



The Next, Next Greatest Thing

Rural Broadband: Closing the Digital Divide

South Carolina Office of Regulatory Staff | January 24, 2022

THE NEXT GREATEST THING



50 Years of Rural Electrification
In America

*“Brothers and sisters,
I want to tell you this.
The greatest thing on earth
is to have the love of God in your
heart, and the next greatest thing
is to have electricity
in your house.”*

Farmer giving witness in a rural
Tennessee church in the early 1940s

THE NEXT GREATEST THING



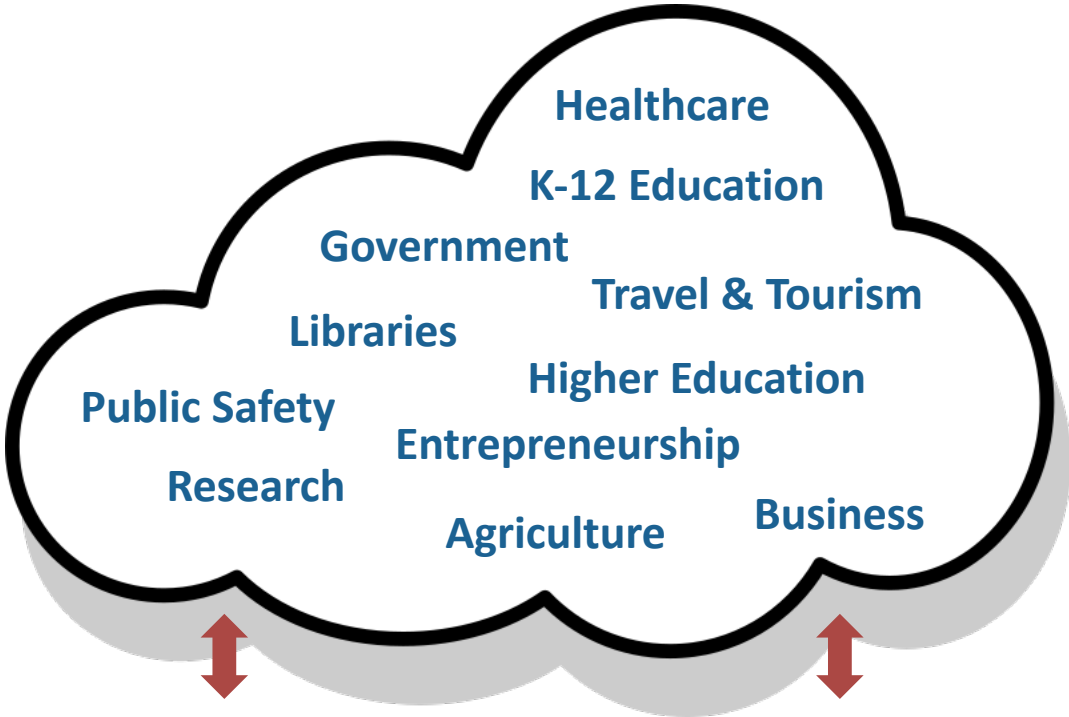
50 Years of Rural Electrification
In America

*“Brothers and sisters,
I want to tell you this.
The greatest thing on earth
is to have the love of God in your
heart, and the next, **next** greatest thing
is to have **Internet**
in your house.”*

Use:
Skills and applications to leverage technology to improve quality of life and community/economic development

Adoption:
Recognizing the value in broadband and subscribing either at home, work, or via public institutions

Access:
The physical connection to high-speed infrastructure



Digital Inclusion programs are required for motivation, especially when K-12 students are still living at home.



0%

50%

100%

FCC Internet Benchmarks

Qualifies for Federal & State Investment

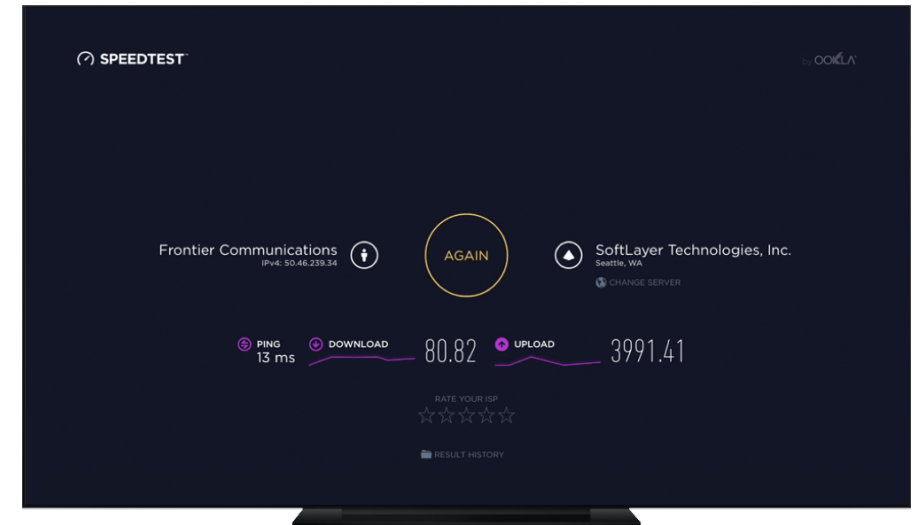
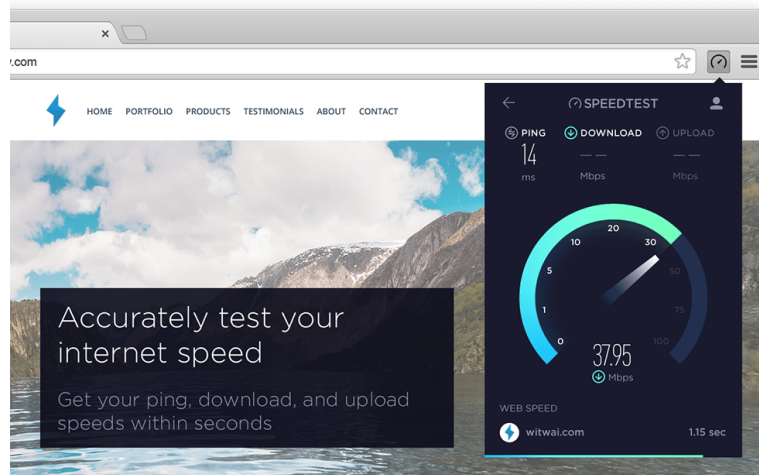
Date Adopted	Minimum Download	Minimum Upload	FCC Commissioner
2015	25 Mbps	3 Mbps	Tom Wheeler, D
2010	4 Mbps	1 Mbps	Julius Genachowski, D
1996	200 Kbps	200 Kbps	William Kennard, D

