

Council District	Total Number of Units	Total Nominal Wattage Before (kW)	Total Nominal Wattage After (kW)	% Energy Savings	Annual CO2 Reduction (Metric Tons)	Annual Energy Savings (GWh)	Annual Energy Savings (\$)
1	5,246	1,190.1	489.9	58.8%	1,689.1	2.857	\$253,206.04
2	2,409	396.5	107.5	72.9%	697.3	1.179	\$104,388.04
3	7,431	1,196.1	364.4	69.5%	2,006.5	3.393	\$307,356.92
4	5,041	1,071.7	389.8	63.6%	1,645.3	2.782	\$245,967.12
5	6,382	1,199.9	384.5	68.0%	1,979.0	3.327	\$294,080.05
6	3,128	489.3	189.5	61.3%	723.3	1.223	\$115,929.46
7	5,053	861.8	334.7	61.2%	1,271.7	2.151	\$194,977.66
8	14,244	2,972.7	1,155.1	61.1%	4,384.9	7.416	\$655,892.30
9	8,310	1,832.3	674.0	63.2%	2,794.5	4.726	\$428,696.28
10	9,544	1,968.3	756.8	61.6%	2,922.8	4.943	\$436,967.83
11	4,867	834.8	255.9	69.3%	1,396.5	2.362	\$216,973.06
12	11,421	1,897.2	773.3	59.2%	2,711.5	4.586	\$417,870.79
13	6,563	1,494.1	527.7	64.7%	2,331.6	3.943	\$348,575.06
14	5,567	1,067.4	374.8	64.9%	1,671.0	2.826	\$249,814.05
15	8,715	1,555.8	557.5	64.2%	2,408.4	4.073	\$360,055.61
Total	103,921	20,028 kW	7,335 kW	63.4%	30,633 MT	51.79 GWh	\$4,630,750

TABLE 1. A summary of LED street lights installed, and corresponding energy and emission reductions, in Los Angeles through Nov 5, 2012.

scale with controls. Coincident with SALC, they released the first results for the project that includes 1400 lights. The focus has been on wall packs, post-top area lights, and pathway lights that were considered a "safer place to start" than street lights.

The CLTC learned a lot quickly. For example, relatively static occupancy sensing just

doesn't work. Cunningham said that an installation has to address the "occupant directional of travel." For example, she said that having a dimmed light come to full brightness after a bicyclist has passed is not useful. So the network is a key enabler of the system being able to predict travel direction before someone reaches a luminaire that

needs to come to full brightness.

Cunningham said that the same situation would apply to street lights. A networked system might need to predict that a car was making a turn onto a roadway and react with a lighting change, before the turn happens.

The CLTC system has delivered surprising results dealing with what Cunningham called a mix of pedestrians, scooters, bicycles, segways and other forms of transport. She said that the network includes more than 200 wall packs. In the case of the wall packs, the LED lighting saves 87% in energy over the prior lights and the adaptive-control system adds an additional 20% in savings. She said the network added 16% savings in post-top area lights, and a larger 34% savings in pathway lights.

Case studies

Outside of the controls area, there were a couple of other case studies presented at SALC that we should discuss – a new one and an update from the Los Angeles LED street-light installation that we've covered previously. Let's start with the new one, because it's also the first instance of municipalities using the DOE Municipal Solid-State Street Lighting Consortium (MSSLC) "Model



FIG. 2. Networked LED-based post-top lighting at the University of California at Davis.