The Highland Council

Agenda Item	
Report No	

REDESIGN BOARD WORKSHOP– 14 February 2017

STREET LIGHTING REVIEW

Report by Head of Infrastructure

Summary
The report summarises the scope of the Street Lighting Review, the information gathered as part of the review process, provides information on the areas of consideration and lists the recommendations for consideration by the Redesign Board.
Following board consideration then a Street Lighting Policy shall be developed and presented to Community Services Committee.

1. Background

Street lighting was identified as an area requiring significant review for the council's redesign in phase 1 of the process, along with: Services for children and young people – looked after children and residential care; Adult social care; Waste services; Additional support for learning, specialist services and school transport additional needs; Transport services; Administration within schools.

The street lighting review leader is Colin Howell, team members are Mark McGinty and Angela Echavarren, board members are Cllr Reiss and Mick Haymer, staff side rep is Mick Haymer and the host head of service is Tracey Urry. Robin Pope and Carolyn Smith were also asked to join the review group.

1.1 An initial meeting was held with the review participants on the 21st of October 2016 where the scope of the street lighting review was discussed. It was agreed that the scope should cover all items in the street lighting budget which includes street lighting and the LED lantern replacement programme, illuminated signs and bollards, communications, CCTV and Christmas lights. The participants were tasked with meeting street lighting colleagues to understand work practices, areas of concern and areas where opportunities to increase income may exist. The host head of service ensured staff were briefed on the review ahead of these meetings. The review participants met again on the 9th of November and the 23rd of November to report back findings and highlight areas which required further investigations. Expert opinions were sought from THC Community Services Finance, Corporate Improvement Team, Commercial Manager, Energy and Sustainability, Planning and Building Standards, Corporate Governance, Climate Change Team, Corporate Audit

and Performance, Performance and Resources. Opinion was also sought from an independent lighting expert from Scottish Futures Trust (SFT) who is also the chair of the Society of Chief Officers of Transport in Scotland (SCOTS) lighting subgroup, who considered the work of the review group and commented on the emerging recommendations, he also ran various lighting scenarios through specialist software to provide typical energy savings.

1.2 A draft report was circulated to the review group and value champions on the 23rd December; this report was considered at the review group meeting on the 9th January 2017, prior to draft review by the Redesign Board on the 10th January where verbal feedback was provided.

1.3 Communications and CCTV were considered under the review and the preliminary findings identified issues but it was agreed that most opportunities lay in other areas which require to be concentrated on. These items were therefore not pursued further in the review but it is recommended that the Service carries out a review of these functions to establish efficiencies and also ensure income associated with communications is protected / increased.

1.4 It is of note that there is no statutory duty to provide lighting but it is for the Roads Authority to determine which areas 'ought' to be lit. The Highland Council currently has a draft Lighting Policy but this has never been ratified at Committee.

2. Areas of review

2.1 **LED replacement lantern roll out**

The Capital Programme for 15/16 to 24/25 includes £16M for LED lighting under the project name "Projects Funded from Project Savings (Self Financing) Lighting LED (Enhanced Bid). This shows an allocation of £2M for each of the 5 years 2015/16 to 2019/20 and £6M for the year 2020/21.

This is in accord with Councils across the UK who are replacing traditional sodium lanterns with lower wattage LED lanterns to reduce carbon emissions and energy bills.

A review of the LED budget has been undertaken and it is considered to be sufficient to undertake all the works and recommendations contained in this report.

2.2 **Part-night dimming/switch off**

Energy saving trials were held in 2011 in various locations across Highland which involved part-night switch off (midnight to 6a.m.) every second column disconnected and part-night dimming (midnight to 6a.m.). Part-night switch off caused little concern in smaller villages but was unpopular in larger communities. Switching off every second lantern was dismissed following the trial due to concerns over road safety and non-compliance with standards. Part-night dimming caused very little concern with no apparent discernible

reduction in the level of service to communities.

2.3 **Unmetered energy billing**

The street lighting energy is an unmetered supply. A monthly return is sent to the energy supplier with an update of switching regimes and lantern types for each individual lantern in the street lighting database which runs to c60,000 lines of data. The switching regime reports on how long the lamp is switched on for i.e. dusk until dawn or dusk until midnight then 6a.m. until dawn. The lantern type and switchgear gives information on the wattage use. Various other charges are applied to the bill to cover network fees and the like. The Highland Council has two billing methods available, an annual average monthly bill or on half hourly usage which approximates to the consumption. The information submitted clearly needs to be correct and optimised to minimise cost.

