
# Wi-Fi Now Award Application – Affordable Connectivity

**1. Tell us about your affordable access service and why you think you should win this award**

With a largely rural, underserved population in the Rio Grande valley of South Texas, Hidalgo County is home to 850,000 residents and has more than a dozen school districts and two colleges. Hidalgo County officials were keenly aware of the lack of broadband services in the area. The sparse broadband services that were available in a few areas were beyond most families' budgets, and although some K-12 students were provided with MiFi access points, Wi-Fi service was very slow and timed out quickly. In addition, some students or parents were going to parking lots at fast-food restaurants or local libraries to get connected to the internet.

Hidalgo County officials wanted to provide free Wi-Fi services to constituents in the least connected areas. By using federal CARES Act (Coronavirus Aid, Relief, and Economic Security Act) funding, the County partnered with Insight Public Sector, SmartWAVE Technologies and CommScope RUCKUS to build the largest government-funded, free mesh Wi-Fi network in the United States, thereby starting to erase the digital divide for its residents.

Both SmartWAVE and Insight have local offices in Hidalgo County and employees there were familiar with the community and with Mr. Daniel Salinas, IT Director of Hidalgo County. There were many stakeholders in the project: four County Precinct Commissioners and the county Judge had to approve key decisions, but everybody worked together for a common goal.

The County Technology office was instrumental in fostering agreement between the utility companies, cities, school districts, and network integrators about how the project would proceed and which areas would be covered first. It was a true partnership that got a complex project built relatively quickly in a high need area.

"We had to move quickly to provide a solution that could narrow the digital divide," said David L. Fuentes, Precinct 1 Commissioner.

**2. Explain how your service is making optimal use of Wi-Fi technology**

The project leaders selected Wi-Fi as the connectivity technology because unlike Private LTE, there are no customer premises devices to buy - everyone has a phone or computer that can connect. As a result, using Wi-Fi gave the County a higher rate of usage as opposed to using Private LTE, and without the cost of Private LTE customer premise equipment. The customer acquisition cost was zero.

The project began when the County, partnering with network integrator Insight Public Sector, contracted with SmartWAVE Technologies to design, deploy, and maintain the outdoor network. Overall, the network would include 3,400 CommScope RUCKUS mesh Wi-Fi access points (APs). Wi-Fi APs were deployed on streetlight poles, and power for each AP was supplied by plugging directly into each streetlight's photocell adapter head. In some instances, streetlight poles had to be upgraded with photocell adapters. Using the streetlight photocell adapter made installation much easier, since the AP installer, rather than a licensed electrician, could deploy each unit.

The area to be covered was over 20 square miles across four precincts in the County, and since there were only five fiber points of presence (POPs) in the designated areas, it was also necessary to incorporate licensed and unlicensed microwave point-to-point radios as well as point-to-multipoint radios to extend the transport network's reach. The project required building 18 electrified radio towers to support the point-to-point radios.

The entire deployment consisted of over 4700 radio units, and was targeted at serving nearly 24,000 students, over 10,000 teleworkers, and some community parks.

"Working together, the County and Insight quickly and cost-effectively closed the digital divide for thousands of residents," said Everardo "Ever" Villareal, Precinct 3 Commissioner of Hidalgo County.

**3. Quantify and qualify how your service is making a socio-economic impact on the communities you serve (boosting commerce, education, creating jobs, etc.)**

The project was substantially completed by the end of August 2021. Residents in the communities being served were ecstatic, and nearly 35,000 people could finally establish fast and reliable connections to internet each month. Previously, residents were lucky to get one Megabit per second (Mbps) of bandwidth, but after the build, in most cases, residents received from 7-100+ Mbps of bandwidth. This gave them enough to become true internet citizens and access the Internet for distance learning, tele-health, e-commerce, transportation and other services. Previous connectivity options had left most residents without the ability to participate in city, county, state and national business, so the County's Wi-Fi network opened up a whole new lifestyle for these residents.

