The Next, Next Greatest Thing

Rural Broadband: Closing the Digital Divide

ARPA Appropriations Ad Hoc Committee | October 18, 2021

“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

Source: NRECA, 1984. *The Next Greatest Thing.* First ed. Washington, DC: ISBN 0-917599-00-4

“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:

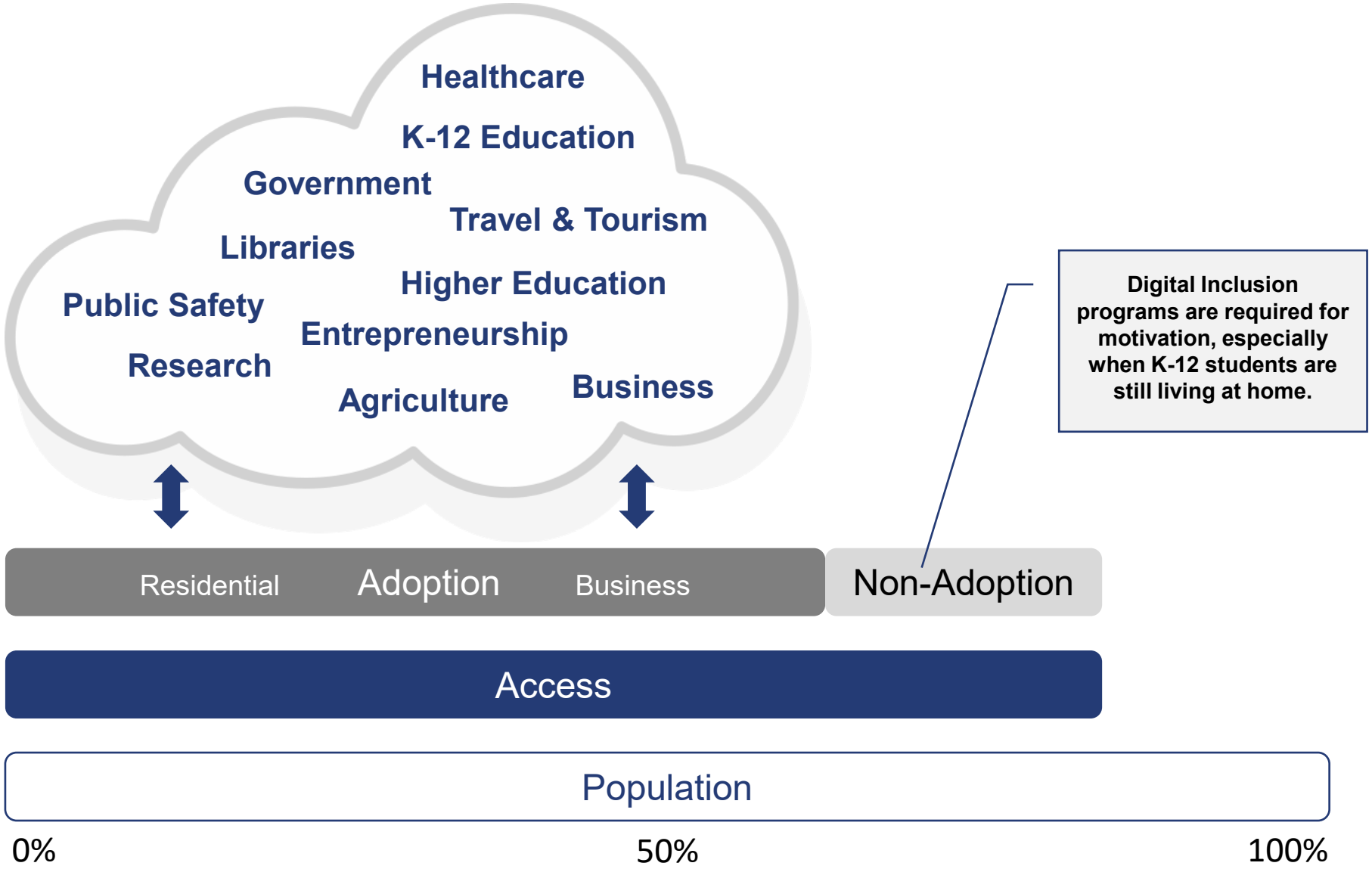
Skills and applications to leverage technology to improve quality of life and community/economic development

Adoption:

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

Access:

The physical connection to high-speed infrastructure



FCC Internet Benchmarks

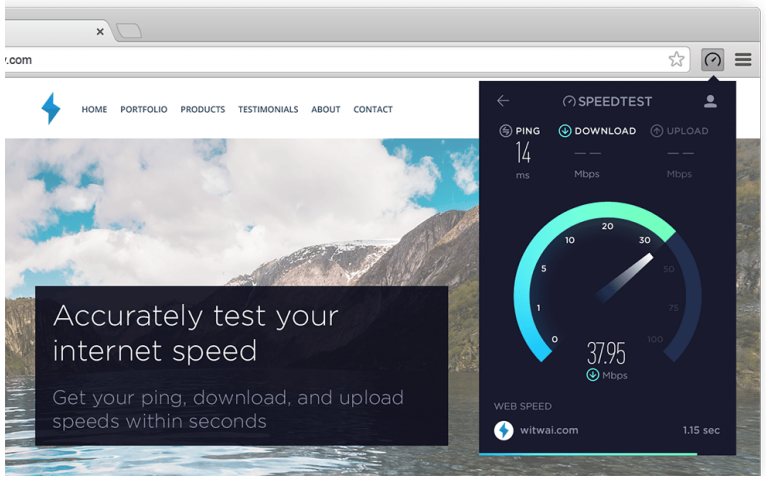
Qualifies for Federal & State Investment:

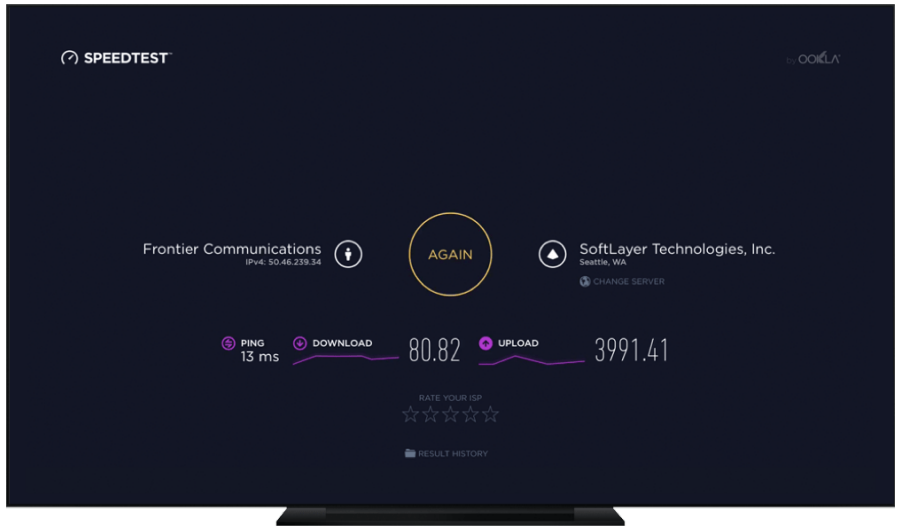
Date Adopted	Minimum Download	Minimum Upload	FCC Commissioner
2015	**25 Mbps**	**3 Mbps**	Tom Wheeler, D
2010	4 Mbps	1 Mbps	Julius Genachowski, D
1996	200 Kbps	200 Kbps	William Kennard, D

Federal Construction Requirements for new infrastructure:

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

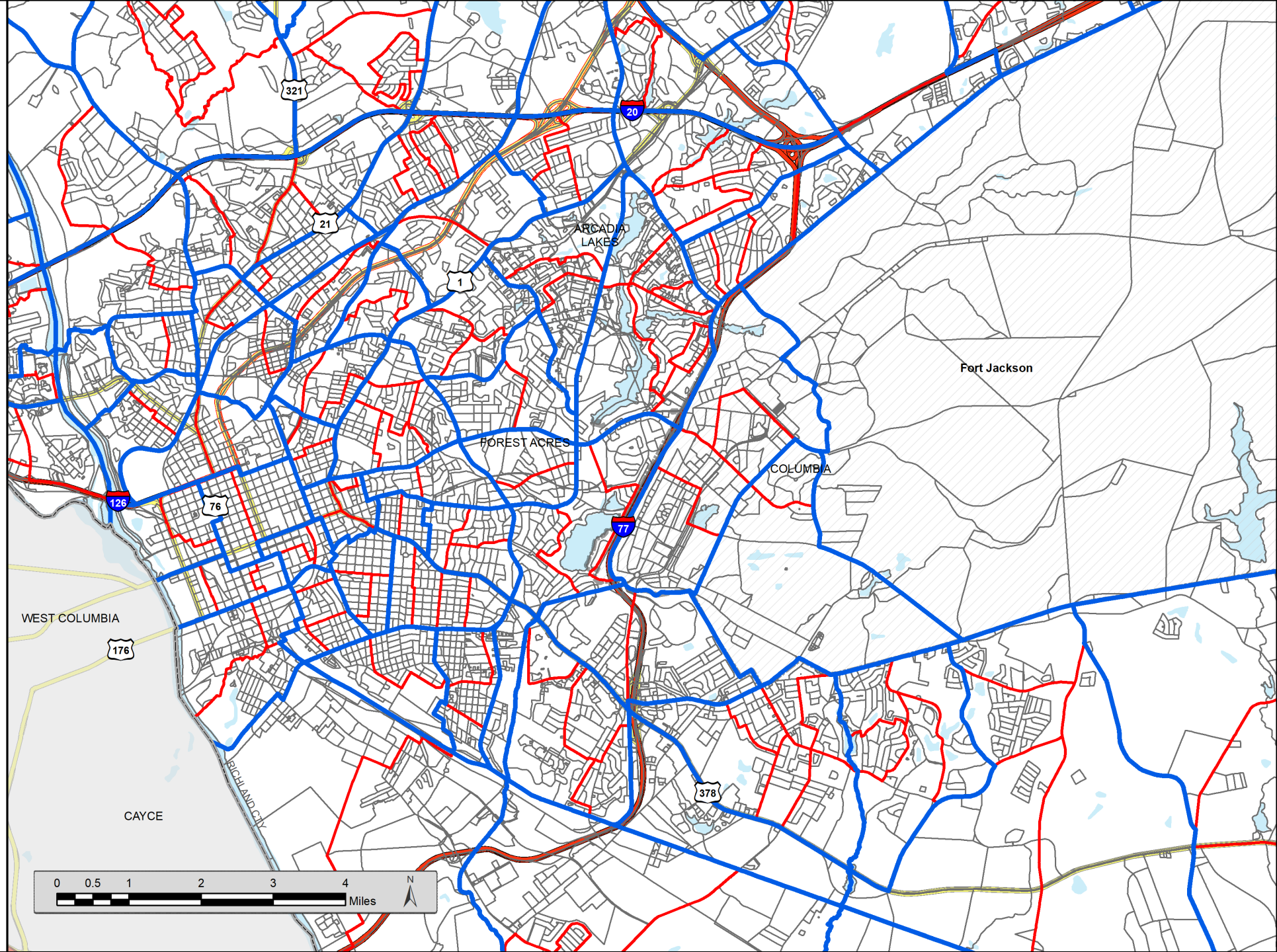
Speedtest is available for:
Web, Android, iOS, macOS, Windows, AppleTV, Chrome

Richland County

South Carolina

Census Blocks

181,908 Census Blocks



Residential Broadband Technology

Best Available Technology Class

- Fiber | Speeds >= 300 Mbps/10 Mbps
- Cable (DOCSIS 3.1+) | Speeds >= 300 Mbps/10 Mbps
- Cable (DOCSIS 3.0) | Speeds >= 100 Mbps/3 Mbps
- Cable (DOCSIS < 2.0), All Other | Speeds >= 25 Mbps/3 Mbps
- VDSL (Fiber-To-The-Curb) | Speeds >= 25 Mbps/3 Mbps
- ADSL2, ADSL2+ | Speeds >= 10 Mbps/1 Mbps
- Fixed Wireless | Speeds >= 10 Mbps/1 Mbps
- ADSL, all other Copper | Speeds >= 3 Mbps/768 kbps
- No Internet Service Available

Copper & Fixed Wireless

Only one copper technology (VDSL) technology reaches 25/3. All others are at end of life.
Fixed Wireless requires optimum conditions to reach 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.

