

BARNSELEY METROPOLITAN BOROUGH COUNCIL

This matter is a Key Decision within the Council's definition and has been included in the relevant Forward Plan.

Report of the Executive Director of Place

STREET LIGHTING REPLACEMENT PROGRAMME 2019-21

1. Purpose of report

- 1.2 This report seeks authority undertake the Street Lighting Replacement Programme for the financial years 2019-2021. The Street Lighting Replacement Programme will enable the replacement of Group A lanterns from energy inefficient High Intensity Discharge (HID) lanterns to energy efficient Light-emitting Diode (LED) units.
- 1.3 To ensure resilience of the street lighting stock requiring a lantern change-over, structural examination of the columns will be undertaken at the same time as the lantern replacement, with column replacements being undertaken as necessary. The new lanterns will be future-proofed to accept suitable technological improvements in the future.
- 1.4 To obtain delegated authority to vary the programme, in accordance the Council's governance and approval limits.

2. Recommendations

- 2.1 **That the Street Lighting Replacement Programme for 2019-21 is approved, and that the Service Director, Environment and Transport be authorised to implement this programme of work;**
- 2.2 **That the Street Lighting Replacement Programme be varied in line with the Council's governance and approval limits, if required (paragraphs 3.8 – 3.13 refers);**
- 2.3 **The Service Director, Environment and Transport be authorised to:**
 - **obtain tenders for any works, goods or services as necessary, and appoint the successful tenderer on the basis of the most economically advantageous tender;**
 - **to adopt the Highways Maintenance Efficiency Programme (HMEP) principle of collaboration and utilise collaborative procurement to engage external consultants to undertake work which cannot be undertaken in-house or secure the services of contractors or consultants via Regional Alliances where available;**
 - **appoint other external consultants and contractors as appropriate, within the current procurement rules.**

2.4 That, in the event that the Street Lighting Replacement Programme budget for 2019/20 is not fully expended, the value of any works be re-phased into the 2020-2021 financial year, which allows the flexibility to ensure that the available resources are deployed in the most efficient manner possible, whilst maintaining the continuity of the Highways and Engineering Service.

3. Introduction

3.1 This report seeks the approval:

- Street Lighting Replacement Programme 2019-2021;
- for the Street Lighting Replacement Programme be varied in line with the Council's governance and approval limits – see paragraphs 3.11– 3.16;
- to implement an approach of engaging external resource suppliers, where necessary, to support the in-house provision to achieve economic and practical benefits, or via collaboration established with adjacent authorities to deliver services.

Background

3.2 There are 33,091 street lights in the Borough, 8,928 of these are classified as Group A (lighting for traffic routes) and the remaining 24,163 Group B (lighting for residential roads). The cost of electricity for the lighting columns has historically increased year-on-year, and is likely to continue for the foreseeable future.

3.3 Following the Street Lighting Replacement Programme implemented between 2014-2017, some 19,044 energy inefficient HID lanterns were changed to energy efficient LED units.

3.4 Over the 14 month period following installation this has saved around £376k in avoided energy costs. The success of this initiative to deliver quantifiable and tangible financial savings forms the basis of the rationale of this proposal.

3.5 The highway asset is the single highest value asset the Council owns. The last reported gross replacement cost for the entire asset was £2.1bn. This asset also includes street lighting, principally providing major road safety benefits.

3.6 The Asset Management Policy and Implementation Strategy, as approved by Cabinet (Cab.7.1.2015/7) sets out how the Authority will maintain it's the highway. The challenge from an asset management perspective is to prioritise the most cost effective approach to maintenance whilst meeting the Service's financial obligation.

Capital Resources

3.7 The maintenance of the Street Lighting Asset is through maintenance funding, as a capital grant from the Department for Transport (DfT), forwarded to the Council via the Sheffield City Region Mayoral Combined Authority.

