2020 Broadband Report

Georgia Department of Community Affairs

STATE OF GEORGIA

OFFICE OF THE GOVERNOR

ATLANTA 30334-0900

Brian P. Kemp
GOVERNOR

September 16, 2020

My fellow Georgians –

In 2020, high-speed internet access is vital to education, healthcare, our economy, and quality of life. To appreciate the importance of connectivity, look no further than the coronavirus pandemic and how we have all had to adapt. We rely on broadband to be connected. Unfortunately, reliable service is not available to all Georgians.

Broadband is a significant challenge in rural parts of our state. I applaud the efforts of the legislature to highlight this need. I am proud of the Georgia Broadband program and the team's efforts to engage providers and communities, to identify areas most in need, to help local governments eliminate barriers to investment, and to support public-private partnership, where public funding is available.

Private investment is certainly key to resolving the broadband need. Today, 43 of 44 retail providers who offer broadband in our state, are supporting the Georgia Broadband deployment initiative. I appreciate the commitment and contributions of these providers.

The aim of our broadband program is to coordinate resources and support activities that will provide service to unserved Georgians. This report details ongoing efforts, including the initial results of a ground-breaking, location-based map and technical assistance that has enabled several successful federal grant applications.

I appreciate the continued commitment of all involved in pursuit of a common goal: to ensure that all Georgians – wherever they may live – have access to resources to learn, grow, contribute, and thrive in the 21st century.

Thanks for your interest in our broadband initiatives.

Sincerely,

Brian P. Kemp

The Georgia Broadband program is a collaborative effort led by the Department of Community Affairs (DCA) and Georgia Technology Authority (GTA). The program was launched in response to 2018 legislation which prescribed a framework to encourage rural broadband investment. Since inception, the program has implemented the statutory initiatives, engaged an active group of stakeholders (including private providers and community leaders), provided extensive technical project assistance, and unveiled a first-of-its-kind, location-based Broadband Availability Map to precisely identify the unserved parts of the state.

To date, six communities have earned the Broadband Ready Community designation. Many others have engaged Georgia Broadband for assistance pursuing federal subsidies and/or pursuing local initiatives. Over the past year, a number of projects have been announced – representing public-private investments to deploy high-speed internet to unserved Georgians. The early momentum is positive, but the challenge is significant – more than 507,000 unserved locations, based on our recently-launched maps.

In 2020, the coronavirus presented additional challenge, as well as a stark reminder about the importance of our work. The Georgia Broadband team pivoted to support the Department of Education (DOE) in its efforts to ensure students had access to the necessary bandwidth for remote learning. This is one example of the COVID-related inter-agency collaboration, which has occurred alongside the ongoing, long-range efforts of this team.

We are pleased to submit this annual report of the Georgia Broadband program, highlighting activities and accomplishments of FY 2020. This work represents collaborative effort between DCA, GTA, as well as many other state agencies such as the Georgia Department of Transportation (GDOT) and DOE. The contributions of our Advisory Committee – AT&T, Comcast, Georgia EMC, Georgia Cable Association, Georgia Telecom Association, Windstream, and the associations of counties, municipalities, and local development authorities – cannot be understated. Further, without the dedication and outstanding work of UGA's Carl Vinson Institute of Government and data from Georgia's retail broadband providers, the Georgia Broadband Availability Map would not be possible.

Sincerely,

G. Christopher Nunn
Commissioner, DCA

Calvin Rhodes
Executive Director, GTA

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The following common definitions are incorporated in Georgia statute and used throughout this report:

'Broadband services' – a wired or wireless terrestrial service with capabilities to transmit no less than 25 megabits per second in the downstream direction and at least 3 megabits per second in the upstream direction

'Broadband services provider' – any provider of broadband services or a public utility or any other person or entity that builds or owns a broadband network project

'Location' – any building that has a residential or business purpose

'Political subdivision' – a county, municipal corporation, consolidated government, or local government

'Unserved area' – a census block in which broadband services are not available to 20 percent or more of the locations

EXECUTIVE SUMMARY

Broadband is critical infrastructure in the 21st century. Now, more than ever, Georgians are keenly aware of the importance of high-speed broadband and the fact that connectivity is vital to everyday life. Fast, reliable internet is needed for education, healthcare, economic vitality, and basic quality of life.

The mission of the Georgia Broadband program is to promote the expansion and deployment of high-speed broadband to all Georgians. With 10.1% of the state currently unserved, Georgia Broadband is focused on issues of connectivity and accessibility, as well as broadband adoption and digital literacy. Ongoing efforts include a unique, location-level mapping initiative – a first in the nation – along with extensive efforts to provide coordination and technical assistance for communities and private providers.

Public-private partnership will be key to accomplishing the goal of serving unserved Georgians. It is not the role of government to build or compete with the private sector. However, in rural, less populated parts of our state, the cost to deploy broadband presents a barrier for many providers. The broadband program continues to develop tools and capabilities to support public-private partnerships and address this critical need.

Mapping

A significant new tool in the state's broadband arsenal is the Georgia Broadband Availability Map. To date, users have relied upon Federal Communications Commission (FCC) maps; however, Georgia's location-level mapping program is unique and identifies 12,316 unserved census blocks that were previously deemed "served" by the FCC. More importantly, there are 507,341 homes and businesses in the state that currently lack access to high speed broadband.

The 2020 broadband map highlights a significant digital divide between rural Georgia and metropolitan regions. In total, 70% of Georgia's unserved locations are in rural areas, and 31% of rural Georgia is unserved. This data represents a stark comparison to FCC maps and should be useful in targeting broadband investment. The map is also beneficial to pursuit of federal and other public funding, as well as tracking progress of broadband deployment.

Technical Assistance and Available Funding

Eliminating barriers to deployment is critical to broadband investment. At the community level, it is important to streamline processes and be prepared to partner with providers. The Georgia Broadband program – with active support from an Advisory Committee of providers and community representatives – has developed model ordinances and other resources that can be implemented to demonstrate a community is Broadband Ready. Six Georgia communities have been designated Broadband Ready Communities in 2020.

Cost is a significant barrier to rural broadband deployment. While private investment is certainly key, total costs are prohibitive in less densely populated areas that have fewer potential subscribers. Given the public interest, federal, state, and local funding programs have been developed to incentivize broadband investment, particularly in rural areas. The Georgia Broadband program supports these funding initiatives by providing technical grant assistance and coordinating with various funding partners.

