

<b>21 January 2015</b>		<b>ITEM: 6</b>
<b>Planning, Transport and Regeneration Overview and Scrutiny Committee</b>		
<b>Investment in Highways Lighting</b>		
<b>Wards and communities affected:</b> All	<b>Key Decision:</b> Key	
<b>Report of:</b> David Parish, Principal Highways Engineer		
<b>Accountable Head of Service:</b> Ann Osola, Head of Service Transportation and Highways		
<b>Accountable Director:</b> David Bull, Director of Planning and Transportation		
<b>This report is</b> Public		
<b>Purpose of Report</b> To inform scrutiny members of the delivery of the proposed LED (Light Emitting Diode) street lighting conversion programme		

## Executive Summary

Thurrock has around 17,300 street lights which currently cost the Council approximately £850K per year in electricity bills. Over the next 2 years Thurrock will convert these lights to LED operation which will cut this energy bill by half, reduce street lighting maintenance costs and significantly reduce Thurrock's Carbon footprint. The resultant saving will allow the capital investment to be repaid, whilst still achieving the target of £250K revenue saving from 2017 onwards.

### 1. Recommendation(s)

#### That Committee:

- 1.1.1 **Agree that an update will be presented to this committee according to the programme.**

### 2. Introduction and Background

- 2.1 Thurrock Council (TC) has a statutory duty to maintain the street lights upon its highway in a safe condition in accordance with standards set out in national guidelines and regulations. There are currently 17,330 street lamps in Thurrock operating with traditional high energy sodium lanterns. These lanterns cost approximately £850K per annum to illuminate and this cost has been increasing in line with other energy costs by approximately 10% p.a. In

addition to electricity costs, traditional lamps need to be replaced every 4-5 years, incurring additional maintenance costs.

- 2.2 In the 2007 Energy White Paper, Government announced a Carbon Reduction Commitment (CRC) which undertook to reduce the UK's carbon emissions by introducing mechanisms whereby major public and private sector organisations would incur charges if they failed to reduce their carbon footprints. Street lighting currently constitutes 40% of the Council's overall energy bill.
- 2.3 Conversion of Thurrock's street lighting to LED operation would require a capital investment of £6million, against an LED lantern asset life of 20 years, resulting in an annual saving of £680,000 pa in reduced energy bills and maintenance costs. This would then offset a repayment cost of £430K pa, leaving a net budget saving of £250K from 2017/18 onwards.
- 2.4 The reasons to progress the LED solution are threefold:
  - Many councils have already successfully initiated/completed LED street lighting installations that have provided major cost and CO2 savings. The pace of change in LED technology and associated costs has reached a state where it is a good time to employ these devices, providing short payback periods.
  - The alternatives to implementing this technology are coping with rising energy costs or reducing use (part night lighting etc.) neither palatable nor sustainable.
  - The future additional costs to the Council as a result of the Carbon Reduction Commitment Energy Efficiency Scheme (CRC). The current electrical energy cost per annum is circa £850K at the current CRC rate the financial impact would be circa £60K pa.
- 2.5 Key benefits of a borough wide LED lantern retrofit will be to:
  - Reduce energy consumption in street lighting energy costs and mitigate, as far as possible, future energy costs and improve lantern reliability.
  - Reduce carbon emissions in line with the Council and Government targets and mitigate future carbon costs.
  - To reduce ongoing maintenance requirements and associated costs from the more reliable and longer life LED lanterns.
  - Provide improvements in road safety and reduction of night time accidents as a result of upgrading to a white light source.
  - Provide improvements in Crime Reduction and Fear of Crime again as a result of upgrading to a white light source particularly when introduced into

residential areas helping people to feel safer at night on Thurrock's streets.

- To promote sustainability and demonstrate the Council's commitment to reducing its carbon footprint.
- Provide improved Service Standards. New equipment using LED technology is both more efficient and reliable leading to much improved service standards in addition to significantly reducing liability and risk on the Council.
- The new street lighting infrastructure will reduce the potential for structural and electrical failures and all of the associated financial and legal risks.

### **3. Issues, Options and Analysis of Options**

3.1 Thurrock has begun small scale LED conversion schemes of street furniture such as signs, illuminated bollards and belisha beacons and these have been successful in both reliability and energy saving.

3.2 Alternative options for saving electricity costs, include the removal of street lights and part night switching off. Removal of street lights would reduce the level of service delivered to residents. Part night lighting would also reduce the service and this option has been implemented by other authorities but has been rejected by Thurrock. The LED option maintains the current level of service but at an overall lower cost and is therefore recommended.

