



Traffic Signal Fast Facts

- New York State spends approximately \$18.4 million each year on energy to operate traffic signals, at least half of which is wasted.
- Energy savings, safety benefits, and maintenance cost reductions have prompted many state and municipal transportation agencies to install LED traffic signals.
- LED signals are guaranteed by manufacturers to last at least five years compared to a typical life of one year for conventional incandescent signals.
- Drivers often comment that LED signals appear brighter than incandescent traffic signals.
- Traffic signals using LEDs use up to 90 percent less energy than those using incandescent lamps. See below for typical wattages of LED and incandescent signals.

Typical Signal Wattages

Signal	Incan.	LED	Savings
12" Red	135	10	93%
8" Green	69	9	87%
Pedestrian	69	7	90%

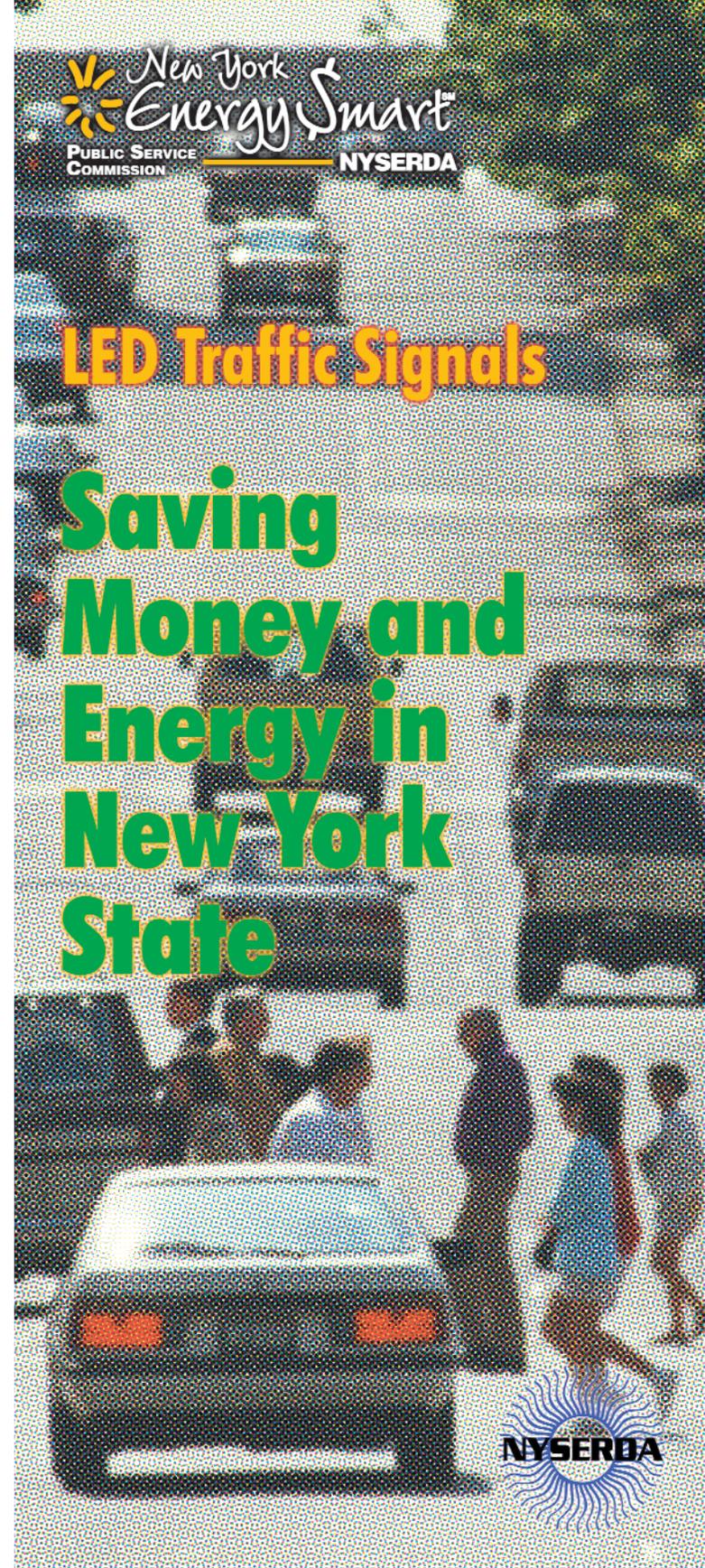
- LED signals are easy to find by calling your local signal supplier or the New York State Office of General Services (OGS). Visit www.ogs.state.ny.us/purchase to find out how to purchase LED signals through OGS.



