



Oklahoma Street Lighting Assessment

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About the South-central Partnership for Energy Efficiency as a Resource (SPEER)

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I. INTRODUCTION

Street lighting is typically the largest share of municipal monthly electric consumption. According to various studies, LED street lighting is estimated to save between 40% and 65% in energy costs, depending on the replacement. Although the initial capital costs to retrofit street lights are higher than other types of commercial lighting applications, the ability to capture savings over the lifetime of the project is substantial. With the addition of controls and reduced maintenance, the potential for cost savings is even higher.

Cities are becoming increasingly knowledgeable about their options for street lighting retrofits, both nationally and in Oklahoma. While cities continue to face significant barriers to capturing this energy savings; yet many are forging ahead. This report is comprised of publicly available information and discussions with stakeholders in the Oklahoma region. This summary also highlights barriers and opportunities known to exist for many cities within the territories of Oklahoma Gas & Electric (OG&E) and Public Services Company of Oklahoma (PSO), the two major regulated investor-owned utilities in Oklahoma.

In Oklahoma, like many other states, street lights are either owned by the city or the utility. Although by one estimate, about 2/3 of the streetlights in the state are owned by the utilities. Oklahoma City, Moore, Norman and Tulsa have all undertaken LED street lighting retrofit projects and/or replaced some portion of their street lights. Often, pilot projects begin with the city initiating the retrofit on city owned street lights, for those lights owned and maintained by the utilities, the city will negotiate the retrofit project. The majority of cities surveyed showed no interest in buying their own streetlights, the consensus seems to be that cities in the state prefer that utilities handle this process. Although cities prefer that utilities own and maintain their street lights, they do want and expect to see both energy and maintenance savings after a retrofit project.

II. CURRENT STATUS OF UTILITIES, CITIES AND RETROFITS

Oklahoma Gas & Electric (OG&E) appears to be trying to get out in front of the LED street lighting trend from cities, and had filed an [LED tariff](#) with the PUC in of September 2016, which has been adopted as the current [LED lighting tariff](#). The pricing includes a monthly LED fixture charge and an energy charge for utility owned lights. It is important to note that cities within the OG&E territory that have utility owned street lights, the cities are required to cover the cost of an LED street lighting retrofit project. With that in mind, there are multiple financing mechanisms such as grants, ESCO's, utility financing, and others. The city also has the option to pay a fee to the utility for the retrofit. As part of the new LED tariff, OG&E noted that some of the drivers for creating the new tariff included dropping LED costs, more LED product testing and availability, and lighting manufacturers informing them of changes to availability of lighting in the future.

Public Service Company of Oklahoma (PSO) does not currently have an LED street lighting tariff, although they do offer LED retrofit incentives to cities under their utility incentive program (for large



customers) in order to offset first costs for qualifying street lights. However, some cities, like other large utility customers in the same rate class, are opting out of ratepayer funded energy efficiency programs as is permitted in Oklahoma and some other states. Currently, cities may pay the standard non-LED street light tariff (designed in the past for typical high-intensity discharge lamps), or they may pay the metered usage tariff for their city owned and operated street lights, this option only available to metered lights. PSO has mentioned they plan begin working on an LED tariff for utility owned lights, but none has been filed.

Oklahoma City (served by OG&E) is in the process of developing its first sustainability plan, and they anticipate that LED street lighting pilot projects will be part of this process. The city had previously retrofitted their decorative street lights to more efficient LED lighting technologies. Oklahoma City is also currently in discussions with OG&E about appropriate LED street lighting tariffs.

The City of Norman (served by OG&E) is expecting to see a 30% to 60% reduction in energy consumption with an LED street lighting retrofit project for their Main Street corridor. This project involved research into emerging LED roadway lighting technologies to select a fixture that will meet the needs of the citizens of Norman, as well as the maintenance requirements of OG&E. Norman reports that completion of the Main Street retrofit project is believed to be the first application of LED technology for continuous roadway lighting for a multi-lane roadway in the State of Oklahoma.¹

The City of Moore (served by OG&E) is also undertaking an LED street lighting retrofit pilot project. This retrofit will be testing advanced networking features including lighting controls and scheduling.

The City of Tulsa (served by PSO) is reported to be in the process of converting about one-third of the city owned downtown street lights to LED, with expected cost savings close to 60%. They expect the retrofits to last more than twice as long as the high-pressure sodium fixtures that are being replaced, thus further saving in maintenance costs.²

III. GOING FORWARD

Moving forward SPEER will work with cities and utilities to ensure they understand the opportunities and savings when reviewing street lighting retrofits from HPS or other lighting technologies to LED lighting technologies. SPEER has also been working with member energy services companies to create business cases to help support the retrofit of street lighting to LED for both cities and utilities. These business cases will share the financials of completed and/or proposed projects, which is instrumental in moving a retrofit forward at the city level. We also have an Implementation Guide that walks cities through the process of a street lighting project, which assists them in understanding the barriers and opportunities.

¹ <http://www.normanok.gov/content/street-lighting>

² <http://ktul.com/news/local/tulsa-saving-on-light-bills-by-changing-to-led-bulbs>