2.4 **General energy efficiencies**

Energy prices are expected to rise in the next few years which could erode savings from the LED programme. The review looked at how energy was used in street lighting but also touched on other energy efficiency matters across THC services which arose from investigations.

- Investigations into how street lighting energy bills are established also resulted in information on how the metered supply used by large energy users such as THC are calculated. The actual cost of electricity supplied to the Council is made up of two discrete elements; the raw energy price, which is a national contract negotiated through Scotland Excel; and the "non-core", or "pass-through" charges levied by the local Distribution Network Operator (DNO). The non-core costs are detailed by the supplier within our bills, on a site-by-site basis. Non-core charges currently account for about 55% of total electricity bills, but this figure is projected to rise to 70% of bills by 2018-19. This will place significant additional pressure on resources, unless the Council realises an associated reduction in consumption of these metered supplies. The two most important non-core charges are Transmission Network Use of Systems (**TNUoS**) and the Distribution Use of System (**DUoS**).

  TNUoS charges are applied to usage over the year and are based on an assessment that is made in peak times from November to February each year. The charges (known as Triads) are determined on 3 half-hour measurements taken during the working week in winter at peak times. The Council generally receives notification of each Triad period 24 hours in advance. If the Council uses less energy during these Triad periods, it will pay a lower TNUoS charge.

  DUoS charges are levied by SSE, and are made up of numerous elements including available capacity, standing charges and units consumed. During the working week, certain times of the day are considered peak times and are categorized as Red Band. Other times are categorised as Amber (day-time) and Green (night-time). Amber and Green bands are much cheaper than Red bands.

- Reducing energy consumption in THC buildings, car parks, depots and sports fields by reducing excessive lighting was considered. RPOs were surveyed as part of the review into street lighting, following concerns which were raised by street lighting colleagues and participants of the review. The RPOs were asked if lighting was left switched on, in and around the building when the building was not in use. There were 159 responses to the questionnaire, from the 350 asked for an opinion. 88% of the respondents were confident that internal lighting was not left on when the building was empty. 56% confirmed that those buildings which were floodlit, were lit when not in use. 65% of those with car park and footpaths lighting confirmed that lights were kept on even when the building was not in use.

- The Traffic Signs Regulations and General Directions 2016 has relaxed the requirement for many traffic signs to be illuminated at night. Unless specified otherwise, retroreflective signs are the default position.

2.5 **Staffing structure and savings post LED roll out**

LED lanterns not only use significantly less energy, they also have a very extended life and are thus anticipated to last a significant number of years prior to failure. Much of the maintenance work of street lighting is monitoring (scouting) and replacement of failed lanterns. The maintenance burden of scouting for faulty lanterns and lantern replacement should be greatly reduced following the roll out of the LED replacement programme.

2.6 **Developer Guidance**

The area street lighting engineers issue guidance to developers on the street lighting requirements for developments and issue a guidance document, The Specification for the Lighting of Roads in Housing and Developments. Developers must meet the required specifications if the infrastructure is to be adopted by The Highland Council. Currently developers install lighting and the subsequent energy consumption and maintenance falls to the council.

2.7 **Budget monitoring**

The year 2016/17 budget for Communications and Lighting shows a total revenue budget of £3.3M. Capital Programme of £500k for replacement columns and cabling each year from 15/16 to 24/25. Capital Programme of £16M for lighting LED with spend of £2M for each of the 5 years 2015/16 to 2019/20 and £6M for the year 2020/21.

Non staff time (labourers and electricians) is recorded against job codes and entered into the Integra system by Business Support. Staff time (area engineers and manager) do not do timesheets.

The finance system (Integra) does not allow the recording of plant usage/cost.

2.8 **Income generation**

During the review, suggestions on increasing revenue were identified and investigated. Areas considered included the design and installation fees charged to external developers; commuted sums from developers for energy

consumption and maintenance; extending the scope of work to include lighting maintenance on the trunk road network; extending the scope of work to include design, installation and maintenance of external lighting in Highland Council buildings/harbours.

2.9 **Christmas lights**

The review has highlighted inconsistencies in the approach taken in respect of Christmas lights – this is by dint of history, and inferred budget provision at previous reorganisations, it has become apparent that not all such costs are being recovered.