Federal Construction Requirements

Reliable 100/20 Mbps scalable to 100/100 Mbps (symmetric)



Ookla's mission is to make the internet better, faster and more accessible for everyone



iOS



Speedtest is available for:
Web, Android, iOS, macOS, Windows, AppleTV, Chrome

Residential Broadband Technology

Best Available Technology Class

- Fiber | Speeds \geq 100 Mbps/100 Mbps (symmetric)
- Cable (DOCSIS 3.1+) | Speeds \geq 100 Mbps/100 Mbps (symmetric)
- Cable (DOCSIS 3.0) | Speeds \geq 100 Mbps/20 Mbps
- Cable (DOCSIS $<$ 2.0) | Speeds \geq 25 Mbps/3 Mbps
- VDSL (Fiber-To-The-Curb) | Speeds \geq 10 Mbps/1 Mbps
- ADSL2, ADSL2+ | Speeds \geq 6 Mbps/1 Mbps
- Fixed Wireless | Speeds \geq 10 Mbps/1 Mbps
- ADSL | Speeds \geq 3 Mbps/768 kbps
- No Internet Service Available
- Zero Households

Copper & Fixed Wireless

Copper technology (xDSL) cannot deliver reliable 25/3. End of useful life.

Fixed Wireless requires optimum conditions to exceed 25/3; however, it delivers *Speed to Access* meaning that high need areas have the potential to get coverage fast while physical connections to each house are built.





No Internet Options Exist

This has nothing to do with affordability!
Customers in these areas cannot receive service at their physical address.

“Begin With the End in Mind”

Steven R. Covey, *7 Habits of Highly Effective People*




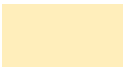
Speed Tiers (download / upload)

	100 Mbps / 100 Mbps (symmetric)
	100 Mbps / 20 Mbps
	25 Mbps / 3 Mbps
	Zero Households

DON'T INVEST HERE

Green: Already served. Meets or exceeds FCC's 25/3 Mbps
White: Nobody lives there.

Density of Unserved Households

	200 or More (per sq. mi.)
	25 - 199
	1 - 24
	> 0 and < 1

INVEST HERE!

Find the “freckles!” and prioritize these. Freckles are high household density with poor Internet.

