

# Open-Access Networks Make Smart Cities Viable

Open-access networks can make cities more efficient, environmentally friendly and desirable to prospective residents and businesses.

By Ben Bawtree-Jobson / *SiFi Networks*

**E**uropean cities have successfully delivered independently operated open-access networks for many years, offering consumers a choice of service providers while allowing municipalities to utilize fiber networks for smart-city applications. The United States, however, historically has operated very differently. Often a single internet service provider (ISP) builds a network to suit its own financial model – usually meaning the wealthiest areas of cities are built and the less-affluent neighborhoods are left behind. Streets are dug up every time a new provider enters the market. Consumers are left with little choice in terms of providers, and, as a result, the cost for service is significantly higher.

Recently the U.S. broadband market started to change. UTOPIA Fiber in Utah operates an open-access network that allows access to multiple internet service providers. Even the largest ISPs are starting to realize the benefits of accessing independently operated networks. For example, CenturyLink (now Lumen and Quantum Fiber) in Springfield, Missouri, and Google Fiber in Huntsville, Alabama, and West Des Moines, Iowa, have seized opportunities to expand their territories without extensive capital expenditure.

Fullerton, California, and Salem, Massachusetts, also are leading the way in terms of change. Both cities are in the midst of becoming SiFi Networks “FiberCities.” SiFi Networks privately funds, builds and

independently operates citywide fiber networks upon which multiple service providers can deliver service to residents and businesses. In addition, SiFi Networks allows the cities to utilize the networks for smart-city applications. Many other cities, such as Pittsburg, California; Simi Valley, California; and Kenosha, Wisconsin, also are set to become SiFi Networks FiberCities.

Open-access networks could revolutionize the U.S. broadband industry for consumers and for the municipalities in which they operate. When utilized to its maximum capacity, a fiber network can provide the backbone to economic development and improved quality of life for residents and deliver a full array of smart-city applications that enable a city to become more efficient, environmentally friendly and desirable to prospective residents and businesses.

## THE OPEN-ACCESS MODEL

In an open-access model, a network is open to a range of service providers, including internet providers, enterprise-class services, cellular carriers and dedicated health care and education networks. This benefits communities because they can utilize the networks for more than just internet.

In an independently operated open-access network, access is wholesaled to multiple service providers that can utilize the network over time. This increases customer choice, allowing customers to choose different services from different providers.



An open-access network offers another benefit: It requires digging only once because the network is available to all service providers, so there is no need to dig streets up repeatedly whenever a new service provider enters the market.

### SMART-CITY INITIATIVES

Many cities want fiber networks to support smart-city applications. But the cost of building a network to support only smart-city applications is seldom justified. Municipalities predominantly use technology to reduce costs – not capture additional revenue – and, as a result, creating viable business cases for them is immensely challenging. In contrast, by using an independently operated network, a city is able to use profits from one revenue stream to subsidize municipal usage on a large scale. This completely removes connectivity as a barrier to creating smart cities.

Numerous smart-city applications are already available, and more will be added as technology evolves. From traffic monitoring to reduce congestion to monitoring storm drains to reduce flooding, there are applications for every need.

SiFi Networks allows municipalities to access its networks to implement smart-city applications, enabling cities to become more efficient and increase the quality of life for residents.

Some examples of smart-city applications:

- Water meter monitoring systems, which can detect leaks and high-usage users to reduce water waste
- Automated systems to lock park gates and restrooms, reducing the need for public works department employees to drive to all restrooms and parks to manually lock them
- Smart street lighting, which automatically dims street lights when not in use
- Better access to remote learning opportunities
- Telehealth
- Smart parking meters and applications to reduce traffic congestion

### QUALITY OF LIFE

A city that utilizes its networks to their full capacity can increase the quality of life of residents, especially as the COVID-19 pandemic continues.

Telecommuting becomes a real possibility: Residents can work remotely without the need to travel to offices, and students can learn remotely with reliable internet.

Outside the home, residents can benefit from the economic development and the smart-city initiatives a city deploys. For instance, residents may save money on water bills, enjoy the convenience of smart parking meters,

have more options for remote learning and remote health care and live in a more ecologically efficient city with a reduced carbon footprint.

An added benefit is that residents have a greater choice of service providers, leading to lower prices and better service.

### WHAT'S IN IT FOR THE ISP?

Historically, ISPs have been very protective of their networks – they fund, build and operate networks themselves and deliver service. In an independently operated open-access model, ISPs *access* the network only to deliver service to residents and businesses.

This model allows them to expand their territories rapidly without the expense or risk of constructing the network. The funds saved from construction can then be used elsewhere, such as marketing their services to a community.

The U.S. broadband market is evolving for the better. Many more cities are looking for ways to retain and attract new businesses, provide better internet service for residents, and access smart-city applications. COVID-19 has heightened and highlighted the need for reliable, fast internet and the need to change how it is being delivered. ❖

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