

EXECUTIVE

10th November 2022

Report Title	Street Lighting LED Upgrade
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Lead Member	Cllr Graham Lawman, Executive Member for Highways, Travel and Assets

Key Decision	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is the decision eligible for call-in by Scrutiny?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are there public sector equality duty implications?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information (whether in appendices or not)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Applicable paragraph number/s for exemption from publication under Schedule 12A Local Government Act 1972	

List of Appendices

Appendix A: Equalities Scoping Report

Appendix B: Financial model

1. Purpose of Report

- 1.1. This report sets out the proposal to replace the existing Highway Street Lighting Private Finance Initiative (PFI) stock lanterns with light-emitting diode (LED) units, whilst maintaining current lighting standards. All new units will be linked to a Central Management System (CMS), which will allow remote management and monitoring of units for electricity consumption reporting and fault monitoring. The delivery timescale for the proposal is 120 weeks from project commencement.
- 1.2. The report recommends that approval is granted to proceed with replacement of PFI Asset lanterns with LED alternatives to meet the requirements of the specification and cost envelope developed by the Council's technical team in liaison with the PFI service provider.
- 1.3. This report only refers to those streetlights within the Council's PFI agreement with Connect Roads/ Balfour Beatty. It does not include those street lighting

assets which were formerly owned and managed by the districts and boroughs, which are not managed by Balfour Beatty.

2. Executive Summary

- 2.1 A business case in support of the proposed LED/CMS replacement was considered by the Council's Strategic Capital Board in September 2022. The case for investment was made on the basis of a number of tangible benefits including lowering of the Council's carbon footprint, mitigation of future increases in energy costs, ability to maintain current lighting standards, the increased life of assets and the ability to improve management and potentially further reduce costs through remote monitor using the CMS.
- 2.2 The Board agreed to approve the business case and submit the proposal for consideration by the Executive at their meeting in November 2022. Should the Executive approve the funding, the project will progress to implementation through the existing PFI provider, Balfour Beatty.
- 2.3 In summary, the proposals involve an up-front investment of £6.17m in approximately 22,000 lanterns and accompanying CMS units, securing a recurring saving on energy and maintenance costs. The funding of which will be secured from Government Treasury facilities that Local Government have access to, with preferential interest rates compared to the commercial finance market. The projected payback period is 10.5 years as shown in **Appendix B**.
- 2.4 The Executive should note that the current Street Lighting Policy was initially set by the former Northamptonshire County Council (NCC) in 2011. Due to budget reductions at the time this led to a number of roads being de-illuminated. This proposal will not reverse de-illumination.
- 2.5 The former NCC Cabinet previously gave approval for LED replacement subject to external funding (Salix) being available. The Salix Fund was closed shortly thereafter, preventing the project proceeding, so this report now seeks further approval using alternative finance options detailed in 2.3.
- 2.6 A similar proposal is likely to be considered by West Northamptonshire Council. If approved, then both projects will be delivered in parallel, with an expected cost saving for both authorities. This amount will be confirmed once, and if, both authorities agree to proceed with the project.

3. Recommendations

- 3.1 It is recommended that the Executive:
 - a) Confirm approval to proceed with the LED replacement and Central Management System (CMS) upgrade of streetlights within the PFI agreement with Connect Roads/ Balfour Beatty.
 - b) Delegate authority to the Executive Member for Highways, Travel and Assets, in consultation with the Executive Member for Finance, the Executive Director for Finance and the Executive Director for Place and Economy to:

- i. secure and allocate appropriate funding, through Prudential Borrowing;
 - ii. agree the necessary changes to the PFI funding agreement with Connect Roads/Balfour Beatty to complete the required works.
- 3.2 Reason for Recommendations: The recommendations will deliver against the Council's priorities to provide efficient services that deliver value for money, whilst maintaining a safe public highway and reduce carbon emissions in line with the Council's commitment to becoming carbon net zero by 2030.
- 3.3 Alternative Options Considered:
- 3.4 An alternative is to continue with the current street lighting lanterns, which would avoid the need to provide capital funding for investment. This option would not deliver the financial, social or environmental objectives of the proposed recommendations.
- 3.5 It would be possible to change the lanterns to LEDs, but not install the CMS. This would not deliver the operational and potential financial and environmental benefits of having remote control over the network of streetlights, so this is not recommended.
- 3.6 The Council owns and manages streetlights, inherited from the former district and boroughs, which are not part of the street lighting PFI. In order to convert those assets to LED, they would first need to be transferred into the PFI. It is not proposed to transfer those assets to the PFI through this project as it will require additional inspection and upgrade of those assets in order to meet the strict specification requirements of the PFI. This is a separate consideration, and investment, that the Council may want to explore at another time.