- 3.8 This grant is principally used to provide a reactive response to street lighting maintenance needs. It is not sufficient to cover the capital cost of replacing the lanterns, columns and modernise the switch gear.
- 3.9 Consequently, an Outline Business Case was submitted to the Capital Oversight Board in February 2018, with approval being agreed in July 2018, to prioritise the funding for 2019-21, subject to approval of the Council's Capital Programme at Full Council in February 2019.
- 3.10 Approval was granted at Full Council on 28 February 2019 (Minute no 202 A iii and A viii refers)

Governance

- 3.11 In respect of the governance arrangements for varying the approved Street Lighting Replacement programme, it is proposed to align this process to the Council's governance and approvals process, which is explained in the context of the highway programme in the paragraphs below.
- 3.12 Where an overall variation on the highways capital programme of less than £0.250M is sought, the Service Director, Environment and Transport be authorised to vary the programme, providing it can be contained within the overall funding envelope, with approval of the capital oversight board.
- 3.13 Where an overall variation on the highways capital programme of between £0.250M and £0.500M is sought, in addition to the governance arrangements at 3.7, the Cabinet Spokesperson for Place be authorised to approve the variation on the programme, providing it can be contained within the overall funding envelope.
- 3.14 Where an overall variation of greater than £0.500M on the highways capital programme is sought, in addition to the governance arrangements at 3.7 and 3.8, a Cabinet report will be presented to approve that variation.
- 3.15 Where a variation cannot be contained within the overall funding envelope, a Cabinet report is required for due consideration, regardless of value.
- 3.16 This approach aligns to the Council's Capital Investment Strategy, as approved by Cabinet / Council as part of the 2019/20 budget papers (Cab.6.2.2019/6 refers).

4. Proposal and justification

Introduction

- 4.1 The success of the Group B initiative to deliver quantifiable and tangible financial savings forms the basis of the rationale of this proposal to change the remaining LED street lighting lanterns. Savings over the 14 month period following the installation of the Group B stock resulted in an energy saving of around £376k in avoided energy costs.

- 4.2 By utilising LED lanterns, it is predicted that the Group A stock will ultimately realise energy savings in excess of c£400k .
- 4.3 An indirect problem of the introduction of the LED technology is that HID and Sodium Vapour Bulb (SOX) lantern manufacturers have stopped making lanterns using the old technology, so a change to LED lanterns will have to be made at some point in the future. Additionally, the cost of the lamp and gear is rising due to the lack of sales for replacements. It is likely that SOX lamps will stop being made by 2020 thus leaving 2384 lanterns with no replacements.
- 4.4 A reduction in whole-life maintenance costs of materials will be realised with 100,000 hours life and 10 year warranty with zero lamps and gear to purchase. This will mean that there is less need to carry stocks of multiple lamps, control gear and lanterns.
- 4.5 In terms of maintenance operations, there will be negligible lamp changes, thereby reducing the number of visits to 4 per column over the life of the lantern. Because of this reduction in whole-life maintenance costs, a reduction of 2 full time equivalent posts on the Highways and Engineering structure is possible.

Funding available

- 4.6 The Capital Oversight Board, which prioritises the Capital investments the Authority makes, has selected this project as one to be prioritised for expenditure in 2019-21, and put forward for approval at Full Council in February 2019.
- 4.7 The following table sets out the funding that has been requested from the Council's capital programme.

Funding	2019/20 Allocation £
BMBC Capital Funding	4,200,000

Proposed Works Programme

- 4.8 Of the 8,928 Group A stock there are 8,480 requiring replacement, as the remainder have already been replaced with LED as repairs are required.
- 4.9 The works are currently being specified and measures are being put in place to procure the supply of lanterns, column sleeves, replacement columns and other associated services including traffic management costs, subject to approval being granted.
- 4.10 The programme of works will be delivered in 2019/20.

5. Consideration of alternative approaches

Option 1

- 5.1 Leave the Street Lighting stock as it is and take advantage of the piecemeal improvements that could be carried out under day to day maintenance and minor improvement schemes, making the appropriate adjustment to the energy budget each year to account for variations in the rate of supply.
- 5.2 The disadvantage of this is that the continued cost of increased energy usage will be compounded because the introduction of LED technology has driven the HID and SOX lantern manufacturers to stop making lanterns using the old technology, so a change to LED lanterns will have to be made at some point in the future. Additionally, the cost of the lamp and gear is rising due to the lack of sales and available stock for replacements.

Option 2

- 5.3 By changing lanterns to LED technology, there will be an immediate saving in energy costs generated, potential full year saving of c£400Kpa based on current energy prices. The maintenance liability will also reduce as LED lanterns have a far greater lifespan than existing sodium lanterns. Option 2 is therefore the recommended option.

