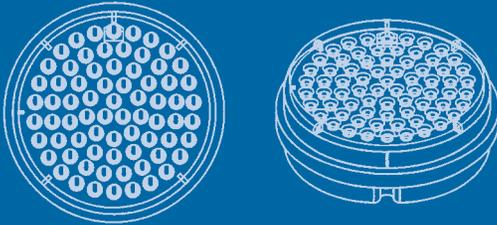


What are LED traffic signals?

A light-emitting diode (LED) is a semiconductor device that uses solid state electronics to produce colored light.

Manufacturers package individual LEDs into a traffic signal head, which produces highly visible light and can be easily installed into the existing structure.

LEDs are also used in many products, including alarm clocks, exit signs and automobile brake lights.



LED signal head

Why buy LED traffic signals?

- ▶ **LED SIGNALS USE 80-90 PERCENT LESS ELECTRICITY** than traditional incandescent traffic signals. Because traffic signals operate 24 hours a day, 365 days a year, the opportunity for savings is huge.
- ▶ **LED TRAFFIC SIGNALS LAST 5-10 TIMES LONGER.** This longer life translates into substantial maintenance savings.

What about daytime peak load savings?

LED signals are an effective way to reduce peak demand since they are always operating during daylight hours, a time when electric utilities are looking to reduce power usage. With local utility assistance, California governments have installed several thousand LED traffic signals to reduce statewide system demand.

For more information

Contact your local electric utility

Utilities may offer financial or technical assistance to customers interested in purchasing LED traffic signals.



Money Isn't All You're Saving

ENERGY STAR

www.energystar.gov

(click on Find Products, Traffic Signals)



Institute of Transportation Engineers

www.ite.org

(click on Standards, LED Traffic Signals)

This brochure was brought to you by CEE and its Members.



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LED Traffic Signals

SAVE ENERGY

SAVE MONEY

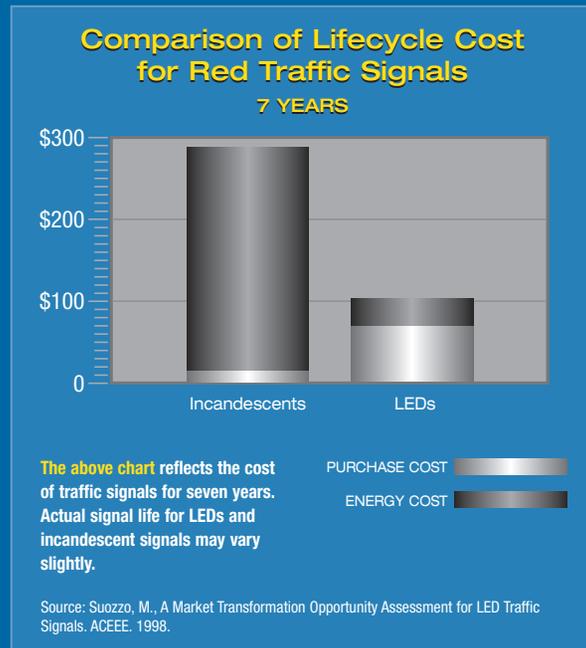
REDUCE MAINTENANCE

How much do LEDs cost?

As is the case with all energy-using products, traffic signals have two price tags:

