

Utah Broadband Center

Connecting Utah

[Insert the Name of the Community]   
Local Broadband Plan

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# Executive Summary

[Insert summary of your Digital Access Plan. Include your purpose and key points of your plan here.]

|  |  |
| --- | --- |
| **VISION** | [Enter vision statement here] |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **KEY BARRIERS** | [Barrier] | [Barrier] | [Barrier] | [Barrier] |
| [Description of barrier] | [Description of barrier. Delete if not needed.] | [Description of barrier. Delete if not needed.] | [Description of barrier. Delete if not needed.] |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COVERED POPULATIONS** | [Insert covered population here.] | [Insert covered population here. Delete if not needed] | [Insert covered population here. Delete if not needed] | [Insert covered population here. Delete if not needed] | [Insert covered population here. Delete if not needed] |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **GOALS** | [Goal] | [Goal. Delete if not needed.] | [Goal. Delete if not needed.] | [Goal. Delete if not needed.] |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **KEY STRATEGIES** | [Strategy for achieving goal(s) above] | [Strategy for achieving goal(s) above] | [Strategy for achieving goal(s) above] | [Strategy for achieving goal(s) above] |

# Overview of the Local Broadband Plan

## Vision

[Insert the community’s vision for broadband deployment/digital access]

## Goals and Objectives

[Insert the community’s specific goals for broadband deployment/digital access]

# Background

## Scope of Broadband Plan

[Insert information about the location]

[Insert a map of the location]

[Insert a map with future annexation areas, if applicable]

## What is Broadband?

Broadband is a dedicated connection to high-speed internet. The threshold for what speed is defined as high-speed internet changes according to the standards presented by the Federal Communication Commission (FCC). Currently, broadband is defined as any speeds above 25 megabits per second (Mbps) download speed and 3 Mbps upload speed (25/3 Mbps). The FCC is proposing to redefine broadband as 100/20 Mbps.

The Broadband Equity, Access, and Deployment (BEAD) Program defines households with less than 25/3 Mbps as unserved locations and those with less than 100/20 Mbps as underserved locations. Community anchor institutions with less than 1/1 gigabits per second (Gbps) speeds are also considered underserved, as defined by Section 60102 of the Infrastructure Investment and Jobs Act, which also sets forth the BEAD program.

### Broadband Network Distribution

The infrastructure that data travels along is called a network. Similar to other public utilities such as roads or water pipes, the network infrastructure is carefully planned and then built according to how many people need to be served in both the present and the future. Within the network, data is carried across fiber, wires, or radio signals in the air (wireless). These various means of carrying data have different capacities and speeds. The part of the network used to transport data between cities or across cities is known as Middle Mile infrastructure. The Middle Mile network connects to hubs built throughout a city. The part of the network that connects from a hub to the end user is called Final Mile or Last Mile infrastructure. End users can be businesses, residential homes, or individuals connecting to cell service.

Chart, diagram

Description automatically generated

Figure 1. The blue lines connecting the city to the hubs represent Middle Mile infrastructure.   
The orange lines connecting the hubs to the residential houses represent Final Mile infrastructure.

### Types of Broadband

There are various technologies that high-speed broadband internet can be served through, such as fiber optic, digital subscriber line (DSL), cable modem (Coax), and wireless technologies. Each form of technology has pros and cons.

#### Fiber Optic

Fiber optic technology sends digital signals carrying data as light through cables made of glass fibers. It provides the fastest, most reliable networks. Because fiber is a newer technology, many areas do not have fiber networks developed, so this type of network can require building new infrastructure. Fiber optic cables can be placed on existing power poles or can be placed inside conduit buried in the ground. If the network is designed and installed correctly, speeds can be up to 1 Gbps. Fiber Optic is the gold standard for high-speed broadband internet as it provides the fastest speeds and can support emerging digital technologies into the future.

#### DSL

DSL uses existing copper telephone cables to transmit data. Speeds vary widely based on local providers, as they can be less than 1 Mbps or up to 100 Mbps. Households with this connection are typically considered “served” with high-speed broadband internet. With maximum DSL speeds at 100 Mbps, DSL does not meet the ever-growing needs of future technologies, so it is not a preferred option when building modern broadband infrastructure.

#### Cable Modem (Coax)

Cable Modem delivers similar speeds as DSL, but it uses the coaxial cables used for cable televisions to transmit broadband data. Like DSL, it is not a preferred option when building new broadband infrastructure, but it can be used where existing infrastructure is in place.

