

Chatham Digital Inclusion Plan

Chatham County, NC
Digital Inclusion Plan Coalition

Draft in Progress



Notes on this version

This is a DRAFT of what we plan to become the Chatham County Digital Inclusion Plan created by the Chatham County Digital Inclusion Plan Coalition.

This process from here will include input, comments, and suggestions from Coalition Partners, followed by online public input, then public events in January 2023, and finally a completion of the document no later than end January 2023.

There will be public events for feedback:

Pittsboro on January 12th and Siler City on January 19th. I will send an announcement in December.

How to provide Your input to this Plan

You can just send me an email if you have a few changes.

president@innovatechatham.org

If you have a large number of comments or changes, you can use MS Word's Review, Track Changes and save your changes in the plan document. Then use this link to upload your edited version:

UPLOAD LINK FOR YOUR EDITED VERSION

You are invited to read more of the existing plans from other counties and can get ideas and inspiration from them.

PURPOSE OF THIS PLAN

There are primarily 3 broad tactics that this plan supports:

1. By sharing information, cataloging it, and sharing it, organizations and residents in Chatham will be much more informed about the totality of programs being offered, so that they can make full use of existing support.
2. The [NC Broadband Office](#) is instructing local governments to create Digital Inclusion Plans. By creating a Digital Inclusion Plan, Chatham and Chatham's nonprofit organizations will be able to use the Plan to support their application for grants. As an example there are grants available from the [Broadband Equity, Access, and Deployment \(BEAD\) Program](#), [State Digital Equity Capacity Grant Program](#), the [Digital Equity Competitive Grant Program](#), and the [Middle Mile Broadband Infrastructure Grant Program](#), among many programs. (Chatham has previously benefitted from the RDOF and GREAT programs, and ARPA funding has also been spent in this area. The BEAD funding may be larger than the previous programs.)
3. By creating a guiding Coalition to design the plan, it is expected that a group will form that can continue to guide the implementation of identified solutions occurring in the short term (e.g. during the writing of this Plan), medium term (months) and over the long term (years).

DEFINITIONS

Digital divide is the issue.
Digital equity is the goal.
Digital inclusion is the work.

- [National Digital Inclusion Alliance Definitions](#)

The following definitions set a framework for group discussion, as well as plan development.

Broadband Adoption - Daily access to the internet at speeds, quality, and capacity necessary to accomplish common tasks; with digital skills necessary to participate online; and on a personal device and secure convenient network.

Digital Navigators - Trusted guides who assist community members in internet adoption and the use of computing devices, digital tools, and the internet.

Digital Literacy - The cognitive and technical ability to use digital tools to find, evaluate, create, and communicate information.

Digital Divide - The gap between those who have access to technology, the internet and digital literacy training and those who do not.

Digital Inclusion - Digital inclusion is a term that refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of information and communication technologies. Because of the evolutionary nature of technology, digital inclusion strategies must evolve as technologies develop and change.

While making sure that everyone has access to technology, the internet, and digital literacy training is a critical component, the use of these tools is essential in closing the digital divide. This component is commonly called “adoption.” (ncbroadband.gov)

Digital Equity - Digital equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in society, democracy and economy. Digital equity is necessary for civic and cultural participation, employment, lifelong learning and access to essential services. To achieve digital equity means that every North Carolinian would have the technologies, tools and skills needed to access affordable high-speed internet anywhere, anytime. (ncbroadband.gov)

Digital Technology – Information and communication technologies necessary for civic and cultural participation, employment, lifelong learning, and access to essential services. This includes broadband internet service, software, apps, websites, and devices such as laptops, desktops, tablets, and smart phones.

Broadband Adoption - Broadband adoption is when a household subscribes to an internet service in their home. There are many reasons for not subscribing at home, but there are four key barriers to adoption:

- The cost associated with the subscription to broadband service
- The cost of a device to use the broadband service
- A person's lack of existing digital literacy skills, like how to use the internet or device
- The perceived lack of relevance or benefit to the person's life

While the issues surrounding availability to reliable, high-speed internet is often the topic of discussions around broadband, adoption remains a substantial issue. According to the Federal Communications Commission, only 59.4% of North Carolina households subscribe to at least 25 Mbps download and 3 Mbps upload. The American Community Survey found that almost 25% of households do not subscribe to any internet services at all. (ncbroadband.gov)

Internet Speed - The rate of data transmission for connection to the Internet. These are typically referenced with Mbps or Megabits per second. It measures how many bits (units of digital information) can be transferred each second. You will normally see speeds ranging from 10–1,000 Mbps advertised for home internet plans. The [minimum speed regarded as useful right now is 100 Mbps](#) and is sure to increase in the future.

Broadband Connectivity- According to the Federal Communications Commission (FCC), broadband connectivity commonly refers to high-speed Internet access that is always on and faster than the traditional dial-up access and typically at speeds higher than 25 Mbps download and 3 Mbps upload.

High-Speed Internet- Broadband connectivity at speeds of greater than 100 Mbps upload and 100 Mbps download.

Broadband speed depends on the technology used, but also on the capacity of the service provider and how many people share the capacity. There are generally options for purchasing faster speeds and possibly additional data volume per month. So, typical tendencies regarding speeds are mentioned below but there is wide variability.

Broadband Technologies

Broadband connectivity technologies are differentiated in various ways. We have included typical maximum speeds. The speed into a single home depends on many factors including the service level purchased. The speed to individual devices in a home will depend on the number of devices operating. Broadband technologies include:

Digital Subscriber Line (DSL) - A wireline transmission technology that transmits digital data over traditional copper telephone lines already installed to homes and businesses. Tends to be the slowest technology. Max speed about 100 Mbps. Typical in our area: 3-25 Mbps.

Cable Modem Service - Cable modem service enables cable operators to provide broadband using the same coaxial cables that deliver pictures and sound to your TV. Tends to be faster than DSL. Max speed about 1000 Mbps. Typical in our area: 300 Mbps.

Fiber- Fiber optic technology converts electrical signals carrying data to light and sends the light through transparent glass fibers about the diameter of a human hair. Fiber transmits data at speeds far exceeding current DSL or cable modem speeds, typically by tens or even hundreds of Mbps. Tends to be the fastest technology. Max speed about 10,000 Mbps. Typical in our area 1000 Mbps

Fixed Wireless - Fixed wireless broadband connects a home or business to the Internet using a radio link between equipment at the customer's location and the service provider's facility. Speed depends on service provider's capacity and distance, among other variables. Max speed about 1000 Mbps.

Satellite - A form of wireless broadband connecting the customer's home or business with satellites orbiting the earth. Satellites systems in high orbit with few satellites have high latency (delays) and either lower speeds or data usage caps. Other systems have satellites in low orbit with many satellites, have low latency and may or may not have higher speeds or fewer data caps. Costs for satellite internet tends to be more for the same speed. Max speed about 100 Mbps.

Mobile and Cellular – Service based on mobile phone technology, LTE, 4G, and 5G. Internet service to computers (as opposed to smart phones) requires hotspots, typically limited to data usage caps, and typically slower speeds. Max speed 4G/LTE is 25-50 Mbps. Max speed 5G is 300-1000 Mbps.

Useful internet speeds

Internet providers, anecdotally in Chatham, seem to have reliability of more than 99%. (That means you will be offline about 7 hours a month, on average. We could find no data on actual reliability measurements. You will need a Business account to improve reliability.) All providers have speed limitations, and some have data usage limitations. For example, a wireless internet provider might have a speed limitation of 50 Mb/s, and also a data limitation of 10 GB per month.

Here are some examples of speeds and data usage for various purposes. Send and receive email (any internet service)

- E-mail (1 Mbps, using 0.75 GB per month if receiving 25 emails per day, each 0.5 MB)
- Web browsing (5 Mbps, using 1,620 GB per month is browsing 3 hours per day)
- Internet security camera (2Mbps, using 2600 GB per month if used 24 hours per day)
- Stream audio (0.5 Mbps down, using 216 GB per month if used for 4 hours per day)
- Play video games (3 Mbps up, and 20 Mbps down, using 4,970 GB per month if used for 2hours per day)
- Make video calls, for example to telehealth providers and business contacts at HD resolution (1.2 Mbps up and down, using 86 GB per month is used for 2 hours each business day)
- Watch streaming video, for example Curiosity Stream and YouTube at HD resolution (2.5 Mbps down, 1,080 GB per month, if watching 4 hours per day)

Note that it may be possible to use the internet at slower speeds, but you might find it as frustrating as driving on US64 at 10 mph. It may be possible to live with a low data limitation, but it might be as frustrating as having a gas tank that can only take you to the Food Lion if it is full when you leave.

So, it depends on how you use the internet, but also these numbers add up when you have multiple people using the internet and multiple devices like phones, tablets, computers, and internet security cameras running.

The [FCC recommends at least 100 Mbps speed download and 20 Mbps upload](#), and most incentives for service providers require 100 MB/s. The average user of the internet consumes 560 GB per month. But, about as many use more than 1000 GB per month as use less than 100 GB, and the amounts (and speeds) keep increasing as more uses and time are found for the internet.

[Average data consumption eclipses half a terabyte per month - OpenVault | Light Reading](#)

THE CHATHAM DIGITAL INCLUSION PLAN

Collective Vision for Digital Inclusion

“Broadband access must be the next generation utility for all families and households in Chatham County. As we continue preparing students for global competitiveness, we must equip them with both the capacity and the infrastructure to interact, collaborate and create with their global peers. Broadband for all must be our commitment and priority.” – Dr. Anthony Jackson, Chatham County Schools Superintendent

Chatham County is at a tipping point where access to technology, shared resources, mentoring and knowledge will determine which parts of the community thrive and which parts are left behind. We must work together to assure that everyone has an equal opportunity to realize their potential. –Lisa Fedele, Founder, The Alliance

Vision

With the right efforts, Chatham County will be one of the few special places where all residents have an equal chance to live a great life, a life which now requires digital technology as much as roads, clean water, and electricity. Because of this, Chatham County, and every part of Chatham County, will be seen as a desirable place to live and work, and build businesses.

Mission

To reach our Vision, Chatham County will establish and utilize a Steering Team drawn from government and nonprofit organizations. The Steering Team will then coordinate new programs focused on availability, access, and adoption of digital technology, especially in the populations that need help most: immigrants, seniors, farmers, and rural residents, plus residents who can be trained for new high-tech jobs.

Values

The Chatham County Digital Inclusion Plan Coalition believes that all Chatham residents are going to be happier and more prosperous if everyone in Chatham has a chance to live their best life, and that includes the benefits of digital technology that now underpins almost every aspect of life. We believe that we can accomplish this by listening to all residents, thoughtful planning, good coordination, and a substantial, but rewarding, effort.

Goals

Create a comprehensive, well-funded, well-governed Digital Inclusion Program for Chatham County that ensures every resident in Chatham has the opportunity to participate in a life supported by digital technology. That means that:

- All residential locations will have internet availability.
- All Chatham residents can afford to access the internet.
- All Chatham residents have the opportunity to learn the basics of digital technology.

- All Chatham residents have someone to help them with basic digital technology and access to digital public services if they need it.

Utilize this plan to make Chatham a highly-desirable place to grow-up, learn, work, relocate, create a business, and retire.

Objectives

- Establish governance and coordination of a major Digital Inclusion (DI) effort with a county-wide Steering Team in Q1 2023 that will support and oversee a comprehensive DI effort. Hire a Digital Inclusion Program Manager, a Digital Literacy Training Coordinator, and a Digital Navigator Corps professional by end Q2 2023.
- Ensure that 98% of known locations in Chatham have internet service available by end 2026. Thoroughly vet FCC location and service data in time to challenge such data, by early Q3 2023. Apply for grants to serve broadband to both unserved and underserved areas within 3 years (end 2026), prioritizing rural areas where commercial viability is low.
- Extend the school hotspot program as necessary to cover 100% of students by end of Q3 2023.
- Improve access to internet by low-income residents by end 2023. Advertise Federal discount programs (ACP and Lifeline) to all residents starting immediately to have covered all addresses in Chatham by end Q2 2023. Devise and fund a parallel program for immigrants by end 2023. Provide Digital Navigation support for ACP and Lifeline by end Q2 2023. Seek grants for parallel effort for discounts for immigrants by end Q3 2023. Enroll at least 5000 residents in these discount programs in two years.
- Ensure every child's family has a home computer by the end of the 2023/2024 school year by working with Kramden Institute plus other suppliers to identify and enroll any students lacking a home computer. Enroll at least 1,000 students the first year. Enroll all remaining students without home computers the second year.
- Establish a public, exterior internet connection and power supply at every school and library by end Q2 2023. Consider use of satellite technology in remote rural areas to provide hotspots.
- Create at least 8 new day-access locations in lower-income areas and near service provision areas by end Q2 2023.
- Improve basic, intermediate, and advanced digital technology learning for all Chatham residents starting in 2023 and continuing permanently. Establish a Digital Literacy Training Coordinator by end Q3 2023, with the aim of basic training of 1,000-3,000 students per year, to cover everyone who could benefit within 5 years. Start building a Digital Navigator Corps in Q2 2023. Train 40 Digital Navigators by end Q2 2023. Have the first Digital Navigators assisting with ACP by end Q2 2023.
- Partner with the high-schools, CCCC, and ISPs to establish workforce development programs in such areas as cybersecurity, manufacturing, and fiber optic technicians through training and apprenticeships with the aim of training 1,000 students per year starting in 2024.
- Establish and begin advertising a Chatham County App Contest by end Q1 2023, sending at least 5 teams to the 2023 Congressional App Challenge. Create a county-wide adult event promoting tech skills by end Q1 2024.

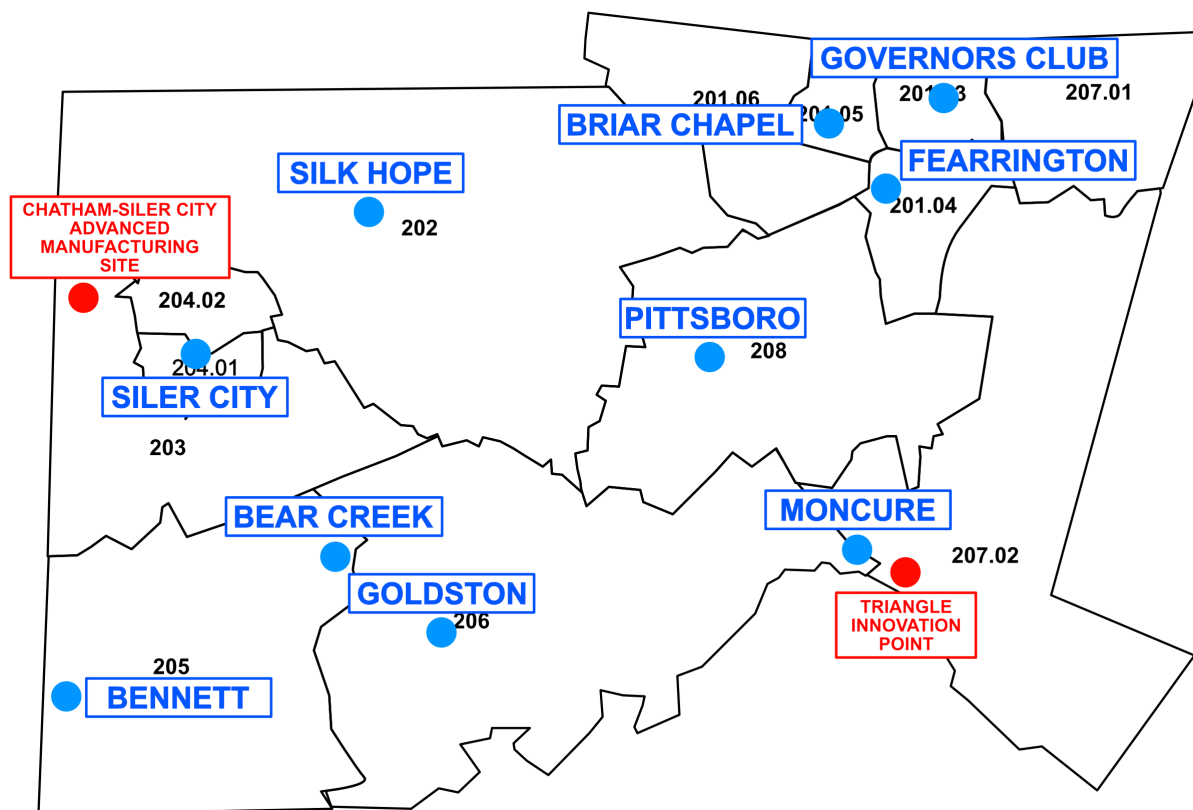
- Work with Chatham County Public Health and Chatham County Council on Aging to establish cost effective telehealth and aging-in-place programs to improve healthcare options and the overall health of Chatham County residents, with the intent of providing equal opportunity to healthcare services. Get 300 residents per year into these programs.

ABOUT CHATHAM COUNTY

Located at the geographic center of the state, Chatham County encompasses an area of more than 707 square miles and is known as the "The Heart of North Carolina." The county is situated between two of the state's three largest centers of population and commerce, the Triangle Region and the Piedmont Triad.

Chatham County has a rich mix of rural and suburban areas. The population has grown 20% from 2010 to 2020, and is in the top 20% of NC counties for population growth. More than 77,000 people currently live in Chatham County. Chatham Park, one new, large development, will eventually house 60,000 people. Chatham County's population is projected to increase to 89,000 (16%) by 2030.

The county has a few population centers. Siler City is the largest town, with 8,200 residents. Pittsboro (the county seat) has about 4,200 residents. Bear Creek has 3,500.



Fearrington Village is a residential census-designated place (CDP) with 2,600 residents. Briar Chapel is another residential CDP with 5,100 residents. Governors Club and Governors Village are two contiguous residential CDPs with 3,500 residents.

Approximately 56% of the population is in the Eastern and central parts of the county.

Manufacturing is growing with several announcements of large, new plants in the [Chatham-Siler City Advanced Manufacturing Site](#) (in the far west of the county), and the [Triangle Innovation Point](#) (in the southeastern corner of the county).

BASIC DATA RELEVANT TO CHATHAM COUNTY

To understand Chatham County and its needs for Digital Inclusion, it will be helpful to understand aspects of economics, race and ethnicity, as well as statistics describing availability, access and adoption of digital communications.

Economics

North Carolina ranks its counties in three tiers, based on four economic factors: Average unemployment rate, median household income, percentage growth in population, and adjusted property tax base per capita. Chatham is a Tier 3 county, meaning the least distressed category. Out of North Carolina's 100 counties, Chatham is the 6th highest median household income (\$70,000) which is 50% more than the median income in NC (\$47,000).

But, there are some big differences within Chatham County. The northeast part of the county tends to be relatively wealthy compared to North Carolina averages. The densest population areas are in the northeast corner, adjacent to the Carrboro and Chapel Hill areas, with a lot of new construction.

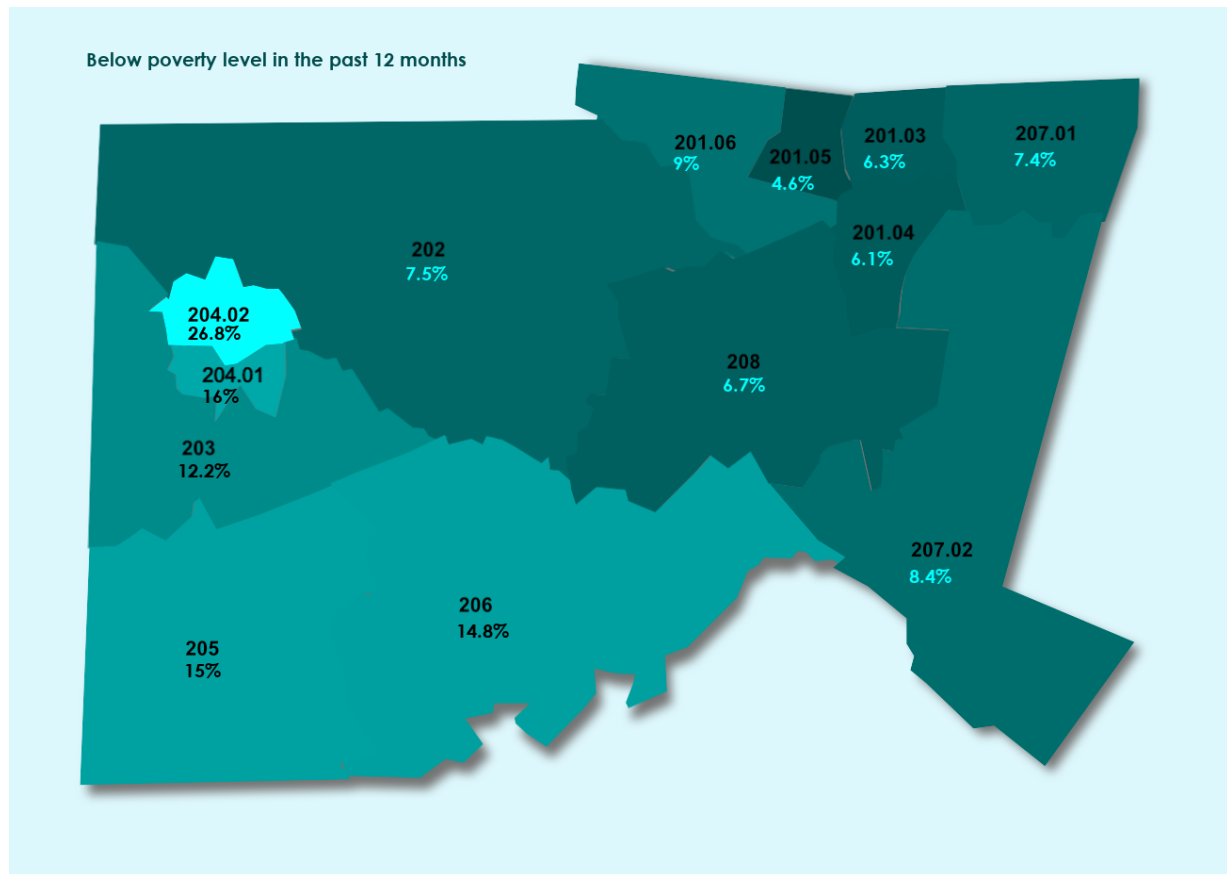
The southwest part of the county and Siler City has twice or three times the poverty rate, and 1/3 or 1/4 the median income.

In the southeast corner of the county, the Triangle Innovation Point will be the site of the new VinFast EV car factory and FedEx shipping hub, bringing about 8,000 jobs to the area.

The north western corner of the county is the home of the Chatham-Siler City Advanced Manufacturing site, which will be the home of Wolfspeed, bringing 1800 jobs to the area.

[Information in this section from [Microsoft Power BI product for Digital Equity](#)], which in turn comes from US Census Data: 2019 American Community Survey, Internet Service Provider data furnished by Broadbandnow, FCC Source Data from Form 477, Broadband Usage Data: Microsoft Corporation, AI for Good Lab, Code.org (2021) computer science access report data.]

