



How the City of Las Vegas is Closing the Digital Divide



*Partnerships Are Driving Wireless Connectivity Solutions to Improve Education, Public Safety, and More.
Featuring: The City of Las Vegas, Terranet, and Baicells*

Overview

Home to over 600,000 residents, Las Vegas is internationally known as the center for world-class entertainment. It is also a city where 20% of the residential population does not have reliable access to broadband internet.

There are people looking to lower that statistic, eliminate the digital divide, and change the image of Las Vegas from a party city to the next tech hub comparable to Silicon Valley. Meet Michael Sherwood, the Chief Innovation Officer for the City of Las Vegas and Chris Craig, the cities deputy technologies director. Working to integrate the technology into the city's infrastructure is the startup Terranet, which is led by Bart van Aardenne and Mike Kerr.



As Chief Innovation Officer, Sherwood likes to think outside the box and challenge conventional thought. He envisions the future of Las Vegas as a tech-hub comparable to Silicon Valley. But where does that vision start? In his eyes it can only start by improving the internet access across the city.

“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.”



Michael Sherwood

“Wireless is one of the keystones that is going to let us build the city of the future”



Bart van Aardenne

...goal of 2025 to become a smart-city and to achieve that goal, they must have an outstanding wireless network.”

“Terranet specializes in managing small private networks, particularly in the municipality and educational space” said Bart van Aardenne, “we work with a variety of partners to find the best solutions for our customers. I’ve been working with the City for a couple of years, and I really admire what the city is doing to broaden its base of business. They’re looking to attract high-tech business to the area and they understand that to do that they need to build infrastructure. That’s what we’re doing here. They have a stated goal of 2025 to become a smart-city and to achieve that goal, they must have an outstanding wireless network.”

Working together, Baicells; TerraNet; and the City of Las Vegas, have come together to begin building the infrastructure that would help the city build a better life for its citizens.



The Problem

Most of us know Las Vegas as being filled with flashy lights and fun, but for the city's everyday residents it is a place filled increasingly with struggles. It is a city that thrives on tourism and employs the surrounding residents to meet the demand. COVID-19 struck the city hard with hospitality employees taking the brunt of the fall. Median incomes declined and poverty rates increased over the course of the pandemic.

The digital divide became a particular cause for concern amongst city officials, as thousands of children struggled to stay connected to their schools without proper internet access. With 29% of the Las Vegas population under the age of 18, there are roughly 30,000 kids living in the city that do not have access to high-speed internet. "My overall goal is to meet our cities core purpose which is to build communities to make life better," said Chris Craig. "There are a lot of families and school districts within the city that don't have connectivity within their homes, yet they're still trying to go to school, which is a very difficult task when you don't have internet."



Mike Kerr

"Municipalities are one of the verticals that we're focused on, but the challenge for a lot of them is that they have constrained budgets," said Mike Kerr. "With the new infrastructure bill, we are looking forward to having significant expansions for the delivery of internet options for schools and municipalities, but we haven't quite hit that point yet."

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.



The Solution

Terranet and the City of Las Vegas chose Baicells Nova 436Qs paired with indoor Atom CPEs and worked with the city to deploy the base station sites that would have the greatest impact in bringing internet connectivity to the underserved residents. 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.



Chris Craig

identify those students who are truly in need...”