#### Wireless

Wireless broadband includes several technologies, including satellite broadband, Wireless Local Area Networks (WLANs), Wi-Fi, and cellular 4G, 5G, and LTE. These technologies use radio spectrum to transmit broadband data. Please note that BEAD funding can only be used to build wireless broadband technology when it is connected to a terrestrial Middle Mile network, and cannot be used on satellite broadband technologies.

**Satellite Broadband** – Satellite broadband involves satellites that orbit the earth transmitting long range signals. It is primarily a Middle Mile wireless solution. It is often used in rural locations where there are no other terrestrial networks available. Satellite broadband has a higher latency (also known as lag), making video calls extremely difficult on this type of broadband. When using satellite connection, speeds vary based on location, and weather can cause outages.

**WLANs** – WLANs are the Last Mile networks used at homes or businesses to distribute internet to phones, computers, and other devices through radio signals. Wi-Fi and hotspots are both examples of a WLAN. Connection speeds are dependent on the service provided at the access point.

**Cellular 4G, 5G, and LTE** – Cellular 4G, 5G, and LTE involve cell towers transmitting radio signals of high-speed broadband internet data, which are then picked up through the modems in cellular phones, mobile routers, cellular antennas, or various signal boosters. The cell towers are often connected to a Middle Mile fiber network and provide a Final Mile connection for anyone near the signal. The speeds can often reach speeds of 600 Mbps if specialized equipment is used to boost the signal. This is usually the fastest high-speed broadband internet available for users that do not have access to fiber optic technology. Please note that BEAD funding can be used to build infrastructure for cell towers as long as they are connected to a terrestrial Middle Mile network.

### Benefits of Broadband

High-speed broadband internet has become an integral part of society. It is critical for work, education, telehealth, and the completion of everyday tasks.

High-speed broadband internet has transformed the way the world does business. There are few businesses that can operate today without the internet, and while some can get by with a low-speed connection, high-speed internet is becoming more and more necessary. A [Pew Research Center survey](https://www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/) conducted in April 2021 found that 90% of adults surveyed considered internet “essential or important for them personally during the [COVID-19] pandemic.” High-speed broadband internet has allowed for remote work possibilities, which opens the possibility of highly skilled workers relocating to smaller communities and benefiting the economies of those communities. Readily available access to the internet has allowed businesses to widen their customer base to a global market. [Insert the name of the community]’s primary business is [Insert the community’s primary business], and high-speed broadband internet helps [Insert how broadband helps the community’s primary business]. In today’s world, broadband can grow [Insert the name of the community]’s economic outlook.

While high-speed broadband internet is benefitting many regions across the globe, it is important to ensure that [Insert the name of the community] does not get left behind. There is a growing digital divide where those that do not have access to internet do not learn the digital skills necessary for high paying jobs, pushing them further into poverty. Conversely, increasing high-speed broadband internet access increases economic opportunities for low-income families.

Developing digital skills at a young age has become increasingly important, as high-speed broadband internet is an integral tool in modern education and preparation for the future workforce. Access to online classes, homework submissions, and research opportunities can be lost if a reliable high-speed broadband internet connection is not secured. Many districts are also utilizing online learning on snow days and other times when it isn't possible for students to gather at the school. Online classes can be made available for specialized subjects like foreign language or technological courses that do not have a local teacher available. Children without access to a broadband internet connection may be left out in these scenarios.

Other online resources are also becoming more important for communities. For example, telehealth is a tool that allows users to connect to doctors and medical providers online. Some of the benefits of telehealth include decreased healthcare costs, access to specialists not available locally, travel time reductions, and reducing the risk of exposing others to viral infections. High-speed broadband internet is necessary when completing a video call with a health professional.

High-speed broadband internet has become increasingly essential for daily tasks. High-speed internet is used when paying bills, accessing banks and retirement accounts, and applying and interviewing for jobs. High-speed broadband internet is also vital when enjoying modern-day entertainment, such as video streaming, watching live sports, or playing live video games. It is used when communicating with family and friends, especially when making a video call. Even using a smartphone with 4G or 5G service involves broadband technology.

# Current State of Broadband and Digital access

## Methods to Determine the Current State of Broadband

The planning team took several steps to determine the current state of high-speed broadband internet in [Name of community]. This planning team included the following individuals and/or organizations:

* [Add the organizations and key people that played a major role in planning this document]
* [Add the organizations and key people that played a major role in planning this document]
* [Add the organizations and key people that played a major role in planning this document]
* [Add the organizations and key people that played a major role in planning this document]

The activities performed included:

[List and describe all activities performed to assess the existing state of broadband. Remove any activities that do not apply.]

