

## **Place and Community - Significant Decision**

### **Street lighting Dimming Trial**

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#### **Background**

This report sets out to initiate a trial-based approach to implementing a borough-wide variable lighting regime to achieve significant carbon and energy savings.

As part of a joint project with Reading and Wokingham by 2018, most streetlights were replaced with LEDs. Immediately after the new network was up and running, the lighting output was set at 70%. This dimming by 30% can now be considered our baseline. Since 2018, the Council's inventory of street lighting has increased, not least by adoption of the former SSE network on the Slough Trading Estate. However, no further assessment of its efficiency and cost-effectiveness has been carried out to date.

#### **Proposed scheme**

Recent financial and environmental constraints prompted the need for a review of the current arrangements and consideration is being given to the possibility of further reducing the street lighting outputs by additional dimming and/or switching off lights entirely in some areas.

The British Standard for Road Lighting, BS5489, proposes the following energy saving options to be considered: variable/adaptive lighting (dimming); trimming; part-night; switch off; sensors. Slough currently employs some of these techniques for approximately 78% of its network; the other 22% consists of older technology, CCTV, lit street signs, bollards and billboards, and traffic signals that is not controlled by our CMS.

As part of the project to alter/fine tune the current installed street lighting Central Management System (CMS), on the Mayflower Smart Cities Platform, we need to plan with our service partners Enerveo, Volker & Power Data Associates (PDA).

- a) Enerveo: Supplier of the Mayflower CMS for the installed lighting controlling / programmable units and operates the computer-based light profile (dimming) controlling system.
- b) Volker Highways: Service partner, handles the maintenance of the network and update the FM database following replacement of lighting columns and lamps.
- c) PDA: Meter Administrator, supplier of data & power consumptions & optimisation reports.

#### **Variable lighting**

Our existing Central Management System (CMS) enables:

- Energy consumption and performance data to be collected remotely
- Automatic fault reporting
- Lights to be switched off or on or the level of lighting to be adjusted remotely

The ability to vary lighting intensity and times creates an opportunity to mitigate the pressures on Council budgets from rising energy costs. It is also an opportunity to reduce the carbon emissions associated with energy consumption. Dimming lighting levels will also reduce light pollution levels and consequently may have potentially beneficial effects for biodiversity. Other trials suggests that in practice even a 50% reduction in lighting in a location would not necessarily be obviously noticeable to most people if introduced gradually over the evening/night period.

Any decision to reduce lighting levels also needs to consider the potential impacts. Street lighting plays a vital role in relation to crime prevention including the operation of CCTV, and well-lit streets are likely

to reduce fear of crime. Street lighting also has a key role to play in relation to traffic management and road safety. Lighting is also a factor in relation to promoting the night-time economy for example in town centres.

The CMS creates the opportunity to deploy variable lighting that takes account of the characteristics of different areas, helping to maximise the potential benefits of dimming while reflecting the need to ensure other objectives are not compromised. Light level changes can be implemented quickly, without the need to be physically present at the site.

### **Proposed field trial**

Before finalising the permanent scheme for the street lighting policy, it is proposed that dimming options are trialled in residential areas. In the trial four locations will be dimmed with three of them being on a graduated basis (a reduction in lighting levels gradually through the night) and the fourth location being a straight reduction in lighting levels from dusk to dawn. There will be fifth trial control area where no dimming will take place. Sites will be selected based on avoiding any potentially contentious locations including shopping parades, busy highways and junctions, roundabouts and where there is likely to be lots of people congregating at night (busy commercial streets/roads and the town centre), and also where there is known crime hotspots, or where TVP advise us otherwise.

The trial will be carried out in consultation with the local Councillors/stakeholders and emergency services representatives. The trial will be used to inform a draft street lighting policy and potential dimming options that will be subject to a key stakeholder consultation.

Following the trial and consultation, it is proposed that a report be prepared for approval by Cabinet. This will report on the findings of the trial and consultation and outline the proposed street lighting policy and preferred option for approval by Cabinet.