Emergency Internet and COVID Response

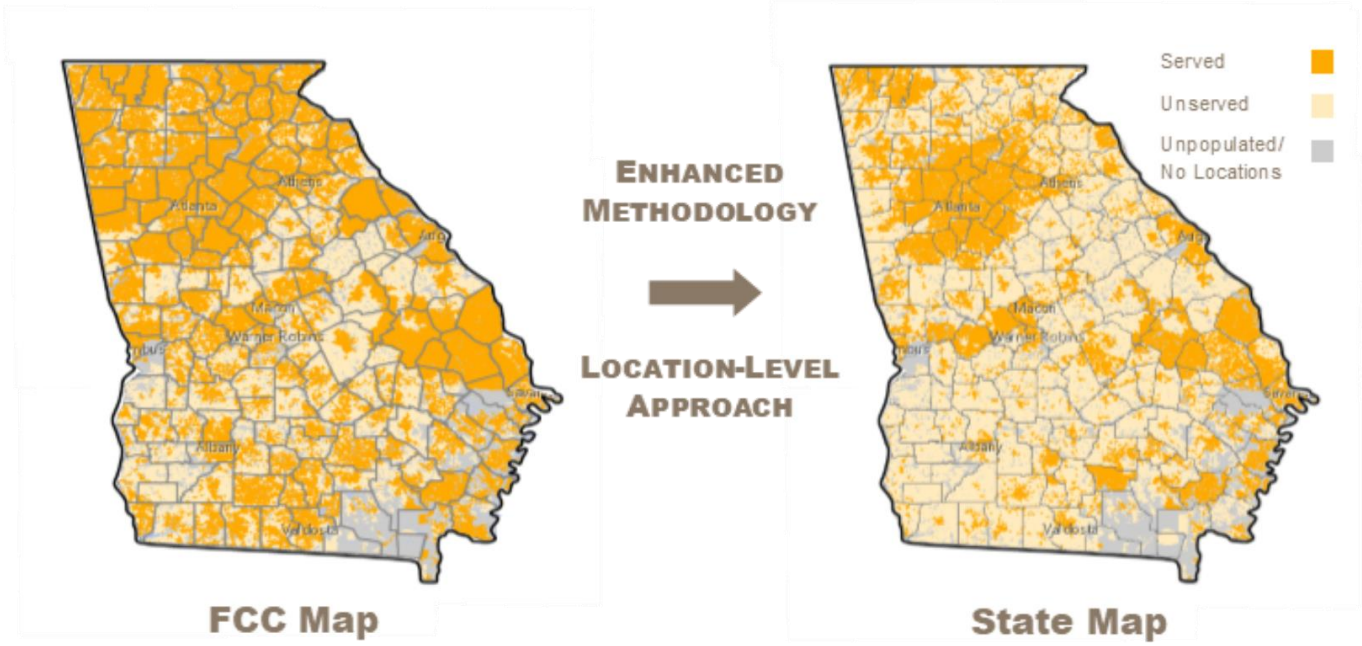
The global coronavirus pandemic exacerbated the demand for broadband, which is vital to virtual learning and telecommuting, telehealth, and other aspects of economic activity and social interaction. Immediately, the Georgia Broadband program published a statewide map of Wi-Fi hotspot locations available for public use to support education and telehealth. Subsequently, the broadband team has continued to work with the Department of Education and participate in the Governor's K-12 Restart Working Group on Connectivity and Devices to support local school districts.

Plans and Next Steps

Georgia Broadband continues to target ways to reduce deployment barriers at the state and local level. Nearly a dozen State agencies are working together to address various aspects of broadband deployment. Meanwhile, the broadband team continues to focus on priorities related to education, healthcare, small business, and quality of life.

The Georgia Broadband team, led by Executive Director Deana Perry, is supported by an active Broadband Advisory Council, made up of provider representatives from AT&T, Comcast, Georgia EMC, the Georgia Cable Association, the Georgia Telecom Association, and Windstream, as well as representatives from the Association of County Commissioners of Georgia (ACCG), the Georgia Economic Developers Association (GEDA), and the Georgia Municipal Association (GMA). The support of these partners has – and will continue to be – vital to delivering broadband solutions to serve all Georgians.

GEORGIA BROADBAND AT A GLANCE



70%
of unserved Georgia locations are rural

31%
of rural Georgia is unserved

26
rural counties have >50% unserved

USDA ReConnect investment

$22 million
(4 projects)

6
Broadband Ready Communities

10
USDA applications (requesting $115 million)

Disclaimer: Data as of June 30, 2020

FY20 BROADBAND DEPLOYMENT UPDATE

Statewide Broadband Mapping

Mapping is key to identifying who has access to broadband and who does not. Accurate maps help to steer private investment, to prioritize limited public broadband funds, and to prevent duplicative investment, or overbuilding. In the last 20 years, federal broadband maps have evolved from zip code to census blocks reports, providing increasing clarity about the extent of the digital divide. Still, the complicated nature of national broadband mapping has created the need for more robust data at the state and local level.

Purpose

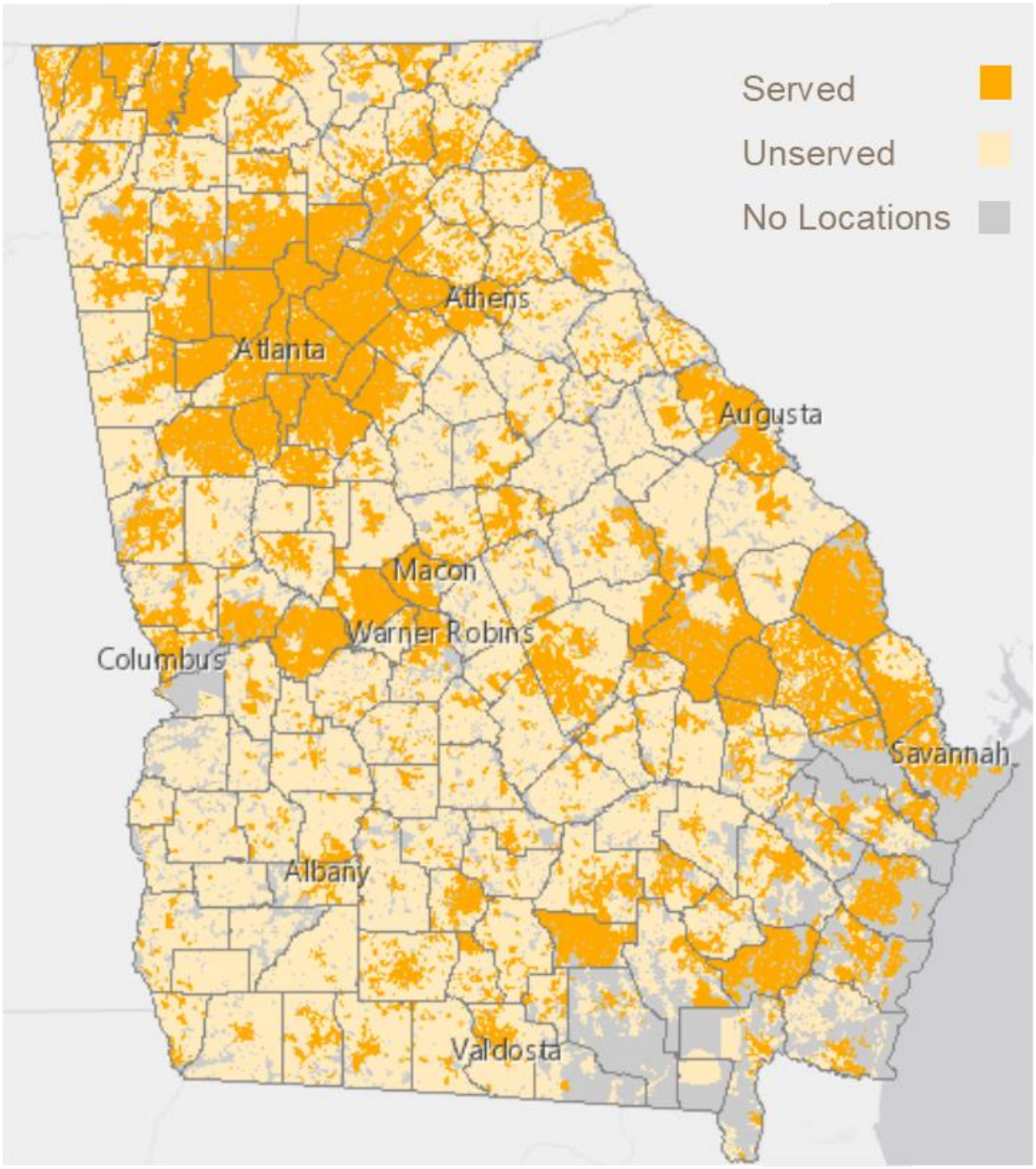
Georgia's broadband map utilizes a location-level methodology that precisely maps the availability of broadband services to every location – e.g., home, business – in the state. Unlike current FCC methodology, Georgia's enhanced map categorizes census blocks as served or unserved based upon every location in the census block. These maps more effectively support and promote broadband investment in unserved areas of the state, particularly rural areas.

