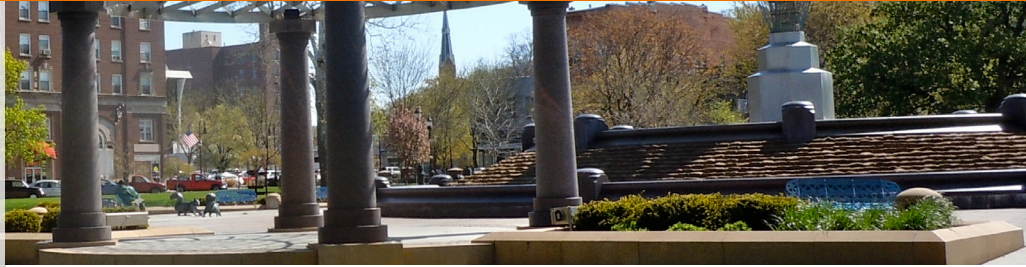


## CASE STUDY



### HIGHLIGHTS

- The City of Council Bluffs and Council Bluffs Community School District together formed the Wi-Fi Consortium to connect residents with online resources for learning, email, social media, web browsing and audio streaming
- BLink will eventually be one of the most extensive free community Wi-Fi networks in the United States, covering more than 20 square miles and providing free Wi-Fi access to more than 40,000 people.
- After deploying the first 4 phases, BLink sees over 58,000 unique users each quarter in a city of 62,000 people

## COUNCIL BLUFFS EXPANDS FREE WI-FI ZONE

### THE CHALLENGE

Council Bluffs is a city of 62,000 in Southwest Iowa, located on the east bank of the Missouri River. While it had been a major railroad hub and industrial center in the mid 1900s, these industries restructured or moved, and in the early 2000s, downtown urban renewal efforts were undertaken to create a new future building on its historical roots.

One major step forward occurred when Google decided to build a large data center in Council Bluffs. However, even as the tech giant was creating high tech jobs and adding significant new tax revenue, city leaders became increasingly aware of the 'digital divide' in town. Simply put, a large portion of the residents lacked high quality Internet access, which was impacting their careers, educations and social activities.

"Technology can be a great equalizer for students and families from different backgrounds, but without access, it simply cannot happen," said Pete Tulipana, President and CEO of the Iowa West Foundation. In today's world, getting things done means being connected. So community leaders in Council Bluffs came up with a crazy idea—what if we tried to connect everyone with free Wi-Fi? While the City had offered limited free Wi-Fi since 2009, a coalition of community leaders came together to see how they could expand that service. They committed to provide internet access for lifelong learning, bridging the digital divide, and ensuring services for residents that may not have other broadband options available.

### THE SOLUTION

In the spring of 2014, The Council Bluffs Community School District approved a plan that included a strategy to expand its Wi-Fi network for students into the community. At this time, the City of Council Bluffs and the Council Bluffs Community School District (CBCSD) formed a 28-E organization to expand free community Wi-Fi and expanded network for the District's students. Their goal was to provide as much outdoor Wi-Fi as was financially and technically feasible.

"BLink - Bluffs Community Wi-Fi" is now the project's name. In the fall of 2014, the group announced the first two phases. Fundraising and planning began immediately. Several community partners secured funding, ensuring BLink is a truly Community Wi-Fi initiative. Committees comprising city, school district, and community members were formed to guide the work. The project is





“We are so pleased that this partnership and expansion allows more of our students to access free Wi-Fi to do school work with their district Chromebooks or their computers at home.”

**DR. VICKIE MURILLO**

Superintendent of the Council Bluffs Community School District

led by the City of Council Bluffs and CBCSD and supported through funding, materials and labor provided by the following partners:

- Iowa West Foundation
- Charles E. Lakin Family Foundation
- Google
- CBTV 17
- Council Bluffs Area Chamber of Commerce
- Echo Group
- MidAmerican Energy
- Miller Electric
- Ruckus Wireless
- SmartWAVE Technologies
- UNITE Private Networks

BLink funding and implementation started as, and continues to be, a community-wide effort. No tax dollars have been used.

One of the partners is Google. Google’s Council Bluffs Operations Manager Mike Wolf said, “Google is proud to continue our support of BLink, making the Internet more accessible to our community’s residents and students and continuing to bridge the digital divide.”

SmartWAVE brought significant expertise in outdoor deployments, and also understood how to work with the City and all the BLink partners. Joe De Bauche, the Midwest regional manager for SmartWAVE said, “We appreciate the opportunity to be a part of this unique project with such a large impact to the Community. I congratulate the City of Council Bluffs, the Council Bluffs School District, Google and others in the Consortium for their vision in using technology to make a positive impact and change in the community. Understanding the project goals, we were able to use our proven methodology for deployment, combined with our talented team of experienced personnel, to move the project from a vision to a reality,”