South Carolina

Areas of Need

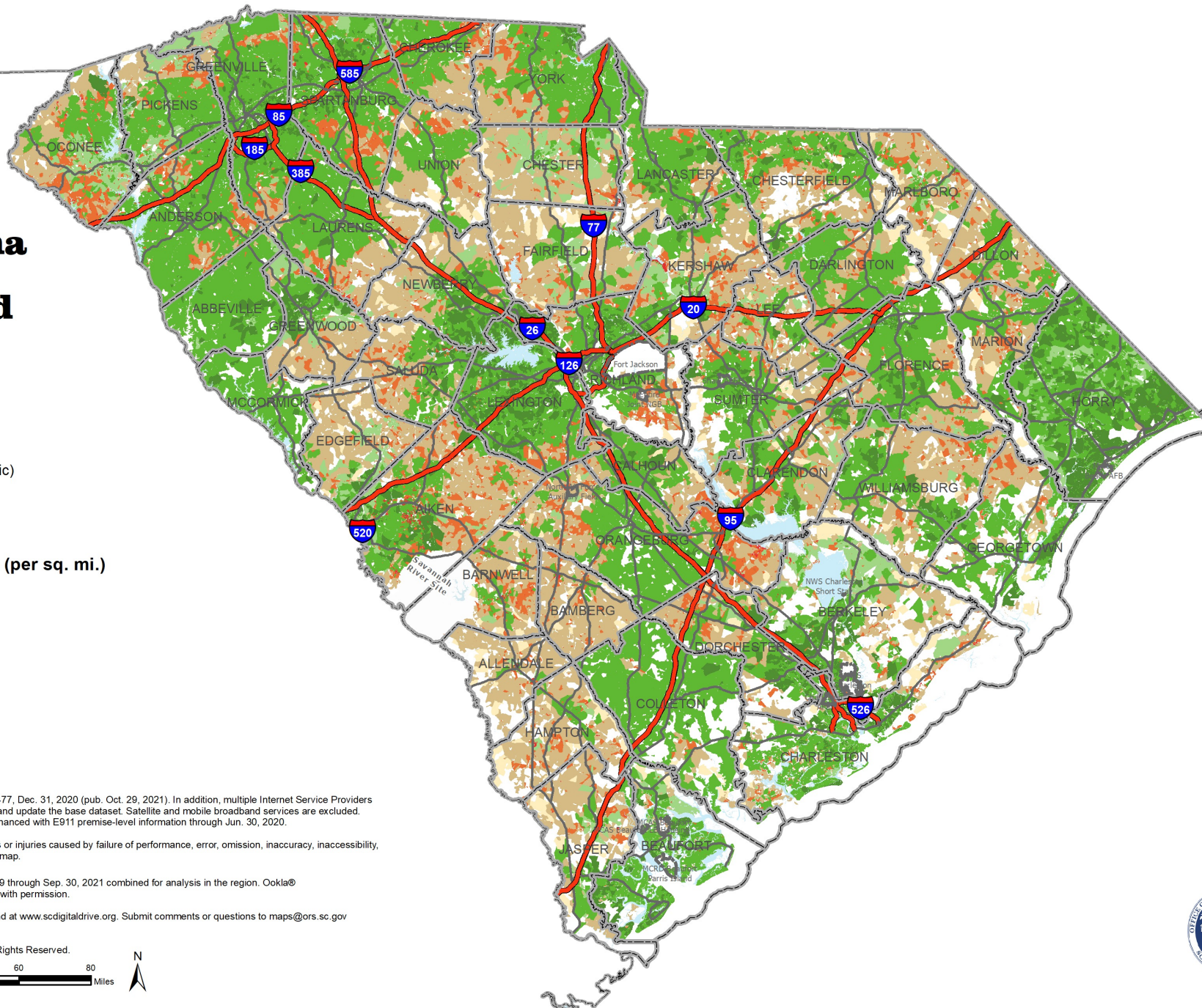
September 30, 2021

Speed Tiers (download / upload)

- >= 100 Mbps / 100 Mbps (symmetric)
- >= 100 Mbps / 20 Mbps
- >= 25 Mbps / 3 Mbps

Density of Unserved Households (per sq. mi.)

- 200 or More
- 25 - 199
- 1 - 24
- > 0 and < 1
- Zero



Data Sources: Based on SC Broadband Office analysis of FCC Form 477, Dec. 31, 2020 (pub. Oct. 29, 2021). In addition, multiple Internet Service Providers have contributed their FCC Form 477, Jun. 30, 2021 data to augment and update the base dataset. Satellite and mobile broadband services are excluded. Demographic data based on US Census 2010 information that was enhanced with E911 premise-level information through Jun. 30, 2020.

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South Carolina

Planning

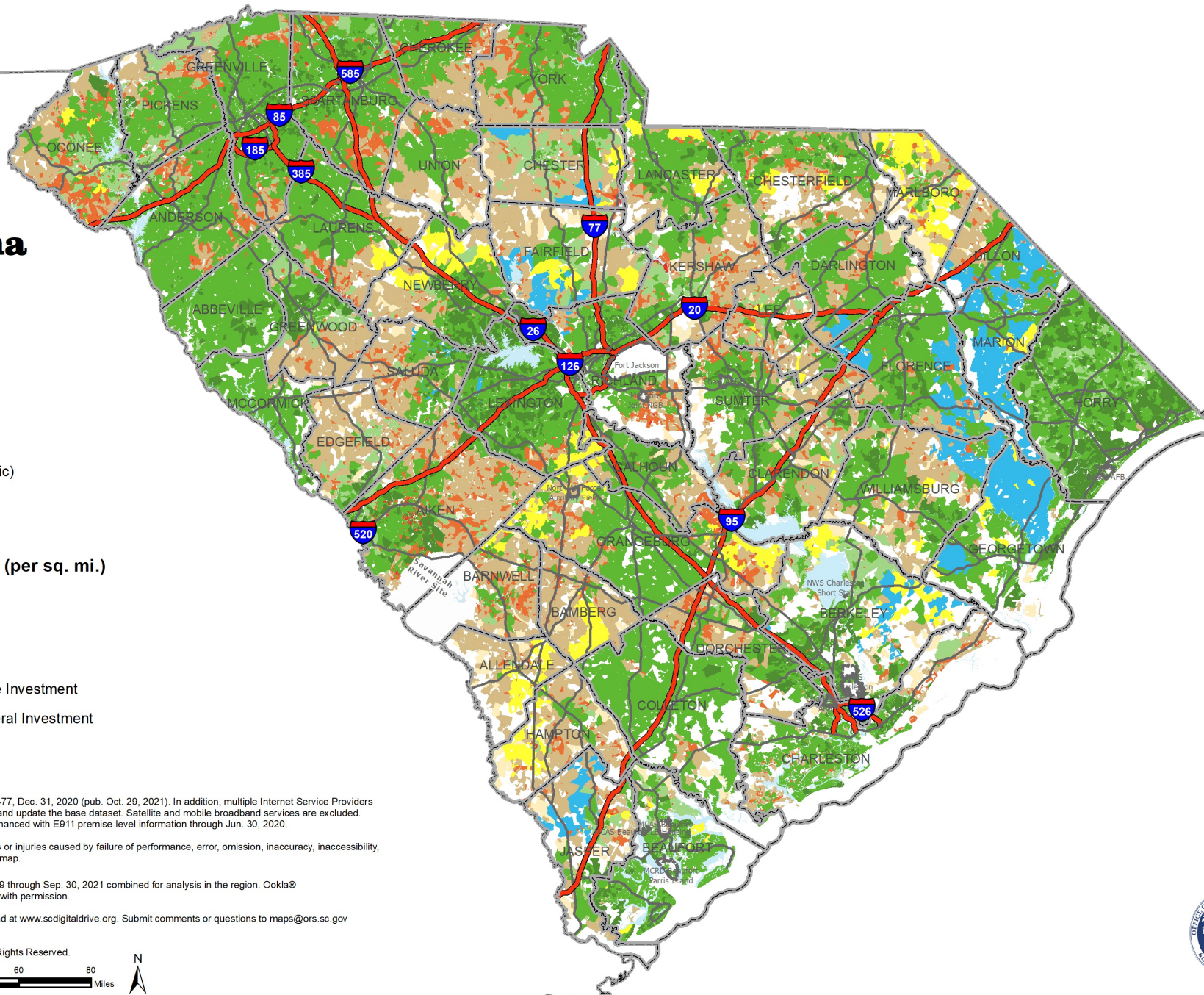
December 31, 2022

Speed Tiers (download / upload)

- >= 100 Mbps / 100 Mbps (symmetric)
- >= 100 Mbps / 20 Mbps
- >= 25 Mbps / 3 Mbps

Density of Unserved Households (per sq. mi.)

