Digital Equity Ecosystem Map

Presentation for Hawaii Broadband Hui
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Executive summary

The goal of the Digital Equity Ecosystem Map is to capture and depict where the State of Hawaii is today with achieving digital equity, and identify the programs, initiatives, projects and services currently available for kamaaina residents. To do this we conducted virtual one-on-one interviews with more than 30 local companies, organizations, state departments and individuals working in the digital equity space over a three-month period from September through December 2021. We culled the information we received to create a visual representation of Hawaii's current digital equity ecosystem including an explanation of how each organization or individual fits within the map.

Because this project was completed in and for the state of Hawaii we used an ahupua'a — a concept used by ancient Hawaiians to represent a subdivision of land that ran from the mountains down to the sea — to represent the ecosystem.

The hope is that this map serves not only as a snapshot of where Hawaii is today in addressing digital equity but also to serve as a resource for the available digital equity services and programs currently being offered, as well as the projects and initiatives underway. Additionally, this map will help identify the holes or "pukas" in Hawaii's digital equity work as we think about where to most thoughtfully and impactfully direct funding that will make a difference in bridging the digital divide in our islands.
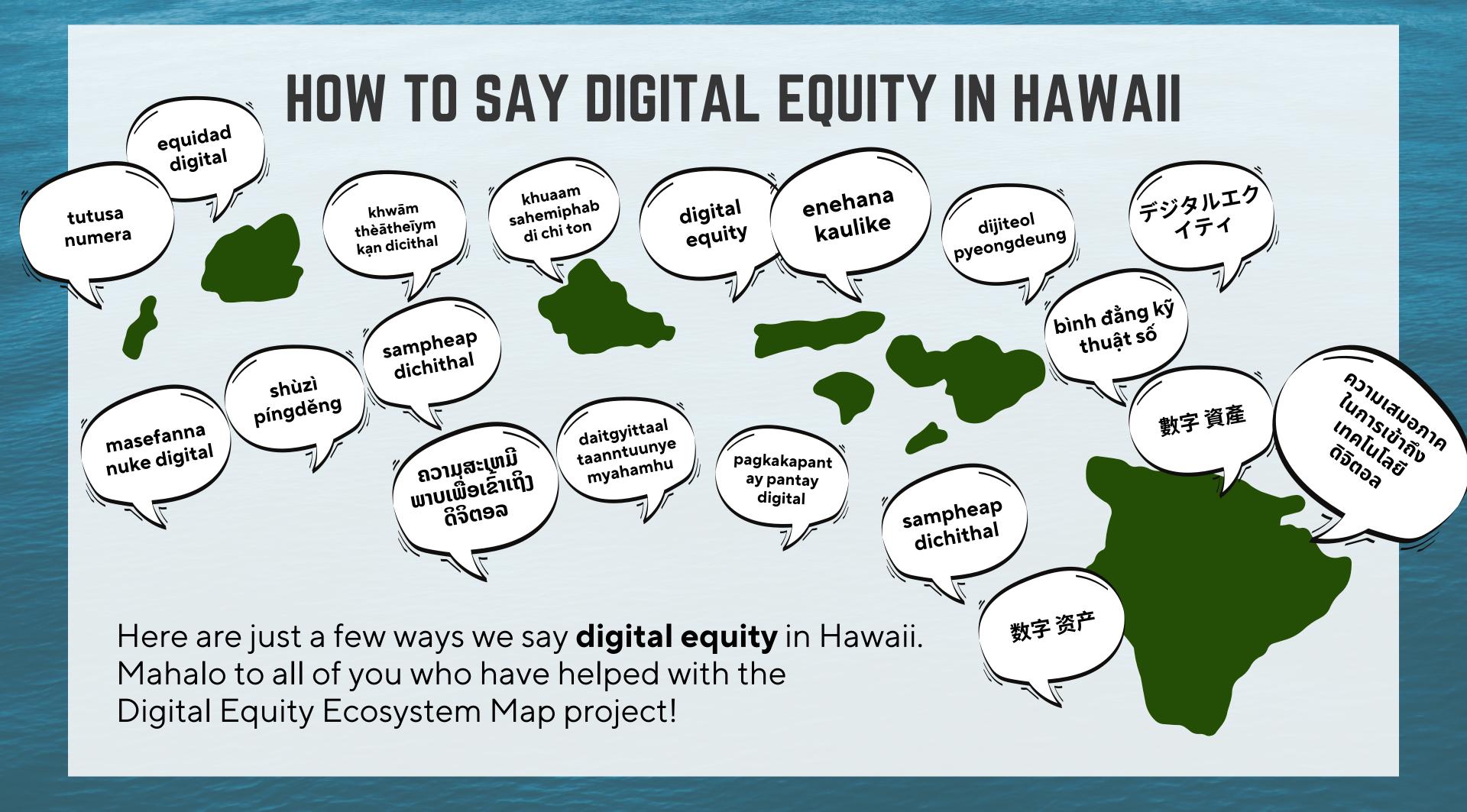
What is digital equity?

