



MEMORANDUM

January 8, 2016

TO: Eric Stuckey, City Administrator
Vernon Gerth, Assistant City Administrator
Russell Truell, Assistant City Administrator
Joe York, Director of Streets Department
Franklin Board of Mayor and Aldermen

FROM: LK Browning, Chair of the City of Franklin Sustainability Commission
Andrew Orr, Principal Planner

SUBJECT: Recommendation to include funding for high mast LED interstate lights in the FY 2016-2017 Budget.

Purpose: The Sustainability Commission respectfully recommends that the City retrofit all city-owned and maintained high mast interstate lights to LEDs.

Background: In January 2013, the Streets Department purchased and installed Holophane I high mast LED lights on a pole near the Moores Lane and I-65 interchange. The pole is located near the southbound on-ramp and contains six lights. This site was selected for the test because the pole is on a sole source electric meter. In 2012, before the new lights were installed, the City spent \$1,165 on electricity for the one pole near Moore's Lane (19,606 kWh were consumed). In 2014, after LEDs were installed, the energy cost and usage dropped to \$670 and 11,204 kWh, respectively. In addition to 43% savings, visibility and aesthetics were greatly improved.

Currently, the City has a total of 168 high mast lights spread across 26 poles along I-65. Each pole has four, six, or eight lights. The City has high mast lights at the Moores Lane, Cool Springs Boulevard, McEwen Drive, and Murfreesboro Road interchanges. Currently, there are no high mast lights at the Goose Creek interchange. Three poles totaling 16 fixtures have already been converted to LEDs and are distinguished by their white light. The other two poles are located at the Cool Springs Blvd and Murfreesboro Road/I-65 interchanges.

Two years ago, the City considered retrofitting all of the high mast lights to LEDs. At that time, the price per unit was too high and the project did not make good financial sense. In 2015, Holophane introduced an updated version. The Holophane II LEDs are 20% more efficient and 30% less expensive than the Holophane Generation I units installed at our test site near Moores Lane. It is noteworthy that the new generation LEDs are 63% more efficient than the existing lights used by the City.

The cost to retrofit all lights is estimated at \$180,000. The combined annual energy and maintenance savings is approximately \$27,000 and the payback, is approximately six years. According to Mathue Bean, a Sustainability Commission Member employed by Middle Tennessee Electric Membership Corporation (MTEMC), this project is eligible for the Tennessee Valley Authority (TVA) incentive program called Energy Right Solutions which encourages energy conservation projects. TVA Comprehensive Services Staff in partnership with MTEMC analyzed the proposal to retrofit all of the City's existing fixtures to LEDs and based upon the energy savings, determined that the City would be eligible to receive an incentive worth approximately \$10,000.

Recommendation: The Sustainability Commission supports the budget request to convert all high mast interstate lights to LEDs in order to reduce energy and maintenance costs and to enhance the overall lighting along I-65.