



<b>Meeting(s):</b>	<b>Environment &amp; Transport Committee Policy &amp; Resources Committee</b>	<b>4 March 2019 6 March 2019</b>
<b>Report Title:</b>	<b>Review of Streetlighting Reduction Policy</b>	
<b>Reference Number:</b>	<b>RD-02-19-F</b>	
<b>Author / Job Title:</b>	<b>Neil Hutcheson / Team Leader – Asset and Network</b>	

## **1.0 Decisions / Action required:**

1.1 That the Environment and Transport Committee RECOMMENDS that the Policy and Resources Committee APPROVES the “Streetlighting Reduction Policy” as detailed in section 4.4, namely:

1.1.1 Introduce dimmed lighting in areas where part-night lighting is currently in place [Section 4.4.1 – 4.4.2];

1.1.2 Part-night lighting to be discontinued [Section 4.4.3]; and

1.1.3 Discontinue the policy to completely remove streetlights [Section 4.4.4].

## **2.0 High Level Summary:**

The purpose of this report is to address the following:

### **2.1 Existing Policy**

The existing policy requires the removal of lighting, where it is no longer considered necessary, or the part-night lighting of streetlighting where consultation and risk assessment has shown that these reductions will not adversely affect the safety of road users.

### **2.2 Light Emitting Diode (LED) Upgrade of Streetlighting Network**

A project to replace all of the conventional lanterns on Shetland’s streetlighting network is underway and is due to be completed in 2020/21. The opportunity is also being taken to make further savings by dimming the LED lighting between the hours of midnight and 5am.

### **2.3 Proposed Policy Revision**

The LED replacement programme, the introduction of dimming and the cost savings that will be made allow reconsideration of the reduction policy. The proposal is that the policy to introduce part-night lighting and remove columns in certain areas is discontinued. The lighting that is already part-night lit would be reinstated but dimmed in the early hours of the morning. The reinstatement of lighting that has already been removed is not recommended because it would go against the public’s wishes to see a reduction in the level of streetlighting within Shetland.

### 3.0 Corporate Priorities and Joint Working:

3.1 The priorities listed in the Council's "Our Plan" include "Provide quality transport services within Shetland," "There will be transport arrangements in place that meet people's needs and that we can afford to maintain in the medium term" and "We will have a clearer understanding of the options and the investment needed to create a sustainable internal transport system over the next 50 years." The management of the streetlighting network has direct implications for these priorities.

3.2 "Our Plan" also lists 20 things the Council "aims to achieve by 2020" including:

- "to prioritise spending on building and maintaining assets and be clear on the whole-of-life costs of those activities, to make sure funding is being targeted in the best way to help achieve the outcomes set out in this plan and the community plan;" and
- "we will have reduced the effect we have on the local environment, particularly reducing carbon emissions from our work and buildings."

### 4.0 Key Issues:

#### 4.1 Streetlighting Inventory

4.1.1 The lighting asset consists of lanterns, lighting columns, cabling, ducts, feeder pillars, illuminated signs and illuminated bollards. There are over 4,000 streetlights on the roads inventory which are spread throughout Shetland.

#### 4.2 Streetlighting Reduction Policy

4.2.1 The Streetlighting Reduction Policy was approved for implementation on 31st October 2012 (Min Ref: 99/12). The objective of the Policy is: "to manage the reduction of street lighting through risk assessment so as to retain lighting at locations where it is most needed."

4.2.2 The policy introduced the complete removal of streetlighting circuits where they were at the end of their useful life and were no longer considered necessary. It also introduced part-night lighting with the streetlighting circuits switched off between midnight and 6am. The replacement of conventional lanterns with their LED equivalent was not a savings option due to the relatively high cost of the lanterns at that time. There are risks associated with the complete or part-time removal of street lighting and these options need to be appropriately managed. Therefore, prior to the introduction of any lighting reduction scheme the policy requires a public consultation exercise and risk assessment to be done.

4.2.3 There are a number of locations and situations where a reduction in streetlighting are not considered. These include:

- major traffic routes ("A class" roads) through developed areas;
- major road junctions;
- sites where streetlights have been installed as an accident remedial measure and sites with a significant night-time traffic accident record;
- town centres where there are CCTV areas, high security premises such as banks and jewellers, a high crime risk and a high concentration of people at night;
- areas with 24hr operational emergency services sites including hospitals;

- sites where the Police are concerned there may be an increase in crime;
- areas with sheltered housing and other residences accommodating vulnerable people;
- lanes and footpaths with steps that would be a trip hazard in poor light; and
- where there is a statutory requirement such as the lighting of traffic calming measures and Pelican crossings.

The consideration of these restrictions form the first part of the risk assessment process. This goes on to consider factors such as the presence of bus stops and the proximity of schools to the area. When the risk assessment has been completed and any Police requirements have been incorporated, the next step is to consult the local Council Members, the Community Council and affected residents. Since the schemes will have been risk assessed prior to consultation, the only changes that are made to reduction proposals are for any significant safety risk not previously identified.

