

The Digital Divide

Over 126,000 households in South Carolina lack broadband access, with many rural hospitals, businesses, libraries, and schools falling short of the minimum broadband requirements. COVID-19 has exacerbated the digital divide due to a sudden reliance on digital methods for accomplishing everyday tasks. Where broadband is unavailable, students cannot complete their schoolwork, businesses may be forced to close, and telehealth is inaccessible.



Figure 1. Impacts of COVID-19 on the digital divide

Semester Goals

This semester, our team wanted to focus on researching other programs and organizations with similar goals to ours. Our goals were to evaluate short- and long-term goals for broadband accessibility across the state. We did this by identifying target areas that need assistance immediately and creating a long-term outline scope for the development of a Broadband Center at Clemson University. This center will be responsible for broadband mapping, identifying funding sources, coordinating with legislators, and conducting even more extensive research.

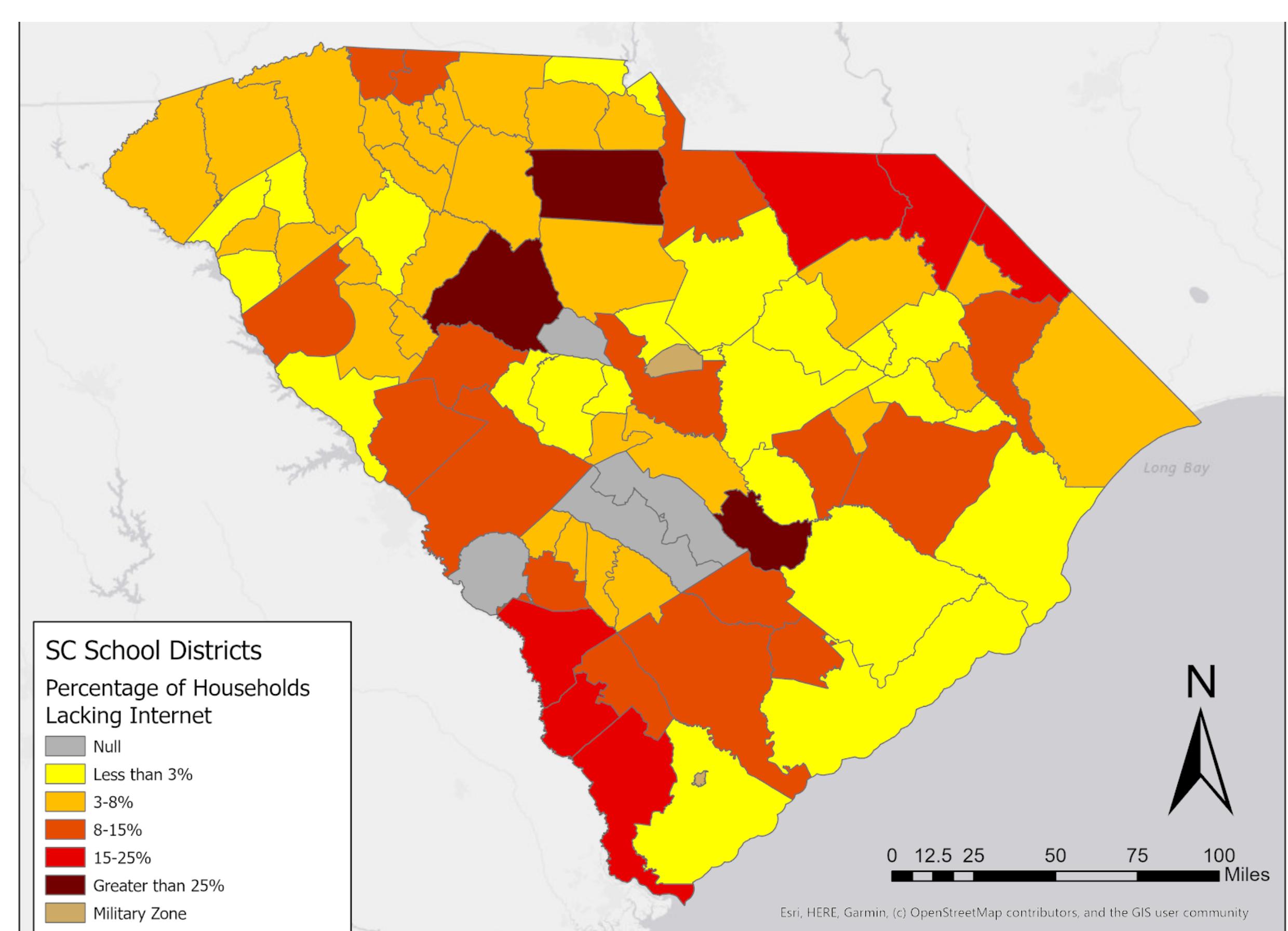


Figure 2. Percentage of households with students that lack broadband in each school district. (The darker colors indicate a higher percentage of students without broadband)

Research

This semester, we have conducted review of broadband expansion programs that have been successful in other states to prompt potential strategies to be utilized by the Clemson Broadband Center in helping expand broadband across the state of South Carolina. To delve even further, we investigated how other land grant universities are involved in the cause. These broadband programs can be broadly categorized into the following:

- 1.Increasing access
- 2.Increased adoptability
- 3.Increasing usability and literacy by community engagement

We have also spent time working on data collection and analysis. One focus was on the current state of broadband in South Carolina and how this relates to many different outcomes. Statistical tests were conducted to uncover correlations between variables. Another focus was collecting data on the I-95 school districts to show how they need to be of top priority with regards to increasing broadband access.

