BEAD Program: A Framework to Allocate Funding for Broadband Availability

State Broadband Report: Oregon

January 2024

ACA CONNECTS

Cartesian®

www.cartesian.com

VERSION 4.0

Copyright © 2024 Cartesian, Inc. All rights reserved.

OREGON

BEAD Program Impact Assessment

1 Eligible Locations

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

12% 173K LOCATIONS

OF OREGON LOCATIONS LACK HIGH-SPEED BROADBAND IN JUN 2023

VS. 9% STATE/TERRITORY AVERAGE

UNSERVED LOCATIONS, JUN. 2024

68.5K LOCATIONS

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

UNDERSERVED LOCATIONS, JUN. 2024

49.5K 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?

$689M

IN BEAD FUNDING HAS BEEN ALLOCATED TO OREGON

VS. $743M STATE/TERRITORY AVERAGE

ESTIMATED BEAD FUNDING:

BEAD Funds allocated by NTIA	$689M
Estimated Provider Match	$347M
Estimated Total Capital	$1.0B

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?

$383M-$689M

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

DEPLOYMENT SCENARIOS:

Baseline Fiber		Maximum Fiber	
100% LOCATIONS REACHED	63% FIBER LOCATIONS	100% LOCATIONS REACHED	69% FIBER LOCATIONS
$731M TOTAL CAPITAL COST		$1.0B TOTAL CAPITAL COST	
$306M REMAINING BUDGET		$--M REMAINING BUDGET	

Source: Cartesian, NTIA

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

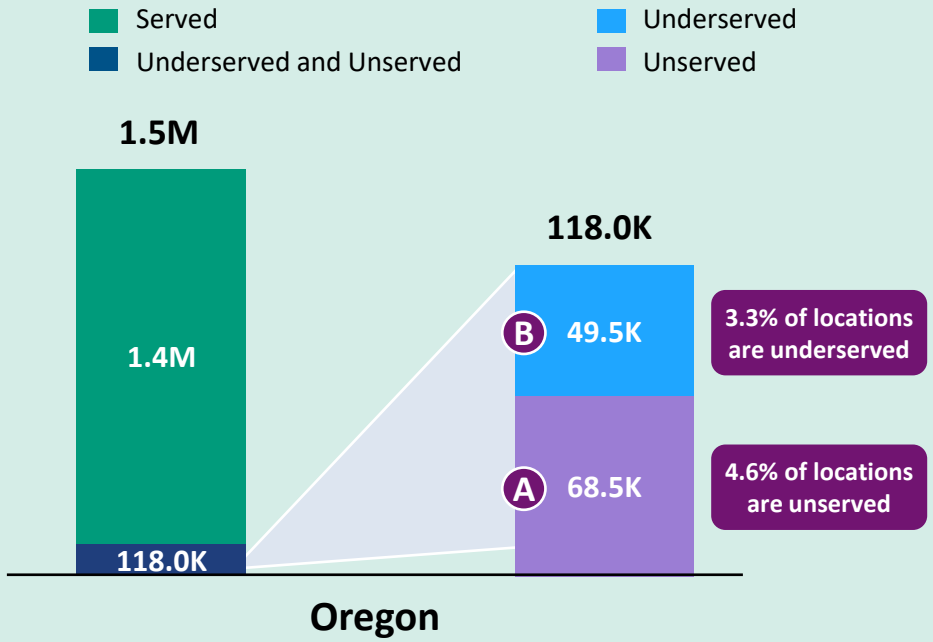
VERSION 4.0

Cartesian®

Oregon | Estimated Eligible Locations for BEAD Projects

	Unserved *(less than 25Mbps/3Mbps)*	Underserved *(less than 100Mbps/20Mbps)*
June 2023 FCC Broadband Locations	**111.6K**	**61.7K**
− Subsidy Program Funded Locations[1]	32.9K	12.3K
− Incremental Build[2] (13% annual build, for 12 months)	10.2K	--
= **Jun. 2024 Estimated Eligible Locations**	**68.5K** (A)	**49.5K** (B)

Location Distribution in June 2024



We estimate 8% of locations will be eligible for BEAD Project Funding in Oregon

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)