4. Report Background

- 4.1 The majority of the Council's Highways Street Lighting is managed and maintained via a PFI Contract with Connect Roads (Balfour Beatty). Commencing in October 2011, the PFI contract saw a significant update to the street lighting asset during the core investment period. Many current streetlights across North Northamptonshire nevertheless still rely on more traditional technology and do not achieve the potential carbon and cost benefits associated with remotely managed and monitored LED lighting.
- 4.2 In March 2020, the former Northamptonshire County Council (NCC) Cabinet considered a report proposing to upgrade all NCC's non-LED street lighting assets to LED and install a Central Management System (CMS) to enable remote control across the entire network. This would see LED and CMS-generated cost and carbon reduction benefits extended to approximately 60,000 lights across Northamptonshire (around 80-90% of the street lighting asset across the area). While the proposal was agreed subject to funding, its implementation was superseded by changes in available Central Government support and the formal establishment of the two new unitary authorities.

- 4.3 In terms of the proposed technical upgrade the approach assumes that lighting standards will be maintained at their current levels (although a small number of units currently falling below this standard will be replaced as part of the process). Whilst lighting technology evolves quickly, it is currently intended to use a blend of Thorn Isaro Pro and DW Windsor Kirium Pro LED lanterns to replace current SOX, PLL and Cosmopolis lanterns. The new lighting typically uses between 20-35% of the levels of energy needed for the legacy equivalents.
- 4.4 In addition to the LED upgrades, additional or refined CMS base stations and sockets will be extended across the network to improve control and reduce inspection and maintenance costs. CMS will provide more flexibility to increase/reduce lighting levels quickly and easily if desired (either across the network or in particular areas at particular times).
- 4.5 The duration of the project is 120 weeks plus a 12-week manufacturer lead-in period. The intention is to commence work during 2022/23 and complete the installation by the end of 2024. The timings will be influenced by the time taken to agree contractual changes with the PFI fund, availability of components and installation teams and weather conditions.
- 4.6 Financial benefits arise primarily from an immediate reduction in energy costs post-installation. There is an additional, though much smaller, secondary benefit from monitoring cost savings as the CMS reduces the need for night scouting. Night scouting currently involves members of staff patrolling areas at night looking for any lighting defects. Together, these cost mitigations project pay back of the initial investment in Year 9 of the project, with recurring savings thereafter.
- 4.7 In addition to the financial benefits, the project will reduce the Council's street lighting energy usage by approximately two thirds. This generates a carbon reduction of 500 tonnes of carbon dioxide (CO₂) for North Northamptonshire. The investment also increases the life of the assets as the new units will benefit from a 10-year luminaire warranty and a 20-year lantern body warranty.

5. Issues and Choices

- 5.1 Uncertainty over energy prices has been a major issue. Street lighting energy costs have doubled since April 2022. Energy is 'Purchased Within Period' (PWP) and so the Council pays a lower Summer Rate (36% of the usage) and a higher Winter Rate (64%). Overall, this has resulted in a pressure of £1m in 2022/23, with the introduction of the Government cap on energy prices this will reduce to £0.5m for 2022/23. The Council are anticipating a further increase in cost once the cap is lifted in April 2023 for next financial year, before prices will hopefully start to level as shown in **Appendix B**. The equivalent LED replacement for the most common lantern in the Council's estate will use around 70% less electricity to achieve current lighting levels, so the proposal will significantly reduce energy costs.
- 5.2 In respect of alternative choices, the only foreseen workable alternative would be to change some areas to part-night lighting. This would likely halve the energy usage but could only likely be applied to around 50% of the asset (avoiding traffic routes, conflict zones, road safety lit areas and town centres).

This would also have an initial cost as most lights are not currently remotely controlled through a CMS, so would need to be individually visited to switch controls, which comes at a cost to the Council. This proposal would likely not reduce costs overall and is not recommended.

- 5.3 As regards implementation choices, the Highways and Street Lighting technical team explored initial technical specification options and conducted an initial exercise around indicative pricing. Using that information, the team then engaged with Connect Roads and identified scope to reduce these costs while meeting the same output requirements (largely due to Balfour Beatty's enhanced purchasing leverage). As the project was further scoped, further market alternatives and prices have become available, with the current working specification and costs based on the most up to date information received from the market.