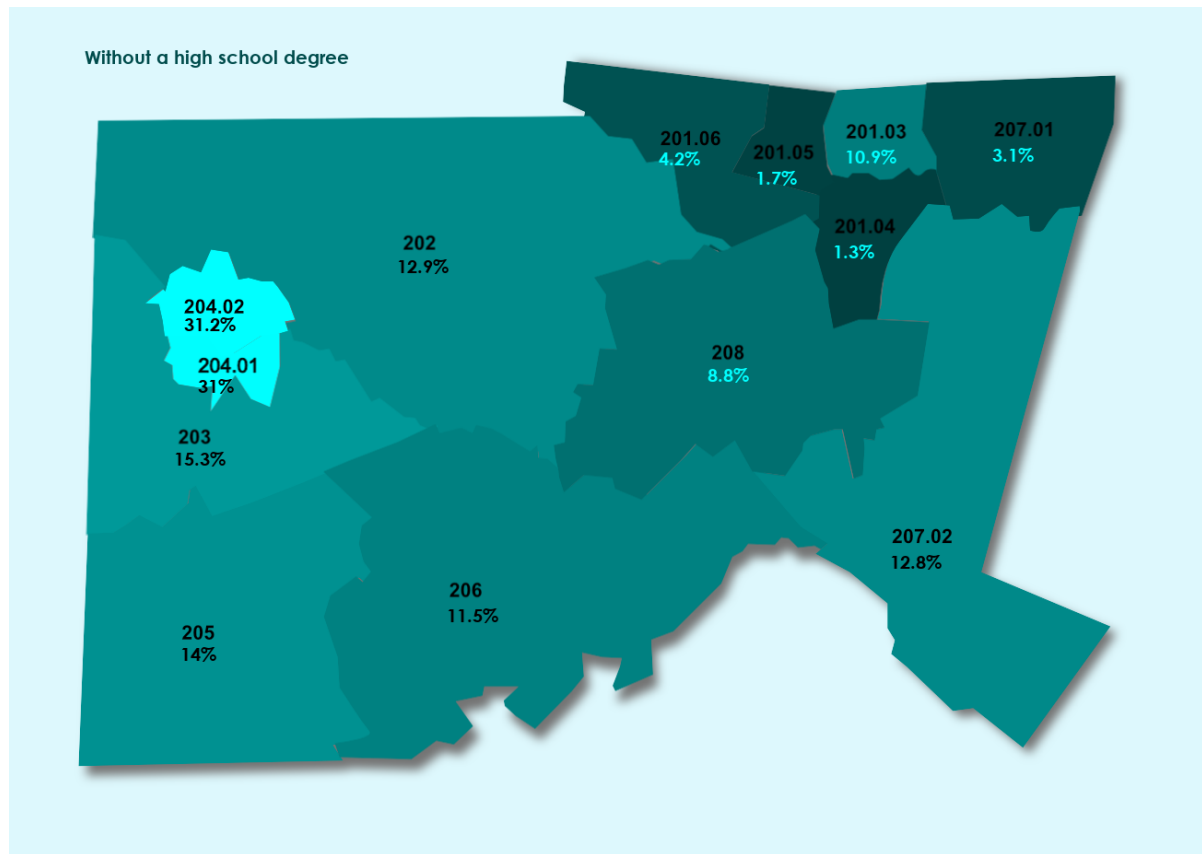
Poverty



About 46% of students are [enrolled](#) in the free and reduced school lunch program.

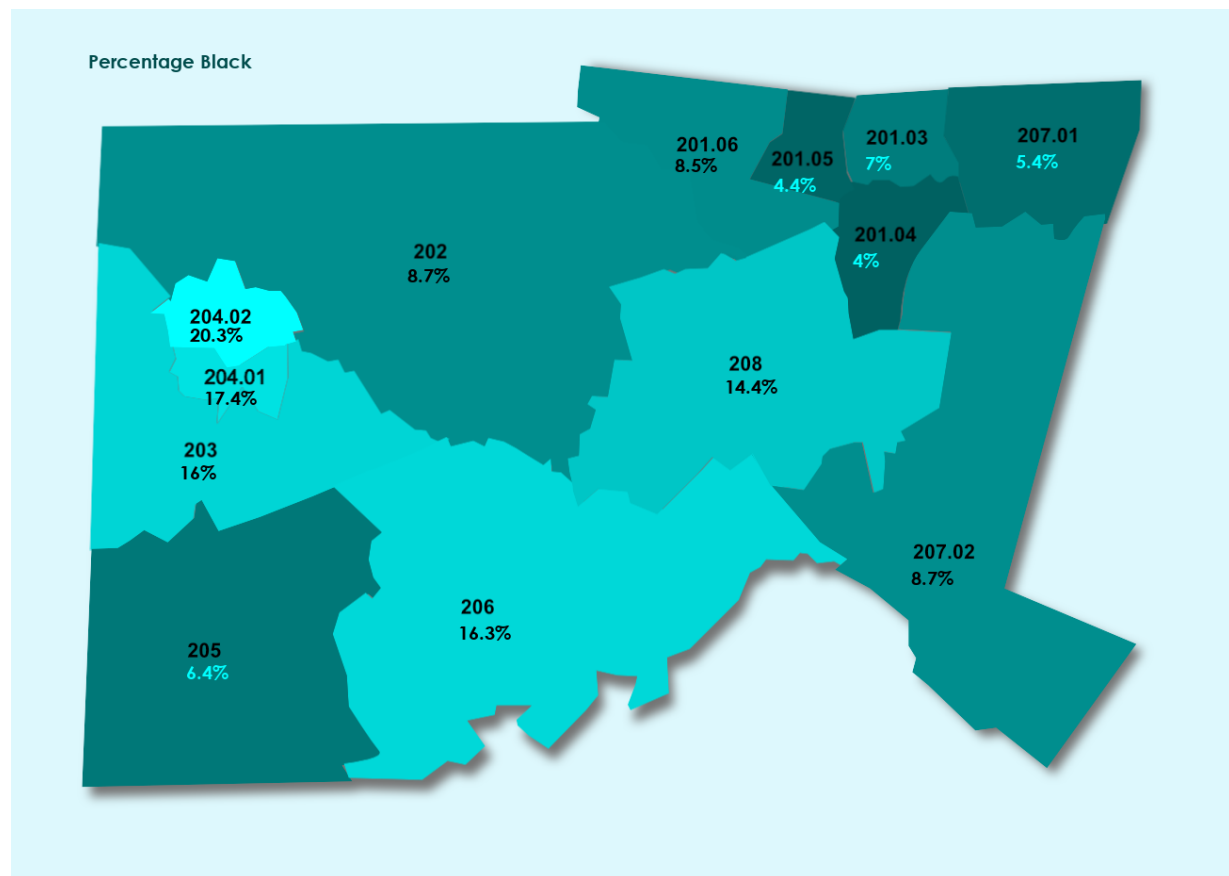
Education

Some parts of the county have significant fractions without high school degrees.

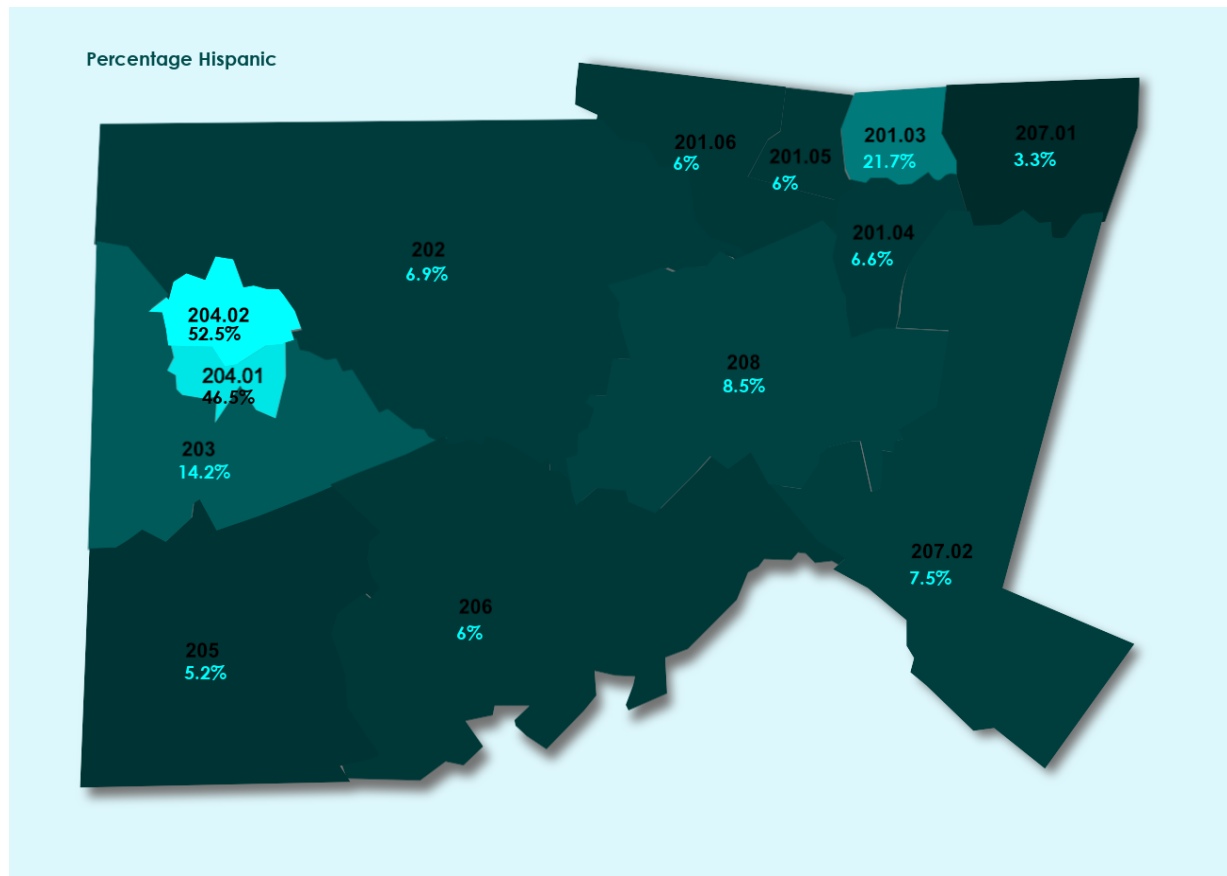


Race and Ethnicity

Blacks in Chatham are 10% of the population of Chatham, 7,800 residents, and make up a somewhat higher percentage in the central areas of Chatham. 11% of students are Black.



The Hispanic and Latino population is 14% of Chatham, 10,000 residents, and they live primarily in Siler City.



32 % of students are Hispanic/Latino. 11% of CCS students are English language learners.

[Chatham County Schools - U.S. News Education \(usnews.com\)](https://www.usnews.com/education/schools/rankings/north-carolina/public-schools/2019-2020/chatham-county)

Students

Chatham County has over 8000 students in about 20 public schools. There are five public high schools: Jordan Matthews in Siler City, Chatham School of Science and Engineering in Siler City, Chatham Central in Bear Creek, Northwood in Pittsboro, and Seaforth in Pittsboro. There are two public charter schools and at least 5 private schools. Chatham also has one community college (CCCC).

The internet is increasingly a necessary source of current knowledge and using computers in school prepares students for work life. The public school system provides computers (Chromebooks) to all students for use in the classroom and they take home from school. Chatham has installed a high-speed fiber optic network that connects all the schools.

Courts

While some people will not be involved in the court system, in the US, there are 140 million court cases each year. So, on average there is one court case each year for every 2.3 people, each year. In Chatham County, there are about 33,000 court cases each year.(?)

Like most public programs, courts have had to do with less even as workloads have increased. For efficiency, courts have relied upon digital systems. That means that those working through the justice system increasingly need to rely upon these digital systems as well.

The North Carolina courts have robust websites that allow citizens to handle a variety of matters without the necessity of an appearance in the courthouse. During COVID access to court was accelerated by adding remote appearance capabilities for both defendants and victims of crime. This expanded reliance on technology provided greater access to justice for some court users, but also created new barriers for others. This was particularly true for users with barriers to access that included, income, language access needs, limited technological knowledge or experience, and lack of stable high-speed broadband. Absent significant improvement in access to reliable internet service, and digital training, this expanded technology will remain unavailable or frustrating to use for many Chatham County participants.

For more information, see *Digital Divide Means Justice Denied: Report*
<https://www.nexttv.com/news/digital-divide-means-justice-denied-report>

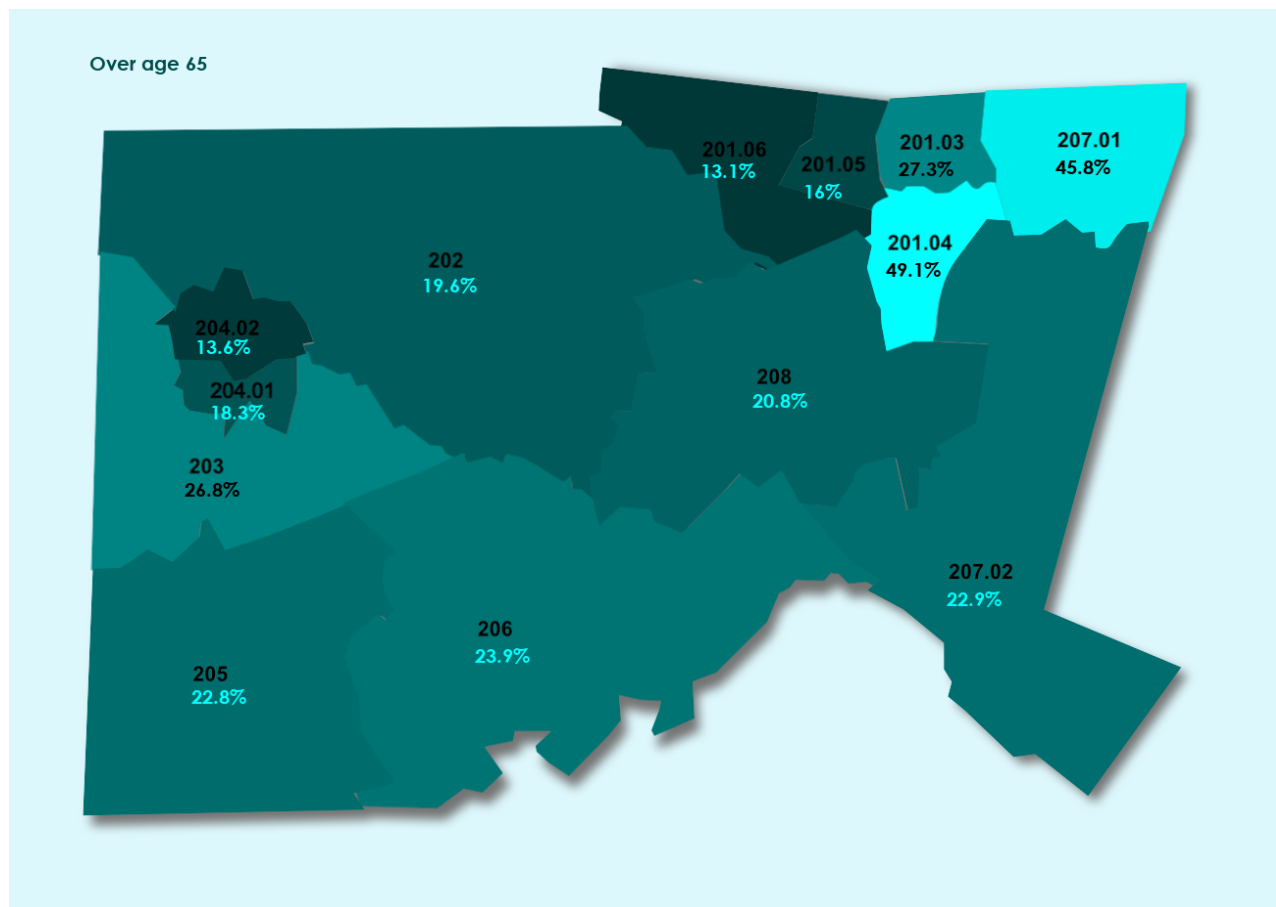
Current Court Services that require various levels of access and digital literacy:

- Find online options for paying, requesting a reduction or dismissal of a traffic violation at [Traffic Violations Help Topic](#) through [Citation Services](#).
- Find Court Dates by Defendant name in Criminal and infraction cases
- Find Court Dates by Citation Numbers
- Participate or Observe Court hearings via remote access [Webex - Remote Proceedings for the Public \(training resource\)](#)
- [Courthouse Closings](#) and [Holiday Schedule](#)
- Subscribe to [Court Date Notifications](#) so they never miss a court appearance
- View [Civil Calendars](#) and [Criminal Calendars](#)
- View the [Local Rules and Forms](#) available to the public

Digital justice in Chatham will require supplying some of the residents that are most in need available internet services, affordable devices, affordable internet service, and both general digital literacy and help using digital court services.

Age

Chatham has a substantial population of older residents, especially so in the northeast where half of residents are over 65. It appears the main older populations in this area are in Fearington Village (census tract 201.04), which was built starting in 1974. And also in the far northeast corner. That is now census tract 207.03, which is the right hand half of the 207.01 in the map below. That area contains part of Carolina Preserve at Amberly, a part of Cary, NC, built starting in 1995.



American Community Survey 2020, census.gov

Some [statistics from the Chatham County Council](#) on Aging, 2019:

- More than one-third (34%) of Chatham County's population is age 60 and older. By 2039, more than 4 in 10 (41%) of Chatham's residents will be in this age category.
- The number of persons age 60 and older in Chatham County was estimated at 25,471. Comparatively the number of persons 17 and younger was 13,927.
- Looking ahead to 2039, the number of individuals age 60 and older is projected to be 43,181, compared to 16,796 for those 17 and younger.
- By 2039, Chatham is projected to be one of eight counties in North Carolina with more than 31% of its population 65 and older. (Chatham's is projected at 34%.)
- The fastest growing age group remains those 85 and older. The projected increase is nearly 200% between 2019 and 2039, compared to an increase of 21% among those 17 and younger. This has important implications for long-term supports and services.
- One-quarter of Chatham residents 65 and older live alone.

- Nearly a quarter (24%) of those aged 65 and older have incomes less than 200% of the poverty level (\$25,752 annually for an individual). Social Security remains the primary source of income for adults 65 and older.
- Nearly one in five (19.5%) of those 65 and older are still in the labor force.
- Alzheimer's disease is now the 3rd leading cause of death among those 65 and older.

Telehealth and aging-in-place initiatives offer this large and growing older population improved quality of life. UNC has a Hospital-At-Home telehealth program that transfers hospital patients home to recuperate, rather than staying in the hospital. Patients prefer this and it leads to better health outcomes. Other communities have started programs using digital technologies to improve treatment of chronic conditions. Digital systems are available to help older adults spend more of their last years independently living at home, aging-in-place.

Those that have no broadband service or are under served are at a severe disadvantage and will not have equal access to these improved quality of life services. The older community is also more likely to lack the digital skill and physical capabilities to utilize these health services. Ensuring that everyone has the same access to telehealth and aging-in-place services should be a major objective of this plan.

Chatham County Assessment

Each year, Chatham County conducts a representative, longitudinal survey of a cohort of 394 residents, primarily for health, but in 2021 also regarding internet access. This survey provides some useful insight. From the [Chatham County Community Assessment](#), 2021:

"In 2019, the North Carolina Department of Information Technology's Division of Broadband and Digital Equity produced a report ranking the availability, quality, and adoption of internet in counties across the state; the top county received a score of 100 and the bottom county received a score of 0. Chatham County received a score of 70.8."

"Nearly 1 in 7 (**15.0%**) Chatham adults say they do not feel comfortable accessing the internet, and nearly 1 in 5 (**18.5%**) report they do not have regular access to a reliable internet connection. Older residents were approximately twice as likely to report lack of comfort accessing information on the internet.

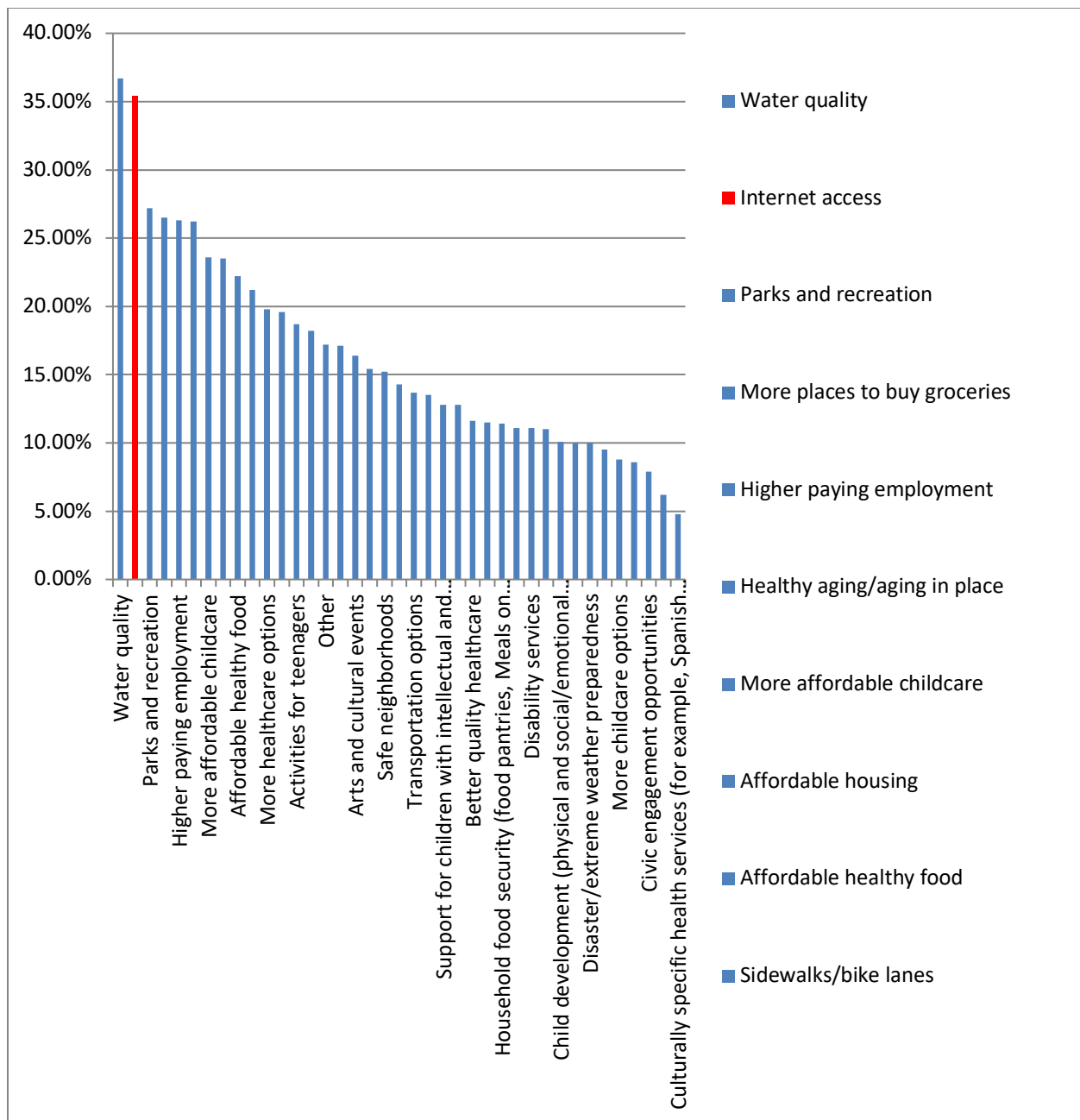
More than one-third (35.4%) of 2021 Chatham County Community Survey respondents cited internet access as something they would like to see Chatham County focus on to improve health and quality of life in the community, second only to water quality. During the Story Circles held for this Community Assessment process, community members expressed frustration with the county's internet coverage, saying good internet was hard to come by if you could not afford it or there was no high-speed internet in your area. Chatham County government has also officially recognized these concerns, stating, "[t]his situation is not acceptable and we continue to work on this issue."

"Around 1 in 6 residents (**16.4%**) did not have access to "quality internet service," per the Federal Communications Commission. Fiber technology, which has the largest data transmission capability of any existing technology, was only available to **38.1%** of the population."

