



# The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

## Final Copy of Case Study

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*San Francisco, CA,  
US*

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**STATUS:**  
*Laureate*

**CATEGORY:**  
*Digital Access*

**ORGANIZATION:**  
San Francisco Department of Technology

**ORGANIZATION URL:**  
<http://sfgov3.org/index.aspx?page=1421>

**PROJECT NAME:**  
Community Broadband Network

### PROJECT OVERVIEW

The City and County of San Francisco Department of Technology Community Broadband Network (CBN) is a 1GB network that provides free Internet access to a range of community programs within the City. The Department of Technology (DT) launched the CBN in the spring of 2008. DT installs and maintains 110 miles of fiber that is used for public safety, healthcare and other government agencies. The CBN uses a unique pair of City fiber that is physically separate from the City government network. CBN was initially created to provide broadband access for residents at Valencia Gardens, a public housing community. DT fiber had previously been deployed in front of the development as part of a fiber extension to a nearby campus of San Francisco Community College. One challenge in bringing Internet access to the 260 families at Valencia Gardens was the lack of funds to pay for ongoing Internet access. To solve this problem, DT partnered with the Internet Archive, a SF based non-profit group to connect the site to the Internet via their network at a data center in San Francisco. DT fiber connected Valencia Gardens to the data center (See appendix 1). DT also worked with Mission Housing, the property developer, to provide support services for the residents and establish a computer lab using refurbished computers. Mission Housing was able to purchase Cisco networking equipment for a heavily discounted price, which connects Valencia Gardens to the Internet Archives network over DT fiber. When Valencia Gardens was redeveloped, cat-5 cabling was installed into each apartment. Now residents are able to connect to a 100MBs Internet connection at no cost simply by plugging an Ethernet cable into the wall jack in their home. In 2009 FCC Chairman Julius Genachowski visited Valencia Gardens and identified it as a national model for broadband access and adoption.

[<http://www.youtube.com/user/SFGTV#p/u/0/pI35ICy3ppU>] The CBN has since expanded to provide Internet access to over 40 developments serving over 6500 units of low-income housing. At these sites, DT staff connected a community center to the CBN, and then installed wireless hardware around the developments. Wireless bridges were also installed at sites to connect other low income sites where it was not possible to bring fiber. DT is also

using City-owned infrastructure to expand access to the CBN. At DT's Twin Peaks communications site, wireless bridges provide access to 15 low income housing developments. A wireless bridge is also being used by the California Academy of Science for a webcam on the Farallon Islands. [<http://www.calacademy.org/webcams/farallones/>] The Farallons are a group of rocky islands in the Pacific Ocean 28 miles west of San Francisco. The Islands are home to the largest seabird breeding population in the continental United States, in addition to many marine mammals and great white sharks. The islands are only accessible by a small number of wildlife biologists and land managers for research purposes. Through the CBN and webcam, scientists and the public can take a virtual tour around the island and experience its diverse animal environment.

## **SOCIETAL BENEFITS**

The CBN provides Internet access for low income families who may not be able to afford it. It bridges the digital divide, allowing families to do research for their child's homework, learn about a medical issue, look for a job, and access the wealth of online information and entertainment.

## **PROJECT BENEFIT EXAMPLE**

Home access to the Internet is vital to educational success for school age children and adults. Nephtalí, a resident of Valencia Gardens, credits access to the Internet at Valencia Gardens as one of the reasons he was able to complete his MBA at San Francisco State University: "I have enjoyed a much less stressful environment and workday than I had previously dealt with. I had been walking thirty minutes to and from the downtown campus so that I could use a computer without time limits. The public library is closer, but they limit the use of their machines to one hour." This sentiment is echoed by a mother in the Potrero Hill housing development: "I don't have to use the computer lab at school to get online. I can get an earlier bus home from City College and not have to wait for the 10:30 bus." The San Francisco Unified School District (SFUSD) is piloting a program to provide 50 students with home computers. Access to the Internet is provided via the CBN. Computers will be configured to allow student to connect to SFUSD online resources. Some users have also reported using the CBN to receive phone and video services in ways that reduce their costs, making these services more accessible to low income and disadvantaged residents. The CBN is providing Internet access to support two unique environmental programs. As previously mentioned, DT worked with the California Academy of Science to connect scientists on the Farallon Islands. The Farallones are a group of rocky islands 28 miles west of San Francisco and are home to the largest seabird breeding population in the continental United States. Wireless radios are installed on a DT communications tower in San Francisco and on the Island. The networks support four different activities: • Phone and internet, as well as service monitoring for the scientists • A webcam from the Island to stream video over the web • Video stream monitor and controls available to the public at the Academy, allowing visitors to manipulate the camera around the island. • A tool to allow scientists on island to provide webcasts of their research on the island, with the ability for viewers to interact and ask questions of the biologists. Without access to the Community Broadband Network, this innovative project would not have been possible. The EcoCenter at Heron Point is San Francisco's first 100% "off-grid" building. In 2010, it was awarded the US EPA Environmental Justice Achievement Award. Given the center's unique location, it was costly to connect the site to a traditional ISP. Wireless bridges are now providing over 25Mb/s from a nearby housing site connected to the CBN. According to Tracy Zhu, EcoCenter Program Manager, the CBN supports their youth employment program and makes the center a "more welcoming, youth-friendly space with Internet because it's providing a resource for Bayview residents that is sorely needed—for youth to apply to



college, residents to find jobs, and for the broader community to connect with as a resource.”

**IS THIS PROJECT AN INNOVATION, BEST PRACTICE?** Yes

