WIFI Rangers Report

In spring of 2020 in response to the worldwide pandemic, AT&T donated $100,000 to the Georgia Foundation for Public Education to purchase WIFI Ranger Hotspots to be placed on school buses to support children learning remotely in counties without broadband access. Fifty-six boxes of eight devices each were deployed to thirty-seven school districts around the state of Georgia.

Devices were ultimately sent to the following systems:
Baldwin County, Barrow County, Bleckley County, Brooks County, Bryan County, Butts County, Calhoun City, Calhoun County, Camden County, Dooly County, Emanuel County, Floyd County, Franklin County, Glascock County, Glynn County, Greene County, Jackson County, Jasper County, Laurens County, Liberty County, Madison County, McIntosh County, Miller County, Mitchell County, Morgan County, Murray County, Paulding County, Putnam County, Rockdale County, Schley County, Screven County, Turner County, Walker County, Washington County, Wilcox County, Wilkes County

Recently we sent an email requesting information on how the devices have been used. Please see the questions and responses received below.

1. How did you use the WiFi Ranger Hotspots and when?

We put our Rangers on our school buses for the students to be able to have internet access while on the bus to and from school.

We immediately put the devices into service by installing some on our buses that are parked on location at several schools. This was pushed out on a school by school basis and we saw almost immediate response and use by our parents and students.

We have set them up on buses and have used them late in the spring and this fall. With most of our kids coming to school, our need has diminished some, but if we have to go total virtual, we would deploy and park in neighborhoods.

We identified communities in our neighborhood with the greatest likely need and deployed buses in those area during the time period we were remotely teaching.

We have them setup and will be used during distance learning, when we are not having in person school with students.

Here's the good news:
- *We received 5 units.*
- *We were excited to partner with our faith based community and we have deployed all 5 units (bus and ranger) to local churches.*
- *Our transportation department took the initial product and improved them to function on solar power (rather than battery)*

We used the WIFI rangers as the initial internet access for our students. The first WIFI ranger was put in place during the summer of 2020.

We are a small district and do not have enough bus drivers to be able to move our buses around town during the day. (Most of our drivers have part time jobs during the day.) We purchased AC to DC converts and have deployed our units around town. Some of them have been placed in areas of low income housing and some are actually checked out to students and in their homes. Our devices currently in use are being used throughout the day.

We were able to convert all of our devices from DC to AC in order to place them at several churches and community buildings without using our buses. They were placed in the main offices of two of the public housing complexes within the county. The American Legion Hall was utilized along with four churches within the county.

We have placed the rangers on buses in rural parts of the county for students to use during the day.

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2. What were the results of using them? Any positive stories or outcomes?

We had some positive feedback from some of our buses and we also have had neutral feedback from some. The positive feedback was that the children were happy to have the wifi available to them; it kept some occupied while on the bus. The neutral was, some of the bus drivers said that the children on their buses didn't use it. They didn't seem interested in it or didn't have a device to use it for.

We heard lots of positive feedback from our community once they realized what we were trying to accomplish as we learned together. We targeted areas that are already limited to access and are primarily lower income family homes; they were very receptive to our offer of getting them connected and working closely with their student during a very anxious and fearful time.

We had some positive feedback from families that were grateful and appreciative. Knowing JCSS was doing everything we could to get them connectivity. I did visit different sites where these buses were deployed and saw parents had driven their students there for connectivity and school work.

We very much appreciated the efforts by the DOE to help bridge the broadband gap for underserved students. However, based on the metrics provided via the AT&T portal, the impact of the hotspots did not appear to be what we had hoped. Usage was generally low to very-low. Technical constraints may have impacted the usage and outcomes. If you were not fairly close to the bus the signal strength was low, and speeds were only moderate at best. As a test we positioned a bus in a neighborhood with apartment houses only a few feet separated from one another, and tested connectivity. By the time you were 3 houses away from the bus, the signal was not useable.

So far we have been face to face and not deployed them in that manner. We have been looking at coming up with a permanent placement with them if we can find power convertors for them in the near future.