“Expanding high-speed internet access across Chatham County would be a critical piece in improving the health and well-being of county residents. Many health-related resources are available online and through social media, and services like telehealth appointments are becoming more widespread. Improved and equitable access to internet could play a significant role in diminishing established health inequities by increasing access to resources and connection to providers.”

“Disparities in internet access and use were particularly impactful during the COVID-19 pandemic; many people began working from home, including students participating in remote learning. In April 2020, Tripp Crayton, then the principal of Jordan-Matthews High School in Siler City, said about 18 percent of his students did not have internet access. And while the school district gave out internet hotspots and laptops that did not guarantee service because hotspots rely on reliable cell phone service, which is also not uniform throughout the county. The county’s public libraries, which provide use of devices connected to internet free for residents, were closed to limit spread of the virus, but worked to provide access to their networks for those who could sit in library parking lots. More than 1,200 hotspots were requested by Chatham County Schools parents in the first months of the 2020-2021 school year, and the school district set up school bus “hot spot” locations, where buses would be equipped with Wi-Fi devices students could access if parked near the bus.”

In the Chatham Community Assessment, internet access is a top area of concern by a wide margin, second only to water quality, a result of Pittsboro treatment plant’s recent, serious, and unique water quality challenges.



INVENTORY OF DIGITAL ASSETS AND GAPS

Internet service is as necessary in this century as roads and running water were in the last century. We believe everyone should have access to using the internet for communications, for interacting with government services, for accessing services and goods, for education, accessing health resources, and for entertainment.

Internet must be available when you need it, have an adequate speed, and allow you to use (move) enough data each month.

BROADBAND ASSETS

We used Broadbandnow.com to collect the information about the providers of internet service in Chatham. These are the primary providers.

Methodology

The NC DIT Broadband Infrastructure office has an ongoing survey of Chatham that has collected 2900 responses. These responses correspond quite well with the Chatham Assessment, mentioned above. The Broadband Survey results show that:

- 80% of respondents have internet service
- 85% have internet speeds above 25/3 Mbps
- 96% have cellular service.

[Similar data in the [FCC 14th Broadband Report](#) (2021)]

Some internet service providers publish 'coverage maps'. Most do not. [Broadbandnow.com](#) publishes coverage maps that try to fill in the gap in data. [Inmyarea.com](#) and [allconnect.com](#) publish available providers for a given address. These are our best guides, but are often optimistic about the availability of their internet service and/or the speed of internet in that area. The most reliable method is to ask neighbors about their experience, and to ask internet providers if they are willing to service your residence. Most providers have an address lookup on their page. Many times there is not availability in the areas marked as available on broadbandnow.com or the other sites.

Find coverage maps:

<https://broadbandnow.com/All-Providers>

In many cases, you need to know a zip code to look at the coverage maps. It is best to input your full address on the internet service provider's web page. Chatham areas by zip code:

27207 - Bear Creek
27208 - Bennet
27213 - Bonlee
27228 - Bynum
27252 - Goldston
27256 - Gulf
27312 - Pittsboro

27344 - Siler City
27349 - Snow Camp
27355 - Staley
27502 - Apex
27516 - Chapel Hill
27517 - Chapel Hill
27523 - Apex
27559 - Moncure
27562 - New Hill
27713 - Durham

By looking through all of these zip codes and a compilation website ([List of All Internet Companies in the US | BroadbandNow.com](#)), the following providers appear to offer broadband in Chatham. We removed some of the providers listed on broadbandnow.com because there was not any significant coverage in Chatham.

FCC Data

In late October 2022, the FCC released a broadband analysis that is intended to create an availability map for 110 million locations in the US (basically every household).

[FCC Broadband Map and Data](#)

At broadbandmap.fcc.gov

This map can be challenged by counties and by individual citizens. The maps are open for challenge for 6 weeks ending January 13, 2023 in order to be processed by the June 30 deadline for allocation of Federal BEAD funds. After January 13, 2023 we expect that challenges and complaints will still be accepted although some grant funding decisions will have already been made.

The FCC data is focused on the “unserved” locations (no availability at all), not on the “underserved” (slow speeds). Residents can challenge the locations of their homes, if the homes are missing from the database. Also, they can challenge the data if service is shown to be available from a provider but the resident has been told by the provider after June 2022 that service is not available or only available for a substantial fee. The FCC site has links to submit challenges and to provide any sort of supporting information. Successful challenges may open up areas for grants and interest from other providers.

Residents can also submit evidence of poor service or reliability, but these will be treated as complaints to the FCC.

To use the FCC site, enter your own address. Click on your address. Check the information. If the information is wrong, you can use the FCC map site to challenge or complain. Here are just some examples:

- 1. You search the FCC map for your address and look at the map and your address is missing, or your address is not in the correct location. You can challenge the FCC location data.**
- 2. The FCC map says that your address has 100 Mbps service available from Spectrum (Charter). You have talked to Spectrum and they want you to pay \$1000 to be connected. You can challenge the map data. No large fees should be necessary according to what Spectrum gave to the FCC. You will**

need evidence of what they said and that you talked to them after June 2022. It may be worth your effort to try again now to collect evidence and submit it to the FCC to challenge Spectrum's info.

3. Lumen Technologies (CenturyLink) data on the FCC map says that your home address has 25 Mbps service. You have used Lumen's website and it says that you can only buy 1 Mbps from them. You can take a screenshot of Lumen's website and use it as evidence to challenge their info using the FCC map site.

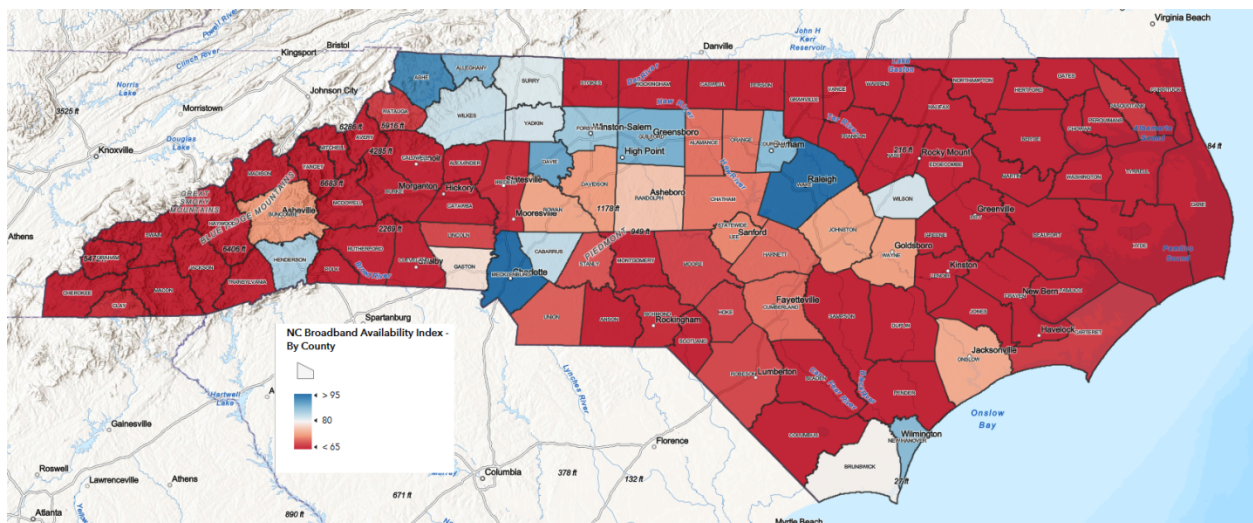
4. You use T-Mobile Home Internet. The advertised speed on the FCC map at your location is 25 Mbps. You cannot get more than 1 Mbps at your location. Actual speeds not subject to challenge the way the above examples are, but you can complain to the FCC. The FCC map site will send you to another website to make your complaint using an online FCC form.

5. You have internet service from your mobile phone with AT&T. The FCC map says you can get 4G at 5 Mbps, but you never get more than 1 Mbps. You can download an FCC speed-testing app to your phone and use it to submit the test results. The FCC will group these tests together with your neighbors' as a challenge to AT&T's information.

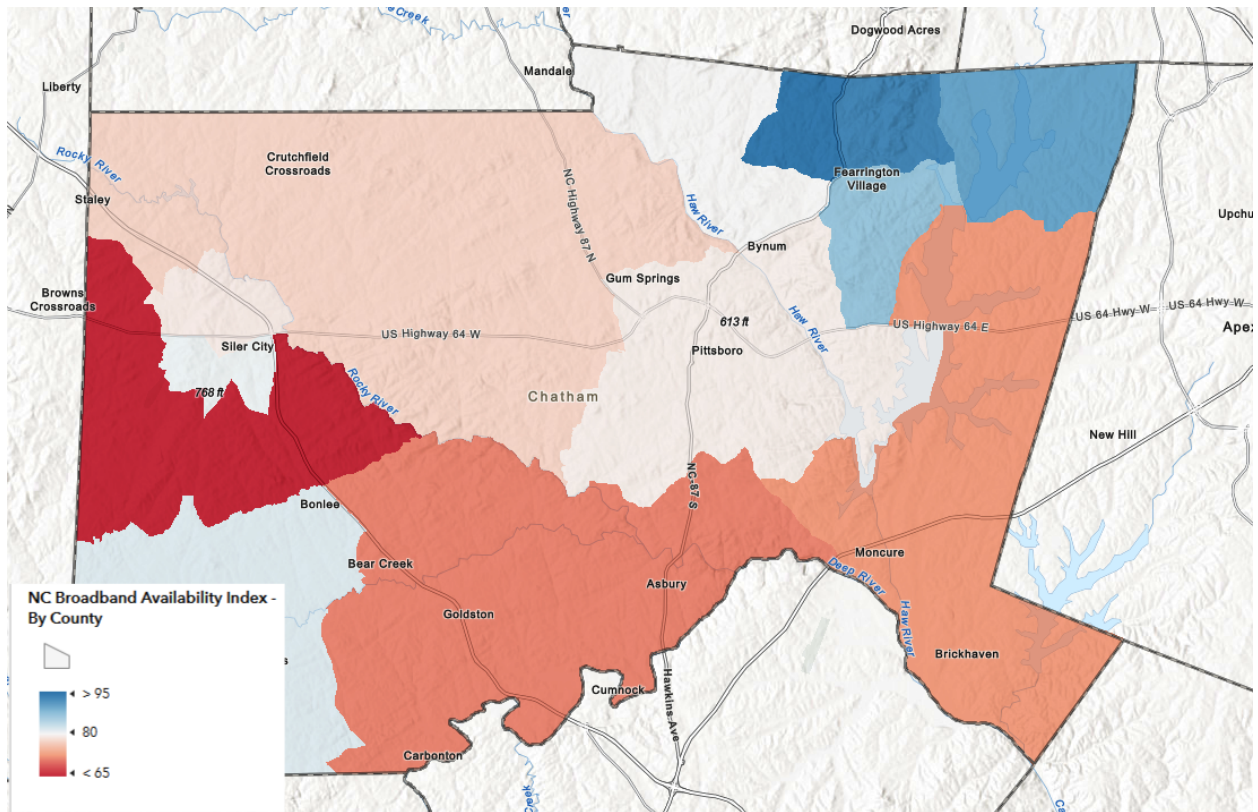
It will also be helpful to you to provide the information here to any neighbors that may also have no or poor internet service.

Asset Inventory

Chatham County, overall, with an NC Broadband Office availability score of 70.8, has somewhat better than average availability for internet access in the state. Based on current data, 84% of the population has access to at least 25/3 service and 78% has access to at least 100/20. Chatham is growing in population and 13% of the housing was built since 2010, in the digital age.



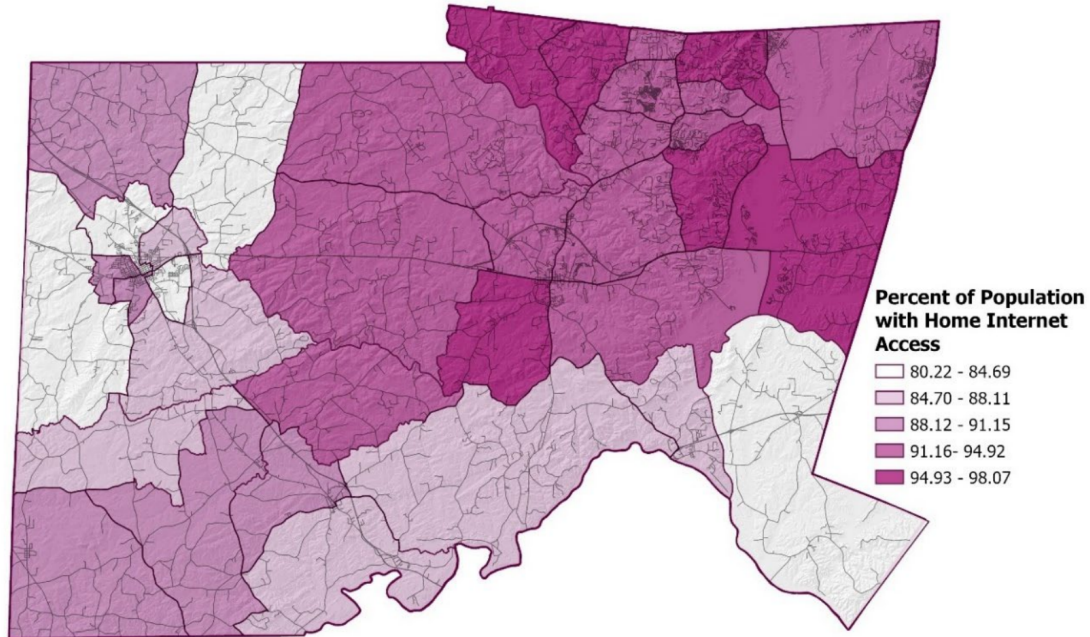
However, the availability score varies substantially across Chatham.



[NC Broadband Map \(arcgis.com\)](https://arcgis.com)

This is a more granular analysis of data from 2021, from the [Chatham County Community Assessment](#).

FIGURE 27: HOME INTERNET ACCESS BY CENSUS BLOCK GROUP IN CHATHAM COUNTY, 2021



SOURCES: ESRI AND GFK MRI (2021), NCGS, NCDOT, EOC

Note that the Triangle Innovation Point site (southeast) and CAM sites (north west) are located in some of the areas with the poorest internet service availability.

SHOULD ADD SOMETHING ABOUT THE GREAT GRANT HERE, and any other programs that we know are coming, and what effects we expect to availability.

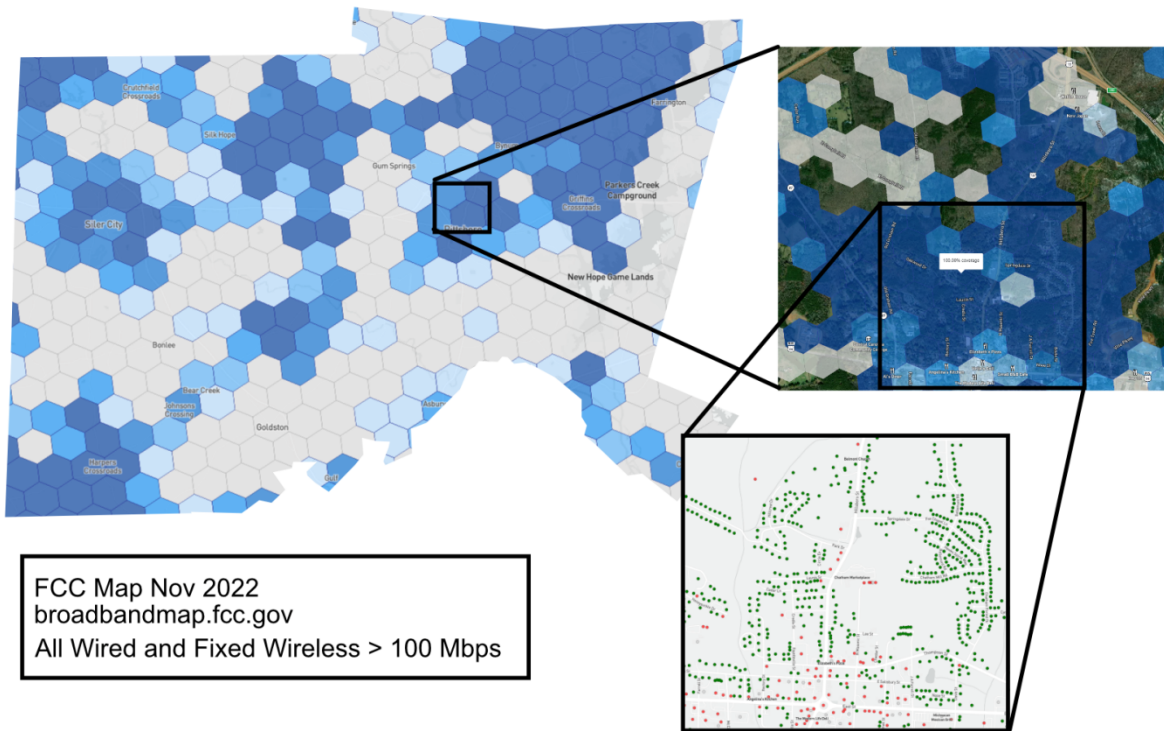
To be the most useful, the following maps can be updated with the FCC 'fabric' data. On the other hand, this information will not be complete until all the challenge processes are complete, and a key recommendation from this document is to work on the challenge process as soon as possible.

FCC Maps

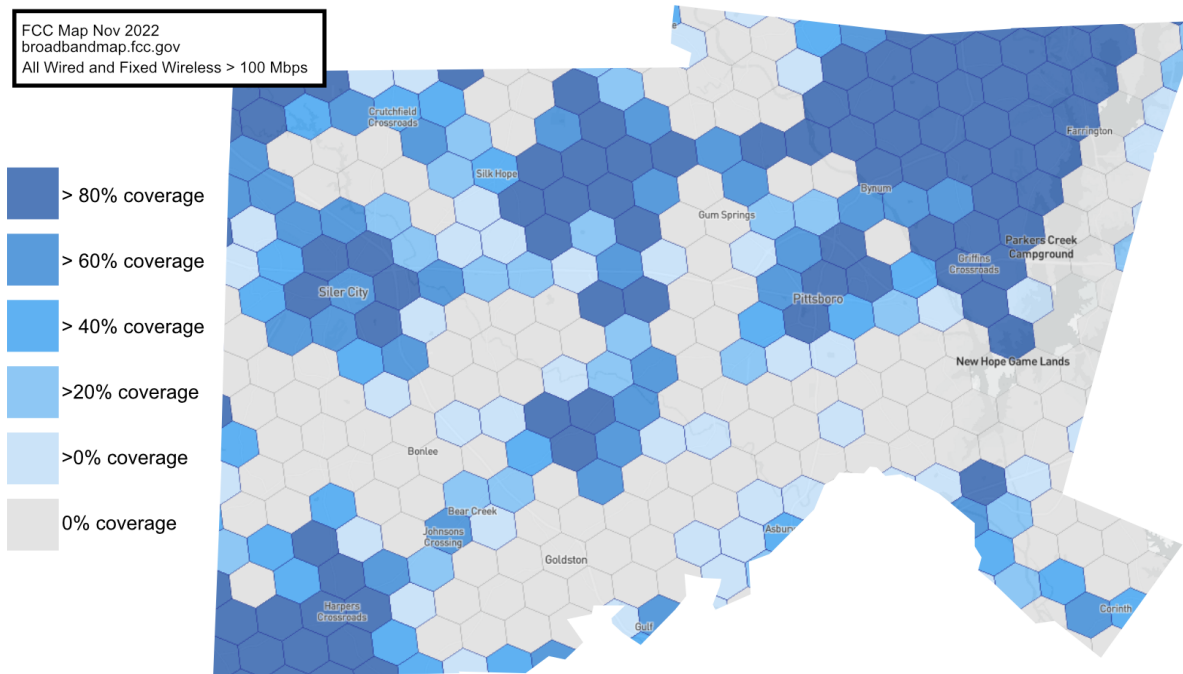
The asset maps in the following sections have been left for comparison and illustration purposes, according to data published early in 2022.

Residents that want to find out what is available at their home should use the FCC map at broadbandmap.fcc.gov

The FCC map has data submitted by the internet providers as of June 2022 and can be zoomed down to the house level.



The high level map for Chatham looks like this:



The FCC data is going to be important for decision makers and funding of any grants will require this data for analysis.

Pay careful attention to the coverage percentages. Only the top 1 or 2 levels of coverage are significant. The map can be filtered as above by speed, in this case speed that is adequate for most households in the medium term is >100 Mbps. Also, it can be filtered as above by type of service. The map above is for all wired (cable, fiber, and copper), plus fixed wireless such as T-Mobile Home Internet. We left out satellite internet provision which is available everywhere, but is considered less reliable, high-latency, and more expensive. It can be used in areas where there is no alternative.

Mobile and Cellular Service

ATT Wireless (Wireless, 30GB limit/month)

Broadbandnow map shows 100% coverage of Chatham County

ATT maps shows 100% coverage, 4G coverage with some 5G coverage. We assume this is for mobile phone data service. ATT has a 50GB/month [plan](#) for hotspots.

Spot Checks on areas marked with availability using ATT site:

482 HENRYS RIDGE RD, PITTSBORO, NC, 27312, "4G LTE" 4.0 Mbps. Tested ATT Service at this location actually supports at least 47 Mbps.

[AT&T Wireless](#) | [Internet Provider](#) | [BroadbandNow](#)

Verizon Wireless

Strangely, Verizon is not listed as a provider in Chatham by Broadbandnow. However, the Broadband now map shows 100% coverage. We assume this is for mobile phone data service.

No data cap. Verizon mentions throttling to low speeds after 5-50GB/mo depending on [plan](#) using mobile hotspot. Verizon has 4G LTE and 5G networks.

Spot checks on areas marked with availability using Verizon site

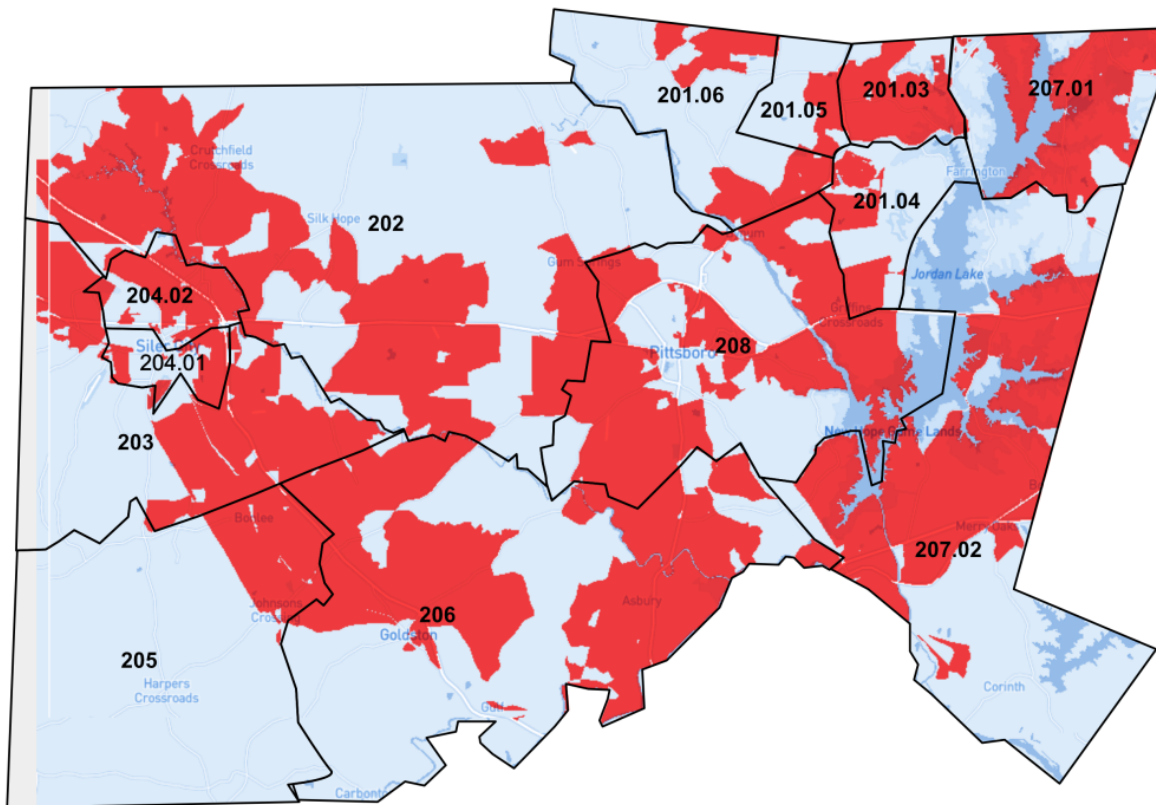
482 HENRYS RIDGE RD, PITTSBORO, NC, 27312, "4G LTE", 25-50 Mbps

[5G Home Internet & 5G Wifi](#) | [Verizon](#)

[Verizon](#) | [Internet Service Provider](#) | [BroadbandNow](#)

T-Mobile 5G Home Internet (Wireless, 10GB limit/month)

T-Mobile 5G Home Internet Availability Map ([broadbandnow.com](#))



The map above is from Broadbandnow.com. The red areas are the areas reported to have the indicated service.