Enhanced Mapping Methodology

	Definition of "Served" Census Blocks	# of "Unserved" Census Blocks	# of "Unserved" Locations
FCC	*At least one location* in census block has service	38,412	N/A
Georgia	*At least 80% of locations* in census block have service	50,728	507,341

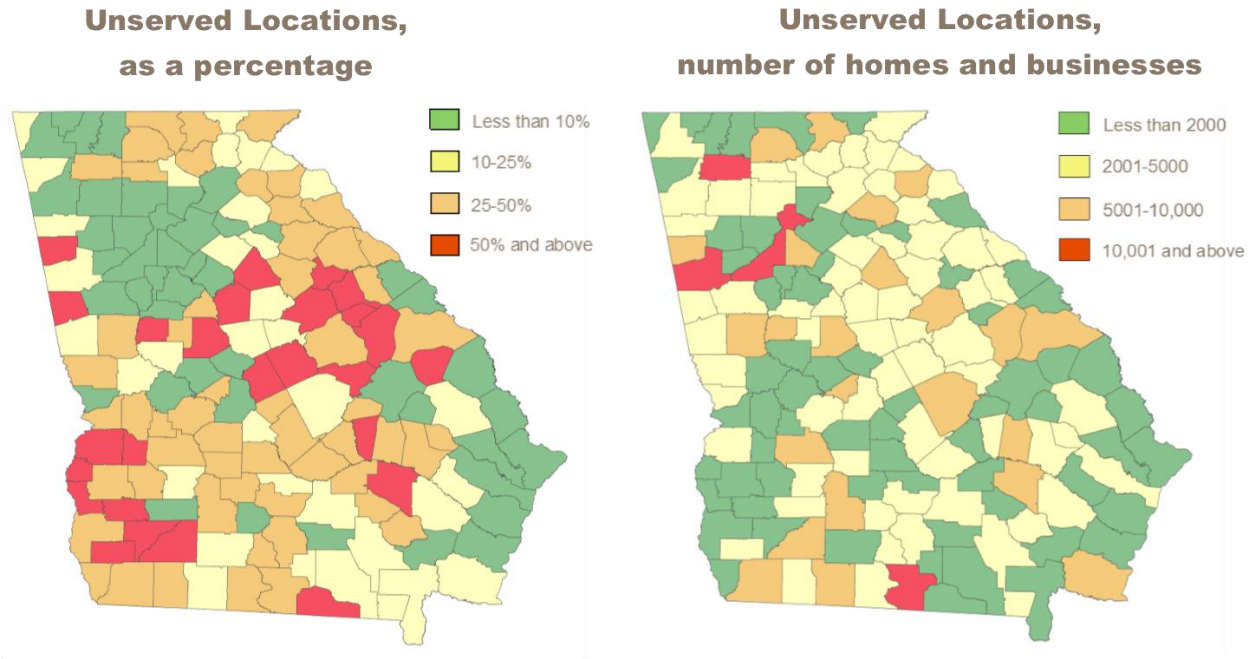
Georgia Broadband Availability Map

Georgia's location-based mapping methodology demonstrates significantly more unserved territory, particularly in rural parts of the state. In total, 507,341 locations and 50,728 census blocks are unserved based on the 2020 broadband map.



Note: Data as of June 10, 2020

In comparison, the results of Georgia's mapping methodology and current FCC methodology show stark differences. Though understandable due to the methodologies, these differences are meaningful; this is especially true for Georgians who live and work in the 255,067 unserved locations that FCC considers served. The mapping results are eye-opening and have stimulated provider discussion related to strategic investment.



Source: Georgia Broadband office

Expected Uses of the Broadband Map

- To accurately identify unserved areas – both residential and business locations – in order stimulate private investment and prioritize limited public funding;
- To assist local communities, private providers, and other state agencies who seek to address the issue of broadband connectivity;
- To improve public policy and funding decisions with more precise data;
- To support cost analysis, deployment, and other initiatives aimed at bridging the digital divide;
- To prevent use of public funds to overbuild, or duplicate service; and
- To provide a baseline for evaluating progress of broadband deployment to serve the unserved.

Acknowledgements

Broadband leaders from across the country have watched Georgia's mapping effort with much interest. Initial results are the product of hard work and collaboration. A dedicated team from the Carl Vinson Institute of Government worked for 18 months to aggregate data, develop and refine the methodology, and construct the maps. This effort would not have been possible without the support and collaboration of broadband providers. All total, 43 of 44 retail providers in the state provided data for this effort.

Broadband Mapping Partners

- Alma Telco
- AT&T
- Blue Ridge EMC
- Brantley Telcom
- Bulloch Net
- CenturyLink
- Charter
- Chattanooga EPB
- Chickamauga/Fail
- Citizens Tel
- City of Blakely
- City of Elberton
- City of Monroe
- City of Thomasville
- Comcast
- Comsouth
- Consolidated
- Cox
- Dalton Utilities
- Darian Tel
- Ellijay Tel
- EPB Net
- Frontier Com
- Glenwood Tel GTC
- Habersham EMC
- Hart Tel
- Mediacom
- North Georgia Network
- Pembroke Tel
- Pineland Tel
- Plant Tel
- Planters Tel
- Progressive Rural
- Public Service Tel
- Relyant Com
- Ringgold Tel
- TDS Tel
- Trenton Tel
- TruVista
- USConnect
- Vyve
- Windstream
- WOW

Technical Assistance

Georgia Broadband actively encourages public-private partnerships that support the mission of providing broadband service to unserved Georgians. Technical assistance includes support for local initiatives, pursuit of federal funding, and encouraging private investment.

Locally Driven Activities

Designations

Broadband Ready Community

This designation recognizes communities who have taken proactive steps to demonstrate they are "expansion ready." Internet service providers appreciate that designated communities have worked to reduce obstacles to infrastructure investment, such as streamlining right of way and permitting processes.