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

VERSION 4.0

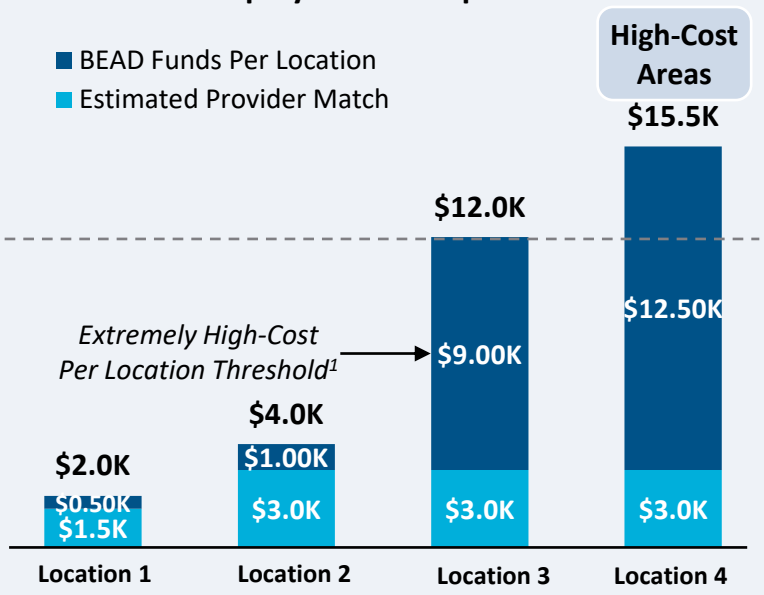
Cartesian®

2 Calculate BEAD Funding

Oregon | BEAD Funding & Estimated Provider Match

Provider Match Examples

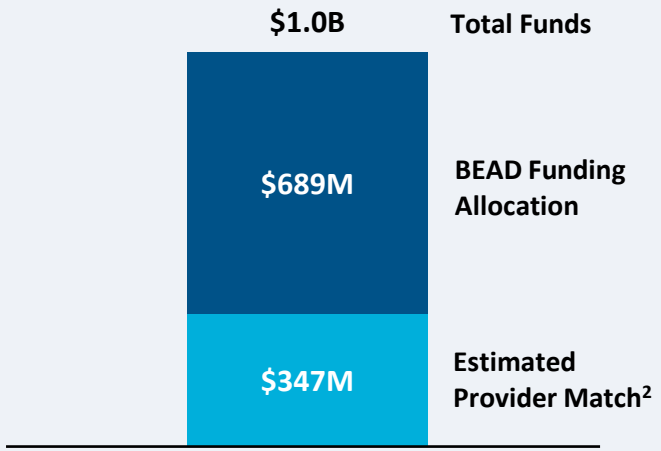
Total Deployment Cost per Location



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 - Oregon



$1.0B in total capital is estimated to be available to serve unserved/underserved Oregon locations (combining BEAD funding and estimated provider match)

Provider Match - Oregon

Total Estimated Provider Match: $347M

÷ **Total Estimated Eligible Locations:** 118.0K

= **Average Provider Match:** $2,944 *PER LOCATION*

We estimate the average provider match will be $2,944 – 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