New York State Energy Research and Development Authority
 Corporate Plaza West
 286 Washington Avenue Extension
 Albany, NY 12203-6399

Postage

Mailing Label



LED Traffic Signals

Saving Money and Energy in New York State



LED signals — an efficient and effective choice for New York State

With localities across the country already realizing the financial, energy, safety, and maintenance benefits of light emitting diode (LED) traffic signals, it's time for communities in New York State to become enlightened. LED traffic and pedestrian signals offer localities throughout the state a new way to cut costs while improving safety in their communities. Thanks to energy and maintenance cost savings, the life cycle cost of LED signals is significantly lower than that of incandescent signals.

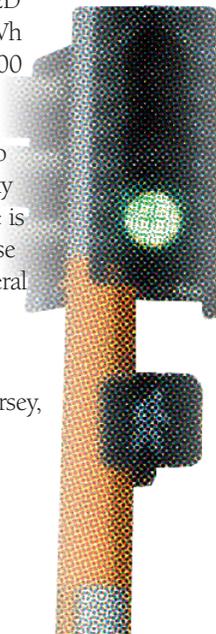
LED Signals Available

-  **Balls** Red, Green
-  **Arrows** Red, Green
-  **Pedestrian Signals**

LED signals are an efficient and effective alternative to traditional incandescent signals. LED technology has become a popular means of reducing energy use and increasing signal life. In fact, energy saved by converting each of New York State's 20,000 intersections to LED technology would be approximately 230 million kWh per year—enough energy to power more than 12,000 households for one year!

Manufacturers are making the case for conversion to LEDs even more attractive by producing high quality signals at the lowest possible prices. New York State is also making it possible for municipalities to purchase LEDs at a reduced price through the Office of General Services (OGS).

Don't be left behind! Many localities across the northeast—including some in Connecticut, New Jersey, Massachusetts, and New Hampshire—are already reaping the benefits of LED signals.



Why should your municipality consider purchasing LED signals?

Energy Cost Savings

LEDs offer the potential for significant energy savings because they use only a fraction of the energy that incandescent signals require. A typical red incandescent lamp requires 135 watts, while a 12" red LED can do the job using just 10 watts. Installing red LED signals alone can yield energy savings of 35 to 40 percent per intersection. For example, the New York State Department of Transportation (NYSDOT) has documented savings of more than 75 percent of energy costs on an intersection retrofitted with both red and green LED signals.

Enhanced Safety

Conventional incandescent signals often fail without warning, resulting in intersections that can be hazardous for drivers, pedestrians and maintenance workers alike. LED signals, on the other hand, are usually comprised of several dozen to several hundred individual LEDs, which are very unlikely to fail all at once. Instead, should a single diode fail, only a small incremental reduction in light output occurs, which can offer advance warning to replace the signal. With this enhanced safety feature, LEDs offer minimized personnel time in signal replacements.

Also, because of the significantly longer life of LED signals, maintenance personnel can spend less time changing signals in potentially dangerous intersections and more time planning intersection improvements. According to Tom Soyk of White Plains Traffic Division, *"this is especially important for White Plains, where lamp changes need to be scheduled around two daily rush hours and can mean a half day or a whole day spent on one signal."*

Maintenance Cost Savings

While conventional incandescent signal lamps have a life span of about one year, LED signals are typically guaranteed for at least five years. NYSDOT estimates that due to the extended lifetime of LED signals, relamping can be conducted every three years instead of every year, substantially reducing intersection maintenance costs. According to Guillermo Ramos of the NYSDOT, *"Maintenance savings should not be ignored. At one pilot intersection, we estimate we'll save \$300 per year in scheduled and emergency maintenance."*

Where to Start

The New York State Energy Research and Development Authority (NYSERDA), a public benefit corporation established by law in 1975, administers various programs that promote energy efficiency for New York State citizens. NYSEDA provides information on financing, as well as helpful case studies that describe how localities like yours have overcome implementation barriers, realized cost savings with tariff rates, and learned to "sell" the concept of LEDs internally. A life cycle cost tool is also available to help you calculate customized energy and maintenance savings estimates.

For more information about LED technology or the resources available through NYSEDA, contact Adam Holmes of ICF Consulting at (518) 452-6489, or visit Rensselaer Polytechnic Institute's Lighting Research Center online at

www.lrc.rpi.edu/lgttrans/nysled.

NYSEDA is also currently sponsoring an energy-efficient street lighting initiative. For more information, please contact Laurie Kokkinides at (518) 862-1090, extension 3353.