# Utah Broadband Access Initiative: *Four Cornerstone Solutions for Action*

# GOAL:

**To develop a coherent and systemic approach to enable universal service[[1]](#footnote-1) for all Utah residents to have access to affordable broadband and fully participate in an online society.**

# WHY IS BROADBAND IMPORTANT FOR UTAH RESIDENTS?

“*Education is recognized as the great equalizer of society. I can only imagine how difficult life must be for an individual lacking access to information and services. Adequate broadband provides access and equalizes the playing field in an ever increasingly competitive world.*” – Ray Timothy, UETN

 “*Having a robust and well-connected broadband network throughout Utah is vital to the state’s economic prosperity,” says Val Hale, executive director of the Utah Governor’s Office of Economic Development. “Broadband availability plays a crucial role in Utahns’ lives as we engage in activities such as telecommuting, remote learning, telehealth visits, and much more.*” – Val Hale, GOED

“*We have to treat broadband as an essential utility, like electricity, in order to bridge the digital divide and resulting knowledge gap for families.*” – Dr. Sydnee Dickson, USBE

# NEED:

**Broadband Access**

This initiative uses the phrase “Broadband Access” to draw a relationship between Utah’s accomplishments in expanding broadband infrastructure and next steps that are required for community members to achieve meaningful connection. The components of connection that comprise “Broadband Access,”[[2]](#footnote-2) include:

1) Affordable, robust broadband infrastructure;

2) Affordable, robust broadband internet service subscriptions;

3) Internet-enabled devices that meet the needs of the user;

4) Access to digital literacy training[[3]](#footnote-3);

5) Quality technical support; and

6) Applications and online content designed to enable and encourage self-sufficiency, participation and collaboration.

To ensure investments in infrastructure yield their desired results, all components of connection must be addressed. The Utah Broadband Access Initiative proposes several solutions, each of which address different components of connection. Several solutions should be pursued simultaneously to ensure our State is able to connect Utahns to each other and to the world.

**Broadband Availability Statistics**

Utah has traditionally been a leader in broadband availability and subscription rates. Broadband availability refers to the level of service available to an individual or household and is typically measured by a maximum advertised speed. Subscription rates indicate if households have purchased services. Although many Utahns have access to internet services, there are still individuals who have been left behind and are unable to fully participate in education and workforce opportunities as well as telehealth, online services, and civic engagement processes. Barriers to essential internet access include infrastructure, subscription cost, device access, and digital literacy education. Beyond benefiting K-12 students, robust broadband adoption efforts ensure all Utahns--urban or rural, old or young, northern or southern, indigenous or refugee--are able to continue to contribute across the state.

Broadband availabilty rates are collected twice a year from broadband providers by the Utah Governor’s Office of Economic Development (GOED) for the [Residential Broadband Availability Map](https://mapserv.utah.gov/broadband/) and subscription rates are collected by the U.S. Bureau of Labor Statistics through the American Community Survey. The following chart highlights these statistics.

The data gathered is at the aggregate county level, and as a state we recognize that there will be specific pockets and households within specific zip codes that may have additional needs related to broadband availability and access.

