

**DRAFT STRAWMAN (MARCH 2023)**  
**HAWAII STATE TEMPLATE FOR BEAD**  
**FIVE-YEAR ACTION PLAN**

**INTERNET FOR ALL**

**Five-Year Action Plan**  
Template



U.S. Department of Commerce

National Telecommunications and Information Administration

***Note:** This document is intended to serve as an organizational tool that supports each Eligible Entity in capturing notes and developing its BEAD Five-Year Action Plan. Each Eligible Entity should review the Five-Year Action Plan Guidance document and speak with their designated Federal Program Officer prior to using this document.*

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# Internet For All

## 1 Executive Summary

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[Insert summary of Five-Year Action Plan, restating purpose and key points of the plan]

## 2 Overview of the Five-Year Action Plan

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### 2.1 Vision

*‘Apakau ka lā* (transl. ‘spreading of the sun’s rays’) - this metaphoric expression captures the State of Hawaii’s vision to build out robust, reliable and affordable broadband infrastructure to every community and guarantee accessibility for every resident. The investment in broadband begins at the first mile, where robust and reliable Internet infrastructure must first reach our state through transpacific connections; is extended to our neighborhoods and residences via the middle mile, and rounds out the existing gaps in the last mile, where the Internet reaches every resident, community anchor institution, and business on our islands.

The University of Hawaii leads the state broadband effort while closely collaborating with the community of stakeholders, including the Department of Business, Economic Development, and Tourism (DBEDT), the Department of Hawaiian Home Lands (DHHL), the Department of Transportation (DOT), etc., to ensure that efforts are fully coordinated to ensure maximum benefit from the numerous federal funding programs. Work on the infrastructure elements will be closely accompanied by thoughtfully implemented digital equity programs to promote the necessary digital skills development for residents, enhancement of our local workforce, and stimulation and diversification of our state economy.

By 2027, Hawaii envisions a community where every resident will have access to robust, reliable and affordable high-speed Internet bolstered by a dedicated digital equity response that enables all of our residents to succeed in digital space.

### 2.2 Goals and Objectives

[Insert goals and objectives for broadband deployment and digital equity]

*Overall goals of the comprehensive statewide investments of federal broadband program funds are to,*

- (a) Ensure sustainable, robust, reliable and affordable access to the Internet for all Hawaii residents*
- (b) Enable digital equity for all Hawaii residents*
- (c) Build community capacity to strengthen and support digital literacy for all Hawaii residents through community-based digital navigator and related wrap-around support programs*
- (d) Expand and sustain a network of community based digital access hubs to support statewide digital equity and literacy initiatives*
- (e) Establish sustainable public sector oversight and management of Hawaii’s digital infrastructure and assets to ensure we can always support a robust, connected and empowered society.*

Hawaii's investment strategy first directs key public investments to reset the small/mid-market capital investment paradigm to remediate the most critical failings of the "fully competitive" telecommunications market. Magnified by our isolated island geography, the aging and brittle threads that interconnect our islands with one another and the rest of the global Internet, are in need of direct public investment to reset Hawaii's Internet infrastructure. The state's strategy to build or invest in key inter-island and terrestrial middle mile infrastructure will both lower the capital cost of Internet access for all providers - and as a result, for all residents - and increase the capacity and resilience of the critical middle mile infrastructure serving the state. Refreshed investment in Hawaii's key middle mile routes also has the desirable benefit of eliminating the most significant hurdles to landing new trans-Pacific systems on our shores.

Building on the foundational middle mile investments, Hawaii will utilize BEAD and TBC funds to fill gaps in our rural last mile infrastructure. Many of those areas that were uneconomical service locations can now be fully served by robust and affordable Internet access. While benefiting incumbent service providers, the middle mile and last mile investments will also significantly lower the capital cost hurdles for new competitive service providers and community-based networks.

All of this infrastructure investment will only be fully converted into real benefits for residents with the thoughtful statewide provisioning of digital equity and literacy services. These wrap-around support services are critical to overcome the many hurdles to adoption that are most prevalent in our underrepresented communities. The wrap-around strategy is centered around support for community digital hubs, and community digital navigators that can provide in-person, on-site support for our communities with the greatest need.

