

UC DAVIS PROFESSOR CALLS FOR A STATEWIDE “TIME OUT” ON FURTHER PUBLIC PURCHASES OF LED STREET LIGHTS

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*“The current rush to relight city streets with LEDs will greatly limit
the long-term potential for future energy savings”*

– Professor Michael Siminovitch, UC Davis

Background: Federal stimulus dollars and public investment funds in efficiency are rapidly flowing to municipalities and public institutions to purchase LED street lights. While transitioning from conventional high pressure sodium (HPS) light sources to more efficacious light sources is desirable, the bulk of the LED systems being installed are not pre-wired for controls capabilities. Street lights with controls systems offer dynamic dimming during long periods of inactivity, a feature with tremendous potential to save energy, mitigate waste, reduce light pollution, and increase public safety. In spite of all these advantages, there is no nationwide control standard established to date, and LED street lights are being installed en masse without this important feature. These fixtures are likely to be in use for as long as 20 years, so the fixed-wattage, un-retrofitable fixtures sold today represent a significant loss in long-term savings opportunity.

An integrated, addressable LED street light could offer an additional 40–50% savings beyond what can be expected from the simple upgrade to LEDs, with only a small, highly cost-effective additional expense. Also, including controls on-board offers the potential for establishing a demand response opportunity in the future, an important feature as we progress towards more significant evening energy use peaks.

Controls capability offers larger savings and cost/benefit potential for street lighting than the use of a static LED in isolation, given the marginal efficacy advantages over HPS. A dynamic controls approach for LED street lighting also addresses dark sky issues, reducing light pollution during the long night-time hours of inactivity typical of most residential settings.

Fortunately, manufacturers are well positioned to add controls-ready features to LED street light fixtures, and at modest costs, meaning this almost-lost opportunity can be addressed rather easily if only the utilities, local governments, and industry come together to complete an appropriate specification. Until California has a well-developed specification that achieves real long-term energy savings, the State should call an immediate “time-out” to any further purchases associated with public funds.

Stakeholders are therefore urged to engage in this dialogue as soon as possible, focusing on a path forward that better elucidates the opportunities and cost/benefit associated with either a “controls ready” or “control on board” approach.

A controls-ready approach would require a fixture to ship with a dimming driver and be easily field modified or retrofitted to allow for full controls operability down the road, without a lot of additional expense. This would essentially future-proof the early LED investment, without having to resolve all of the control protocols and sensors technology strategies now.

“Controls on-board” means that the fixture is ready and able to be fully controls operable at the time of installation. This will include the factory installation of electronics and sensors and the development of complementary controls communication protocol. This approach will require leadership and a significant effort to develop appropriate protocols and technologies.

[For more information, read “Taking the Long View on LED Street Lighting” by Professor Siminovitch in the July 2010 issue of LD+A](#)