Common Good Funded Christmas Lights

Inverness City Centre Christmas Lights - £65K invoiced – note under recovery of actual costs c£10K in 15/16.
Strothers Lane -£2,500 invoiced
Christmas Extravaganza - £3,200 invoiced

Street Lighting Revenue Funded (Free) Christmas Lights- c£30k/yr

Landward Inverness (Beauly, Tomich, Cannich, Balnain, Drumnadrochit, Invermoriston, Fort Augustus, Gorthlick, Foyers, Dores, Tomatin, Ardersier, Croy and Balloch) – c£10K
Nairn (Aldearn and Cawdor) – c£7,500
Lochaber - c£9K
Portree – c£2,500

Christmas Lights Recharged

Smithton and Culloden - £600
Thurso - £3K
Ardgay - £150
Invergarry - £240
Inverlochy - £175
Inshes Park - £700
Woodside - £650

2.10 **Charity banners**

Lighting engineers are asked to install and remove charity banners in Inverness. The charity banners in Inverness cost c£2,500 in plant and labour costs last financial year for which there is no budget and is currently funded from the street lighting revenue budget.

2.11 **IT provision**

There has been a pilot trial of hand held computers for out of office data retrieval and uploading of lantern specifications. This is not currently available across all of the street lighting teams and work instructions tend to be paper based.

3. Recommendations

3.1 **LED replacement lantern roll out**

- Accelerate the LED replacement programme and associated capital budget spend to complete by the end of March 2019 is both considered challenging and achievable. Accelerating the programme will result in achieving savings sooner to the energy bill, as kilowatt hours are reduced by between 40% and 60% by changing from traditional sodium lanterns to low wattage LEDs. Once the roll out is complete, savings of £900k per year in energy costs and c£70k in carbon tax could be achieved although this is expected to decrease because of rising energy prices. Maximising internal delivery of LED lanterns both utilises available workforce and retains experienced staff, but augmenting these resources and concentrating on LED replacement will significantly improve both the delivery and reduce installation costs.

- Replacing illuminated (lit) signs and bollards with retroreflective signs in line with revised guidance should be included in the LED replacement programme.

- Lanterns on an unmetered supply within harbours should be included in the LED replacement programme.

- The workforce would need to be augmented to meet the new target for LED replacement if approved. The staffing budget is currently set at 28 manual workers and 8 staff (7 vacant posts). Because maintenance following LED replacement is less, staffing levels do not need to be maintained at the current level. Two of the vacancies need to be filled with either two permanent electricians or one electrician and one apprentice electrician. A Technical Assistant post needs to be created using a vacant electricians post and filled, to increase efficiency and to assist with data entry (key to achieving energy savings) thus freeing up staff time. Temporary, fixed term contracts, for the duration of the roll out are required for six labourers at HC4 and two electricians at HC5. The remaining vacant posts will disappear from the structure. The ideal make-up of a lantern replacement squad is one electrician, one labourer and one mobile elevated work platform vehicle. Additional plant/vehicles will be hired in to augment the internal fleet as required to optimise work progress.

- It is recognised that even with the temporarily augmented workforce and increased efficiencies, all LED lantern replacements will not be achieved by March 2019. Geographic areas are to be identified for replacement by external contractors through the EXCEL LED Replacement Manpower Framework Contract. Works to be led by THC Street Lighting engineers with technical support, contract preparation and administration by the Project Design Unit. As this contract has fixed replacement costs, this contract should be targeted at those areas which are most challenging to replace.

- Internal street lighting fleet maintenance should be prioritised to maintain productivity, as extended downtime is currently being experienced.

3.2 **Part-night dimming/switch off**

The citizen's panel were approached to establish the community's views on reducing street lighting and the acceptability of night time switch offs, there were 802 responses. There was overwhelming support - 76% who agreed that lighting should remain on all night for the following criteria:-

- ❖ Main traffic routes and road junctions;
- ❖ Locations with a significant road traffic night-time accident record;
- ❖ Areas with a significant record of night-time crime or anti-social behaviour;
- ❖ Lights outside sheltered housing and other residences accommodating vulnerable people;
- ❖ Areas with 24-hour operational emergency services including hospitals;
- ❖ Potential hazards on the highway such as traffic calming, speed humps and road crossings;
- ❖ Parts of town centres that have concentrated night-time activity or economy; and / or
- ❖ Areas covered by police or council CCTV operations.

It is of note also that when asked about what the impact of part night switch off would have on you/family only 13% identified it would cause some or significant difficulty, that impact rose to 26% when they considered the wider community.

When asked about a complete switch off of lighting in residential areas 37% disagreed with this, this figure increased to 42% when asked about no lighting in new residential developments. It is of note that respondents from rural locations were much more likely to agree to residential lighting switch off.

Respondents with a disability are much more concerned about light switch off and general concerns regarding the elderly, young and vulnerable groups were raised.

It is thus clear that part night switch off of non-essential lanterns will have its detractors but there is general public support for this. There is clearly more opposition to complete switch off.

