

Hawaii Broadband Update

November 2022



Broadband Context for Hawaii

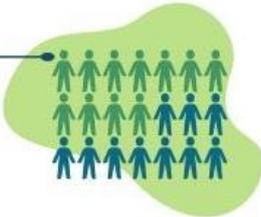


Broadband 101

Access, Equity and Literacy, Last Mile, Middle Mile, Governance and Sustainability

Work

Facilitates job search, application, training and hiring. Work from anywhere, telework, increased productivity



Education

Increases access and outreach to endless information resources. Remote education, skill sharing, academic collaboration



Economy

Fosters growth, competition and enhances productivity. e-commerce, online business, globalization



Healthcare

Streamlines healthcare management and clinical information exchange. Patient-centered care, telehealth



Government

Improves access to services, streamlines transactions, eases platform sharing and news dissemination. Supports emergency services and connections with citizens. Activism, national security, public safety



'Apakau Ka Lā

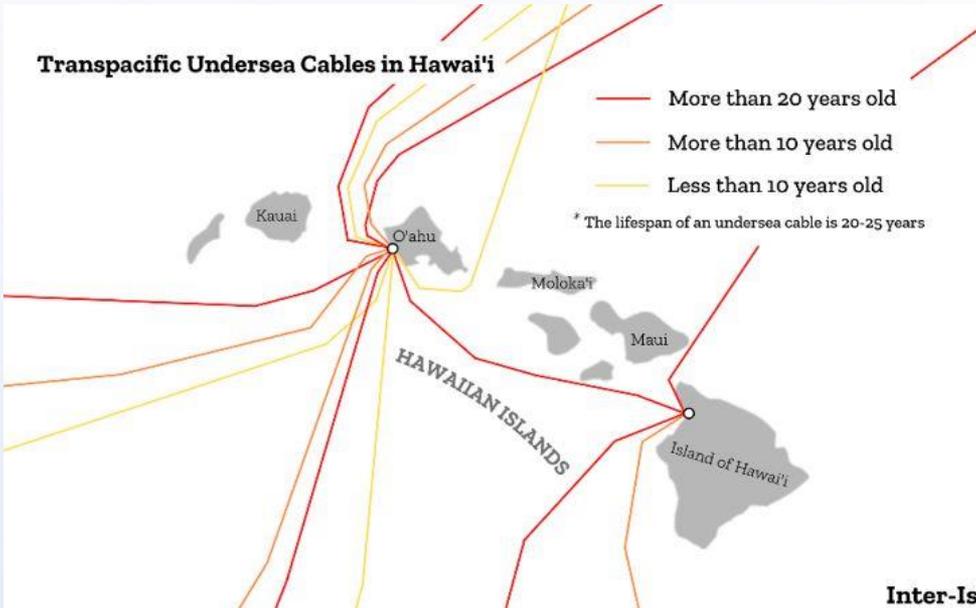
Spreading of the sun's rays'



Transpacific Undersea Cables in Hawai'i

- More than 20 years old
- More than 10 years old
- Less than 10 years old

* The lifespan of an undersea cable is 20-25 years

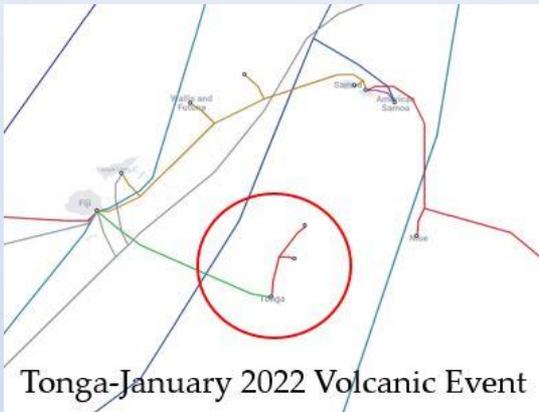
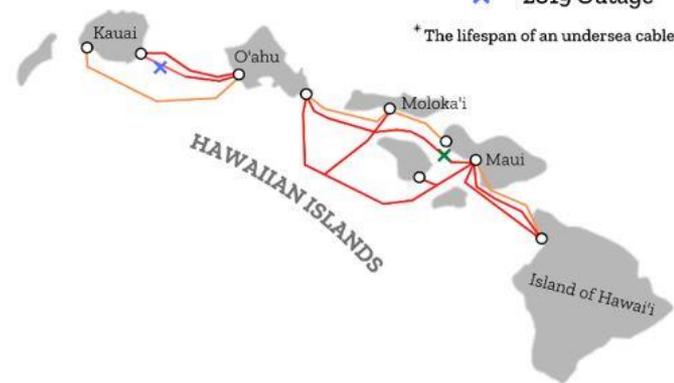


