

## Fact sheet: Lighting and other improvements to prevent stealing from motor vehicles

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Improving the lighting in an area, combined with other measures, such as Crime Prevention Through Environmental Design (CPTED), access control, CCTV or awareness campaigns, can be an effective strategy to reduce ‘stealing from motor vehicle’ offences<sup>1</sup>.

### What does this strategy involve?

Improving lighting to prevent stealing from motor vehicles involves the installation and/or upgrade of lighting in open air car parks, multi-storey parking facilities and streets identified as experiencing high rates of theft from cars and other vehicles during night-time hours. This can include:

- increasing the number of lights in a car parking area or along an adjoining pedestrian route
- relocating lights to minimise ‘dark spots’
- lengthening time periods when lighting is turned on
- installing brighter lights, and
- installing vandalism-proof lights and lamp posts.

Lighting improvements also include measures that aim to maximise the brightness of new or existing lighting, such as painting surfaces with a reflective coating. The impact of lighting improvements can be further enhanced by CPTED measures that maximise visibility in the area, such as cutting back trees and overgrown shrubs or positioning pedestrian walkways in areas that encourage natural surveillance. Lighting improvements can also work well when complemented by access control measures, CCTV or awareness campaigns to alert potential victims or offenders to the prevention measures that have been put in place.

### How does the strategy work?

Lighting and other measures can help to improve visibility, which makes it easier for people in and around car parking areas to detect suspicious or criminal behaviour and to identify perpetrators. This can lead to an increase in the risk an offender associates with the commission of an offence, as they may be more likely to be identified or apprehended.

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<sup>1</sup> The development of these strategies has been informed by a combination of the best available evidence, a strong theoretical crime prevention framework and practitioner experience. There is strong evidence underpinning many of the strategies that are described in the fact sheets. However, in some of the fact sheets, the evidence in support of the strategies and the case studies used to illustrate them are not particularly recent, which reflects the lack of recent evaluation activity. The evidence in support of some of the strategies is also not as strong as for others and in these cases, the strategies draw more heavily from theory and practice. There is significant scope to improve the evidence base by increasing the amount of crime prevention activity that is rigorously evaluated.

Further, areas that are in darkness or are dimly lit may serve to create a feeling of personal insecurity, even if the likelihood of being victimised is actually quite low. Upgrading lighting, combined with other measures, improves the general amenity of an area, promotes feelings of safety and encourages pedestrian movement through an area that may have previously been avoided, again, potentially increasing the risk to the offender of being identified and apprehended.

Lighting and other improvements may also signal community investment and guardianship in an area, particularly where this is part of a broader scheme to improve the overall appearance of public space. This may contribute to an increase in community pride and ownership of public spaces, encouraging resident engagement in crime prevention activity and informal social control. Notably, while increasing visibility may only have an impact on night-time crime, promoting community ownership of public spaces and engagement in crime prevention may also result in a reduction in crimes committed during the day.

### **What does the evidence say?**

A number of studies have demonstrated that the installation and/or improvement of lighting can contribute to a reduction in 'stealing from motor vehicle' offences. The evidence suggests that improved lighting is most effective when implemented as part of a multifaceted strategy. In one of the effective strategies, lighting improvements were also supplemented by painting surfaces with a reflective coating to improve the overall brightness of the lighting. In other studies, improved lighting has been delivered alongside CPTED measures or closed circuit television (CCTV). Effective strategies were targeted at car parks, public housing estates or streets that had been identified as hotspots for 'theft from motor vehicle' offences. While the majority of these interventions have not been subject to a long-term evaluation, one project that implemented lighting improvements as part of a multifaceted strategy was evaluated over a two year period. The results of this evaluation indicated that the initial reduction in stealing from motor vehicles was maintained over the longer term. One study, which found lighting to be ineffective, highlighted some important implementation issues. These were the importance of community support for a strategy to be effective and the need to ensure lighting improvements are appropriate and enhance natural surveillance opportunities, as well as increase the likelihood that offenders can be identified.

### **Where does the strategy work best?**

Effective strategies targeted areas that had been identified as having a problem with stealing from motor vehicles or car-related crime more generally. A number of the car parks and facilities that received lighting upgrades had persistently high rates of offending over a long period of time. Some of the interventions reviewed were implemented in sites where other strategies had been piloted but had failed to have an impact.

The majority of strategies that were implemented in open air car parks and multi-storey parking facilities were effective in reducing offending rates. Lighting improvements are particularly suitable for implementation in these areas because:

- they are confined spaces with defined perimeters
- they are typically flat, free of internal structures and easily surveyable by users and there is guaranteed pedestrian movement as people leave and return to their cars on a regular (and often predictable) basis.

Generally speaking, lighting improvements are most effective when they are implemented in areas where the previous lighting conditions were poor and the resulting improvement in visibility is substantial. Given the focus is on improving visibility at night, this particular strategy needs to be targeted at areas with a high rate of offending during night time hours.