A strategic policy would enable the Council to pursue a clear, informed and consistent approach towards variable lighting across its street lighting assets, both as existing and in the future. With a variable lighting policy, the concept is of the "right light in the right place at the right time" to promote an efficient lighting scheme. A variable lighting policy will have the strategic objectives of:

- Providing a cost-effective public street lighting service;
- Conserving energy and promoting sustainability, both environmentally and financially;
- Helping to reduce crime and fear of crime;
- Controlling light pollution;
- Promoting a general feeling of well-being and supporting night-time economy; and
- Aiding movement across the network.

Subject to Cabinet approval of the policy and preferred option, full implementation could commence in late 2023/24.

### **Legal Implications**

There is no statutory duty on the Council to provide street lighting. The Council has a power under S.97 of the Highways Act 1980 to provide street lighting on roads for which it is responsible. In exercising its powers as to the extent of nature, maintenance, and operation of street lighting, the Council must act reasonably and in the interests of road safety.

The Council has general duties, which it should consider when making decisions on how to exercise its powers. The Council has an overarching duty under s.17 of the Crime and Disorder Act 1998, which requires the Council to have due regard to the effects on, and the need to do all it reasonably can to prevent (a) crime and disorder in its area (including anti-social and other behaviour adversely affecting the local environment); and (b) the misuse of drugs, alcohol, and other substances in its area.

The Council also has duties under s.39 of the Road Traffic Act 1988 to undertake studies into accidents arising out of the use of vehicles and to take such measures as appear appropriate to prevent such accidents. The Council has duties under the Equality Act 2010. An initial equality impact assessment

has been carried out as part of the project initiation. A full EIA will be developed further following the responses to the feedback from statutory consultees.

The British Standard BS5489: Design of road lighting; Part 1: Lighting of roads and public amenity areas, contains guidance and recommendations for designers of lighting systems. The guidance emphasises the reasons for road lighting, including assisting traffic safety and ease of passage for road users and in particular cyclists and pedestrians. The guidance also refers to environmental considerations when designing a lighting scheme, including minimising obstructive light, daytime and night-time appearance and the effect on ecology, flora, and fauna.

Any decision to switch off existing lighting should also consider the guidance produced by the Institution of Lighting Professionals - “Advice for considering switching off streetlights in the public realm.”

### **Financial Implications**

The key objective of any dimming policy is to reduce the Council's exposure to rising costs associated with street lighting. However, in order to achieve this, additional costs are likely to be ensued: mainly related to renewing out of date contracts and access to specialist advice and software.

The Council has previously made significant improvements to Street Lighting with the conversion of most of its highway lighting asset to LED lighting in 2016-2018, and setting a dimming level of 70%, which almost halved electricity consumption by street lighting. The electricity usage in 2015/2016, before the LED project was initiated, was 5,096,200 kWh, and in 2018/2019, after the network was up and running, it was 2,655,354 kWh.

The options to be explored as part of this project will aim to further reduce electricity consumption, to deliver both environmental benefits and reduce pressure on revenue budgets from rising energy prices. Some of the potential options that will be explored further as part of the project could necessitate capital investment on an invest to save basis. The size of that investment and the return period are not currently known, but this information will be obtained, and it is intended to include this within the further report to Cabinet following the trial and consultation.

