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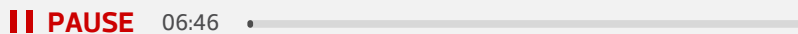2020

DIGITAL WORKSPACE

Street Smarts: Arizona Town Aims to Enhance Quality of Life with Smart Tech

The pandemic spurred Gilbert, Ariz., to initiate even more operational innovation

by Erin Brereton 🐦

Erin Brereton has written about technology, business and other topics for more than 50 magazines, newspapers and online publications.

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Like numerous municipalities, Gilbert, Ariz., faced an urgent need

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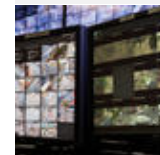Review: VMware VSAN Simplifies Storage For Government

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for hundreds of employees to work from home earlier this year due to the COVID-19 pandemic.

"Our mayor at the time put a proclamation out Monday that all town facilities were going to close Tuesday at 4 p.m.," says Town Manager Patrick Banger. "We had less than 23 hours to transfer to a remote workforce and not miss a beat with delivery of services."

Thanks to tools like Microsoft Teams and the Cisco Jabber collaboration platform (which Gilbert had begun implementing in January), the town was able to quickly outfit employees with work-from-home capabilities, says Gilbert's CTO Sasan Poureetezadi — including the ability to automatically place calls through the Jabber platform, instead of calling people directly from another number.

"It's all done virtually at the application level," Poureetezadi says. "People were able to take work to their home office, and our call centers were able to work remotely; they could take a cellphone and conduct operations for utility billing, for example."

Gilbert implemented additional technologies during the pandemic, including a text alert service Poureetezadi estimates currently has more than 12,000 subscribers, and employees began conducting virtual building inspections using town-provided Apple iPhones and FaceTime.

"Since March, we've now done over 3,000 building inspections virtually," Banger says. "We're actually working with a tech company that's developing augmented reality software we believe could be modified to allow for a greater number of inspections. Our current approach is more efficient and effective; you don't have lost drive time — you can stay at your desk in the town hall or home office and get inspections done."

Improving Citizen Services Through Online Applications

Within the Phoenix region, Gilbert ha[...] citizen-focused smart city agenda, [...] director of the Center for Smart Citi[...] State University.

Through membership in the Greater [...] Consortium — also known as The Co[...] and private sector partnership invol[...] formed in 2019 to help cities and tow[...] investments' potential, Gilbert has a[...] experiences with surrounding comm[...]

"In terms of its website, social media[...] Gilbert deployed a suite of applicatio[...] administrative chores we generally a[...]" she says. "The city actually listens to its constituents and is deploying solutions that address their needs."

In recent years, Gilbert has examined a number of possible tech implementations, including smart water meter technology that would eliminate the need for a technician to physically go to homes and read the meter every month, Banger says.

Early meter models that the town considered transmitted wireless signals that weren't strong enough to reach a cell tower to feed the data back into the town's system, Banger says. An employee would have had to collect data with a device while slowly driving down the street, and the solution cost roughly $10 million.

"The offset would be, you don't need as many people so you're going to save on personnel costs," he says. "But the payback time frame was about 19 years, and the life expectancy of the meters was 20 years; we just didn't think the timing was right to spend $10 million and only have one year, on average, of essential gain from that."
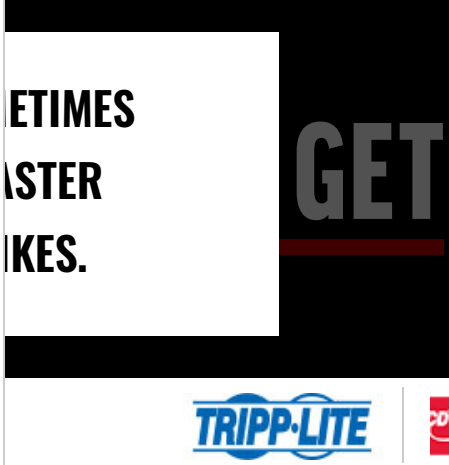
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So, over the past five years, Gilbert continued to conduct pilots involving different technologies to try to ascertain the involved cost, maintenance, reliability and total value proposition each offered. About a month ago, it identified a product that can wirelessly convey readings, eliminating the need to drive past residences — and which also costs just $5 million to implement, Banger says.

"It can transmit to a cell tower that then remits the information back to our system for billing purposes and data analytics," he says. "That just illustrates with the technology that's being developed, and the promise it holds for greater efficiencies with real-time data, we still need to watch the cost and make sure we don't invest in technology for technology's sake; it has to return value so that value gets extended to our citizens."

Sensor-based smart irrigation technology that utilizes Wi-Fi and radio-frequency ID connectivity is another potential enhancement that Gilbert, which experienced high-pressure sewer line blowouts over the past decade, is investigating via pilots, Banger says.

"It usually starts as a crack, which then grows and starts leaking; we finally learn about it when three lanes of the road have caved in because the line has now deteriorated and burst," he says. "If we had a network of sensors deployed throughout our underground piping system to measure pressure changes, which may be indicative of a leak occurring, it could turn a $2 million fix into a $50,000 fix by doing a surgical cut into concrete to repair it."

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Ongoing Efforts to Solidify a Framework for Smart Tech

To date, Gilbert's fiber-optic strategy has been a key component in its smart tech adoption.

The town currently has about 120 miles of conduit in the ground — "some of it with fiber in it, some of it just conduit," says Banger, adding that Gilbert hopes to eventually outfit its major north, south, east and west arterial roads with two 4-inch conduits to ensure all town facilities and assets can be interconnected.

"Having the physical architecture in place really is paramount to

achieving smart city outcomes because you need the network and infrastructure to be able to access data and information from smart system components," Poureetezadi says. "Ultimately, that's the infrastructure we're going to need to enable even more smart living and smart city technologies — and continuing to invest in that is going to be important."

Gilbert also recently issued a request for proposals to establish a public-private partnership with a company that would help build out the town's system to extend its fiber resources.

"Our hope is it would be a neutral third party that could competitively lease dark fiber to ISPs so we have fair competition on price and as robust broadband access as possible for the community," Banger says. "We want to have fiber in front of every home and business to unlock the full potential technology offers."

Additional infrastructure elements could help position Gilbert to take advantage of the many public sector tech offerings hitting the market — a phenomenon Banger attributes to increased bandwidth capabilities and data transmission speeds.

"It's really unleashed these incredible opportunities with sensor-based technology," he says. "In government, most things we do involve people delivering services, but automation promises great value in cost savings to communities by replacing people with systems, freeing up staff to take on other important tasks. Automation is going to play a big role in a lot of things we do."

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