How Las Vegas Used CBRS to Bridge the Digital Divide

Connecting students and virtual classrooms

About

The digital divide felt in Las Vegas demonstrates the barriers that digital illiteracy and lack of access to technology can create. The importance of proper broadband connection has been made ever-more important in the wake of the global pandemic as hundreds of thousands of students in the Las Vegas area were mandated to learn from home. Without dependable internet, about 30,000 youth were struggling to complete schoolwork and participate in class lessons. This segment of the population is put at a severe disadvantage, one that hinders them from reaching educational milestones and self-sufficiency.

On top of education, the city is also inching into the tech space and campaigning for more tech companies to relocate to the area. Autonomous vehicle company, Aptiv; data center operations company, Switch; and online retail giant, Zappos, already call Las Vegas home, but without widespread high-speed internet access, the city will have a harder time competing with the Silicon Valleys of the world.

Problem

The City of Las Vegas is resilient, and its leaders understand what needs to happen in order to not only provide for its residents' well-being and livelihood but to make Las Vegas a city of the future. Michael Sherwood, the Chief Innovation Officer for the City of Las Vegas, and Chris Craig, the city's deputy technologies director, set out to find a solution that would bring access to broadband internet to disconnected communities and at the same time build the region's global presence as a desirable tech hub.

OnGo Forward—CBRS, 5G & Beyond

Baicells

"We want to be known across the world as the entertainment capital, but we also want to be known as a technology epicenter where we have the right ecosystem to bring business and people together to create great opportunities for the future," said Sherwood. "Wireless is one of the keystones that is going to let us build the city of the future. With additional federal dollars coming through, we're looking to expand this network into education, public safety, homelessness and a wide variety of other applications to help improve our communities."

An internet solution needed to be found that would be cost-effective, easily deployed, easily maintained and allow students to connect to the private network without a technician on every site. It needed to be done with a 45-day window and, most importantly of all, it needed to work

Solution

The City of Las Vegas began working with local communications startup Terranet, which helped navigate the City through the modernization and integration process. Together with Terranet, the City sought out Baicells Technologies, an OnGo certified manufacturer of LTE fixed wireless broadband equipment in the CBRS band, to determine the tangible next steps.

Together, they found a way that would provide CBRS broadband networks to school children in a way that would connect them directly to their schooling without allowing internet usage for non-educational things like video games or streaming. The City chose to work with Baicells Nova 436Qs paired with indoor Atom CPEs. It deployed base station sites on top of public buildings around the target communities. Various departments within the City then worked with one another to provide the indoor CPEs to students and families in need that could be serviced by the deployment sites. Families and students could then come to the community centers that have the deployed base stations and request an indoor CPE to bring to their homes. If their residence was one of the pre-approved locations to receive broadband they were given the CPE to take home and plug into an outlet. All the CPEs were pre-programmed so a student would simply plug in the CPE for immediate access to the private LTE network.

Michael Sherwood: “We had students connecting, [and] everything was flawless and smooth.” The city’s first priority is to “democratize broadband and close the digital divide.”

KEY VALUES DELIVERED

- Baicells’ ease of installation, wide availability, cost-effectiveness and efficient utilization of CBRS were the determining factors that drove the City to trial an initial deployment.
- In just 45 days, the project established 15 sites that will aid students and families with internet connectivity in predetermined high-needs areas.
- While the setup is initially focused on connecting students and educational institutions in the City, the private municipal LTE/5G network will be used for other community assets and situate Las Vegas as a future “Smart City.”
- Enable the City to expand the network across the city and adjacent communities as well as improve connectivity for law enforcement, telehealth, critical city services and general IoT infrastructure with ease in the future