Hawai'i's Delicate (i.e. Aging and Brittle) Fiber Connections

Inter-Island Undersea Cables in Hawai'i

- More than 20 years old
- More than 10 years old
- ✕ 2010 Outage HIFN
- ✕ 2019 Outage HIFN

* The lifespan of an undersea cable is 20-25 years



Tonga-January 2022 Volcanic Event

Federal Support Directed to State

- ARPA/CSFRF
 - Allocate \$33m for IJJA-BEAD match (for initial \$100m BEAD baseline)
 - Request additional funds for IJJA-BEAD match plus filling in any Middle Mile gaps
 - \$1.5m for initial site surveys and pre-permit work <- **DONE!**
- ARPA
 - Tribal Broadband Connectivity/DHHL (NTIA) ~\$16m-pending
 - Connecting Minority Communities (NTIA) \$3m-competitive/pending
 - CCPF (US Treasury) \$115.5m+\$167k allocated-plans submitted
- IJJA
 - Broadband Equity, Access and Deployment (NTIA) ~\$250m++
 - Tribal Broadband Connectivity/DHHL (NTIA) up to \$90m total
 - Competitive Middle Mile Grant (NTIA) – submitted (\$44m)
 - Additional Competitive Proposal by Hawaiian Telcom
 - State Digital Equity Plan + DHHL DE LOI (NTIA) – submitted \$570k+
 - State Digital Equity Capacity Programs (NTIA) \$14m++
 - Affordable Connectivity Program (ACP) (FCC)
- Leverage Private Investments

Hawaii Broadband Investment Work-in-Progress

- DHHL TBC – Tranche 1 submittal under active curing
- CPF – Plans submitted 9/22
 - Programs: Subsea Build, HPHA Facilities
 - DHHL Application submitted, pending review
- BEAD – Planning Funds (5m) pending award
- State DE Plan (570k) – Pending award
 - DHHL LOI Submitted, pending NTIA next steps
- Competitive MM Proposals Submitted
 - UH-HECO 44m
 - HT ~80-100m
- Governance Working Group pending start



Hawaii Broadband Investment Strategic Framework

- Access, Equity and Literacy
- Last Mile
- Middle Mile
- Governance and Sustainability