- 200 or More
- 25 - 199
- 1 - 24
- > 0 and < 1
- Zero
- State Investment
- Federal Investment



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South Carolina

Statewide

Statistics

September 30, 2021



Population¹

Since official Census 2020 totals are not yet available, population estimates are calculated by multiplying housing unit data times an approximate residents per housing unit.

Public K-12

K-12 student data reflects the subset of public school students which have been geocoded as of September 30, 2021. Student data was provided by the SC Department of Education.

Housing Units¹

A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall. Since official Census 2020 totals are not yet available, housing unit data is derived from E911 information and Local Update of Census Addresses (LUCA) information.

Qualified HU

Qualified Housing Units (HU) are located within Difficult Development Areas (Qualified Census Tracts) as determined by US Housing and Urban Development.

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BROADBAND OFFICE

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US Census	Population	Housing Units
2010	4,625,364	2,137,683
2020 ¹	5,118,425 15.3%	2,489,808 13.8%

CURRENT	Current Below 25↓ Mbps Download / 3↑ Mbps Upload			
	Population	Public K-12	Housing Units	Qualified HU
September 30, 2021	427,237	49,056	221,731	32,607

Current Best Available Technology					
Fiber	Cable	Copper	Fixed Wireless		
1,029,544 41.4%	1,209,656 48.6%	134,353 5.4%	23,272 0.9%		

FUNDED PROJECTS	Projected Investment Impact			
	Population	Public K-12	Housing Units	Qualified HU
Federal Funding	25,064	3,130	13,311	1,731
State Funding	37,778	4,001	20,066	3,654
Total	62,842	7,131	33,377	5,385

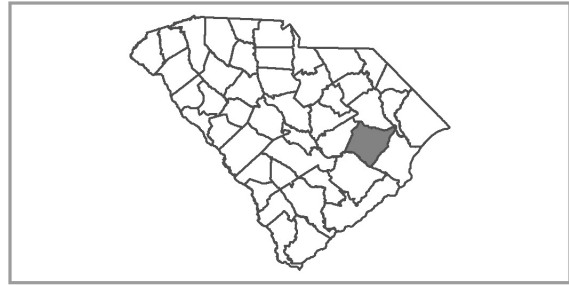
FUTURE	Remaining Below 25↓ Mbps Download / 3↑ Mbps Upload			
	Population	Public K-12	Housing Units	Qualified HU
December 31, 2022	364,395	41,925	188,354	27,222

Williamsburg County

South Carolina

Best Available Technology

September 30, 2021



Best Available Technology (type | capability)

- Fiber | Speeds \geq 100 Mbps/100 Mbps (symmetric)
- Cable (DOCSIS 3.1+) | Speeds \geq 100 Mbps/100 Mbps
- Cable (DOCSIS 3.0) | Speeds \geq 100 Mbps/20 Mbps
- Cable (DOCSIS < 2.0) | Speeds \geq 25 Mbps/3 Mbps
- VDSL (Fiber-To-The-Curb) | Speeds \geq 10 Mbps/1 Mbps
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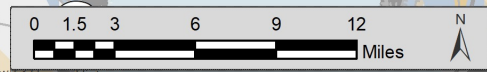
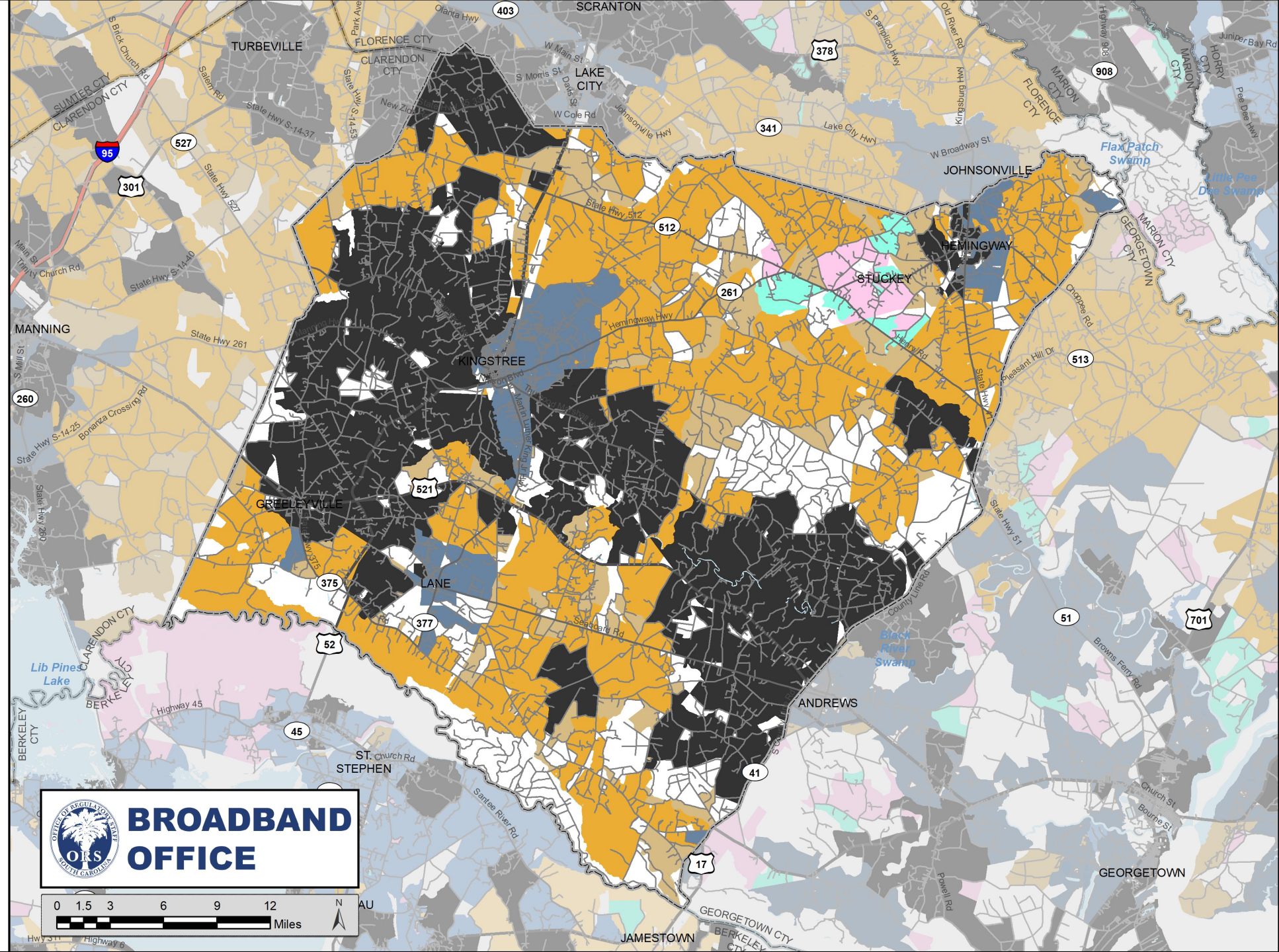
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Williamsburg County