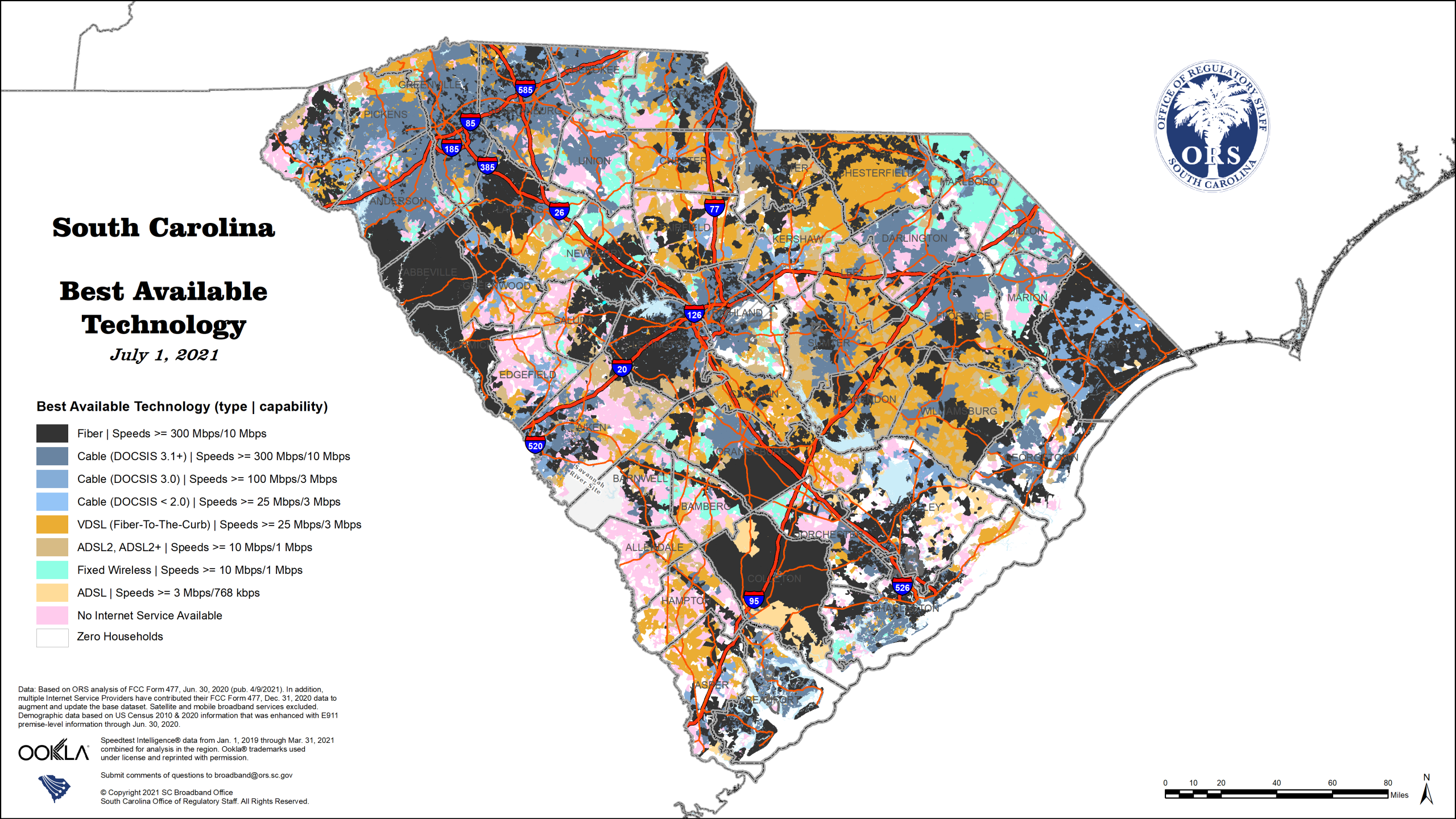
No Internet Options Exist

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

South Carolina

Best Available Technology

July 1, 2021



Data: Based on ORS analysis of FCC Form 477, Jun. 30, 2020 (pub. 4/9/2021). In addition, multiple Internet Service Providers have contributed their FCC Form 477, Dec. 31, 2020 data to augment and update the base dataset. Satellite and mobile broadband services excluded. Demographic data based on US Census 2010 & 2020 information that was enhanced with E911 premise-level information through Jun. 30, 2020.

OOKLA

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Submit comments of questions to broadband@ors.sc.gov

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Residential Broadband Speeds

Speed Tiers (download / upload)

- 300 Mbps / 10 Mbps
- 100 Mbps / 3 Mbps
- 25 Mbps / 3 Mbps

When Internet speeds are <u>25/3 or better</u>
Green: Meets or exceeds FCC's Broadband Internet Benchmark of 25/3 Mbps.

Density of Unserved Households

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

When Internet speeds are <u>below 25/3</u>
We don't care about speed. Need to see **household info**.
Reds & Tans: Indicate engineering issues that need to be resolved by an Internet Service Provider (ISP). ISP's need to know where homes are located <u>as well as</u> where homes are not located. For an ISP, one home equals one customer. Therefore, the maps showcase household density in slow speed areas of the state.