* **Public Outreach:** [Describe]
* **Public Surveys:** [Describe]
* **Internet Speed Tests:** [Describe]
* **Stakeholder Meetings:** [Describe]
* **Meeting With Internet Service Providers:** [Describe]
* **Existing Assets Assessment:** [Describe]
* **Disparity Analysis:** [Describe]
* **Research:** [Describe]
* **Geographic Information System (GIS) Mapping:** [Describe]

## Existing Resources

Existing programs include all the programs and activities that [Insert the name of the community] currently performs or has performed in the past.

[Fill in any of the following tables that apply to the location, and delete any that do not apply]

Table 1. Current Broadband-Related Activities

|  |  |  |
| --- | --- | --- |
| Activity Name | Description | Intended Outcome(s) |
| [Name of activity] | [Brief description of activity] | [Brief list of intended outcome(s)] |
|  |  |  |
|  |  |  |

Table 2. Current and Planned Full-Time and Part-Time Employees

|  |  |  |  |
| --- | --- | --- | --- |
| Current / Planned | Full Time / Part Time | Position | Description of Role |
| [Current or Planned] | [FT or PT] | [Position] | [Brief description of employee’s role] |
|  |  |  |  |
|  |  |  |  |

Table 3. Current and Planned Contractor Support

|  |  |  |  |
| --- | --- | --- | --- |
| Current / Planned | Full Time / Part Time | Position | Description of Role |
| [Current or Planned] | [FT or PT] | [Contractor position] | [Brief description of contractor’s role] |
|  |  |  |  |
|  |  |  |  |

Table 4. Broadband Funding

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source | Purpose | Total | Expended | Available |
| [Name of federal agency / other source of funding] | [Brief description of broadband deployment and other broadband-related activities] | [$X,000,000] | [$X00,000] | [$X00,000] |
|  |  |  |  |  |
|  |  |  |  |  |

## Partnerships

This section identifies existing and potential partners and community anchor institutions that [Insert the name of the community] may engage for the development and implementation of the Local Broadband Plan. Such partners include organizations that are already engaged in issues related to broadband deployment and digital inclusion, such as local governments, college and university systems, school systems, faith-based organizations, foundations, chambers of commerce, and local internet service providers.

Table 5. Local Community Partners and Community Anchor Institutions

|  |  |
| --- | --- |
| COMMUNITY PARTNER / ANCHOR INSTITUTION | Description of Current or Planned Role in Broadband Deployment and Adoption |
| [Name of partner] | [Brief description of the current or planned role of the partner for broadband deployment and adoption in the area] |
|  |  |
|  |  |

Table . State-Wide Partners

|  |  |  |
| --- | --- | --- |
| Name | Contact information | Role in Broadband Deployment and Adoption |
| Rebecca Dilg | rdilg@utah.gov  (801) 538-8681 | Utah Broadband Center Director  *Governor’s Office of Economic Opportunity* |
| Claire Warnick | cwarnick@utah.gov  (801) 450-6682 | Utah Broadband Center Program Manager  *Governor’s Office of Economic Opportunity* |
| Teri Mumm | tmumm@utah.gov | Utah Broadband Center Digital Access Program Manager *Governor's Office of Economic Opportunity* |
| Lynne Yocom | yocom@utah.gov  (801) 514-4565 | Fiber Optics Manager  *Utah Department of Transportation* |
| Liz Gabbitas | lgabbitas@utah.gov | Digital Access and Education Program Manager  *Utah State Library* |
| Vikram Ravi | vravi@ntia.gov | Federal Program Officer for Utah  *National Telecommunications and Information Administration* |

## Asset Inventory

Broadband assets include hard assets (e.g., towers, buildings, and utility poles) and soft assets (e.g., programs, activities, strategies, skills, people) that can be leveraged to close the digital divide. Hard assets in [Name of the community] are described in section 3.4.1. [Name of the community]’s soft assets are described in sections 3.4.2 and 3.4.3, below.

### Broadband Availability

[Insert maps and information related to the availability of high-speed broadband infrastructure and services]

### Digital Access

[Insert maps and information related to the access of knowledge, skills, and personal hardware to connect to high-speed internet]

Table 7. Technology Available to Region’s Population

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Percent of Population | | | | |
| **CITY** | **DSL** | **FIBER** | **CABLE** | **WIRELESS** | **OTHER** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Tables 8 through 11: Broadband Speed Tables

Below, Tables 8 and 9 show the *wireline* *speeds* available to residents throughout the region. Table 8 shows the wireline download speeds in the region, and Table 9 shows the wireline upload speeds in the region. Tables 10 and 11 show the *wireless speeds* available to residents throughout the region. Table 10 shows the wireless download speeds, and Table 11 shows the wireless upload speeds.