To achieve these goals, Hawaii will work to complete a number of objectives consistent with the guidance offered under the BEAD program. These will include,

- (a) Identification of BSLs with no service, are unserved, or are underserved based on BEAD requirements;
- (b) Identification of other service locations that are priority service locations to include in (a) - subject to available funding;
- (c) Build-out of last-mile infrastructure, and interconnection with service provider networks to resolve (a) and (b), including provisioning of alternative service provision for locations that are cost prohibitive for BEAD funding support;
- (d) Identification and service provisioning for community digital hubs, including necessary wrap-around support services;
- (e) Support for state implementation of projects and efforts identified and prioritized in state Digital Equity Plan, and in coordination with efforts funded by the state Digital Equity Capacity grant program;
- (f) Coordination of IT/Cyber workforce development initiatives with BEAD and DE investments;

### 3 Current State of Broadband and Digital Inclusion

#### 3.1 Existing Programs

**Table 1: Current Activities that the Broadband Program/Office Conducts**

<b>Activity Name</b>	<b>Description</b>	<b>Intended Outcome(s)</b>
<i>Name of activity</i>	<i>Brief description of activity</i>	<i>Brief list of intended outcome(s)</i>
<i>Broadband Community Convenings</i>	<i>Lead community convenings focused on engaging local public on broadband and DE needs and program support.</i>	<i>Increase the public’s engagement in broadband and DE programs in their local communities</i>
<i>Broadband Working Group</i>	<i>Comprised of B&amp;F staff, University grant program staff, and the NTIA BEAD Federal Program Officer (FPO), who (will) meet on a monthly basis to coordinate on ongoing and planned broadband initiatives</i>	<i>Enable a coordinated and streamlined effort to advancing broadband and digital equity conversation and action</i>
<i>Act 231 Broadband Working Group</i>	<i>Statutorily established working group to recommend structure and makeup of public entity to hold state broadband assets constructed or acquired as a result of federal program investments</i>	<i>Provide recommendations to legislature beginning at 2024 session</i>

**Table 2: Current and Planned Full-Time and Part-Time Employees**

<b>Current/Planned</b>	<b>Full-Time / Part-time</b>	<b>Position</b>	<b>Description of Role</b>
<i>Current or Planned</i>	<i>FT or PT</i>	<i>Position</i>	<i>Brief description of role</i>
<i>Current</i>	<i>FT</i>	<i>Broadband Infrastructure Architect</i>	<i>Technical infrastructure advisor with general telecommunications background, local knowledge</i>

			of existing infrastructure and established contact with telecom providers.
<i>Current</i>	<i>FT</i>	<i>Broadband Research Analyst</i>	Provides program management support for the UH broadband and critical infrastructure working group. Functions as a research analyst covering all State, Federal, and privately funded critical infrastructure projects supporting statewide broadband services in Hawai'i.
<i>Current</i>	<i>FT</i>	<i>Broadband Grant Program Coordinator</i>	Responsible for the management of all fiscal, human resource, travel and recording keeping of the project transactions. Responsible for all facets of program management and administrative support for the Principal Investigator (PI), staff, faculty, and researchers associated with the project and other related grant initiatives. Contributes to the overall broadband project coordination and communication through work on project planning, creation of project reports and presentations, and maintaining social media and web presence.
<i>Planned</i>	<i>FT</i>	<i>Communications Specialist</i>	Experienced media and social platform communications specialist; also will engage in community outreach activities.
<i>Planned</i>	<i>FT</i>	<i>Community Outreach and Engagement Specialist</i>	Increases and broadens community engagement to help support planning, deployment and adoption on a statewide basis.

<i>Planned</i>	<i>FT</i>	<i>Data Specialist</i>	This position requires technical, research, analytics, visualization and data gathering skills, to support collection, analysis and visualization work with the range of data to be collected over the performance of the grant project works.
<i>Planned</i>	<i>FT</i>	<i>(x2) Technical Project Manager</i>	Supports detailed infrastructure planning and deployment, and project management and oversight of contracted project efforts funded by federal sources.
<i>Planned</i>	<i>FT</i>	<i>Compliance and Contract Manager</i>	

**Table 3: Current and Planned Contractor Support**

In general, all of the deployment, and related support efforts funded by BEAD will be executed by organizations contracted under the BEAD award funds (together with state matching funds). Additional matching funds will be provided by organizations as part of their contract commitment to execute the agreed upon scope of work. This approach is generally true for all of the federally funded broadband grant programs.