South Carolina

Areas of Need

September 30, 2021

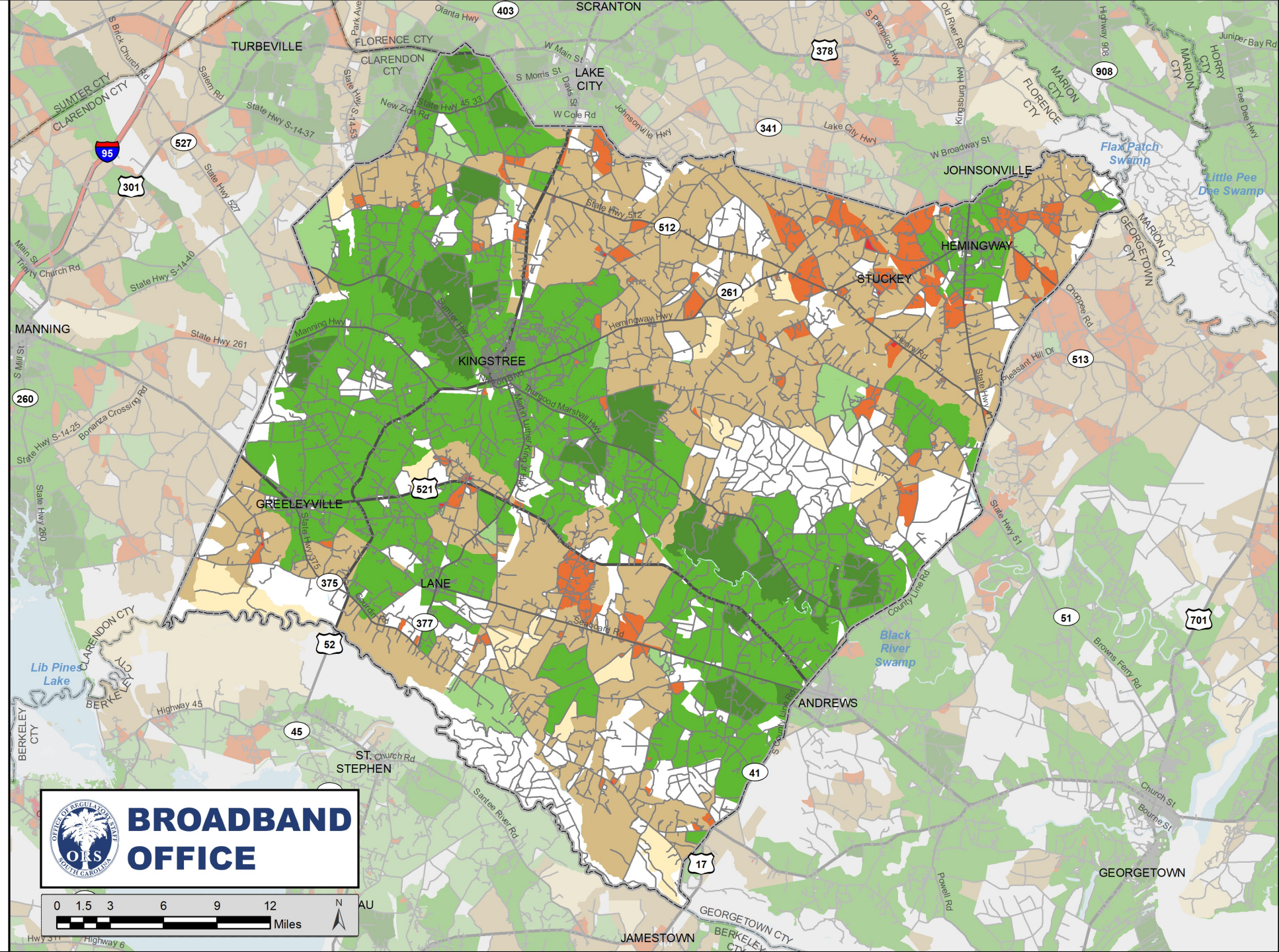


Speed Tiers (download / upload)

- >= 100 Mbps / 100 Mbps (symmetric)
- >= 100 Mbps / 20 Mbps
- >= 25 Mbps / 3 Mbps

Density of Unserved Households (per sq. mi.)

