

LED Street Lights Brighten the Tenderloin

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Prostitution and drugs frighten some people away from San Francisco's gritty Tenderloin district, but the area could soon enlighten the city with a money-saving idea.

The city government has installed "smart" LED (light-emitting diode) street lights in the Tenderloin that can be managed remotely. The street lights are part of a wider effort by the city to cut spending and reduce energy use.

The LED panels are connected to servers over existing power lines, from which the city manages the operation of the LEDs. Based on data retrieved from the panels, management consoles like Echelon's I.Lon SmartServer can remotely turn off or dim lights depending on time, weather and traffic.

"We have installed 50 [LED panels] in the Tenderloin district as a demonstration," said Tony Winnicker, a spokesman for the San Francisco Public Utilities Commission. "It's an area where reliable street lights are important for public safety. They last longer, and it's brighter at street level," he said.

San Francisco has about 30,000 street lights, and over time, LED lights will replace conventional fixtures, Winnicker said. LED offers double the life and consumes up to 50 percent less energy than the conventional sodium fixtures, Winnicker said.

The energy savings will help the city reduce greenhouse gas emissions by 2012 to the levels of 1990, he said. Shutting down individual or a group of lamps on a situational basis -- like time of day -- also prolongs life of LEDs. In the long term, that will cut greenhouse gas emissions and reduce lamp acquisition costs.

The city is also equipping panels with traffic and weather sensors to determine LED behavior. For example, lamps could stay on during a rainstorm based on data gathered by weather sensors. The sensors also provide fringe benefits like the ability to flash lights for first responders to quickly locate emergency scenes.

Additional savings come through remote management of the street lights. Echelon's software maps operational and non-operational lights, allowing personnel to spend time repairing lamps instead of inspecting them.

The management console is also available as a Web service, so street lights could be managed over the Internet using mobile devices like the iPhone, said Steve Nguyen, director of corporate marketing at Echelon.

Many cities -- especially in Europe -- are taking a phased approach in implementing smart street lamps, Nguyen said. Cities usually don't want to put all their eggs in a single basket, so they break up implementations over multiple vendors.

Echelon and its partner companies are among a handful of companies being considered for implementation of LED panels in San Francisco. The company is already in the process of implementing about 125 LED panels in nearby San Jose, which it hopes to complete by June 30, Nguyen said.

The need to cut costs may seem crucial during the recession, but San Francisco is taking a phased approach in LED deployment. Winnicker said the technology needs to be fully evaluated before implementation. He doesn't want to encounter unpleasant surprises like hackers breaking into the system to take control of street lights.

A heavy up-front cost is also involved in deploying the new technology, so it may be appropriate for the city to take a gradual approach.

"It's smart from a financial perspective as the cost of street lights are coming down rapidly," Winnicker said.