

BEAD Program: A Framework to Allocate Funding for Broadband Availability

State Broadband Report: Pennsylvania

January 2024





1 Eligible Locations

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

6%
288K LOCATIONS

OF PENNSYLVANIA LOCATIONS LACK HIGH-SPEED BROADBAND IN JUN 2023
VS. 9% STATE/TERRITORY AVERAGE

UNSERVED LOCATIONS, JUN. 2024



159.8K
LOCATIONS

Are estimated to lack broadband access at 25/3 Mbps

UNDERSERVED LOCATIONS, JUN. 2024



40.9K
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?

\$1.2B

IN BEAD FUNDING HAS BEEN ALLOCATED TO PENNSYLVANIA VS. \$743M STATE/TERRITORY AVERAGE

ESTIMATED BEAD FUNDING:

BEAD Funds allocated by NTIA

\$1.2B

Estimated Provider Match

\$601M

Estimated Total Capital

\$1.8B

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?

\$994M-\$1.2B

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

DEPLOYMENT SCENARIOS:

Baseline Fiber

100% LOCATIONS REACHED
86% FIBER LOCATIONS

\$1.6B
TOTAL CAPITAL COST

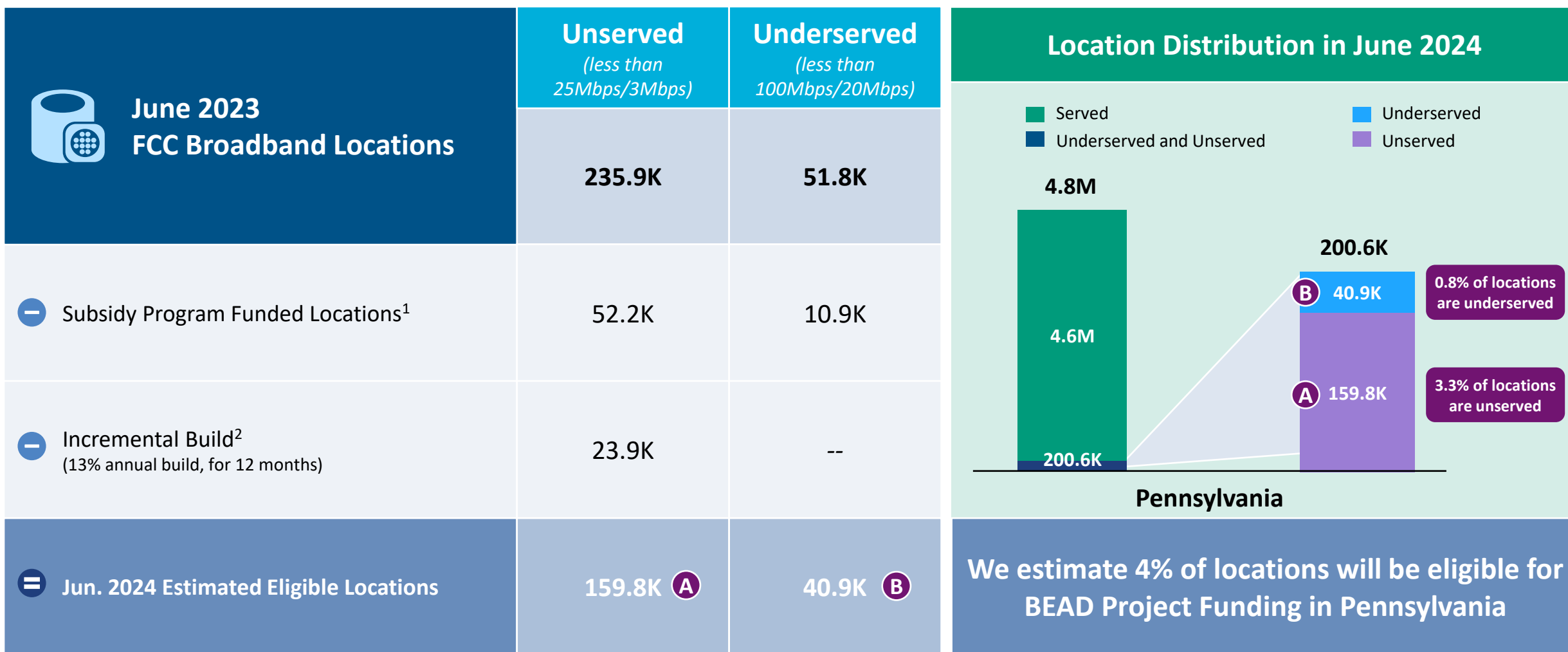
\$168M
REMAINING BUDGET

Maximum Fiber

100% LOCATIONS REACHED
95% FIBER LOCATIONS

\$1.8B
TOTAL CAPITAL COST

\$--M
REMAINING BUDGET



1. Locations with “commitments” to receive support from federal subsidy programs

2. Given the uncertainty around the magnitude of locations moving from unerved 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)