#### **3.3 Finance**

Various options have been considered regarding the funding element of this project, Cabinet has given approval for prudential borrowing to be used to secure the £6 million capital funding required. This option would provide a low interest solution and give the Council maximum flexibility in optimising its debt portfolio. In parallel with progressing the project, highways officers are also progressing a bid to government for competitive grant funding. Should this be successful, it will reduce the quantum of prudential borrowing required.

The other important consideration is to make use of revenue savings that are created throughout the implementation of the project i.e. energy and maintenance savings to again add further value for such works as accelerating the testing programme and replacing deteriorated concrete columns. A financial case for delivering the investment is attached in appendix 1.

#### **3.4 Procurement**

Procurement will be split into 2 separate sections, installation and supply. Installation (the smaller section) will be carried out either utilising an existing contract or suitable framework. Supply will be provided through a partnership

arrangement in order to both expedite the process and ensure economies of scale and as such value for money.

We are progressing procurement of the contract which will be delivered through an EU compliant framework to ensure best value.

Details of the outcome of the procurement process will be provided as part of the proposed update reports to this committee.

### 3.5 Prioritisation and timescales

It is intended to carry out the retrofitting in order of highest wattage lanterns first (see appendix 2 and 3) as these will produce the greatest savings.

The timescale for this project is 2 years. It is intended for the initial procurement phase to be completed over the initial 6 months, mobilisation of the contractor and acquisition of materials will be approximately 3 months from award, therefore the programmed start date on site is Autumn 2015. For more detailed information see appendix 4

### 3.6 Operational Issues

A 3 month mobilisation period has been included in the programme for the contractor. Equipment lead times are currently in the region of 6 to 12 weeks.

All works will be carried out in full compliance with current safety requirements such as traffic management. Quality control and monitoring will be undertaken in accordance with current practice. Once the contract has been awarded, there will be the opportunity to appraise the programme and discuss with the contractor potential methods of accelerating the programme.

### 3.7 Asset and Energy Management

The street lighting inventory is held on the "Mayrise" asset management database and enables the creation of an efficient work programme to realise the energy savings as planned.

The database will provide schedules and orders for the works programme. Links with the operational side of contractors work will allow real time data to flow from the contractor to the database as the work progresses and the LED lanterns are installed. This information will be used to commission the works to install the LED lanterns, review and monitor of the works.

Street lights are not individually metered by suppliers, payment is made by means of an inventory of lamps and the energy that they use is then calculated to produce the energy bill. As changes to the database will be quickly and accurately input these can be reported to the energy supplier on a regular basis to ensure that the maximum cost savings are made as the LEDs are installed throughout the installation phase.

### 3.8 Environmental Issues

All equipment used will conform to current British Standards and environmental regulations. All installations will comply with the necessary regulations in terms of its effect on wildlife through a rigorous design process. e.g. suitable glare classification.

### 3.9 Testing

Measures will be taken to ensure that the lamp columns are structurally capable of withstanding the weight of the new LED lanterns.

### 3.10 Communications

This programme is to replace existing street light lanterns with the equivalent light output LED lantern. The service provided will therefore not be changed. The main difference is the change from a yellow light to a white light. This change has been carried out by other authorities who report that the white light has advantages which include better colour recognition and a light environment which is more effective for reducing crime and accidents. It is envisaged that there will be minimal disruption associated with this project.

Stakeholders will be informed of the project and progress using the Council website (project outline, programme of works, FAQ's etc.) press releases and in some instances letter drops. It is proposed that regular progress updates will be brought to the Planning, Transport and regeneration Overview and scrutiny committee.

### 3.11 Risks

Project risks will be managed in line with corporate protocols. Assessment and management of these are assisted by the experience of other authorities' projects.

## **4. Reasons for Recommendation**

- 4.1 To keep members informed of progress on the street lighting LED programme.

## **5. Consultation (including Overview and Scrutiny, if applicable)**

- 5.1 Regular reports will be brought to scrutiny as above.

## **6. Impact on corporate policies, priorities, performance and community impact**

- 6.1 This proposal will assist the Council in delivering budget targets and improve the street lighting provision across the Borough. It will also support the

Council's corporate plan objective of "protecting and promoting our clean and green environment".