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| --- | --- | --- | --- | --- | --- |
| AVAILABILITY: | 25 Mbps or greater (GOED 2020) | 50 Mbps or greater (GOED 2020) | 100Mbps or greater (GOED 2020) | 1 Gbps or greater (GOED 2020) | Homes that Subscribe to Broadband (American Community Survey 2018) |
| **STATEWIDE** | 99.9 | 99.5 | 93.3 | 50.4 | 89.19% |
| BEAVER COUNTY | 100 | 90.1 | 49.3 | 48 | 79.80% |
| BOX ELDER COUNTY | 100 | 86.9 | 86.8 | 59.1 | 87.40% |
| CACHE COUNTY | 100 | 93.6 | 93.2 | 38.5 | 89.50% |
| CARBON COUNTY | 100 | 94.1 | 90.2 | 89.9 | 85.10% |
| DAGGETT COUNTY | 99.2 | 64.1 | 64.1 | 0 | 96.90% |
| DAVIS COUNTY | 99.9 | 99.8 | 99.2 | 53.6 | 93.30% |
| DUCHESNE COUNTY | 99.9 | 28.3 | 16.2 | 15.5 | 87.70% |
| EMERY COUNTY | 99.3 | 93.9 | 93.9 | 93.9 | 84.20% |
| GARFIELD COUNTY | 98.1 | 55.3 | 47 | 43.5 | 83.00% |
| GRAND COUNTY | 99.9 | 71.5 | 71.5 | 63.5 | 90.70% |
| IRON COUNTY | 100 | 93.6 | 92.5 | 68.3 | 87.30% |
| JUAB COUNTY | 99.7 | 83.9 | 76 | 0.2 | 82.40% |
| KANE COUNTY | 100 | 55 | 31.6 | 31.6 | 80.20% |
| MILLARD COUNTY | 100 | 65 | 59.1 | 0 | 86.60% |
| MORGAN COUNTY | 100 | 84.9 | 84.5 | 82.6 | 96.10% |
| PIUTE COUNTY | 99.9 | 60.4 | 2 | 1.7 | 70.00% |
| RICH COUNTY | 100 | 88.7 | 6.2 | 3.4 | 77.80% |
| SALT LAKE COUNTY | 99.9 | 99.4 | 98.7 | 64.5 | 88.90% |
| SAN JUAN COUNTY | 91.2 | 36.5 | 36.5 | 18.4 | 52.90% |
| SANPETE COUNTY | 100 | 97.4 | 93.9 | 34.9 | 84.20% |
| SEVIER COUNTY | 97.6 | 91.7 | 76.6 | 0 | 86.30% |
| SUMMIT COUNTY | 99.7 | 90.8 | 84.6 | 21.3 | 93.40% |
| TOOELE COUNTY | 100 | 96.1 | 94.1 | 30.7 | 92.80% |
| UINTAH COUNTY | 100 | 75.4 | 73 | 19.9 | 87.30% |
| UTAH COUNTY | 99.9 | 96.1 | 95.2 | 46.7 | 89.70% |
| WASATCH COUNTY | 99.8 | 78.4 | 76.2 | 15.8 | 93.10% |
| WASHINGTON COUNTY | 100 | 99.5 | 98.7 | 33.9 | 87.40% |
| WAYNE COUNTY | 99.7 | 69.6 | 53.3 | 51.7 | 79.70% |
| WEBER COUNTY | 99.1 | 96.5 | 93.9 | 37.1 | 88.40% |

**Digital Divide**

In addition to the internet connection speeds and home subscription, there are other factors that inform the state of the “digital divide”. Experts with the Purdue Center for Regional Development have created a comprehensive data set to assess the Digital Divide Index or DDI range[[4]](#footnote-4). It is composed of two scores, the infrastructure/adoption (INFA score) and the socioeconomic (SE) score. These variables considered in these scores include percent of homes without computing devices, percent of homes with no internet access, and individual poverty rate. Data for the digital divide index (DDI) was obtained from the 5-year American Community Survey (ACS) and FCC Form 477. The full set of variables is described in the appendix. The DDI range in value from 0 to 100, where 100 indicates the highest digital divide.



|  |
| --- |
| *Digital Divide Score (0 - 100, 100 indicates highest digital divide)* |
| **Low Digital Divide:** **0-9.9** |
| **Moderate Digital Divide: 10-19.9** |
| **Elevated Digital Divide: 20 - 29.9** |
| **Highest Digital Divide: 30 - 100** |

# Solutions:

As stated in our Utah Broadband Plan[[5]](#footnote-5) “Utah is home to one of the youngest, most technologically savvy and educated populations in the United States. To maintain the state's growing reputation as a premier global destination for business and quality of life, Utah must continue to provide leadership and strategic coordination in broadband infrastructure, expansion and adoption.”