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

VERSION 4.0

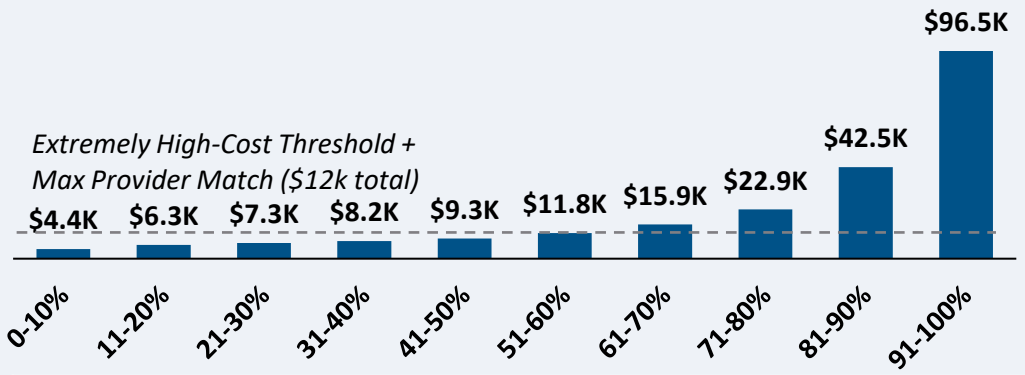
Cartesian®

Oregon | Cost to Deploy Fiber by Decile

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

Unserved Locations

Overall Average Cost per Location: $23,495

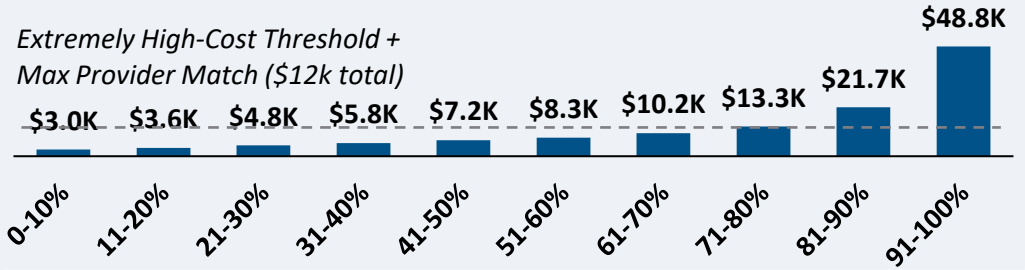


Average Tract Density *(Location per sq. Mile)*									
45	18	21	62	15	16	10	5	2	1

68.5K Locations

Underserved Locations

Overall Average Cost per Location: $12,899



Average Tract Density *(Location per sq. Mile)*									
47	57	41	49	27	25	18	14	10	3

49.5K Locations

Over 60% 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)

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

VERSION 4.0

Cartesian®

Oregon | 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

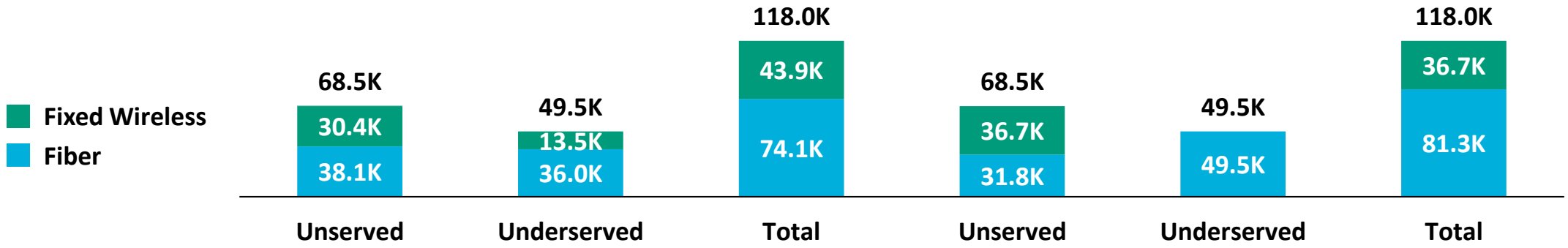
Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

Oregon | Scenario Analysis Results

SCENARIO:

1 Baseline Fiber Deployment

2 Maximum Fiber Deployment



	Baseline Fiber Deployment			Maximum Fiber Deployment		
	Unserved	Underserved	Total	Unserved	Underserved	Total
Capex Required per Locations[1]	$6,348	$5,976	$6,192	$5,786	$12,899	$8,768
BEAD Funds Available to State		**$689M**			**$689M**	
Estimated Provider Match		**$347M**			**$347M**	
Total Available Capital		**$1.0B**			**$1.0B**	
Capex Required to Build		**$731M**	**+$306M**		**$1.0B**	
Remaining Funds		**$306M**			**$--M**	
% of Locations Reached		**100%**			**100%**	
% of Locations Reached with Fiber		**63%**	**+6%**		**69%**	

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

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

Oregon | Conclusion

Funding Summary

Oregon is expected to receive

$689M in BEAD funding

+

$347M in estimated provider matching

We estimate the funding is sufficient to reach all of Oregon's 118.0k eligible locations with high-speed broadband

Key Findings

Oregon 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 $306M additional funds for affordability programs • Reaches 63% of locations with fiber • Requires 37% to be reached with other tech.		• Exhausts funds without leaving additional funds for affordability programs • Reaches 69% of locations with fiber • Requires 31% 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

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

VERSION 4.0

Cartesian®

Oregon | ACA Connects Members

Member Name
Astound Broadband
Beacon Broadband, Inc.
Cable One, Inc.
Consolidated Communications, Inc.
Lict Corp
Minet
Northwest Fiber, LLC
Rio Virgin Cablevision
Rural Telephone Company
TDS Telecom

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

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved.

www.acaconnects.org

www.cartesian.com

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

Confidential and Proprietary — Copyright © 2024 Cartesian, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or means (electronic, mechanical, photocopy, recording or otherwise) without the permission of Cartesian, Inc.