1. **Eligible Locations**
   - How many unserved/underserved locations are eligible for BEAD funding?
   - **20%** of Wisconsin locations lack high-speed broadband in Dec 2022 vs. 12% State/Territory average.
   - **139.8K** locations are estimated to lack broadband access at 25/3 Mbps.
   - **160.0K** locations are estimated to lack broadband access at 100/20 Mbps.

2. **Total Funding**
   - How much capital funding is the State/Territory estimated to have?
   - IN BEAD FUNDING HAS BEEN ALLOCATED TO WISCONSIN vs. $743M State/Territory average.
   - **$1.1B** estimated Bead funding
   - **$891M** estimated provider match
   - **$1.9B** total capital

3. **Deployment**
   - How many locations can be covered with fiber and other technologies?
   - OF BEAD FUNDS IS REQUIRED TO BUILD HIGH-SPEED BROADBAND TO ALL ELIGIBLE LOCATIONS.
   - **$1.1B** estimated Bead funding
   - **76%** locations reached
   - **74%** fiber locations
   - **$1.9B** total capital cost
   - **$--M** remaining budget

Source: Cartesian, NTIA

Not applicable due to funding shortfall.

See national summary deck for full details.
Wisconsin | Estimated Eligible Locations for BEAD Projects

December 2022 FCC Broadband Locations

<table>
<thead>
<tr>
<th>Unserved (less than 25Mbps/3Mbps)</th>
<th>Underserved (less than 100Mbps/20Mbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>246.1K</td>
<td>217.8K</td>
</tr>
</tbody>
</table>

Subsidy Program Funded Locations\(^1\)

- 85.4K
- 57.7K

Incremental Build\(^2\)

- (13% annual build, for 12 months)
- 20.9K
- --

Jan. 2024 Estimated Eligible Locations

- 139.8K \(\text{A}\)
- 160.0K \(\text{B}\)

Location Distribution at Beginning of 2024

- Served
- Underserved and Unserved
- Underserved
- Unserved

Wisconsin

- 2.3M
- 299.9K

We estimate 13% of locations will be eligible for BEAD Funding in Wisconsin

---

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

Source: Cartesian, FCC National Broadband Map (December 2022 data, released in May 2023)
We estimate the average provider match will be $2,972 – 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 (December 2022 data, released in May 2023), Benton, NTIA
## Wisconsin Cost to Deploy Fiber by Decile

### CAPEX Fiber Deployment Cost per Location Segmented by Cost Deciles

<table>
<thead>
<tr>
<th>Unserved Locations</th>
<th>Underserved Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Average Cost per Location:</strong> $9,828</td>
<td><strong>Overall Average Cost per Location:</strong> $8,964</td>
</tr>
</tbody>
</table>

#### Average Tract Density (Location per sq. Mile)

<table>
<thead>
<tr>
<th>0-10%</th>
<th>11-20%</th>
<th>21-30%</th>
<th>31-40%</th>
<th>41-50%</th>
<th>51-60%</th>
<th>61-70%</th>
<th>71-80%</th>
<th>81-90%</th>
<th>91-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>12</td>
<td>17</td>
<td>8</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

**139.8K Locations**

#### Extremely High-Cost Threshold + Max Provider Match ($12k total)

- $4.4K - $5.8K - $7.8K - $8.8K - $10.0K - $11.3K - $12.5K - $13.6K - $17.0K

**Over 75% of locations are estimated to fall below the High-Cost Threshold + Provider Match**

Source: Cartesian, FCC National Broadband Map (December 2022 data, released in May 2023)

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## Wisconsin | Fiber Preferencing Scenarios

### Develop Deployment Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Baseline Fiber Deployment</th>
<th>Maximum Fiber Deployment&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Access Technology:</strong></td>
<td><strong>Below High-Cost Threshold</strong></td>
<td><strong>Above High-Cost Threshold</strong></td>
</tr>
<tr>
<td>Fiber</td>
<td>Fiber</td>
<td>Fixed Wireless</td>
</tr>
<tr>
<td>Unserved locations below extremely high-cost threshold, from least expensive to most, are served with fiber.</td>
<td>Unserved locations above the extremely high-cost threshold are then served with fixed wireless.</td>
<td>Fiber is deployed to low-cost areas first across both unserved and underserved locations.</td>
</tr>
<tr>
<td><strong>Funding Prioritization:</strong></td>
<td><strong>If there are funds leftover...</strong></td>
<td><strong>Model optimizes to maximize fiber locations and achieve full coverage within budget.</strong></td>
</tr>
<tr>
<td>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.</td>
<td>As many locations as possible are served with fiber, while leaving budget for fixed wireless when 100% fiber coverage is not possible.</td>
<td></td>
</tr>
<tr>
<td><strong>Outcome:</strong></td>
<td><strong>More funding for other eligible programs</strong></td>
<td><strong>More locations reached with fiber</strong></td>
</tr>
</tbody>
</table>