- 200 or More
- 25 - 199
- 1 - 24
- > 0 and < 1
- Zero



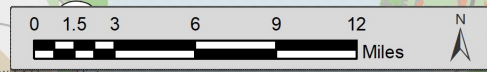
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Williamsburg County

South Carolina

Planning

December 31, 2022



Speed Tiers (download / upload)

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Density of Unserved Households (per sq. mi.)

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-
- State Investment
 - Federal Investment
 - Difficult Development Area

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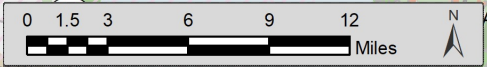
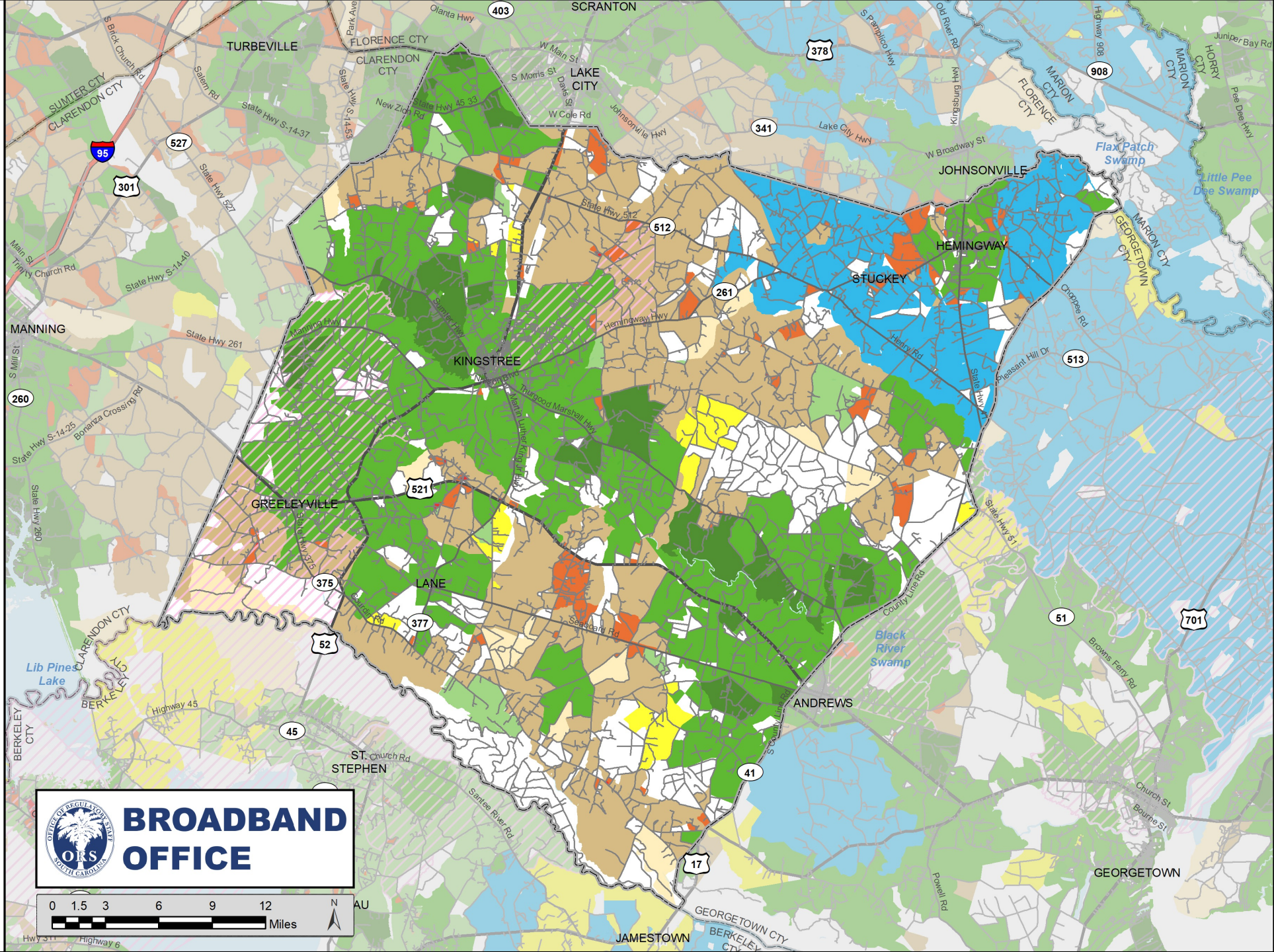
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Williamsburg County