Broadband Ready Communities:

- Oglethorpe County
- City of Woodbury
- Evans County
- City of Claxton
- Banks County
- Lumpkin County

Evans County Broadband Ready Designation at the Georgia State Capitol with Governor Kemp

Oglethorpe County was Georgia's first Broadband Ready Community

The City of Claxton and Evans County are both Broadband Ready

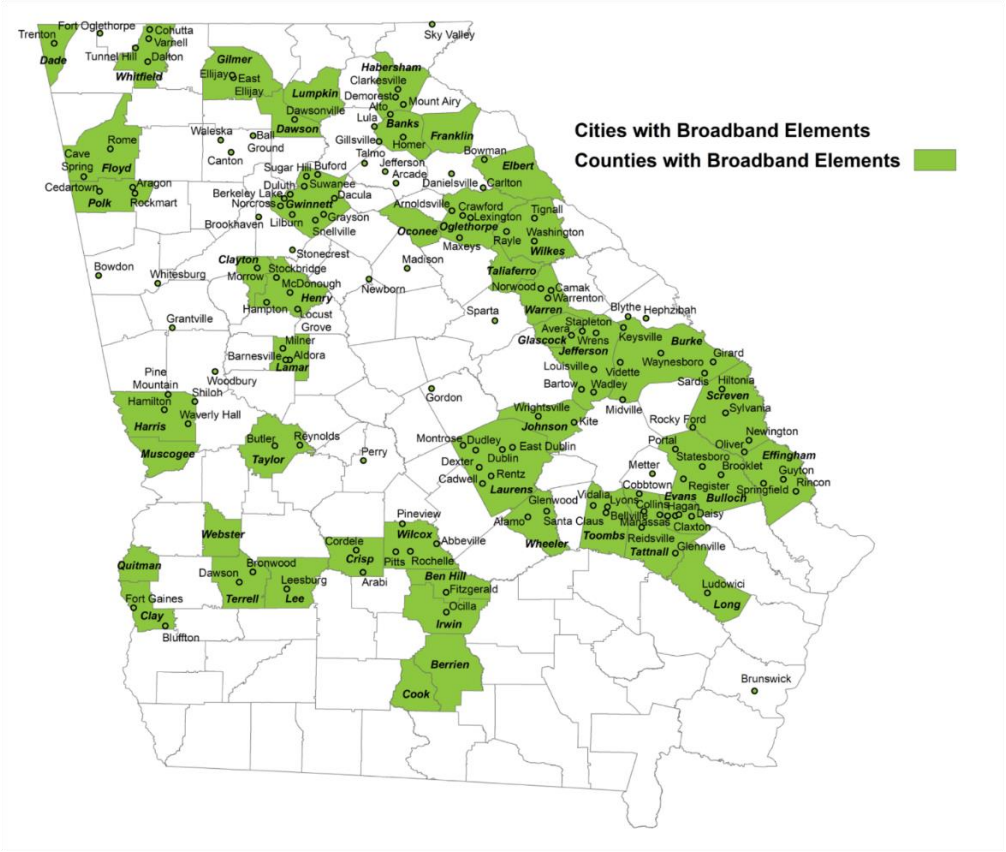
Broadband Ready Site

In conjunction with the Department of Economic Development, the Georgia Broadband team has developed rules and processes for the Georgia Broadband Ready Site designation. This designation is designed to distinguish sites that offer exceptional broadband service at a rate higher than 1+ Gbps and encourage economic development and attract technology-enabled growth in Georgia. Fast and reliable service varies based on need, and certain industry, healthcare, and other institutional users require such high speeds.

The process and application for the Broadband Ready Site designation can be found on the Georgia Broadband website at broadband.georgia.gov. Upon receipt of the designation, the Department of Economic Development will promote such facilities and developments as local community assets.

Broadband Planning

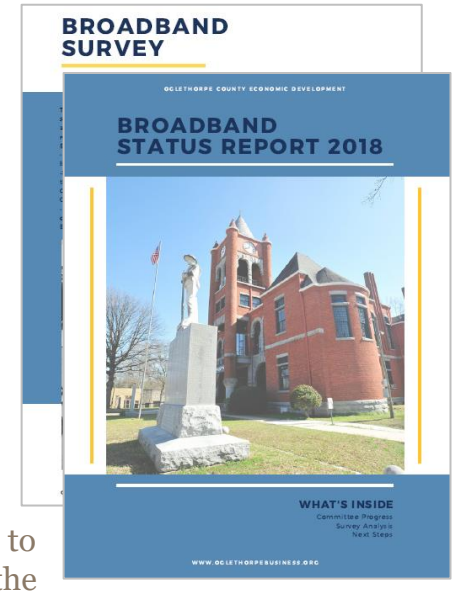
Through formalizing connectivity goals in a community's comprehensive plan, local leaders must assess their current state and develop commitment to pursuing broadband access for the community. Approximately 200 local jurisdictions across the state have adopted a broadband services element in their comprehensive plans.



Note: Data as of June 10, 2020

Local Funding

Oglethorpe County



Oglethorpe County leaders have shown exemplary commitment to improving broadband access in their community. Recognizing that 48% of the locations in Oglethorpe County (3.604 homes and businesses) are unserved, the County began by surveying more than 700 of the county's 15,000 residents to assess levels of satisfaction and willingness to pay more for faster, more reliable service. The survey revealed more than 80% of residents were dissatisfied and 88% of residents were willing to pay more.

With support from Georgia Broadband, the County achieved the distinction of being recognized as the state's first Broadband Ready Community. This involved much planning and local coordination. In addition to incorporating broadband into the comprehensive plan, the community adopted a model ordinance to support broadband deployment. The Oglethorpe County Economic Development Authority ultimately committed $350,000 for the purpose of expanding broadband access.

This public investment and local initiative led to a partnership with a wireless internet provider who committed to serve at least 1,000 households throughout the community. To date, Oglethorpe County has expended 2/3 of the initial for $350,000 for Phase I deployment.

Monroe County

In this growing county of more than 27,500 people, 52% of locations (6,604 total) lack access to broadband. Furthermore, area DSL providers began to regress in their service and coverage area. Local elected officials determined that something must be done to stimulate private investment.

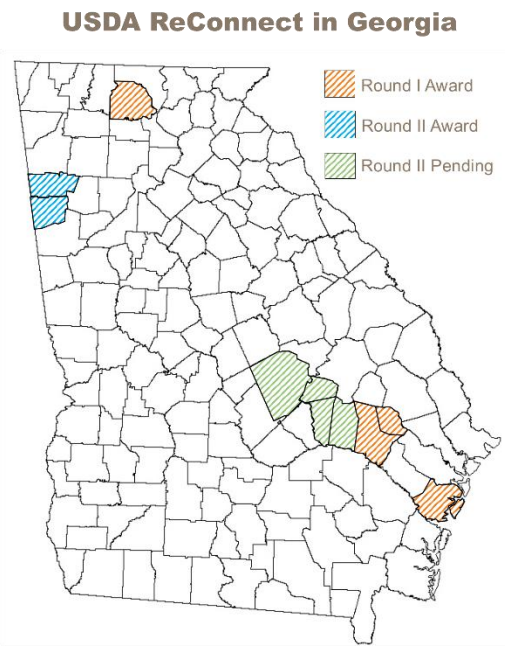
After much discussion, the Monroe County Commission voted to devote $700,000 in SPLOST funds to broadband expansion. The intent is to use these local funds to leverage additional public funding and encourage private investment to build high-speed broadband in the community.

