

# MS-GIST Projects Spring 2023

## Tuesday, April 25

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*\* There will be 5 minute breaks between each back-to-back presentation to facilitate transitions in Zoom.*

*\*\* Zoom links are available on request. Please contact Andrew Grogan - [atgrogan@arizona.edu](mailto:atgrogan@arizona.edu)*

Date/Time	Presentation Title	Student Name
04/25/23 04:30 - 04:55 PM	<a href="#">Conquering The Digital Divide in South Dakota</a>	Jeremiah Maxfield

# Conquering The Digital Divide in South Dakota

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04/25/23, 04:30 - 04:55 PM

## **Abstract:**

As of 2021, 1 in 6 South Dakotans does not have access to reliable internet. The state government has made it a high priority of conquering the digital divide to bring better internet to more residents. Since 2019, the state has spent more than 200 million dollars to help local providers expand their networks. To find the best remaining areas that should be targeted for fiber and cable expansion the best method was to conduct a Suitability Analysis through ArcGIS Pro. To create the target area first the data needs to be brought in from the Federal Communications Commission. This will show all areas already covered by fiber and cable. The state and federal active grants will be brought in as well to create a total coverage layer by combining the grants and the cable/fiber coverage. The reverse of the total coverage will become the target layer. The target areas will be broken down using the Uber Hex8 pattern which creates a grid system to place the events inside a fixed area location. The criteria used for this study will be the 2020 Census and the current cable and fiber coverages across the state. The Criteria were set at 60% for the population and 40% for the broadband coverage. After the analysis was run, it identified 155 hexagons which are 0.29 square miles, and bring service to 17,400 individuals. These areas will have the most significant impact of targeting the largest amount of people that do not have access to reliable internet.

**Keywords:** Digital Divide, South Dakota, Broadband.