6. Next steps

- 6.1 The next steps involve:

- finalising the scope and phasing of the proposed activities
- confirming and approving both the investment requirements and cost model
- securing and allocating appropriate funding (likely via Prudential Borrowing) in liaison with the Council Finance Team
- engage with Connect Roads/Balfour Beatty to amend the funding agreement and contract and to complete the required works
- monitor the implementation and the resulting project objectives.

7. Implications (including financial implications)

7.1 Resources, Financial and Transformation

- 7.1.1 The proposal, as shown in **Appendix B**, involve an up-front investment of £6.17m to secure the financial and non-financial benefits summarised earlier in section 4. To calculate the payback on reduced energy, spend, it has been necessary to project energy prices into the future. There is no guarantee that these prices will materialise. Payback is projected in Year 11 based on the current projected energy prices and cost of borrowing, which assumes energy prices will increase at a rate of 5% a year and borrowing costs increase to 5% per year.
- 7.1.2 The proposed investment would be through Prudential Borrowing as Local Government are offered a concessionary rate of a reduction of 0.2% from the published rates.

7.2 Legal and governance

- 7.2.1 Assuming approval, implementation and subsequent monitoring of progress and impact will be governed and managed through the existing contractual framework with Connect Roads. If the contract requires variation as a result this will be subject to legal review.
- 7.2.2 Specifically, the works will be delivered as a Framework Project through the existing Street Lighting PFI Contract with Connect Roads. The Contract will not currently allow enough asset to be de-accrued annually (2% annual threshold) to deliver through a separate contract in the timescale required. A Framework Agreement will therefore be used under the Street Lighting PFI Contract 2011 including Supplementary Deed relating to Project Synergies, LED Upgrades and amendments to the Project Agreement

7.3 Relevant Policies and Plans

- 7.3.1 The recommendations support the Council's Corporate Plan to create safe and thriving places to live, work and visit as well as creating green, sustainable environment, connected communities and modern public services. They also support the Council's commitment to be carbon net zero by 2030.

7.4 Risk

- 7.4.1 A detailed risk register has been developed for the project. Key strategic risks relate primarily to the increased cost of energy, with the project itself seen as a significant mitigation of that risk for the Council.
- 7.4.2 From an implementation perspective, key risks include shortage of materials or staff to complete the work, increased materials prices, poor condition of the columns (supporting the new lanterns), and adverse weather disrupting work. Column condition surveys indicate that this should not be a major issue, and a small contingency has been set aside for replacement of individual columns in extreme circumstances. Further operational and commercial mitigations are in place to manage these risks as part of project implementation.
- 7.4.3 Prudential borrowing is the preferred option in financing this project as Local Government are given a preferential borrowing rate of 0.20% below published rates from the PWLB, however, due to the current economic uncertainty in terms of interest rates, close monitoring of the financial markets and advice from Arlingclose, the Council's Treasury Advisor's, will be undertaken to ensure that if the Council undertakes borrowing that the exposure of risk to the Council is minimised.

7.5 Consultation

- 7.5.1 The proposal has not been subject to formal or public consultation as it does not change the levels of service provided to communities or residents.

7.6 Consideration by Executive Advisory Panel

7.6.1 This item was considered by the Climate Change, Environment and Growth Executive Advisory Panel on 6th October 2022. The panel were supportive of the project owing to the expected carbon reductions.

7.7 Consideration by Scrutiny

7.7.1 This item has not been considered through the scrutiny process but could do so as part of its future programme.

7.8 Equality implications

7.8.1 The proposal does not reduce street-lighting levels provided to residents and therefore does not have any implications relating to the Equalities Act.

7.9 Climate and Environment Impact

7.9.1 The recommendation to install LED lanterns will result in significant reductions in energy use, generating an estimated carbon reduction of 500 tonnes of CO₂ for North Northamptonshire each year.

7.10 Community Impact

7.10.1 In terms of employment, Balfour Beatty have indicated that the project would facilitate:

- the appointment of two Level 3 Apprentices from late 2022 to support this work and intend to retain the trained staff
- the appointment of one Graduate Designer on a permanent basis
- the safeguarding of four gangs each consisting of two operatives
- the potential recruitment of additional delivery gang on a permanent basis.

7.11 Crime and Disorder Impact

7.11.1 The project enables the continued provision of street lighting, which contributes towards maintaining safe places and reduces the fear of crime.

8. Background Papers

8.1 None