1. Scenario 2 does not include an extremely high-cost threshold.

Source: Cartesian
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Wisconsin | Scenario Analysis Results

### Baseline Fiber Deployment

<table>
<thead>
<tr>
<th>SCENARIO: Baseline Fiber Deployment</th>
<th>Unserved</th>
<th>Underserved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Wireless (100.5K)</td>
<td>104.5K</td>
<td>122.8K</td>
<td>227.4K</td>
</tr>
<tr>
<td>Fiber (4.0K)</td>
<td>4.0K</td>
<td>4.0K</td>
<td>4.0K</td>
</tr>
</tbody>
</table>

- **Unserved**: 104.5K
- **Underserved**: 122.8K
- **Total**: 227.4K

**Capex Required per Locations**
- **100.5K Fixed Wireless**: $7,864
- **122.8K Fiber**: $7,342
- **Total**: $7,582

### Key Metrics

- **BEAD Funds Available to State**: $1.1B
- **Estimated Provider Match**: $891M
- **Total Available Capital**: $1.9B
- **Capex Required to Build**: $1.9B
- **Remaining Funds**: $--M
- **% of Locations Reached**: 76%
- **% of Locations Reached with Fiber**: 74%

---

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

Source: Cartesian, FCC National Broadband Map (December 2022 data, released in May 2023), Benton, NTIA
### Wisconsin | Conclusion

#### Funding Summary
- Wisconsin is expected to receive
  - $1.1B in BEAD funding
  - $891M in estimated provider matching

We estimate the funding is sufficient to reach 227.4K of Wisconsin’s 299.9k eligible locations with high-speed broadband.

#### Key Findings
- Wisconsin will encounter funding constraints under the current model assumptions

#### A Baseline Fiber Deployment...
- Uses all funds to reach 76% of locations
- Reaches 74% of locations with fiber
- Remaining 2% to be reached with other technology

#### 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
<table>
<thead>
<tr>
<th>Member Name</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst Telephone Company</td>
<td>MH Telcom, LLC</td>
</tr>
<tr>
<td>Baldwin Telecom, Inc.</td>
<td>Northeast Comm Of Wisconsin, Inc. dba Nsight</td>
</tr>
<tr>
<td>CCI Systems, Inc. dba Astrea</td>
<td>Northeast Iowa Telephone Company</td>
</tr>
<tr>
<td>Celect Communications</td>
<td>Northwest Community Communications</td>
</tr>
<tr>
<td>Chippewa Valley Cable, Inc.</td>
<td>Norvado, Inc.</td>
</tr>
<tr>
<td>Community Antenna System, Inc.</td>
<td>Reedsburg Utility Commission</td>
</tr>
<tr>
<td>Consolidated Communications, Inc.</td>
<td>Richlandgrant Telephone Coop, Inc.</td>
</tr>
<tr>
<td>Coon Valley Telecommunications, Inc.</td>
<td>Schurz Communications, Inc.</td>
</tr>
<tr>
<td>Farmers Independent Telephone Company, Inc.</td>
<td>TDS Telecom</td>
</tr>
<tr>
<td>Lavalle Telephone Cooperative, Inc.</td>
<td>Tech Com, Inc.</td>
</tr>
<tr>
<td>Lict Corp</td>
<td>Verneau Networks, Inc.</td>
</tr>
<tr>
<td>LVT Corp</td>
<td>Vernon Communications, LLC</td>
</tr>
<tr>
<td>Mediacom, LLC</td>
<td>Western Wisconsin Communications, LLC</td>
</tr>
<tr>
<td>Metronet</td>
<td>Wood County Telephone Co</td>
</tr>
</tbody>
</table>