



The effects of improved street lighting on crime: What Works Briefing

Summary:

Improved street lighting had a positive effect in reducing crimes such as burglary and theft. It did not, however, reduce the incidence of violent crimes. Perhaps surprisingly, the positive effects of improved street lighting are felt in the day-time as well as at night.



What is a 'What Works Briefing'?

This briefing has been developed by researchers from the College of Policing to summarise the 'best available' evidence



in relation to the effects of improved street lighting on crime and to highlight the implications for police policy and practice. This document briefly summarises a Campbell Collaboration Systematic Review¹ which is a longer and more technical report that trawls for all available evaluations of improved street lighting and summarises findings from only those experiments that have high quality methodologies. The review then drew general conclusions from this pool of evaluations about the benefits of street lighting in areas where it is installed compared to areas where it is not.

**Read the
full review**

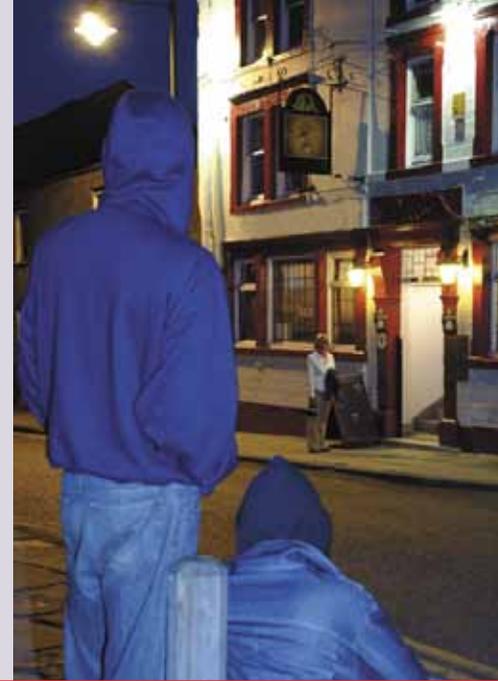
¹Welsh BP, Farrington DC. Effects of improved street lighting on crime. Campbell Systematic Reviews 2008: <http://campbellcollaboration.org/lib/download/223/>



Does street lighting reduce crime?

Yes. The review showed that improved street lighting had a positive effect in reducing crimes such as burglary and theft. It did not, however, reduce the incidence of violent crimes. When all data are considered together, improved street lighting was associated with a relative reduction in crime of 21 per cent in areas it was introduced, compared to similar areas where there were no such improvements.

The review reinforces the view that improving street lighting is an effective way of dealing with crime and disorder problems. In fact the review also looked specifically at studies from the UK and found an even greater effect here than in the USA. You can therefore be confident that improved street lighting is a useful mechanism in reducing crime. There was no evidence that introducing street lighting meant more crimes were reported (as criminal activity was now easier to see).



Why does it work?

There are two main explanations for why improving street lighting reduces crime.

1. **By its very presence improved street lighting helps to increase surveillance, 'guarding' locations and deterring potential offenders.**

Better street lighting increases the risk of identification for offenders, it encourages more people to use public spaces, increasing the number of potential witnesses to any offence and making it less likely an offender can escape without being identified and later recognised. Routine Activity Theory (RAT)² suggests that offenders follow a routine when offending and that if you can interrupt that routine, you can stop further offences. RAT states that when for crime to occur, three things need to happen at the same time and in the same space:

- ◆ A suitable target is available – person, property etc.
- ◆ There is the lack of a suitable guardian to prevent the crime from happening
- ◆ A likely and motivated offender is present

The theory suggests that if you change any of these then you can discourage potential offenders from offending. Improved street lighting can act as a “suitable (or capable) guardian” and reduce the likelihood that a likely and motivated offender will be present.

2. **Improved lighting signals investment in the community, increasing community pride and informal social control – and thus reversing the 'broken windows' effect**

The **broken windows hypothesis**³ suggests that physical dilapidation in an area gives the impression that ‘nobody cares’ and thus no one will intervene against crime and disorder. Improving the environment displays ‘civic pride’ that demonstrates how much local people care about their locality. The installation of enhanced street lighting can make a location more welcoming which may in turn increase informal social control.

²Cohen and Felson (1979)

³Wilson and Kelling (1982)



Does street lighting impact some crimes more than others?

Studies from the US showed no clear tendency for some types of crimes to decrease more than others after the introduction of improved street lighting. However, studies in the UK showed that improved lighting was followed by a significant reduction in property crime but not in violent crime.

In the UK the review has shown improved street lighting to be particularly effective in relation to property crime. The studies showed that it was effective against all types of property crime and particularly burglary and vehicle crime.



Surely this only affects crime at night?

No. The positive effects of improved street lighting are felt in the day-time as well as at night. Though you might expect improved street lighting to only have a significant impact on crime during the hours of darkness, the review actually shows that **improved street lighting also brings about reductions in crime during daylight hours** as well.

Street lighting seems to help reverse the ‘broken windows’ effect. The suggestion is that by improving street lighting in an area, the local community develops a greater sense of civic pride in their area and are more likely to protect it at all times. In other words, it can act as a catalyst for community action and cohesion. The community see that others are concerned about their area (by installing better street lighting) and begin to take a pride in the area themselves.