6. Implications for local people and service users

- 6.1 The proposed investment in the programme of Street lighting upgrades on the highway network will have an impact on a significant number of highway users within the Borough.
- 6.2 Investment in the highway network will make the network more sustainable in the longer term and provide a better experience for highway users.
- 6.3 Appropriate consultations will be undertaken as required and those views taken into account when detailed scheme plans are drawn up.
- 6.4 Prior to work starting on site, local residents and the travelling public will be informed as appropriate.

7. Financial implications

- 7.1 Consultations on the financial implications of this report have taken place with representatives of the Service Director - Finance (S151 Officer).
- 7.2 The cost of replacing the remaining 8,480 Group A lanterns is estimated to be in the region of £4.2M with all works expected to be completed during 2019/20. This cost includes an estimate to completely replace approximately 700 lighting columns and 1,000 sleeving works to existing lighting columns.
- 7.3 As part of the 2019/20 Capital Investment Strategy recently approved by Full Council (Minute no 202 A iii and A viii refers), an amount totalling £4.2M has been earmarked specifically for this scheme. It is proposed to release this scheme into the Council's Capital Programme accordingly.
- 7.4 It is estimated that the scheme will generate annual savings on energy costs. The full savings are yet to be determined but could be in the region of £0.400M

pa, once the scheme has been completed in full. The full year effect of this saving will be realised from 2020/21 onwards.

7.5 This energy saving has been calculated based on replacing the existing lanterns with the lowest possible wattage LED lanterns that is allowable to maintain safety levels. It should therefore be noted that if the specification of the lanterns used are increased the savings identified in 7.4 will reduce.

7.6 As part of the ongoing Medium Financial Strategy an efficiency saving totalling £0.200M has been proposed to be implemented from 2020/21 as a result of the saving generated from the LED replacement programme (Ref BU6 E1/20-21). The actual saving delivered will be calculated following completion of the programme, with any increased saving being considered accordingly.

7.7 A summary of the above financial implications is attached at Appendix A.

8. Employee implications

8.1 Funding this work from current budgets is not possible, however, releasing capital funding will allow an intense programme of lantern replacement and column replacement (as necessary), which will generate savings in energy costs. Because of the enhanced longevity lanterns with LED technology, it is anticipated that there will be a reduction in the number of street lighting operatives and is anticipated to result in the reduction of two full time equivalent street lighting operatives.

9. Communications implications

9.1 Communications about these proposals will be channelled through the Area Councils, where appropriate. Notification of specific measures included in the proposed programme will be delivered to each dwelling in areas affected by such proposals, either directly, by posting notices or placing notices in the local press. Use of social media and the Council's web site will also be made.

10. Consultations

10.1 Consultations have taken place with representatives of the Executive Director, Core Services.

10.2 Consultations about this programme will be undertaken as necessary via Area Councils, Parish Council meetings or directly with local members and residents on individual schemes, as appropriate.

10.4 Whilst the identification of the programme will be data driven, engagement with our customers is an important aspect of delivery, and to this end, the intention will be to publish the work programme on the Council's web site.

11. The Corporate Plan and the Council's Performance Management Framework

11.1 The proposals support key themes of the Corporate Plan of growing the economy linking to Corporate Priorities of ***Thriving and vibrant economy*** and ***People achieving their potential*** by:

- Providing a quality highway asset by repairing and maintaining the network of lighting in order to support and attract new business by providing high quality connectivity to jobs and business growth sites. Possibilities exist for using the column as a charging point for electric vehicles and using the light as a transmitter of internet data (Lifi). Current radio transmission of WiFi signals is limited to 54mbps and subject to a wide variety of interference. Lifi has reached speeds of over 200Gbps thus creating a revenue stream from a vital council asset. (Lifi works day or night)

11.2 The proposals support key themes of the Corporate Plan of growing the economy linking to Corporate Priorities Linking to Corporate Priorities of ***Strong and resilient communities*** by:

- Maintaining safe use of the highway through improved, more efficient and reliable street lighting provision. Reducing outages and maintenance. Improving uniformity of light leading to a greater perception of night time safety for shift workers and drivers. Helping to develop a vibrant town centre with brighter, more efficient lighting that will make business properties stand out and attract visitors to special events and markets.

12. Promoting equality, diversity and social inclusion

12.1 The preparation of schemes considers measures necessary to overcome social inclusion and promote health benefits as an integral part of the process.