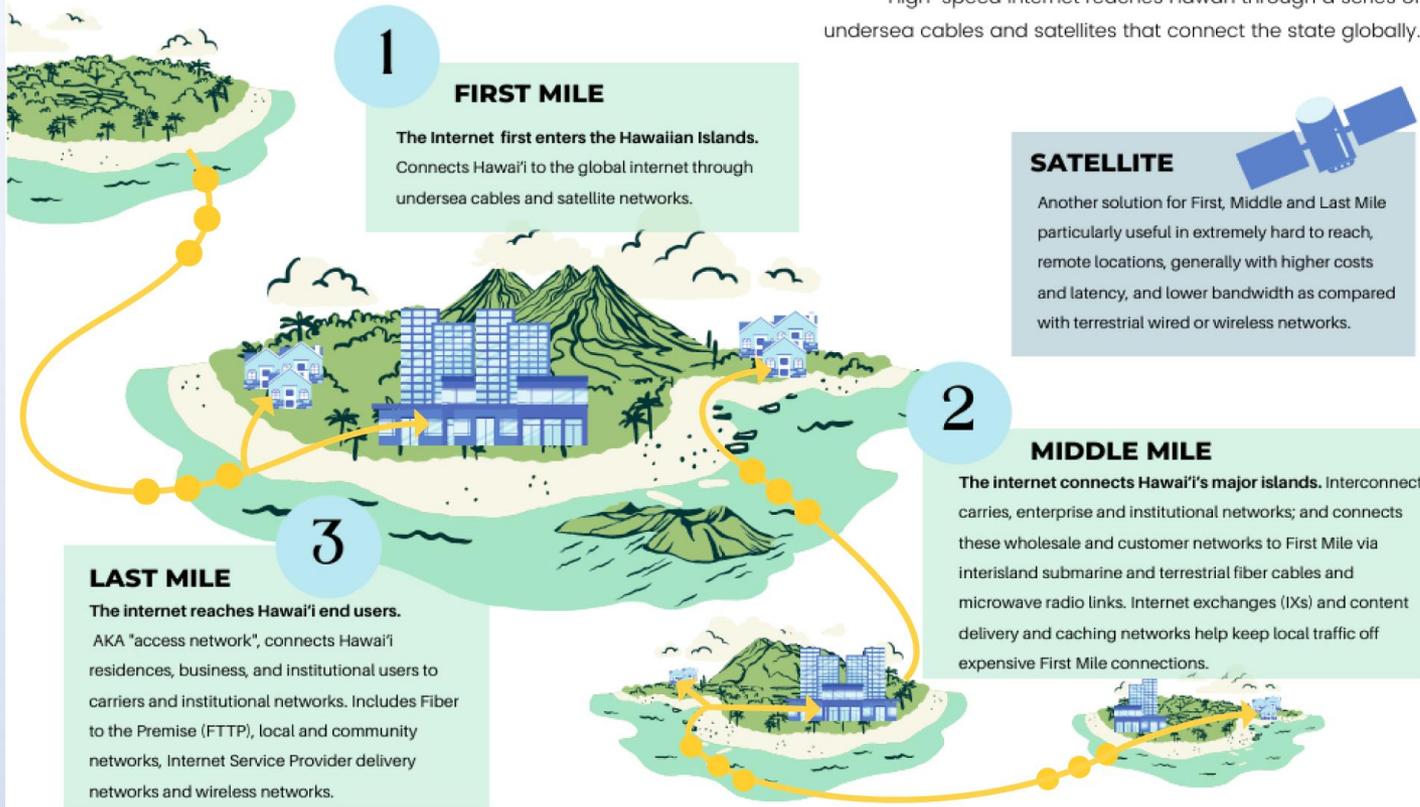


HOW THE INTERNET REACHES HAWAI'I

High-speed internet reaches Hawai'i through a series of undersea cables and satellites that connect the state globally.

GLOBAL CONNECTION

Global Internet Fabric of Destinations.
Connects North America, South America, Asia, Australia, New Zealand, Japan and Guam.



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1

FIRST MILE

The internet first enters the Hawaiian Islands. Connects Hawaii to the global internet through undersea cables and satellite networks.

SATELLITE

Another solution for First, Middle and Last Mile particularly useful in extremely hard to reach, remote locations, generally with higher costs and latency, and lower bandwidth as compared with terrestrial wired or wireless networks.

