

Intelligent street light system uses 80 percent less electricity

Ben Coxworth July 12, 2011



An experimental energy-saving streetlight system automatically dims the lights when no people or moving vehicles are in the area (Image: TU Delft) .

Of all the energy-saving tips out there, probably the one we hear most often is to not leave lights on when we leave a room. It's good advice, yet cities around the world are not following it in one key way - their streetlights stay on all night long, even when no one is on the street. The Netherlands' Delft University of Technology is experimenting with a new streetlight system on its campus, however, in which motion sensor-equipped streetlights dim to 20 percent power when no people or moving vehicles are near them. The system is said to reduce energy consumption and CO2 emissions by up to 80 percent, plus it lowers maintenance costs and reduces light pollution.

Delft Management of Technology alumnus Chintan Shah designed the system, which can be added to any dimmable streetlight. The illumination comes from LED bulbs, which are triggered by motion sensors. As a person or car approaches, their movement is detected by the closest streetlight, and its output goes up to 100 percent. Because the lights are all wirelessly linked to one another, the surrounding lights also come on, and only go back down to 20 percent once the commuter has passed through. This essentially creates a "pool of light" that precedes and follows people wherever they go, so any thugs lurking in the area should be clearly visible well in advance.

The lights' wireless communications system also allows them to automatically notify a central control room when failures (such as burnt-out bulbs) occur. This should make maintenance much simpler, as crews will know exactly where to go, and when.

Some fine-tuning is still ongoing, in order to keep the lights from being activated by things like swaying branches or wandering cats. In the meantime, Shah has formed a spin-off company named [Twilight](#) to market the [Delft](#) technology. He claims that municipalities utilizing the system should see it paying for itself within three to four years of use.