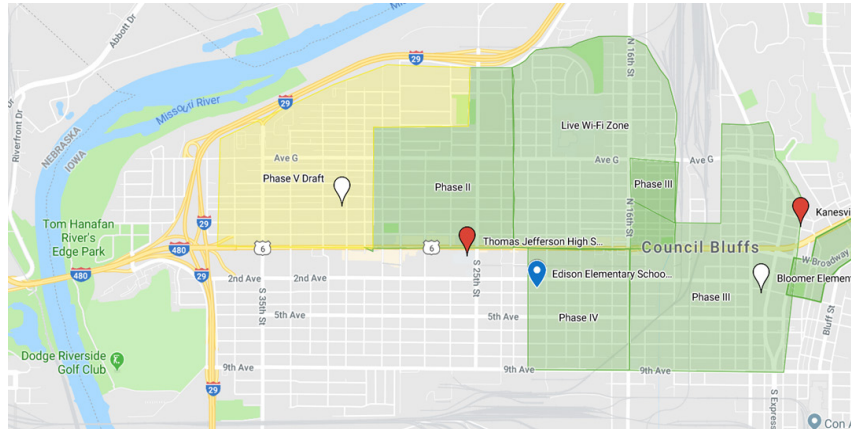
BLink is managed as a ‘success-based’ network. It has a goal to become one of the largest free Wi-Fi networks in the nation, including 14 currently identified deployment phases. However, they only continue to the next phase if and when the previous phase is successful.

The first four phases averaged around 65 access points each and focused on neighborhoods where school children might need Internet access. They’ve also deployed several parks and sports complexes, as well as the Mid-American Convention Center and Arena. Most of the sites are covered with Ruckus’s T300 series outdoor 802.11ac access points, although the convention center and Tom Hanafan Park use T600 and T700 series 802.11ac access points to support higher user density as well as IP Video surveillance cameras. The entire network is managed via virtual SmartZone controller to streamline network management and trouble shooting.

“The continuous expansion of BLink increases the opportunities for our youth to learn beyond the classroom walls. This project is a great example of public/private partnerships. Without the support of Google, Iowa West Foundation, and Council Bluffs Community School District, Bluffs Community Wi-Fi would not be possible.”

**MATT WALSH**

Mayor, Council Bluffs



In Phase 4, BLink also added a Ruckus virtual DataPlane instance break the network into smaller routing domains. This improves performance and security and is a standard architecture for larger service provider networks.

There is a CBCSD-managed student network on a separate VLAN on the BLINK Wi-Fi system exclusively for student's Chromebooks. This traffic is filtered through the school's firewall so students can only get appropriate content when using their Chromebooks on the BLink network. This helps ensure safe, simple connectivity that is consistent from the classroom to their neighborhoods.

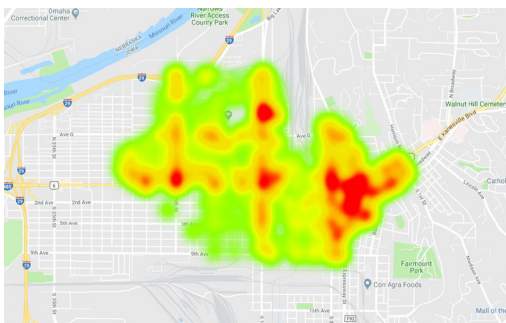
### RESULTS

BLink recently completed Phase 4 of their deployment and residents and visitors can see the BLink logo all over town, so they know there is Wi-Fi. Based on data from the Ruckus Smart Cell Insight analytics and reporting platform, there were over 58,000 unique clients on the network in Q2, 2018, and they transmitted over 75 Terabytes of data. On a typical day over 8,000 clients are online concurrently, including over 1,700 students.

As a sign of their growing confidence and comfort with the project, have approved phases 5, 6 and 7 and planning for all three is underway. In addition, the City of Council Bluffs and CBCSD are now using Ruckus Wi-Fi throughout their offices. Even more important, “Council Bluffs has changed to a place where young professionals want to be, students are successful, and businesses are opening,” according to Dave Fringer, Chief Technology Officer for CBCSD.

When completed over the next five years, the BLink coverage area will reach more than 20 square miles, providing Wi-Fi access to more than 40,000 people and reaching the doorsteps of nearly every home and business in Council Bluffs. Mayor Matt Walsh said, “Our continued commitment to this project, which does not use any tax dollars, demonstrates the city's vision for community-wide access and growth.” In part because of the BLink project, the Technology Association of Iowa nominated Council Bluffs as a finalist for the Iowa Technology of the Year Award this year.

For more information on BLink visit: [www.blinkwifi.org](http://www.blinkwifi.org).  
BLink Coverage Map available [www.blinkwifi.org](http://www.blinkwifi.org).



Ruckus SPoT Provides Comprehensive Footfall Analytics

Copyright © 2018 Ruckus Networks, an ARRIS company. All rights reserved. No part of this content may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from Ruckus Networks (“Ruckus”). Ruckus reserves the right to revise or change this content from time to time without obligation on the part of Ruckus to provide notification of such revision or change.

The Ruckus, Ruckus Wireless, Ruckus logo, Big Dog design, BeamFlex, ChannelFly, Edgelron, Fastron, HyperEdge, ICX, IronPoint, OPENG, Xclaim trademarks are registered in the U.S. and other countries. Ruckus Networks, Dynamic PSK, MediaFlex, Simply Better Wireless, SmartCast, SmartCell, SmartMesh, SpeedFlex, Unleashed and Ruckus Controller are Ruckus trademarks worldwide. Other names and brands mentioned in these materials may be claimed as the property of others.

Ruckus provides this content without warranty of any kind, implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Ruckus may make improvements or changes in the products or services described in this content at any time. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.



350 West Java Dr., Sunnyvale, CA 94089 USA

[www.ruckusnetworks.com](http://www.ruckusnetworks.com)