Based on the local commitment and in conjunction with USDA, the Georgia Broadband team hosted a regional symposium in Forsyth in December. In addition to highlighting available federal funds that locals might leverage, the purpose of this workshop was to provide assistance with pursuing a USDA ReConnect grant.

Federal Funding Assistance

USDA ReConnect

The ReConnect program is designed to bring internet service to parts of rural America that have been traditionally hard to reach. This program has appropriated over $1.2 billion to stimulate private investment by providing grants, loans, or grant/loan combinations to entities seeking to deploy broadband services in unserved or severely underserved regions.



At the inception of the ReConnect program, Georgia Broadband immediately engaged USDA to help educate providers throughout the state. During the initial application phase, the Georgia team co-hosted an informational workshop with USDA. To date, the team has supported a total of 10 applications, including providing essential letters of support and other assistance, as requested.

In ReConnect Round I, Georgia had 3 successful applicants:

Ellijay Telephone Company received a $4.4 million grant to provide high-speed service to unserved regions of Gilmer County.

Darien Telephone Company received a $1 million grant to expand high-speed service to underserved households and businesses in McIntosh County.

Pembroke Telephone Company received a $4 million combination grant-loan to build a fiber-to-the-home (FTTH) network to provide high-speed internet to residents, businesses, and farms in Evans County.

USDA ReConnect in Georgia Round I & II

- 10 grant applications ($115 million in grant requests)
- 4 successful applications
- $22 million USDA investment
- 5,787 households served

In ReConnect Round II, Georgia supported 3 applications.

DoveTel Communications received a $12.5 million grant to serve 2,600 households with fiber-to-the-home services in portions of Heard and Carroll County.

"It's great to see private companies invest in broadband infrastructure. The government can't be the solution to every problem, but if you can put public and private investment together, it goes a long way to addressing the digital divide"
- State Senator Steve Gooch

FCC Rural Digital Opportunity Fund (RDOF)

The FCC is launching a new broadband program: the Rural Digital Opportunity Fund (RDOF). This program will direct up to $20.4 billion nationally over 10 years to improve broadband in rural areas by providing a subsidy to eligible providers who are successful in a reverse auction to come in late 2020. Nationally, there are over six million homes and businesses eligible for bidding. In Georgia, the FCC has identified 189,042 eligible locations.

Community and small business leaders celebrated Ellijay Telephone Company's USDA ReConnect award

Based on the Georgia Broadband mapping, there are 255,067 unserved locations in Georgia that FCC methodology considers "served." It is too early to determine the impact of RDOF on rural broadband investment; however, these locations are not eligible for any funding. Earlier this year, the Georgia Broadband team met with FCC Chairman Pai to discuss our state mapping efforts and ability to support the FCC program. Georgia Broadband will monitor the progress of RDOF and continue to work with the FCC to encourage integration of Georgia's superior location-based methodology to determine eligibility.

CARES Act

In response to the global coronavirus pandemic, Congress passed the CARES Act, which includes substantial funding for COVID-19 related expenses. Broadband service is included in several aspects of CARES funding, and the Georgia Broadband team is working closely with various partners in this regard.

For example, the USDA Rural Utilities Service received $125 million as a result of CARES. This includes an additional $100 million appropriation to Round II of USDA ReConnect (bringing the total pool of funds to $600 million), and $25 million for USDA's Distance Learning and Telemedicine program. Similarly, the FCC received an additional $200 million for the Rural Health Care Program. This program enables broadband subsidies for healthcare providers.

The state has been awarded an initial allocation of $60 million in CDBG funding through HUD. The Broadband team is working closely with the CDBG team at the Department of Community Affairs to support use of these funds to address connectivity. DCA is making progress with HUD and anticipates that broadband will be determined an eligible use for these federal funds.

The Georgia Department of Education received $411 million from the Education Stabilization Fund to respond to the impact of coronavirus on our schools. These funds were distributed to 215 school districts, charter schools, & academies, and can be used for a variety of efforts including distance learning. Georgia Broadband continues to work with DOE and develop tools to support local broadband investment.

Private Investment

Addressing the digital divide is complex and expensive. While some solutions may necessitate public support, effective solutions are certain to the led by the private sector. The Georgia Broadband deployment initiative strives to encourage private investment and facilitate public-private partnerships, where necessary. Broadband providers continue to invest in their networks throughout the state. Examples of recent investments include:

Kinetic by Windstream announced a $1.5 million rural broadband investment during the House Rural Development Council meeting in August. This investment towards the creation of a "Gig City" in Moultrie is expected to serve more than 10,000 households in Colquitt County, providing ultra-fast 1 gigabit Internet service.

> "Windstream's investment in Moultrie is exactly the kind of private investment that will enhance access to healthcare, improve education, stimulate economic development and definitely improve quality of life"
>
> – State Representative Sam Watson

Comcast announced a $9 million investment in Haralson and Carroll Counties. The objective is to bring Comcast's entire suite of Xfinity services to nearly 8,000 homes and business that previously had no access to broadband service. Areas to be served include the cities of Tallapoosa, Waco, Mount Zion, and Whitesburg.

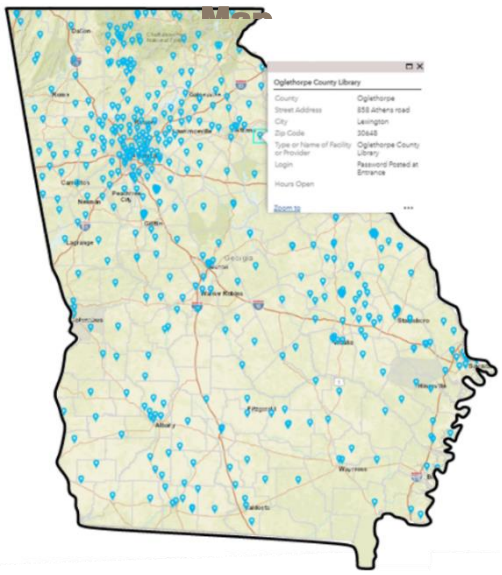
Comcast broadband announcement in Tallapoosa, GA

COVID-19 Response

The global coronavirus pandemic has truly emphasized the importance of connectivity. As a result of stay-at-home mandates and school closures, Georgian's were asked to embrace remote learning and teleworking. In response to the greater need for internet resources, the Georgia Broadband team collaborated with multiple agencies, including the Department of Education, State Libraries, University System of Georgia, Technical College System of Georgia and Governor's Office of Student Achievement to strategize connectivity solutions during the pandemic.

In response to connectivity needs across the state, the Broadband office launched an informational webpage to assist those with no internet access at home. Following a state-wide inventory of free wi-fi locations, an interactive map of open Wi-Fi hotspots was developed. In addition, the Broadband office worked with the Advisory Committee to collect information regarding low cost internet options. This information was provided on the informational webpage to support unserved Georgians.

Public Wi-Fi Locations



As a result of the CARES Act, Georgia's K-12 school districts received $411 million in Education Stabilization Funds. The Broadband office worked with the Department of Education to develop guidance for utilizing CARES Funds to support remote learning via device access, internet connectivity, and affordability. Leveraging relationships and expertise from the Georgia Technology Authority (GTA) and Department of Administrative Services (DOAS), the broadband program helped negotiate internet access and devices on state contracts, accounting for up to 50% cost savings for solutions to serve student households.