According to the National Digital Inclusion Alliance, digital equity is:

"A condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy;

Necessary for civic and cultural participation, employment, lifelong learning, and access to essential services."

For more information visit:
www.digitalinclusion.org/definitions.

Hawaii Digital Equity Ecosystem

Digital equity (Sun)
The sun plays a critical role in powering/providing life for everything living in the ecosystem

Access (oxygen)
Oxygen is essential for everything living in the ecosystem to survive

Internet service providers (Clouds)
Clouds are the main providers of water (internet service)
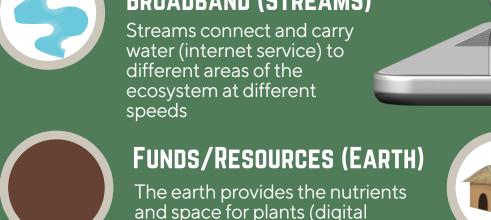
Internet service (Water)
Water is the most important component of any ecosystem. It cycles through the atmosphere, soil, streams and oceans, and provides all things living in the ecosystem with what they need to grow

Connectivity/Speed - Broadband (streams)
Streams connect and carry water (internet service) to different areas of the ecosystem at different speeds

Funds/Resources (Earth)
The earth provides the nutrients and space for plants (digital equity elements) to grow.

Places that offer wi-fi & Computer usage (Hale)
The hale offers animals a space to eat the plants (use the devices) and drink water (access the internet).

Community - People being served (All Animals)
In the ecosystem, the farmers and fishermen help ensure that all living things are being taken care of with digital equity services

elements of Digital equity - devices & Digital literacy (All Plants)
Plants play a critical role in providing nutrients for everything living in the ecosystem

Advocacy (Taro Patches)
Taro patches provide a space for the plants (devices and digital literacy) to grow

Digital Equity Service providers (fishermen)
The fishermen work hand-in-hand with the farmers (digital navigators) to care for the land and living things in the ecosystem

Digital Navigators (Farmers)
The farmers are knowledgeable about the care of plants (devices and digital literacy) and harvest them to feed (serve) living things within the ecosystem

Digital Resource Providers (Hunters and Gatherers)
The hunters and gatherers bring goods (online services, digital learning resources, telehealth) into the ecosystem to support all things living in a digital world

A Perfect Digital Equity Ecosystem

In a perfect digital ecosystem, all living things have equal access to technology anytime, anywhere — as well as the knowledge necessary to navigate these digital tools

Access to Affordable Internet

All living things have access to water (internet service) in order to grow and thrive.

Sustainable funding

Funding is readily available and in place to support digital equity projects and programs.

Devices

All living things in the ecosystem have access to the plants or food (devices) they need to survive.

digital literacy

Digital navigators (farmers) are readily available to help all living things in the ecosystem to access food (devices) to become digitally literate.

Connectivity/Infrastructure

Proper infrastructure is in place and all living things can access the water (internet).