It is thus recommended that part-night dimming or switch off in suitable areas across Highland using criteria to be agreed by Members through a revised Street Lighting Policy, should be considered. Part-night dimming would give a £50k per year typical energy saving on top of the LED saving and Part-night switch off would give a £100k per year typical saving.

Part night dimming maintains all lights on but at reduced levels for part of the night, but this reduced level is difficult to discern so there is little risk of complaint from the public, this is achieved by installing pre-programmed LED lanterns. Part night switch off from mid-night to 6a.m. requires incorporation of a time clock in the lighting control cabinet. Due to the lack of control from the cabinet, if any one light falls into the 'must remain lit' category, then the whole lighting loop would have to remain lit. Part night switch off may prove unpopular with the public. If part night switch off is rolled out it is costly to revert back to dimmable lanterns. Due to the costs of the installation, the lack of control, the limited savings and the potential complaints for part night switch off, it is recommended that part night dimming is adopted across the lighting network.

Whilst acknowledging that full switch off of lighting columns may prove unpopular, it is recognised that where public support exists then this could be accommodated, and would provide savings. It is of note however that columns and lanterns when not used, suffer from moisture damage and expensive repairs may be required to bring them back into use. It is recommended however that consultations with discrete communities should be undertaken to establish if there is an appetite to deliver savings and associated carbon reductions and dark skies. This consultation should include consideration of the potential impact of any full switch off on vulnerable groups within that community.

3.3 **Unmetered energy supply billing**

Energy savings are being pursued by using an independent company to manage half hourly and average annual tariff returns. By switching to annual tariff in the long winter nights, then half hourly tariff in the shorter summer nights, savings of typically £420k over the year could be achieved for the unmetered supply on the existing lighting stock. This is most likely to be a short term gain as energy companies may seek to close this loophole.

3.4 **Energy efficiencies**

- Support the Climate Team's plans to reduce **TNUoS** and **DUoS** charges by alerting staff prior to the period used to calculate winter peak time and ask them to minimise energy consumption during this peak demand period (generally 16:00hrs to 19:00hrs Monday to Friday). A 10% reduction in energy consumption in the monitored period could save in the region of £20k, whilst a 25% reduction would be in the region of £50k. Officers in the Council's Energy & Sustainability team are currently working on plans to ensure consumption is shifted to lower-cost bands.

- Empower RPOs to reduce energy consumption in THC buildings, car

parks, depots and sports fields by introducing a policy on reducing excessive lighting. Consideration should be given to installing flexible lighting systems such as person activated systems to the metered supply and carrying out an LED replacement programme across the estate.

- Street lighting engineers should challenge all requests for installation of further street lighting and be mindful of the future energy consumption and maintenance costs.

3.5 **Staffing structure and savings post LED roll out**

The proposed new Lighting & Communications Manager will have to decide the ratio of posts in the north and south areas but there will be 2 years of augmented resources during the period of LED replacement, to March 2019, before future staffing levels need to be determined. The staffing levels will be dependent on the maximisation of both internal and external revenue streams which should be pursued to maintain/maximise staffing levels to provide an efficient service and good geographic coverage.

SFT have advised that typical maintenance savings in Scotland of £15 per column per year for each LED replaced. It is recommended that following the LED roll out, potential revenue savings of around £600k can be achieved. This is based on the benchmark figure of £1.5M shown in the revenue budget pre LED roll out from 2015/16 for street lighting and traffic lights, signs and bollards maintenance budgets if all of the recommendations are adopted. It is however recognised that establishment of the appropriate savings figures for Highland will have to be accurately determined.

The £500k column and cabling capital budget should remain unaffected.

Scouting for faults is already reducing as the LED programme progresses and this should disappear completely once completed. Community Councils will be encouraged to report faults and street lighting engineers should work with Corporate Improvement to create a more streamlined public reporting system.

Structural testing of columns is required and should be undertaken to determine the column replacement schedule, this has currently been side-lined. Training and equipment should be considered such that such structural testing could be undertaken by in-house staff (rather than outsourcing which is how it has historically been undertaken) – the work being funded from the lighting capital programme for column and cabling replacement budget. This testing of the lighting infrastructure shall be used to establish an annual schedule of column and cabling replacement that should be delivered from the capital allocation.

3.6 **Developer Guidance**

The specification should be revisited by the engineers to ensure the minimum street lighting requirement is provided.

Consideration should be given to allow developers to determine if street

lighting is to be installed. If the developer selects to install lighting (as potential purchasers may prefer) then a commuted sum for future energy consumption and maintenance may be applied. Legislation in England specifically makes such provision for commuted sums, The Road Scotland Act is silent in this regard.