13. Tackling health inequalities

13.1 The highway network has an important role to play in ensuring people enjoy an active role in society. Within the borough, improvements to the street lighting network provide part of the safe solution to link people to jobs, services and leisure.

13.2 Providing alternative travel choices through improved footways and cycle ways benefits health and addresses health inequalities. The need to reduce obesity in Barnsley means people must be given the option to make more healthy travel choices, such as walking and cycling, in a safe environment. This Street Lighting Replacement Programme aims to assist in addressing these challenges by providing a safer environment in which to be active.

14. Reduction of crime and disorder

14.1 By taking account of the implications of crime and disorder in the preparation of schemes, the Council's duties under s17 of the Crime and Disorder Act 2014 have been considered.

- 14.2 LED lighting and fluorescent lighting are white light which is considered to be a better type of lighting to help with crime reduction and making people feel safe during hours of darkness.

15. Risk management issues

- 15.1 By not installing equipment that uses less energy the cost of energy will increase at a higher rate, by installing the more efficient equipment there will be a reduced base budget resulting in any increases in the cost of energy giving a smaller increase to the budget.
- 15.2 By not replacing the lanterns and columns, if necessary, that are currently in a deteriorated state of repair there is a risk that these will collapse possibly injuring members of the public.
- 15.3 Historically, the Service has been focussed on a delivery model that provides maximising deliverable schemes. The current operating model for the service is focused on financial and business drivers. This could lead to tensions in balancing tangible delivery against income generation and furthermore, spend.
- 15.4 There is a risk that replacing lanterns on columns that are at their 'end of life' may be an abortive cost. This is mitigated by testing the columns and undertaking any necessary replacements prior to lantern installation.
- 15.5 A risk of not upgrading to new LED technology is the increase in energy and maintenance cost and the availability of stock in the future.

16. Health, safety and emergency resilience Issues

- 16.1 Health and Safety issues and implications are identified during scheme preparation, and are addressed by compliance with Construction, Design and Management Regulations 2015.

17. Compatibility with the European Convention on Human Rights

- 17.1 There are no issues arising from this report but there could be matters that are raised by the implementation of the programme at individual locations. For certain elements on the programme, a sequential process of assessment of the potential effects of the works on human rights is undertaken during the design stage. This procedure has previously been agreed with the Executive Director, Core Services and has operated for some time.

18. Conservation of biodiversity

- 18.1 There are no direct implications for conservation of biodiversity arising directly from this report; however, conservation of biodiversity will be fully considered, where appropriate, as part of the programme development.

19. Glossary

LED – Light-emitting Diode
HID - High Intensity Discharge
SOX - Sodium Vapour Bulb

20. List of appendices

Appendix A - Financial Implications

21. Background papers

Working files are available in Place Directorate, for inspection.

Officer Contact: Ian Wilson	Telephone	No: 772158	Date: 21/2/19
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Report of the Executive Director of Place

FINANCIAL IMPLICATIONS

Street Lighting Replacement Programme

i) <u>Capital Expenditure</u>	<u>2018/19</u> £	<u>2019/20</u> £	<u>2020/21</u> £	<u>Total</u>
Replacement LEDs	0	4,200,000	0	4,200,000
	0	0	0	0
	0	4,200,000	0	4,200,000
To be financed from:				
2019/20 Approved Capital New Starts	0	4,200,000		4,200,000
	0	0	0	0
	0	4,200,000	0	4,200,000
ii) <u>Revenue Effects</u>	<u>2018/19</u> £	<u>2019/20</u> £	<u>2020/21</u> £	<u>Later Years</u> £
<u>Expenditure</u>				
Electricity Charges (savings)	0		-200,000	-200,000
	0	0	-200,000	-200,000
<u>Income</u>				
	0	0	0	0
	0	0	0	0
	0	0	-200,000	-200,000
To be Financed from:				
Contribution to KLOE BU6 E1/20-21 *	0	0	-200,000	-200,000
	0	0	-200,000	-200,000

* Estimated savings could be in the region of c£400K. Any savings above the KLOE will be considered as part of future financial planning process.

Impact on Medium Term Financial Strategy

This report has no impact on the Authority's Medium Term Financial Strategy.

Agreed by:  ..06/03/2019...On behalf of the Service Director and Section 151 Officer - Finance