

Plymouth, NE “Homework Hotspots”

School - Library Collaboration For Community Learning and Information Systems

As 2020 started out fairly normal, things changed quickly when COVID-19 presented challenges that required unique solutions. The town of Plymouth, Nebraska sits in a rural area roughly 4 miles from its school district of Tri-County Public Schools. Though the school district has Gigabit fiber connectivity, the town has poor broadband and cellular connectivity. This “homework gap” became even more apparent when online home learning became the alternative method of learning for students.

Through collaboration and funding from the Second Nets round of awards we were able to bring up a Point to Point network from Tri-County Public School to the town of Plymouth where the connection could be distributed through the Plymouth Public Library. Using carrier grade 5GHz radios we were able to achieve 300Mbps Full Duplex to a Grain Bin site in Plymouth that had line of sight with the school. From there we were able to bring up another line of sight connection to the Library where we then branched off to 3 additional sites in town for

student and Library patron WiFi access. By working together quickly we were able to bring up this system in under a month's time and have things operational by the beginning of May 2020.

WiFi access is managed via two SSID's. The first SSID mirrors the Tri-County Public Schools network and allows any device authorized on the school network to automatically connect and gain access to the Internet and school resources. The second SSID is for the Public Library that is controlled via a voucher system. Once a community member is verified as a Plymouth Public Library member, they are given a one time use voucher that is good for 100 days on that device. This system is easily managed by the Library and vouchers can be created/deleted as needed. These SSID's are broadcast at the Library, Community Center (Inside & Outside), Public Park & Splash Pad, and the P-town Fitness and Gymnastics Studio.

Having this reliable connection to the Library allows many more opportunities for the students and Library patrons to gain access to the Internet. Connectivity before this system was spotty at best and blackouts of 1-3 days was common. Through even more collaboration with the Jefferson County EMA, the Plymouth Public Library was able to

be established as a Community Re-Unification center in the event of a disaster or Emergency. A generator was provided to the Library for power outages that would keep the system running if the electrical grid was disrupted as well.

This collaboration of School and Library has benefited not only students but also the community as a whole. A reliable last mile connection into a town that would otherwise stay poorly connected has opened many opportunities that would otherwise not be possible. We continue to see over 300 client connections a week on this network where the Plymouth population is just over 400 residents. With enough community input and collaboration this School and Library collaboration can easily be replicated across the Country.