The T-Mobile site shows 5G Extended Range or 4G LTE cover over 100% of Chatham. We assume this is for mobile phone data service.

Spot Checks on areas marked with availability using T-Mobile site:
 482 HENRYS RIDGE RD, PITTSBORO, NC, 27312, "5G Ultra Capacity" for mobile service, and "5G home internet is available at your address" for home internet service

<https://broadbandnow.com/5G/t-mobile-home-internet>
<https://www.t-mobile.com/home-internet> (can check address)
<https://www.t-mobile.com/coverage/coverage-map> (5G&4G areas)

Wired Service

CenturyLink (DSL and Fiber), Brightspeed (Connect Holding)

Beginning around October 3, 2022, Brightspeed will take over CenturyLink's telephone and internet business. The current data is labeled "CenturyLink".

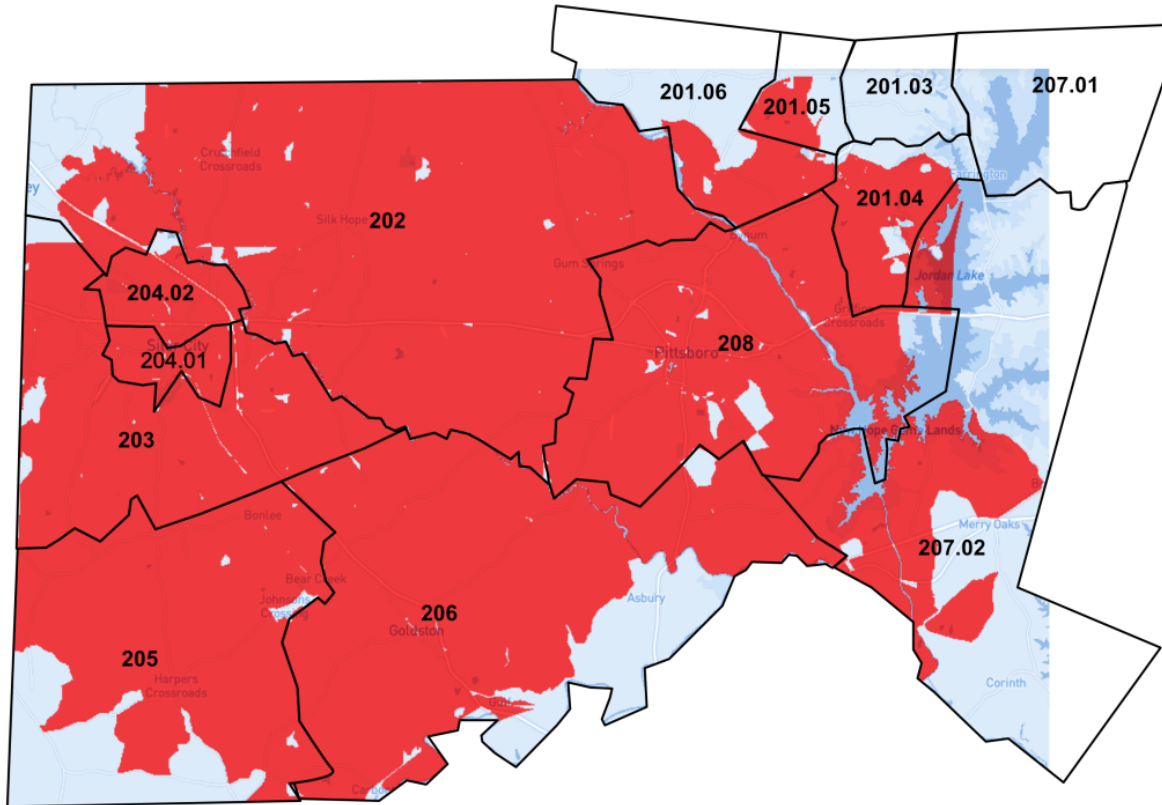
DSL

CenturyLink is the main provider in Chatham County by area and covers the vast majority of the county.

CenturyLink does not provide its own availability map. According to broadbandnow.com, most of CenturyLink's areas offer only DSL or 'copper'. Those areas anecdotally seem to have 3 MB/s speeds

although CenturyLink says 'up to 100 Mb/s'. (Typical speeds for DSL in general are 5-35 down and 1-10 up.)

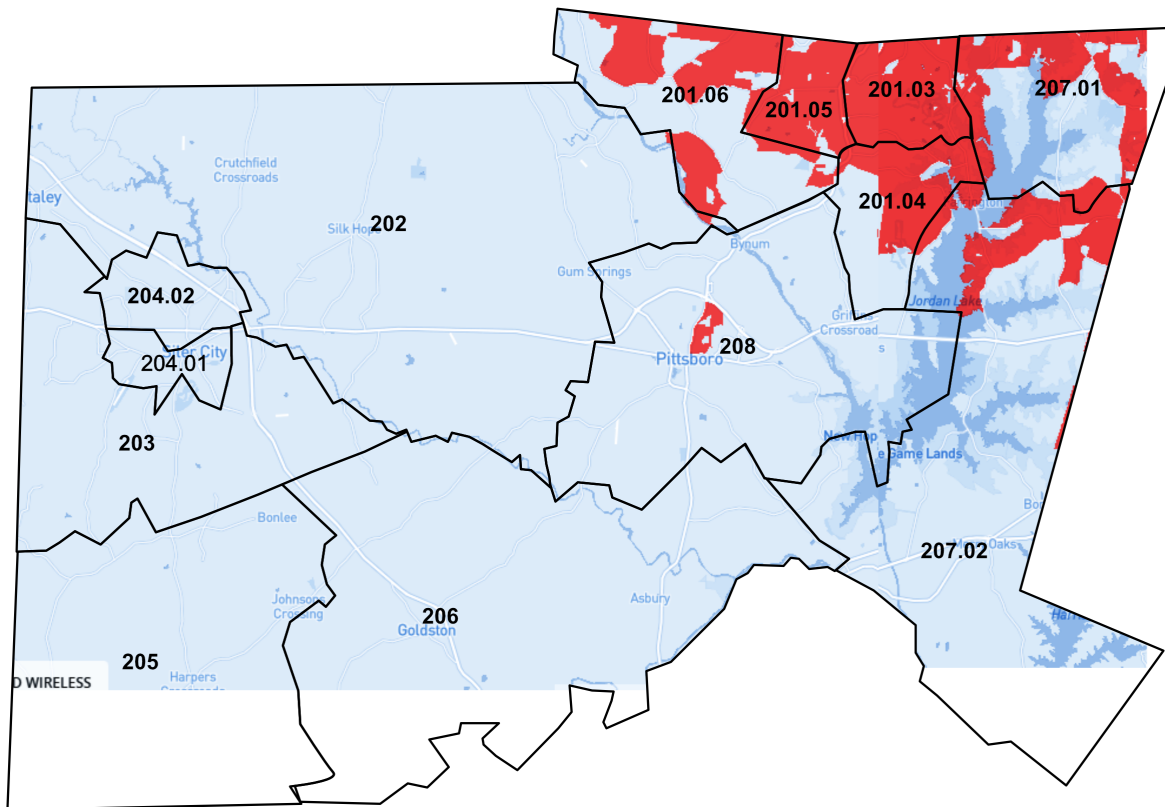
CenturyLink DSL map (per broadbandnow.com)



Fiber

ATT Fiber

Some parts of NE Chatham have ATT Fiber.



Spot check with ATT site in available areas above:

810 Sam Jones Rd, Chapel Hill, NC 27517, ATT shows up to 1 Gbps speed.

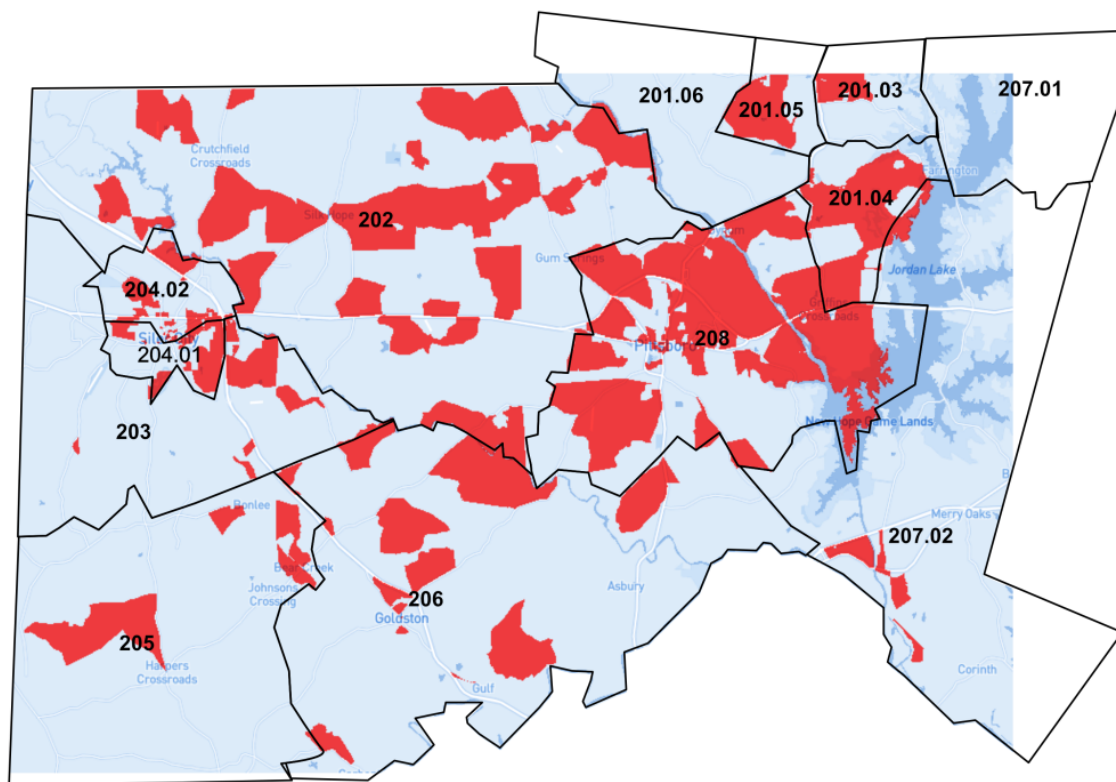
1520 Hillsboro St, Pittsboro, NC 27312, ATT shows "Looks like AT&T Internet isn't available at your address"

178 Fox Chapel Ln, Pittsboro, NC, 27312 shows "Looks like AT&T Internet isn't available at your address"

683 Bear Tree Creek, Chapel Hill, NC 27517 shows "Looks like AT&T Internet isn't available at your address"

CenturyLink Fiber

A few parts of Chatham appear to have CenturyLink fiber. CenturyLink Fiber map (per broadbandnow.com):



Spot Checks on areas marked with availability using CenturyLink site:

482 HENRYS RIDGE RD, PITTSBORO, NC, 27312, CenturyLink lists only a 3 Mbps option.

253 COOPERS RIDGE RD, PITTSBORO, NC 27312, CenturyLink lists only a 3 Mbps option

377 HUDSON RD, SILER CITY, NC 27344, CenturyLink lists 1.5 Mbps available.

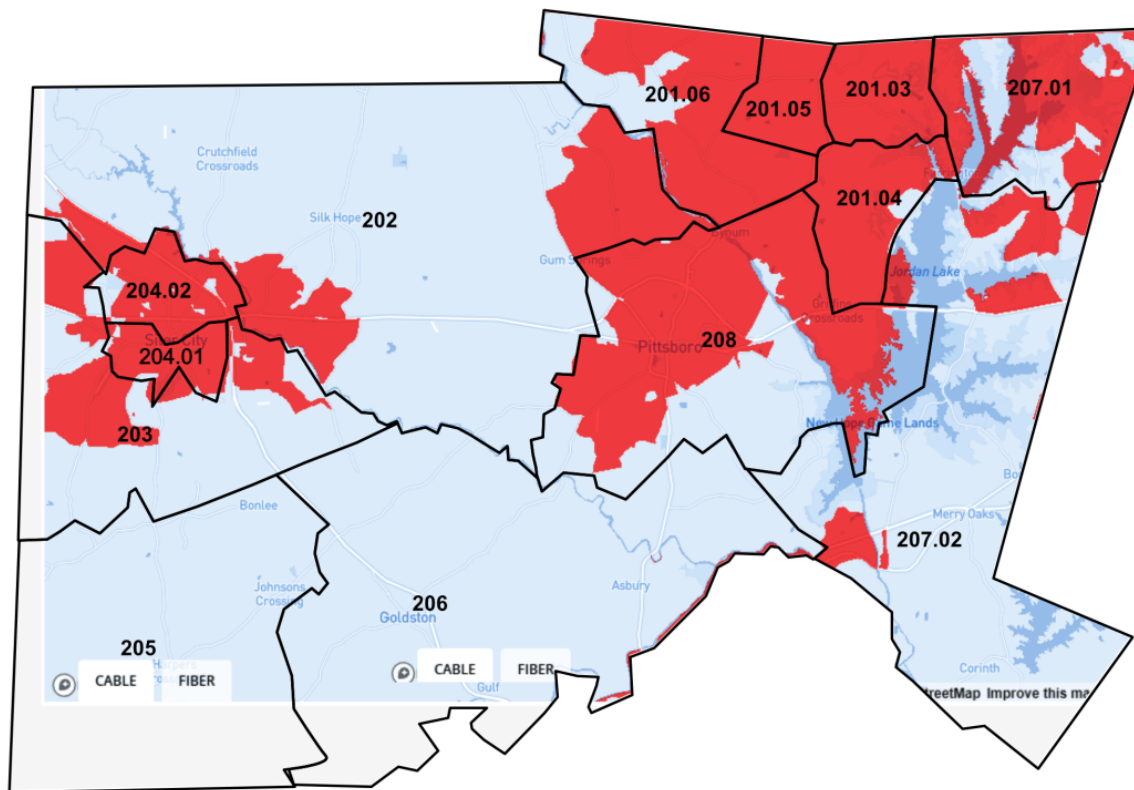
920 E RALEIGH ST, SILER CITY, NC 27344, a business address, shows fiber availability

<https://broadbandnow.com/CenturyLink>

Spectrum (Cable and Fiber)

After CenturyLink, Spectrum services a significant portion of the county. They offer speeds of 100Mbps up to 1 Gbps.

Spectrum does not provide its own availability map. Spectrum Cable availability is shown in this map (per broadbandnow.com):



Spot checks on areas with availability, using Spectrum site:

482 Henrys Ridge Rd, Pittsboro, NC 27312 "Up to 300 Mbps" purchased is actually 250 Mbps tested (usually).

Offers up to 1 Gbps. "Call to Upgrade Your Service Please chat with an agent or call us at (855) 653-7133"

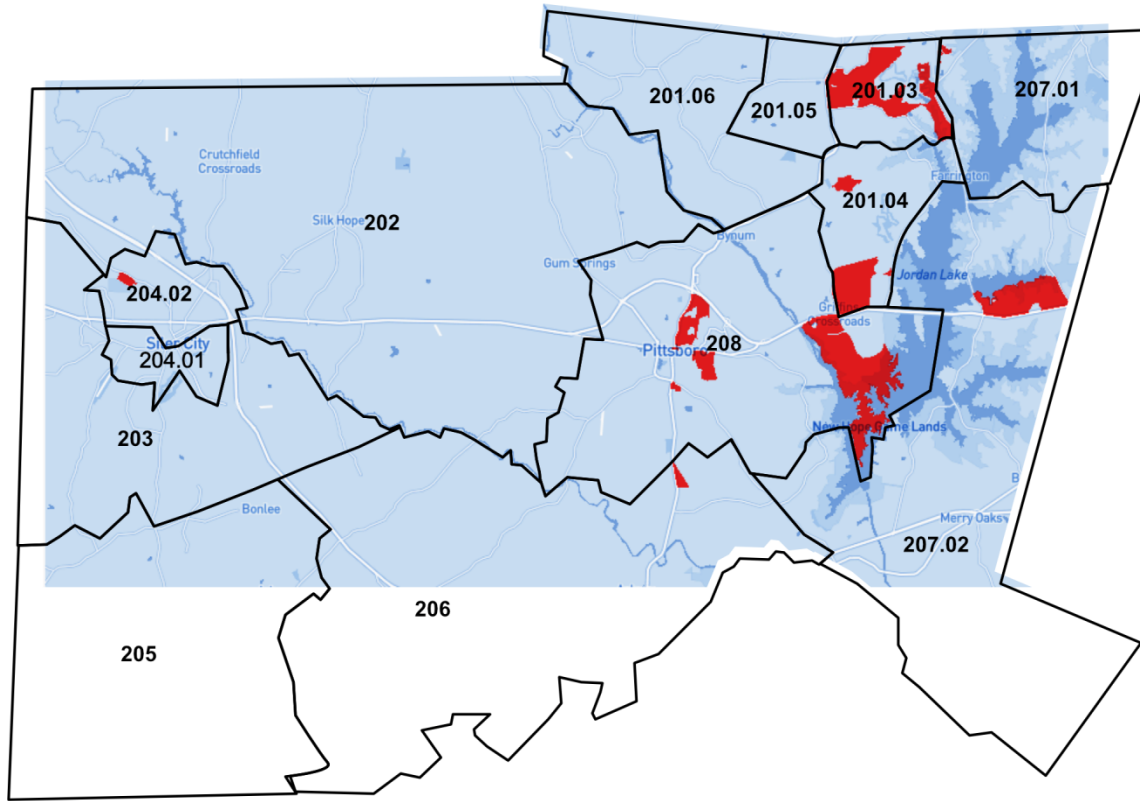
7984 Old Graham Rd, Pittsboro, NC 27312, "We need to speak with you to verify a few details before you can place an order"

253 COOPERS RIDGE RD, PITTSBORO, NC 27312 "We need to speak with you to verify a few details before you can place an order"

377 HUDSON RD, SILER CITY, NC 27344 "We need to speak with you to verify a few details before you can place an order"

920 E RALEIGH ST, SILER CITY, NC 27344, a business address, Offers 300 Mbps up to 1 Gbps

Spectrum Fiber availability is shown in this map (per broadbandnow.com):



Spot Checks on areas marked with availability using Spectrum site:

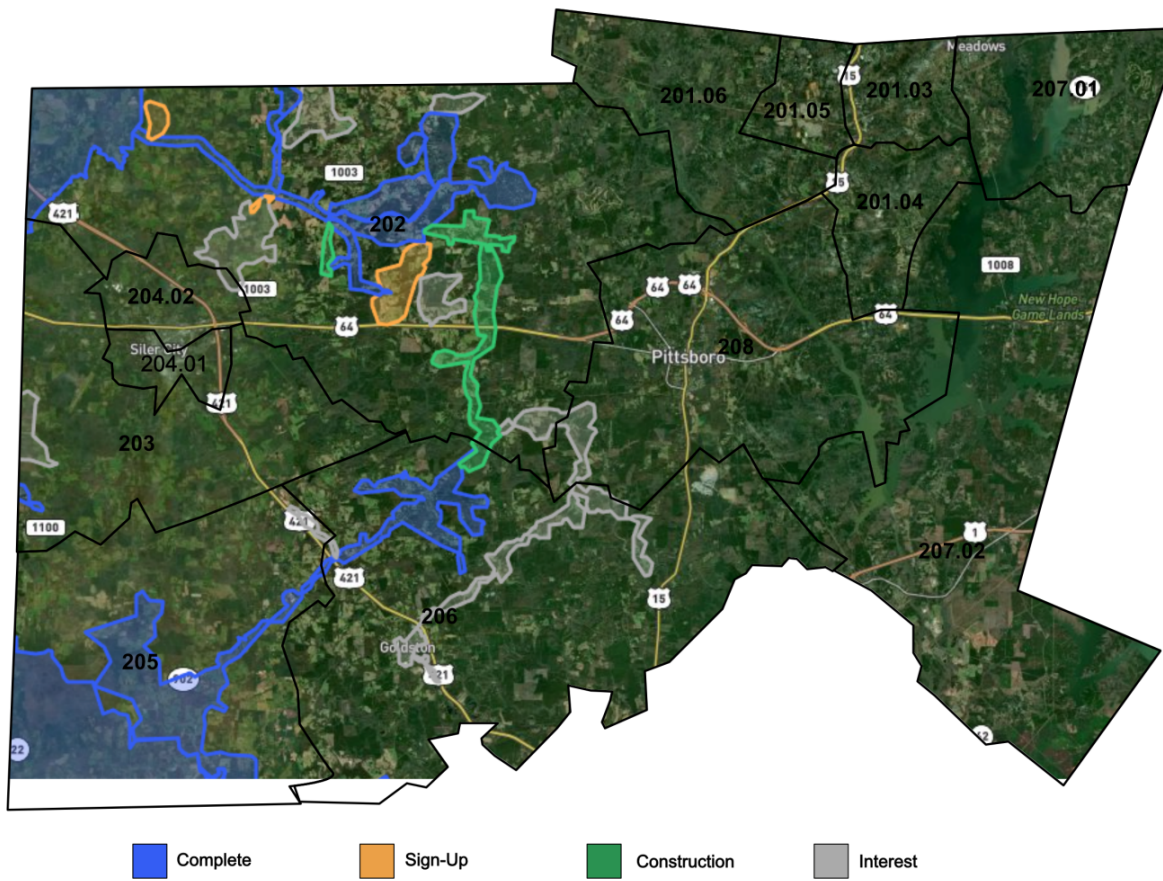
234 Sunset Grove Dr. Pittsboro 27312 "We need to speak with you to verify a few details before you can place an order"

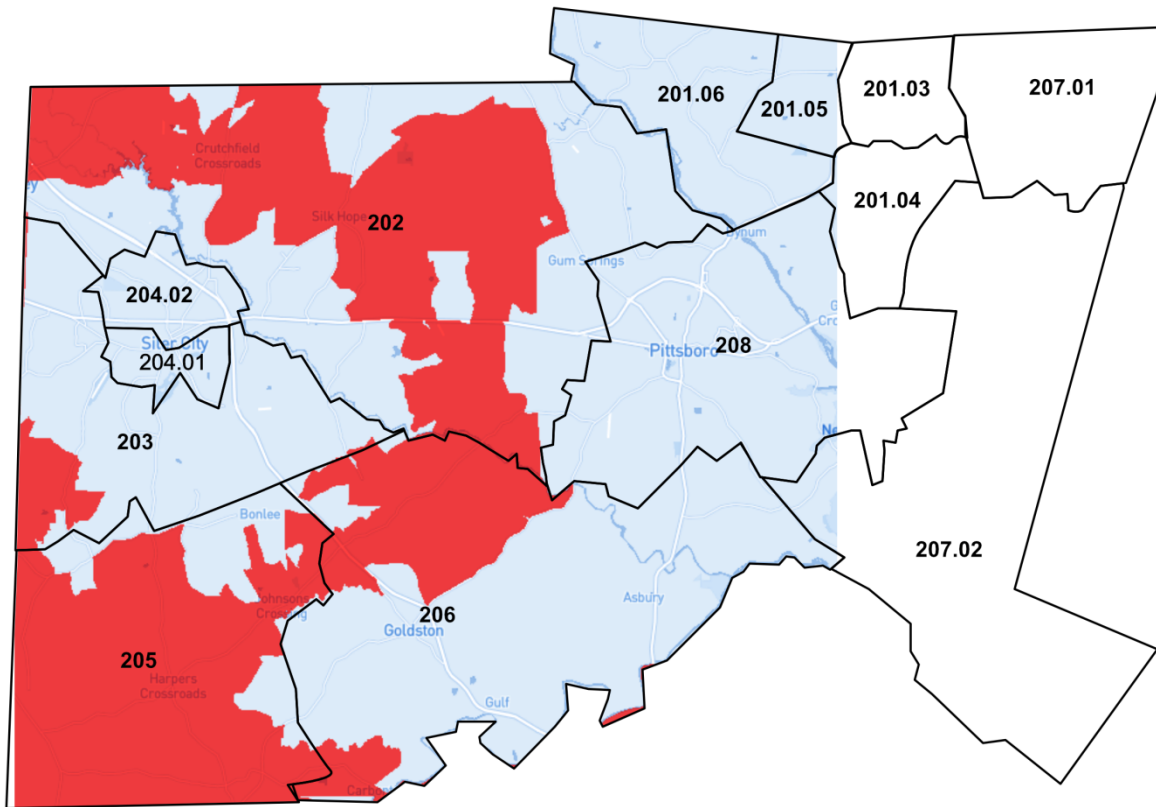
<https://broadbandnow.com/Spectrum-Internet>

Randolph Communications (Fiber and DSL)

Randolph is a membership cooperative. They operate a legacy copper system with up to 10Mbps. They are installing a fiber network, shown here, up to 1Gbps upload and download.