Because all facets of our society operate in the digital world, all governmental agencies, municipalities, private partners, and community-based organizations must simultaneously address all components of connection.

To ensure broadband access is expanded equitably across all of Utah’s geographies, the state must consider four cornerstone solutions:

1. **Solutions for Broadband at the Household**
2. **State Broadband Adoption Coordination and Strategies**
3. **Access Strategies for Digital Learning for K-12 through Adult Learners**
4. **Broadband Access Opportunities for Tribal Nations in Utah**

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The cornerstone solutions create a statewide framework for action. These four solutions cannot exist in silos, but require collaboration by state leaders, public-private partnerships, leveraging multiple funding sources, and the creation of economies of scale to develop a coherent and systemic approach to allow for all Utah residents to have access to broadband.

# Cornerstone Strategies

## Solutions for Broadband at the Household

**Components of Connection Addressed:** Subscriptions, Infrastructure

## When COVID-19 closed schools and offices, internet service providers across the state responded positively to a pledge initiated by the Federal Communications Commission to keep households connected. In addition, broadband providers connected thousands of new customers at low or no cost for two months. Today rural households that kept their internet connection have dropped to 70 percent with some areas reporting as low as 20 percent.[[6]](#footnote-6) The digital divide has left approximately one out of every 10 households--and in some underserved urban Utah communities, nearly one out of every six--without a broadband connection. In rural areas, 12% of households are without internet but the number reaches a staggering 78% on the Tribal lands in San Juan County.[[7]](#footnote-7)

Utah Senate Bill 130[[8]](#footnote-8) revised the state universal service program (UUSF) to help address rural telecom network support. This was an essential first step to increase infrastructure access, but the state still notes that the monthly cost for internet service is a barrier for low-income or disadvantaged households. For broadband providers, supply and demand are at the core of offering affordable connections.

* + **Strategy One: State Subsidy for Utah Low-Income Households for Lifeline**

**Cost: *Currently Being Determined ongoing funding***

As an initial step, the state would increase the state Lifeline to match the federal support for Lifeline Broadband at $9.25 to address affordability for households at 135% of the federal poverty guideline. This would address affordability for households that demonstrate a clear fiscal need within the existing system and infrastructure of the Lifeline Broadband program. In addition, a state program that would supplement the cost of connectivity can help diminish the digital chasm.

**Suggested Funding Sources for Consideration:**

***General Fund***: This would be a solution for providing a sustained funding stream from the state general fund to support all households with affordable broadband.

***Universal Service Fund***: This funding stream requires the public service commission to increase the universal service fund (which is paid by the current consumer base) to provide a revenue stream to be able to lower the costs for Utah low-income households.

For example: A family that currently pays $50/month, qualifying under the 135% federal poverty guidelines and participating in the lifeline program with the existing federal subsidy ($9.25/month) with a state subsidy of $9.25/month would bring their cost down to $30.75/month.

* + **Strategy Two: State Matching Funds for Broadband Grants and Projects**

**Cost: *$10,000,000 in ongoing funding for state match of federal broadband grants***

**Suggested Funding Sources for Consideration:**

***General Fund***: Ongoing funding would providea sustained solution that demonstrates a state investment in providing affordable broadband for all Utah households.

A competitive state grant program to provide state resources that help make the financial case for new and existing providers to invest in building broadband infrastructure into unserved and underserved areas of the state.

An unserved area is an area in which households or businesses lack access to broadband service at speeds that meet the FCC threshold of 25 Mbps download and 3 Mbps upload. Underserved areas do receive service at or above the FCC threshold but lack access to broadband service at speeds 100 Mbps download and 20 Mbps upload.