2

MIDDLE MILE

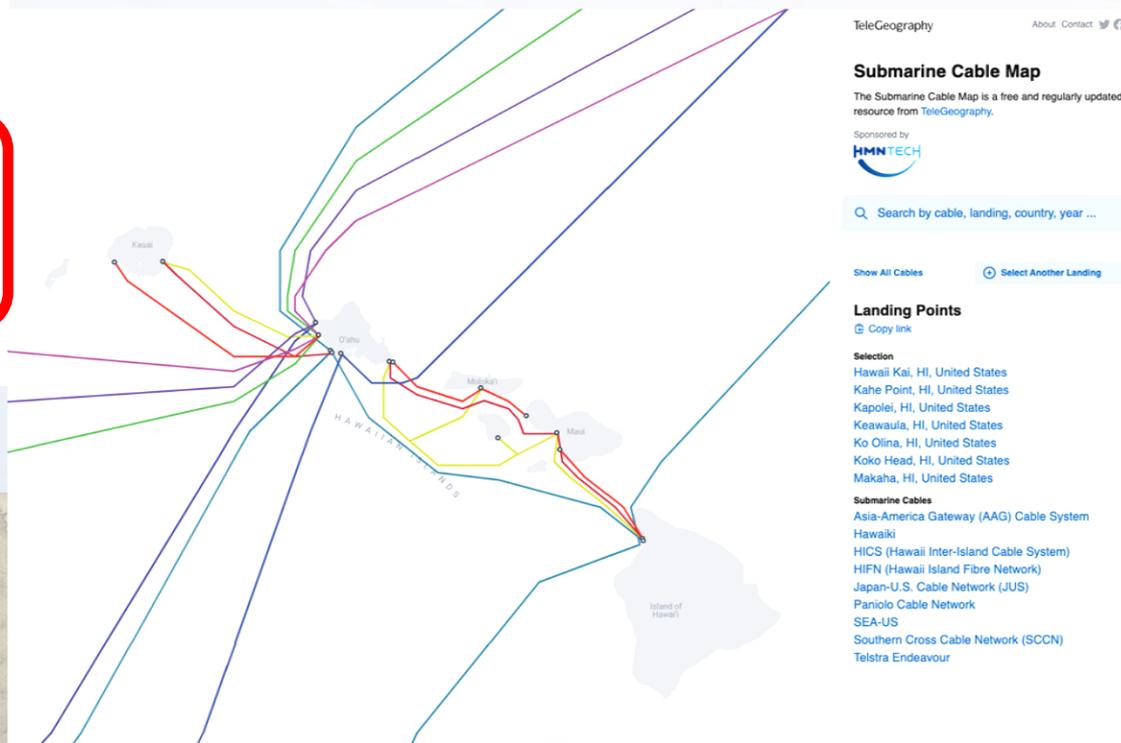
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LAST MILE

The internet reaches Hawaii's end users. AKA "access network", connects Hawaii's residences, business, and institutional users to carriers and institutional networks. Includes Fiber to the Premise (FTTP), local and community networks, Internet Service Provider delivery networks and wireless networks.

ARPA/CSFRF: Attract Trans-Pacific Landings Inter-island Ring System Design



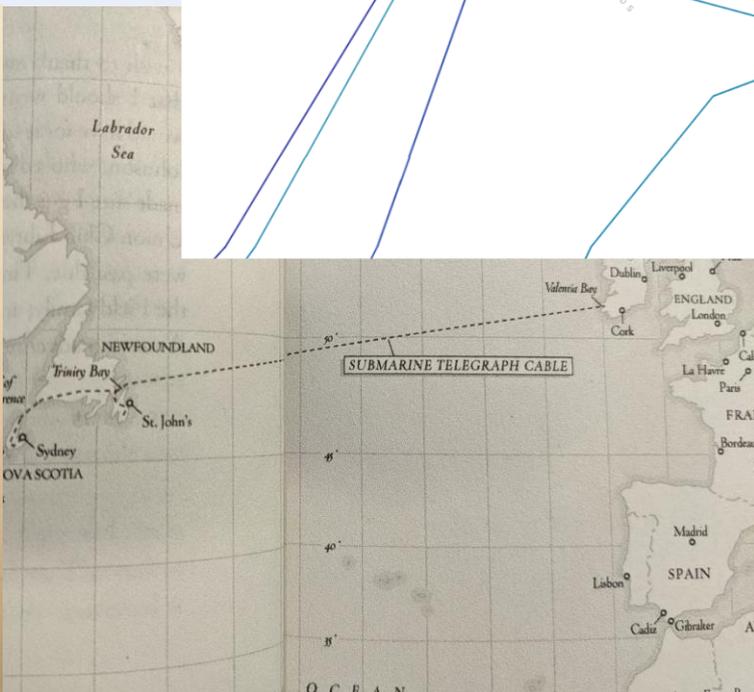
A THREAD ACROSS THE OCEAN

The Heroic Story of the Transatlantic Cable



JOHN STEELE GORDON

"A masterly retelling of the cable adventure, filled with illuminating detail about the times and the people who made it happen."
—New York Times



