Outdoor Lighting and Crime: Is There a Connection?

Many people who have not had occasion to investigate the matter tend to assume that where crime is a concern, "the more light, the better"! But the research that has been done to date has provided no reliable evidence that this so.

A 1977 U.S. Department of Justice analysis of 60 street lighting projects found that "there is no statistically significant evidence that street lighting impacts the level of crime, especially if crime displacement is taken into account." An even more comprehensive Justice Department report in 1997 stated, "We may speculate that lighting is effective in some places, ineffective in others, and counter productive in still other circumstances....Lighting has received considerable attention. Yet, evaluation designs are weak and the results are mixed. We can have very little confidence that improved lighting prevents crime, particularly since we do not know if offenders use lighting to their advantage. In the absence of better theories about when and where lighting can be effective, and rigorous evaluations of plausible lighting interventions, we cannot make any scientific assertions regarding the effectiveness of lighting. In short, the effectiveness of lighting is unknown."

Notwithstanding the caveat that "evaluation designs are weak," poorly designed research continues, particularly in the United Kingdom. In 2002 a comprehensive review and analysis of lighting-crime research was published by Barry A.J. Clark[1]. Dr. Clark examined every study he could locate, with special emphasis on a "meta-analysis" published by two British writers, Farrington and Welsh, earlier in 2002. The intent of this analysis was to pool data from a number of separate investigations in the hope that doing so would permit more soundly based generalizations. However, the studies it included suffered from a wide range of flaws (Clark enumerated 13 different ones), such as being confounded by extraneous factors like increased police patrols, being funded by the lighting industry, or results of claimed benefit that were implausibly large. Frequently there was little or no information as to how the lighting had been changed, and often the locations where lighting was increased were crime "hot spots," where the normal tendency of crime levels to "regress to the mean" may have been mistaken for a benefit of changed lighting.

Despite these flaws the Farrington and Welsh meta-analysis was posted to the Website of the British Home Office, and governments in the UK seemed inclined to increase street lighting levels. But the effort/expense appears to have been in vain; street crime in the UK increased 28% in the year ended April 2002. Clark concludes that there is "no compelling evidence" that increasing outdoor lighting will reduce crime.

It is often said that increased outdoor lighting reduces the *fear of crime* even if it does not reduce *crime itself*. However, survey data gathered for the California Energy Commission[2] indicate that such benefits are a function of the type of lighting. Survey participants visited a variety of sites for which "glare ratios" had been calculated and were asked a number of questions regarding perceptions of safety and other "lighting comfort" issues. The researchers concluded:

> "The subjective impression [among survey respondents] tends towards 'worse' as the lamp wattage increases and when comparing non-cutoff to cutoff fixtures. Similarly, the glare ratio increases with increases in lamp wattage and the utilization of non-cutoff fixtures."

The Illuminating Engineering Society of North America (IESNA) publishes "Recommended Practice" reports specifying appropriate lighting levels for roadways, parking lots, and other types of facilities. Existing evidence cannot justify lighting in excess of these levels as a presumed crime-reduction measure.

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1 "Outdoor Lighting and Crime, Part 1: Little or No Benefit," B.A.J. Clark, Astronomical Society of Victoria, Inc., Australia, http://www.asv.org.au, November 9, 2002.

2 "Outdoor Lighting Baseline Assessment, Final Report," California Energy Commission Public Interest Energy Research (PIER) Program, Element 7, November 11, 2002.