

Arkansas LED Traffic Signals Project



The Arkansas Energy Office (AEO) worked on a joint project with the Arkansas Highway and Transportation Department to install LED traffic signals in 54 small communities in 2007. The lenses in ninety-eight intersections were replaced which reduced annual energy consumption by 882,312 kWh per year.

- The ASHTD estimates that at the present rate of change, upgrading to LEDs will take about 30 years. With funding, all eligible locations could be upgraded in about 7 years.
- Measured energy savings per intersection is slightly over 9,000 kWh per year.
- Without a pedestrian signal, the electrical energy savings is 79%, with a pedestrian signal, the energy savings is 89%.
- Each intersection is estimated to reduce CO₂ emissions by about 140,000 pounds per year.

Based on the success of this effort, the AEO would like to continue this work with the Arkansas Highway and Transportation Department to complete the transformation to LED traffic signals.

- Current installed cost per intersection (with pedestrian signals) is **\$4,400**.
- Number of intersections remaining to be converted to LEDs is **555**.
- Total estimated cost for this retrofit is **\$2,442,000**.
- Estimated energy savings for these 555 intersections is **4,997,000 kWh** per year.
- Total life cycle savings, including energy and maintenance savings, is **\$2,824,000** per year.