Contracted support is included in the BEAD Planning Funds award, to provide a range of services at the grassroots level on a statewide basis. These contracted services include training, outreach, communications and data collection and analysis roles.

<b>Current/Planned</b>	<b>Time</b>	<b>Position</b>	<b>Description of Role</b>
<i>Current or Planned</i>	<i>FT or PT</i>	<i>Contractor Position</i>	<i>Brief description of contractor's role</i>



**Table 4: Broadband Funding**

Source	Purpose	Total	Expended	Available
<i>Name of federal agency/ other source of funding</i>	<i>Brief description of broadband deployment and other broadband-related activities</i>	<i>\$X,000,000</i>	<i>\$X00,000</i>	<i>\$X00,000</i>
<i>Broadband Equity, Access, and Deployment Program</i>	<i>Funds will be broadly used to provide last mile connectivity to unserved populations across the islands, followed by underserved, and will supplement digital equity programs. Funds will take into account the lands owned by the Department of Hawaiian Home Lands.</i>	<i>\$200,000,000 +</i>		
<i>Coronavirus Capital Projects Fund (States)</i>	<i>The state CPF allocation will be used towards two primary activities. The first major investment is projected to attract and leverage private investment in new subsea construction, with state allocations planned to support design, permitting and construction of a new inter-island submarine fiber optic cable system, together with associated terrestrial assets to provide interconnection with terrestrial telecommunications network backbones. The second major investment will be the creation of community hubs at HPHA public housing facilities, coupled with free and reduced access to broadband for public</i>	<i>\$115,475,318</i>		

	<p><i>housing residents for a limited term through ACP enablement.</i></p>		
<p><i>Coronavirus Capital Projects Fund (DHHL)</i></p>	<p><i>DHHL proposes to utilize CPF funds for the pre-construction engineering and design to support deployment of infrastructure delivering service under multiple 2.5GHz licenses allocated under the FCC 2.5GHz Rural Tribal Window program, together with the potential for unlicensed CBRS 3.5GHz use. The engineering and design outcomes will be utilized to support the construction of the wireless ISP deployment as an integral part of the DHHL effort to deploy comprehensive last mile services consisting of hybrid fiber and wireless infrastructure; the buildout will primarily be funded by the \$90m allocated to DHHL under the Tribal Broadband Connectivity (TBC) program (\$30m under CAA2021, and \$60m under IJA statutory allocations to DHHL for the benefit of the Native Hawaiian communities). The robust combination of the hybrid fiber and wireless infrastructure deployments under TBC, together with braided support from the State of Hawaii's BEAD, CPF and ARPA funds, will ensure that all of our Native Hawaiian</i></p>	<p><i>\$167,504</i></p>	

	<i>communities are fully connected to robust, resilient and affordable broadband infrastructure.</i>			
<i>Coronavirus State and Local Fiscal Recovery Funds</i>				
<i>Enabling Middle Mile Infrastructure Grant Program</i>	<i>On September 29, 2022, the University of Hawaii submitted their competitive application in collaboration with Hawaiian Electric Co. UH and HECO proposed to build terrestrial fiber along the public right-of-ways and offer open-access access at reasonable cost to the dark fiber infrastructure. The resulting terrestrial fiber assets would combine with the subsea build to create new, robust and geographically diverse routes to stabilize and enhance Hawaii’s critical middle mile broadband infrastructure. All broadband uses, including access by incumbents and new competitive entrants, would benefit from the significant increases in capacity and reliability, and the significantly lower capital cost, resulting from the public middle mile investments.</i>	\$43,941,543		
<i>Rural Digital Opportunity Fund (Hawaiian Telcom)</i>	<i>In February 2021, \$24 million in RDOF funding was awarded to Hawaiian Telcom for the purpose of deploying fiber broadband service to over 8,000 unserved and underserved locations in rural areas of Hawaii. By 2027, all</i>	\$24,000,000		

