

[I've noticed that City of Antioch streetlights are being changed... what's going on?](#)

The *City of Antioch Lighting Retrofit Project* began with the installation of energy efficient fluorescent lights in seven City buildings and has proceeded to the replacement of all 8,725 HPS (high pressure sodium) street & park lights in the City of Antioch with energy-efficient induction lamps and generators. The project is reported to be the largest of its kind in the U.S. and is scheduled for completion this year (2010). A press describing the project can be found at

<http://www.greenerbuildings.com/news/2010/02/18/honeywell-oversees-46m-lighting-retrofit-california-town>.

[How much is the project going to cost and what is the benefit to the City?](#)

The \$4.65 million City of Antioch Lighting Retrofit project is a budget-neutral, self-funded project. A portion of the project was funded by a \$660,000 grant from the 2009 American Recovery & Reinvestment Act.

The calculated energy cost savings of the new induction lamps to the City is estimated at \$531,339 per year. The project will be paid back over a 10-year period at \$488,549 per year, with an initial savings to the City for the first 10 years of \$42,790 per year.

[Who is doing the work?](#)

The City chose Honeywell, a recognized leader in the energy services industry, to provide materials and support for the project.

EnLight Energy Efficient Lighting, Inc. of Pleasanton, CA is the project contractor. EnLight has subcontracted a portion of the work to a local contractor, ICR Electric of Antioch, CA.

[How did the project develop?](#)

The project received approval in 2009 in two phases; first as a pilot project, and then as a full-scale construction model.

The Phase One pilot project, approved at public hearing by the City Council on March 24, 2009, provided the public, Police & City staff with an opportunity to inspect & evaluate the proposed lighting retrofits. It replaced 24 HPS (high pressure sodium) lamps-- 12 streetlights on Laurel Road, 6

Knoll Park lights and 6 parking lot lights at City Hall-- with energy-efficient induction lamps & generators. The Phase Two installation/retrofit project was approved by the City Council at public hearing on September 22, 2009 and involves the work described above.

[What was the reaction to the pilot project?](#)

The *Antioch Police Department* inspected the 24-lamp pilot project and concluded that installation of the new induction street and park lamps would enhance public and officer safety, provide easier identification of cars and people, improve visibility and clarity of images allowing objects to be seen in their normal color, and provide brighter lighting directly beneath the retrofitted lamps.

Light meter readings performed by the *Contractor* and confirmed by the *City's Engineering Department* demonstrated by comparison that the new induction lamps produced photopic (color-blind) light readings which were equivalent to or better than the old HPS lamps, and scotopic (color sensitive) light readings which were much better than the old HPS lamps.

[What are the benefits of the induction lighting retrofits?](#)

The calculated energy cost savings to the City *per year* is estimated at \$531,339. The energy-efficient induction lamps are expected to last 100,000 hours (*approximately 22 years*) before needing replacement, a time-period significantly longer than the old HPS lamps whose life expectancy was 3-5 years.

Induction lights illuminate instantly and provide uniformity & consistency of lighting. In addition, the replacement lamps are estimated to reduce CO₂ carbon emissions by 1,825 tons per year, equivalent to planting 700 acres of trees or removing 300 cars from the road.

[The new lights seem kind of blue. Why is that?](#)

The new lights are blue-white because the latest research has found that the human eye sees better at night under blue-white light than under amber light. It makes sense; our eyes are adapted to see at night in moonlight which has a blue-white light. There is actually a different type of receptor in the eye for seeing at night, and that receptor reacts best to blue-white light.

Light meters that take into account the better perception under whiter light are called scotopic light meters as mentioned above.

[Sometimes it seems like the new lights are brighter than the old ones, and sometimes it seems like they are dimmer. Why is that?](#)

The white light will look brighter than the yellow light because the receptors in your eyes respond better to it, but when you look for the effect of the light on objects it isn't as obvious because it is white light. The yellow light is easy to see on objects because it is an unnatural color. Under the white light, the objects just look like they do in daylight, except dimmer.

[Why can't I see the new lights as I drive down the street? Why does this also makes them seem not as bright?](#)

In addition to replacing the light source inside the fixture, the lighting upgrade project is replacing the lenses on the streetlights. The old lenses drop down below the light fixture and shoot the light out to the sides. This creates the glare that you see as you drive down the street. This isn't usable light, and also contributes to light pollution by directing light up into the sky. The new lenses are flat and clear. More light comes out of the fixture to be used where it is needed, but from a distance you can't see the light fixture. The lens was designed like this on purpose. Both the City and Honeywell have verified with light meters that the light levels after the retrofit are the same or better than the light levels before.

[Why does the new light seem to shine into my window more than before?](#)

The new lights are in the same place as the old lights, and they have almost exactly the same distribution of light as the old ones. The white light seems brighter because your eyes react to it better.

[Why does it seem like there are more dark spots between the poles than before?](#)

Part of the perception of dark spots between poles is because the lights are new, and that causes you to look closely at something that you probably never noticed before. There were darker spots between poles before. Again, both the City and Honeywell have done measurements to ensure that there is at least as much light between the poles as there was before.

Part of the perception also goes back to a previous answer. The yellow light is easier to discern on objects, so it's easy to tell exactly how far it travels. The white light just lights up the object, so it isn't as easy to tell where the light is coming from.

An easy test that you can do is to walk down the street away from the light and notice how long you can see your shadow. The shadow lets you know that light from the street light is reaching you.

[The installers changed the light in front of my house, and now it's out. Who should I contact?](#)

We do expect some initial failures from the new lights. Most of the failures should be in the first couple of days after installation. If you report the street address of the pole and the pole number found on the pole below the light, we will get a repair person to take care of it. Contact Ken Warren at the Engineering and Development Services Division of the Department of Public Works via email at kwarren@ci.antioch.ca.us or by phone at (925) 779-7000 extension 12066.

[I still have more questions. Who do I contact?](#)

If you still have more questions, please contact Ken Warren at the email address or phone number provided above or, if Ken is not available, you may contact the Department of Public Works at (925) 779-6950 and someone will assist you.