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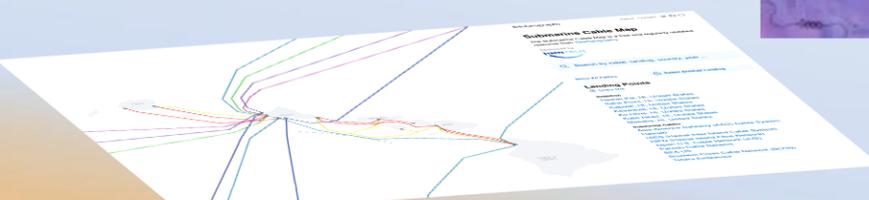
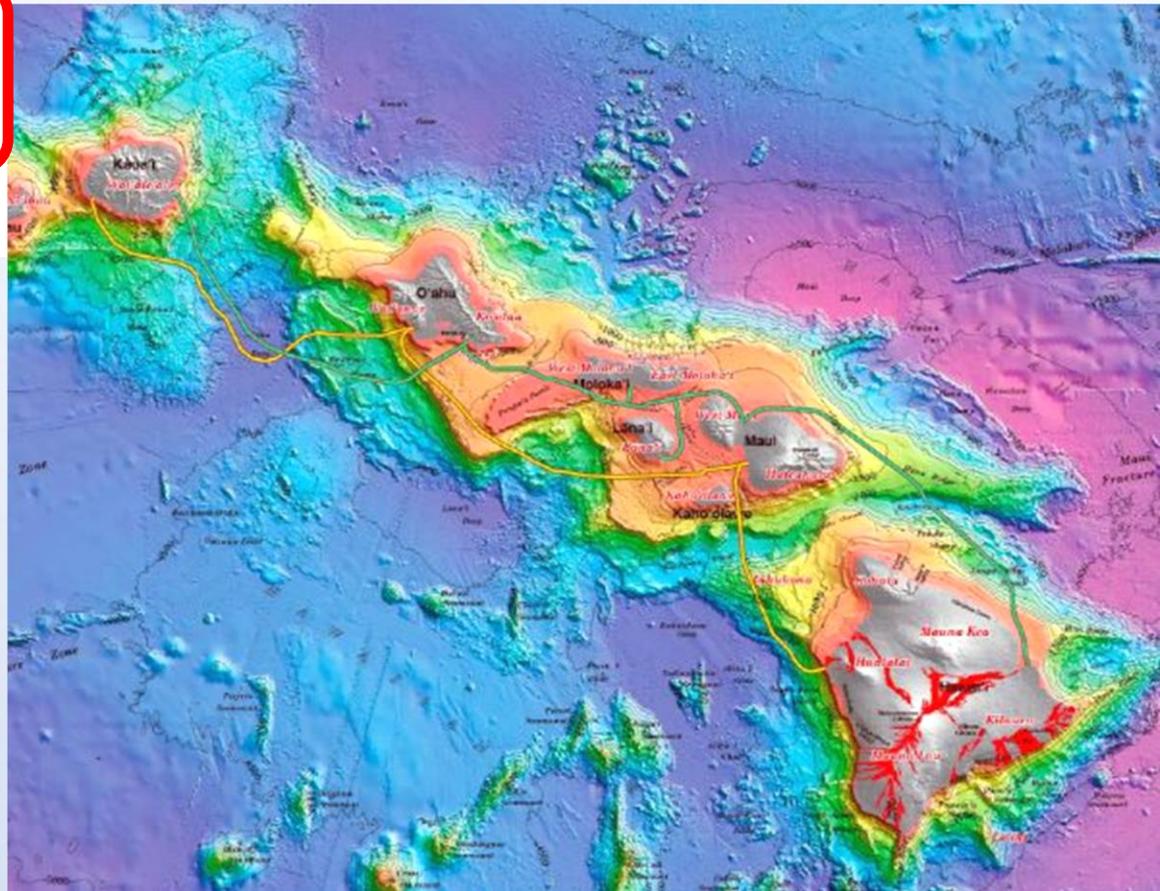
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CPF: New Inter-island Subsea System



