

Cabinet – 16 June 2021

Street lighting invest to save

Portfolio: Councillor Adrian Andrew, Deputy Leader and Regeneration

Related portfolios: None

Service: Highways and Transport

Wards: All

Key decision: Yes

Forward plan: Yes

1. Aim

- 1.1 To deliver a modern, energy efficient street lighting solution that provides the ability to finely control light output whilst significantly reducing energy consumption and contributing to the Council becoming carbon neutral by 2050.

2. Summary

- 2.1 Cabinet has previously considered the merits of converting street lighting to modern light emitting diodes (LED) with central monitoring system (CMS) technology, approving small scale trials in Bloxwich, Leamore, Brownhills and Walsall South.
- 2.2 Cabinet has previously given an in-principle approval to the wholesale conversion of all remaining street lighting to LED and CMS technology. Officers were instructed to undertake the detailed work necessary to facilitate delivery through variation to the existing public lighting PFI contract (the 'PFI Contract') with Walsall Public Lighting Ltd. ('WPL Ltd.').
- 2.3 This report outlines proposals for the conversion of approximately 23,000 existing street lights to LED and CMS technology using an option that demonstrates the highest net present value, (option A).
- 2.4 This is a Key Decision because it will result in the Council incurring expenditure which is, or the making of savings which are, significant, having regard to the Council's budget for the service and is likely to have significant impact on two or more wards within the borough.

3. Recommendations

It is recommended that Cabinet:

- 3.1 Approve the conversion of the existing street lighting infrastructure to modern, energy efficient LED (light emitting diodes) technology that is controlled by CMS(a central monitoring system).
- 3.2 Approve the use of the existing Public Lighting PFI contract entered into on 28 March 2002 and made between Walsall Council and Walsall Public Lighting Ltd as the contractual mechanism to deliver the project.
- 3.3 Approve the business case (Appendix A) and use of option A as being the most cost effective option for delivery of the LED and CMS project.
- 3.4 Approve that the capital budget of £10,593,186 required to fund costs of option A, profiled as follows: £3,353,304 (2021/2022), £6,495,608 (2022/23) and £744,274 (2023/24), is funded from the pipeline investment fund included in the Council's approved 2021/22 capital programme.
- 3.5 Delegate authority to the Executive Director for Economy, Environment and Communities, in consultation with the Cabinet Member for Regeneration, to authorise the sealing or signing of the Deed of Variation to the street lighting PFI Project Agreement to give full effect to the project.

4. Report detail - know

Context

- 4.1 Cabinet has previously considered the benefits achieved through the small-scale conversion of approximately 3,000 street lights to LED and CMS technology, concluding with an in principle agreement to convert all remaining street lighting in the borough.
- 4.2 The street lighting service is provided through contract with WPL Ltd and delivered on a day to day basis via Amey under private finance initiative (PFI) arrangements. The 26 year PFI arrangement was completed on 28 March 2002 and has approximately 7 years remaining to the end of contract. Various amendments were negotiated to the Project Agreement on 1 September 2005.
- 4.3 A core principle of any PFI contract is that an appropriate risk transfer has to take place from the client to the contractor. This risk transfer is detailed in the Project Agreement and forms the basis of the contract performance standards used to drive service delivery and payment to the contractor.