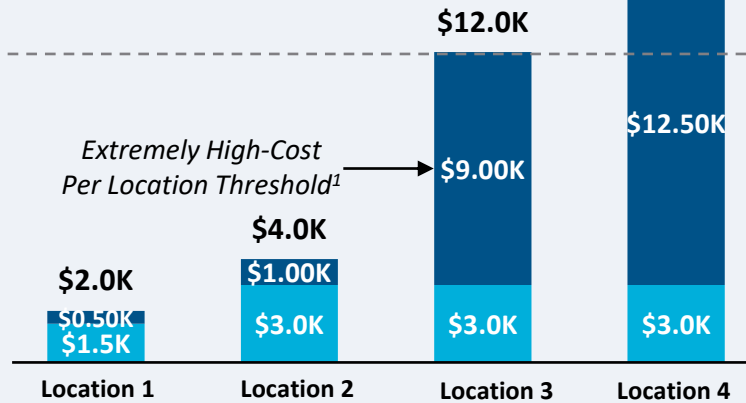
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Provider Match Examples

Total Deployment Cost per Location

- BEAD Funds Per Location
- Estimated Provider Match

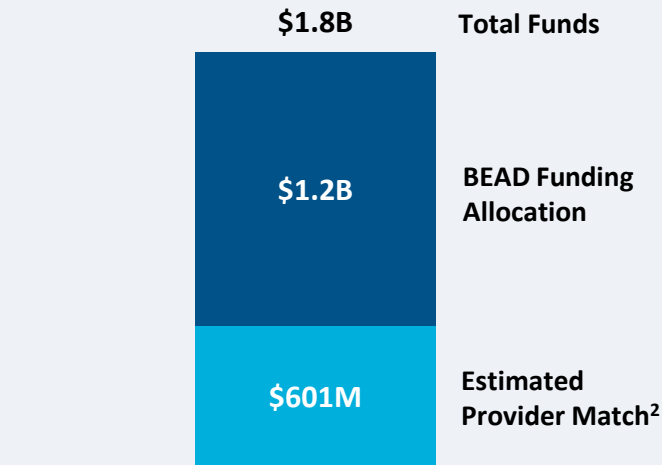
High-Cost
Areas
\$15.5K



Provider Match %

75%	75%	25%	19%
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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 -
Pennsylvania

\$1.8B in total capital is estimated to be available to serve unserved/underserved Pennsylvania locations (combining BEAD funding and estimated provider match)

Provider Match - Pennsylvania

Total Estimated
Provider Match:

\$601M

Total Estimated
Eligible Locations:

200.6K

Average
Provider Match:

\$2,995
PER LOCATION

We estimate the average provider match will be \$2,995 – 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.

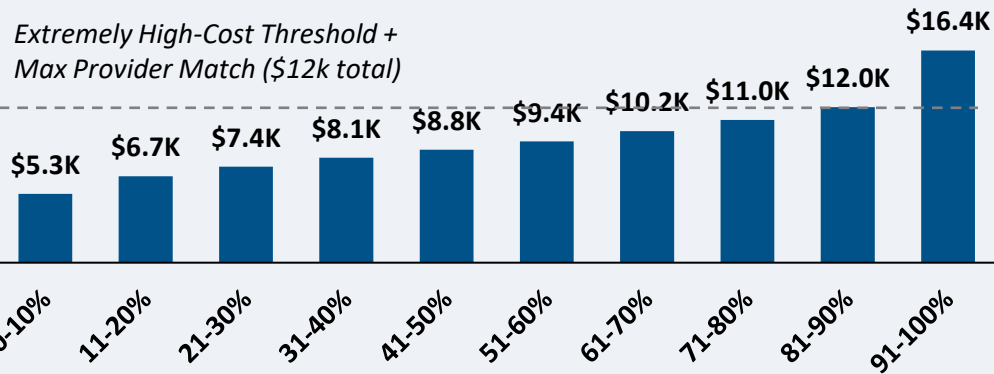
Source: Cartesian, FCC National Broadband Map (June 2023 data, released in November 2023), Benton, NTIA

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CAPEX Fiber Deployment Cost per Location Segmented by Cost Deciles¹