3.7 **Budget monitoring**

The finance system Integra does not allow for the monitoring and allocation of plant, this is inefficient as hours for plant have to be manually extracted from timesheets and calculated out, this may also lead to under recovery. This should be addressed by Finance. Budgets should be made available to the new Communications & Lighting Manager and the Area Engineers and should be monitored and reported monthly.

3.8 **Income generation**

- Design and installation fees for external developers – street lighting should be charging commercial rates for work done rather than currently charging at cost.

- Commuted sums from developers for future energy consumption and maintenance costs for new developments should be investigated and rolled out (as in England) if Scottish legislation is deemed permitting.

- Investigate the possibility of offering services such as standby and maintenance for the lighting on the trunk road network.

- Investigate the possibility of offering services to design, install and maintain external lighting for Highland Council premises.

3.9 **Christmas lights**

Where a budget exists for Christmas lights, work shall be done to the limit of that budget and no more. Time and materials should not be provided for Christmas lights unless there is a budget in place. Communities will be advised on best practice and Health & Safety issues in connection with installing Christmas lights. This does not prohibit street lighting operatives carrying out voluntary works for local communities. Electrical connections shall only be undertaken by street lighting electricians. It is inconsistent for some communities to receive ‘free’ Christmas lights when other communities are being charged. Clearly, Christmas lights are not a statutory duty and it is recommended that no street lighting revenue for Christmas lights should be used to fund this provision. To mitigate this change:-

- Communities should be encouraged to provide their own Christmas lights.

- Communities can commission the street lighting team to install Christmas lights as already provided to some communities.

- Guidance and acceptable method statements shall be provided to communities so that they can install their own Christmas lights (as

already happens in some areas), but not the electrical connection (fuse). Electrical connections shall only be undertaken by street lighting electricians and should be charged at £50 to cover both the connection and disconnection.

- Street lighting electricians may provide their services in their own time (as already happens in some areas) and it should be acceptable for such lighting staff to use lighting plant and equipment outwith the working day at no cost to the communities as long as insurances are not compromised.

- Christmas lighting equipment can be provided at cost to communities.

3.10 **Charity banners**

The recommendation is that street lighting revenue funding the installation of charity banners should cease and only undertaken where recovery can be achieved, for example invoicing or ward discretionary budget. It is also suggested that consideration be given to banner space rental income potential. THC already has a commercial contract for advertising banners on street lighting infrastructure and thought could be given to the commercial management team also administering banners.

3.11 **IT provision**

Hand held computers should be used by all work teams with appropriate training given at roll out.

4. Value Champions

Through the development of the review, aspects have been challenged and cognisance taken in the emerging recommendations. The draft report was circulated to the value champions and a detailed challenge from Derek Yule was received that was reviewed by the team. The questions and considered response is attached as Appendix 1 as the review team felt that the challenges were sound and the responses were informative to the issues.

5. Implications

5.1 Resources

Members of the review including the staff side representative met with Street Lighting staff to establish working practices and to listen to concerns and perceived opportunities. The host head of service ensured staff were briefed on the review ahead of these meetings.

Staffing

There will be two years of augmented resources required during the period of LED replacement, to March 2019. Currently, there are 7 vacancies in the structure and it is proposed that two of the vacancies need to be filled with either two permanent electricians or one electrician and one apprentice electrician, a Technical Assistant post should be created using one of the vacant electrician posts. Temporary, fixed term contracts, for the duration of

the roll out are required for six labourers at HC4 and two electricians at HC5. The remaining vacant posts will disappear from the structure.

There will be less maintenance required following LED replacement therefore staffing levels do not need to be maintained at the current level, hence the temporary posts above. However, during the two years when the LED roll out is taking place, there may be the opportunity to tap into new income streams such as carrying out duties on behalf of the trunk road authority or undertaking installations and maintenance of lighting around THC buildings and depots. Future staffing levels will need to be determined at the end of the two year period.

Savings

The LED replacement lantern roll out should achieve savings of £900k per year in energy costs and around £70k in carbon tax once it is completed, although this is expected to decrease because of rising energy prices. Completing the project by March 2019 rather than the current target of March 2021 will result in savings being realised sooner. Further savings can be made by including the replacement of illuminated traffic signs and bollards with retroreflective signs and the installation LED lanterns in the columns at THC harbours in the LED replacement lantern programme.