	<i>identified locations will be serviced with speeds of 1Gbps/500Mbps.</i>		
<i>State Digital Equity Planning Program (State)</i>	<i>The Department of Business, Economic Development, and Tourism’s Broadband and Digital Equity Office, will lead the charge in the Digital Equity Program. The Digital Equity Plannings funds will be used to hire a temporary to assist in developing the plan, with other labor contracted out as necessary to tackle data collection initiatives to develop the plan accordingly.</i>	<i>\$570,883.08</i>	
<i>State Digital Equity Planning Program (DHHL)</i>	<i>In July 2022, DHHL submitted a Letter of Intent to receive funding under the tribal allocation of the Digital Equity Planning Grant. These funds will be used to develop a unique digital equity plan for the Hawaiian Home Lands.</i>	<i>~\$50-100,000</i>	
<i>State Digital Equity Capacity Program (State)</i>	<i>The Department of Business, Economic Development, and Tourism’s Broadband and Digital Equity Office, will lead the charge in the Digital Equity Program. Funds will be expended as deemed in the Digital Equity Plan.</i>	<i>~\$14,000,000</i>	
<i>State Digital Equity Capacity Program (DHHL)</i>	<i>TBD</i>	<i>TBD</i>	

Tribal Broadband Connectivity Program	Use and adoption plus mapping. Infrastructure assessment and last mile deployment (deployment will be in the follow-up award).	\$90,000,000		
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### 3.2 Partnerships

**Table 5: Partners**

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
<i>Name of Partners and Potential Partners</i>	<i>Brief description of the current or planned role of the partner for broadband deployment and adoption in the State or Territory.</i>
<i>Department of Business, Economic Development, and Tourism (DBEDT)</i>	<i>Lead applicant in the State Digital Equity Programs. Collaborator on DE requisites specified under BEAD</i>
<i>Department of Hawaiian Home Lands (DHHL)</i>	<i>Native Hawaiian state office and collaborator for outreach and engagement to address infrastructure, access and DE programs on Hawaiian homelands</i>
<i>Sandwich Isles Communications</i>	<i>ILEC, ISP, Last mile connectivity</i>
<i>Hawaiian Telecom</i>	<i>ILEC, ISP, Last mile connectivity</i>
<i>Charter Communications</i>	<i>CLEC, ISP, Last mile connectivity</i>
<i>Lumen Technologies</i>	<i>CLEC, Last mile connectivity</i>
<i>ServPac</i>	<i>CLEC, Last mile connectivity</i>
<i>Ocean Networks</i>	<i>First mile connectivity - design and site surveys</i>
<i>Kauai Island Utility Cooperative</i>	<i>Middle mile connectivity (dark fiber only)</i>
<i>Hawaiian Electric Co</i>	<i>Middle mile connectivity (dark fiber only)</i>
<i>Chamber of Commerce of Hawaii</i>	<i>IT Sector Partnership</i>
<i>Island and regional chambers of commerce</i>	
<i>County of Kauai</i>	
<i>City &amp; County of Honolulu</i>	
<i>County of Maui</i>	
<i>County of Hawaii</i>	
<i>County Economic Development Boards</i>	
<i>Non-Profit Service Providers</i>	
<i>Philanthropic Organizations</i>	
<i>Educational Institutions and Organizations</i>	

### **3.3 Asset Inventory**

[Insert inventory of the Eligible Entity’s assets related to broadband deployment, access, adoption, affordability, and digital equity]

The current state of broadband infrastructure investments in Hawaii place the vast majority of assets in the hands of the commercial carriers. The largest capital assets sit with Hawaiian Telcom (ILEC) and Charter Communications (CLEC), with relatively small assets held by other CLECs (mostly Lumen, Servpac). The state does own and operate some key middle mile assets in statewide licensed microwave radio network, inclusive of the supporting tower infrastructure.

The availability of the statewide Institutional Network (INET) supports significant fiber based connectivity between and among nearly all major public facilities, and includes inter-island connectivity. The INET is a provision of service for the public good as an integral part of the statewide cable television franchise operation, with oversight by the Department of Commerce and Consumer Affairs. Since the INET is delivered as connectivity provisioned off the statewide Charter Communications infrastructure, it is not considered an asset owned by the state. Note that Hawaiian Telcom also operates a “cable television” operation under a franchise agreement, its service franchise area is currently limited to Oahu, and has opted to provide only limited network resources as a portion of its franchisee commitment.

The state did receive ARRA BTOP funds to complete connections to a handful of rural schools and libraries. Those funds were invested as incremental cost extensions under the statewide INET program; the resulting assets were extensions of the Charter Communications infrastructure, but held for the benefit of the state INET operation.

Current digital equity and literacy efforts are supported mostly by existing programs within the Department of Business Economic Development and Tourism, with additional projects funded by other federal grants (mostly telehealth outreach programs run by a combination of non-profit organizations and units of the University of Hawaii).