## State Broadband Adoption Coordination & Strategies

**Components of Connection Addressed:** Devices, Digital Literacy, Accessible Content, Technical Support, All via Planning

Greater state-wide coordinating capacity and innovative funding models are needed to maximize broadband adoption investments across sectors. Broadband adoption efforts encompass all activities intended to ensure community members can equitably access connection provided by existing infrastructure. Examples of broadband adoption activities include: connecting constituents with subscription support programs (See Cornerstone One), expanding refurbished device availability, hosting digital literacy training projects, providing technical support to communities that otherwise lack access, and developing training content for constituents to continue education independently. Broadband adoption is a paramount component of the operational excellence for all government agencies as well as the service delivery for businesses, healthcare, and community organizations. While CARES monies have been allocated for broadband access among target populations, these efforts have lacked coordination—oftentimes duplicating the work of other players, failing to replicate best (and most efficient) practices, and systematically excluding the unique digital needs of underserved populations. Thereby, the state should invest in a Digital Adoption Coordinator, tasked with administering a public-private matching grant program and chairing a coordinating body.

* **Strategy One: Fund State Broadband Outreach Center to support Broadband Availability Maps, Broadband Advisory Council and Statewide Infrastructure and Broadband Coordination and Adoption as outlined in [Utah Code 63-N-501](https://le.utah.gov/xcode/Title63N/Chapter3/63N-3-S501.html?v=C63N-3-S501_2018050820180701) with a State Broadband Coordinator and State Digital Adoption Coordinator**

**Cost: $210,000 in ongoing funding for Center and FTE Broadband Director**

**Cost: *$150,000 in ongoing funding for FTE Digital Adoption Coordinatoran for the Utah State Library Division***

**Suggested Funding Source:**

***Education Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in the continuation of K-12 and adult education through remote and blended learning services. This is supported by the Utah State Board of Education business case for Broadband, and is included in the December 2020 USBE priority list.

While the Governor’s Office of Economic Development statutorily provides infrastructure and broadband coordination which includes working “with broadband providers, state and local governments, and other public and private stakeholders to facilitate and encourage the expansion and maintenance of broadband infrastructure throughout the state” and “may make recommendations to state and federal agencies, local governments, the governor, and the Legislature regarding policies and initiatives that promote the development of broadband-related infrastructure in the state and help implement those policies and initiatives,”[[9]](#footnote-9) the new Digital Adoption Coordinator would work inside an existing state office to administer a public-private matching grant program to coordinate agencies, localities, and community-based organizations engaging in broadband adoption and digital literacy training projects. While GOED would continue to spearhead the development of broadband infrastructure, the Digital Adoption Coordinator within the Libraries Division would address other [components of connection](https://www.digitalinclusion.org/definitions/) including: subscription access; device access; digital literacy training; technical support; and appropriate online content. The Utah State Library Division (USLD) is best suited to house the coordinator and grant program, as their staff has successfully managed similarly large broadband adoption projects and their division infrastructure has the additional administrative capacity to support a grant program and coordinating body. Further, USLD is well equipped to reach underserved communities, assess their digital inclusion needs, and provide accessible services. Alternative agencies that could host the program include the Public Services Commission or the Governor’s Office of Economic Development .

* **Strategy Two: Creation of State Digital Equity Master Plan**

**Cost: *$75,000 one-time funding***

**Suggested Funding Source:**

***General Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in providing broadband to all citizens of Utah.

***Education Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in the continuation of K-12 education through remote and blended learning services.

The Utah Broadband Plan calls to create a statewide digital equity plan that “addresses broadband infrastructure and adoption, including device access, digital literacy training and support, and digital safety.” An adoption focused master plan will create statewide broadband adoption benchmarks that will guide grants focused on planning, program development, and public-private partnerships. This plan will be developed under the direction of the coordinating body, which will include key community, private, and public sector agencies such as: State Board of Education, Division of Multicultural Affairs, Dept. of Transportation, Dept. of Workforce Services, Dept. of Technology Services, Division of Indian Affairs, Division of Aging and Adult Services, Utah Education & Telehealth Network, Utah Communities Connect, Utah Division of Emergency Management andthe Governor’s Office of Economic Development. This project would be led by the State DigitalAdoption Coordinator with the Utah State Library Division.