The pre LED roll out revenue budget for street lighting and traffic lights, signs and bollards maintenance budgets from 2015/16 was set at £1.5m, it is expected that if all of the recommendations from this report are adopted then savings of £600k can be made from this benchmark figure.

Part-night dimming of all street lighting would achieve a typical energy saving of £50k per year whilst part-night switch off would achieve a typical energy saving of £100k per year on top of the LED saving.

It is recognised that the savings figures included within this report, whilst based on best available information, has been established from limited data. There is a risk that the savings identified will vary from that stated when more detailed analysis and development of a lighting policy is progressed.

5.2 Equalities

An equalities screening has been undertaken which has highlighted there may be a negative impact on visually impaired and older people if Developer Guidance is changed to recommend minimum lighting standards for new developments and also if part-night dimming/part-night switch off is implemented. Any change to Developer Guidance should include a further impact assessment regarding the specific proposal. It is currently recommended that rather than part-night switch off, dimming is adopted instead which would maintain a level of lighting within communities and mitigate the potential impacts on elderly and disabled groups.

5.3 Rural

It is recommended that rural communities are given the opportunity of having existing street lighting removed completely. This may be of benefit to communities who wish to promote dark skies for tourism potential and for their own enjoyment. It should be noted however that prolonged trial periods for this may result in damage to the lanterns and cabling which would incur added expense if it was decided not to take up switch off permanently. There is the possibility that some people in the community may not be in favour and may feel disadvantage if switch off is implemented. Consultation would be undertaken with communities to determine interest in this and any consultation should include consideration of the potential impact of any full switch off on elderly and disabled groups within that community.

5.4 Poverty

No impacts identified

5.4 Legal

The legal implications associated with the potential commuted sums in respect of future developments needs to be considered prior to implementation of a revised developer guidance document.

Reductions in lighting levels may give rise to legal challenge – this can be protected against but having a Lighting Policy that is approved at committee and subsequently implemented. There is no statutory duty to provide lighting but it is for the Roads Authority to determine which areas ‘ought’ to be lit.

6. Summary of Recommendation, Necessary Approvals and Target Timescales

Operational matter for Service		Target Timescale
1	Permanent posts - fill two of the vacant electrician posts, appoint a Technical Assistant. Temporary posts - appoint 6 fixed term labourers at HC4 and 2 fixed term electricians at HC5 for the two years as part of the accelerated LED replacement project.	31/03/2017
2	Utilisation of the EXCEL LED Replacement - Manpower Framework Contract for to accelerate the LED replacement project.	Commenced - Contract preparation by PDU
3	Include replacing of illuminated signs and bollards with retroreflective signs in the LED replacement programme	Progressing
4	Include the unmetered supply lighting at THC harbours in the LED replacement programme	Immediate
5	Implement part night dimming of street lights across the lighting network and incorporate into the Street Lighting Policy.	Progressing
6	Implement the half hourly/average annual tariffs savings.	Implemented
7	Support the Climate Teams measures to reduce power usage during the power audit periods and peak times.	Implemented
8	Street lighting engineers to challenge requests for additional street lighting.	Immediate
9	Remove the requirement for scouting and encourage fault reporting from communities.	Shall be fully implemented on completion of LED Replacement Programme 31/03/2019
10	Training and equipment should be considered such that structural testing of lighting columns can be undertaken by in-house staff – the work being funded from the lighting capital programme for column and cabling replacement budget.	31/03/2018
11	An annual schedule of column and cabling replacement should be established to prioritise the capital allocation and	31/03/2018

	ensure delivery.	
12	Monthly budget monitoring and reporting to be undertaken	01/04/2017
13	Design and installation fees for external developers – street lighting should be charging commercial rates for work done rather than charging at cost.	01/04/2017
14	Investigate the possibility of offering services to design install and maintain external lighting in Highland Council premises.	08/2017
15	Investigate the possibility of offering services such as standby and maintenance for the lighting on the trunk road network	Progressing
Operational matter for Service which requires support		**Target Timescale**
16	Integra to be updated to allow plant costs recovery. Requires support from Finance.	08/2017
17	Hand held computers should be used by all work teams with appropriate training given at roll out. Requires support from ICT Business and Learning and Development.	08/2017
18	Empower and encourage RPOs to reduce energy consumption by switching off lights in and around buildings and car parks when not in use by introducing a policy on reducing excessive lighting. A comprehensive list of RPOs needs to be compiled and the Executive Leadership Team will be required to ensure cross service policy.	08/2017
22	*See item 22	See item 22
Member approval required		**Target Timescale**
19	Accelerate the LED replacement programme and associated capital budget spend to complete by the end of March 2019. Requires homologation in the Capital Programme, however Service is taking action to accelerate the LED Replacement programme in-house and by utilisation of Scotland Excel framework contract for LED Replacement Manpower.	To be completed by 31/03/2019
20	Identify and consult with communities to establish if there is an appetite to deliver savings and associated carbon reductions and dark skies by switching off lighting columns.	08/2017
21	Revise the specifications and guidance for developers for	31/03/2018