- ▶ **PURCHASE COST**
- ▶ **OPERATING COST**

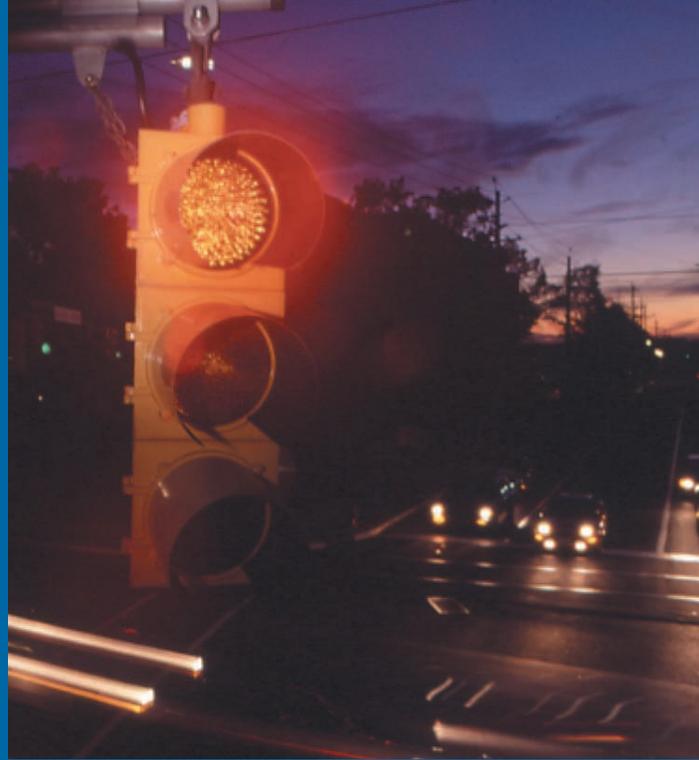
Compared to an incandescent signal, the initial cost of buying an LED traffic signal is higher - but the operating costs are far lower. LED signals not only save energy, but reduce maintenance expenses, replacement costs, pollution and potential liability costs.



As you can see from the chart above, the total cost (energy cost plus purchase cost) for the life of an LED signal (estimated at seven years) is less than half the cost of an incandescent signal.

TO CALCULATE THE POTENTIAL SAVINGS IN YOUR AREA, use the life cycle cost tool (Available Summer 2001) at:

www.lrc.rpi.edu/ltgtrans/nysledon



What do LED signals save?

▶ **ELECTRICITY**

LED signals and pedestrian modules generally use 9-25 watts, compared to 75-150 watts used by an incandescent signal. Converting 100 red traffic signals to LEDs would save approximately \$2600 every year (assuming 7 cents/kWh).

If all traffic signals in the United States were changed to LED signals, the annual energy savings would be 3 billion kWh or \$225 million every year.

▶ **MAINTENANCE**

Re-lamping cycles of maintenance departments can be reduced because LED signals offer a longer useful life. This allows maintenance staff to focus on other projects and lowers the cost to state and local governments.

When governments use LED traffic signals, there is less need to send out crews for emergency signal outages, allowing for potential liability savings.

Traffic signals that include red, green and yellow LEDs can use a battery backup during power outages, providing additional safety.

How to find the new traffic signals



Look for the ENERGY STAR® label. ENERGY STAR is a joint DOE/EPA program that identifies energy-saving products.

The ENERGY STAR specification is based on the federally recommended specification by the Institute of Transportation Engineers (ITE), with an added wattage level requirement.

A list of qualifying traffic signals is posted on the ENERGY STAR web site: www.energystar.gov

By purchasing an ENERGY STAR qualified traffic signal, you are assured of getting one of the most efficient products available, while also adhering to ITE's safety specifications.

Where have LED signals been installed?

Hundreds of cities and towns across the country have found LED traffic signals to be a good investment.

INSTALLATIONS INCLUDE:

- Albuquerque, NM
- Anaheim, CA
- Boston
- Bowling Green, OH
- Colorado DOT
- Connecticut DOT
- Denver
- Essex County, NJ
- Framingham, MA
- Hattiesburg, MS
- Hawaii County
- Illinois DOT
- King County, WA
- Lee County, FL
- Madison, WI
- Milwaukee
- Maine DOT
- Manchester, NH
- Montpelier, VT
- Scottsdale, AZ
- Seattle
- Sheboygan, WI
- New Haven, CT
- New York City
- Oregon DOT
- Philadelphia
- Sacramento, CA
- San Diego
- Stockholm, Sweden
- St. Paul, MN