* **Strategy Three: State Seed Grants to Innovate and Scale Local Broadband Adoption Efforts**

**Cost: *$200,000 ongoing funding for a pilot program***

**Suggested Funding Source:**

***Education Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in the continuation of K-12 education through remote and blended learning services. This is supported by the Utah State Board of Education business case for Broadband, and is included in the December 2020 USBE priority list.

Many broadband adoption and digital literacy initiatives tend to be one-time projects or short-lived programs because they lack a sustainable program model or long-term funding sources. The grant program would focus monies on organizations and programs that are working towards becoming financially sustainable while addressing critical gaps in services in Utah. Examples of existing gaps in services to be funded include: robust volunteer and ‘train the trainer’ programs that provide one-one-one digital literacy training, refurbished device ecosystems, internet and device access points in multi-dwelling units (MDUs), healthcare facilities, and other priority locations. This project would be led by the State Digital Adoption Coordinator within the Utah State Library Division.

* **Strategy Four: Public-Private Partnerships for Expansion of Broadband Access**

**Cost:** No additional costs, administered by the State Digital Adoption Coordinator with the Utah State Library Division.

**Suggested Funding Source: N/A**

Through a broadband adoption program, increased technical assistance will initiate planning efforts for relevant organizations, provide fiscal oversight to existing activities, facilitate cross-sector coordination, and support public-private partnerships with an eye towards state adoption benchmarks. One example includes developing a systematic approach to signing up residents in low-income housing or clients in a social service agency for affordable internet offerings such as the $9.95 offering through Comcast Internet Essentials. This project would be co-led by the State Digital Adoption Coordinator with the Utah State Library Division and the Governor’s Office of Economic Development Broadband Office.

## Access Strategies for Digital Learning for K-12 through Adult Learners

**Components of Connection Addressed:** Subscriptions, Digital Literacy, Technical Support, Accessible Content

Technology can be a powerful tool for transforming learning. It can help affirm and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners.

However, to realize fully the benefits of technology in our education system and provide authentic learning experiences, students need to have access to technology beyond the four walls of the classroom. Furthermore, education stakeholders should commit to working together to use technology to improve American education. These stakeholders include leaders; teachers, faculty, and other educators; researchers; policymakers; funders; technology developers; community members and organizations; and learners and their families. These partnerships begin with broadband access. Local education leaders are seeking support from the state to best address home access for blended and remote learning environments.

* **Strategy One**: **Create a List of Broadband Resources for Learners and Families**

**Cost:** No additional costs, administered in partnership between the State Broadband Adoption Coordinator with the Utah State Library Division and the Utah State Board of Education Digital Teaching and Learning Coordinator.

**Suggested Funding Source: N/A**

Create a resource collection of both educational providers and experts in the field to assist schools, colleges, universities, and non-classroom learning environments to best implement home access for teaching and learning.

* **Strategy Two: Develop Cooperative Purchasing Agreements for Educational Entities for Hotspot Devices and Data Plans**

**Cost:** No additional costs, administered by the Utah Education Telehealth Network.

**Suggested Funding Source: N/A**

Implement a cooperative purchasing agreement for schools, colleges, and universities to maximize the economies of scale of statewide pricing on hotspot devices and associated data plans to meet the needs of students that experience homelessness. Average cost is $20/month, with a one-time cost for device procurement.

* **Strategy 3: Develop Technology Education Plans for Families**

**Cost:** No additional costs, administered in partnership between the State Digital Adoption Coordinator with the Utah State Library Division and the Utah State Board of Education Digital Teaching and Learning Coordinator.