### **3.4 Needs and Gaps Assessment**

[Insert assessment of gaps between the Eligible Entity’s current state and needs of broadband deployment and digital equity]

Assessment during State DE Plan effort and BEAD Planning work (initially for BEAD Five-Year Plan, then for BEAD Initial Proposal, then BEAD State Challenge, then BEAD Final Proposal. In addition, ongoing refinement of assessments through the project execution and implementation period.

Roadmap for outreach and engagement as part of BEAD and DE plans - see part 5 (Implementation Plan)

Statewide deployment of community digital navigators - outreach, service, training, support (consolidated wrap-around services), and creation of new set of community digital hubs

Ongoing service delivery programs in parallel with infrastructure construction and activation

Community-based efforts to assist with identification of needs and gaps

Assessment during State DE Plan effort

Roadmap for outreach and engagement as part of BEAD and DE plans

Statewide deployment of community digital navigators - outreach, service, training, support (consolidated wrap-around services), and creation of new set of community digital hubs

Ongoing service delivery programs in parallel with infrastructure construction and activation

Community-based efforts to assist with identification of needs and gaps

## 4 Obstacles or Barriers

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[Insert obstacles or barriers that the Eligible Entity may encounter related to broadband deployment and digital equity]

High-cost geographic and topographic barriers

Resistance to adoption and change

Cooperative collaboration among many diverse stakeholders

Access to sufficient (human, technical and contract) resources for deployment of community wrap-around services

Supply chain delays (and inflation impacts)

Federal grant compliance and monitoring, and need for patience in arrival of implementation funding support



## 5 Implementation Plan

### 5.1 Stakeholder Engagement Process

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

Hawaii has initiated outreach via known public and organizational networks, requesting assistance in identifying bonafide community grassroots organizations that can assist with outreach and engagement directly at the affected community level. Together with existing grassroots outreach under the Hawaii Broadband Hui (over two years running), we expect to bring broad inputs and feedback to the planning and implementation efforts. We will overlay a public service announcement outreach effort, together with providing briefing information to legislators to connect with their constituents, to fully connect with statewide stakeholders and special interest groups. All outreach efforts will be fully coordinated with the State Digital Equity Plan effort (just underway), together with the DHHL outreach efforts under the TBC program.

Initial efforts will be structured around public sector engagement and outreach, together with strategic networks based on organized non-profit and service providers that have reach into grassroots, neighborhood organizations. Public sector engagement will be driven through state executive department and county designees to help identify known connectivity, equity and literacy gaps, and to connect us with their set of community organizations already engaged for outreach and general community engagement activities. Since many of these organized entities already hold regular member or public meetings, we will utilize those existing events to help us push information broadly throughout the state. We expect to also leverage elected officials, including legislators and county councilmembers, to help us reach out broadly to neighborhoods around the state.

The non-profit sector outreach begins with organized statewide and countywide entities, such as the Chambers of Commerce, Economic Development Boards, state and county business and community organizations. The group will be extended to start with large philanthropic service providers, such as Aloha United Way, Catholic Charities and the Institute for Human Services. Specific regional or neighborhood non-profits that have previously participated in our broadband outreach activities will also be connected, including Vibrant Hawaii, Hawaii Literacy and Lanakila Pacific. In parallel with these efforts, we will continue to leverage the work of the Broadband Hui to keep connected with statewide grassroots participants.

While some of the informational and discussion sessions will be held online (via Zoom), we expect that many of the discussions will be held in smaller, neighborhood centric in-person convenings. Likely locations will include public (e.g., public libraries, schools or University locations) or community centers. We will try to utilize a “local host” organization whenever possible in order to keep the focus at the grassroots level. Some larger informational type meetings will also occur; the smaller meetings will help to encourage a greater degree of participation by attendees.