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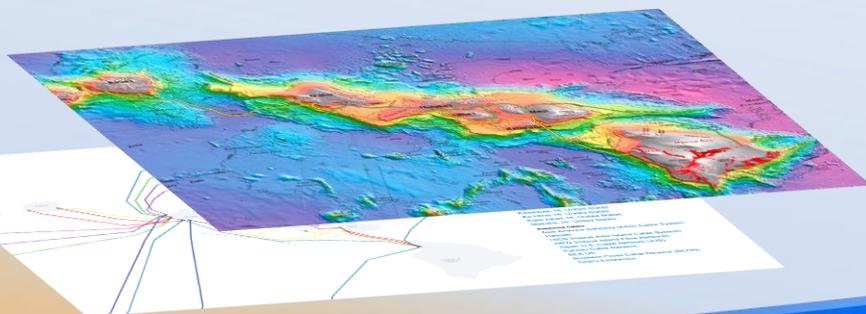
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MMG: Terrestrial Builds (Competitive) ARPA/CSFRF: Terrestrial Builds (Gaps)



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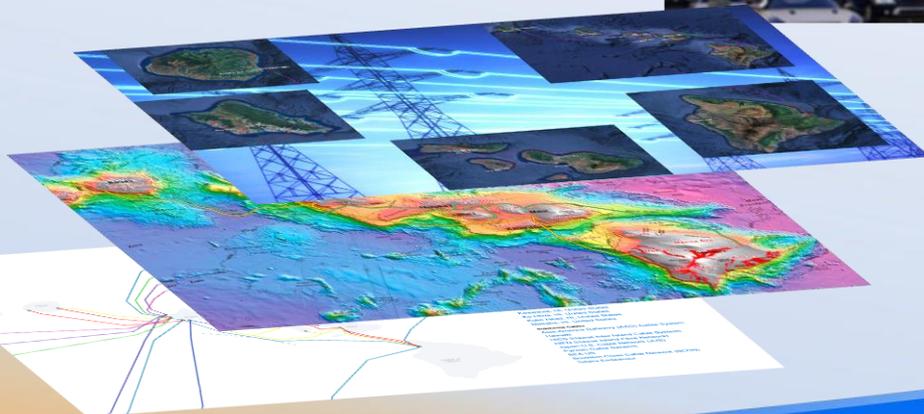
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CPF: HPHA Residential + Community Hubs



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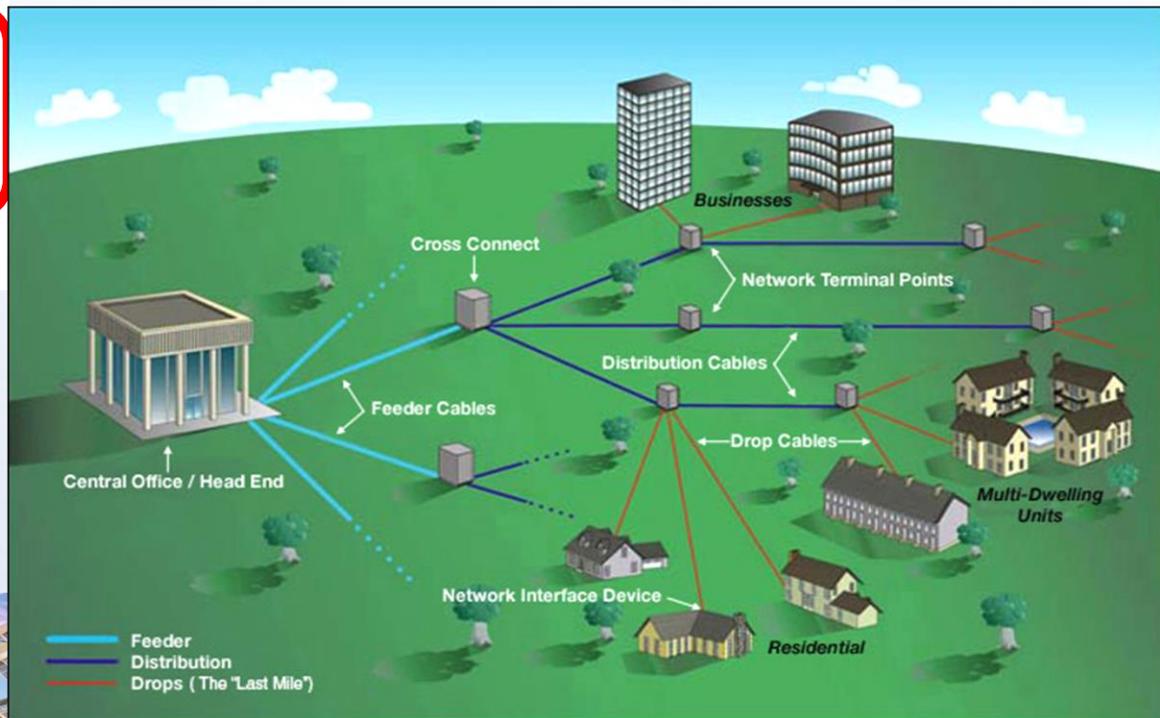
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BEAD: Planning Funds (for Implementation) TBC: Tranche 1 Use & Adoption + Planning