**Suggested Funding Source: N/A**

Develop a statewide educational program to provide linguistically appropriate education on the technology solution for students, caretakers, and households to extend beyond a website/internet resource for support. The education focuses on families learning how to connect to the internet, understanding digital citizenship, and having guidance on how to connect and engage in online resources from the LEA.  The solutions would be implemented at the local level in collaboration with community partners and parent engagement strategies and programming.

Preparing students to be successful for the future requires a robust and flexible learning infrastructure capable of supporting new types of engagement and providing ubiquitous connectivity. This persistent access to high-speed internet in and out of school is necessary to prepare Utah’s students to succeed and lead by having the knowledge and skills to learn, engage civically, and lead meaningful lives.[[10]](#footnote-10)

## Broadband Access Opportunities with Tribal Nations in Utah

**Components of Connection Addressed:** Infrastructure, All via Planning

The challenges for broadband access vary across the state landscape. The state recognizes that each local community needs to be an integral partner and leader in designing solutions for broadband. Specifically, our tribal nations have a unique set of challenges when it comes to providing broadband access to all of their households. As the state seeks opportunities for expanding broadband access, it is important to note that the federal universal service fund provides additional assistance to support homes in the tribal nations. These and other resources provide the catalyst for opportunities to support the unique needs of these communities in Utah.

* **Strategy One: Support the Creation of Tribal Nation Broadband Plans**

**Cost: *$150,000 one-time funding***

**Suggested Funding Source:**

***General Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in providing broadband to all citizens of Utah.

The creation of a tribal broadband plan to coordinate efforts and engage state support and partners to help execute the local vision.

* **Strategy Two: Address Permitting with Comprehensive State Support**

**Cost:** No additional costs at this time.

**Suggested Funding Source:**

***General Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in providing broadband to all citizens of Utah.

***Education Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in the continuation of K-12 education through remote and blended learning services.

Opportunities for state support to be able to address permitting needs associated with infrastructure projects where possible.

* **Strategy Three: Addressing Ongoing Maintenance Needs for San Juan Broadband Project**

**Cost: *$200,000 ongoing funding for a pilot program***

**Suggested Funding Source:**

***General Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in providing broadband to all citizens of Utah.

***Education Fund***: This would be a solution for providing a sustained solution for households that demonstrates a state investment in the continuation of K-12 education through remote and blended learning services.

The San Juan School District is currently involved in 5 projects intended to improve connectivity for students at or near their homes:

* + **Project One:** Continuation of current broadband development plans including UETN Managed CARES act Wi-Fi upgrade for non-instructional spaces in the San Juan schools. This is being used to enhance wireless coverage of non-instructional spaces in buildings as well as parking lots and playing fields to allow students to spread out or work from their cars.
	+ **Project Two**: The USBE Broadband Internet Grant is being used to provide temporary coverage to students where commercial service is available until other projects are completed. The broadband grant is also supporting upgrades to the firewall and filtering capacity for all 5 projects.
	+ **Project Three:** UETN Managed LTE pilot is being used to test the CBRS LTE equipment in our region and where appropriate provide service to students near school buildings.
	+ **Project Four:** Community Hotspot project to create locations within 20 minute drive time of student homes where they can sit in cars and have Internet access.
	+ **Project Five:** River Region LAN Project involves a contract with Solectec INC to install wireless connections into homes on the reservation as an extension of the district's existing network.

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# GLOSSARY:

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| --- | --- |
| Broadband Access | Refers to an individuals’ ability to access all six components of connection (infrastructure, subscriptions, devices, literacy training, tech support, accessible content) required to participate in the digital world. Includes consideration of barriers (i.e. cost, type and quantity or devices, language accessibility, etc.) |
| Broadband Availability | Refers to the presence of infrastructure and devices. Includes considerations of quality (i.e. bandwidth). |
| Universal Access |  |
| 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 | requires access to broadband, devices, and digital literacy education and technical support. |
| Usage Patterns |  |
| Broadband Adoption | Refers to the process of ensuring broadband availability translates into broadband access equitably across the community.  |
| Components of Connection | Refers to the six elements necessary to connect to the digital world: Infrastructure, Subscriptions, Devices, Digital Literacy, Technical Support, annd Accessible Content. |

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# APPENDIX:

**Digital Divide Index (DDI) Data Explanation[[11]](#footnote-11)**

The Digital Divide Index or DDI ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score.