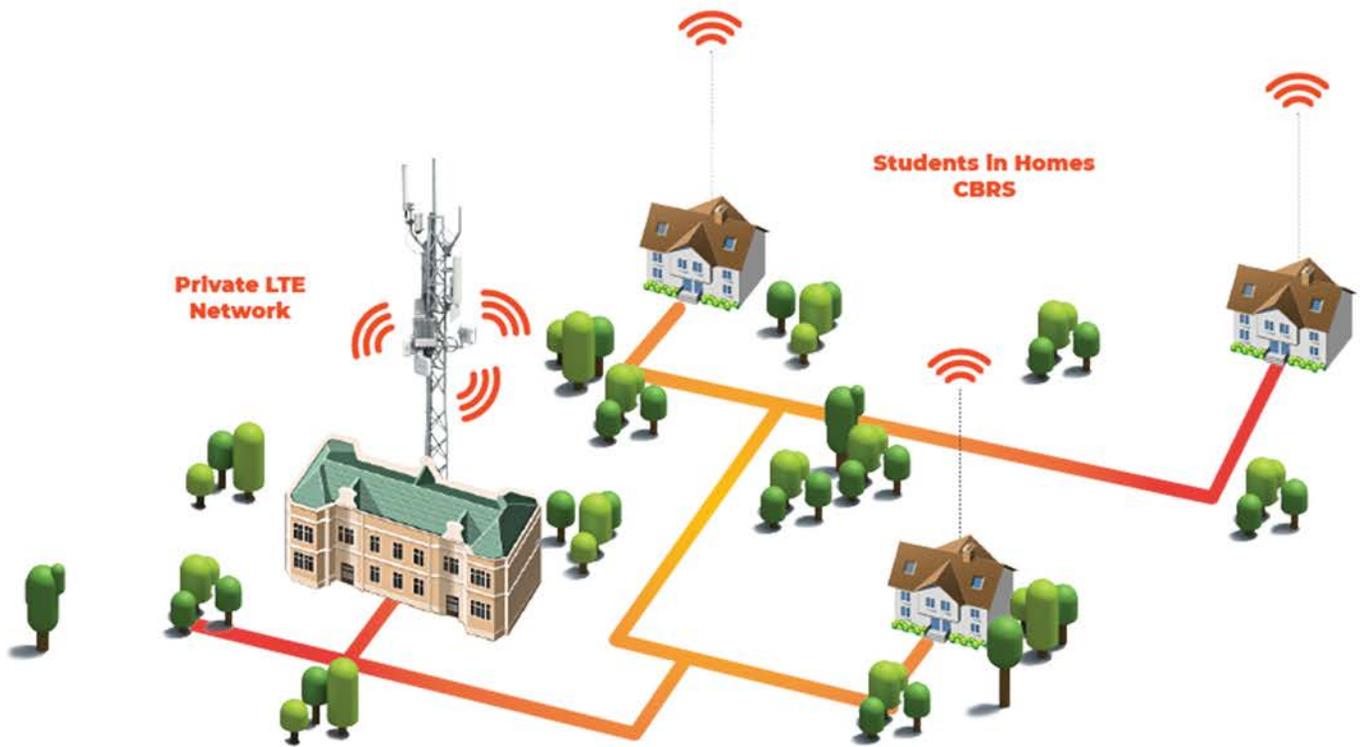
“Baicells made it possible. We worked closely with our partners and other city departments to identify those



“When we configured the network on the backend,” Chris continued, “it all came directly from the school district

so students on the network can’t use the internet to stream or play video games, it specifically connects them directly to their schooling, so we know that the CPEs we handout are being used for educational purposes, which was extremely important to us.”





The hardware was installed on top of community centers across the city in areas that were determined to be “in-need” of broadband access. Families and students can 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 is one of the pre-approved locations to receive broadband, then they are given the CPE to take home and plug into an outlet. All the CPEs are pre-programmed, so a student only has to plug in the CPE and they should have access to the private LTE network. There are currently 15 sites deployed in the pre-determined areas of need, with a 4-stage plan to expand the wireless network across the whole city.

“There’s not a lot of equipment available in the CBRS space,” said Bart. “Baicells had a good selection of products available in the CBRS spectrum that we could deploy in a timely fashion. Working with Baicells, we were able to deploy at a much better price point than we could have with other manufacturers, which is a major reason they were chosen for the City of Las Vegas. What we’re doing here in Las Vegas is at the forefront of networks in the CBRS space, and I see a large amount of opportunities with CBRS for the future including in 5G.”



“There were a lot of things that made Baicells stand out,” said Michael Sherwood. “We had great support the whole way, but what really set it apart was the full-breadth of Baicells products that offered a full solution. Any time you have a total complete solution your chances of success are so much greater. We could not find anything that had the same level of quality and reliability that we could find with Baicells.”

The team is looking at additional opportunities as the city continues to expand its wireless network, including improving connectivity for law enforcement, telehealth, and general IoT infrastructure. City officials also see a burgeoning need to support the upcoming 5G transformation and have determined that Baicells future-proofed technology make it a good fit as the network continues to develop.

Baicells product’s ease of installation, wide-availability, and cost-effectiveness were the determining factors that drove the city to trial an initial deployment. As the private LTE network project continues to successfully develop the breadth of opportunities will increase, and Las Vegas will drive its way to the forefront of technically advanced cities of the 21st century.



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