In two major studies from the UK⁴ there is clear evidence that improved street lighting led to increased community pride, which in turn led to further environmental improvements, which in turn led to greater community pride. In other words, improved street lighting started a ‘virtuous spiral’.

You should not, therefore, just think of improved street lighting as an intervention that can only target night-time crime. It obviously has an impact in relation to such crime, but it should

also be considered as a mechanism to help develop a sense of community pride, either on its own or as part of a package of measures.

Does street lighting just displace crime elsewhere?

No, indeed the reverse appears to be true: enhancing street lighting seems to **benefit** surrounding areas. One study in the review tested for displacement of crime and diffusion of benefit from introducing better street lighting. The study in Stoke-on-Trent⁵ discovered that crime was reduced not only where street lighting was enhanced but also in an adjacent area. In the non-adjacent ‘control area’, there was no such reduction. So rather than shifting crime to another area, improved street lighting appeared to spread its benefits to another area.

More research needs to be done to further test this finding, but it does suggest that improved street lighting might actually benefit those who live in areas not directly affected by it. In this particular case, it was suggested that improved street lighting had caused a “spill over” of community pride into a neighbouring area, which led to stronger informal social control and better community cohesion, which in turn deterred potential offenders.

⁴ Painter and Farrington (1997, 1999a)

⁵ Painter and Farrington (1999a)



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Is street lighting cost effective?

Yes, it is. Where street lighting has been improved or implemented, cost–benefit analysis indicates that its benefits hugely exceed its costs. The review found that two UK studies⁶ provided cost benefit analysis, both showing that the financial savings from reduced crimes greatly exceeded the financial costs of the improved street lighting. They found that investing in improved street lighting led to:

- a significant reduction in crime.
- Fewer property crimes resulted in less property being stolen,
- fewer properties requiring repairs,
- fewer insurance claims, and
- a reduction in the wider impacts upon some victims (e.g. lost days at work to deal with the incident).

Obviously, these benefits accrued over time; they were not instant.



Work by the Home Office published in 2005 attempted to identify the costs of crime and found that on average, a burglary will “cost” £3,268. This includes not only the financial cost but also the cost to the police in dealing with the case and the criminal justice process in dealing with any offender caught for the offence. It introduces the idea of “opportunity” cost, which is not a real financial saving as such. The police officer still has to be paid, but by reducing the number of crimes, the officers time can be utilised elsewhere (often on more proactive work, helping to reduce crime even further).

It is important not to just look at improved street lighting as a way of saving money. Problems need to be analysed properly and responses targeted accordingly. However, if a programme of improving street lighting is adopted, the evidence suggests that there is a chance to generate real and opportunity cost savings at the same time.

Conclusions

Street lighting is successful; it **can reduce crime**, improve the public’s **feelings of security** and requires **no intrusive surveillance** or other barriers to crime, and does not impinge on aspects of **civil liberties**. It is also a **highly cost-effective** approach. Senior police officers should therefore feel confident in lobbying for improved lighting as a **necessary component** of any crime reduction initiative.

The review summarises the impact of improved lighting as follows: “Street lighting benefits the whole neighbourhood 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 neighbourhood streets at night. In short, improved street lighting has few negative effects and clear benefits for law-abiding citizens”.

⁶ Painter and Farrington (1997, 1999b)

Implications for good practice

- **Assess your crime problem:** street lighting should be considered as a potential strategy in any crime reduction program, but may not be the only required intervention. There is robust evidence from the review that improved street lighting is effective in reducing both burglary and vehicle crime, and that it is a more effective method of crime reduction in the UK than in the USA.
- **Evaluate your intervention:** when assessing the impact of improved street lighting you may also wish to monitor:
 - ♦ Criminal activity in adjoining areas
 - ♦ Whether there have been any changes in relation to time, day, date of offences
 - ♦ Whether known offenders have changed their offending patterns
 - ♦ Whether new/unknown offenders have appeared in the area
 - ♦ Whether new groups are being victimised
- **Make use of the evidence:** inform local decision makers about improved lighting when this is an appropriate intervention.



Advice and guidance

The provision of street lighting is the responsibility of local authorities. The police service has a role in analysing whether street lighting might be a suitable component of wider crime reduction strategies.

The Home Office crime reduction website offers 'toolkits' in respect of various crime types that might be influenced by street lighting:

<http://webarchive.nationalarchives.gov.uk/20100413151426/http://crimereduction.homeoffice.gov.uk/toolkits/>

You can find out more about Routine Activity Theory (RAT) here
Clarke, R. V. and M. Felson (Eds.) (1993). Routine Activity and Rational Choice. Advances in Criminological Theory, Vol 5. New Brunswick, NJ:

You can find out more about the Home Office costs of crime model at:
<http://webarchive.nationalarchives.gov.uk/20100413151441/crimereduction.homeoffice.gov.uk/statistics/statistics39.htm>

And more generally about cost-benefit analysis here:

Roman, J. & Farrell, G. (2002) Cost-Benefit analysis for crime prevention: opportunity costs, routine savings and crime externalities in Evaluation for Crime Prevention Nick Tilley (ed.) – Crime prevention studies – volume 14; Cullompton, Devon: Willan



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Full review

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