

Rock Solid Citywide Video Surveillance



“Palm Beach needed Town wide video surveillance. This was a high profile project within the community, but we needed to preserve the aesthetics. Because of the system performance, we were able to design a solution that provides total camera coverage, but is also virtually invisible, leaving the town pristine.”

Bob Marchessault, project leader, JCI

OVERVIEW

The Town of Palm Beach Florida is the premier resort location on the east coast of the United States. The population of 10,000 residents swells to 30,000 during vacation season. It is an Atlantic coast barrier island separated from the mainland by intracoastal waterways. This beautiful location attracts some of the wealthiest vacationers, and to remain attractive, the city wants to keep crime under tight control.

Geographically, Palm Beach is a long, narrow strip of land with only six entry and exit points. These bridges that provide access to the island also provide public safety officials a means to monitor traffic in real time.

CHALLENGE

The town wanted to have a town wide surveillance system that would provide video for public safety and also enable automatic license plate recognition (ALPR) to provide 24/7 coverage of the bridges and the entire city. The solution had to:

- Provide high resolution to capture and analyze license plates from moving vehicles entering and leaving the island
- Be extremely reliable to work around the clock to capture information as events occur

- Be reliable to survive harsh weather conditions in high heat and humidity and harsh tropical storms

In addition, the solution had to be discreet. Palm Beach prides itself on being a premier resort destination, and the civic leaders wanted to preserve the peaceful resort atmosphere without unsightly cameras bristling on poles or the low two story buildings. This meant that the solution would also

- Need to be easily installed on existing structures
- Be able to operate in near and non line of sight (nLoS and NLoS) conditions
- Be unobtrusive to the residents.



PROFILE:

Palm Beach, Florida

CHALLENGE

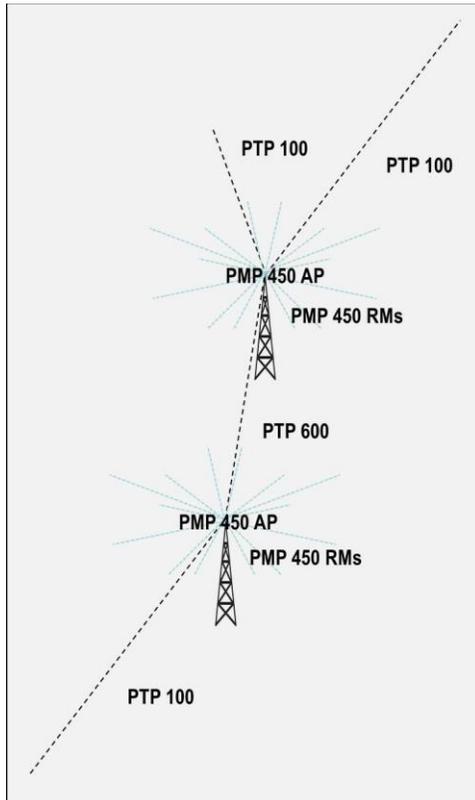
Provide video surveillance and automatic license plate recognition (ALPR) for public safety

SOLUTION

- Network of 73 cameras strategically positioned
- Access network of two PMP 450 Access Point clusters and 25 Remote Modules
- PTP 600 backhaul links
- PTP 100 links to remote cameras

SOLUTION

MobileComm, a Cambium Networks partner and Johnson Controls (JCI) partnered to develop a solution that met the requirements and provided them a communications infrastructure platform that can grow as demands for bandwidth continue to increase.



Johnson Controls and MobileComm have partnered before on numerous video surveillance solutions. Based on their experience, they wanted to

- develop a robust solution that would be able to handle multiple connectivity needs over one common backbone infrastructure
- provide a wireless infrastructure that would be able to be installed quickly and at a fraction of the cost of wired technology
- avoid data modem technology that would present a recurring cost to the community
- develop a solution that they knew would work under harsh conditions, and non-line of sight geography

To support the initial deployment of 78 cameras, MobileComm and JCI developed a communications infrastructure that leveraged only two main Access Point (AP) tower locations,

one at the middle of the island, and one at the south end. They used the LINKPlanner tool to design the network for success.

“There can be a lot of RF noise on the island,” said Terry Delmonaco, project lead from MobileComm. “We wanted to use an access network that is GPS synchronized so that our system is not competing with our own radios and raising the noise floor. The PMP 450 provides synchronization for the reliability that we need.”

These towers were connected by Cambium Networks PTP 600 backhaul links and equipped with PMP 450 APs, and which provided connectivity to the 25 PMP 450 Remote Modules (RM) that connected the cameras and ALPR devices. To reach a small number of very remote locations, PTP 100 links were deployed to link to the cameras.

“The backbone and infrastructure was the easiest part of the installation,” said Bob Marchessault, senior account manager from JCI. “We were able to add the clusters of cameras to the infrastructure with no problems.”



“The toughest part of the design was that we had to hide equipment in plain sight.”

Terry Delmonaco, project leader, MobileComm

RESULTS

The solution was rapidly installed and was immediately proving video coverage and license plate recognition. In the year that it has been deployed, the system has had no down time and

has survived the full cycle of storms, heat and humidity.

“We are getting full megapixel quality with no degradation,” said Marchessault. “The system has exceeded the customers’ expectations, and we are planning to expand the network to add more cameras.”

“We have one link that is 5.5 miles long over water and a causeway. It is providing flawless video and has worked from day one,” said Delmonaco.

Palm Beach has used the system to catch criminals caught in the act on video and then identifying their vehicle using ALPR as they attempt to leave the area. Businesses and resorts in the area are donating to expand the system to expand and enrich coverage.