Randolph has a clear build out map and this is interesting to compare to the BroadbandNow map.





Spot Check:
The Randolph site map displays the coverage they have.

<https://broadbandnow.com/Randolph-Telephone-Membership-Corporation>
<https://www.myrandolphfiber.net/service-map/>

Conterra Networks

Conterra has a private fiber network connecting public buildings in Chatham County (see map below). Conterra is connecting this network to their internet backbone and will start providing internet to businesses by about July 2023. If you have a business near one of the lines or near a public school, this may be a good option.

If your residential neighborhood is near Conterra's network, you may be able to organize a partner organization to build out from Conterra's high speed network to provide internet services to your neighborhood. Partner organizations such as [Insight](#) or [Open Broadband](#) may use wired or wireless technologies.



Satellite Service

Satellite access is problematic. Most current services are not going to work with VPNs. We use VPNs both for work and for our personal use, so the satellite providers that will not work with a VPN are useless for us.

After a year or so on the Starlink wait list, we received a unit earlier this year. It works great and is far more reliable than the 1.5 mbps DSL service we had, not to mention extremely fast. Starlink is more reliable and faster than the cell based Internet we have used. In very, very, very heavy rain, Starlink can lose its connection, which is a problem we had when living in a house that had cable service. We have only had two Starlink outages for unknown reasons that lasted five and ten minutes and one or two rain based outages that lasted maybe five minutes. This is much more reliable than DSL or cell internet that we have had in the past.

The big issues for Starlink are:

- The wait to get a unit.*
- Only a limited number of customers can be in a given area which is dependent on the number of available satellites.*
- One has to have a clear sky, especially to the north. Starlink has an application that runs on a smart phone which can tell you if you have the sky view needed to use the service.*

For many people in Chatham county, Starlink is not going to work because of the required view of the sky. Starlink needs a large, 360 view to see the satellites that are zipping around up there unlike the geosynchronous satellites from other services that are always at the same point in the sky. There are a couple of websites that track Starlink satellites, which is interesting to

*watch and shows the complexity of the system. Amazing that it works at all. Here is one tracking site, <https://satellitemap.space/?constellation=starlink#>.
--Dan McCarty, Chatham Resident and Starlink Enthusiast*

HughesNet

(speed limited to 25 MB/s, data cap at 75 GB, \$160/month)
(all of US)

<https://internet.hughesnet.com>

Viasat

(data cap 150GB at 100MB/S for \$170/month)
(all of US)

<https://www.viasat.com>

Starlink

(map shows waitlist for Chatham, service maybe in 2023, \$110/month)

<https://www.starlink.com/map>

Fixed Wireless Service

Windstream (DSL)

Only available according to broadbandnow.com in very small areas.

Spot check on available areas based on Windstream site:

28 Roberts St Pittsboro, NC 27312, "We don't have service in your area quite yet."

12703 Morehead Chapel Hill, NC 27517, "We don't have service in your area quite yet."

<https://broadbandnow.com/Windstream>

<https://www.windstream.com/buy>

<https://www.windstream.com/affordable-connectivity-program>

Open Broadband (27559, 27562, Fixed Tower Wireless)

Broadbandnow.com indicates some availability in the southeast, on east side of lake

Openbb.net says they are not in Chatham County yet, nor Wake, nor Harnett.

<https://broadbandnow.com/Open-Broadband>

<https://openbb.net/faqs/#1649884702221-466b06fb-aa67>

Data Sources

[FCC National Broadband Map](#)

[Find Internet Providers in Your Area: Availability by Address - BroadbandNow](#)

[Broadband Access in Chatham County | Chatham County, NC \(chathamcountync.gov\)](#)

[Broadband | NC OneMap](#)

[Location Summary | Fixed Broadband Deployment Data | Federal Communications Commission \(fcc.gov\)](#)

[NC Broadband Map \(arcgis.com\)](#)

[Broadband Survey Dashboards | ncbroadband.gov](#)

[BroadBandSurveyData_Public \(arcgis.com\)](#)

Community Voices on Broadband Availability

High-speed internet needs to be available, reliable, and affordable. It is needed to run businesses, nonprofits, for education, and just for normal life. Many in Chatham are missing out on basic and necessary parts of normal life that are supported by internet availability. Other people have found they depend on the internet for their livelihood.

During Covid- businesses and schools learned that people can work from home and learn from home- if they have the right connections to the internet --Liz Mauney NC Cooperative Extension, 4-H Program Assistant, 4-H Youth Development

We need affordable, reliable access to a fiber network for digital services including phones and internet for the daily operations of our non-profit that serves adults with intellectual and developmental disabilities.

When Chatham Trades purchased the building they are in now in 2018, there was only one supplier for internet and phones. The service would not support a business network. It took months of meetings with other digital access providers before an affordable and reliable solution could be found. It is not a great scenario, but it is functional for now. With growth, a faster, more reliable digital service will be needed.—Shawn Poe, Chatham Trades, Director

While CCCC works to address digital inclusion, the reality is that even where we can assist students with technology, we cannot assist when they do not have high quality internet access where they need it. Students who attempt to access learning and submit assignments via their cell phones because it is the only access point available are hampered in their educational experience.

Availability of broadband needs to be both physically present for individuals and financially within reach. Whether fiber or cell towers, availability for the students and community supported by CCCC means it reaches their homes and they can afford to connect to it. – Margaret Roberton, CCCC, Vice President of Workforce Development

My name is Kathleen Browning. I am president of The Learning Trail which is an after-school tutoring program and preschool located within a mobile home community in Chapel Hill, called the [Nature Trail](#). It is a Hispanic, low-income community of about 200 homes. Our facilities are within the community itself, with 2 small classrooms next to the property office. They allow us the use of the facilities for free.

Our families generally have poor internet service and limited knowledge of computer skills. They do make use of texting quite extensively so we use that when communicating with parents, mostly via WhatsApp. During Covid, when school was all or partly virtual, this community struggled tremendously. With poor access, small living spaces with multiple people sharing that space, a general discomfort with computers, it was a very tough time. The schools loaned out some devices but they don't help much if the internet is poor.

I read your draft report where you described internet access as equivalent to good roads and clean drinking water in terms of it being essential in these times. But people don't have to fill out forms and provide a lot of personal information or put up some initial funds and hope for a rebate, etc. etc. to

access roads and water. They are just there for them, no questions asked. As long as we have low-income communities with limited resources and education and immigration fears, these programs will not break down the barriers to internet access and full participation in our society. There needs to be a better way.

Glad that you are trying to address this—it is a great “un-equalizer” in our society. – Kathleen Browning, The Learning Trail, President

Surveys of the availability of internet have not captured many of the gaps in availability, speed, reliability, and affordability.

I found the information on service providers [in this Plan] very helpful, but am worried that the maps don't tell the whole story.

For example, we live in North Chatham about a mile from Perry Harrison School off of Hamlet's Chapel Road. There is broadband service around us, but we can't get a provider to run cable down River Road and into our neighborhood (Indian Landing, we have 33 households). We currently have AT&T DSL, and AT&T routinely tells us they are not going to maintain our lines. As a result, on a good day we get 4 mbps download speed and we often have drops. It makes it difficult to run a business or non-profit, as in my case.

AT&T has run high speed business service to individual households in our neighborhood (I think three), with those households paying between \$500 - \$600 per month with a 24 month contract.

I know that we should be grateful for what we have, given the state of internet service in other parts of the county. Just wanted the committee to know that even where it looks like there is adequate service, there are pockets of poor service. -- George Greger-Holt, Chatham Drug Free, Community Outreach Coordinator

In-person information meetings and surveys to accurately assess the needs of the community. Almost all information now including surveys, medical records access, banking, school correspondence, etc. is done digitally. Digital inclusion needs surveys in the past have been inaccessible because they required internet service, which people do not have, in order to participate. – Shawn Poe, Chatham Trades, Director

Previous programs by internet service providers and previous government programs to provide access to households have failed to provide service to many residents. Data from ISPs are often very optimistic. Thus, mapping efforts by ISPs and government are error-prone. The latest FCC mapping attempt is recognition of past problems and a serious attempt to correct them. Chatham County should have a program to reach out to every household to determine their actual availability for high-speed internet and use this data to encourage ISPs or seek grants to provide access where commercial solutions do not exist. Perhaps residents without availability or questionable availability could be located in multiple ways, for example with outreach through existing channels such as school rolls, power bills and tax bills. – Burney Waring, Innovate Chatham, President

“Heat mapping” of the county is needed to determine actual areas where cell coverage is limited/non-existent. Layering these heat maps across service providers to determine the most reliable coverage for families/households in these areas. – Dr. Anthony Jackson, Chatham County Schools, Superintendent

Discount Programs

The Federal Government runs two programs for discounts on internet service. Lifeline provides \$9 per month for phone or internet. The Affordable Connectivity Program (ACP) provides a \$30 per month discount for internet.

The ACP is a new Federal program for low-income residents. The ACP applicants can get approved quickly if they are already in the National Verifier database which combines multiple Federal program users.

In general, undocumented immigrants are not eligible to receive most federal public benefits, with the exception of some safety-net programs such as WIC or the Free and Reduced Price School Lunch program. The ACP information does not mention undocumented immigrants. The ACP form does not ask for immigration status or require a SSN. It says “Social Security numbers are not required to participate in the Affordable Connectivity Program, but using a Social Security number will process your application the fastest.”

It appears that an immigrant could apply for ACP if they receive WIC and are therefore in the Federal system. ([Affordable Connectivity Program FAQs - EducationSuperHighway](#)) However, they may not feel comfortable doing this.

What does service normally cost in Chatham for the two main providers?

According to the CenturyLink website, new service for 100 Mbps costs \$50/month, plus \$15 per month for a modem.

According to the Spectrum website, new service costs \$50/month for new customers for 300 Mbps. However, existing customers can pay \$75 or more for the same service. Legacy Time Warner customers should call to check their rate against available rates from Spectrum—they can be much lower.

New customers have the option of 100 Mbps for \$30/month, and get service for ‘free’ with the ACP discount. There is also a 30Mbps plan with a free modem for \$18/month. The ACP discount is available for all plans.

These Federal discount programs are not well known and are somewhat complex to join.

[Home - ACP - Universal Service Administrative Company \(affordableconnectivity.gov\)](#)

[Lifeline Program for Low-Income Consumers | Federal Communications Commission \(fcc.gov\)](#)

Discount Programs from Chatham Providers

ATT Wireless

Has a ‘free’ internet option under ACP. Access to AT&T Wi-Fi Hot Spot network included. [Access from AT&T - Low-Cost Internet Service | AT&T Internet \(att.com\)](#)

Verizon Wireless

Has a 'free' internet option under ACP. [Affordable Connectivity Program - up to \\$30 off Mobile or Home Internet Access | Verizon](#)

T-Mobile 5G Home Internet

Has a discounted internet option under ACP. [Affordable Connectivity Program | T-Mobile](#)

CenturyLink/Brightspeed

Has a discounted option under ACP. [Affordable Connectivity Program | CenturyLink](#), [Emergency Broadband Benefit Program | CenturyLink](#)

Spectrum

Has a 'free' internet option under ACP. [Affordable Connectivity Program \(ACP\) | Spectrum](#)

Randolph Communications

Has a discounted option under ACP. [Randolph Communications - ACP \(rtmc.net\)](#)

HughesNet

has a discount under ACP. [HughesNet® Internet | 1-855-386-1643 | Satellite Internet](#)

Viasat

Has a discount under ACP. [Affordable Connectivity Program | Viasat](#)

Starlink

The Starlink website does not mention ACP. According to Broadbandnow, Starlink does not participate in the ACP.

Community Voices on Affordability

During the pandemic, remote education required internet access. The school system secured funding and supplied hotspots for student access, which is going to run out. Mobile and cellular service is not adequate in many parts of the County.

[Chatham County Schools] Technology Services collaborates with state partners to provide a robust and stable network at each school site. This network is filtered in alignment with federal requirements.

[Family Educational Rights and Privacy Act (FERPA)]

As a result of Elementary and Secondary School Emergency Relief (ESSER) funding from federal and state allocations, the district was able to acquire Verizon hotspots for student use. Over 800 student hotspots (1 per family/household) were acquired and monthly subscription costs are covered by the district. We periodically assess usage to redistribute and assign to families as necessary. Over 40 bus hotspots were acquired and continue to provide internet services for students en route to schools or homes. Monthly subscription costs for these bus hotspots are paid for by the district.

After ESSER funds are expended, the ongoing subscription costs for student and bus hotspots to continue the at-home support for students will be an organizational need.

Additional LTE and 5G cell towers to provide district-wide coverage is critical as families/households are dependent on this service to connect via hotspots and/or have cellular access.

We need stronger partnerships and communication efforts across the county to build awareness related to programs and services, access points in the community, advocacy efforts, etc. – Dr. Anthony Jackson, Chatham County Schools, Superintendent

Affordability is only one necessary ingredient. A fine effort in Siler City had little effect, possibly because of low digital literacy or possibly because of mandatory filtering the content through the school system's network.

In 2021-22, Technology Services partnered with NCSU's Friday Institute to implement a pilot broadband radio service to a select neighborhood in the Siler City area. This collaboration was fruitful in developing partnerships with the school district, NCSU, and the county; however, data usage reflected little impact on the families selected for this program. We continue to support this program for these families. – Dr. Anthony Jackson, Chatham County Schools, Superintendent

Affordability comes with demand.

Fiber, cable, wireless, devices are the means. But without affordable access, they are meaningless, and the technologies will change over time in any case. Affordability comes with demand for markets that deliver services improving lives in the community. That requires education and demonstration that high-throughput delivers far more than better cat videos on TikTok to provide much need laughter in our days ... it delivers improved industry and agriculture, improved communities and communities, improved education and lives. – Don Kallgren, DGKallgren Consulting, President

Because digital communication is so important, a problem of paying for a phone or internet service becomes a problem of getting medical care or working.

A client came to my office using their phone to complete the process for assistance with a bill. However, the client was forced due to financial hardship to choose between paying the mobile phone bill and paying other vital bills, including medical needs. The client had to come to my office with their phone and ask me to take a photo using MY phone, so they could text the application to the correct staff member by the deadline for payment of the bill. The client noted that had their friend been unable to transport them at that time, they would not have had access to my office or to the assistance with the bill.

Free basic internet and mobile data service should be available as part of residency in Chatham County. Ensuring access to reliable internet connections throughout the county. --Rebecca Sommer-Petersen - The Salvation Army of Chatham County, Director

There should be support for purchasing technology devices and free or low cost access to internet services for all areas of the County. – Genevieve Megginson, Chatham County Partnership for Children, Executive Director

Access to affordable internet and mobile phone service is an essential tool for our clients to communicate with employers, landlords and human service providers. --Rebecca Sommer-Petersen - The Salvation Army of Chatham County, Director

Accessibility is important for low income/no income community members. --Liz Mauney NC Cooperative Extension, 4-H Program Assistant, 4-H Youth Development

We provide support to small business owners of child care programs. During the pandemic we had to secure mobile hotspots and tablets for some in order for them to survive the quick transition to digital processing! Many needed advice and ongoing help with using technology and now have to fund the cost of the hot spot on their own. We only had limited funds to provide the supports needed and now have not resources to replace or support more of our providers who may be new or need tech upgrades. This is a huge expense for child care providers and not one they would prioritize over kid needs except that it is now required in order to function in the current digital world of business functions. – Genevieve Megginson, Chatham County Partnership for Children, Executive Director

Programs are currently available to help low-income families pay for phone and internet. The forms are not easy and the discount system is complicated. Help is needed for people to sign up for these programs.

Siler City and parts of Pittsboro appear to have sufficient internet availability today. Residents in these areas in particular need assistance with the cost of internet, for example using the Affordable Connectivity Program (ACP). Charter/Spectrum has a program that would provide up to 100 Mbps service for free after the ACP discount. However, the application for ACP is complicated, particularly for those without much online experience. The Federal Government has not created an outreach program for the ACP. Nonprofits and government in Chatham can start an outreach program and individuals to help, perhaps via a train-the-trainer mechanism to staff multiple helpdesks for ACP signup. – Burney Waring, Innovate Chatham, President

Collaboration with agencies such as Innovate Chatham and internet service providers will help us improve access. -- Rita Van Duinen, Chatham Community Library, Branch Manager

Our large immigrant population needs other solutions.

I'm concerned that many immigrant residents that are least able to afford internet, may not qualify for these Federal aid programs due to their immigration status, or may not feel comfortable applying – Burney Waring, Innovate Chatham, President

Public Broadband Access Points

According to the NC Broadband, Free Public Wi-Fi Location Map, there are 5 public access points in Chatham:

- NC Works Career Center–764 West St., Pittsboro 27312
- Silk Hope Ruritan Club–4221 Silk Hope Rd, Siler City, NC 27344

- Chatham Community Library – 197 N.C. Highway 87 North, Pittsboro, NC 27312
- Wren Memorial Library – 500 N 2nd Ave, Siler City, NC 27344
- Goldston Library – 9235 Pittsboro-Goldston Rd, Goldston, NC 27252

[Free Public Wi-Fi Access Locations | ncbroadband.gov](#)

[Wireless Internet FAQ | Chatham County, NC \(chathamcountync.gov\)](#)

During the Covid pandemic, the Chatham School System loaned out hotspots to families with students.

[Hotspots connecting students, teachers during remote learning \(chatham.k12.nc.us\)](#)

There are many businesses and organizations in Chatham that provide Wi-Fi internet for their patrons. There does not appear to be any list of these locations.

Community Voices on Public Broadband Access Points

Many businesses and public spaces in Chatham provide free hotspot access to Wi-Fi. But, there is no list of these locations.

Central Carolina Community College recognizes the need for digital inclusion across Chatham County to support students, faculty, staff, community members, and employers.

The college began making our campus internet accessible to individuals both in the buildings and parking lots to support teaching and learning throughout the pandemic. CCCC continues to offer connectivity in these ways but this effort requires individuals to come to a campus and connect, which impacts time and transportation demands. – Margaret Robertson, CCCC, Vice President of Workforce Development

At the beginning of COVID students were sent home with laptops for remote learning. Many do not have an ISP so were using the libraries' Wi-Fi in parking lots and outside of the building since we were closed. - Rita Van Duinen, Chatham Community Library, Branch Manager

Availability isn't just about internet signals, but needs to be combined with access to power.

During the pandemic I had to drop out of college because I couldn't find internet access that had an electrical outlet available. Cafés, my college campus, and the Chatham library were closed. Most outdoor outlets are hidden or intentionally turned off. [Wi-Fi hotspots need] Solar powered outlets in public spaces. With USB C charge ports. [\[For example - link\]](#) – Cassandra, Chatham County Resident

The Alliance is providing access to technology, and workspace that is shared by multiple educational and human services organizations.

In general, we would like to partner with more nonprofit organizations across Chatham County, to enable us to connect to a more diverse group of individuals and to expand our reach within the community. We support additional contributions, greater exposure for programs and activities already in place, additional public and private funding. –Dare Montague, The Alliance

Public Computer Access Points

There are no places in Chatham for the public to freely access computers, except for the three public libraries.

Community Voices on Public Computer Access Points

We need to provide spaces across the county where our residents most in need can access the internet.

Chatham County Public Libraries provides access to free Wi-Fi, and computers for patrons to use. -- Rita Van Duinen, Chatham Community Library, Branch Manager

There are no day center options (other than the library) that would support individuals experiencing homelessness. Or that have a lack of basic needs (food, clothing, transportation challenges) A day center would increase availability of access.

A day center would be a great solution. Other resources could also be made available to those folks. Siler City is sorely lacking in general public resources. Grants could be made available to direct service providers and could be used to facilitate funds and placed directly in the hands of clients that need this sort of assistance. Make it available. Low barrier to access the funds for the clients. We can build a referral process right through the Unite Us software/NCCARE360 database and make it a visible program for service providers (Salvation Army, Love Chatham, DSS, United Way, CPCA, etc.). Local non-profits and other county services can support the dissemination of information. —Dakota Philbrick, Love Chatham, Executive Director

Affordable housing will be built in Chatham Park and Siler City. We propose having a dedicated location on site, with internet access device, instructions, and periodic helpdesk assistance to residents to access an array of virtual services. Residents in these developments will likely have more transportation challenges than other residents of Chatham and so they could benefit immensely from virtual services such as telehealth. – Liz Mauney, NC Cooperative Extension, 4-H Program Assistant, 4-H Youth Development

Digital Devices

All K-12 Chatham School System students receive a Chromebook laptop computer. The students can take these computers home. These computers are very restricted in what they are allowed to access and are intended only for the students' use.

[Digital Learning & Technology / 1-to-1 Student Laptop Program \(chatham.k12.nc.us\)](https://chatham.k12.nc.us)

Low-income Chatham residents have access to low-cost computers through the Kramden Institute. All K-12 Students have access to free computers if their family does not have one (the school Chromebook does not count).

[Kramden Institute: Technology Tools and Training to Bridge the Digital Divide](#)

Community Voices on Digital Devices

There is a substantial need to supply devices to residents in need, but it is not an impossible task.