South Carolina

Statistics

September 30, 2021



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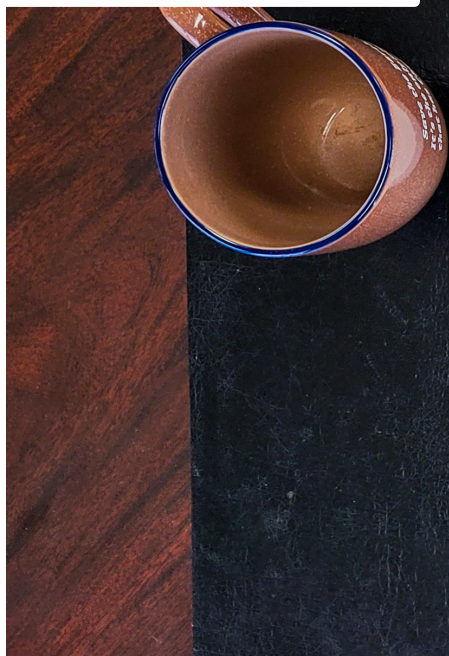
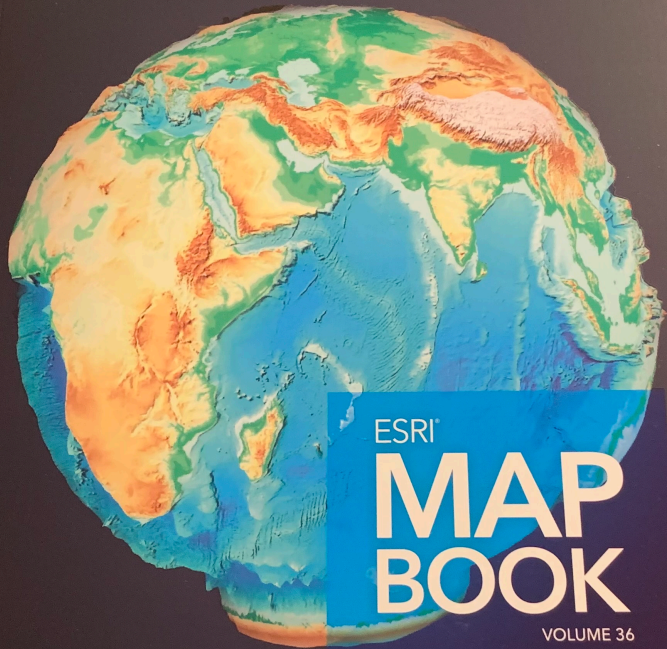
US Census	Population		Housing Units	
2010	34,423		15,359	
2020 ¹	31,026	-9.9%	16,838	9.6%

CURRENT	Current Below 25↓ Mbps Download / 3↑ Mbps Upload					
	Population		Public K-12		Housing Units	Qualified HU
September 30, 2021	9,033	29.1%	843		4,963	358
				29.5%		

Current Best Available Technology						
	Fiber		Cable		Copper	Fixed Wireless
	6,502	38.6%	5,100	30.3%	3,556	33
					21.1%	0.2%

FUNDED PROJECTS	Projected Investment Impact					
	Population		Public K-12		Housing Units	Qualified HU
Federal Funding	2,707		267		1,477	0
State Funding	122		10		74	0
Total	2,829		277		1,551	0

FUTURE	Remaining Below 25↓ Mbps Download / 3↑ Mbps Upload					
	Population		Public K-12		Housing Units	Qualified HU
December 31, 2022	6,204	20.0%	566		3,412	358
				20.3%		





SOUTH CAROLINA DIGITAL DRIVE

Search for broadband maps by county, region, or type.

View and download maps showing the availability and speed of broadband in the state.

Current Total Housing Units
With At Least
25↓ Mbps / 3↑ Mbps Service
2,268,077*

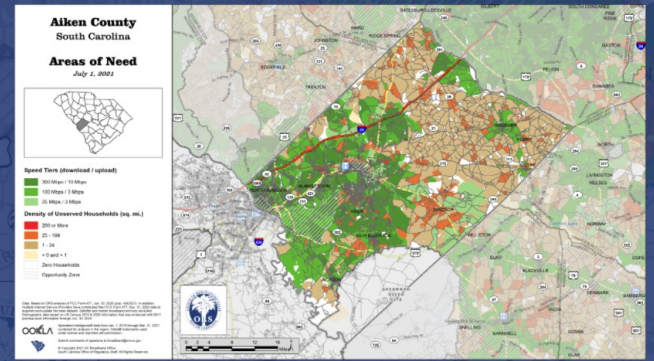
Current Total Housing Units
Without
25↓ Mbps / 3↑ Mbps Service
221,731*

Current Total Housing Units
Funded
100↓ Mbps / 20↑ Mbps Service
33,377*

**Data current as of September 2021*

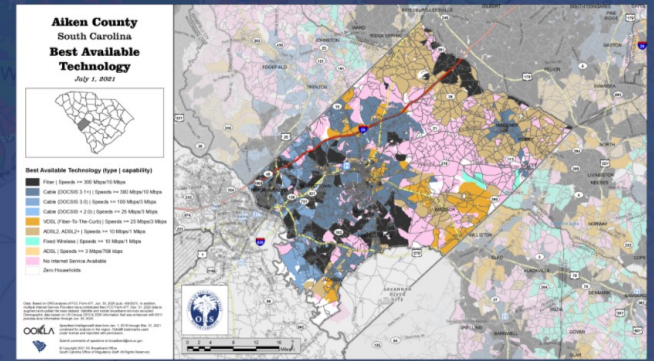
www.scdigitaldrive.org

Explore
Maps



Areas of Need
The maps show the speed in an area and unserved households in areas that do not have broadband.

[View Maps](#)



Best Available Technology
The maps show the best available technology in an area and the maximum download/upload speed.