- 4.4 WPL Ltd and its contractor Amey are fully responsible for the maintenance and operation of the street lighting assets for the period of the contract and have to manage them appropriately to deliver the lighting standards detailed in the contract. However, there is no requirement on the PFI contractor to replace the infrastructure with new technology to reduce energy consumption and associated costs and carbon emissions.
- 4.5 In order to deliver an LED & CMS solution, the Council has to gain the approval of WPL Ltd given they will be required to install, maintain and operate the equipment for the period of the PFI contract. Walsall cannot simply instruct that the equipment be installed and maintained without developing and agreeing the necessary changes to the amended and restated project agreement for the PFI contract. The proposed changes have been carefully drafted and negotiated by Legal Services specifically to deliver the conversion project whilst maintaining the original risk balance between the Council and WPL Ltd, as the retention of this balance has been insisted on by WPL Ltd and their lenders.
- 4.6 Scheme development workshops have been held with WPL Ltd and Amey along with internal technical, legal and finance colleagues to develop the most cost effective solution for the borough wide replacement of street lighting infrastructure.
- 4.7 The Council is maximising the benefits of the PFI contractor's experience in successfully delivering similar projects in Manchester and Wakefield, where both PFI street lighting contracts are similar to Walsall.
- 4.8 Tendering has been undertaken by WPL Ltd on the basis of 5 options that consider the balance of initial capital cost and energy efficiency ratings. This has been evaluated by the Council, by completing a discounted cash flow forecast, and calculating a Net Present Value (NPV) for each option. (Full detail for each option is included in the appended business case to this report):
- Option A has a capital cost of £10.593m with a NPV of £16.093m
 - Option B has a capital cost of £9.983m with a NPV of £15.743m
 - Option C has a capital cost of £11.189m with a NPV of £15.263m
 - Option D has a capital cost of £12.937m with a NPV of £13.736m
 - Option E has a capital cost of £12.515m with a NPV of £13.617m

- 4.9 All options will provide a technical and legally compliant solution, however option A, with the highest NPV, is considered to provide the best balance of capital cost and ongoing annual revenue savings.
- 4.10 Under the PFI Contract, the Council is responsible for meeting the energy cost and bears the risk of energy price inflation. The NPV assessment takes into account the changes from the existing arrangement (i.e. energy savings rather than total energy costs), and takes into account energy inflation.
- 4.11 The current annual cost of electricity for street lighting is £1.996m. Following conversion to LED and CMS, the annual cost of electricity, subject to the usual inflationary pressures, would be approximately £0.670m.
- 4.12 The current annual carbon emissions are 7,715 tonnes. Following conversion to LED and CMS, the annual carbon emissions are estimated to be 2,589 tonnes.
- 4.13 The fault reporting facilities within the CMS will further reduce the need for on-site routine maintenance checks and therefore ongoing maintenance costs.
- 4.14 The LED and CMS project would be delivered over a 30-month period with commencement on street anticipated to begin in quarter 3 of the 2021/22 financial year.
- 4.15 11% of street lighting in Walsall currently uses LED technology. The national average for the use of LED technology street lighting is 54%.
- 4.16 Conversion of street lights to LED and CMS control forms an integral strand of the Walsall Council Climate Emergency Action Plan 2020 – 2025.

Council Corporate Plan priorities

- 4.17 The LED and CMS project will support the refreshed 2021-22 Corporate Plan priority outcomes in the following way:
- **Economic Growth for all people, communities and business**
The provision of modern fit for purpose street lighting infrastructure will create an environment where business invests and everyone who wants a job can access one.
 - **People have increased independences, improved health and can positively contribute to their communities**

The reduction in carbon emissions as a result of implementing LED street lighting technology will have positive impacts on health and support People to live a good quality of life.

- **Internal Focus – All council services are efficient and effective**

The operation of an LED and CMS lighting systems will enable the delivery of an energy efficient value for money street lighting service.

- **Communities are prospering and resilient with all housing needs met in safe and healthy places that build a strong sense of belonging and cohesion.**

The provision of modern street lighting infrastructure will assist with the fear of crime as LED will provide instant light output at full power without the need for a gradual warm up period. LED lighting will also provide for better colour rendering and shape definition making it much easier to identify people and objects on the public highway.