Based on surveys and population estimates, perhaps 17,000 people in Chatham do not have access to a computer. Approximately the same number do not have internet available. – Burney Waring, Innovate Chatham, President

We are very fortunate to have a major supplier of reconditioned computers nearby in Durham. Chatham should make the most of this asset for our residents. Depending on our demand, we may need to identify other suppliers, as Kramden has a finite supply of donated computers.

Kramden Institute has been providing free and low-cost computers to qualified residents in NC since 2003. Our records show that we have provided computers to about 230 clients in Chatham since 2008. Most of our clients are in the Research Triangle and immediate region but we technically serve all of NC, therefore, many residents of Chatham County can benefit from our services. Any child in grades K-12 without regular access to a working computer qualifies for a free desktop system with long term tech support provided by us while the child is in school. Any adult at or below 200% of the federal poverty line and/or on government assistance is qualified to purchase a \$30 desktop or \$70 laptop with 90 days of support. With the help of local partnerships, there is an opportunity to greatly increase our help in Chatham.

We cannot ship computers to or receive them from Chatham County without partnering with local individuals and organizations

If partner organizations can identify children and adults that are in need of free or low-cost devices, either the client or the organization (ideally in batches) can submit applications with us. Once the devices are ready, a representative can pick up and distribute the computers locally. If a significantly large portion of clients are identified (for instance, 30-60 children at a specific school), arrangements could potentially be made to ship computers ahead of time and award them all at once. Prior to the pandemic, that is exactly how we placed computers with families in locations outside of the Triangle. – Lile Stephens, Kramden Institute, Program Manager

Use a county-wide outreach program to identify families in need of computers. Acquire refurbished computers via organizations such as the Kramden Institute, and Dell. Provide for delivery and possibly setup of computing systems to recipients, either using nonprofits or commercial providers. It may also be possible to expand the numbers of refurbished computers and advance digital literacy through a local program to refurbish computers, for example using Kramden instructors, local computer enthusiasts, perhaps with the CCS system CTE program. Alternatively we could use local, commercial computer refurbishment companies, or even purchase new, small, inexpensive computers. Depending on the combination, donation, storage and distribution of computer systems would need to be provided for. – Burney Waring, Innovate Chatham, President

Organizations recognize the need to help supply devices.

In a response to student needs for devices, the college allows students to access digital devices from the library on loan throughout a semester. This provides students a resource if they do not have access to their own device or they have a device being repaired. The intent is to support students such that device resources are not the limitation to accessing learning. – Margaret Robertson, CCCC, Vice President of Workforce Development

There are many under served and underrepresented members of the community. In a digitized world, those that don't have adequate access are left behind. Many times, frustratingly so, I see Siler City overlooked or ignored and our community suffers because of it. As a concerned citizen and director of an organization that fights for its clients every day, it would be a blessing to bring more resources to our clients. It's not just having access to the internet that's a challenge but it's also about having access to the devices - laptops, tablets, cell phones, printers and so forth. —Dakota Philbrick – Love Chatham, Executive Director

While almost everyone in Chatham has a mobile phone, they are not adequate for many important purposes.

Mobile-only users benefit less from using the internet, engage in fewer activities online, and do not develop digital skill at the same level as desktop/laptop users. Moreover, mobile internet access offers lower levels of functionality and content availability, and contributes to diminished levels of user engagement, content creation, and information seeking.

Leaving aside the connectivity factor:

- 1) Full size devices are still necessary to support development of digital skills and to take advantage of the internet in ways that improve the person's health, education, and economic well-being.*
- 2) People who have been historically digitally marginalized are less able to afford the latest and greatest of smartphones, and more likely to have older phones of any type.*
- 3) For access and security reasons, each individual in a smartphone dependent household would need their own device, which is cost prohibitive for underrepresented households.*
- 4) People who have been historically digitally marginalized are less likely to keep their phones updated and secure (due to lower skills), increasing their vulnerability to information breaches or degrading performances.*

Mobile-only users, while benefiting from internet access, have more limited computing experiences compared to their computer-owning counterparts. Relying solely on a smartphone to access the internet limits (1) the range of one's online activity and (2) one's digital skills.

– Jesse Bradley, RHRN Project, President

[Kramden Institute: Technology Tools and Training to Bridge the Digital Divide](#)

Digital Literacy Programs

Chatham County does have programs that support digital literacy and STEM training in the form of computer training classes. And, there are businesses and universities that provide more advance training. Here are some examples:

- The Chatham Libraries and CCCC provide computer classes.
- The Chatham School System has various computing classes, and Chatham School of Science and Engineering is focused on STEM courses.
- 79°West's innovation space in the Mosaic area of Chatham Park will begin offering a variety of technical classes starting in early 2023.
- There are various other programs in the area, for example Coding Boot Camps at UNC in Chapel Hill and degree programs at NC State in Raleigh.

Not everyone is ready or able to learn in a formal class. Chatham has some other programs, such as:

- Right Here Right Now provides free, very small group, very basic level classes for new computer users that leads to [Northstar Digital Literacy](#) certification.
- NC Cooperative Extension is starting a new Digital Literacy and Skills program out of Randolph that will, for now, also try to help Chatham.
- Chatham Literacy includes computer literacy training.
- Communities in Schools provides some STEM club activities for middle-school children at The Alliance in Siler City.

CCCC and the NC Community College System has workforce development partnerships with two new manufacturers building facilities in Chatham: Wolfspeed to help fill 1800 jobs, and VinFast to help fill 7500 jobs.

[Science & Engineering / Homepage \(chatham.k12.nc.us\)](#)

[Right Here, Right Now Project, Inc. \(rhrnp.org\)](#)

[We're Hiring a Digital Literacy and Skills Agent | North Carolina Cooperative Extension \(ncsu.edu\)](#)

[Chatham County Public Libraries | Locations | Northstar Digital Literacy \(digitalliteracyassessment.org\)](#)

[Students | Chatham Literacy](#)

[Kramden Institute: Technology Tools and Training to Bridge the Digital Divide](#)

[Communities In Schools of Chatham County - For 25 years bringing Chatham County Together! \(cisatham.org\)](#)

[Workforce Development Archives - Chatham County Economic Development Corporation \(chathamedc.org\)](#)

Community Voices on Digital Literacy

There are ongoing and new efforts around digital literacy. This will take a sustained effort. Training resources will need to grow.

We have some resources and potential resources for conventional training efforts.

Kramden Institute provides digital literacy training at our office [in Durham] as well as our growing Train the Trainer program where we prepare partner organizations (such as Housing Authorities) to deliver our curriculum and devices. As of now, we have not trained anyone to deliver our program in Chatham County. – Lile Stephens, Kramden Institute, Program Manager

Chatham County Public Libraries provides access to free Wi-Fi, computers, and electronic content from various databases and subscriptions. The Pittsboro branch, Chatham Community Library, provides classes (in-person and virtual) on basic digital literacy skills (Internet Basics, Computer Basics) and classes on specific applications such as Word or Excel. CCL has also curated and continues to maintain a webpage, "Online Learning Resources" that covers a wealth of digital resources for all ages: <https://www.chathamcountync.gov/government/departments-programs-i-z/library/e-resources/digital-and-online-learning-resources> -- Rita Van Duinen, Chatham Community Library, Branch Manager

CCCC also provides access to technology adoption learning experiences. These courses can happen in short-term training and College & Career readiness programs focused on digital literacy which are available to the public and may be delivered at no cost to students based on their eligibility. Students also have opportunities to develop digital literacy skills through their degree programs and are encouraged to take advantage of college support resources. – Margaret Roberton, CCCC Vice President of Workforce Development

Digital literacy in rural areas is a special challenge.

Need to provide Digital Literacy training to residents including underserved communities, for example farmers and residents of rural areas. NC Cooperative Extension is piloting a program to provide skills training to community members.

In order to improve adoption of digital skills in Chatham, we need a variety of leadership and coordination resources. Randolph County will have a dedicated Digital Literacy and Skills Extension Agent as part of the NC Cooperative Extension. Digital Literacy and Skills Extension Agent The agent will provide opportunities and experiences for Randolph County residents to increase their knowledge and skills for using digital resources to help them earn, learn or be well. The agent is a subject matter resource for current and emerging digital technologies. This Agent will interact with the public through the delivery of skill-building programs and provide broadband access information and resources to increase the adoption and utilization of digital resources in Randolph County. This position will be responsible for providing leadership to the Digital Skills Training Corps (DSTC) in Randolph County. The DSTC will help increase the digital skills capacity in Randolph County by providing training and coaching opportunities. Chatham County should also have such a resource. – Liz Mauney, NC Cooperative Extension, 4-H Program Assistant, 4-H Youth Development

Some learners will need extra help.

Right Here Right Now Project runs small classes for basic computer skills classes open to the public. These classes are useful for many things from getting a job to helping kids with their homework. In a 9 week (18 hours) program that is free to the user, skills learned include basic mouse and keyboard use, interaction with the computer interface, online browsing, using files and drives, how to fill out online forms, and internet privacy. With a score of 85 or more, students receive Northstar Digital Literacy Certificate of Completion and a discounted or free laptop computer.

We are unable to meet the demand for free basic digital literacy training that can run at the pace for novice learners. More instructors need to be recruited and trained to do basic training.

Funding is needed to hire instructors, furnish equipment, provide translation, publicize the opportunity, and provide classes to all Chatham residents that need basic digital literacy skills. Volunteers could be found to be assistant teachers to double the number of students per class.—Jesse Bradley, Right Here Right Now Project, President

We need to also encourage students and adults to consider careers in digital technology. This will help supply businesses in Chatham with tech-proficient workers.

Many young people in Chatham County are unaware of and unprepared for career opportunities in the digital space, despite being located adjacent to one of the key technical centers in the Nation. Participation in events such as the Congressional App Challenge has been very modest. Alamance County's Digital Inclusion Plan calls for the creation of a "hackathon" event to raise awareness of these careers. Chatham County could be the home of a Chatham County App Challenge for school-age children that could go on to compete in the Congressional App Challenge. A parallel event for adults or a separate "hackathon" event with prizes for Chatham residents would create awareness within the County of tech career paths and perhaps elevate the regional awareness of talent in Chatham. – Burney Waring, Innovate Chatham, President

Individual Support

There are no formal programs in Chatham dedicated to providing individual support in using digital technology. The preeminent program for this is the Digital Navigator Model, from NDIA:

"Digital Navigators are individuals who address the whole digital inclusion process — home connectivity, devices, and digital skills — with community members through repeated interactions.

Navigators can be volunteers or cross-trained staff who already work in social service agencies, libraries, health, and more who offer remote and socially distant in-person guidance. Often at trusted community-based organizations, Digital Navigators are familiar with resources that relate to digital equity, and they help residents learn to use critical online services that provide guidance with food support, rent, education, employment, childcare, government benefits and more. They recommend resources and check back with the client."

In Chatham, we have an opportunity to define our Digital Navigator program. For example, this could include both individual support, but also aftercare for students who learn in training courses by the course instructors.

Chatham does not have an established Digital Navigator program. Jesse Bradley with Right Here Right Now Project provides Digital Navigator Services in Alamance and Rockingham counties, although he resides in Chatham County.

[Digital Literacy | ncbroadband.gov](https://ncbroadband.gov)

[Right Here, Right Now Project, Inc. \(rhrnp.org\)](https://rhrnp.org)

[Digital Navigator Model - National Digital Inclusion Alliance](#)

Community Voices on Individual Support

Many individuals will need timely, available individualized support. *The Chatham Community Library are currently lacking an Outreach and Community Engagement Librarian (vacancy) that could help fill the gaps in reaching those in need of assistance with technology and/or digital inclusion. In-person training is only being held at one location which limits those with transportation issues.* -- Rita Van Duinen, Chatham Community Library, Branch Manager

[Digital Navigators](#) can be volunteers or cross-trained staff in public service. They provide direct support for residents needing to access government benefits, and serve as a bridge to learning materials and classes. -- Jesse Bradley, Right Here Right Now Project, President

A Digital Navigator is a sort of ‘helpdesk’ and digital troubleshooting specialization combined with empathy and knowledge of available programs. Notably, it is a potential bridge from basic computer skills potentially to high-tech skills. As such Digital Navigation might be applicable for training at the high school level or community college level. Perhaps the combination of required talents would help draw additional young people into tech.

The City of Raleigh has a Digital Connectors program for high schoolers to learn leadership and the facets of digital inclusion. The City of Charlotte has a Digital Navigators program that serves as a tech support hotline to answer questions from novices using a computer and point to existing community resources. These ideas are supported by what we see at Kramden (in-person touch is quite important) and the many calls we get from parents who say "my son can program, my daughter has already built a computer at age 13, can they come volunteer?" I think there's something in the Digital Navigator program to combine skills with empathy and teaching. -- Cyndy Yu-Robinson, Kramden Institute, Executive Director

DIGITAL NEEDS

From the [Chatham County Community Assessment](#), 2021:

“Regarding adoption or utilization of internet, Chatham County scored 51.3 on the index. Around 1 in 3 Chatham households did not have any internet subscription. Additionally, around 1 in 10 (10.7%) of households did not have a computing device.” “Nearly 1 in 7 (15.0%) Chatham adults say they do not feel comfortable accessing the internet.”

The data below is from the 2019 American Community Survey largely agrees with the Community Assessment.

The same trend is seen, with the northeast area having less than 13% of the population without access to a desktop or laptop computer, and the southwestern area having 30-50% of the population lacking access to a computer.

Using this data with the 2020 census data, it is estimated that 17,000 people (**22%**) do not have access to a computer. About the same numbers of people do not have any internet subscription, possibly because without a device, there is no benefit to having internet service.

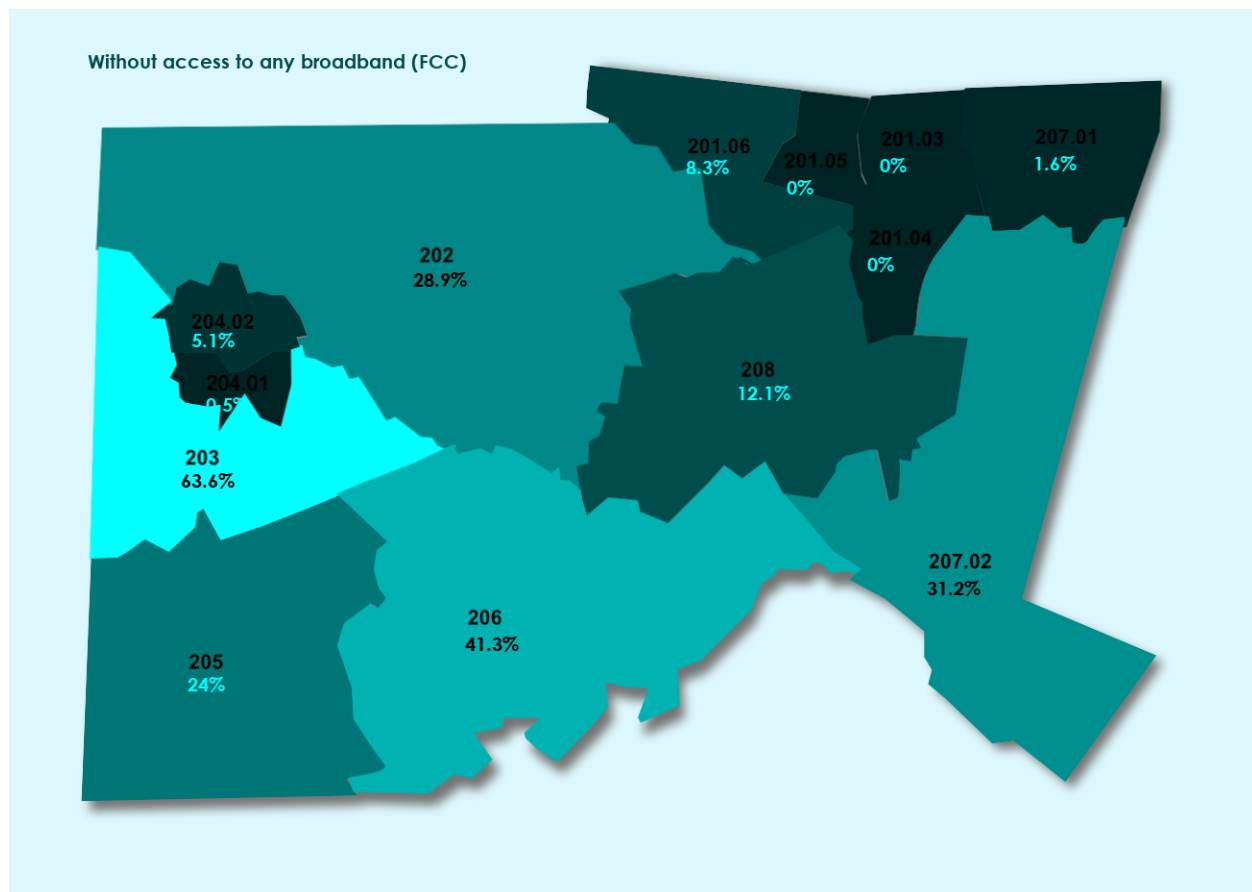
The Northeast area of the County has nearly universal availability to some type of broadband. Broadband is lacking in high percentages most everywhere else. It is notable that Siler City has good availability. Note also that the area south of Siler City has the worst, but there may be a problem with the data in census tract 203 in this data set, because internet subscriptions are much higher than availability.

Using the 2020 Census data and the FCC survey percentages, it is estimated that 11,000 people (14%) in Chatham do not have any access to any type of broadband.

Broadband Availability

20% of the NC Broadband Survey respondents in Chatham have no internet service, and according to speed tests, of those that do, 16% have speeds under 25/3. Only 4% of respondents report no cellular service.

Broadband availability is a special challenge everywhere except for the northeastern area, Pittsboro and Siler City.

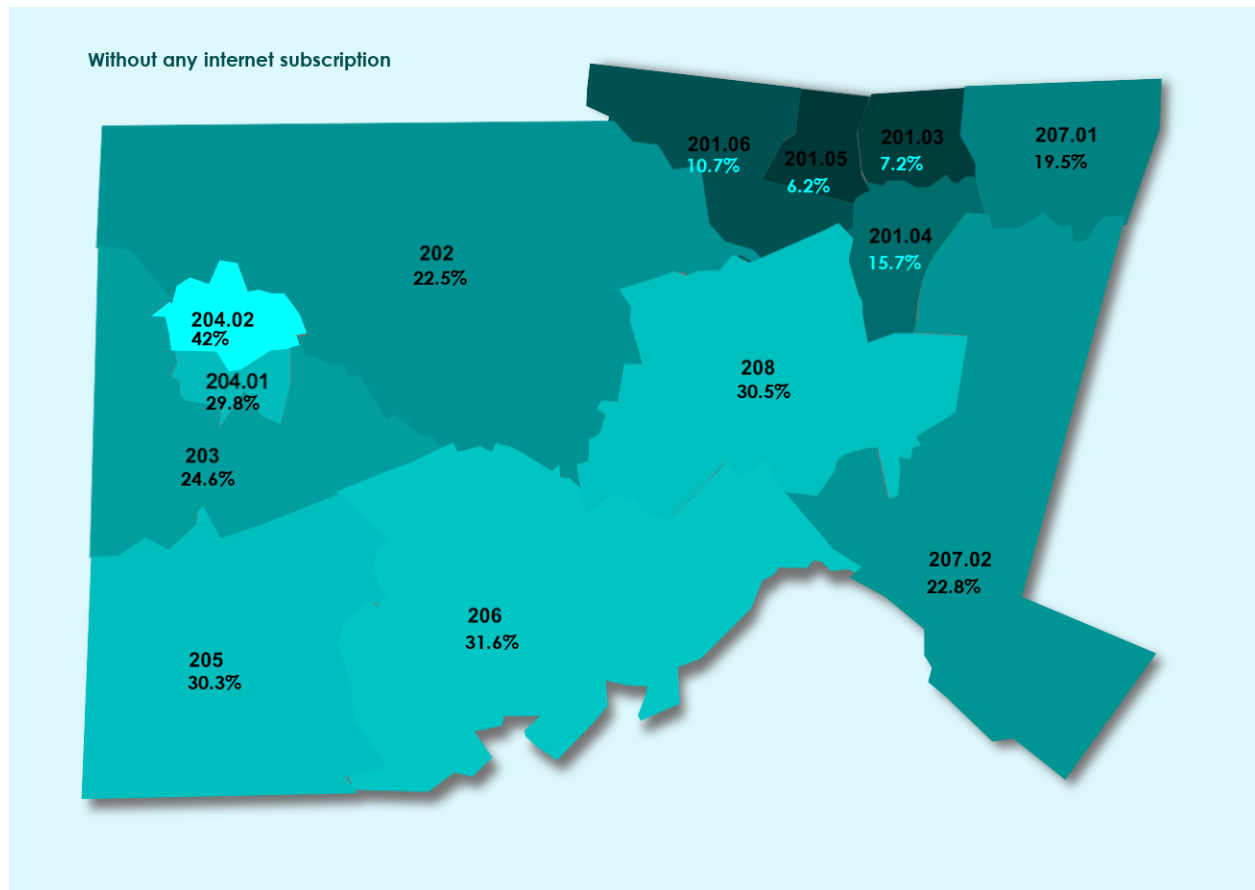


[Information in this section from [Microsoft Power BI product for Digital Equity](#).]

Broadband Subscriptions

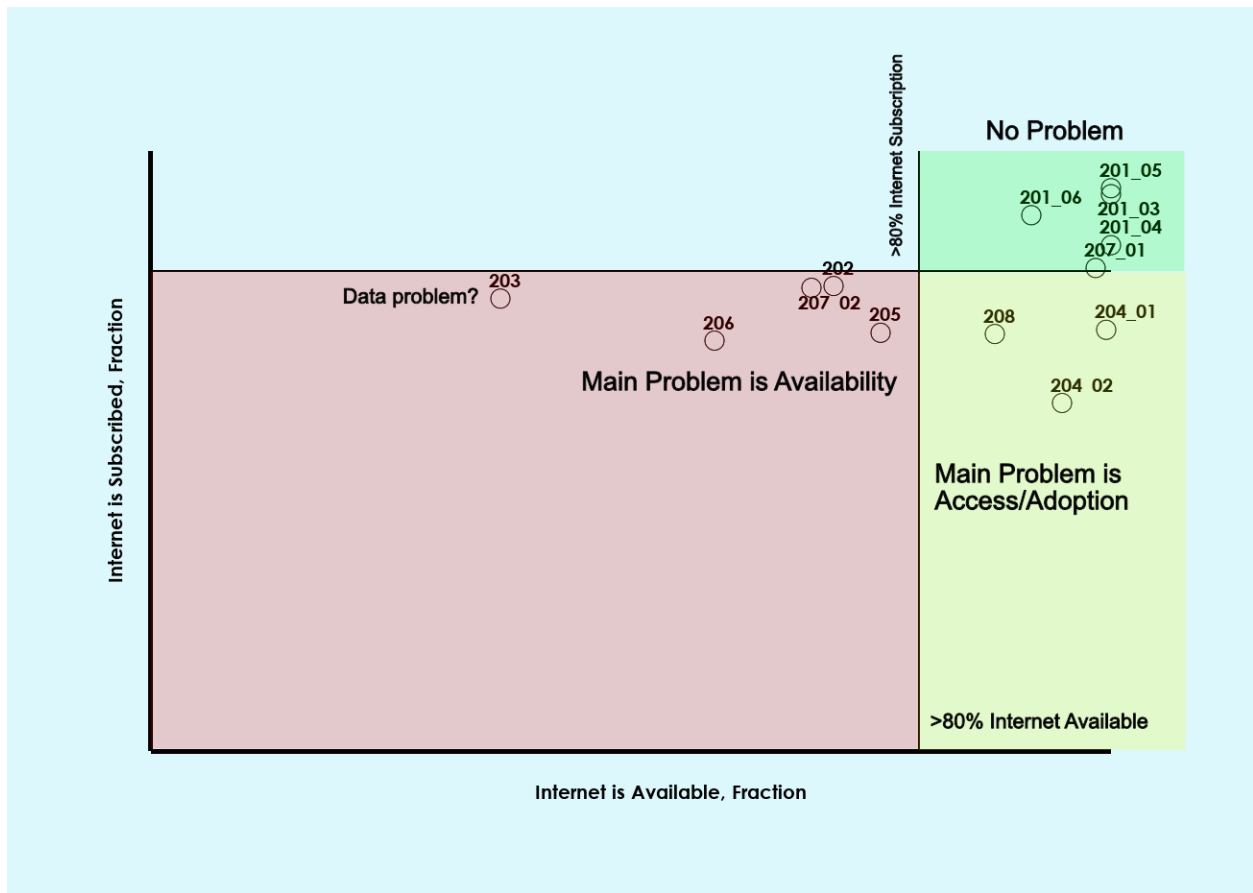
According to the Chatham Assessment, around 1 in 3 Chatham households did not have any internet subscription. The [NC Broadband Adoption Index](#) gives the same value, 67%.

