



LCC comparisons in US cities



Public Procurement Principle: **Balance**



Procurement Stage: **Pre-tendering, Tendering**



Audience: **Policy maker, Procuring entity**

Description

A number of LCC comparisons have been carried out in US cities and towns, where LED uptake for road lighting installations began. Some are briefly described below:

- **Portland, Oregon**, invested USD 18.5 million in replacing 45 000 HPS light points with LED for 50% lower energy consumption — leading to savings of USD 1.5 million per year in reduced energy and maintenance costs. That equates to a payback period of eight years when discount rates are factored in.
- **Los Angeles, California**, invested USD 57 million in replacing 140 000 HPS light points with LED and the energy savings were initially expected to be around 40% but advances in LED technology ahead of the project resulted in greater savings. Together with USD 7.5 million savings in electricity costs, the total annual savings of USD 10 million should result in a payback period of 5 to 6 years. However, the study urged caution in procuring LED solutions, when it was found that only 84 of 244 LED units met the quality specifications set out by the Bureau of Street Lighting website.
- **Charlotte County, Florida**, considered the costs in 2016 of changing their 2 145 light points from HPS to LED lighting. Their existing maintenance costs were assumed to be between USD 28 and USD 55 per light point, depending on the type. The power cost of an HPS light was around USD 12 per month and an LED light was estimated to be USD 6 per month (a 50% reduction). Current energy and maintenance costs (for HPS) are USD 310 000 and USD 80 000 respectively. They concluded that costs for HPS and LED were similar over a 20-year period, but that falling LED costs would soon make it the more economical option.

- **In Phoenix, Arizona**, the conversion of almost 95 000 HPS light points to LED was considered in 2013. Over a period of 10 years, they considered HPS and LED with the following characteristics: energy cost per light per year (HPS: USD 72.36; LED: USD 32.88); fixture cost (HPS: USD 250; LED: USD 475); fixture installation (HPS: USD 29; LED: USD 29); and lamp life (HPS: 20 000 hours; LED: 50 000 hours). In conclusion, they found that LED was around 20% cheaper over a period of 10 years. Applied to the city of Phoenix, this equated to around USD 5 million per year once the whole system was converted. For a USD 1 million investment in LED, a 9-year simple payback period was calculated.

Source: OECD (2018) Unlocking the Strategic Use of Public Procurement in Bratislava, Slovak Republic more info: <https://doi.org/10.1787/d616e4d9-en>