AT&T Donates 448 Wi-Fi Rangers to 36 Georgia School Districts

Governor Brian Kemp announced a donation from AT&T to the Georgia Department of Education, Foundation for Public Education. The donation was used to deploy 448 Wi-Fi Rangers to 36 school districts, filling the internet connectivity gaps for thousands of students in rural areas and tripling the number of Wi-Fi buses in the state.

"AT&T is doing our state a great service, helping us take a step forward to address the lack of available broadband connectivity for Georgia students," said Governor Kemp. "This issue has come into sharp focus during the COVID-19 pandemic as so many rural students struggle to continue remote learning without internet access. We thank AT&T for recognizing that the children affected by this lack of connectivity are the young people who represent our future. Their generosity will leave a lasting legacy."

Reduction of Deployment Barriers

Legislation

A number of statutory measures have attempted to make it easier for providers to invest in unserved areas. These initiatives include:

- Senate Bill 2 authorized electric membership cooperatives (EMCs) to provide broadband services. With passage of this bill, EMCs are newly authorized to apply for loans, grants, and other financing, as well as to enter into contracts and agreements for purposes of planning, provisioning, and maintaining broadband services in Georgia. SB2 also permits the use of electric easements for broadband services.
- Senate Bill 17 authorized telephone cooperatives and affiliates to provide broadband services as well. Similar to SB2, this bill newly authorized telephone cooperatives to pursue financing and agreements for the purposes of providing broadband services.
- Senate Bill 66 streamlined broadband deployment in the public right-of-way. This bill was instrumental to allowing USDA ReConnect applicants to receive state activity points in the competitive scoring process.

The Broadband office continues to monitor pending legislation that might support the deployment of broadband and encourage investment in our state.

Other Enabling Initiatives

Analysis of State Property

State Properties Commission (SPC), with assistance from GTA, is conducting an analysis of state properties that may be used to expand broadband access in unserved areas. The assessment is designed to inventory available state properties and identify public options that might be leveraged to provide broadband service, particularly in unserved areas. Furthermore, the analysis will consider partnership criteria and requirements and will offer recommendations for pursuit of public-private partnerships.

Broadband Installation in State Rights-of-Way

As one the five state agencies given responsibilities in 2018's ACE Act, The Georgia Department of Transportation is a key member of the Inter-Agency Taskforce. In consultation with GTA, GDOT is in the process of planning for long-term policy regarding the use of rights of way on interstate highways and state-owned roads for the deployment and maintenance of broadband services and other emerging communications technologies.

Upon completion of these planning efforts, GDOT will execute its authority provided in the ACE Act to promote and encourage the use of such rights of way to the extent feasible and prudent. All such planning and execution will be done in accordance with Federal laws and rules, including those established by FHWA and the 2018 Mobile Now Act, which is in the process of being implemented.

Environmental Permitting Requirements

Georgia's Environmental Protection Division (EPD) has worked closely with the Georgia Broadband team to streamline processes that impact broadband installation, and specifically two requirements that are essential to the USDA ReConnect program. The first issue is a permit required by the National Pollutant Discharge Elimination System (NPDES), related to storm water discharge associated with infrastructure construction. This permit is required for infrastructure construction that involves land disturbance of greater than 1 acre. The second is the Georgia Erosion and Sedimentation Act of 1975 (E&S Act), which establishes a 25-foot to 50-foot buffer on all state waterways.

Due to the limited land disturbance associated with most methods of buried utility installation, EPD added a permit exemption for the E&S Act which is available to fiber installation and broadband providers who satisfy necessary conditions. After evaluation of basic broadband requirements, EPD anticipates much of the work related to broadband installation should not require permitting. Elimination of this step should expedite the process, and the Broadband Deployment team will continue to collaborate with EPD to promote expedited environmental review.

Connectivity Focus Areas

Connectivity is certainly essential for a variety of purposes, including education, healthcare, business, and quality of life. The definition of "fast and reliable" varies according to use. Georgia Broadband's mapping is based on a 25/3 standard of service, which is considered basic to community needs. However, the Broadband program is focused on a variety of needs.

Education: 100 Mbps - 1 Gbps+

- Online testing
- Accessing databases
- Sharing educational material

Healthcare: 1 Gbps+

- Sharing medical records
- Connecting first responders
- Virtual appointments

Small Business: 50 Mbps+

- Managing inventory
- Coordinating shipping
- Operating point-of-sale terminals

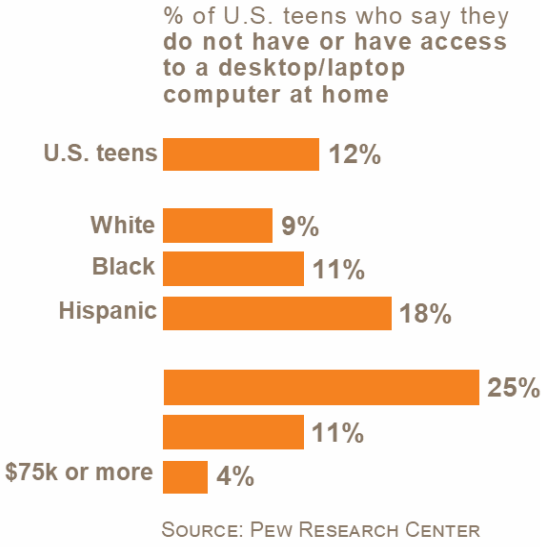
Home: 25 Mbps+

- Completing homework
- Streaming video
- Web browsing

SOURCE: NTIA – WHY BROADBAND MATTERS

Education

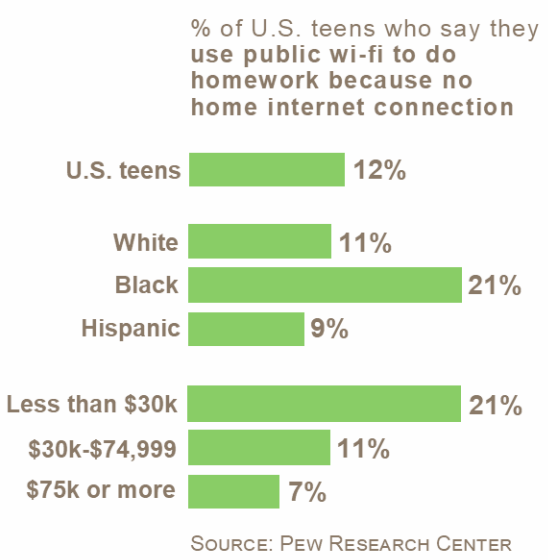
Digital tools have transformed learning inside the classroom and out. Studies suggest that 70% of teachers assign schoolwork to be completed online and 90% of high schoolers go online at least once a week to complete assignments. While these tools are undoubtedly beneficial, digital equity varies among populations and a lack of connectivity undermines the effectiveness of online learning platforms. As many as 17% of students experience the 'homework gap,' or the inability to complete online assignments at home due to lack of connectivity.



SOURCE: PEW RESEARCH CENTER

Device access is another component of the 'homework gap.' Students who have limited internet access at home must take additional steps to complete assignments. In many cases, cellphones provide the only viable connectivity in the home. In some cases, students must venture away from home to access the internet via public Wi-Fi locations. Whatever the case, students who lack connectivity and devices are at risk of falling behind. Low income and

minority populations are most susceptible to the homework gap and, consequently, an achievement gap. Addressing this issue is vital to prepare students for the workplaces of the future.



