V5 SYSTEMS

Case Study

Illegal Dumping Drops to Zero for Silicon Valley City

HOW PORTABLE, SELF-POWERED TECH SOLVED A $1 MILLION DOLLAR PROBLEM

It's a summer afternoon in the Bay Area suburbs*, and someone has just abandoned a broken ATM machine on a dead-end street next to piles of garbage from house parties, a misshapen old chair and two half-filled bottles of Drano. Despite the neighbors' frustrations, more toxic junk just keeps coming to the same old spot every day.

**City masked for privacy*

Around town, officials scramble to respond to more illegal dumping reports. Determined to find the right solution, the City tries implementing compliance fines and reporting systems, to no avail. It is time for a radically different approach.

Environmental consciousness, a need to promote the health of local residents and the necessity of using local resources efficiently present a real challenge for many cities. This Silicon Valley city is no exception. As part of California's Bay Area, this city is experiencing rapid economic growth. Consequently, the local population is increasing quickly and boosting demand for local services.

Industry:
State & Government

Location:
Bay Area, California

Application:
Prevent illegal dumping

Solution:
OnSight™ Portable License Plate Reader

In 2016, sanitation and environmental health remained a high priority, but began to present new problems. Dealing with soaring real estate prices and concurrent high moving fees, some residents were responding to the economics of moving by dumping apartment contents during moves rather than paying a removal fee. By 2016, the City had identified roughly 200 dumping hotspots.

The magnitude of this challenge meant that it was going to be expensive to tackle, and the City had to carefully evaluate solutions for cost-effectiveness. It was becoming increasingly clear that illegal dumping was not only taking a toll on residents' quality of life, but also having an economic impact on affected neighborhoods and the City itself. The City was spending nearly $1 million a year for cleanup operations.

An Illegal Dumping Crisis: Searching for Answers

"Residents used to hire mom and pop companies that would take away their unwanted items. The cost of disposal has increased significantly, and illegally dumped piles sometimes sit for a while and can affect the immediate areas and environments, especially the waterways," said Milo*, Supervising Environmental Services Specialist and a member of the Environmental Impact Committee.

**Name masked for privacy*

Illegal dumping prevention quickly became a top priority for the City, added Milo. The City received more than 50 service requests a day from residents who were impacted by dumping in their neighborhoods. Dead-end streets and other areas used traditionally as pick-up locations by disposal companies soon became hotspots for illegal dumping activity. In response, the City appointed a team to find a solution.

Affordable Surveillance and Deterrence that Works

The team initially decided to try posting signs near problem areas and encouraged local residents to report illegal dumping. This did encourage residents to become more aware of the illegal dumping happening in their communities, but the dumping continued to occur and the city had to devote additional resources to managing the problem.

Installing cameras came up as viable potential solution. The City did try one system of isolated cameras, at first. "The images of these cameras wasn't great. The license plates were usually blurry...illegal dumping sometimes happened right in front of these cameras," Milo noted. Not much changed, and dumping continued to pose a problem.

Determined to find a solution, the team considered self-powered security solutions from V5 Systems, a California-based technology company. They were interested in the OnSight Portable License Plate Reader (LPR), the world's first wireless license plate reader powered by lightweight, bullet-resistant V5 Solar Panels. At the beginning, the team did have some resistance when they tried to convince the city to give this radically different solution a try. Some were worried that the system would be too costly. For a city with numerous other priorities, they argued, purchasing cutting-edge technology would surely break the bank.

"We had a little bit of pushback on the cost of these cameras, but we had to educate the purchasing department that there are no other systems like this. Other companies just make an LPR but it doesn't work with a surveillance camera. Doesn't have that mobile capability.

We did have to go through a competitive pricing process. Now, after having them, we no longer have to do any selling because of how effective they are," Milo* noted.

But when Milo and his team demonstrated that the turnkey nature of the solution would actually save the City money, folks "were curious to see if and how they worked." Because of the OnSight LPR's portability and self-power, this solution was multipurpose and demonstrated its ROI almost immediately.

Back to Eden: A Smart Solution for Rejuvenation

The City immediately installed OnSight LPRs. The OnSight unit provides 24/7 video surveillance and captures license plate data. These turnkey, self-powered, pre-configured units are designed to work in demanding conditions and provide an out-of-the-box surveillance and deterrence solution. The solar power and battery management systems allow units to capture data in outdoor environments where access to power and communications infrastructure is nonexistent – essentially every residential blind-spot. Because the solution weighs less than 25 pounds, it can be rapidly redeployed to different hotspots, giving the City flexibility and increased visibility. The solution also generates real-time mobile alerts when vehicles enter defined no-go zones, with the LPR component capturing license plate data. Additionally, the ability to view live video means that these solutions act as a force multiplier for Milo's team, who can determine remotely what is happening before heading to the field. Finally, video stored on the device itself provides forensic evidence, critical when the City must issue citations to increase compliance.