### **Recommended Decision**

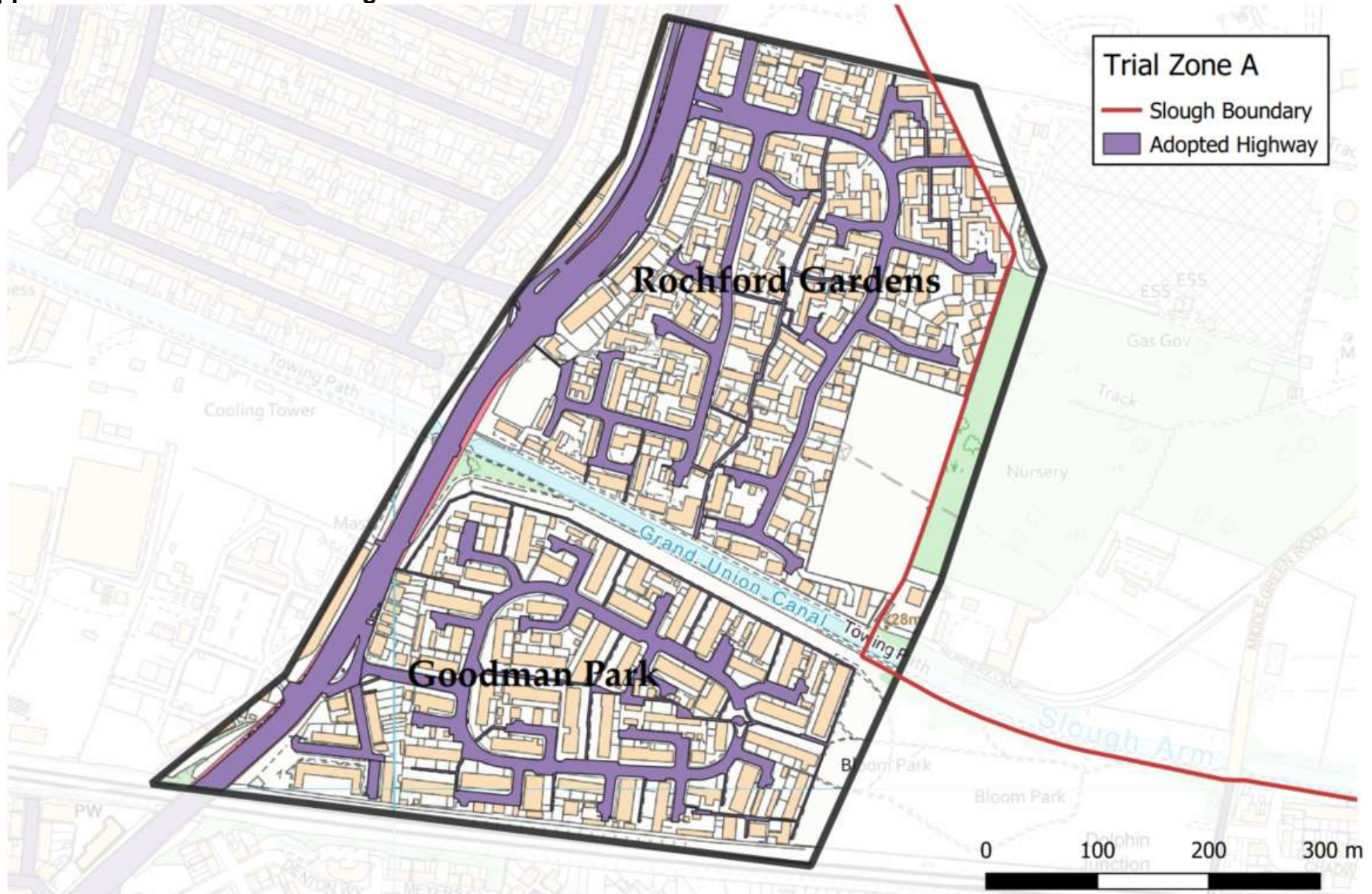
It is recommended:

1. That the Trial Areas identified in Appendix A are notified to the Lead Member for Transport & The Local Environment and the relevant Ward members
2. That the trial is implemented in February for a period sufficient to gather data and consultation feedback from key stakeholders.
3. That a report following the trial be brought to Cabinet recommending options to be rolled out across the borough.

<b>Approved by</b>	<b>Title</b>	<b>Signature</b>	<b>Date</b>
Olivia Flint	Environment Lead		26/01/23
Jason Newman	Group Manager Carbon & Sustainability		26/01/23
Savio DeCruz	Associate Director Place Operations		27/01/23



**Appendix A. Initial dimming trial areas**





**Trial Zone B**  
— Slough Boundary  
— Adopted Highway

**Maplin Park**

Recreation Ground