SOURCE: PEW RESEARCH CENTER

To address connectivity aspects of the homework gap, the Broadband office has supported the Department of Education in an initiative to deploy solutions to support remote learning. This initiative began with coronavirus and leverages data from the Georgia broadband map to identify concentrations of unserved students throughout the state. Leveraging this data and funding from CARES, local school districts are empowered to deploy connectivity solutions at the local level. Georgia Broadband is also engaged in the Governor's K-12 Restart Working Group on Connectivity and Devices. This group will support school districts seeking to improve connectivity for their students.

To further explore the available quality of broadband to students and communities, Georgia Broadband has partnered with Ookla, the global leader in broadband and mobile testing, data, and analysis. In a 4-county pilot, this project will further evaluate infrastructure issues impacting education, as well as telemedicine and other needs. Quality of service is a significant concern and thus the focus of this initiative.

Healthcare

Healthcare has undergone tremendous technological change over the past two decades. The proliferation of telehealth networks has revolutionized the industry, and telecommunications technologies continue to enhance health care delivery, health education, and public health. Increasingly in the 21st century, broadband connectivity is vital to accessing healthcare.

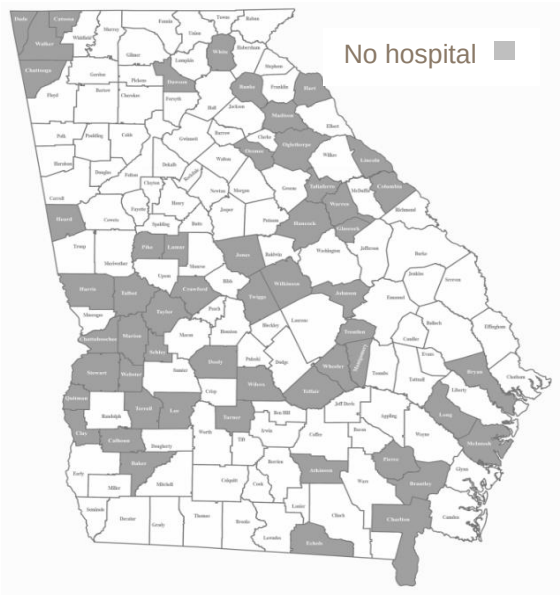
> "With the advantages of healthcare technology and broadband connectivity, telemedicine advanced 5 years during the first 5 weeks of COVID-19"
>
> - **Lieutenant Governor Geoff Duncan**

The coronavirus pandemic has magnified the advantages of and need for telehealth. During COVID, many preventative care and sick visits to physician's offices shifted to telemedicine. For rural communities with no hospital or specialized healthcare resources, telehealth may offer the most expedient manner to access care. However, lack of

connectivity in many rural areas limits the effectiveness of telehealth applications. At a minimum, telehealth technologies require a broadband connection and a device with a video platform, the combination of which requires at least 25/3 broadband speed.

As elective, non-essential medical procedures were temporarily halted to respond to COVID-19, the Broadband office launched a guide to statewide wi-fi access points for public use to access telehealth resources. This initiative and other efforts to drive connectivity in conjunction with the Georgia Department of Public Health are important to healthcare in the 21st century. "By informing patients of how to more easily and affordably connect to the internet, healthcare professionals will be able to provide basic medical care to them from remote locations and also offer critical specialty services," said Suleima Salgado, Director of Telehealth, Telemedicine, and Rural Health Initiatives at DPH.

Georgia Counties Without a Hospital



Elbert County is served by a 52-bed hospital that provides basic services, but lacks specialized physicians and advanced facilties. Local residents must travel to receive advanced care, which causes a burden on local employers (lost productivity) and individuals (forgone wages, travel costs).

To facilitate telemedicine in this community, the Appalachian Regional Commission invested in telehealth infrastructure to equip the hospital and pre-hospital provides with digital tools to access advanced care. These resources are onlly beneficial to the extend this community of 20,000 has quality, reliable broadband connectivity.

Small Business

No matter the industry, connectivity is important to commerce and economic growth. Beyond education, healthcare, and the technology sectors, advanced manufacturing, logistics, precision agriculture, and even retail and hospitality rely on quality broadband service. Today's economy is more connected than ever, making it essential that decision makers have access to the technological resources necessary to effectively run business operations.

Advanced Manufacturing and Supply Chain Logistics

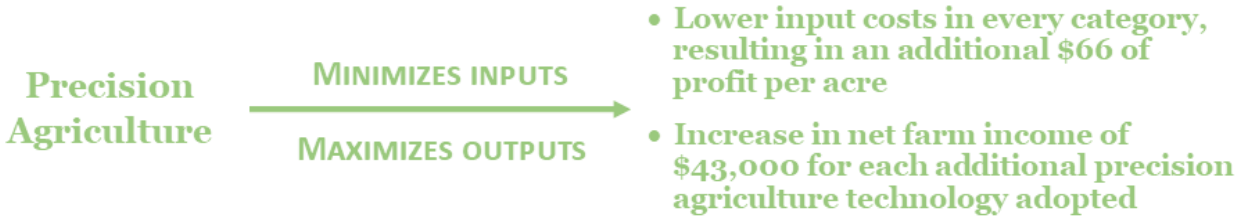
Rapid technological change has made logistics and supply chain management more efficient than ever. Increasingly, manufacturers use digital tools to integrate their supply chains and create "smart" factory operations. Fueled by the Internet of Things (IoT) – a network of connected devices able to collect and exchange information – smart factories adapt to and learn from data in real time to improve operations and increase value. Business leaders tout the benefits of internal efficiency and improved customer trust.

Supply chain connectivity enables the efficient flow of goods. Improvements in transportation and telecommunications technologies have reduced logistics costs and improved trade across the globe. As a leader in logistics and supply chain, Georgia must support technologies that make it easier for manufacturers and distributors to accurately track, monitor, and locate shipments of goods.

The digital supply chain is fundamental to firms seeking to achieve efficiency, create value, and gain competitive advantage. However, these benefits are contingent upon fast, reliable connectivity. Access to broadband is the lifeblood of economic growth, which is why the broadband office supports the Department of Economic Development's efforts to ensure Georgia remains the #1 State in the Nation in which to do Business.