## **7. Implications**

### **7.1 Financial**

Implications verified by: **Jonathon Wilson**  
**Financial Accountant**

The Council faces significant financial difficulties in both the current year and the remainder of the medium term financial strategy-2015/16-2017/18. The approach is to bring forward savings at the earliest opportunity although ensuring all required consultation takes place. Any delays to the approval of budget proposals puts their timely delivery at risk adding further pressure to 2015/16.

### **7.2 Legal**

Implications verified by: **Angela Willis**  
**Contract Solicitor**

Local authorities do not have a statutory duty to provide street lighting, but there is a statutory duty to maintain street lights where they have been installed.

It is planned that separate contracts will be sought, one for the supply and the other for the installation of LED street lights. The works cost estimates include for the total value of both contracts.

As separate contractual arrangements, the following will apply:

#### **Supply of street lights**

- The report states that a partnership arrangement will be used for the supply element.
  - The use of a partnership arrangement will require compliance (or grounds for waiving) the EU Procurement rules, if applicable, and using an existing and suitable partnership agreement already in place.
  - The appropriate Thurrock Council governance forms would need to be obtained to support this course of action.
- In accordance with Rule 7 of the Council's Contract Procedure Rules, where a service contract is valued at £10,000.00 - £74,999.00, at least three written quotes must be obtained (making use of any national or local framework agreements).
- If the total value of the service contract is £75,000.00 - £173,934.00 the contract must be advertised and at least two written tenders obtained.

- If the procurement department determine that the supply of LED lights is a Part A service under the Public Contract Regulations 2006, then the Council will be required to fully comply with the 2006 Regulations where the value of the service contract meets or exceeds the current EU threshold for services which is £172,514.
- The usual timescale for a full procurement exercise is 9-12 months.
- If this is determined to be a Part B service, a full procurement exercise is not required, but the Council will still need to ensure compliance with the EU Treaty principles relating to non-discrimination on the grounds of nationality, equal treatment, and transparency.
- In accordance with Rule 8.1(a), the Responsible Officer must obtain approval to proceed to tender, approval to award the contract and approval in respect of any waivers or extensions.

#### **Installation of street lights**

- The report states that an existing contract or suitable framework will be used for the installation element.
- The use of an existing contract or suitable framework will require compliance (or grounds for waiving) the EU Procurement rules, using a valid and suitable contract in place, or a framework to which the Council has access.
- Use of an existing contract would additionally require a deed of variation to be obtained, to cover the changes to the original contract, with the provision of any supporting governance documentation.
- In accordance with the Council's Contract Procedure Rules, where works contracts are valued at £10,000.00 - £499,999, at least three written quotes in advance are required for making use of any available framework agreements as advised by Procurement Services.
- Contract Procedure Rule 7 stipulates that where the value of the works contracts are over £500,000 a full competitive process should be undertaken.
- If the total estimated value of the works proposed meets or exceed the current EU threshold for works of £4,322,012, the Council is required to fully comply with the Public Contract Regulations 2006 and EU treaty principles.

Legal Services will be available to advise and assist the client department throughout the procurement process and will prepare any contracts required.

### **7.3 Diversity and Equality**

Implications verified by: **Rebecca Price**

**Community Development Officer**

Street lighting is part of the built environment and experienced by all users of the public highway, both residents and visitors to the area. This project will serve to secure and improve the night time environment within the Borough for all residents and as such will aid many of the target groups by improving such things as community safety and road safety whilst reducing crime and the fear of crime. (see table 1).

Table 1

Characteristic	Positive Impact
Age	Young people – improved road safety and community safety Older people – improved community safety, accessibility, and reduced falls
Disability	Improved community safety and accessibility
Ethnicity	Improved community safety
Gender/Transgender	Improved community safety
Marital status/Civil partnership	Characteristic not relevant to the proposal
Religion/Belief	Characteristic not relevant to the proposal
Sexual orientation	Improved Community safety
Other	Rurality – improved community safety, road safety, accessibility, particularly for shift time workers and carers

7.4 **Other implications** (where significant) – i.e. Staff, Health, Sustainability, Crime and Disorder)

This programme supports the Council's commitment to sustainability and carbon reduction. Failure to invest in LED lighting would represent a missed opportunity in terms of energy savings, crime reduction and road safety improvements.

8. **Background papers used in preparing the report** (including their location on the Council's website or identification whether any are exempt or protected by copyright):

- Previous committee reports

9. **Appendices to the report**

- Appendix 1 Cost Implications/Savings
- Appendix 2 Implementation Programme List
- Appendix 3 Implementation programme Map
- Appendix 4 Project Plan (Timeline)



**Report Author:**

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Transportation and Highways