### 4.3 LED Upgrade of Streetlighting Network

4.3.1 The Council, on 9 May 2018 (Min Ref: 26/18), RESOLVED to approve a capital project for the LED upgrade of Shetland's streetlighting network.

4.3.2 The benefit of replacing conventional lanterns with their LED equivalent are a 60% reduction in energy use with the resulting long term cost savings and reduction in the Council's carbon footprint. An additional benefit is that the project will allow the replacement of the majority of our structurally unsound lighting columns without increasing the current annual expenditure on streetlighting. The columns being used now are "hot dip" galvanised, rather than spray galvanised, so have an expected design life of at least forty years.

4.3.3 The new LED streetlighting is to be dimmed between midnight and 5am in order to maximise the carbon and cost savings while adjusting the level of the lighting to suit the low usage of roads at this time. This option was discussed in the appendix to the report referred to in paragraph 4.3.1 above. The intensity of the lighting will be reduced by 25% which equates to an energy and cost saving of approximately the same percentage. This figure has been chosen following discussions with Highland Council who have trialled a number of dimming options. Their findings are that a 25% reduction in intensity is virtually indistinguishable from the undimmed lighting. The introduction of dimming at this level has, to date, not resulted in any adverse comments from their stakeholders.

4.3.4 However, a risk assessment would still be applied prior to the introduction of dimming. This does not need to be as onerous as that for removals or part-night lighting. Therefore the proposal is that only the following restrictions would apply to dimmed lighting:

- major traffic routes ("A class" roads) through developed areas;
- major road junctions;
- sites where streetlights have been installed as an accident remedial measure and sites with a significant night-time traffic accident record;
- town centres where there are CCTV areas, high security premises such as banks and jewellers, a high crime risk and a high concentration of people at night; and
- on the approaches to Pelican and Zebra crossings.

4.3.5 We consider that there is no need to consult on the introduction of dimming due to the positive reaction Highland Council received when dimming their streetlights by the same percentage.

#### 4.4 Proposed Revision of Streetlighting Reduction Policy

4.4.1 The energy savings made by the introduction of LED lanterns, at approximately 60% of the current energy use, exceed the savings that are currently being realised by part-night lighting. The dimming of an LED lantern will save a further 25% of the remaining 40% energy use resulting a dimmed LED lantern using only 30% of the energy used by an undimmed conventional lantern.

4.4.2 In addition to this dimming, rather than part-night lighting, could be implemented in many more areas. The reason being that dimming, unlike switching lighting off, does not have to be restricted on safety grounds at areas:

- with emergency service sites such as hospitals;
- where the Police are concerned there may be an increase in crime;
- with sheltered housing and other residences accommodating vulnerable people;
- where footpaths have steps that would be a trip hazard in poor light; and
- with traffic calming measures.

#### 4.4.3 Reconsider Part-Night Lighting

Approximately 4,000 streetlights will be fitted with LED lanterns, of which we estimate that about 2,200 will be dimmed, compared to a total of 531 lanterns that have or will be part-night lit. Therefore, the LED replacement programme with dimming will obviously result in greater savings than the reduction policy. The former will save £185,000 per year compared to the latter which was predicted to save only £12,600 when the matter was reported in 2012. This gives us the opportunity to revisit the policy on part-night lighting. The proposal is that, having given consideration to the significant savings that will be achieved by the LED replacement project, the part-night lighting policy should be discontinued. The streetlighting that is already part-night lit should also be reinstated so that it is only dimmed rather than switched off between midnight and 5am. The cost of reinstating these lights would be approximately £10 each giving a total one off cost of £2,660. This would consist of replacing the existing timer when the electrician is fitting the new LED lantern to the previously part-night lit streetlight.

#### 4.4.4 Reconsider Complete Removal of Streetlights

There are still a number of areas, mainly isolated housing estates in rural areas, where the current policy requires the removal of the streetlighting. A total of 39 streetlights have been removed to date with a further 116 that could be removed. The capital savings to date, from the non-replacement of columns etc., are £40,560 with revenue savings of £3,380. The continuation of the removals policy would save a further £120,640 of capital monies and £10,050 of revenue spending. These largely one off savings will only be made as and when the columns deteriorate and need to be taken down for safety reasons, at which point they are not replaced. An entire circuit would be removed when the first of the columns on that circuit has to be taken down. In some of the areas identified for lighting removal this may take up to fifteen years so the savings would be made incrementally over a period of time. The proposal is that we discontinue the policy to completely remove streetlights at the eventual total cost of £120,640 spread over the fifteen years (an average of approximately £8,000 per annum). However, we would not recommend the reinstatement of streetlights that have already been removed due to the capital expenditure that would be needed. It would

also go against public opinion, established at a number of public meetings, that streetlighting in Shetland should be reduced.