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**

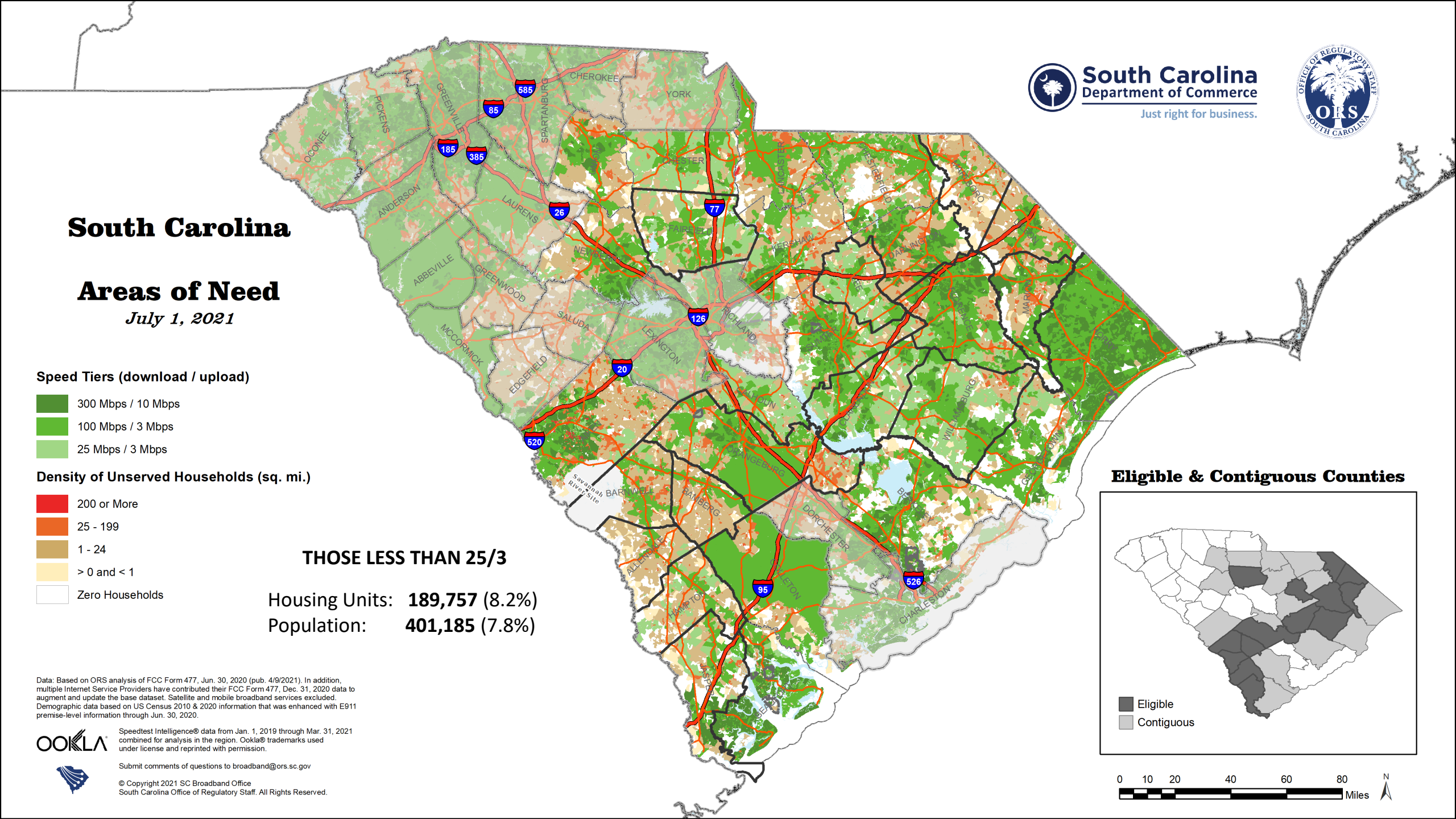
South Carolina

Areas of Need

July 1, 2021

South Carolina Department of Commerce
Just right for business.

OFFICE OF REGULATORY STAFF ORS SOUTH CAROLINA



Speed Tiers (download / upload)

- 300 Mbps / 10 Mbps
- 100 Mbps / 3 Mbps
- 25 Mbps / 3 Mbps

Density of Unserved Households (sq. mi.)

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

THOSE LESS THAN 25/3

Housing Units: **189,757** (8.2%)
Population: **401,185** (7.8%)

