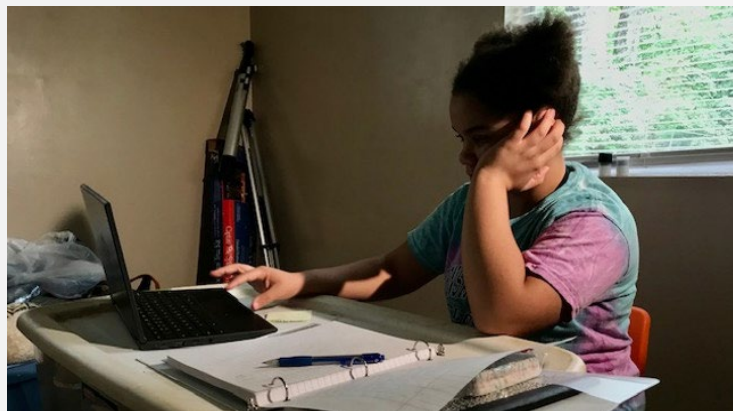

Photo of Allysia Rios-Gonzales used with permission from Joshua Lillard on behalf of WTVC NewsChannel 9, SBG Chattanooga

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