BEAD Program: A Framework to Allocate Funding for Broadband Availability

State Broadband Report: Hawaii

January 2024

VERSION 4.0

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HAWAII

BEAD Program Impact Assessment

1 Eligible Locations

How many unserved/underserved locations are eligible for BEAD funding?

3% 11K LOCATIONS

OF HAWAII LOCATIONS LACK HIGH-SPEED BROADBAND IN JUN 2023

VS. 9% STATE/TERRITORY AVERAGE

UNSERVED LOCATIONS, JUN. 2024

5.9K LOCATIONS

Are estimated to lack broadband access at **25/3 Mbps**

UNDERSERVED LOCATIONS, JUN. 2024

0.7K LOCATIONS

Are estimated to lack broadband access at **100/20 Mbps**

These locations are primarily in rural areas and are eligible for BEAD funding to deploy broadband service.

2 Total Funding

How much capital funding is the State/Territory estimated to have?

$149M

IN BEAD FUNDING HAS BEEN ALLOCATED TO HAWAII

VS. $743M STATE/TERRITORY AVERAGE

ESTIMATED BEAD FUNDING:

BEAD Funds allocated by NTIA	$149M
Estimated Provider Match	$20M
Estimated Total Capital	$169M

The provider match is estimated using a high-level service provider business case. See national summary deck for full details.

3 Deployment

How many locations can be covered with fiber and other technologies?

$16M-$149B

OF BEAD FUNDS IS REQUIRED TO BUILD HIGH-SPEED BROADBAND TO ALL ELIGIBLE LOCATIONS

DEPLOYMENT SCENARIOS:

Baseline Fiber		Maximum Fiber	
100% LOCATIONS REACHED	12% FIBER LOCATIONS	100% LOCATIONS REACHED	93% FIBER LOCATIONS
$36M TOTAL CAPITAL COST		$169M TOTAL CAPITAL COST	
$134M REMAINING BUDGET		$--M REMAINING BUDGET	

Source: Cartesian, NTIA

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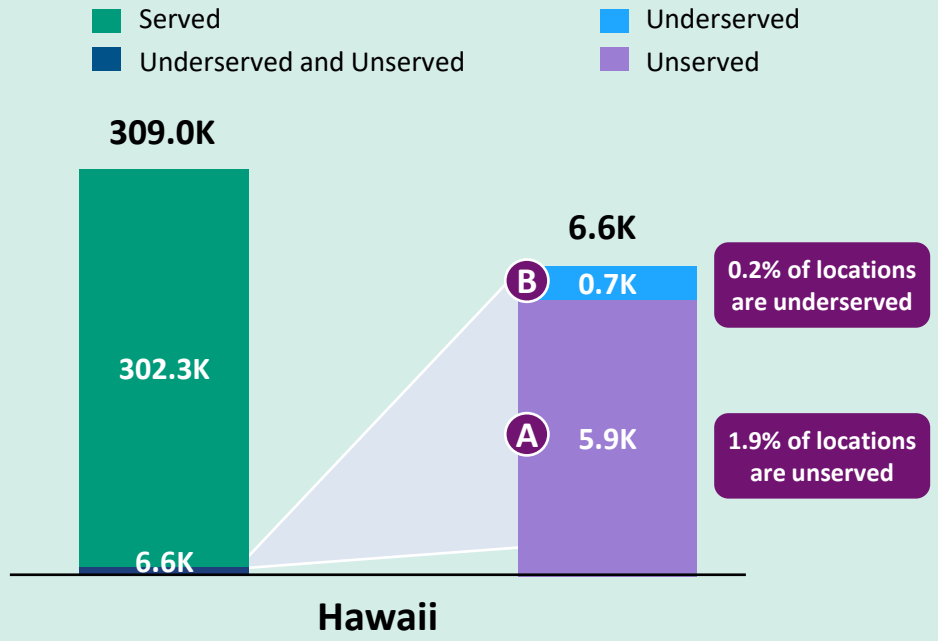
Hawaii | Estimated Eligible Locations for BEAD Projects

