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How the Georgia State Department of Education Leverages Cell Analytics™ to Enable Virtual Classrooms

With many schools and libraries closed for public safety reasons, Georgia's most vulnerable students may not have access to the high-speed internet needed to attend virtual classes. To help close this digital divide and to best allocate Coronavirus Aid, Relief, and Economic Security (CARES) Act funding, the Georgia State Department of Education needed to determine the best locations for mobile Wi-Fi hotspots.

The Georgia State Department of Education chose Ookla® Cell Analytics to identify the gaps in connectivity and the best locations for students to connect — and to determine the best carrier networks and placements for mobile, cellular-based Wi-Fi transmitter devices.

> *"The Georgia Department of Education is using Ookla Cell Analytics to assist our district with the placement of mobile cellular based Wi-Fi transmitter devices. This tool takes away the guesswork of identifying areas of placement with the highest cellular signal strength for the best student experience possible. These Wi-Fi devices will give students in areas with no home connectivity the ability to gather for instructional purposes while practicing social distancing."*
> — *Chris Shealy, Director of Technology Services for the Georgia State Department of Education*

Benefits

Identified underserved areas in the state where network connectivity and coverage were scarce

Determined the best locations to park buses equipped with Wi-Fi hotspots using data on wireless signal strength

Will provide students with locations for remote high-speed internet access, serving up to 80,000 student households

The Situation

Beginning the school year in the middle of a global pandemic has forced schools to close and students to rely on remote learning to continue their education. That shift to virtual classes has highlighted that many students in the state of Georgia do not have access to the high-speed internet required for online learning. According to the Department, over 80,000 student households cannot access a wireline service.

Using funding from the CARES Act, educational boards in Georgia are outfitting 2,500 buses with 4G hotspot devices in an effort to provide high-speed internet to students all over the state. Students who lack home internet access will be able to connect to their virtual classrooms through these movable shelters. However, the educational boards needed data to determine the best locations to park the buses. Signal strength and quality are essential for remote learning, especially when multiple students are using the same hotspot for the same virtual classroom.

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The Solution

The Georgia State Department of Education used Cell Analytics to identify the gaps in internet connectivity in the state and to find the best locations for the hotspot-equipped buses. Cell Analytics data shows performance, coverage and signal strength for all network operators in the area — as well as cell site locations — which can be used to determine the optimal locations and providers for the WiFi hotspots.

Looking at the below example comparing the signal strength, or RSRP (Reference Signals Received Power) of both Verizon and T-Mobile's networks in the Capitol View neighborhood of Atlanta, the DoE can determine which network will provide the best signal for a given mobile hotspot. In this example, T-Mobile's network has the stronger signal (indicated in red). Using this information, the DoE can select the best network operator and exact location to provide the best internet connection — and thus serve the most students.

Comparing LTE RSRP (Signal Strength) on Verizon Wireless and T-Mobile in Atlanta, GA
Cell Analytics™ | 2020

The Outcome

As the program continues to develop and the Georgia State Department of Education continues to bring mobile Wi-Fi to the best locations, more students will have access to the internet and will be able to continue their education through virtual classrooms. The Department of Education can now make informed, data-driven decisions about where CARES Act funding and resources will make the most impact in their communities.