Eligible & Contiguous Counties

0 10 20 40 60 80 Miles N

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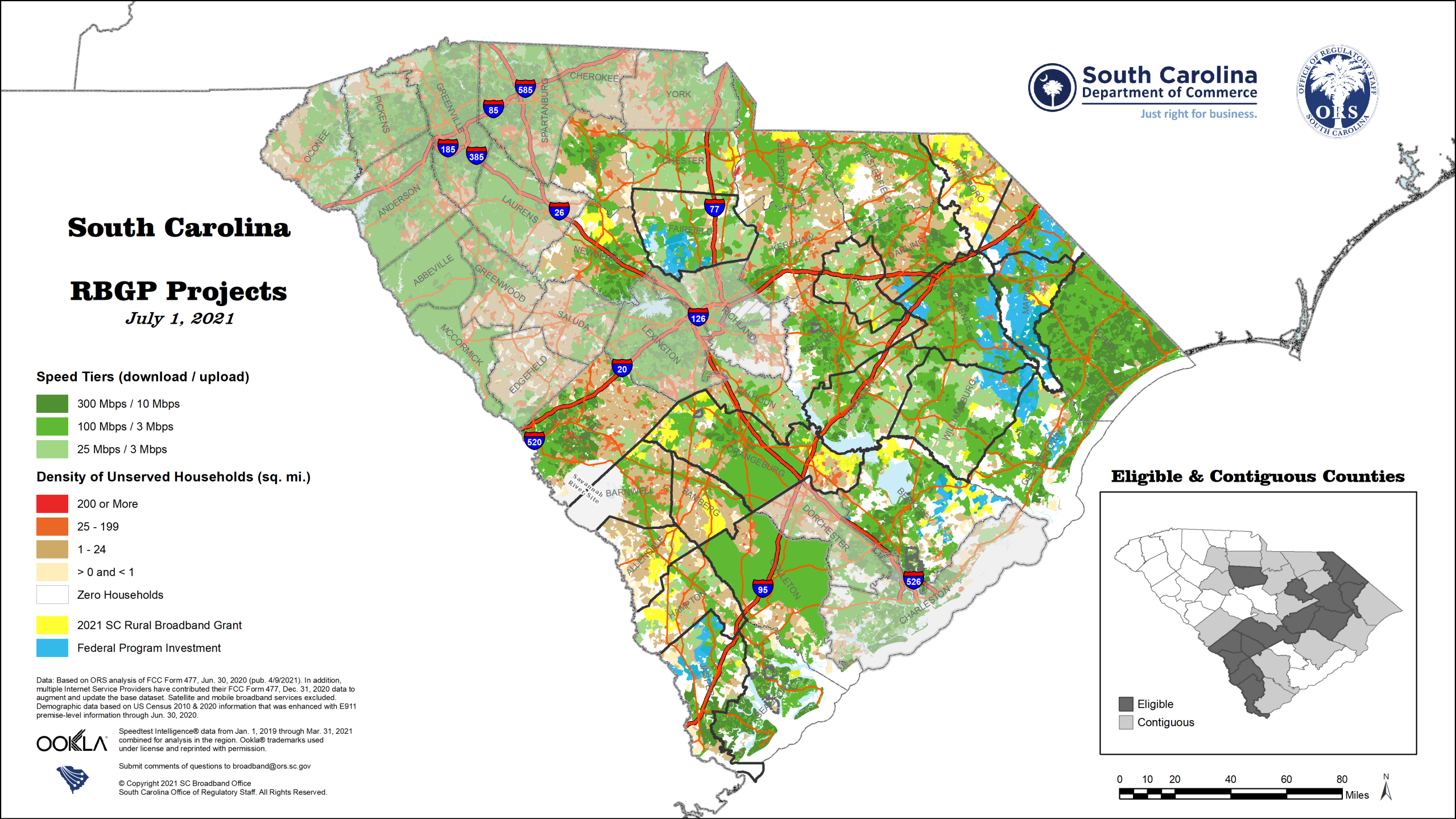
South Carolina
RBGP Projects
July 1, 2021
Speed Tiers (download / upload)
300 Mbps / 10 Mbps
100 Mbps / 3 Mbps
25 Mbps / 3 Mbps
Density of Unserved Households (sq. mi.)
200 or More
25 - 199
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2021 SC Rural Broadband Grant
Federal Program Investment
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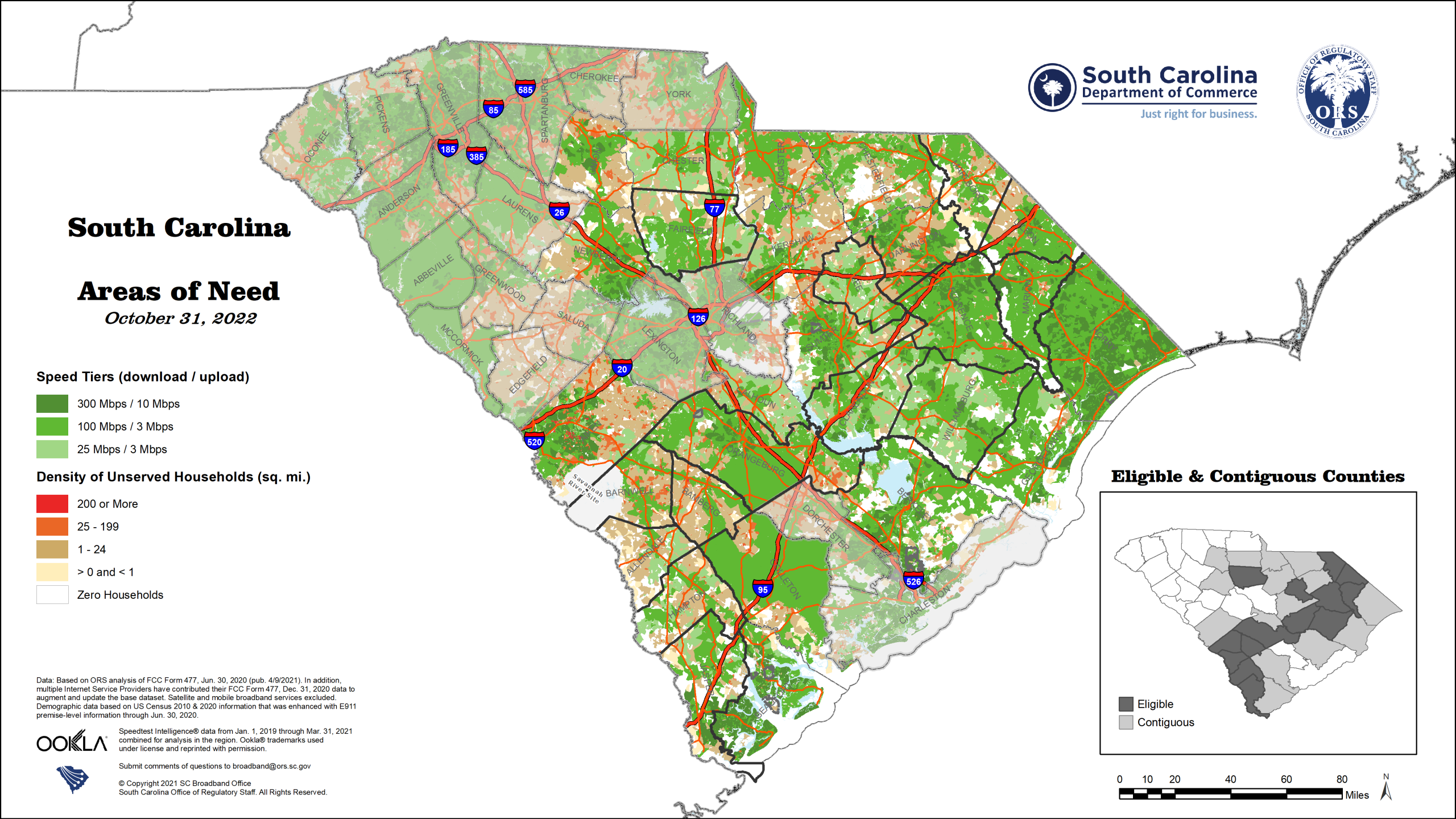
0 10 20 40 60 80
Miles
N