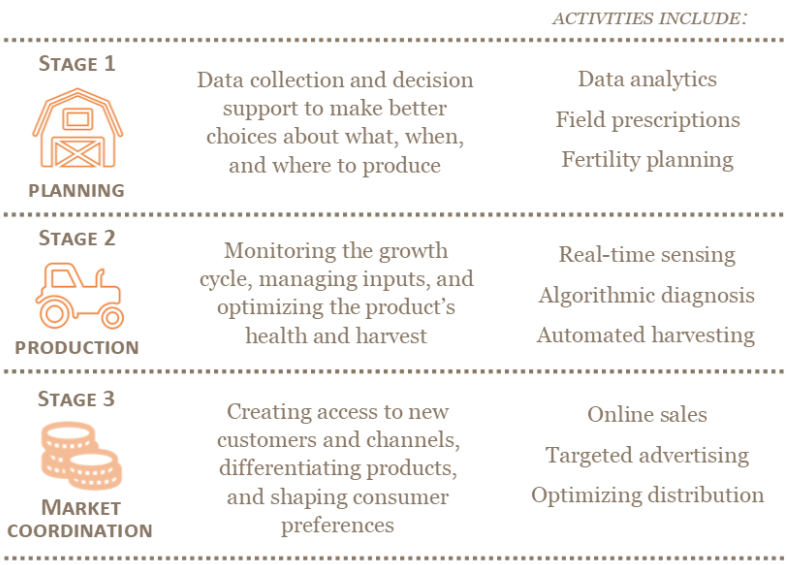
Agriculture

Agricultural producers are also increasingly reliant on internet-enabled technologies to operate farms. "Precision agriculture" is the practice of using cutting-edge technologies to improve crop yield and farm management. By accumulating large amounts of data, devices can vastly improve production. The USDA estimates that full utilization of precision agriculture technologies could result in $47-$65 billion of annual additional gross benefit to the nation's economy; however, precision agriculture is highly dependent on quality, reliable broadband.



Using hundreds of connected devices on the farm, producers are able to efficiently manage and allocate resources. Data helps to minimize inputs while maximizing output; however, unreliable broadband service can jeopardize operations during critical production periods and adversely impact profits.

Many U.S. farmers report slow and inadequate internet speeds, which severely limits the widespread adoption of precision agriculture. Agriculture is Georgia's largest industry, contributing more than $75 billion in annual economic impact; however, the lack of robust connectivity in rural regions limits the degree to which producers can take advantage of innovation and cost saving technologies.



SOURCE: USDA—A CASE FOR RURAL BROADBAND

FIGURE ADOPTED FROM: FIGURE 3. DIGITAL TECHNOLOGIES APPLIED TO STAGES OF AGRICULTURE MANAGEMENT

The Broadband office has provided significant support for the USDA ReConnect Program, which is heavily focused on connecting farms and agricultural producers. For example, Round I ReConnect awards are expected to deploy high-speed broadband to nearly 50 Georgia farms, including a number of poultry producers in North Georgia. The Broadband team will continue to support efforts to ensure that Georgia's farms, industries, and small businesses are equipped with the technological tools necessary to compete today and in the future.

Home/Quality of Life

In 2020, internet is an all-important necessity to daily life. Families rely on being connected, not only so that students are able to learn and parents to work from home, but also to buy groceries, interact with relatives, and access entertainment. Given the essential need for broadband, it is unacceptable for Georgians to suffer from lack of access based on their zip code.

Connectivity is empowering. Research shows that broadband penetration leads to increased employment. Not only does connectivity enable telework and mobility, but it is also key to attracting industries that create jobs and sustain families.

Aside from changing the *way* we live, connectivity has fundamentally changed *how* we live. Modern homes use a tremendous amount of bandwidth, thus people strive to live in areas where bandwidth is available. Studies indicate that access to broadband increases home values, primarily due to the demand for devices such as digitized thermostats, lighting systems, and home security, all of which rely on connectivity.

Just as individuals rely on the connectivity, communities are increasingly dependent upon connected technologies for the operation of critical infrastructure and services such as power grids, water supply systems, and traffic control networks. Public safety networks rely upon connectivity to effectively respond to incidents. As communication technologies evolve, public safety networks have started transitioning to an Internet Protocol (IP)-based 911 system, commonly referred to as Next Generation 911 or NG911.

The Broadband office is working extensively with the Georgia Emergency Management Agency (GEMA) to explore overlap between the State's broadband mapping and the Next Generation 911 (NG911) program. The broadband office has also engaged GEMA in the Ookla project to identify potential infrastructure gaps that must be addressed for public safety.

Additionally, Georgia Broadband supported the inclusion of broadband infrastructure in the State's disaster recovery plan. The broadband office provided support for the recently submitted 2017 CDBG-MIT Action Plan, which includes a component intended to support public safety and communications infrastructure.

Next Steps

1. *Continue Enhanced Mapping Initiative*

   Updating the Georgia Broadband Availability Map is important, as the state's connectivity landscape will and should evolve. As broadband investments continue to occur, accurate maps help drive public-private investment, avoid duplicative use of public funds, and enable Georgia Broadband to re-assess priorities and communicate results.

2. *Drive Public-Private Partnerships*

   Provider driven investments are key to solving the digital divide; however, in financially inviable regions, the public sector can incent investment. Georgia Broadband will continue to engage providers *and* pursue all available funds at the local, state, and federal level.

3. *Monitor and Pursue Federal Funding Opportunities*

   The broadband office will continue to monitor the status of ReConnect and RDOF in Georgia. As CARES Act funding is more clearly defined, Georgia Broadband is poised to assist in pursuing appropriate funds to deploy connectivity solutions.

4. *Support Policy Initiatives*

   The Georgia Broadband program will continue to support administrative and legislative efforts to reduce deployment barriers in the state. The Broadband office will continue to support policy makers with efforts to make Georgia an even more conducive environment for broadband investment.

5. *Evaluate and Support Broadband Solutions*

   With the support of GTA, the Broadband office continues to monitor broadband solutions that may support the mission of serving the unserved. In a 4-county pilot, Georgia Broadband's Ookla speed test data is expected to offer additional perspective about wireless and wireline infrastructure capacity that will be useful in addressing broadband needs.

GEORGIA BROADBAND TEAM

Given the complexity of broadband – the needs and benefits, community dynamics, project financing, etc. – stakeholder cooperation is essential to long-term success. Primary stakeholders are the communities to be served and the broadband providers who are able to serve them. Within the public sector, a host of federal, state, and local partners are involved, to provide data, support public-private partnership, and in some cases, to assist with public financing.

Under the leadership of Governor Brian Kemp, the Georgia Broadband program is championed by the Department of Community Affairs (DCA) and Georgia Technology Authority (GTA). Many agencies are involved in broadband, and inter-agency cooperation is key. Perhaps most importantly, the active participation of broadband providers, local governments, EMCs, and development authorities through a Broadband Advisory Committee is instrumental to the program's ultimate success.

Broadband Deployment Team

Deana Perry – Executive Director

Brittany Hickom – Program Consultant

Jason Sell – Program Consultant

Beyond these dedicated resources, the Georgia Broadband program leverages the expertise and resources of GTA and the Carl Vinson Institute of Government. The team also leverages the expertise of the National Telecommunications and Information Administration (NTIA) and its active network of state broadband executives.

Georgia Broadband team at the State Broadband Leaders Network (SBLN) Summit in Washington D.C.

Broadband Advisory Council

AT&T

Comcast

Georgia EMC (representing electric membership cooperatives)

Georgia Cable Association (representing local and regional cable providers)

Georgia Telecom Association (representing local and regional telecom providers)

Windstream

Association of County Commissioners of Georgia

Georgia Economic Developers Association

Georgia Municipal Association

State Agency Partners

Department of Community Affairs (co-lead)

Georgia Technology Authority (co-lead)

Department of Economic Development

Department of Education

Department of Public Health

Department of Transportation

Environmental Protection Division of Department of Natural Resources

Georgia Emergency Management Agency (including 911 Authority)

Georgia Libraries

State Properties Commission

Technical College System

University System of Georgia

Sources

The following sources were used throughout the report. For more information, please see the citations below.

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