	Unserved *(less than 25Mbps/3Mbps)*	Underserved *(less than 100Mbps/20Mbps)*
June 2023 FCC Broadband Locations	**9.7K**	**0.8K**
− Subsidy Program Funded Locations[1]	3.0K	0.1K
− Incremental Build[2] (13% annual build, for 12 months)	0.9K	--
= **Jun. 2024 Estimated Eligible Locations**	**5.9K** (A)	**0.7K** (B)

Location Distribution in June 2024



We estimate 2% of locations will be eligible for BEAD Project Funding in Hawaii

1. Locations with "commitments" to receive support from federal subsidy programs
2. Given the uncertainty around the magnitude of locations moving from unserved to underserved, we have not made incremental builds adjustments to underserved locations

BEAD eligible locations does not account for state-specific eligibility rules set forth in Initial Proposals

Source: Cartesian, FCC National Broadband Map (June 2023 data, released in November 2023)

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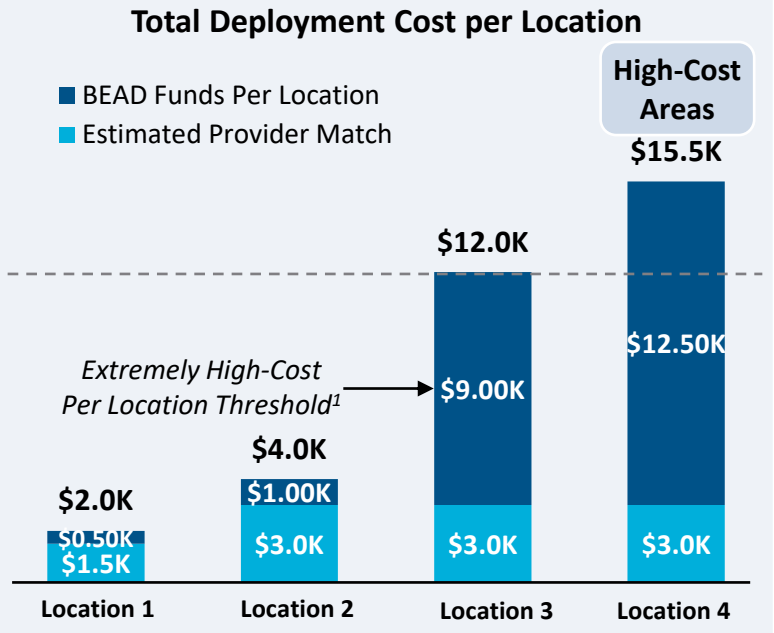
2 Calculate BEAD Funding

Hawaii | BEAD Funding & Estimated Provider Match

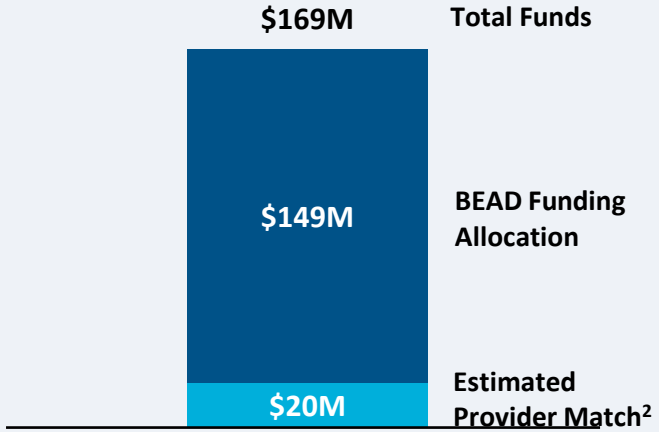
Provider Match Examples



Provider Match %			
75%	75%	25%	19%

To be conservative, we assume provider match amounts have a maximum of 75% and a minimum of 25%, except in high-cost areas

Total Capital Available - Hawaii



$169M in total capital is estimated to be available to serve unserved/underserved Hawaii locations (combining BEAD funding and estimated provider match)

Provider Match - Hawaii

Total Estimated Provider Match: **$20M**

÷ Total Estimated Eligible Locations: **6.6K**

= Average Provider Match: **$3,000** *PER LOCATION*

We estimate the average provider match will be $3,000 – provider matches will be 75% where cost to deploy is less than $4K

1. The model uses a $9k threshold, however, States/Territories will individually need to determine their appropriate extremely high-cost threshold
2. In reality, providers will determine the viable level of match funding for each project using a business case model. They will be willing to contribute a greater match in some locations and less in others. Locations which are hardest to serve may need to be fully funded by BEAD with no match. Competitive bidding should drive provider matches towards this level.

