



Strategic Broadband Expansion in Sheboygan County: A Data-Driven Approach

Situation

In 2022, Sheboygan County allocated \$2 million from ARPA funding to expand broadband in underserved and unserved areas. The county faced the challenge of determining where to invest these funds effectively, considering both infrastructure needs and social-economic factors. To kickstart the project, the county hired a consultant in the fall of 2022 to perform an underground assessment of broadband infrastructure. This involved mapping and inventorying broadband assets visible from the road and integrating them into GIS.

The primary issue was not only identifying where in the county to invest the funds but also factoring in social and economic considerations to ensure the investment would have the greatest impact. The rural areas of Sheboygan County were identified as having the most significant need, as cities and villages were served with cable or fiber internet.

Response

To tackle the broadband issues, Sheboygan County implemented several key actions:

- **Consultant Engagement:** The county hired a consultant to perform an underground assessment of broadband infrastructure. This involved mapping and inventorying broadband assets visible from the road and integrating them into GIS.
- **GIS Analysis:** Nathan Fazer, working with the IT director, used GIS to combine broadband inventory data with social-economic factors such as median household income, poverty levels, and property values. This involved performing a bivariate analysis to compare these variables and create a comprehensive data set.
- **Targeted Investment:** The final data set helped identify specific parcels in rural areas that needed broadband investment. This information was overlaid with census blocks receiving ARDA funding to pinpoint areas outside those funding zones for targeted investment.
- **RFP Process:** The county initiated an RFP process to select an ISP for expanding broadband in the identified areas, using the GIS data and maps to guide the decision-making.

Outcomes

The efforts led to several positive outcomes:

- **Precise Targeting:** The GIS analysis enabled precise identification of areas needing broadband investment, ensuring funds were allocated effectively.
- **Enhanced Data Utilization:** Combining infrastructure data with social-economic factors provides a holistic view of broadband needs, improving decision-making.
- **Successful RFP Process:** The county's RFP process, guided by the GIS data, facilitated collaboration with an ISP to expand broadband in targeted areas.
- **Community Impact:** The project aimed to improve broadband access in underserved rural areas, enhancing connectivity and economic opportunities.

Lessons Learned

Several key lessons emerged from this initiative:

- **Challenges with Census Data:** Using census data at the block group level involves assumptions, making it an inexact science. Despite this, incorporating social-economic factors was crucial for a comprehensive analysis.
- **Value of On-the-Ground Assessments:** The consultant's on-the-ground broadband assessment was invaluable, providing detailed infrastructure data that guided investment decisions.
- **Importance of GIS:** GIS played a critical role in combining diverse data sets and performing bivariate analysis, enabling precise targeting of investment areas.
- **Effective Collaborations:** Collaboration between the IT director, GIS specialists, and consultants was essential for the project's success.
- **Strategic Planning:** The county's strategic approach, including the RFP process, ensured that broadband expansion efforts were well-coordinated and impactful.

This case study highlights the importance of detailed assessments, GIS analysis, effective collaboration, and strategic planning in expanding broadband access. The GIS Administrator's involvement and the county's structured approach were pivotal in driving these efforts forward, ensuring Sheboygan County could effectively address its broadband needs.

Learn More

Nathan Fazer
GIS Administrator
Sheboygan County
nathan.fazer@sheboygancounty.com
920-476-7775