Risk management

- 4.18 The changes introduced to the PFI contract as a result of the LED and CMS project need to maintain the original risk balance between the Council and WPL Ltd as detailed in the original PFI contract project agreement, failing which WPL Ltd and in particular their lenders, will decline to agree to the proposed changes to the PFI contract. To ensure this balance is maintained, a dedicated additional section of the project agreement has been drafted that is only applicable to the LED and CMS project and does not change the original risk balance.
- 4.19 Delay in implementing the LED and CMS programme risks the delivery of revenue savings detailed in the medium term financial plan. This risk is mitigated by the inclusion of financial penalties for failure to meet performance targets.
- 4.20 Energy saving calculations have been made on the basis of the equipment manufacturers declared energy consumption. Whilst the manufacturer will not guarantee this level of energy consumption, actual energy consumption will be billed against the energy consumption code issued from Elexon who are the national body tasked with issuing codes that have to be used for billing of electrical equipment connected to unmetered supplies. The charge code is a 13 digit number assigned to apparatus customers wish to add to their inventories. This charge code is used to calculate volumes of electricity consumed and is based on test data that demonstrates the manufacturers stated energy consumption for their equipment.
The use of this code, in conjunction with the actual burning hours recorded by the CMS system will determine the overall electricity consumption used for the calculation of electricity bills and is anticipated to be in line with the modelling undertaken.

Financial implications

- 4.21 A full financial appraisal has been completed to review the investment options. A 20-year cash flow forecast has been produced for each option, which includes the associated costs, including loan repayments, and revenue changes as a result of the investment i.e. energy and maintenance savings, and interest. This cash flow is then discounted to produce a net present cost for each option for comparison purposes. 20 years is the expected useful economic life of the LEDs.
- 4.22 Although the preferred option (Option A) is not the lowest value of capital investment, it has the highest net present value when taking into account energy savings compared to other options. This creates greater level of efficiencies, and minimises revenue costs over the long term. The net present value of this investment is £16.093m. The full details of capital and revenue costs are included within the appended full business case.
- 4.23 The Preferred Option (Option A) requires a capital investment of £10.593m phased as follows:

| | |
|---------|---------|
| 2021/22 | £3.353m |
| 2022/23 | £6.495m |
| 2023/24 | £0.744m |

There is no specific budget in the existing capital programme for this LED investment. Therefore it is proposed that the costs are funded from the pipeline investment fund included in the Council’s approved 2021/22 capital budget. Note that although the 2021/2022 forecast costs are only £3.353m the full capital budget of £10.593m will be earmarked from the 2020/21 pipeline investment allocation to avoid over-programming of this fund in future years, where allocations are less than the street lighting ask. As such unused budget will be carried forward into 2022/2023.

- 4.24 The decision as to how the capital costs will be financed will be taken by the Chief Finance Officer in year, taking into account all available sources of finance. However, the financial model has assumed that borrowing is required. Minimum Revenue Provision (MRP) for borrowing and interest costs have been built into the financial model and revenue budgets required as detailed in table 1 below:

Table 1: Borrowing costs

| Year | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------|---------|---------|---------|---------|
| | £m | £m | £m | £m |
| MRP | 0.000 | 0.000 | 0.000 | 0.446 |
| Interest | 0.036 | 0.227 | 0.227 | 0.227 |

| | | | | |
|--------------|--------------|--------------|--------------|--------------|
| Total | 0.036 | 0.227 | 0.227 | 0.673 |
|--------------|--------------|--------------|--------------|--------------|

- 4.25 Interest costs peak in year 2022/23 when it is assumed that all borrowing is undertaken for the project for modelling purposes. MRP is required to be set aside the year after completion of the installations, hence why there is no MRP requirement in the first three years. These costs can be cash-flowed from the PFI revenue reserve until net cumulative savings are generated. As interest and MRP are accounted for in MTFP for the pipeline investment fund, and this project can fund these borrowing costs as is self-funding (albeit the reserve cash-flows them until sufficient savings), this will create a revenue benefit in the Council's mainstream budget which can be used to support the future pipeline investment fund.
- 4.26 In the event that the scheme does not proceed, there is a risk that the current incurred development costs of £0.169mm may become abortive.
- 4.27 Capital costs of the project are detailed in table 2 below. This includes the Walsall Public Lighting's (the SPV) legal and other fees for entering into the proposed amendments to the Project Agreement. The Council is obliged to pay these costs in order to persuade the SPV to enter into the proposed contractual arrangements, as this is purely voluntary and there is no obligation to do so in the Project Agreement:

Table 2: Capital costs

| Capital Budgets | Total | 2021/22 | 2022/23 | 2023/24 |
|---------------------------------|---------------|----------------|----------------|----------------|
| | £m | £m | £m | £m |
| LED installations | 9.762 | 3.056 | 6.112 | 0.594 |
| Non-compliance correction costs | 0.315 | 0.098 | 0.197 | 0.019 |
| SPV Fees | 0.230 | 0.080 | 0.075 | 0.075 |
| Project Manager | 0.104 | 0.026 | 0.052 | 0.026 |
| SPV Legal fees | 0.060 | 0.060 | 0.000 | 0.000 |
| Finance support | 0.003 | 0.003 | 0.000 | 0.000 |
| LED Certifier | 0.120 | 0.030 | 0.060 | 0.030 |
| Total Capital | 10.593 | 3.353 | 6.496 | 0.744 |

- 4.28 The installation will have an impact on operational / revenue costs, for the preferred option this is summarised in table 3 below:

Table 3: Impact on operational budgets

| YEAR | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Operational Savings (para 4.29) | 0 | (374,158) | (1,122,475) | (1,403,094) | (1,403,094) | (1,403,094) |
| SPV lost baseline payment (para 4.31) | | 64,000 | 64,000 | 64,000 | 64,000 | 64,000 |

| | | | | | | |
|--|---------------|-----------------|------------------|------------------|------------------|------------------|
| Interest | 35,880 | 226,694 | 226,694 | 226,694 | 226,694 | 226,694 |
| MRP | | | 0 | 446,055 | 453,950 | 461,985 |
| | | | | | | |
| Revenue budget (savings)/additional budget required | 35,880 | (83,464) | (831,781) | (666,345) | (658,450) | (650,415) |
| Savings assumed in MTFP (4.30) | (450,000) | (450,000) | (450,000) | (450,000) | (450,000) | (450,000) |
| Savings (excess) or deficit | 485,880 | 366,536 | (381,781) | (216,345) | (208,450) | (200,415) |
| Savings (excess) or deficit cumulative | 485,880 | 852,416 | 470,635 | 254,290 | 45,840 | (154,574) |

- 4.29 The discounted cashflow modelling completed for each option takes into account both energy savings, and mitigation against future energy cost increases. However, for budgeting purposes, as set out in table 3 above, only savings compared to existing energy budgets (and not mitigation against future rises) have been taken into account when comparing to the savings target.
- 4.30 The modelled savings are compared to the existing £0.450m per annum target detailed in the medium-term financial plan to be delivered from the conversion to LED and CMS technology. This shows that there is a deficit against the savings target in the early years of installation, with net savings starting to be generated in year by 2023/24 and cumulative savings generated 2026/27 (£0.154m). Until this point, the street lighting PFI reserve, current value of £20.227m, will be used to cash-flow this deficit. The total Capital Investment is forecast to pay for itself in 2032/33 excluding the savings target, and 2040/41 including the savings target.
- 4.31 Currently the Council is in receipt of approximately £0.064m per annum from the PFI operator as energy consumption exceeds the contractual baseline consumption. As a result of the LED conversion programme, energy consumption will significantly reduce below the contractually agreed consumption level and therefore the payment will no longer be received. The financial impact of this has been included in the model.
- 4.32 Financial modelling for the preferred option includes £0.314m for non-compliance correction costs. This is the contingency to cover the cost of installing new lighting columns and associated LED lanterns in the small number of locations where lighting standard could not otherwise be met as a result of the existing column spacing.
- 4.33 The investment is forecast to generate a net present value of c£16.093m. The preferred option budget shows that after taking into account savings assumed in the Councils MTFP, and borrowing costs, surplus savings will be generated over the 20 year life, from 2026/27 onwards. This surplus will be free to be reinvested into Council activities. However with the PFI having approximately

7 years remaining to the end of the contract, which will result in loss of Department for Transport funding of £1.596m per annum, it may be prudent to consider ring-fencing the surplus savings until the PFI exit plan is fully worked up and financial implications known.