Source: Cartesian, FCC National Broadband Map (June 2023 data, released in November 2023), Benton, NTIA

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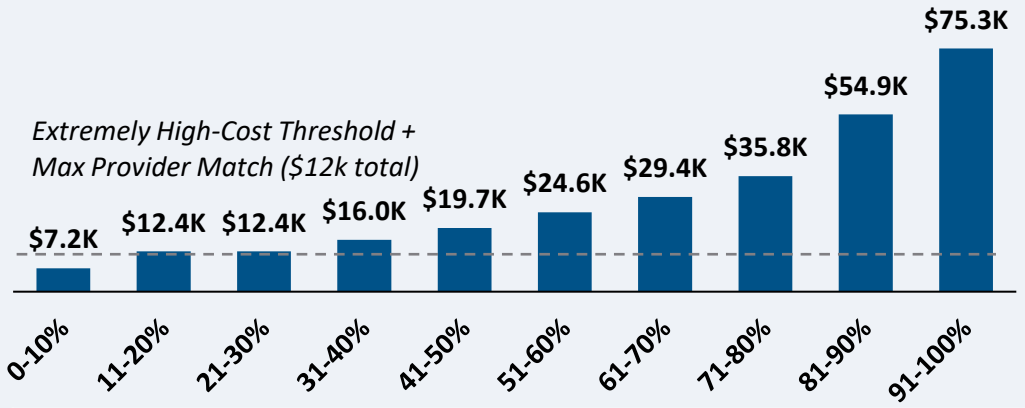
Hawaii | Cost to Deploy Fiber by Decile

CAPEX Fiber Deployment Cost per Location Segmented by Cost Deciles[1]

Unserved Locations

Overall Average Cost per Location: $30,078

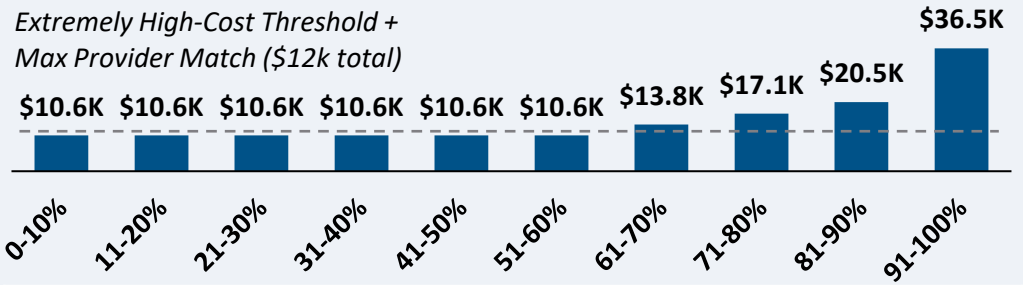


Average Tract Density *(Location per sq. Mile)*									
20	15	15	10	10	22	4	5	2	1

5.9K Locations

Underserved Locations

Overall Average Cost per Location: $17,391



Average Tract Density *(Location per sq. Mile)*									
4	4	4	4	4	4	7	3	3	3

0.7K Locations

Over 15% of locations are estimated to fall below the High-Cost Threshold + Provider Match

1. Chart values are average cost per location for each decile bucket

Source: Cartesian, FCC National Broadband Map (June 2023 data, released in November 2023)

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Hawaii | Fiber Preferencing Scenarios

	SCENARIO: 1 Baseline Fiber Deployment	SCENARIO: 2 Maximum Fiber Deployment[1]
PRIMARY ACCESS TECHNOLOGY:	Below High-Cost Threshold: FIBER Above High-Cost Threshold: FIXED WIRELESS	Below High-Cost Threshold: FIBER Above High-Cost Threshold: FIBER & FIXED WIRELESS
FUNDING PRIORITIZATION:	Fiber is first deployed to unserved locations below extremely high-cost threshold, from least expensive to most **If there are funds leftover…** Unserved locations above the extremely high-cost threshold are then served with fixed wireless **If there are funds leftover…** Remaining funds used to deploy fiber to as many underserved locations below the high-cost threshold, while retaining enough funds to serve remaining underserved locations with fixed wireless	Fiber is deployed to low-cost areas first across both unserved and underserved locations **Model optimizes to maximize fiber locations and achieve full coverage within budget** As many locations as possible are served with fiber, while leaving budget for fixed wireless when 100% fiber coverage is not possible
OUTCOME:	More funding for other eligible programs	More locations reached with fiber