South Carolina Department of Commerce
Just right for business.

Office of Regulatory Staff — ORS — South Carolina

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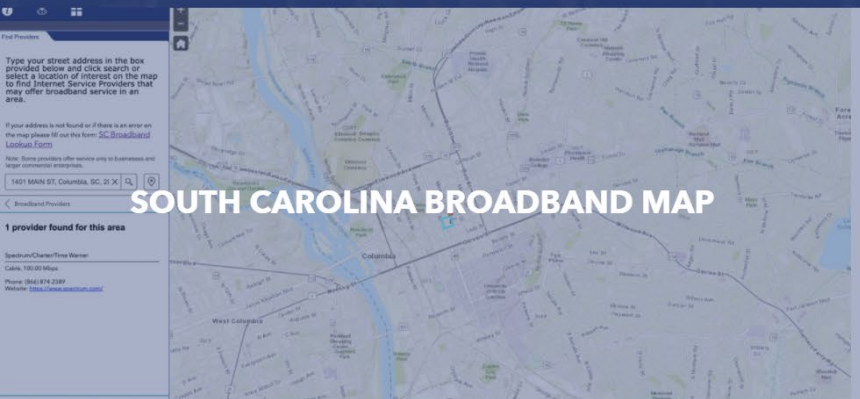
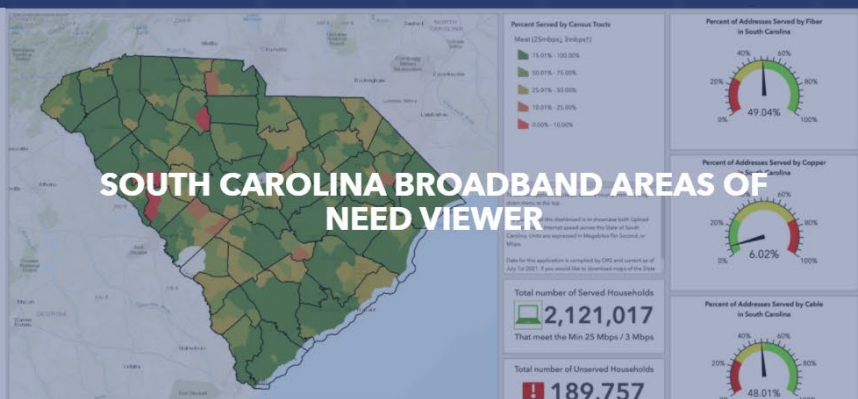
SOUTH CAROLINA BROADBAND MAPS