4.34 Details of the estimated operational costs over the 20 year financial model can be found in the full business case (**Appendix A**).

4.35 The Strategic Investment Board has considered the full business case and endorsed the proposal being presented to Cabinet for their consideration.

Legal implications

4.36 There is no legal duty imposed on the Council to provide street lighting. However, once provided there is a duty to maintain them.

4.37 Legal Services have drafted the necessary Deed of Variation to the Project Agreement in conjunction with WPL Ltd's legal advisers and it is these agree changes which, subject to Cabinet approval, will be signed to legally bring into force the changes to the Amended and Restated PFI Project Agreement.

Procurement Implications/Social Value

4.38 Procurement of the LED and CMS conversion programme will be managed through the Deed of Variation procedure to the existing Public Lighting PFI contract.

4.39 The street lighting service is delivered through a 26-year PFI contract between Walsall Council and WPL Ltd that began on 28 March 2002.

4.40 To maintain the original deliverables and integral risk transfer balance contained within the original Project Agreement, a new section dealing with the LED & CMS conversion programme has been drafted by Legal Services and negotiated with WPL Ltd. The new section will be incorporated into a further Amended and Restated Project Agreement and fully documents all of the rights and liabilities of each of the parties in relation to the undertaking of the LED upgrade of the street lighting.

4.41 Regulation 72 of The Public Contracts Regulations 2015 sets out a number of scenarios in which it is lawful to modify a contract without the contracting authority having to undertake a new compliant procurement. In this case the proposed modification is to provide for additional works, services or supplies to the original contract which were not included in the original procurement. It is considered that regulations 72(1)(b) and (c) are particularly relevant, as follows:

Modification of contracts during their term

72.—(1) Contracts and framework agreements may be modified without a new procurement procedure in accordance with this Part in any of the following cases:—

(b) for additional works, services or supplies by the original contractor that have become necessary and were not included in the initial procurement, where a change of contractor—

(i) cannot be made for economic or technical reasons such as requirements of interchangeability or interoperability with existing equipment, services or installations procured under the initial procurement.

(ii) would cause significant inconvenience or substantial duplication of costs for the contracting authority,

provided that any increase in price does not exceed 50% of the value of the original contract;

(c) where all of the following considerations are fulfilled:

(i) the need for the modification has been brought about by circumstances which a diligent contracting authority could not have foreseen;

(ii) the modification does not affect the overall nature of the contract;

(iii) any increase in price does not exceed 50% of the value of the contract or framework agreement.

4.42 It is considered that the proposed modification to the Project Agreement to enable the LED conversion works to proceed, fall with the scenarios which are set out regulations 72(1)(b) and (c). With regard to regulation 72(1)(b), the Council is not able to contract with a third party for the carrying out of the LED upgrade because this would conflict with and be prevented by the existing PFI contract. Negotiating the early termination of the Project Agreement to facilitate a broader procurement exercise, would not be financially viable or economic, as this would expose the Council to substantial claims from WPL Ltd for loss of profits and costs. With regard to regulation 72(1)(c) the possibility of upgrading the street lights to LED luminaires was not contemplated or provided for when the PFI contract was formed in March 2002. Furthermore, the proposed modification does not affect the overall nature of the contract. The LED upgrade merely updates the street lighting which the PFI contractor is responsible for maintaining, rather than increasing the number of the street lights extensively or otherwise substantially expanding the SPV's obligations. With regard to both regulations 72(1) (b) and (c) the gross value to WPL Ltd of the additional proposed payments to pay for the LED upgrade and the associated costs amount to £10,593,186, which equates to about 10% of the original value of the PFI contract, so this is well within the 50% limit stated in both regulations.