** Digital Equity*



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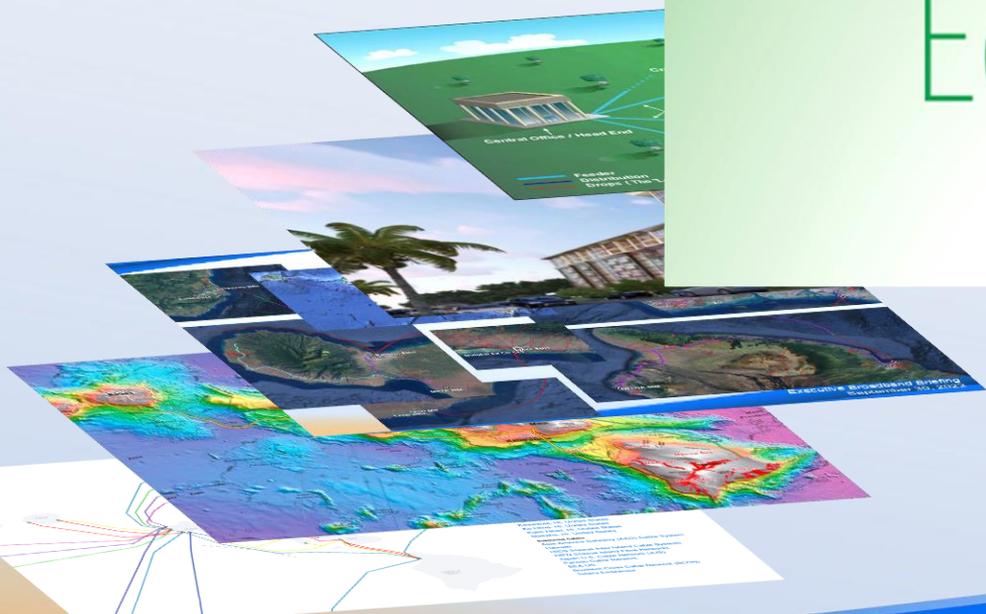
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** Digital Equity*

DE: State Digital Equity Plan

Digital Equity



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BEAD: Last Mile + Middle Mile Builds
ARPA/CSFRF: BEAD Matching Funds
TBC: Tranche 2 Implementation



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** Digital Equity*

DE: State Digital Equity Capacity Grants
BEAD: Devices, Literacy, Workforce
ARPA/CSFRF: BEAD Matching Funds

Digital Equity

Supporting students and families in achieving digital equity:
In school, at home, and throughout the community.