Table 8. Wireline Broadband Availability: Download Speeds

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Percent of Community Population With Available Download Speeds | | | | |
| **DOWNLOAD SPEED** | **CITY A** | **CITY B** | **CITY C** | **CITY D** | **CITY E** |
| 3 Mbps |  |  |  |  |  |
| 10 Mbps |  |  |  |  |  |
| 25 Mbps |  |  |  |  |  |
| 100 Mbps |  |  |  |  |  |
| 1 Gbps |  |  |  |  |  |

Table 9. Wireline Broadband Availability: Upload Speeds

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Percent of Community Population With Available UPload Speeds | | | | |
| **UP­­­LOAD SPEED** | **CITY A** | **CITY B** | **CITY C** | **CITY D** | **CITY E** |
| 3 Mbps |  |  |  |  |  |
| 10 Mbps |  |  |  |  |  |
| 20 Mbps |  |  |  |  |  |
| 100 Mbps |  |  |  |  |  |
| 1 Gbps |  |  |  |  |  |

Table 10. Wireless Broadband Availability: Download Speeds

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Percent of Community Population With Available Download Speeds | | | | |
| **DOWNLOAD SPEED** | **CITY A** | **CITY B** | **CITY C** | **CITY D** | **CITY E** |
| 3 Mbps |  |  |  |  |  |
| 10 Mbps |  |  |  |  |  |
| 25 Mbps |  |  |  |  |  |
| 100 Mbps |  |  |  |  |  |
| 1 Gbps |  |  |  |  |  |

Table . Wireless Broadband Availability: Upload Speeds

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Percent of Community Population With Available UPload Speeds | | | | |
| **UPLOAD SPEED** | **CITY A** | **CITY B** | **CITY C** | **CITY D** | **CITY E** |
| 3 Mbps |  |  |  |  |  |
| 10 Mbps |  |  |  |  |  |
| 20 Mbps |  |  |  |  |  |
| 100 Mbps |  |  |  |  |  |
| 1 Gbps |  |  |  |  |  |

[Insert map of speed test results]

### Broadband Affordability

[Insert maps and information related to broadband affordability]

Table 12. Providers and Prices

|  |  |  |  |
| --- | --- | --- | --- |
| Provider | Price | DESCRIPTION OF SERVICE TIER, ADVERTISED SPEEDS, AND AFFORDABILITY | Participates in Affordable Connectivity Program? |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Needs and Gaps Assessment

[Insert assessment of gaps between the Community’s current state and future needs of high-speed broadband internet availability and digital access and affordability]

### Broadband Availability

[Insert maps and information related to the needs and gaps for high-speed broadband infrastructure and services]

### Digital Access

[Insert maps and information related to the needs and gaps for access of knowledge, skills, and personal hardware to connect to high-speed internet]

### Broadband Affordability

[Insert maps and information related to the needs and gaps for broadband affordability]

# Obstacles or Barriers

[Insert obstacles or barriers related to high-speed broadband internet availability and digital access and affordability]

# Implementation Plan

## Priorities

[Insert plan for how identified stakeholders will be informed and involved with broadband deployment moving forward]

Table 13. Priorities for Broadband Deployment and Digital Access

|  |  |  |
| --- | --- | --- |
| Priority | Ranking | Description |
| [Name of priority] | [Low, Medium, or High] | [Brief description of priority] |
|  |  |  |
|  |  |  |
|  |  |  |

## Planned Activities

[Insert information about how to achieve goals, including the source of their funding]

## Key Execution Strategies

[Insert key strategies to meet goals and objectives]

## Ongoing Stakeholder Engagement

[Insert plan to identify stakeholders and stakeholder groups, develop an inclusive engagement model and associated mechanisms, and facilitate the stakeholder engagement process]

## Estimated Timeline for Universal Service

[Insert an estimate of when access to high-speed internet at just and reasonable rates will be made available throughout the Community]

## Estimated Cost for Universal Service

[Insert estimate of how much it will cost to provide access to high-speed internet at just and reasonable rates throughout the Community]

## Alignment

[Insert overview of how this Local Broadband Plan aligns with other Community priorities and plans]

## Technical Assistance

[Insert overview of the support and technical assistance that the Community may need from the Utah Broadband Center in order to successfully implement this plan]

# Conclusion

[Insert conclusion that reiterates the purpose and key points of this Local Broadband Plan]

1. Title Here

[-***ADDING MORE APPENDIX TITLE PAGES (to delete this info, click in the box/Delete*)** –  
 1. Add a Page Break (click on Insert/Page Break)   
 2. At the top of the page, type the Appendix’s title  
 3. Apply the AppdxHead paragraph style (click anywhere in the Appendix title, go to Home/Styles,   
 click on AppdxHead)]