Hawaii's Digital Equity Ecosystem Today

In Hawaii's digital ecosystem today, while great strides are being made towards a perfect digital equity ecosystem, holes and gaps exist in the state. Most noticeably these include the high cost of internet service, underserved communities and unreliable internet service

High cost of internet service/Devices

Many Hawaii residents aren't able to access the internet and devices due to the high cost. This is demonstrated in the ecosystem by the murky water.

Unreliable internet

Many residents do not have access to reliable internet service due to their location and the service options available. This is demonstrated in the ecosystem by the lack of oxygen (access).

Rural communities are underserved

Those living in rural, remote communities are being left behind in terms of access to services. This is demonstrated in the ecosystem by the low amount of water (internet service) offered to all living things.

Lack of digital literacy Skills

Hawaii is nationally behind with "digital readiness" and overall is twice as bad as the US (40% vs. 20%). This is demonstrated in the ecosystem by the low amount of plants (digital literacy training) offered to all living things.

What is the Sun
In the digital equity ecosystem?

The sun represents **digital equity** because it plays a critical role in powering/providing life for everything living in the ecosystem.

Digital equity is important in the ecosystem to ensure that the community not only has access to the information and technology they need to fully participate in society, but it also ensures that everyone has access to sufficient connection speeds and is equipped with the skills necessary to navigate online.

What is Oxygen

In the digital equity ecosystem?

Oxygen represents **access** because it is essential for everything living in the ecosystem to survive. All animals (community) need access to water (internet service) and plants (digital equity elements) in order to grow and thrive. Additionally, it's important for plants (devices) to have oxygen in order for the animals to be able to use them (access the internet).

What is a Cloud
In the digital equity ecosystem?

The clouds represent **internet service providers** who are the main suppliers of water (internet service) in the ecosystem. Many of the internet service providers offer discounts off of internet service plans for the residents who need it the most.

Who represents the Clouds?

Some of the organizations in Hawaii that represent clouds (internet service providers) in the digital equity ecosystem:

- AT&T Hawaii

- Hawaiian Telcom

- Nation of Hawaii

- Spectrum Hawaii

- T-Mobile Hawaii *

- Verizon Hawaii

What is Water

In the digital equity ecosystem?

Water is the most important component of any ecosystem, just like **internet service** is in a digital world. Water (internet service) cycles through the atmosphere, soil, streams and oceans, and provides all things living in the ecosystem with what they need to survive. Here, internet serves as a lifeline — it provides a crucial link to essential healthcare, education and government services online that keeps the community healthy and prospering.

What are streams

In the digital equity ecosystem?

The streams in the ecosystem represent **connectivity and speed**, or **broadband** because it connects and carries water (internet service) to different areas of the ecosystem at different speeds. Each stream – illustrated in the ecosystem as the water flowing from the mountains to the taro patches to the ocean – plays a major role in nursing its own microclimate, whether that be in remote/rural areas or populated areas, and getting all living things in each area connected to quality, high-speed internet.

What is Earth
In the digital equity ecosystem?

In the ecosystem, earth provides the nutrients and space for plants (digital equity elements) to grow and represents the key organizations that provide or help distribute critical **funding and resources** to local organizations that work in the digital equity space, whether it's refurbishing computers or creating a mobile space that has Wi-Fi service.

Who represents Earth?

Some of the organizations in Hawaii that represent earth (funds and resources) in the digital equity ecosystem are:

- AT&T Hawaii (*See full description in the Clouds section*)
- Transform Hawaii Government
- County of Hawaii
- Maui County Work Development Board *
- University of Hawaii System *

What is a Lo'i (Taro Patch)
In the digital equity ecosystem?

The lo'i or taro patch represents a space for **advocacy** in the digital equity ecosystem. It provides a space to engage elected officials, civic leaders and residents who are most affected by the digital divide to advocate for equal access to devices, internet connectivity and digital literacy. Thus, providing life to the plants (devices and digital literacy) and animals who consume them, to grow and flourish.

Who represents a Lo'i (Taro patch)?

