

# The Red, Blue & Green



## Glasgow's Brightest Technology

It is finally April. Hopefully, the "winter of our discontent" is over and we can all start coming out of the house. It is in that spirit of emergence that we have chosen to discuss some Glasgow technology that you will begin to notice a lot more as you venture out of doors at night . . . street and security lighting.

While this is not the most interesting technology in Glasgow's portfolio, you might be surprised to learn about the many aspects of designing, installing, and maintaining those lights that magically come on at dusk and go off at dawn (theoretically). Come along, dear reader, and we will shed some light on this subject.



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First of all, let's get our terminology straight. A street light is, as the name implies, one which is normally found at the edge of a street, on the public right-of-way, and is intended to illuminate the roadway in the interest of improving the safety of the roadway for vehicles and pedestrians. A security light is one which is installed on private property, at the direction of the property owner, in the interest of illuminating an area that the property owner wants to be less dark at night. It is important to keep these two distinctions in mind. The City of Glasgow pays for street

lighting and private citizens pay for security lighting.

You might be surprised at what the City of Glasgow pays to help make the city streets

safer for us all. Your city taxes fund about 3,000 street lights within the city limits. The annual cost of this benefit to us all is about \$250,000! That works out to about \$17 per year for every resident of Glasgow. It is not an insignificant cost and, while not the most sophisticated technology, the street lighting system is far from simple. Personally, I think we are very lucky to have those 3,000 street lights in Glasgow. When we travel to other parts of the country, it is rare to find a city with better lit streets. You just don't notice it that much when you are here, but travel a bit and it is clear that we pay more attention to night time roadway safety than most other locations.

All of the street lighting in Glasgow today is high pressure sodium (HPS) lighting. Nearly all of the security lighting is HPS as well. All of us more than 30 years of age will recall that most street and security lighting used to be done by mercury vapor fixtures. Those lamps produced the very bright white light that used to be the norm in the 1960's and 70's. Today's HPS lamps produce the pinkish orange light that we see up and down our streets in Glasgow. While most think that the old white lights produced more pleasant illumination, the HPS fixtures produce much more usable light for the dollar spent. So, we accept this less-pleasant orange light color because of the amount of green it saves us.

HPS lighting works by passing a very high voltage through some quite unsavory chemicals contained in a glass tube. Sodium and mercury are not elements to be trifled with, but they do have a habit of giving off copious amounts of light when they are properly excited by high voltage arcs. In fact, the same might be true for all of us, but no one really should conduct that experiment! The worst feature of HPS is that, when the lamp reaches the end of its useful life, it does not simply quit working. Instead, it *cycles*. If you have noted a street light which comes on, gets up to full brightness, then abruptly goes back off again, you have seen an HPS fixture cycling. The cycling drives us crazy because

it often destroys the whole fixture before we can get it repaired.

When the HPS lamp can no longer sustain the arc necessary to excite the sodium, it shuts down and cools off. Then the starter in the fixture gets the signal from the photocell (that is the little gray cylinder on top of the fixture that tells the fixture when it is dark outside) that it should turn on the lamp again. The starter then fires off a high voltage spike into the lamp and the bulb starts working again, then when it gets hot it turns itself off again. If someone does not call us to inform us of the problem with the fixture quickly enough, the fixture goes through this cycling process all night long, every night, until the starter finally gives up the ghost itself. Then the fixture goes totally dark and remains that way until someone reports it to us and we come out to replace the fixture. We are then paying the full cost to replace the unit instead of just the cost of replacing the lamp. All things being equal, we would rather just replace the lamp.

You will note that we have not mentioned how you need to let us know when you see a street light or security light that is not functioning properly, and that is a very important element of proper outdoor lighting maintenance in Glasgow. We have no other way to know when street lights are out if someone does not report them to us. We have tried to use new technology to help us communicate with the fixtures to help us know when they fail, but that experiment was a failure.

So today, the only method we have for getting information about the functionality of our street lights is for you to communicate that information to us. Right now the best way to do that is to simply call us at 651-8341. Soon we will also have a place on our web site that will allow you to type in information about faulty street lights at any time of the night or day and we hope you will be watching for that feature in the near future. After we get the information about a failed fixture, or bulb, we will strive to be there to repair it within three working days.

Even though the City of Glasgow is dedicated to providing excellent street lighting, there are still streets that might need to be re-evaluated. One of the problems in providing adequate and even street lighting on all streets in Glasgow is our old nemesis . . . trees. This time of year, just as we start coming out to enjoy strolling down our streets, the trees also start producing leaves which often obscure the street lighting and diminish the available light on a street. Still, other streets might have been widened or reconfigured in such a way as to render the lighting less effective. If you believe you know of a street that needs to have its illumination revisited, just give us a call and we will check it out and report our findings to the City. All decisions on street lighting upgrades must ultimately be made at City Hall. They are the ones paying for it.

So, enjoy the spring weather and your well-lit streets in Glasgow. And, if you see a light which is not performing properly, please let us know.

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