The city implemented these to discourage dumping activity in approximately 200 local "hot spots" where dumping has happened.

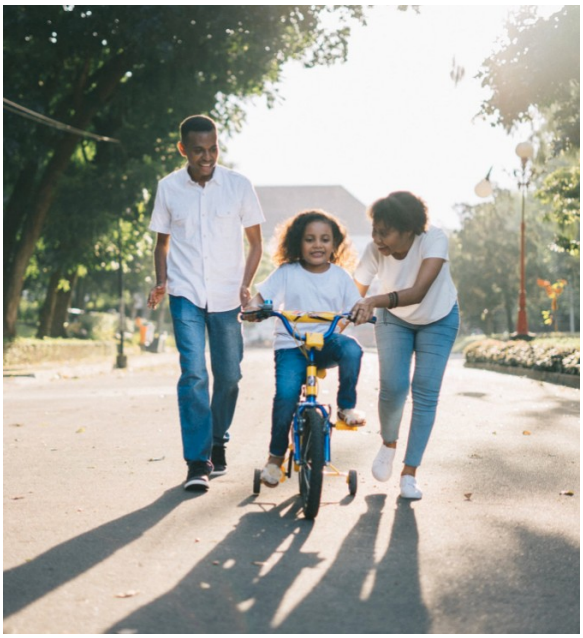
Since these units provide continuous remote monitoring, the city was able to dramatically discourage non-compliance with local dumping laws and began to see significant improvement.

Clean and Safe: Zero Dumping and Service Requests in Areas Deployed

Post-deployment, Milo says the City has seen a significant decrease in dumping and service requests in areas that have V5 Systems technology.

"Zero service requests in the areas they've been deployed. These units have made a great impact on wherever they've been deployed."

A handful of citations have been issued so far, but as Milo emphasizes that this solution is not intended as a revenue source, but as a way to help keep the City clean, and it has worked. A combination of Milo's team and the V5 Systems solution has meant that residents can now enjoy clean, safe communities. Even though the market forces that drive illegal dumping haven't disappeared, the City's vigilance has ensured that local communities are not burdened by it.



And just like that, that abused ATM machine, those vinyl chairs, and those half-empty Drano bottles are off the streets. Now, parents can let their kids and dogs explore the local park without worrying that they'll get cut up on broken glass, and neighbors can be neighborly again. Thanks to the City's initiative and V5 Systems' technology, City residents can fire up block-party barbeques with their loved ones and community in a safe, wholesome environment.

Summary

Organization

This Silicon Valley city is a growing hub that seeks innovative and environmentally-sound solutions to the challenges they face today. The City seeks to improve the quality of life for residents and support continued growth by adapting to population changes and addressing environmental needs.

Challenge

This Silicon Valley city continues to experience rapid growth, and as it expands, the costs and resources necessary for garbage disposal and illegal dumping prevention have also increased. In turn, illegal dumping, graffiti and water monitoring became a more significant challenge and the City began looking for readily-deployable solutions to prevent these issues.

Initially, signage was placed to encourage compliance and discourage illegal dumping but didn't seem to help. They also considered installing cameras, but with roughly 200 hotspots of illegal dumping identified, these cameras required additional infrastructure costs to provide an adequate power supply that they couldn't afford. The City needed something that could be quickly deployed with minimal disturbance to the environment and at an efficient price-point.

When V5 Systems' technology was initially presented, City officials still agonized over cost, as they were using the price of piecemeal, traditional surveillance as the baseline.

Solution

V5 Systems provided the City with OnSight LPR, solar-powered, portable surveillance solutions. These solutions require no added infrastructure besides a pole for placement, creating a minimal footprint and offering sufficient coverage for areas the city identified as hotspots in need of regular, real-time monitoring.

These units give the City a lightweight, wireless device with live video streaming, license plate reading, real-time alerts and HD video storage. Because of the inherent portability, these devices can be moved rapidly to secure new hotspots.

Because of their turnkey nature, they completely superseded fragmented traditional security, driving down service calls to zero. In fact, the units paid for themselves within a handful of citations, rendering worries over cost moot.

Results

At areas where devices were deployed, the City has seen no service requests in the nearly one-year period that these units have served the community. The cameras are acting as a deterrent, with just a couple citations being issued. Before, just one location prompted as many as 30 service requests from residents during a three-month period. These systems are enabling the City to prevent further violations and improve residents' quality of life dramatically.

City officials very quickly realized the ROI of the V5 Systems solution and plan to potentially expand their use in the near future for public safety applications.