1. Scenario 2 deploys fiber beyond the extremely high-cost threshold

Source: Cartesian

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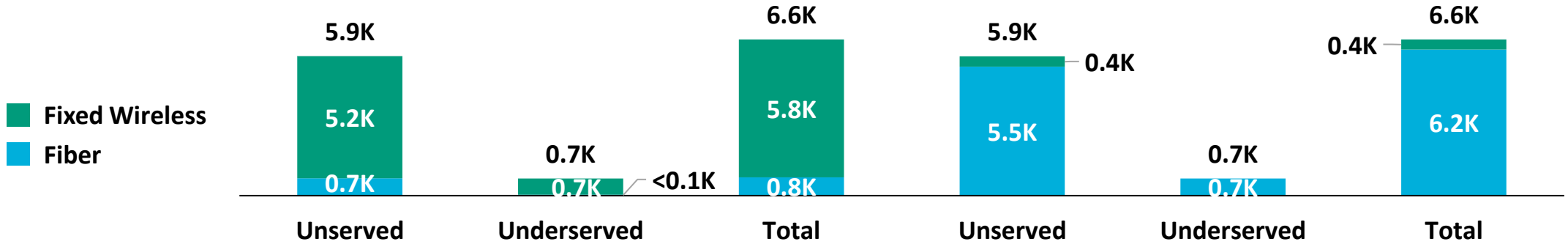
Hawaii | Scenario Analysis Results

SCENARIO:

1 Baseline Fiber Deployment

2 Maximum Fiber Deployment



	Baseline Fiber Deployment			Maximum Fiber Deployment		
Capex Required per Locations[1]	$5,426	$5,037	$5,384	$24,645	$17,391	$23,854
BEAD Funds Available to State		**$149M**			**$149M**	
Estimated Provider Match		**$20M**			**$20M**	
Total Available Capital		**$169M**			**$169M**	
Capex Required to Build		**$36M**		**+$134M**	**$169M**	
Remaining Funds		**$134M**			**$--M**	
% of Locations Reached		**100%**			**100%**	
% of Locations Reached with Fiber		**12%**		**+81%**	**93%**	

1. Funding to deploy fiber before the maximum $3k provider match per location

Source: Cartesian, FCC National Broadband Map (June 2023 data, released in November 2023), Benton, NTIA

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Hawaii | Conclusion

Funding Summary

Hawaii is expected to receive

$149M in BEAD funding

+

$20M in estimated provider matching

We estimate the funding is sufficient to reach all of Hawaii's 6.6k eligible locations with high-speed broadband

Key Findings

Hawaii will need to decide how far to deploy fiber while considering the trade-off of having higher fiber coverage vs. retaining funds for other BEAD eligible programs

A Baseline Fiber Deployment…	vs.	Maximizing Fiber…
• Leaves $134M additional funds for affordability programs • Reaches 12% of locations with fiber • Requires 88% to be reached with other tech.		• Exhausts funds without leaving additional funds for affordability programs • Reaches 93% of locations with fiber • Requires 7% to be reached with other tech.

States/Territories will set their own extremely high-cost threshold and may choose a threshold or funding paradigm different from these two scenarios

Source: Cartesian, NTIA

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Hawaii | ACA Connects Members

Member Name
Cincinnati Bell, Inc.
Consolidated Communications, Inc.

Source: Cartesian, FCC National Broadband Map (June 2023 data, released in November 2023), ACA Connects

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GRANT SPELLMEYER
PRESIDENT AND CEO
GSPELLMEYER@ACACONNECTS.ORG

BRIAN HURLEY
CHIEF REGULATORY COUNSEL
BHURLEY@ACACONNECTS.ORG

MICHAEL DARGUE
VICE PRESIDENT
MICHAEL.DARGUE@CARTESIAN.COM

SAMUEL KORNSTEIN
MANAGING DIRECTOR
SAMUEL.KORNSTEIN@CARTESIAN.COM

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