

## Summary of the Systematic Review

# Effects of Improved Street Lighting in Reducing Crime

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### Authors and report:

B.C. Welsh, D.P. Farrington (2008): Effects of improved street lighting on crime, Campbell Systematic Reviews, 2008:13  
<http://www.campbellcollaboration.org/>

**This summary is completely based on the referred report, although the text is slightly edited.**

### Background

Darkness, particularly in built up areas, can create a feeling of personal insecurity - which is a problem in itself, even if the risk of personal victimization is actually small. Concern for being attacked outdoors after dark prevents some people from using public spaces, and thus has a negative effect on their quality of life. But darkness also creates a favourable environment for vandalism and theft, including bicycle thefts and thefts from vehicles, offences which are very common. Contemporary interest in the effect of improved street lighting on crime began in the U.S. during the dramatic rise in crime in the 1960s. Many towns and cities embarked upon major street lighting programs as a means of reducing crime, and initial results were encouraging.

The crime preventive effects of improved street lighting are therefore often discussed, and such measures are often also introduced as a means of combating crime. Improved street lighting serves many functions and is used in both public and private settings. The prevention of personal and property crime is one of its objectives in public space, which is the main focus of this review. While street lighting improvements may not often be implemented with the expressed aim of preventing crime – pedestrian safety and traffic safety may be viewed as more important aims – and the notion of lighting streets to deter lurking criminals may be too simplistic, its relevance to the prevention of crime has been suggested in urban centers.

### Research Methods

The study follows a rigorous method for the conduct of a systematic meta-analysis. The analysis combines the results from a number of evaluations that are considered to satisfy a list of empirical criteria for measuring effects as reliably as possible. The analysis then uses the results from these previous evaluations to calculate and produce an overview of the effects that improved lighting does and does not produce. Thus the objective is to systematically evaluate the results from a number of studies from different countries in order to produce a more reliable picture of the opportunities and limitations associated

with lighting initiatives in relation to crime prevention efforts. Studies of this kind are also valuable when assessing which circumstances contribute to a certain measure producing a positive effect. In this case, the research review builds upon a relatively small number of evaluations and only examines evaluations that have been conducted in the United States and the United Kingdom. A number of questions concerning the potential crime preventive effects of lighting initiatives thus remain unanswered. But the study does offer the most accessible overview to date of the use of improved outdoor lighting in order to prevent crime and improve public safety.

### **Results**

There are two main theories of why improved street lighting may cause a reduction in crime. The first suggests that improved lighting leads to increased surveillance of potential offenders (both by improving visibility and by increasing the number of people on the street) and hence to increased deterrence of potential offenders. The second suggests that improved lighting signals community investment in the area and that the area is improving, leading to increased community pride, community cohesiveness, and informal social control. The first theory predicts decreases in crime especially during the hours of darkness, while the second theory predicts decreases in crime during both daytime and nighttime. Results of this review indicate that improved street lighting significantly reduces crime. Crime decreased by about 20 percent in experimental areas compared with control areas. This lends support for the continued use of improved street lighting to prevent crime in public space. The review also found that nighttime crimes did not decrease more than daytime crimes. This suggests that a theory of street lighting focusing on its role in increasing community pride and informal social control may be more plausible than a theory focusing on increased surveillance and increased deterrence.

Street lighting has some advantages over other situational measures that have been associated with the creeping privatization of public space, the exclusion of sections of the population, and the move towards a “fortress” society. Street lighting benefits the whole neighborhood rather than particular individuals or households. It is not a physical barrier to crime, it has no adverse civil liberties implications, and it can increase public safety and effective use of neighborhood streets at night. In short, improved street lighting has few negative effects and clear benefits for law-abiding citizens.

### **Conclusions**

Future research should be designed to test the main theories of the effects of improved street lighting more explicitly, and future lighting schemes should employ high quality evaluation designs with long-term follow ups.

Evaluation research to measure the impact of improved street lighting on crime appears to have come to a standstill. This six-year update of the first systematic review on the subject (Farrington and Welsh, 2002a) did not find one new evaluation that measured the effect of lighting on crime. This lack of new studies does not, however, detract from the

existing knowledge base on the crime prevention effects of improved street lighting. Future research should be designed to test the main theories of the effects of improved street lighting (i.e., community pride versus surveillance/deterrence) more explicitly. Surveys of youth in experimental and control areas could be carried out, to investigate their offending, their opinions of the area, their street use patterns, and factors that might inhibit them from offending (e.g., informal social control by older residents, increased surveillance after dark). Household surveys of adults could also be carried out, focusing on perceptions of improvements in the community, community pride, informal social control of young people, street use, and surveillance after dark. Ideally, future research should measure crime using police records, victim surveys, and self-reports of offending. It is possible that one effect of improved street lighting may be to facilitate or encourage reporting of crimes to the police; for example, if victims get a better view of offenders. Therefore, police records may be misleading. Surveys of potential victims and potential offenders are necessary for testing key hypotheses about the effects of improved lighting. The improvement in lighting in different areas should be carefully measured, including vertical and horizontal levels of illumination. Cost-benefit analyses of the impact of improved street lighting should be carried out (only 2 of the 13 studies conducted a cost-benefit analysis).

It would be useful to investigate the effects of street lighting in conjunction with other crime prevention interventions. To the extent that community pride is important, this could be enhanced by other environmental improvements. To the extent that surveillance is important, this could be enhanced by other interventions, such as CCTV cameras.