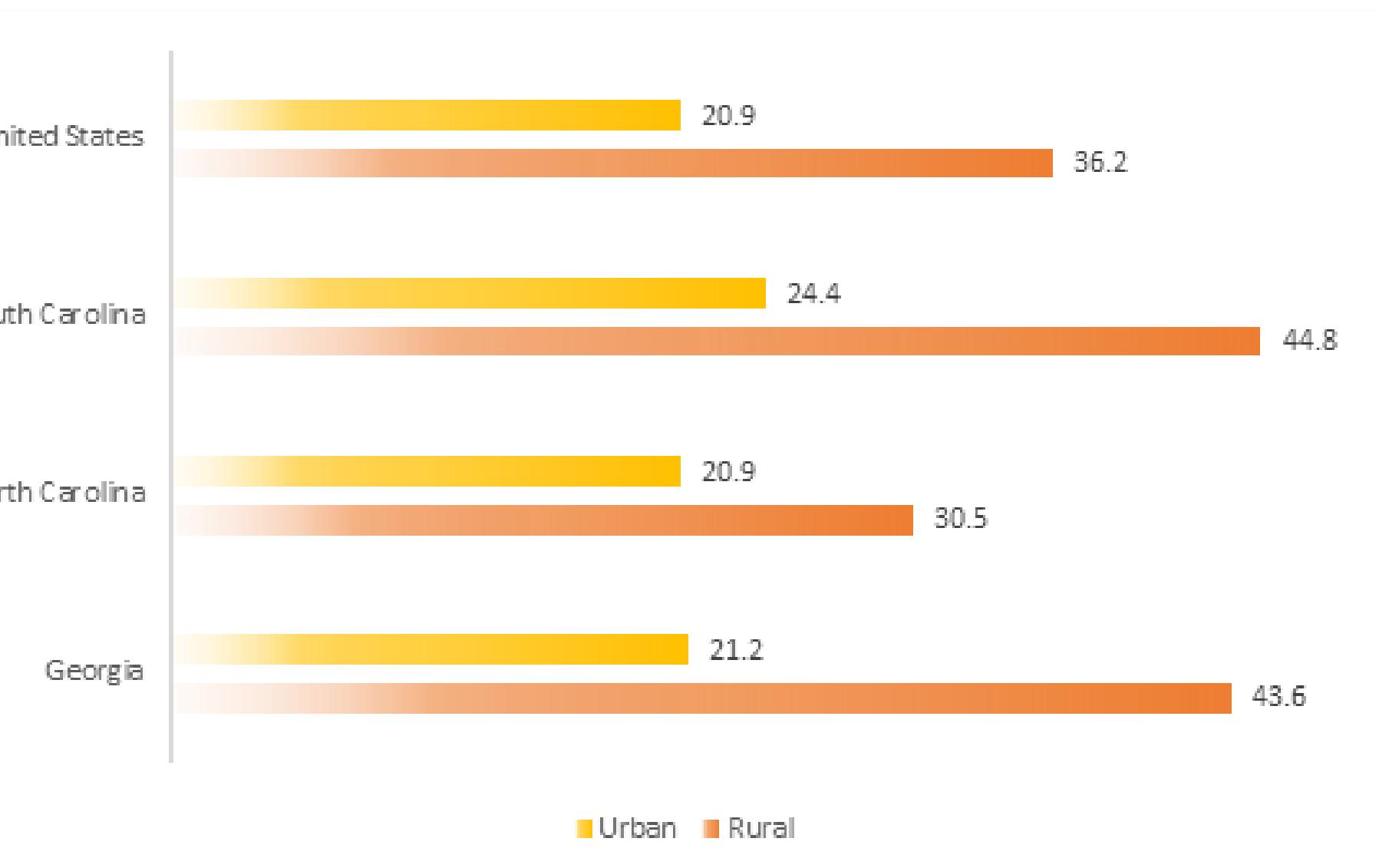


Figure 3: Percentage of households in rural and urban areas without internet access by state. (Darker orange indicates urban areas, light orange indicates rural areas)

Broadband Target Areas

Target areas for this broadband program have been identified by Revolution D, a private company who completed the mapping for the state just last year. They identified target areas depending on demographic and socioeconomic factors.

Other target areas have also been identified through discussion with our faculty advisor, David, and some stakeholders. For example, the superintendent at Bamberg County noted that many students are failing, and that it may be related to lack of home internet access. This county, along with other counties along I-95, have been involved with legal disputes against the state for several decades now regarding insufficient public education. Our group has been finding data for these regions in order to identify where to implement the short-term solutions.

Proposal for Clemson Broadband Center

After reviewing other broadband programs and meeting with stakeholders, a proposal to receive funding from the NTIA was outlined. The overall goal is to significantly increase access to broadband for the majority of South Carolinians in the next 3-5 years. To accomplish this, several key things will need to happen. Mapping and surveying of infrastructure will need to be updated with the help of the Clemson Geospatial Center and the Clemson/SC State extension agents. Some short-term solutions will need to be identified and implemented while mapping is underway. One example of this would be to deploy mobile hotspots to the kids in underserved and impoverished areas who lack internet access at home. Long-term solutions will need to be analyzed to determine the most efficient way to solve this problem. An example of this could be expanding Clemson's network and supplying internet to community anchor institutions across SC. These short- and long-term missions will be evaluated and implemented through the proposed Clemson Broadband Center. This semester, our team drafted an outline of proposed resources needed for the development of this center.



Broadband
Center of Excellence
Resources for a Broadband World

Conclusion

This semester, we have uncovered more correlations between broadband access and many factors, while also developing a plan for a Broadband Center at Clemson. We hope to use this research and campus resources to raise awareness about broadband and present our findings to state legislators.

Acknowledgements

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References

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"Project OVERCOME". US Ignite, 2020.