Unserved Locations

Overall Average Cost per Location: \$9,553



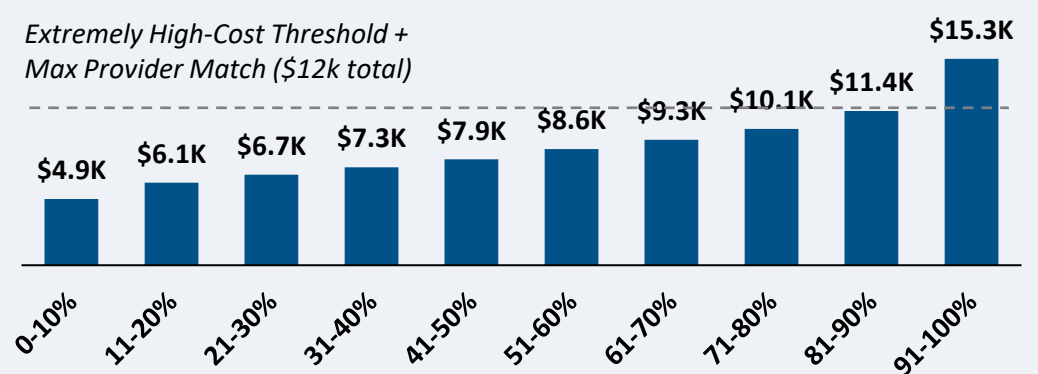
Average Tract Density (Location per sq. Mile)

49	26	17	25	13	12	13	11	11	11
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159.8K Locations

Underserved Locations

Overall Average Cost per Location: \$8,782



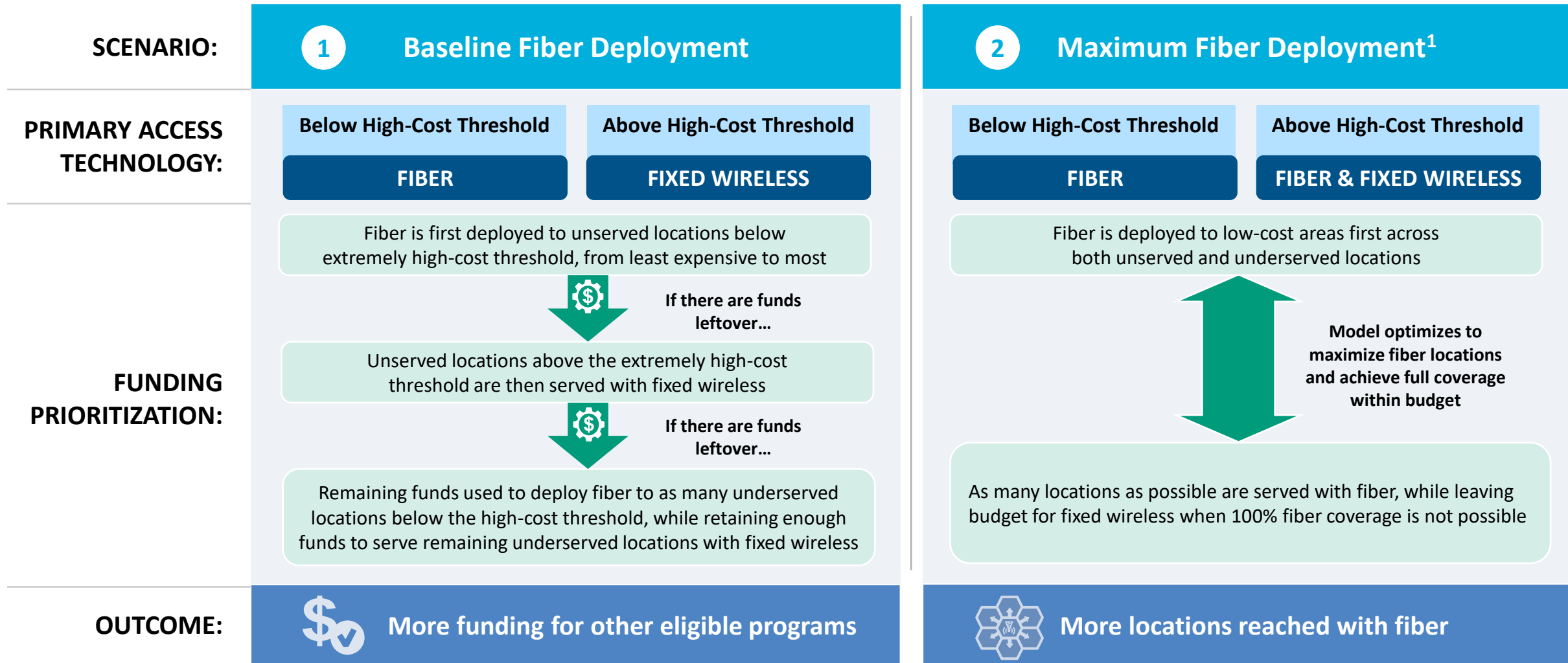
Average Tract Density (Location per sq. Mile)

