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## LED Lighting: New Technology With Many Benefits

**Bottom Line:** Light emitting diodes (or LEDs) are a very sustainable lighting source, and they are increasingly available (and cost competitive) for use in public spaces by cities or schools.



Based on semiconductor technology, LED's have many advantages over traditional light sources including the widely used incandescent bulb and the newer (and energy efficient) compact fluorescent light. LED's use less energy, last longer, are smaller, and can be changed more quickly. They do not contain mercury. Their disadvantage, as with many new technologies such as solar energy, is greater up-front cost for the user.

We see LED's almost every time we drive. California has required LED traffic lights since 2002 and for pedestrian signals since 2004. Estimates of the savings on energy and operating costs are in the 90% range; in addition, as the bulbs last much longer, they

require less maintenance.

However, because of the quirks of LED technology, white light LED applications (such as those for street lighting) have long been unaffordable or unavailable. Recent advances may have solved the problem. Several manufacturers have released street and parking lot LED lighting. Tests of these lamps, including street lighting in San Francisco and super market parking lot lighting in West Sacramento, were sponsored by the US Department of Energy. Local agencies may be able to secure government funding to install LED lights.

San Jose is using stimulus funds to install LED street lights in the Hillview North neighborhood, which qualifies for funding as it is a low income area. U.S. Department of Housing and Urban Development's Community Development Block Grant program is the source of the funds.

Because of cost and technology issues, LEDs are not yet suitable for home use, except in certain decorator situations or under counter lighting. However, we can expect more general applications in a few years.

### Take Action:

- **LEARN MORE:** Interesting background information on the commercialization and uses of LED lighting can be found in the *New York Times* [here](#).
- Research about the ins and outs of switching streetlights to LED technology through the PGE LED Street Light Program. This program will offer two types of incentives for customers interested in replacing traditional street lights billed at a fixed LS-2 rate with **LED fixtures**.
- Find experts and ask questions through the United States Department of Energy, which has a solid state lighting department whose mission includes further development and introduction of LED lighting, especially for **businesses and government**.
- Learn how San Jose used stimulus funding for its LED program [here](#).

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An LED street light

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