	street lighting. The final guidance document will be developed following a review of the full progress of these recommendations.	
22	Commuted sums for the maintenance of street lighting and for ongoing energy costs should be recovered from developers if legislation does not preclude. * **Requires service support** from Corporate Governance and Development & Infrastructure (Road Construction Consent) to allow the development of a policy for Member consideration.	12/2017
23	Funding of Christmas lights from the street lighting revenue budget should cease.	08/2017
24	Communities should be encouraged to provide their own Christmas lights.	08/2017
25	Communities can commission street lighting to install Christmas lights as provided to other communities if funding for this is provided.	08/2017
26	Guidance and acceptable method statements shall be provided to communities so that they can install their own Christmas lights but not carry out electrical connections.	08/2017
27	Electrical connections for Christmas lights shall only be undertaken by street lighting electricians and shall be charged at £50 to cover both the connection and disconnection.	08/2017
28	Street lighting electricians may provide their services in their own time for Christmas lights and it will be acceptable for such lighting staff to use lighting plant and equipment out with the working day at no cost to the communities as long as insurances are not compromised.	08/2017
29	Christmas lighting equipment can be provided at cost to communities.	08/2017
30	Street lighting revenue funding the installation of charity banners should cease.	08/2017
31	Following consideration of the above and ratification by the Redesign Board a new Street Lighting Policy should be established and presented for consideration at Community Services Committee.	08/2017

Designation: Head of Infrastructure

Date:1 February 2017

Author: Colin Howell/Carolyn Smith

Background Papers:

- Capital Programme 2015/16 to 24/25 FINAL - http://www.highland.gov.uk/download/downloads/id/5307/capital_programme_201516-202425.xlsx
- TEC SERVICES COMMITTEE 20 September 2012 - http://www.highland.gov.uk/download/meetings/id/23293/item5tec4712pdf
- Electricity Charges Briefing Note_EB_KM_131216
- RPO questionnaire results
- APR Carbon Management Plan 2016 - http://www.highland.gov.uk/download/meetings/id/71137/item_13i_climate_change_-_annual_progress_report_on_the_carbon_management_plan_201516
- Scottish Futures Trust Highland Council OBC 051216/191216

Appendix 1

Challenging Values – Director of Finance – Issues and response:-

1. Options for Service delivery. The Re-design Board established a list of potential options for service delivery. Has your group tested and explored this?

    a. In-house service – more efficient – LEAN approach – this is the recommendation after review of the options
    b. In-sourcing of contracted out services – structural testing of columns is outsourced – recommendation is to consider providing this in house – but structural test and associated equipment requires to be established and then considered if purchased/training of staff is viable/cost effective.
    c. Shared Services – This is a recommendation of the report – there are opportunities both internal within THC and also external with other local authorities and Transport Scotland. If the recommendations are approved then there will be two years of LED roll out to fully investigate these opportunities that will then reflect on the staffing structure post LED roll out.
    d. Out-sourced services – we have considered this both in the context of short term LED roll out – where we suggest a part internal part external solution to be best. There is a real risk of outsourcing the whole service – we clearly have the resource internally and the skills necessary – lighting staff are making every day risk based decisions on the existing infrastructure – externalising this would run the risk of lack of knowledge of the existing infrastructure/substantial exposure to escalating costs which could be 'established' based on inspection and testing – writing a specification would also be challenging such that these risks were not realised. Our remote and geographically challenging area also does not lend itself to delivery from a third party – we think the risk is high with outsourcing and that the better option is to make the internal delivery more efficient which can be done. The opinion of the review group was that internal delivery is preferred.
    e. Services delivered in partnership/integrated services – again internal/other LA's and Transport Scotland are on the agenda going forward.
    f. Arm's length External Operation – not really considered – the review group could see no conceivable benefits.
    g. Community Run Services – not thought applicable due to specialist skills and risks.
    h. Opportunities for new placed-based approaches with partners arising from the new local community partnerships - not thought applicable due to specialist skills and risks.
    i. Stopping Services (with the framework from the Accounts Commission recommended for use alongside impact assessment – stopping of services is included in the report – as well as actions such as retroreflective signs to remove lighting costs both energy and revenue maintenance.
    j. Commercial opportunities – included.