By census block, the picture shows that internet subscriptions tend to follow availability, with the dramatic exception of the Siler City area where adoptions are very low (30-40%) and the availability is very high (95-99%).

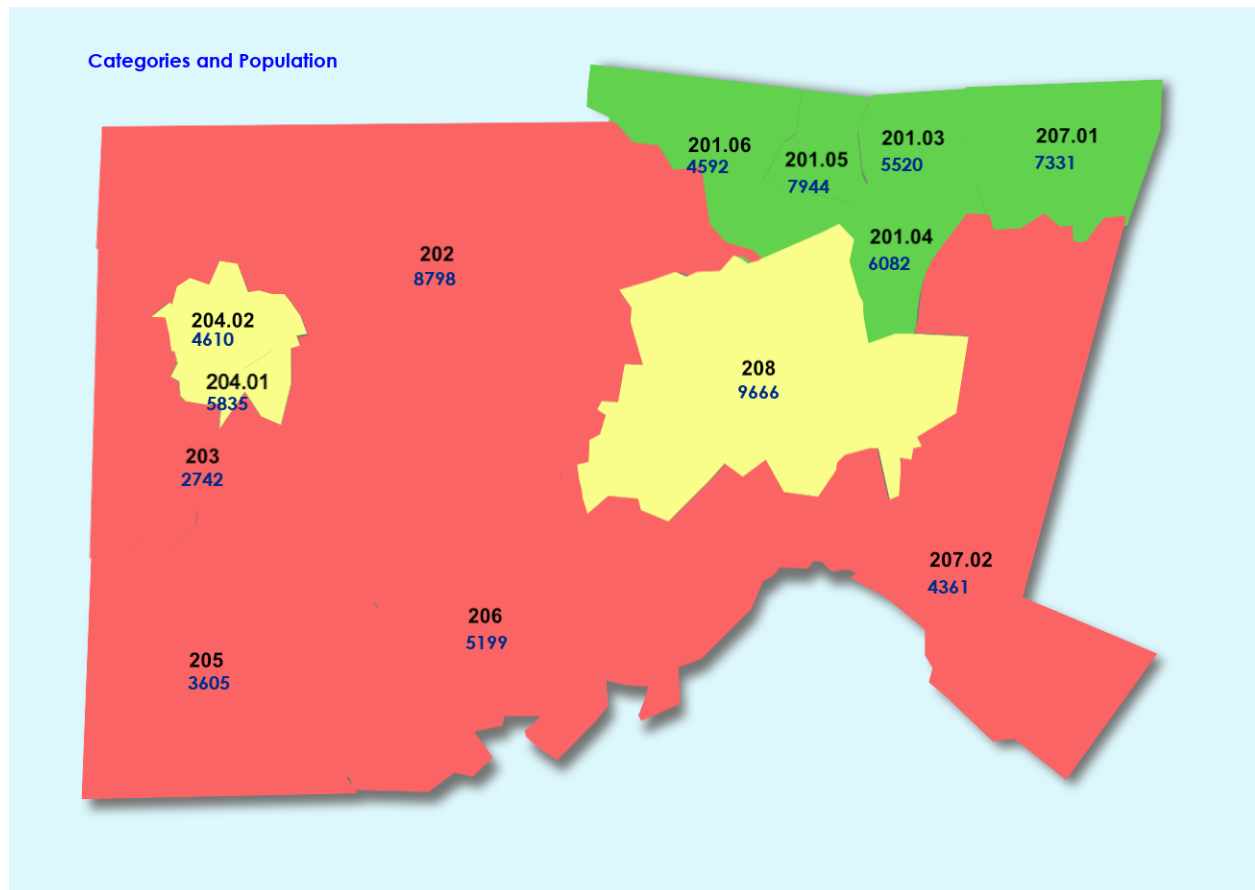


Analysis of Broadband Availability vs. Access/Adoption

Combining the data above by census tract, we can reach some conclusions about the largest problem areas for digital inclusion. If we set a threshold percentage of those who have internet available at 80% and the same 80% for those that have internet subscriptions, we can divide the census tracts into three groups: The areas that meet both of these criteria have “no problem”. The area with an Availability problem, where the internet is only available to 60-75% of people. [Note census tract 203 was surveyed and has only 36% available, which may be an error.] And, the area that has high availability but low internet subscriptions, which we believe is a problem of Access and Adoption.



Mapping these areas, results in this geographic distribution of problems:



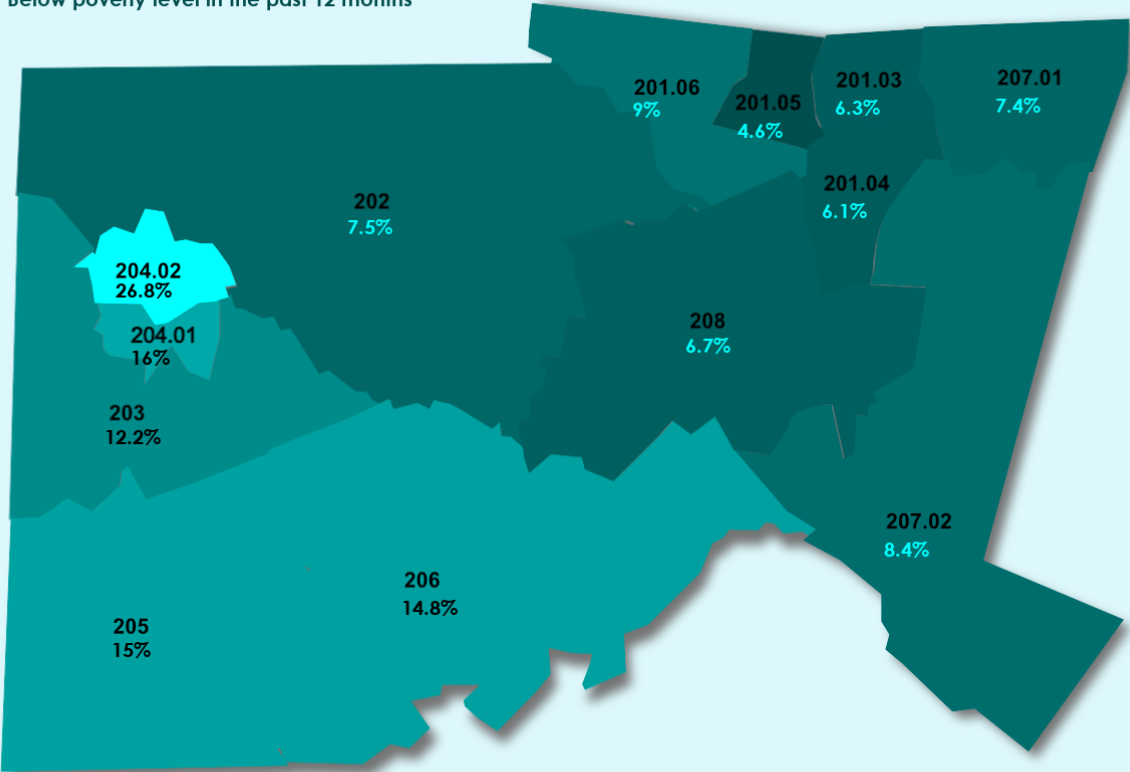
Also shown above are the populations of these areas. Areas will, of course, have people with multiple challenges, and some people in each area will have no challenges.

Also, the Triangle Innovation Point site (southeast) and CAM sites (north west) are located in areas with the poorest internet service availability.

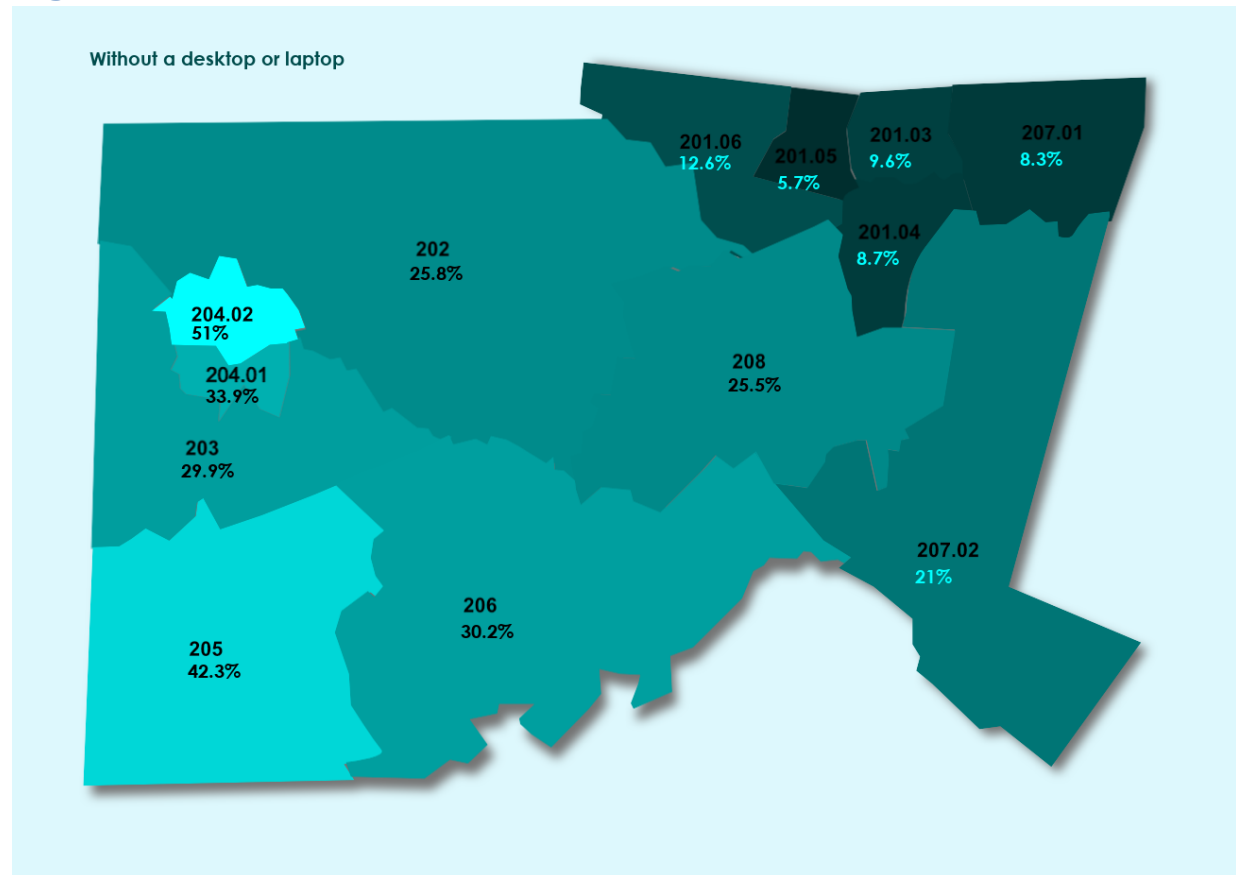
Broadband Affordability

Overall in Chatham, 10% of the population is below poverty level, but there is a particular problem in Siler City.

Below poverty level in the past 12 months



Digital Devices



The same trend is seen, with the northeast area having less than 13% of the population without access to a desktop or laptop computer, and the southwestern area having 30-50% of the population lacking access to a computer.

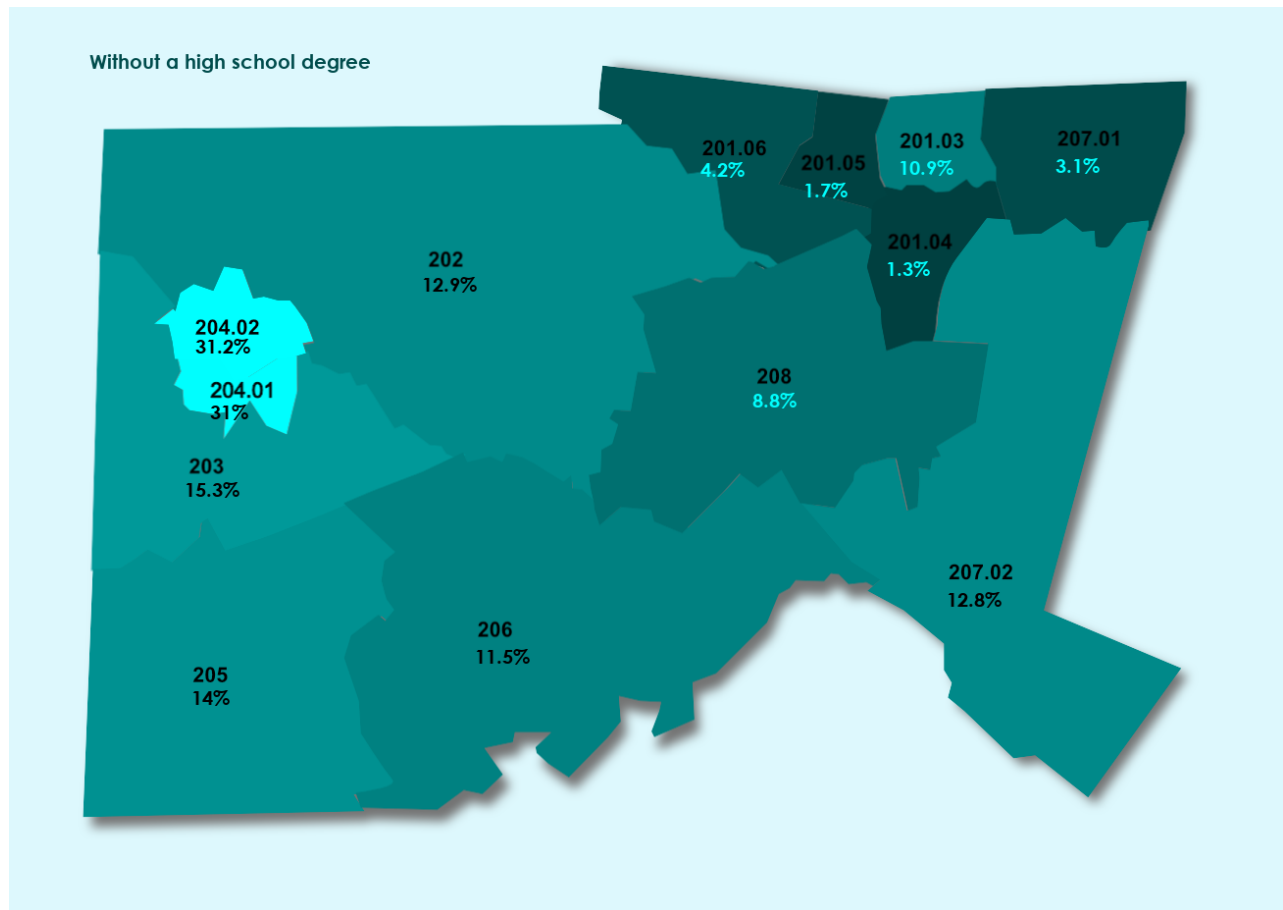
The Chatham Community Assessment largely agrees with the 2019 American Community Survey data.

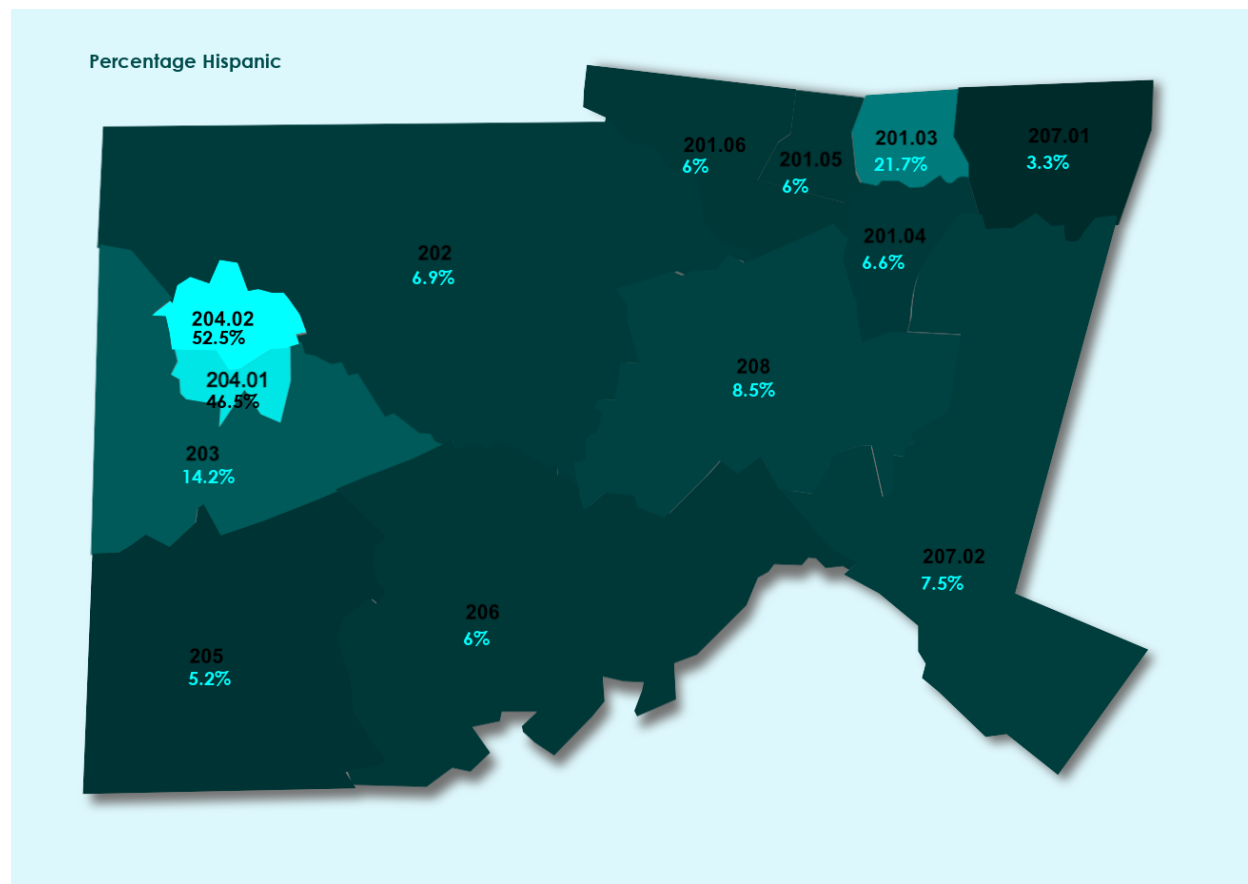
Using this American Community Survey data together with the 2020 census data, it is estimated that 17,000 people (**22%**) do not have access to a computer. [About the same numbers of people do not have any internet subscription, possibly because without a device, there is no benefit to having internet service.] The NC Broadband Adoption Index site says only 11% of households have no computer devices, which is significantly more optimistic.

Digital Literacy

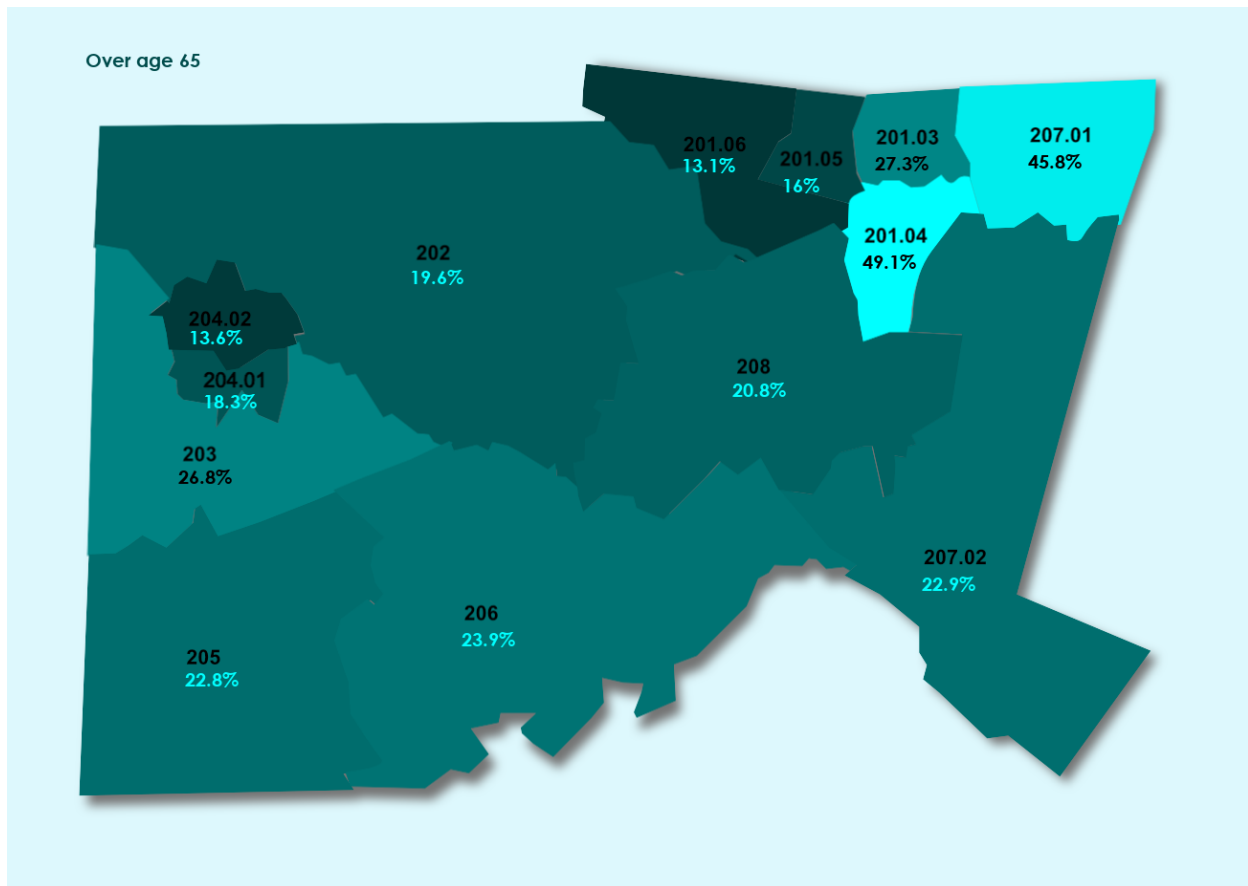
As in most counties, it is very difficult to estimate with any certainty the percentages or numbers of residents of Chatham that are not yet sufficiently digitally literate. What is a sufficient level of digital literacy? That is also difficult to answer. We would say that a sufficient level is one where a person is able to navigate the services that would be of value to them, and to be capable of continuing to learn on their own.