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





NTIA Grant Application

- Rebuild digital infrastructure to 6 Main Street Communities
- Requested $13.1M; total project $15M
- Fiber to Premise to approximately 2,773 rural households
- Partnered with SC Department of Education, SC Department of Commerce, and Prisma Health and 6 internet service providers
- Awards to be announced **mid November**

Broadband

- Administration of the CARES Act
- Rural Broadband Grant Program
- Broadband Office
- Broadband Deployment Permit Working Group
- Broadband Advisory Committee (BBAC)

Broadband Grant Timeline Example

Event	Date/Deadline*
Areas of Need Published on the ORS Website	3/15/21
Application Period Opens	4/1/21
Challenge Period Opens	4/15/21
Application Period Closes	5/14/21
Challenge Period Closes	5/17/21
Submitted Applications Posted on the ORS Website	5/18/21
Comments Due on Submitted Applications	6/1/21
Funding Agreements Sent to the Companies	6/18/21
Funding Agreements Returned to the ORS	6/30/21
Notices to Proceed Issued	7/15/21
3rd Q 2021 Financial and Construction ProgressReport Due	10/15/21
4th Q 2021 Financial and Construction ProgressReport Due	1/14/22
1st Q 2022 Financial and Construction ProgressReport Due	4/15/22
2nd Q 2022 Financial and Construction ProgressReport Due	7/15/22
3rd Q 2022 Financial and Construction ProgressReport Due	10/14/22
Project Completion	10/31/22
Final Reporting Due	1/15/23

SC Broadband Analysis

Preliminary statistics around broadband in South Carolina

Population

5,218,040
new census total in 2020

401,185*
do not meet 25/3 minimum download/upload speeds

Structures

2,386,385
new census total in 2020

189,757*
household units do not meet 25/3 minimum download/upload speeds

**does not include projects funded through the Rural Broadband Grant Program or other funding not yet completed*

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SC Broadband Analysis

Number of Housing Units Below 25/3 After 7/13/21 Investments	166,132
Private Investment	$202,910,294
State Investment	$436,251,403
Total Investment	$639,161,698

USDA RUCA	Number of Housing Units Below 25/3 *(as of 7/1/21)*	Housing Units Above 25/3 After 7/13/21 Investments	Remaining Housing Units Below 25/3	Percent of Housing Units Below 25/3 in the RUCA	Cost to Connect *(per housing unit)*	Total Investment	Private Match	Private Investment	State Investment
1	32,868	179	32,689	19.7%	$1,500	$49,033,500	1:1	$24,516,750	$24,516,750
2	68,958	10,253	58,705	35.3%	$2,000	$117,410,000	1:1	$58,705,000	$58,705,000
3	14,805	2,749	12,056	7.3%	$2,500	$30,140,000	1:1	$15,070,000	$15,070,000
4	10,718	425	10,293	6.2%	$4,745	$48,840,285	40%	$19,536,114	$29,304,171
5	27,705	2,284	25,421	15.3%	$5,306	$134,883,826	40%	$53,953,530	$80,930,296
6	8,696	1,058	7,638	4.6%	$5,500	$42,009,000	30%	$12,602,700	$29,406,300
7	8,641	2,307	6,334	3.8%	$6,000	$38,004,000	30%	$11,401,200	$26,602,800
8	3,781	902	2,879	1.7%	$7,000	$20,153,000	20%	$4,030,600	$16,122,400
9	2,749	815	1,934	1.2%	$8,000	$15,472,000	20%	$3,094,400	$12,377,600
10	10,836	2,653	8,183	4.9%	$10,000	$81,830,000	0%	$0	$81,830,000
	189,757	**23,625**	**166,132**			**$577,775,611**		**$202,910,294**	**$374,865,317**

RUCA: *U.S. Department of Agriculture (USDA) rural-urban commuting area (RUCA) codes. RUCA codes 4-10 are classified by the USDA as "rural."*

Broadband Awareness Campaign (5%)	*$28,888,781*
ORS Admin (through 2026)	*$7,497,306*
Last Mile Fund	*$25,000,000*
	$436,251,403

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