

## Traffic Signal LED Light Replacement

Nominating Agency: City of Lone Tree

**Accomplishment:** The City of Lone Tree Public Works staff implemented a traffic signal program for the replacement of inefficient, incandescent traffic signal bulbs with new, energy efficient LED (Light Emitting Diodes) bulbs. Through this program, approximately 600 bulbs were replaced within the City including solid, arrow, and pedestrian indicators.

**Innovation:** By replacing the inefficient bulbs with LED bulbs, the City is expecting to save at least 60 percent in energy costs. Additionally, City staff was able to complete the switch out, further minimizing the costs for replacement of the bulbs.



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**Achievement:** The primary goal of this program was to replace all incandescent bulbs used in traffic signals throughout the City with more efficient LED bulbs. As a result of replacing all of the bulbs to



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LED, Public Works is expecting a decrease in energy costs for the year 2011 and has decreased the energy consumption for signal bulbs by 90 percent. The payback period based on reduced energy cost is 40 months.

**Transferable:** Other municipalities can utilize a program similar to City of Lone Tree's for upgrading traffic signals. The LED lights use less energy, are brighter for an improved visibility, feature increased life of the bulb for less maintenance activities reducing impacts to the driving public, and can help a municipality become a more sustainable steward.

**Cooperation:** This project required the cooperation and foresight of City Council to see the long term benefits of replacing traffic signal bulbs with LED bulbs. The upfront costs of this replacement were outweighed by the long term benefits, including decreased energy use, better visibility, and decreased maintenance costs.

**Summary:** By replacing over 600 inefficient, incandescent bulbs with more efficient LED bulbs throughout the City's traffic signal system, citizens of Lone Tree can be assured that the City has taken one more step to becoming a more sustainable community by decreasing energy use and costs, decreasing maintenance costs, and increasing safety by providing more visible signal lights. This project serves as an example of how municipalities willing to invest in upfront costs will undoubtedly see long term benefits. ●