4.43 The proposed amendments to the Project Agreement also appear to fall within the definition of amendments which "are not substantial" as provided for in Regulation 72(1)(e) and (8), which again reinforces the view that the proposed

changes to the Project Agreement are lawful. These provisions have the advantage that they apply regardless of the value of the proposed contract modifications.

- 4.44 The use of and compliance with Regulation 72 will mean that the formation of the proposed Deed of Variation to vary the Project Agreement is likely to be considered to constitute a lawful modification and not an illegal direct award of a new contract. In essence it is considered that regulation 72 allows the Council to enter into the proposed contractual arrangements with WPL Ltd for the LED upgrade without the need to carry out a further compliant procurement under the Public Contracts Regulations 2015. The risk of any successful legal challenge to this position is considered low.
- 4.45 As part of the proposed contractual arrangements it is also proposed that the Council issue WPL Ltd with a Certificate under section 3 of the Local Government (Contracts) Act 1997. This will effectively update the equivalent Certificate which the Council issued when the Project Agreement was formed on 28 March 2002. The Certificate certifies that the Council has power to enter into the proposed contract under section 2 of the Local Government Act 2000 and other legislation. This provides WPL Ltd and its lenders with additional legal protections if the legality of the contractual arrangements is successfully challenged by a third party. However the likelihood any such successful challenge is considered to be low.
- 4.46 Any temporary employment opportunities created by this project will be targeted locally to maximise the ability for local spend that supports local businesses.

Property implications

- 4.47 None

Health and wellbeing implications

- 4.48 Implementation of this project would reduce light pollution into residential and commercial premises. The colour rendering properties of LED technology would improve the recognition of colours and shapes making it safer for motorists and pedestrians to travel at night.
- 4.49 The CMS will enable lighting levels to be varied in accordance with the local need whilst still maintaining appropriate lighting standards.
- 4.50 The LED & CMS conversion programme would have a positive impact on the health of Walsall residents as a direct result of the reduction of carbon

emissions associated with the electricity generation used by the street lighting infrastructure.

Staffing implications

- 4.51 During the LED conversion programme, it is anticipated that temporary local employment opportunities will be created with Amey.
- 4.52 A 2-year fixed term post will be created as the existing service structure does not have the capacity to support the delivery of this project. Costs associated with this post have been built into the financial modelling of the project.

Reducing Inequalities

- 4.53 There are currently no direct equality implications arising from this report, therefore an EqIA assessment has not been necessary.

Consultation

- 4.54 As part of the Council's commitment to become carbon neutral by 2050, the October 2020 Carbon Neutral Council Cabinet report draft action plan includes the intention to convert the existing street lighting to an LED and CMS system.
- 4.55 Neighbourhoods Scrutiny and Performance Panel 9 April 2015 considered the merits of a major invest to save LED conversion project. The Panel endorsed this approach to the future management and operation of street lighting infrastructure.
- 4.56 Public consultation was undertaken as part of the small-scale LED and CMS conversion trials previously implemented, public feedback was positive.

5. Decide

- 5.1 Cabinet is asked to approve the conversion of old energy hungry street lighting infrastructure to a new, modern and energy efficient LED and CMS solution.

6. Respond

- 6.1 Subject to Cabinet approval, the Deed of Variation will be executed by the Council and WPL Ltd to initiate the LED & CMS conversion programme.

6.2 The Amended and Restated Project Agreement will be signed and sealed to contractually bind WPL Ltd to install and maintain the new infrastructure for the remainder of the PFI contract.

7. Review

7.1 Following conversion to LED and CMS, reductions in energy consumption and associated carbon emissions will be reviewed against profile and support toward delivery of the Walsall Council Climate Emergency Action Plan 2020 – 2025.

Background papers

Appendix A Business case

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7 June 2021



Councillor Adrian Andrew
Portfolio Holder – Regeneration

7 June 2021