### **What will you need to implement this strategy?**

The accompanying handbook provides more detailed information on how to implement this strategy, but briefly:

#### **A good understanding of your local problem**

The studies reviewed for this project showed that effective strategies were targeted at open air car parks, multi-storey parking facilities or streets with high rates of recorded offences. Effectively targeting problematic parking locations requires access to information to identify 'theft from motor vehicle' hotspots, as well as information about the characteristics of these offences (including whether they are happening after dark, whether they occur in areas with poor lighting and whether the absence of natural surveillance is a contributing factor) to inform a more targeted approach. Past experience has highlighted a number of risk factors, including long opening hours, being an open air car park (as opposed to closed or multi-storey car park), larger facilities, commuter car parks (rather than short-term parking), the lack of pedestrian movement and poor perimeter security.

#### **Stakeholder involvement**

It is important to involve individuals (or organisations) who own, manage or are responsible for the upkeep of the car parking area being targeted. Experience has shown that lighting improvements are more effective in car parking areas where staff, people using the car parks and local residents, are enthusiastic about the improvements. Proactive and engaged residents and parking facility management are important as they will often be responsible for the maintenance of the strategy in the long term (including reporting on faulty or broken lights).

#### **Availability of appropriate lighting equipment and qualified personnel**

It is important that lighting improvements are designed and implemented by professionals, such as lighting engineers, as they will have an understanding of lighting design, technology and alternatives such as solar lighting. They will also be aware of issues that may reduce the effectiveness of an intervention and ensure that lighting equipment is hardwearing, vandalism proof or resistant and can be maintained over time.

### ***CASE STUDY 1: Ohio State University parking garages***

#### ***A) Safer Cities: Bradford***

This strategy was targeted at a multi-storey car park that was experiencing high levels of car crime (both auto theft and theft from auto). Lighting improvements were made to the interior and exterior lighting of the facility and the walls were painted with a reflective coating to maximise luminosity. CCTV cameras were installed on every level of the car park and signs were placed in prominent positions to inform potential offenders and car park users that CCTV was being used. There was a substantial reduction in offences involving theft from cars (68 per cent) during the 12-month post-intervention period. By comparison, adjacent surface car parks and local streets experienced an increase in stealing from motor vehicles.

#### ***B) Safer Cities: Coventry***

This strategy was implemented in a series of car parks that were managed by a superintendent who had previously been actively involved with local police in attempting to control car crime in these facilities. Improvements were made to the interior and exterior lighting of the facilities, and were implemented alongside the installation of CCTV and improved perimeter fencing. An evaluation indicated that although theft from vehicle offending rates fluctuated dramatically throughout the post-intervention period, there was a reduction in overall offending and the rate of offending was lower than in control areas (i.e. other car parks in the area).

### ***CASE STUDY 2: Lighting improvements in Easton and Ashley***

This strategy was targeted at two inner city areas (Easton and Ashley) in Bristol, both of which were characterised by a higher than average crime rate when compared with the rest of the city. Lighting improvements were implemented incrementally and were focused on prioritised streets or small areas. The overall result was a patchwork of original lighting, new low pressure sodium lamps and in particularly vulnerable areas, high pressure sodium lamps and vandalism-proof lamp posts. The number of lights in both areas was increased by 50 per cent.

An evaluation of the scheme found no evidence to suggest that the lighting upgrades reduced theft from vehicle offending rates. Although the recorded crime level for the improved areas fell by eight to 14 per cent, the control areas reported similar reductions, suggesting that the decrease in Easton and Ashley was a reflection of trends in the police division as a whole.

The failure of this scheme was attributed to a number of factors. First, the city engineers used low sodium lamps that did not facilitate feature recognition from a distance and as such, their deterrent effect was minimal. Further, there was some community resistance to the improvements, especially in areas where open drug dealing and prostitution was rife. Lighting engineers even reported being threatened by residents in these areas. Lastly, the new lighting scheme was designed for motor vehicle traffic rather than pedestrians. As such, the city engineers did not investigate recessed lighting, meaning that large sections of pedestrian walkways were obscured by large shadows.

## Endnotes

Case Study 1: Tilley et al. 1993. Understanding car parks, crime and CCTV: Evaluation lessons from Safer Cities. *Crime Prevention Unit paper* no. 42. London: Home Office. <http://www.nationalarchives.gov.uk/ERORecords/HO/421/2/prgpubs/fcpu42.pdf>

Case Study 2: Shaftoe H 1994. Easton/Ashley, Bristol—Lighting improvements, in Osborn S (ed.), *Housing safe communities: An evaluation of recent initiatives*. London: Safe Neighbourhoods Unit.

## Further reading

For further reading in this area, refer to the accompanying handbook and literature review.

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