Broadband and the Wisconsin Economy
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STRATEGIES AND POLICY OPTIONS FOR BROADBAND ACROSS WISCONSIN

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Across the U.S., access to reasonably priced, high-quality broadband is essential for community well-being. As people are spending more time at home due to the pandemic, the challenge of inadequate broadband in many parts of Wisconsin has gained greater attention. Four strategies are needed to ensure that broadband infrastructure is affordable and available to all Wisconsin communities.

1. Improved broadband access:
   - Increase competition among providers.
   - Expand existing infrastructures.

2. Broadband adoption:
   - Provide training and assistance to connect.
   - Increase awareness of available services.

3. Communities as partners:
   - Encourage local participation in planning.
   - Develop community-specific solutions.

4. Innovation and adaptation:
   - Support new applications and technologies.
   - Prepare for future needs.

In this Strategy Brief, we review the policy contexts and opportunities that are shaping the broadband landscape in Wisconsin and the U.S. and present four strategies for achieving better broadband access and affordability across the state.
Considering Disparities

• There are still significant shares of the population without internet.

• Rural-urban disparities and income-level disparities.

• Address supply (infrastructure).

• Address demand (affordability, willingness to pay, demonstrating relevance, and education).
Percent of Population No Access to the Internet by Household Income Wisconsin

- Completely rural or less than 2,500 urban population, not adjacent to a metro area
- Completely rural or less than 2,500 urban population, adjacent to a metro area
- Urban population of 2,500 to 19,999, not adjacent to a metro area
- Urban population of 2,500 to 19,999, adjacent to a metro area
- Urban population of 20,000 or more, adjacent to a metro area
- Counties in metro areas of fewer than 250,000 population
- Counties in metro areas of 250,000 to 1 million population
- Counties in metro areas of 1 million population or more

Source: US Census Bureau, American Community Survey, 2018 5-Yr Average
Economic Costs

Table A1: Broadband Index Weights

<table>
<thead>
<tr>
<th></th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite (ACS)</td>
<td>-0.4959</td>
</tr>
<tr>
<td>Cellular Data Only (ACS)</td>
<td>-0.4715</td>
</tr>
<tr>
<td>No Internet (ACS)</td>
<td>-0.4597</td>
</tr>
<tr>
<td>Access to 25/3 (FCC)</td>
<td>0.5064</td>
</tr>
<tr>
<td>Variance Explained</td>
<td>0.5046</td>
</tr>
</tbody>
</table>
Broadband and Wisconsin County Employment Growth

Employment Growth

Broadband Index

Lower Levels

Higher Levels
Broadband and Wisconsin County Education (HS Graduation Rate)

The graph shows a scatter plot with red dots representing various Wisconsin counties. The x-axis represents the Broadband Index, ranging from lower levels to higher levels. The y-axis represents the HS Grad Rate, ranging from 80.0% to 98.0%. The data points are scattered across the graph, with a trend indicating a positive correlation between higher Broadband Index levels and higher HS Graduation Rates. However, there is significant variability, suggesting that other factors also influence graduation rates.
Broadband and Wisconsin County Poor Mental Health Days

The graph shows a scatter plot with the x-axis representing the Broadband Index ranging from lower levels (0) to higher levels (0.5), and the y-axis representing Poor Mental Health Days ranging from 2.0 to 6.0. The trend line indicates a negative correlation between broadband levels and poor mental health days, with a general decrease in poor mental health days as broadband index increases.
Is access/adoption of broadband really driving these results, or is broadband really reflecting (measuring) higher poverty rates and lower population densities (ruralness)?
Percent of Population No Access to the Internet by Household Income Wisconsin

Source: US Census Bureau, American Community Survey, 2018 5-Yr Average
### Table A2: Broadband and Community Outcomes, Controlling for Population Density and Income

<table>
<thead>
<tr>
<th>Standardized Regression Coefficients</th>
<th>Percent of the Population Rural</th>
<th>Median Household Income</th>
<th>Broadband Index: Higher Values Better Access</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Rate in Population 2010 to 2018</td>
<td>0.4456 ***</td>
<td>-0.1825 ***</td>
<td>0.0445 **</td>
<td>0.3219</td>
</tr>
<tr>
<td></td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0351)</td>
<td></td>
</tr>
<tr>
<td>Growth Rate in Employment 2010 to 2018</td>
<td>0.3779 ***</td>
<td>-0.1118 ***</td>
<td>-0.0890 **</td>
<td>0.1510</td>
</tr>
<tr>
<td></td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0002)</td>
<td></td>
</tr>
<tr>
<td>Percent of Population (Age 25+) with Some College</td>
<td>0.4818</td>
<td>-0.0437 **</td>
<td>0.2412 ***</td>
<td>0.4328</td>
</tr>
<tr>
<td></td>
<td>(0.3112)</td>
<td>(0.0016)</td>
<td>(0.0001)</td>
<td></td>
</tr>
<tr>
<td>3rd Grade Reading Tests</td>
<td>0.4070 ***</td>
<td>0.2148 ***</td>
<td>0.2386 ***</td>
<td>0.2454</td>
</tr>
<tr>
<td></td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td></td>
</tr>
<tr>
<td>Percent of the Population Reporting Poor or Fair Health</td>
<td>-0.6702 ***</td>
<td>-0.2924 ***</td>
<td>-0.2435 ***</td>
<td>0.5343</td>
</tr>
<tr>
<td></td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td></td>
</tr>
<tr>
<td>Poor Mental Health Days</td>
<td>-0.5924 ***</td>
<td>-0.2067 ***</td>
<td>-0.1661 ***</td>
<td>0.3911</td>
</tr>
<tr>
<td></td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td></td>
</tr>
</tbody>
</table>

Marginal significance or p-values in parentheses.

***: Significant at or above the 99.9% level.

**: Significant at the 95.0% level.

*: Significant at the 90.0% level.
• Access to broadband matters for community well-being.

• **Access** and **adoption** are two very different things: avoid the trap of “build it and they will come”.

• Broadband, particularly affordable broadband, has been a **necessary condition** for a vibrant economy, but it is **not sufficient**.

• Investing in the physical infrastructure of broadband is **NOT** a magic bullet.
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