The rangers provided internet connections for our students who were unable to secure internet services. A needs assessment was performed and rangers were placed in the specific areas of need. In one particular housing development, all of the students have been able to experience seamless technology integration and are engaging in virtual lessons daily with faculty and staff.

We were able to provide connectivity to many families by using the rangers that we would not be able to help otherwise. I loved seeing how well the housing authority stepped up to help us deploy some of these units on their properties.

An interesting story came with the internet outage caused by cut fiber leading to a wide spread outage (all day). We retrieved three wi-fi Rangers and used them to help each school office and our teachers responsible for virtual instruction!

We have seen usage increase as the school year has progressed. Parents have appreciated having the access.

3. What were the challenges? What do you wish you knew before implementation?

Our challenge with the ranger was finding a location on the bus to place it. Once we got that figured out, no problem.

We found a solution to allow the Rangers to be plugged into a wall outlet. This gave us the ability to locate them at strategic areas in our school buildings and other locations to provide signal in multiple places and offer this same service to an expanded audience.

Definitely when the weather is bad. We purchased AC to DC adapters so that a family could check one WiFiRanger hotspots out and plug in at their house. This has given us a great deal more flexibility.

No particular challenges beyond the above. The Rangers were cumbersome to initially configure, but once configured were reliable and did not need re-configuring so not something I feel needs to be addressed. One unit came to us non-functioning, but we were able to repair it (it had come disconnected inside the housing).

We did have some issues with web filtering during setup that overlapped with our own filter. We fixed that as it saw it as a proxy.

The equipment did create challenges and our transportation department had to work to increase functionality.

Some of the challenges included signal failures due to limited signal range/distance and a weakened signal (depending on different structure types). Due to the rural location of our county, trees, natural vegetation and the distance between homes, we sometimes struggled with maintaining a strong internet connection.

The biggest challenge we faced was location. AT&T has limited coverage in our area so we had to really get creative with placement to utilize as many of these devices as possible.

Our challenge continues to be the most rural locations within the county for which there is low connectivity and lack of a centralized location for the devices. The most activity has been our old pre-k cafeteria that has an inside area and an adjacent parking area. It is also in the center of town, which seems to be the easiest of options for students needing internet access.

I think it would have been nice if they came with a traditional a/c plug instead of using a car charger style connection. We found adapters on Amazon and have used them on several. We quickly ran out of available buses that could remain parked and started looking for buildings to place them.

Walker County Schools
WiFi Rangers

Chattanooga News Coverage on WiFi Rangers:
https://www.wrcbtv.com/story/42644503/walker-county-schools-using-buses-to-provide-mobile-internet

YouTube News Coverage:
https://www.youtube.com/watch?v=RVzntIVi5IU

In Walker County we have been able to provide connectivity to all of our students in some form or fashion. Our district is over 400 square miles and connectivity has been a challenge. The WiFi Rangers have allowed us to provide internet in our limited access areas and poverty areas throughout the COVID-19 pandemic. We have partnered with local agencies when no signal has been available to make modifications to how the devices are placed. Our local power company has enabled us to sit some of them on top of their poles and created power using the converters so that a signal can be found and broadcast to areas of high need. We have installed several on buses and local community based areas to provide hotspot access to families and students to be able to connect. They have been limited in some areas due to the LTE service not offered in our rural areas but have worked great in the service coverage areas. We are very pleased and blessed to have had the opportunity to be able to have WiFi Rangers as an option for our students. We are thankful to be able to continue to follow our mission in preparing kids ready for college, ready for work, and ready for life.

Pictured here: Aaron Watkins, our Lead Technology Specialist helping to install a WiFi Ranger for a low income residency area with Scott Harden, our Coordinator of Technology.

The Georgia Foundation for Public Education and the Georgia Department of education are extremely grateful for the support of AT&T. WIFI Ranger Hotspots were put to effective use throughout the state. Local communities, children and families, are better for the investment and vision of AT&T.

GFPE exists for the single purpose of supporting educational excellence for students in Georgia.