



## DIGITAL DIVIDE | LOCAL GOVERNMENT

## Richmond to Expand Free Indoor Wi-Fi Network

BY COLIN WOOD | JULY 24, 2015



Richmond, Calif. / Google Maps

In Richmond, Calif., hundreds of low-income residents log on to the city's free Wi-Fi network every day. The network was launched spring 2014 in the city's Iron Triangle neighborhood through a \$500,000 California Emerging Technology Fund grant. The city reports 300 to 400 devices have accessed the network

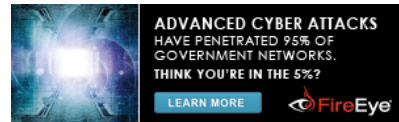
consistently since launch, and if the city's new grant applications are accepted, those numbers could rise.

Early in 2015, the city applied for additional funding totaling \$1.5 million, including an application to the California Advanced Services Fund, according to the city. And on July 22, Richmond applied for an additional \$500,000 Google broadband access grant.

A **study** conducted by project partner Building Blocks for Kids (BBK), a collaborative of about 30 government agencies, nonprofits and community leaders, found the city's mostly black and latino Iron Triangle neighborhood had more than 2,000 homes without Internet access before the project launched. Those homes are the ones the city wants to reach, said Sue Hartman, IT director for the city of Richmond.

"We have really learned that in making it better, technology is always changing and improving," Hartman said. "So, the infrastructure and equipment that we're ordering has improved significantly, which is making it better, so once we do get a funding source, we'll have a much more robust network."

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Today, Internet service in the Iron Triangle — so named for being bordered by railroad tracks — is delivered via three nearby towers, two operated by the city and another operated by project partner Internet Archive. Internet service is further relayed via a network of about 20 antennas mounted on neighborhood buildings and homes. Project partner and San Pablo-based computer repair and recycling company ReliaTech helps the city with equipment maintenance and installation.

Internet Archive helped model Richmond's network based on a housing development project in San Francisco called **SFLan**, another Internet Archive network with reported download speeds of 120 Mbps spread across 50 nodes. Richmond's project is unique, Hartman said, because while most municipal Wi-Fi projects bring Internet to citizens outside, their network is designed to deliver Wi-Fi inside the home.

The project was first created last year with health in mind, Hartman said, but the scope has expanded now that the West Contra Costa Unified School District is a partner.

"We are piggybacking on the same pathways for fiber run to all the schools in Richmond, which will then be able to deploy fiber broadcasts from each of the schools," Hartman said. "One of the things with the schools is in 2016, there will be a new program where every student will be given a tablet."

Local providers like Comcast provide low-income residents with reduced rates — Comcast offers a \$9.99 package, for instance — but that package doesn't include Wi-Fi connectivity, so it's not compatible with the tablet program, Hartman said.

"Since they have these tablets with them, they can sit in the park, go to their homes and hook up to the Wi-Fi and be able to do their homework from anywhere," she said.

In addition to the funding sought by the city this year, Chevron Corp., which operates a 2,900-acre petroleum **refinery** in Richmond that employs more than 1,200 people, committed to \$1 million in funding to be distributed to the city over the next 10 years — to provide free Internet access to residents who live near the refinery fenceline. Free connectivity will allow residents to access websites like the **Community Air Monitoring Program**, an online repository of local air-quality data. The city hasn't gotten any of the Chevron funding yet, Hartman said, but when they do, the funding will help to expand free Wi-Fi Internet access to more residents.

Spending \$500,000 to bring 400 residents at a time online means the cost for each resident is \$1,250. Chris Mitchell, director of the **Community Broadband Networks Initiative** at the Institute for Local Self-Reliance, said he doesn't know how that figure compares to other municipal Wi-Fi projects, but that there is potential to reach more citizens in the Iron Triangle neighborhood.

"I wonder if there are a lot of people who don't know it's available, because low-income populations really tend to use smartphones and other mobile devices that they have data plans for," Mitchell said. "So, if they had free Wi-Fi available, I would have expected that number to be higher."



Public Wi-Fi is also problematic, Mitchell said, because the technology is finicky and connections tend to be intermittent. Though Mitchell claimed no inside knowledge of how this particular network performs, he also held reservations about its performance indoors, because Wi-Fi is not well-known for being able to penetrate walls or long distances. Projects like these should be viewed as temporary fixes, he said.

“I think ultimately these types of projects don’t solve the problem, but they’re necessary in the interim while we’re developing better solutions. Some level of higher reliability access is the goal,” Mitchell said. “My ultimate goal is to have a fiber to everyone.”

The digital divide manifests in many forms, he added, but often people discussing the issue overlook urban connectivity, thinking that rural areas are the only ones with the problem.

“People have an issue understanding there’s a public policy problem with Internet access in urban areas like Richmond, and so I think programs like this are terrific,” Mitchell said. “It shows that at least someone cares and is trying to do something about it.”

The city reports that if new funding is acquired within one month, new construction will begin a minimum of three months later, pending the city’s approval process.

*This story originally was published by Government Technology.*



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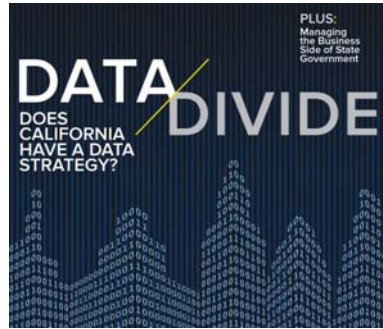
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