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Braiding the Federal Funding Layers

DE: Digital Equity (Plan/Capacity)

BEAD: Broadband Equity, Access and Deployment

MMG: Middle Mile Grant (Competitive)

CPF: Capital Projects Fund

ARPA/CSFRF: Coronavirus State Fiscal Relief Funds



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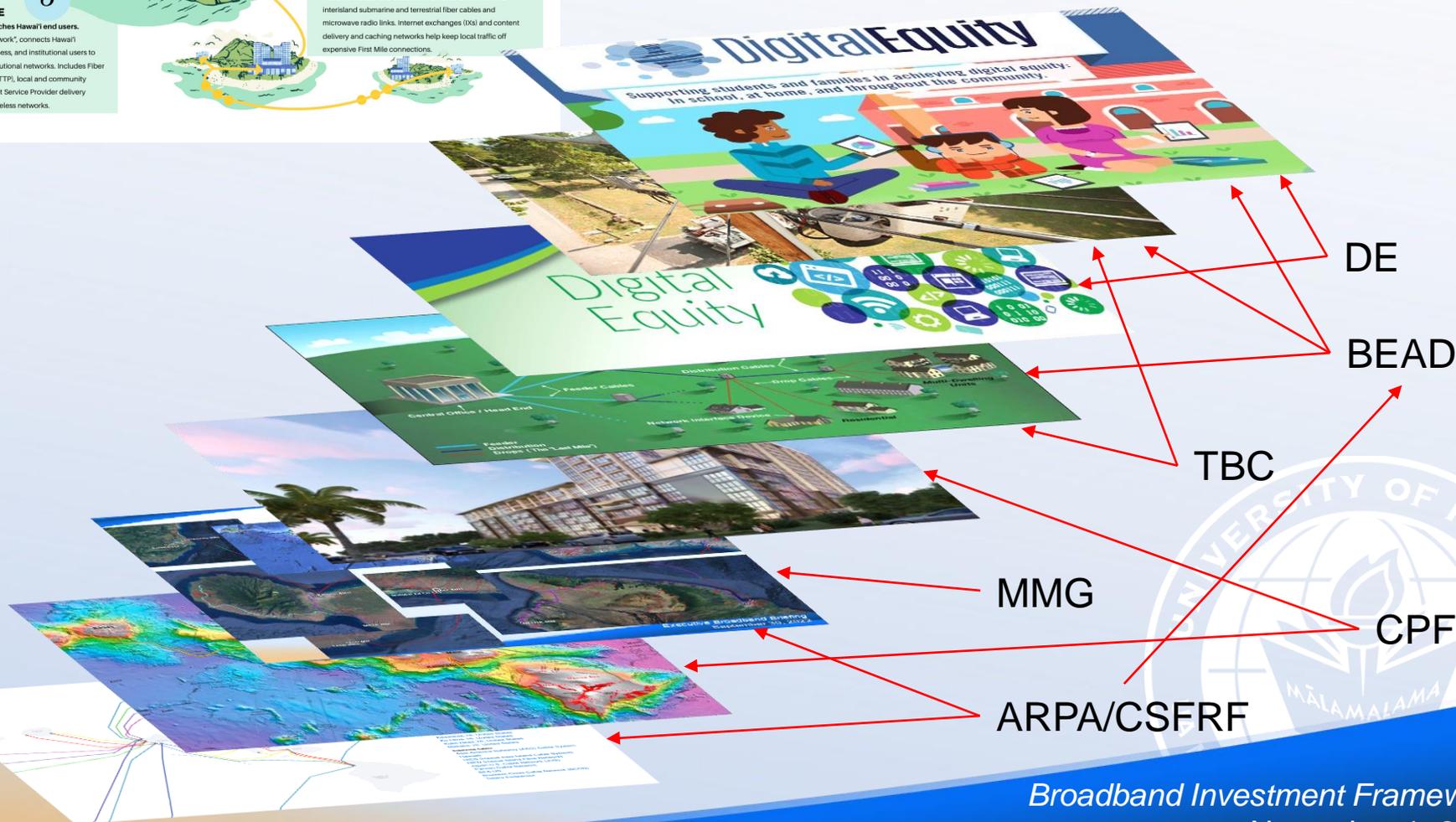
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