LANTERNS

Reduced Street Light at Night Summary Study Report

We were asked by the National Institute for Health Research to answer the question: 'Have reductions in street lighting increased road accidents or crime?' and to look at what other concerns the public had about reduced street lighting in England and Wales.

Why the study was needed

Across the UK, many local authorities have reduced street lighting at night. Some have switched off selected lights at night; some have removed a number of lighting columns; others have dimmed lights, or changed from traditional yellow to 'white light'.

Previous research had suggested that street lights can improve road safety and reduce crime and fear of crime. This led to concerns that reducing light at night would lead to an increase in accidents, crime or fear of crime.

However, reduced street light might have benefits: such as cost savings for local authorities, less light pollution or reductions in carbon emissions.

The LANTERNS study was needed to provide good quality evidence to inform local decisions.

How the study was conducted

1) We collected data from 62 local authorities on the position of each lighting column ('lamppost'), what changes to lighting had been made, and when. We also collected national data from the police on road accidents, and on crime.

- In each street section, the number of daytime and night-time road accidents before and after changes to lighting was compared.
- Area crime levels before changes to lighting were compared to those after changes, focusing on crimes most likely to happen at night.

2) We sent 1,000 survey questionnaires to households in an area where some streets had lights switched off at night.

- Views on neighbourhoods, fear of crime, personal security, willingness to walk and drive at night, and light at night were compared in streets with 'switch off' and those without.

3) We conducted a more detailed study of 8 local authorities, in which we:

- Interviewed residents, workers, visitors and lighting professionals;
- Attended residents' association meetings;
- Looked at views expressed in public consultations on street light reductions and in local papers.

What we found

Does reduced street lighting increase road accidents?

We found no evidence that any of the methods for reducing light at night (switch off, reduced hours, dimming or white light) had an effect on road accidents. There were no significant differences in the numbers of accidents happening after changes in lighting, compared with before.

Does reduced street lighting increase crime?

The effects on crime were more mixed. Overall, there was no evidence that any of the changes increased crime.

There was some evidence, from some police force areas, that dimming lights or replacing yellow light with white light *reduced* crimes such as burglary and robbery.

How does switching off light at night affect people's lives?

In the area we conducted a survey, there was no difference in how often people reported walking or driving at night, or how they felt about their neighbourhood.

However, those in streets where lights had been switched off at night were less likely to report feeling safe walking at night.

In the eight local authority areas we looked at in detail, few people reported noticing any changes in what they did as a result of street light changes.

What were the other areas of concern to the public?

Apart from concerns about the impact of reduced light at night on accidents and crime, residents in urban and suburban areas also reported concerns about the social impacts of reduced lighting, such as making neighbourhoods less welcoming at night.

Where changes had been made without good consultation, removal of street lights could be seen as neglect of the community.

For a minority, light at night was a very important part of what a modern, urban environment should be like.

What were the benefits?

In rural areas, residents appreciated seeing the night sky.

On reflection, many residents in all areas felt that cost savings and environmental benefits might be useful.

How sure are we of the findings?

We can be fairly confident about our results for the impact of dimming, part night lighting and white light on road accidents, as we have a large amount of data on these changes. Few local authorities with switch off took part, so it is possible that those in which there had been increases have not been included.

On crime, we could only look at area level differences, which are less accurate, and results were more mixed than for accidents. However, if there had been any large increases in crime, we would have been able to detect these.

The findings from our in-depth study of 8 areas supports the general finding that, for the majority, reducing the hours of street lighting at night and dimming do not have significant impacts on quality of life and wellbeing.

So should all local authorities reduce light at night?

Our study was based on what local authorities have done in the past. Most carefully plan changes in lighting, to ensure that lighting conditions are right for the road and its users. Our findings suggest that when this is done, in consultation with local residents, local authorities can reduce costs and environmental harm without increasing crime or road accidents.

What happens now?

Findings from the study have been shared with local authority partners, our funders and with other researchers.

More research is needed on how changes in lighting affect crime in different settings.

We'd like to thank everyone who took part in the study, particularly local authority lighting professionals, those who filled in the survey, and those who talked to us about their views and experiences.

For more information

If you would like more detail on the findings, two reports are now available. The full titles and web sites are:

The effect of reduced street lighting on road casualties and crime in England and Wales: controlled interrupted time series analysis. R. Steinbach et. al. (2015). *Journal of Epidemiology and Community Health.*
http://dx.doi.org/10.1136/jech-2015-206012

Reduced street lighting at night and health: A rapid appraisal of public views in England and Wales. J. Green et. al. (2015). *Health & Place* 34: 171-180
http://www.sciencedirect.com/science/article/pii/S1353829215000775

A map of participating local authorities is available at:
http://lanterns.lshtm.ac.uk

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