2. Capital Investment – you are proposing to accelerate. Can the report be expanded to quantify the potential annual investment? We would have to build in the additional borrowing costs associated with this to see whether it still produces a net saving. You should also add in the costs of the enhanced workforce, but possible redeployment opportunities?

    a. The capital investment is already included in the capital plan – we have obtained analysis from Scottish Futures Trust (SFT) that the payback period using PWLB borrowing with an interest rate of 5% indicates a payback period of 7 to 9 years, this is based on reducing the energy costs and also the reduction in maintenance and revenue budget – logic then suggests that the sooner you can deliver these changes the better. Note the Department for Energy and Climate Change forecast that electricity prices are expected to double in the next 10 years – thus delaying LED replacement will have a significant impact on the opportunity of realising financial savings and offsetting these price rises.
    b. There is the opportunity for redeployment into the temporary posts – they would have to be identified very early in the process as for this to work efficiently then we need to recruit to these temporary posts asap – to deliver the in-house element of LED replacement efficiently. It would be unfortunate if temporary posts remained unfilled and the efficiencies were lost – but an opportunity that needs to be considered. We have the internal staff, if augmented with temporary staff, to deliver the LED efficiently – but only if they can be given the resources and management to work efficiently. If this resource is used for 2 years for the LED replacement then the age profile of the 'team' is such that there is likely to be some natural reductions – this coupled with pursuing the opportunities mentioned in the report could offset any future staff reductions – but there are two years to accurately establish the need – but this should not impact on the potential revenue savings include in the report being realised.

3. Suggest a table in the report to bring all potential savings together. A number of recommendations have additional costs and savings so it would be good to see these all together to emphasise the benefits of your recommendations

    a. The reality is that we have had challenging meetings to arrive at the £600K /yr revenue savings identified in 3.5 as we wanted to balance off suggested third party savings with local knowledge and expertise. This saving is based on advice from SFT for maintenance savings of £15 per annum for each LED replaced. Lighting and Head of Service feels that this figure is unsubstantiated and question the relevance of it in relation to the Highland area. With reductions in more efficient working, scouting/replacement of lit signs with retroreflective coupled with the potential increase in income, and Christmas lights (savings identified – CGF £10K plus Free Lights at £30K) £40K/yr –

Charity banners identified at £2,500/yr, this figure has been arrived at. We also identify the potential savings associated with night time dimming at c£50K

b. The problems that we have with savings is that the majority of the savings accrue from energy savings but this will so quickly be eroded by energy price increases that if we included a saving today then it would be largely irrelevant by next year let alone future years.
c. The only additional costs are associated with the capital delivery of the LED programme – if in house augmentation was not provided then THC would be less efficient and thus additional works would be put through the Scotland Excel contract if acceleration was deemed the right thing to do.
d. Many of the recommendations I would suggest are just the efficient delivery of the programme and are included to give the Lighting team a clear steer on the delivery and also a mandate to make the necessary changes. These recommendations are given to show the level of consideration given to the issues.

4. Have you obtained any performance or benchmarking data? The starting point appears to be current budgets, but how does Highland's current performance compare with other councils? Have you sought any evidence from other councils to identify potential different ways of working?

a. In terms of LED replacement on the most up to date data we have THC are 19/32 in respect of LED % replacement
b. All Councils in Britain have an LED replacement programme.
c. Highland council is one of 12 Scottish council's to have secured funding for full LED replacement.
d. We have also looked at part night dimming and part night switch off. Within Scotland we are not aware of any part night switch off policy with the possible exception of the Western Isles – but many are dimming – some local authorities in England do part night switch off – the one we were using as a comparator was North Yorkshire – they do part night switch off, have a similar number of columns and also a large geographic area. The suggestion is that local authorities who have gone for night time switch off have reverted to dimming following complaints – the report identifies the costs of reverting and the risks and does not recommend night time switch off – which was the groups initial thoughts.
e. We have run all our thoughts and findings through SFT (Lindsay Macgregor is also chair of SCOTS lighting sub group) to ensure that the findings and conclusions are rationally based and are not inconsistent with other Scottish LA's.
f. The Highland Council is so unlike other LA's so there is a danger in establishing budgets based on other LA's. We have indeed based the budgets

on THC budgets – but then have undertaken detailed analysis of the budgets to understand how the service is delivered and to try and optimise the service through efficiencies – this is largely to try and have the correct management structure and resources and then to use these resources efficiently. There is a significant aging infrastructure in lighting efficiently using the revenue spend will try and minimise the decline in the stock.