We can note that the Siler City area has about 1/3 of residents without a high school degree, and also where 50% of residents are Hispanic immigrants.





About 1/4 of Chatham residents are 65 and over. Some seniors struggle with technology, but those with limited mobility and health issues could benefit the most from digital technology, including telehealth.



Finally, Chatham lacks many of the ingredients that have propelled high levels of digital literacy elsewhere: concentrations of tech jobs, ubiquitous internet availability, and universities. It is expected that Chatham will need considerable efforts in this area. In addition, high tech manufacturing is locating to Chatham, plus the Chatham Park development will bring tens of thousands of new residents, and hopefully offices and amenities. The danger is obvious: many (most?) of the current residents of Chatham could be left behind and the digital divide in Chatham will grow much worse than in other counties.

PARTNERS

In creating this Plan, we found 28 supportive Partners to be part of the Coalition that contributed ideas, advice, and guidance.

The Coalition Partners that are involved in providing services to support Digital Inclusion:

- Chatham County Government
- Chatham County Library
- NC Cooperative Extension
- Kramden Institute
- Chatham County Community College (CCCC)

- Right Here Right Now Project
- Innovate Chatham
- Chatham County Schools
- Open Broadband
- T-Mobile
- NC State Institute for Emerging Issues
- NDIA
- NC Broadband Office
- 79°West
- Innovate Carolina
- Chatham Literacy
- Communities in Schools Chatham County

Other organizations that are providing advice and support as part of this Coalition

- Hispanic Liaison/El Vínculo Hispano
- Chatham County Partnership for Children
- The Alliance
- Love Chatham
- Chatham Trades
- The Learning Trail
- The Salvation Army of Chatham County
- Sandefeur Modeling LLC
- VFW
- Charlie Mike, Inc.
- Chatham Drug Free

Other organizations that may be helpful to involve, and have been or could be invited to join any time during the implementation of this Plan:

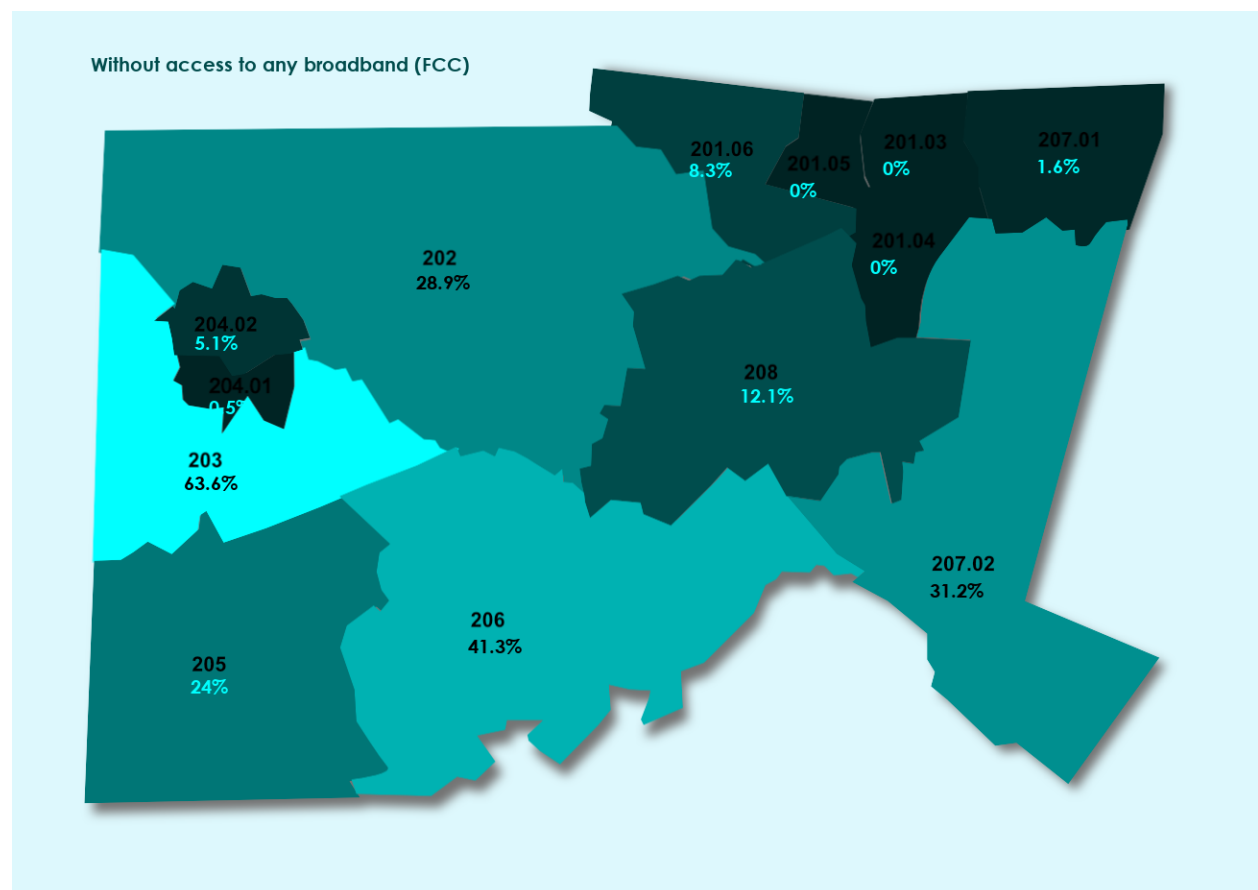
- Fearrington Cares
- UNC Health
- Chatham Chamber of Commerce
- CenturyLink/Brightspeed
- Spectrum
- NAACP
- NC Works
- Boys and Girls Club
- Council on Aging
- Chatham Economic Development Council
- Mountaire Farms Siler City

- CORA Food Bank
- United Way
- Churches
- Siler City Rotary Club Members, Pittsboro Rotary Club Members
- Chatham Health Alliance
- Piedmont Health
- Chatham Education Foundation
- Rural Advancement Foundation International (RAFI-USA)

DIGITAL GAPS

Availability Gaps

Internet availability is the number two concern, after clean water, according to the Chatham Assessment survey of 2021 with 35% saying that this is an area to focus on, and 19% reporting they do not have regular access to a reliable internet connection. The areas without an availability challenge are the northeast and Siler City, and most of Pittsboro. That leaves about 1/3 of the population in areas with an availability gap; the most rural areas.



The new, large manufacturing sites sit in areas with low availability. Presumably, the facilities themselves can afford to be served, but drawing workers to Chatham near those plants requires additional availability.

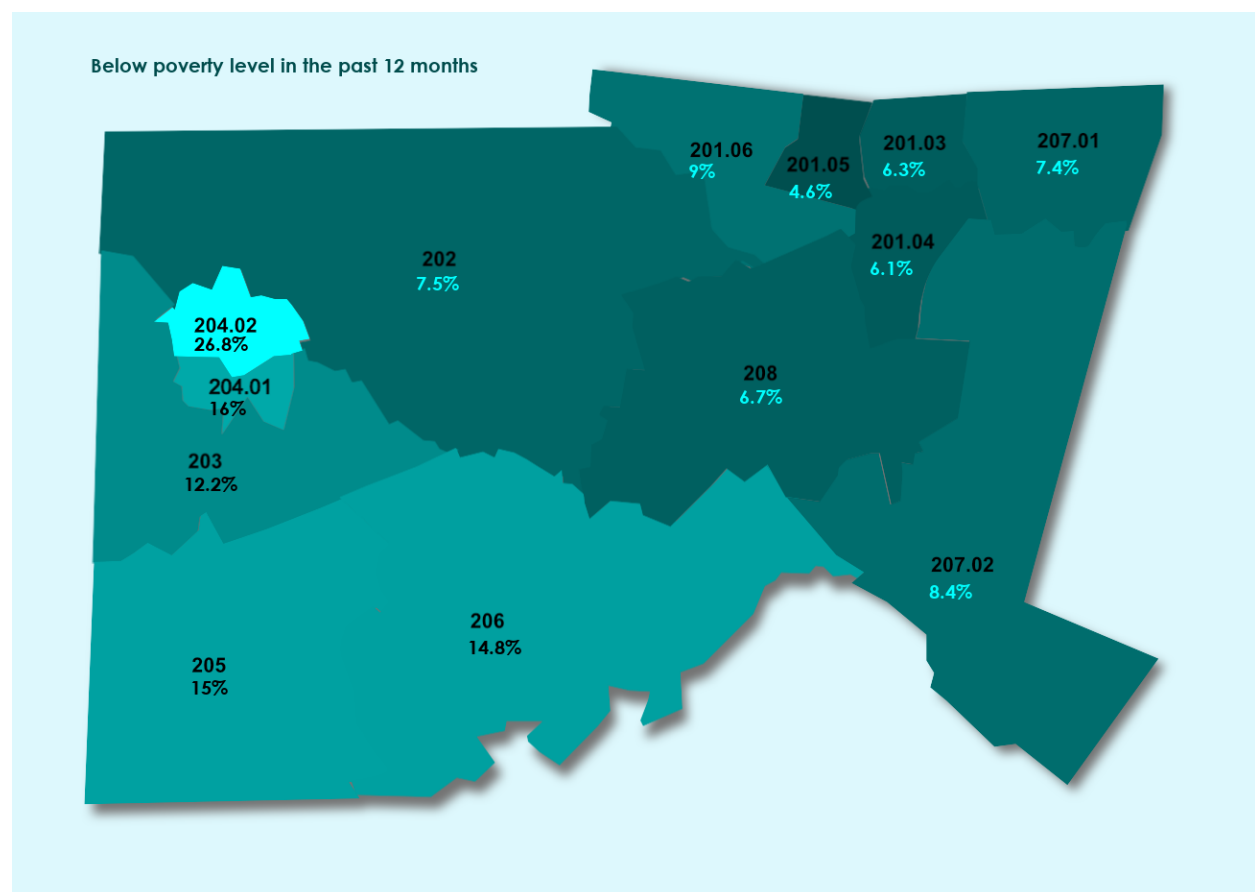
Although the mobile provider maps show availability over the entire county, the main providers do not show available areas suitable for broadband at adequate speeds. This may be aided by the FCC fabric data analysis.

Affordability Gaps

The cost of internet can be high. Not many people know about lower cost programs. Some internet providers have lower cost programs and most are members of the new Federal discount program, ACP. But, anecdotally very few people are aware of free, cheap, or discounted internet.

Anecdotally, many low-income people benefitted from the emergency provision of mobile hotspots during the pandemic, but funding for these has ended or will end soon.

Poverty is a particular issue in Siler City and the most rural areas of in the southwest of the County.



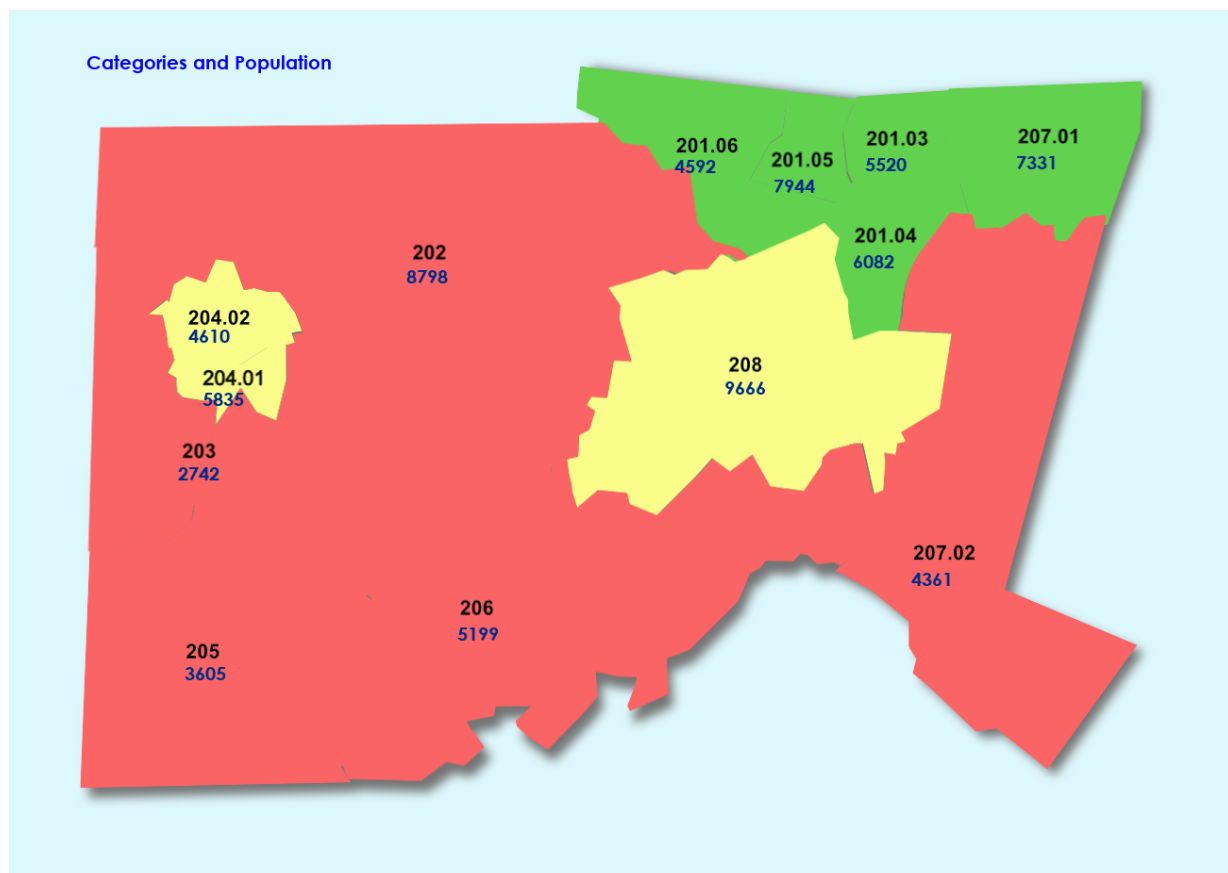
Adoption Gaps

In areas with high broadband availability and low broadband subscription, it is likely that there is a digital adoption/digital literacy problem. The Siler City area has a high percentage Hispanic ethnicity,

low high school graduation rates and high poverty rates. This area has many immigrant families. The Pittsboro area also has some of these same issues.

Because adoption can only happen after availability and affordability are corrected, the rural areas will have adoption gaps in the future.

In the map below, areas with availability problems are in red. The yellow areas have mainly adoption problems. The green area holds 41% of the population. The yellow area holds 26% and the red area 32%.



Digital literacy is also important for:

Chatham economic development plans. Support of tech industries, such as the new manufacturing installation in the Triangle Innovation Point and Chatham-Siler City Advanced Manufacturing site would also like to attract tech businesses such as cybersecurity and biotech, and other businesses that will populate Chatham Park. If Chatham endeavors to maximize the number of those jobs filled by Chatham residents, digital literacy must be supported by schools and colleges, but also with new programs to help boost many more of adult residents into tech jobs.

Farming. Digital technology is making its way into agriculture. Robots, sensors, drones, imaging, as well as digital business tech will become the necessary knowledge to stay competitive.

Telehealth. Telehealth is impacting everyone and is enhancing overall healthcare. Telehealth is a relatively new set of tools that requires special digital literacy in a special population. Digital equity will help us to also improve our ability to support healthcare equity and access to telehealth services.

Aging-in-Place. With 1/3 of Chatham's current population age 60 or older, health and general wellness monitoring is very important. There is a huge and growing need for aging-in-place support that can be built upon a digital broadband infrastructure. Family, friends, and organizations can check on the wellness of seniors without travel and without intruding. Also, the lack of mobility in many older residents could be compensated to some degree with access to digital communications and digital-based services.

IMPLEMENTATION

Strategies

Coordination and Governance

- Set up a **Digital Inclusion Steering Team** of County employees, CCCC, Library, CCS, and diverse nonprofit partners (representing immigrants, seniors, farmers, rural residents, and new economic development) to set intermediate targets, prepare and communicate strategy, seek grants, plan, budget, and help prioritize.
- The number, scale, and timing of the challenges in Chatham require a substantial level of effort and coordination. Durham has a position "[Digital Inclusion Program Manager](#)", located within their Technology Solutions Department. Charlotte has a [Digital Inclusion Project Manager](#), as part of their Digital Inclusion Steering Team. Chatham should have a Digital Inclusion Program Manager who would oversee all of the following programs.
- Hire a Digital Literacy Training Coordinator (see Adoption, below).
- Hire a Digital Navigator Corps professional (see Adoption, below).

Availability

- When the FCC fabric location data maps are available, the County should validate these maps with known location data. Work with the State Broadband Office and/or GIS experts. Thoroughly vet the location data to ensure no household or small business locations that would be served by normal internet providers are missing.
- Thoroughly challenge the FCC location maps populated with ISP data. Use multiple county-wide communications platforms (e.g. property tax and water bill database) to blanket all residents, ensuring that everyone who does not have the possibility of internet to service self-report their address as being unserved. Explain that funding for internet construction will be available from the Federal Government only for a limited time. Those that self-report should be

checked and advised if service is actually available. The truly unserved can be included in the challenge process. These checks should include both wired locations and wireless (cellular) coverage and speeds. ISPs (wired and wireless) have a history of overstating their service speeds, according to many anecdotes in our area.

- The same communication should encourage residents who *have* internet service to take the [NC Broadband Survey](#), which will report speeds and other information useful in determining the underserved residents. This covers fixed broadband and wireless locations.
- Another communication channel may be health professionals and telehealth providers.
- All these communications should be provided in Spanish, also.
- Encourage NC Broadband office to provide their survey in Spanish also.
- Create flyers and posters for these programs for public buildings and for printing by private businesses.
- The Steering Team should coordinate the analysis of the full data set.
- The Steering Team should coordinate grant offerings for any unserved and underserved areas where plans do not exist for the next 3 years.
- The County should work with the major providers to understand when internet will be available in unserved areas. Where service will be delayed beyond 3 years, fixed wireless providers should be encouraged, at least as an intermediate solution, with grant funding if necessary.

Access

- Multiple forms of communication should be used to advise residents of the ACP and Lifeline discount programs for low-income residents that have internet available.
- The immigrant population would benefit from a parallel effort to provide affordable service and/or devices, if they are eligible based on income but not eligible based on their immigration status.
- Fund hotspots for K-12 student based on income for those in underserved or unserved areas.
- Fund hotspots for CCCC students based on income for those in underserved or unserved areas.
- Use the Chatham County School system to survey and locate homes with no computers (other than the school computer) for acceptance into, for example, the Kramden Institute Tech Scholars (free computer) program.
- Use multiple means of advertising to promote volunteering at the Kramden Institute and donation of unused computer equipment.
- It is likely that the demand will outstrip the supply of donated computers available from Kramden, and if this is to be a fundamental program in Chatham, similar sources need to be located, or supply using new, inexpensive computers (e.g. Intel NUC computers).
- Provide free exterior Wi-Fi and power at every Chatham County School and Library. With those locations and the Libraries, there should be no location more than a 15 minute drive from a free Wi-Fi location.
- Consider use of portable satellite technology to provide hotspots in rural areas (e.g. [Rural Internet Last Mile Solutions & Emergency Telecom by Tekniam](#)).

- Aside from the Libraries, create additional “day-access” locations near low-income, higher population areas that provide computer and internet access, for example, in affordable-housing complexes and in or near food-banks, public venues, and some day-care providers. Perhaps cost-share in these locations on the condition that they provide free Wi-Fi and computer access to their patrons.
- Create a list of free Wi-Fi and free computer access locations on the county website and update once every quarter.
- Digital Navigators could have helpdesk “office hours” at these locations.
- Digital Navigators could first be used to assist signing up for discount programs.

Adoption

In most ways, adoption of digital tech into people’s lives is by far the most complex and requires the longest duration efforts, but will have the largest payoff.

Digital Literacy - Training

- Hire a full time coordinator for the efforts that provide low-cost or free training that lead to certification (e.g. Northstar, Microsoft Digital Literacy), specific programs for the target audience (e.g. farming tech, telehealth, ESL programs) and individual support programs (e.g. Digital Navigator), especially:
 - Immigrants (esp. Siler City)
 - Seniors (esp. in the northeast in and around Farrington Village)
 - Farmers
 - Rural residents
- The coordinator would work with nonprofits, the Chatham libraries, for-profit businesses, and CCCC to build grant programs for digital literacy training and oversee them.
- The coordinator would work with Chatham County Public Health and Chatham County Council on Aging to establish cost effective telehealth and aging-in-place programs which would depend on availability an access, but also specialized digital literacy training.
- Aside from grant funding, seek participation by local businesses, perhaps in exchange for advertising.
- Maximize interest by offering food (e.g. food truck), child-minding, or gift cards.
- Separately, the Steering Team would work with private businesses in the county to build workforce development programs around skills for cybersecurity and manufacturing, extending those efforts back into the school and community college system.
- Another way to support workforce development while also making Chatham more self-reliant in broadband is by [partnering with broadband providers](#) to train Chatham residents in wireless and fiber broadband technologies. For example, the providers could be encouraged to set up training and apprenticeships so Chatham residents become [certified Fiber Optic Technicians](#).
- Support digital education beyond the basics with annual events such as a Chatham County App Contest. This could have divisions for various age groups with prizes and advertising provided by local businesses. It would be best if widely promoted by the Chatham County School System. The structure could copy the existing [Congressional App Challenge](#). Participants could go on to

compete in that event if the Chatham event were held between December and June. Organizations such as Innovate Chatham might be easily engaged to support this.

- A separate annual event for adults could be developed, perhaps a [hackathon](#) style event created to solve particular tech problems in the County. Code For America has [guidance](#) for such events, and a [playbook](#). Organizations such as Innovate Carolina or NC State might be easily engaged to support this.

Digital Literacy- Individual Support

- Build a Digital Navigator Corps. This role is so new that there is no data on the number of Digital Navigators recommended. A good starting goal would be about 1 per 1000 residents, with a first year goal of half that. So, 40 in the first year for Chatham.
- This can be constructed of:
 - Volunteers. Tech-savvy adults that are fully back-ground checked and trained.
 - Cross-trained county government staff. Specifically those that work with clients needing digital services.
 - High School Students. Could be an addition to the CTE program, where students work toward a certification as Digital Navigators and are engaged as interns by the county government.
 - Paid Digital Navigators. Use existing Digital Navigators to train volunteers and work with CCS to build a curriculum for training Digital Navigators.
 - NC Cooperative Extension Agents could also be trained and support primarily the agricultural areas.
 - Library staff.
- Office hours for Navigators could be held at libraries, schools, as well as public event spaces like 79°West and The Alliance. Perhaps this could be extended also at affordable-housing complexes and in or near food-banks, public venues, and some day-care providers, provided these locations have sufficient broadband availability.

Timeline

		2023				2024			
Timeline		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Governance									
	Form Digital Inclusion Steering Team								
	Digital Inclusion Program Manager								
Availability									
	Vet FCC location data								
	Survey Chatham residents								
	Vet FCC ISP data on location fabric								
	Vet speed and reliability data								
	Grants for unserved and underserved areas								
Access									
	Advertise ACP and Lifeline								
	Parallel effort for migrants								
	Fund hotspots								
	Free home computers for students								
	Exterior Wi-Fi and Power at schools and libraries								
	Day access locations								
Adoption									
	Hire Digital Literacy Training Coordinator								
	Workforce development training coordination								
	Workforce development programs								
	Chatham County App Contest								
	Hackathon or similar adult event								
	Build Digital Navigator Corp								