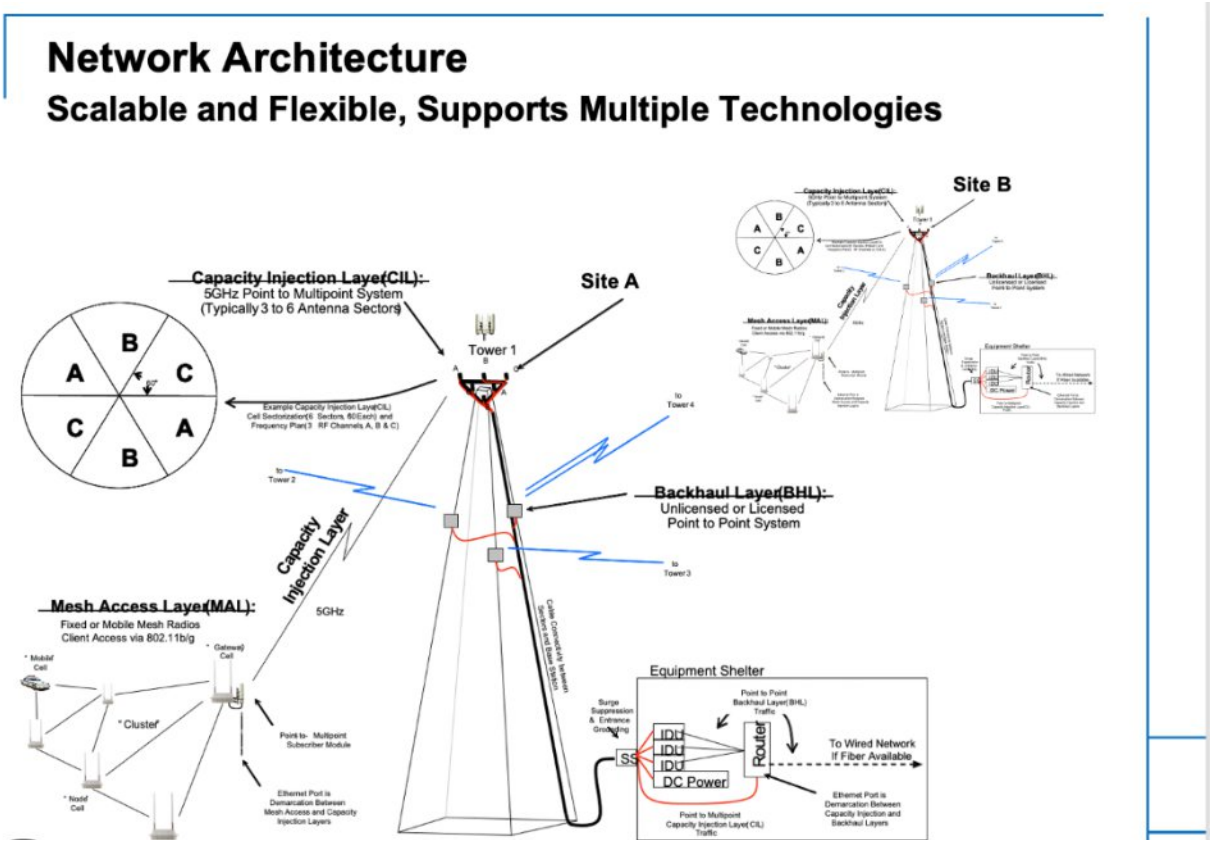
"Nearly 24,000 students now have reliable, secure access to the internet, and so do their families, many of whom also need the internet for job opportunities and healthcare," said Ellie Torres, Precinct 4 Commissioner of Hidalgo County.

The end result was to enable Hidalgo County residents to participate in the modern digital economy, access healthcare, read current news, attend remote learning classes, and telework. The network upgrade made a huge difference in the lives of students and their parents, and people could complete their work from home instead of having to drive to a parking lot someplace. The project also used several local subcontractors, so it provided an economic benefit to the community by expanding jobs.

"We look forward to the day when students can return to classes, but we're also proud of the fact that when these students go home at night, they can continue their education with the help of the Wi-Fi access that Hidalgo County has provided, thanks to federal funds," said Hidalgo County Judge Richard F. Cortez.

**4. If relevant explain how you think your project will scale and ramp-up to serve more people.**

The network was designed in four layers for expansion – a transport layer, a capacity injection layer, a mesh access layer to provide street-by-street coverage and residential access, and the end-user devices – so expansion will be relatively fast and cost-effective. This modular design allows the County to cost-effectively expand the network to new areas without needing to add new transport and capacity layers.




Approved by Hidalgo County:

Name and Title _____

Signature _____

Date _____