[View Maps](#)



SC Broadband Dashboard

Private Member
Private Organization

Summary

The Dashboard allows users to view general broadband statistics at the SC county level. Much of the data reflected in the Dashboard is based on Federal Communication Commission data submissions. The Dashboard uses data from Internet Service Providers (ISPs). Dashboard data is updated periodically - At a minimum 2 times per year. For questions about the Dashboard data, please contact the

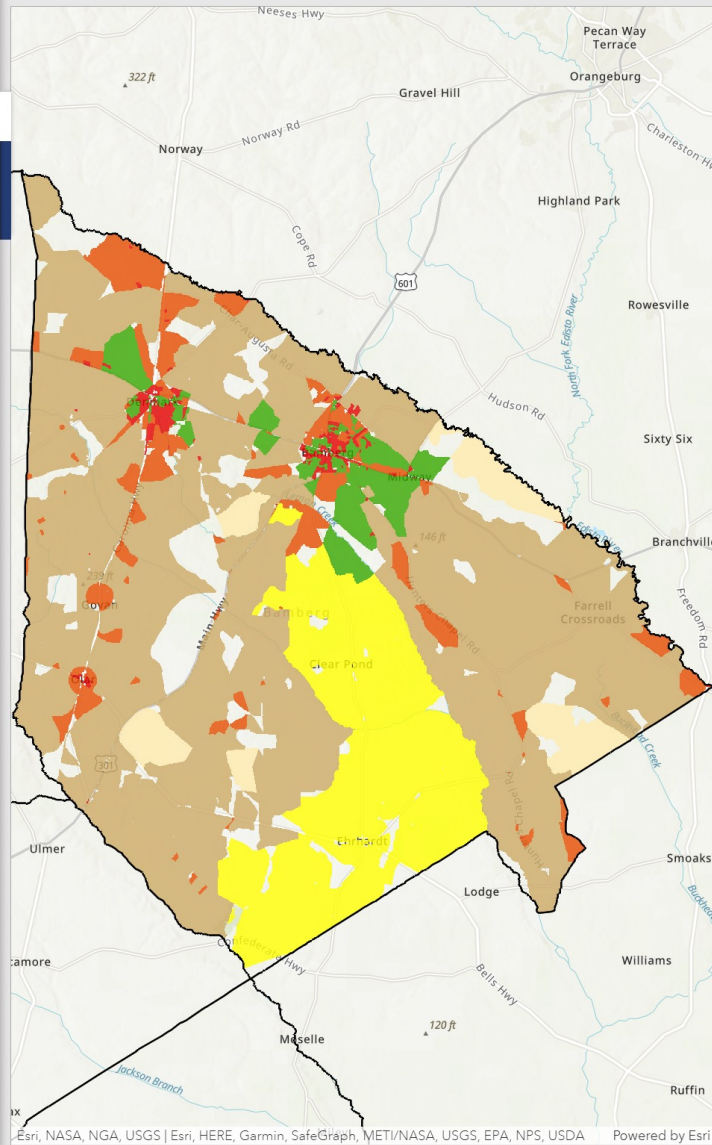
Read More

View Full Details

- Dashboard Dashboard
- January 14, 2022 Date Updated
- September 21, 2021 Published Date
- Public Anyone can see this content
- No License Provided Request permission to use

SC Broadband Dashboard

To begin click here to choose ...
Bamberg County



Areas of Need

MAPPING

- Served 100↓ Mbps / 100↑ Mbps
- Served 100↓ Mbps / 20↑ Mbps
- Served 25↓ Mbps / 3↑ Mbps
- Unserved Household Density 200 or More
- Unserved Household Density 25 - 199
- Unserved Household Density 1 - 24
- Unserved

Estimated number K-12 Students
1,305
That do not have at 25↓ Mbps / 3↑ Mbps broadband

Total number of Funded Households
1,002

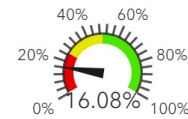
Total number of Unserved Households
6,830
That DON'T meet 25↓ Mbps / 3↑ Mbps

Total number of Served Households
1,319
That meet the Min 25↓ Mbps / 3↑ Mbps

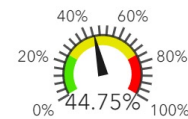
Percent of Residential Addresses Served by Fiber



Percent of Residential Addresses Served by Cable in Bamberg County

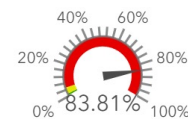


Percent of Residential Addresses Served by Copper in Bamberg County



*Note copper technology is considered Unserved

Percent of Residential Addresses Unserved in Bamberg County



www.scdigitaldrive.org



I Need Internet!

- For residents needing help:
- Visit www.scdigitaldrive.org
- **Consumer Tab**
- **Broadband ISP Lookup Application**
- **SC Citizen Survey**
- Send email to ineedinternet@ors.sc.gov

The screenshot displays the 'SC Broadband Internet Service Provider Lookup Application' interface. On the left, there is a text box with the title 'SC Broadband Internet Service Provider Lookup Application' and instructions: 'The SC Broadband Internet Service Provider Lookup Application allows consumers to see which providers may offer service in the general area of an address.' It includes two numbered steps: 1. 'Type in an address or use the zoom and pan tools to navigate on the map and select a location.' 2. 'A pop-up box will display results of Internet Service Providers (ISPs) that may provide access in that area. These results will also appear on the left-hand side the screen. The Viewer will display the names of ISPs that may provide service in that area. Links to each ISP's website and a phone number are provided.'

The main interface features a search bar with the text '1401 Main St, Columbia, SC, 292' and a search icon. Below the search bar, a pop-up box titled 'Broadband Providers' displays '1 provider found for this area': 'Charter Communications, Inc.' with 'Cable Modem (DOCSIS 3.1), 125.00+ Mbps'. To the right, a map shows a street grid with a red location pin and a cyan rectangular selection box around it. The map includes a scale bar for 300ft and coordinates: '+33.91037 34.007 Degrees Esri Community Maps Co...'. The application title 'SC Broadband Internet Service Provider Lookup Application' is visible at the top.

Rural Broadband Grant Program 2021

- Allocation of \$30,000,000 for a competitive grant program to expand broadband availability and access in South Carolina.
- ORS and SC Department of Commerce collaboration
- **14 Eligible Counties** and **15 Contiguous Counties**
- Eligible Applicant: Internet Service Providers
- Applicants provided 1:1 match using non-public funds
- Awards announced **July 13, 2021**



Thank you!

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Mobile: (803) 606-6398



**BROADBAND
OFFICE**