Some of the organizations in Hawaii that represent the taro patch (advocacy) are:

- **AARP Hawaii**: They are currently working with HIPHI to create a digital inclusion roadmap that will be used to identify where the gaps are in addressing digital equity for seniors and include ideas of how to get our kupuna prepared for a digital world. *(See the full description in the Fishermen section)*
- **Hawaii Kids CAN:** Supported two bills addressing schools teaching computer science and digital literacy (HB1222/SB242) and played a significant role in supporting Hawaii's Digital Equity Declaration and other digital equity efforts. *(See full description in the Fishermen section)*

- **Kamehameha Schools:** Participated in collective advocacy with the Hawaii Broadband Hui and others to support funding for digital devices for public school students. *(See full description in the Fishermen section)*
- **Transform Hawaii Government:** Advocates for improving government business practices through technology to ensure that policymakers, state employees, local residents and businesses have convenient and secure access to reliable information and data on demand. Also participated in collective advocacy with the Hawaii Broadband Hui. *(See full description in the Earth section)*

What is a Hale (Shelter)
In the digital equity ecosystem?

The hale (shelter) represents a space where animals can eat the plants (use devices) and drink water (use the internet). These are commonly community spaces that provide Wi-Fi service, as well as access to computers, tablets or laptops for all to use.

Who Provides the Hale (Shelter)?

Some of the organizations in Hawaii that offer
hale/shelter (places that offer Wi-Fi and devices to use) are:

- Hawaiian Hope *(See full description in the Fishermen section)*
- Hawaii Library Systems (*See full description in the Farmer section)*
- Hawaii Technology Academy **
- Pacific Center for Advanced Technology Training
- Vibrant Hawaii *(See full description in the Fishermen section)*

What Are Animals
In the digital equity ecosystem?

Animals in the ecosystem represent the **community** – from keiki to kupuna.

What Are Plants
In the digital equity ecosystem?

The plants in the ecosystem represent the **elements of digital equity** or the components that the community needs in order to bridge the digital divide which includes internet-enabled devices, digital literacy training and technical support. The plants play a critical role in providing nutrients for everything living in the ecosystem.

What is a Fisherman

In the digital equity ecosystem?

The fishermen represent **digital equity service providers** or individuals and organizations who work hand-in-hand with the farmers (digital navigators) to care for the land and living things in the ecosystem.

They provide all living things with the opportunity to get connected online, whether it's by supplying necessary devices and technical support, Wi-Fi services, or by helping to identify, or make available, fast and affordable internet service options.

Who Are The Fishermen?

Some of the organizations in Hawaii that take on the role as fishermen (digital equity service providers) are:

- ʻAuamo Collaborative

- Catholic Charities

- Hawaii County Economic Opportunity Council

- Hawaiian Hope

- Hawaii and Pacific Basin Health Education Center *(See full description in the Hunter/Gatherer section)*

- Hawaii Kids CAN

- Hawaii State Department of Education

- Hawaii Literacy *(See full description in the Farmer section)*
- Hawaii Technology Academy *
- HandsOn Maui – County of Maui Volunteer Center
- Kamehameha Schools
- Pacific Center for Advanced Technology Training *(See full description in the Hale section)*
- Pu'uhonua O Wai'anae *
- Vibrant Hawaii
- Workforce Development Council *(See full description in the Farmer section)*

What is a farmer

In the digital equity ecosystem?

The farmers represent **digital navigators** or individuals and organizations who are knowledgeable about the care and use of plants (devices and digital literacy) and harvest them to feed (serve) living things within the ecosystem.

Farmers help all living things learn to use critical online services that provide guidance with food support, rent, education, employment, childcare, government benefits and more. They are able to assess the needs of those living within the ecosystem and guide them to online resources, accessing devices, and more.

Who Are the farmers?

Some of the organizations in Hawaii that take on the role as farmers (digital navigators) are:

- AARP Hawaii

- Hawaii and Pacific Basin Area Health Education Center *(See full description in the Hunters/Gatherer section)*

- Hawaii Kids CAN *(See full description in the Fishermen section)*

- Hawaii Literacy

- Hawaii State Public Library System

- Lanakila Pacific

- Maui County Area Health Education Center *(See full description in the Hunter/Gatherer section)*

- Maui County Work Development Board *

- Molokai Rural Health Association

- Pear Suite, Inc.