### 5.2 Priorities

**Table 6: Priorities for Broadband Deployment and Digital Inclusion**

Priority	Description
<i>Name of Priority</i>	<i>Brief description of the priority</i>

<i>Unserved and Underserved Last Mile</i>	<i>BEAD NOFO highest priority</i>
<i>Digital Equity and Digital Literacy (Wrap-Around Services)</i>	<i>BEAD and DE NOFOs</i>
<i>Expansion of Community Hubs</i>	
<i>Community Digital Navigator Program</i>	
<i>High Cost LEO Satellite Support</i>	
<i>IT/Cyber Workforce Development</i>	

### **5.3 Planned Activities**

[Insert activities that the Eligible Entity intends to implement to meet its goals and objectives, including the source of their funding]

Infrastructure deployment to address all unserved and underserved locations, including identified high cost locations

Identification and adoption of additional community access hub locations

Community digital navigator program

Libraries & established community centers (CAIs), plus identification and collaboration with broad range of community digital hubs

Leveraging statewide IT/Cyber workforce development efforts to build staffing pool to support community access institutions and community digital hubs

### **5.4 Key Execution Strategies**

[Insert key strategies that the Eligible Entity will undertake to meet its goals and objectives, and to align with and maintain compliance with the statutory requirements of the BEAD program]

Investments will be guided by the declared BEAD priorities, focusing first on extending last mile infrastructure to cover unserved areas, in coordination with statewide strategies for interconnecting with middle mile infrastructure (supported outside of BEAD) and statewide wraparound services to support meaningful adoption of high-speed Internet access. Also per the statutory requirements, BEAD investments will not over-build or duplicate efforts funded by other federal funding sources, including but not limited to, RDOF, CAF and TBC programs.

Second priority is to shore up the underserved areas around the state, create and connect a broader spectrum of community hubs to extend the reach of grassroots community support, and statewide wrap-around services in support of the state's digital equity and digital literacy goals, and continuous support of IT/Cyber workforce development programs (also funded outside of BEAD).

The state broadband office support funded under BEAD will continuously monitor the overall efforts funded across all federal broadband programs. BEAD Planning Funds included support

for state broadband office capacity through the five-year term of award to support oversight of projects funded under BEAD, and compliance and monitoring of efforts through the term.

Integrate with already existing statewide and regional IT/Cyber workforce development efforts

### **5.5 Estimated Timeline for Universal Service**

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

Hawaii's target to complete Universal Service access to the Internet relies on the combination of BEAD investments (through 2026-2027), completion of the RDOF and CAF commitments by Hawaiian Telcom (~2027-2030), and the ability to overlay effective and affordable LEO satellite service (Starlink, Kuyper, etal) for very high-cost areas (2026-2027).

Related investments in key middle mile assets are expected to be online by the end of 2026; these investments are expected to lower the capital cost of provisioning to both incumbent and new market entrants. This factor will be key to increase competition, availability and affordability of high-speed Internet services throughout the state.

Long-term affordability will also be dependent on the continued availability of ACP or some similar program under the revisitation of the FCC's Universal Service program. Long term concerns and potential barriers to achieving Internet for All in Hawaii, include the unknown disposition of ACP and related subsidy programs, and uncertainties as to high-cost and ultra-high-cost last mile buildouts. We do also expect that the level of actual competition in our telecommunications market will continue to impact our overall reach and affordability goals. While there are significant public one-time funds available to incentivize achieving Internet for All in Hawaii, there may be conditions or issues that will impair our ability to succeed at this goal.

### **5.6 Estimated Cost for Universal Service**

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

Sum of all federal programs, including legacy funding sources (FCC, USAC, USDA) and programs (RDOF, CAF, ReConnect), plus leveraging a similar amount from commercial providers and private sector partners to achieve the desired goal of Universal Service AND meaningful access to the Internet for all. Total costs will also include the level of funding provided as a match, both directly to our projects, as well as their own direct investments into the state's broadband infrastructure, from carriers and providers operating in Hawaii.

We also expect to leverage some level of commercial investments into Hawaii's infrastructure as we directly reduce the impactful hurdles to participating in our broadband infrastructure market. Historically, the public sector entities in the state, inclusive of federal, state and county governments, have not made significant investments in telecommunications infrastructure assets; rather, the collective public sector "consumers" have been subscribers to commercially available broadband (Internet) service. This includes the use of public INET capacity made available via the state's cable television franchise agreements. There are limited investments of

this type, mostly around public safety communications infrastructure that serves specific point-to-point needs for those uses.