#### **5.0 Exempt and/or confidential information:**

5.1 None.

#### **6.0 Implications :**

<b>6.1 Service Users, Patients and Communities:</b>	A minor improvement in that a limited number of road users will benefit from having the lighting dimmed rather than switched off in the early hours of the morning or removed completely.
<b>6.2 Human Resources and Organisational Development:</b>	No implications.
<b>6.3 Equality, Diversity and Human Rights:</b>	No implications.
<b>6.4 Legal:</b>	<p>The Council's statutory duties are defined by Section 35 of the Roads (Scotland) Act 1984 which requires that "<i>a local roads authority shall provide and maintain lighting for roads, or proposed roads, which are, or will be, maintainable by them and which in their opinion ought to be lit.</i>" Should the Council be of that opinion, lighting must be provided.</p> <p>The "Climate Change (Scotland) Act 2009" imposes ongoing duties on the Council. In exercising its functions the Council must act (a) in the way best calculated to contribute to the delivery of emissions reduction targets, as specified in the Act, (b) in the way best calculated to help deliver any programme setting out Scottish Ministerial objectives in relation to adaptation to climate change and associated matters and (c) in a way that it considers is most sustainable.</p> <p>Under the Local Government in Scotland Act 2003, the Council has a duty to make arrangements that secure Best Value. Best Value is continuous improvement in the performance of the authority's functions taking into account efficiency, effectiveness, economy and equal opportunities.</p>
<b>6.5 Finance:</b>	<p>The proposals in this report will result in the following financial implications:</p> <p>The re-introduction of replacement of streetlight columns, lanterns and cables which have reached the end of their useful life will result in an additional cost of approximately £8k per year.</p> <p>The re-instatement of part-night lighting to dimmed lighting where this has already been implemented would cost approximately £3k.</p>

	<p>These costs can be funded from the existing Streetlighting Removals/Replacements budget in the Council's Asset Investment Plan.</p>
<b>6.6 Assets and Property:</b>	No implications.
<b>6.7 ICT and new technologies:</b>	No implications.
<b>6.8 Environmental:</b>	<p><u>Carbon Management</u>  Government has recently designated energy efficiency as a National Priority. Streetlighting is a high energy user. By carrying out the LED replacements and dimming we will both reduce our energy usage and reduce our carbon footprint in terms of Council policy to support the Council's Carbon Management Plan. By implementing these changes locally Council will be supporting the national and local carbon reduction agenda and will also be seen to be delivering the national energy efficiency priority agenda.</p> <p><u>Light Pollution</u>  The most obvious impact of light pollution is interference with the view of the night sky but there are other affects such as harming people's quality of life. For example disturbance of sleep caused by excessive light shining into homes. There is also energy wastage due to light being dispersed into the night sky rather than onto the road surface and surroundings where it is required. The Roads Service has, for a number of years, been installing "flat glass" lanterns when replacing existing lighting infrastructure. This more modern type of lantern is designed to reflect the light it emits downward so that glare and upward light is limited. Therefore, although this proposal would see an increase in lighting during the early hours of the morning, in some areas, the new lanterns should prevent light pollution.</p>
<b>6.9 Risk Management:</b>	<p>There is a risk of inadequate streetlighting provision on our road network if the introduction of dimming is not risk assessed.</p> <p>Failure to minimise the net ongoing running costs of the streetlighting network, by the installation of dimmed LED lanterns, carries a risk of the Council's financial policies not being adhered to and will require a further draw on reserves.</p>

<b>6.10 Policy and Delegated Authority:</b>	<p>In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has responsibility for the Roads Service.</p> <p>The Council's Constitution – Part C - Scheme of Administration and Delegations provides in its terms of reference for Functional Committees (2.3.1 (2)) that they;</p> <p>“Monitor and review achievement of key outcomes in the Service Plans within their functional area by ensuring –</p> <p>(b)Best value in the use of resources to achieve these key outcomes is met within a performance culture of continuous improvement and customer focus.”</p> <p>Section 2.2.1 of the Scheme also states that the Policy and Resources Committee has delegated authority for ensuring outcomes are achieved through service delivery, and for reviewing the overall effectiveness of the Council's work and the standards and levels of service and ensure the Council discharges its functions relating to best value.</p>
<b>6.11 Previously considered by:</b>	<p>None.</p>

**Contact Details:**

Neil Hutcheson, Team Leader – Asset & Network  
07 February 2019

[neil.hutcheson@shetland.gov.uk](mailto:neil.hutcheson@shetland.gov.uk)

**Appendices:**

None.

**Background Documents:**

1. “Streetlighting Review Report, October 2012”  
<http://www.shetland.gov.uk/coins/viewDoc.asp?c=e%97%9Dc%92r%7F%8A>
2. “Asset Investment Plan – Business Cases: LED Upgrade of Shetland's Streetlighting Network, May 2018”  
<http://www.shetland.gov.uk/coins/submissiondocuments.asp?submissionid=22412>