- State of Hawaii Department of Labor and Industrial Relations

- Vibrant Hawaii *(See full description in the Fishermen section)*

- Workforce Development Council

What is a hunter/gatherer
In the digital equity ecosystem?

The hunters and gatherers represent **digital resource providers** or individuals and organizations who bring goods (online services, digital learning resources, telehealth) into the ecosystem to support those living in a digital world.

They provide creatures living in the ecosystem with online resources, whether it's by providing telehealth services, educational courses, and other essential learning needed to thrive in the ever-changing digital world.

Who represents the hunters/gatherers?

Some of the organizations in Hawaii that take on the role as hunters/gatherers (digital resource providers) are:

- Aloha for Independent Living *
- Chamber of Commerce Hawaii
- Department of Education *(See the full description of their organization in the Fishermen section)*
- HandsOn Maui - County of Maui Volunteer Center
- Hawaii and Pacific Basin Area Health Education Center
- Hawaii Primary Care Association *
- Hawaii Society for Technology in Education *
- Hawaii State Department of Health
- Hawaii Technology Academy *
- Kamehameha Schools *(See full description of their organization in the Fishermen section)*

- Lanai Community Health Center
- Maui County Area Health Education Center
- Molokai Rural Health Community Association
- Pacific Basin Telehealth Resource Center
- Pacific Center for Advanced Technology Training *(See full description of their organization in the Hale section)*
- Pacific International Center for High Technology Research (PICHTR) *
- Palama Settlement
- Papa Ola Lokahi *
- Purple Mai'a Foundation
- Sultan Ventures *
- University of Hawaii System *
- Waianae Coast Comprehensive Health Center *
- Waimanalo Health Center *

Hawaii Projects Addressing Digital Equity

Wifi-on-Wheels

- Hawaii Kids CAN

Workforce development programs

- Purple Mai'a Foundation
- Chamber of Commerce
- Workforce Development Council

The Rural Broadband Mapping Initiative

- 'Auamo Collaborative

Digital Inclusion Roadmap / Digital Equity Ecosystem

- AARP Hawaii
- State of Hawaii / DBEDT

Digital literacy training

- Workforce Development Council

Distributing refurbished computers

- Hawaiian Hope
- Workforce Development Council

Lending Libraries

- Catholic Charities

Emergency Broadband Benefit Program/ Affordable Connectivity Program

Telehealth support and services (Hawaii UTelehealth)

- Hawaii and Pacific Basin (AHEC)