## 5.7 Alignment

[Insert overview of how the Five-Year Action Plan is aligned to the Eligible Entity's priorities and other existing or planned efforts]

Hawaii's BEAD Five-Year Plan is crafted as an integral part of the state's overall broadband investment framework (see ongoing developments of the investment framework at [www.hawaii.edu/broadband/](http://www.hawaii.edu/broadband/)). The investment framework details priorities to address the current brittle and monopolistic middle mile infrastructure, that has long constrained our ability to grow our effective utilization of global class network services. The limited size of Hawaii's market is the primary factor that has limited the commercial investment in our state, that now threatens our ability to grow and thrive together with our CONUS neighbors. This critical middle mile infrastructure is the focus of our investments from the US Treasury Capital Projects Fund, and the submitted NTIA Middle Mile Grant competitive proposals. We intend to leverage these federal sources to incorporate matching or larger investments by commercial partners (the federal investments will lead by overcoming the high capital cost hurdles that have so far caused commercial partners to avoid future Hawaii investments in the middle mile and first mile space).

The BEAD Five-Year Plan effort is also directly integrated with the state's Digital Equity Plan effort, led by the Department of Business, Economic Development and Tourism. That state Digital Equity Plan effort is underway, with an expected completion by November 2023. While the BEAD Five-Year Plan will be submitted in July, the state Digital Equity Plan will be included by reference, and will also be integrated in the state's BEAD Initial Proposal and Final Proposal efforts.

Funding support from the Tribal Broadband Connectivity program will focus initially on five use and adoption projects to provide short term relief for the Native Hawaiian Community, and the effort to assess and plan deployment of last mile (primarily) dark fiber infrastructure for Hawaiian Home Lands (DHHL) locations are expected to bring the necessary layer 1 infrastructure to all locations within those areas. This effort fills the last mile promise, together with the statewide BEAD last mile infrastructure efforts. Note that it is expected that much of the middle mile infrastructure required to provide interconnection between and among the DHHL locations will be provisioned by a mix of incumbent carrier services and new middle mile builds supported by the state's overall investment strategy.

The final piece of the last mile matrix is fulfilled with the already contracted commitments by Hawaiian Telcom under its multiple RDOF and CAF awards. These awards will provide the necessary last mile infrastructure for the designated award areas, and like the TBC-DHHL deployments, dovetail with the state's overall investment strategy.

Hawaii's overall broadband investment strategy is crafted to maximize the collective benefits of the multiple federal programs by carefully braiding the efforts together to support the state's goal of robust, reliable and affordable access to the Internet for all.

### 5.7.1 Alignment - Workforce Development

Hawaii has significant statewide workforce development already underway in the IT sector, including cybersecurity. The Hawaii IT Sector Partnership is an ongoing effort convened by the Chamber of Commerce of Hawaii, and supported by a number of partners, including the University of Hawaii system. This IT Sector Partnership effort already includes several dozen public and private sector employers, and includes material consideration for broad IT skills enhancement across the full spectrum of the state's workforce, and considers the active participation of our K-12 sector, and both credit and non-credit elements of our post-secondary education providers. This multi-year effort also includes the participation of industry training providers, including a number of common use, high value, instructional intellectual property (i.e. course materials).

Hawaii will leverage this ongoing IT sector workforce development effort to help support the broad IT literacy requirements associated with our Internet for All statewide goals, and to help ensure a sufficiently broad and deep pool of technically skilled candidates for the future engineering, operation and management of the state's broadband infrastructure.

While much breath has been given to the need for developing installers and construction crews, we are reminded that Hawaii's market and likely job count for these specialized construction skills will be limited over the long term, i.e. past the construction spike funded by the one-time federal investments. Based on the existing staffing and contract firms already in place, we anticipate that we should continue to feed the current steady state of construction skills, but not overly add to the size of that skills pool - lest we later run into a lack of construction jobs following our public investment spike. We do require that the range of technical skills are fully maintained in our community, but caution that we keep a watchful eye on future demands.

### 5.8 Technical Assistance

[Insert overview of the support and technical assistance that the Eligible Entity will need to ensure that the Initial and Final Proposals fully meet the requirements of the statute and the goals of the BEAD Program]

Given sufficient clarity and reasonable work by our federal partners, the state anticipates that it will require no additional technical assistance for implementation of the planned projects. Depending on the mix of participating providers, we may require technical assistance in support of compliance and regulatory efforts.

## 6 Conclusion

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[Insert Text]

<restate overall goals, investment framework, and execution strategy>  
<achieve true Internet for All by 2027/2030>

## 7 Appendices

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[Add appendices as needed]