16	12	12	5	7	15	19	9	7	6
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40.9K Locations

Over 80% of locations are estimated to fall below the High-Cost Threshold + Provider Match

Pennsylvania | Fiber Preferencing Scenarios



1. Scenario 2 deploys fiber beyond the extremely high-cost threshold
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3 Develop Deployment Scenarios

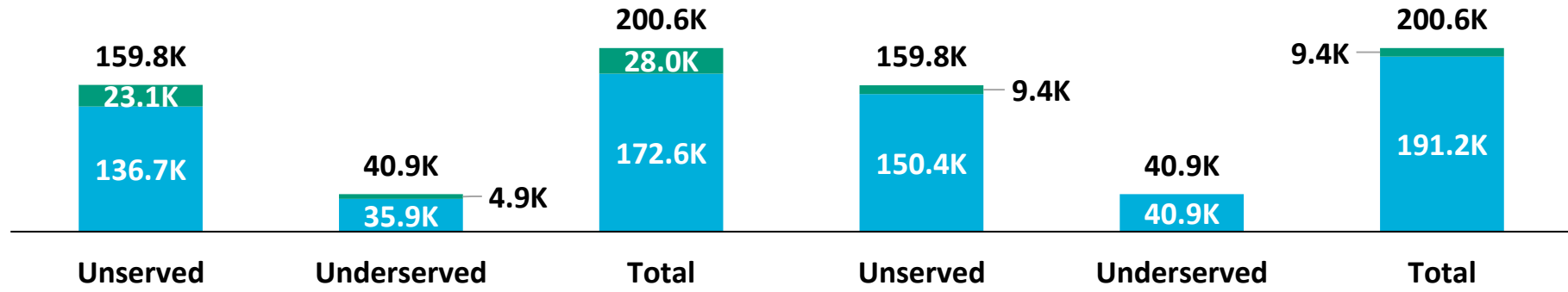
Pennsylvania | Scenario Analysis Results

SCENARIO:

1 Baseline Fiber Deployment

2 Maximum Fiber Deployment

■ Fixed Wireless
■ Fiber



	Scenario 1	Scenario 2
Capex Required per Locations ¹	\$8,044	\$8,765
BEAD Funds Available to State	\$1.2B	\$1.2B
+ Estimated Provider Match	\$601M	\$601M
= Total Available Capital	\$1.8B	\$1.8B
- Capex Required to Build	\$1.6B	\$1.8B
= Remaining Funds	\$168M	\$--M
% of Locations Reached	100%	100%
% of Locations Reached with Fiber	86%	95%

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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Pennsylvania | Conclusion



Funding Summary

Pennsylvania is expected to receive

\$1.2B in BEAD funding



\$601M in estimated provider matching

We estimate the funding is sufficient to reach all of Pennsylvania's 200.6k eligible locations with high-speed broadband



Key Findings

Pennsylvania 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...



Maximizing Fiber...

- Leaves \$168M additional funds for affordability programs
 - Reaches 86% of locations with fiber
 - Requires 14% to be reached with other tech.
- Exhausts funds without leaving additional funds for affordability programs
 - Reaches 95% of locations with fiber
 - Requires 5% 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

Pennsylvania | ACA Connects Members

Member Name	
Adams Catv, Inc.	Laurel Highland Television Company
Armstrong	NEP Datavision, Inc.
Astound Broadband	Nittany Media, Inc.
Atlantic Broadband	Patriot Cable System, LLC
Beaver Valley Cable Co	QCOL, Inc.
Blue Devil Cable TV, Inc.	Service Electric Cable TV, Inc.
Blue Ridge Cable Technologies, Inc.	Shenandoah Cable Television, LLC
Centre Wisp Venture Company, LLC	Somerfield Cable TV
Citizens Cable Communications	TDS Telecom
Consolidated Communications, Inc.	Velocitynet Video, Inc.
Digital Connections, Inc. dba Prodigy	Venus Telephone Corporation
Hancock Video	Wire Teleview Corp
Hotwire Communications Ltd	Youngsville TV Corp
HTC Communications, Inc.	



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