Mahalo to everyone who contributed to this project, especially those who participated in the virtual meetings and completed a survey.
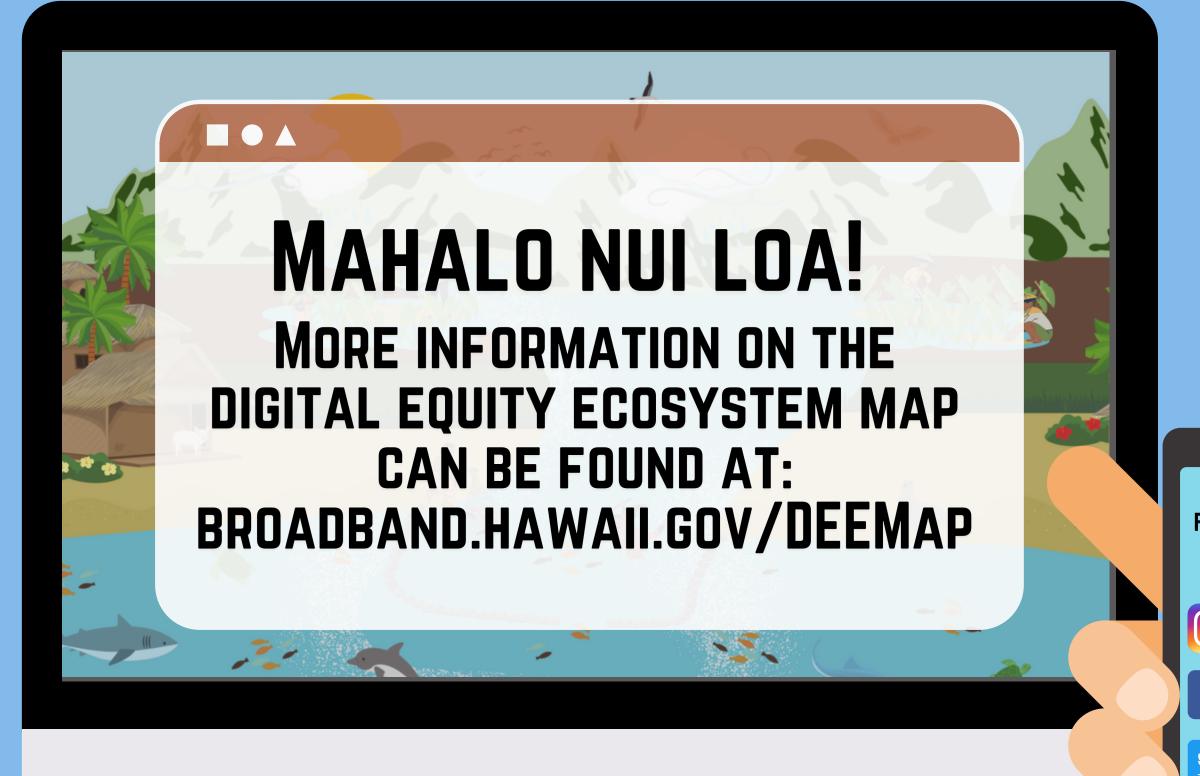
The organizations marked with an asterisk (*) are those that we did not get a chance to speak with, but still felt important to include in the Digital Equity Ecosystem Map.

Mahalo Nui Loa

We want to mahalo the following...

- **AARP Hawaii**, Audrey Suga-Nakagawa
- **Amazon Web Services**, Tim Gillaspie
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- **ʻAuamo Collaborative**, Brad Bennett
- **Catholic Charities Hawaii**, Diane Terada
- **Chamber of Commerce Hawaii**, Keala Peters
- **County of Hawaii**, Riley Saito and Karissa Moffett
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- **Hawaiian Hope**, Curtis Kropar
- **HandsOn Maui**, Valerie Janikowski
- **Hawaii Literacy**, Jill Canfield
- **Hawaiʻi/Pacific Basin Area Health Education Education Center**, Kelly Withy
- **Hawaii State Department of Health**, Laura Arcibal
- **Hawaii State Public Library System,** Stacey Aldrich
- **Hawaiian Telcom,** Ani Menon
- **Kamehameha Schools**, Kaʻanoi Walk, Lihla Noori and Olu Campbell
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- **Lanakila Pacific**, Lori Lau
- **Maui County Area Health Education Center**, Rosie Davis
- **Molokai Rural Health Community Association**, Judy Mikami
- **Nation of Hawaii**, Brandon Makaawaawa
- **Pacific Basin Telehealth Resource Center**, Christina Higa
- **Pacific Center for Advanced Technology Training**, Beryl Morimoto
- **Palama Settlement**, Anna Gustafson
- **Pear Suite, Inc.,** Colby Takeda
- **Purple Maiʻa Foundation**, Alec Wagner
- **Spectrum Hawaii**, Rebecca Lieberman
- **State of Hawaii Department of Labor and Industrial Relations**, Jarret Yip
- **Transform Hawaii Government**, Christine Sakuda
- **University of Hawaii, IT Workforce Development and Regulated Policies League**, Alan Ito
- **Verizon Hawaii**, Mike Bagley
- **Vibrant Hawaii**, Janice Ikeda
- **Workforce Development Council**, Kaʻala Souza

Mahalo nui loa!
More information on the digital equity ecosystem map can be found at:
BROADBAND.HAWAII.GOV/DEEMap

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