The INFA score groups five variables related to broadband infrastructure and adoption: (1) percentage of total 2018 population without access to fixed broadband of at least 100 Mbps download and 20 Mbps upload as of December 2018; (2) percent of homes without a computing device (desktops, laptops, smartphones, tablets, etc.); (3) percent of homes with no internet access (have no internet subscription, including cellular data plans or dial-up); (4) median maximum advertised download speeds; and (5) median maximum advertised upload speeds.

The SE score groups four variables known to impact technology adoption: (1) percent population ages 65 and over; (2) percent population 25 and over with less than high school; (3) individual poverty rate; and (4) percent of noninstitutionalized civilian population with a disability. In other words, these variables indirectly measure adoption since they are potential predictors of lagging technology adoption.

These two scores are combined to calculate the overall DDI score. If a particular county or census tract has a higher INFA score versus a SE score, efforts should be made to improve broadband infrastructure. If on the other hand, a particular geography has a higher SE score versus an INFA score, efforts should be made to increase digital literacy and exposure to the technology’s benefits.

The DDI measures primarily physical access/adoption and socioeconomic characteristics that may limit motivation, skills, and usage. Due to data limitations it was designed as a descriptive and pragmatic tool and is not intended to be comprehensive. Rather it should help initiate important discussions among community leaders and residents.

1. Federal Communications Commission. Universal Service Definition. Retrieved from: <https://www.fcc.gov/general/universal-service> [↑](#footnote-ref-1)
2. These components of connection are adopted from the National Digital Inclusion Alliance’s (NDIA) definition of “Digital Inclusion.” Digital Inclusion is a primary desired outcome of the Utah Broadband Adoption Initiative. <https://www.digitalinclusion.org/definitions/> [↑](#footnote-ref-2)
3. The standard international definition for ‘digital literacy’ is as follows: “*Digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy.”* [*http://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf*](http://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf) [↑](#footnote-ref-3)
4. Gallardo, R. (2020). Digital Divide Index. Purdue Center for Regional Development. Retrieved from Digital Divide Index (DDI): <http://pcrd.purdue.edu/ddi> - <https://arcg.is/0TjWLm0> [↑](#footnote-ref-4)
5. Utah Governor’s Office of Economic Development Broadband Plan: <https://business.utah.gov/wp-content/uploads/2020/07/Utah-Broadband-Advisory-Council-Plan-2020.pdf> [↑](#footnote-ref-5)
6. Broadband Advisory Council Meeting, Douglas Meredith, <https://www.youtube.com/watch?v=0X_i24lGNMs&feature=youtu.be> [↑](#footnote-ref-6)
7. <https://public.tableau.com/profile/allison.shrivastava#!/vizhome/broadbandpresentaiton/broadbanddashboard> [↑](#footnote-ref-7)
8. Utah Senate Bill 130, 2017 Legislative Session. Retrieved from: <https://le.utah.gov/~2017/bills/static/SB0130.html> [↑](#footnote-ref-8)
9. Utah Code 63-N-501 <https://le.utah.gov/xcode/Title63N/Chapter3/63N-3-S501.html?v=C63N-3-S501_2018050820180701> [↑](#footnote-ref-9)
10. Utah State Board of Education Vision Statement: <https://schools.utah.gov/board/utah/strategicplan> [↑](#footnote-ref-10)
11. Gallardo, R. (2020). Digital Divide Index. Purdue Center for Regional Development. Retrieved from Digital Divide Index (DDI): <http://pcrd.purdue.edu/ddi> [↑](#footnote-ref-11)