

It's a Smarter Future With Fiber

By powering many smart-city features, fiber will fuel economic growth, a skilled workforce, increased quality of life, and a sustainable future for communities across the U.S.

By Kevin Morgan / *Clearfield*

The explosion of the internet of things (IoT) is enabling communities across the globe to evolve into smart cities. Leveraging sensors, networks and data analysis, communities are addressing challenges in health care, energy, the workforce, public safety and many other sectors.

But what's behind the pulse of the smart city? Fiber infrastructure serves as the veins that support emerging applications, such as smart traffic sensors, connected vehicles and modern, cloud-connected medical devices.

PROVEN BENEFITS

Today, denying the benefits connectivity brings to individuals and communities is impossible. Two prime examples are Chattanooga, Tenn., and San Diego, Calif. In 2017, San Diego spent \$30 million to install 4,200 LED smart lights, traffic sensors, and pedestrian and public safety monitors. The investment saved more than \$3 million a year in power usage. What started as a cost-saving program ended up becoming one of the largest smart-city sensor platforms in the country. San Diego now collects data for application developers to help improve city services.

In 2010, Chattanooga became the first city in the U.S. to announce gigabit services and to offer high-speed fiber internet to its entire community. At the same time, it focused on developing a smart power grid and drawing outside investment. Many called Chattanooga one of the next Silicon Valleys, and it recently earned the rank of the No. 1 work-from-home city in the U.S. and Canada by PC Magazine. After 10 years of fiber optic and smart-grid infrastructure development, the community gained about \$2.7 billion in economic benefits and more than 9,500 jobs.

The examples of San Diego and Chattanooga are not stand-alone testaments to the benefit of smart cities and connectivity. It is widely acknowledged that 5G and wireless networks will power smart cities and be key in enabling data collection for smart vehicles, smart traffic, safety, environmental features and more. Though 5G and wireless networks are key, they fall second in the hierarchy to the true vital infrastructure element – fiber!

FUNDING FIBER

President Biden's infrastructure bill is geared to provide funding for upgrading traditional infrastructure such as roads, bridges and power grids, which will provide long-term

value. The bill includes \$65 billion in federal funding for broadband investment. Smart cities have afforded residents in urban areas with benefits, and improved infrastructure and reach into rural communities with high-speed broadband will extend the same benefits there.

Coordination between fiber network deployments and smart-grid modernization are necessary to reap any benefits smart cities promised. In October, the USDA announced that on November 24, it will start accepting applications for up to \$1.15 billion in loans and grants to expand the availability of broadband in rural areas through the ReConnect program. According to the National Conference of State Legislators, in the 2021 legislative session, 47 states, the District of Columbia and Puerto Rico have introduced more than 650 bills addressing broadband issues. Of those bills, at least 175 focus on funding. This level of commitment to provide broadband on both federal and state levels proves that everyone shares the goal of making broadband access commonplace. After all, a connected city has the ability to be a more cost efficient, safe and environmentally friendly city. It's a win for everyone.

THE SMART FUTURE

When you hear the phrases smart city or smart grid, think fiber networks. Fiber is at the heart of smart-city initiatives because of its low-latency, high-bandwidth carrying capacity. Government funding will pay off as the U.S. moves into a connected future.

The San Diego example demonstrates the true, tangible impact of smart-city investments. According to city data, its smart sensors have the potential to improve traffic by 10 to 20 percent, which will also lower greenhouse gas emissions and improve air quality.

Promoting economic growth, a skilled workforce, increased quality of life, and a sustainable future is on everyone's agenda. Let's all work to advocate for fiber-fed broadband, which allows us to reap benefits in nearly every element of our lives and in our communities. ❖

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