



Date: Thursday, 23 March 2023

Time: 2.00 pm

Venue: Shrewsbury/Oswestry Room, Shirehall, Abbey Foregate, Shrewsbury, Shropshire, SY2 6ND

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PLACE OVERVIEW COMMITTEE

TO FOLLOW REPORT

6 LED Lighting Programme (Pages 1 - 10)

To review the impact of the lighting programme. (To Follow).

Contact: Andy Wilde (Tel: 01743 255472)

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<u>Committee and Date</u>
Place Overview Committee
23/03/2023

<u>Item</u>
<u>Public</u>

STREET LIGHTING REPLACEMENT PROGRAMME

Responsible Officer Professor Mark Barrow; Executive Director of Place
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1. Summary

- 1.1. In 2020, Shropshire Council was successful in a bid with Salix Finance for loan funding to support the delivery of a programme of LED street lighting lantern replacements across Shropshire. Salix is the delivery body for the Government's Public Sector Decarbonisation Scheme (PSDS) and the Low Carbon Skills Fund (LCSF). The funding was awarded to support Shropshire Council with the cost of upgrading the existing sodium lighting units with new LED units. The loan would be repaid over an extended term from the money saved on energy costs achieved through the implementation of the LED units.
- 1.2. The purpose of this report is to provide an update on the LED replacement programme, but also to set out the challenges that have impacted on the delivery of the LED replacement programme since the funding was awarded.
- 1.3. The report will also highlight the positive changes which have taken place and how this has enabled improvements in the service.
- 1.4. It will also provide an opportunity to engage with councillors to help identify further areas for further consideration and improvement.

2. Decisions

The Committee is asked to;

- 2.1. Note the contents of this report.
- 2.2. Identify areas of concern not already considered within the report, for consideration as part of the future service and development of the Kier contract.

REPORT

3. Risk Assessment and Opportunities Appraisal

- 3.1. The highway service is an essential council service that ensures the safe and effective movement of people and goods across the county. Local highways are a key part of the infrastructure that enable road users to access essential service, places of employment, education and leisure and it is therefore essential that resources are used effectively to enable optimal outcomes to be achieved.
- 3.2. The work of the highway team is one of the most visible elements of council activity and as such stakeholder satisfaction with the highway service often aligns with and influences perceptions of the council as a whole.
- 3.3. Nationally, highway authorities are managing a deteriorating asset, due to the diminishing levels of real-terms funding for highways over many years/decades. A deteriorating asset increases service demand and stretches the limited resources available for asset investment and maintenance.

4. Financial Implications

- 4.1. The investment in upgrading the existing street lighting assets will reduce revenue costs by approximately £0.9m per year, including energy costs by around £0.5 million per year once the upgrade programme is complete.
- 4.2. The capital investment from Shropshire Council is identified in Capital Programme. Any further financial implications arising from future improvements or investment plans will be submitted to appropriate decision-making boards with a business case for approval.
- 4.3. There is a need for greater investment in the highway network, and officers and members are lobbying the government to increase the available funding to Shropshire.

5. Climate Change Appraisal

- 5.1. The LED Conversion Programme will contribute significantly to reduced energy consumption and will be intrinsic to the delivery of the council's environment agenda, by reducing the consumption of electric by 56% once the programme is complete. This will be achieved by the replacement of inefficient SOX lanterns with energy efficient LED's. The conversion will save the council almost 7,000 tonnes of CO2 emissions every year.

- 5.2. The service recognises the carbon impact its activities have and are actively looking at steps to reduce the level of this impact over the short to medium term.

6. LED Street Lighting Programme

Background

- 6.1. Shropshire Council currently own and maintains 20,046 streetlights that sit within our Street Lighting Asset Register.
- 6.2. Of the Council's Street Lighting Lanterns, so far a total of 8,028 lanterns have been converted across Shropshire from conventional sodium discharge lighting (SOX to LED lighting units). This has been delivered as part of the routine lantern replacement programme, where faults have been identified.
- 6.3. In 2020 Shropshire Council was awarded funding from Salix finance to help deliver a significant programme of street lighting lamp conversion. The programme involves the replacement of 16,253 streetlights from traditional street lighting bulbs (SOX) to LED and where required, the replacement of the street lighting columns.
- 6.4. This will deliver the following outcomes:
- LED's will save future electricity costs and contribute significantly to the Council's Climate and Environment Strategy.
 - Reduced maintenance costs via much lower cyclical maintenance frequencies.
 - Future revenue savings will be achieved to support the Highways Service Revenue Budget.
- 6.5. The highways service is aware of the climate emergency and the contribution required to make the street lighting asset as energy efficient as possible. The LED Conversion Programme will contribute significantly to reduced energy consumption and will be intrinsically linked to the delivery of the council's environmental agenda, by reducing the consumption of electric by 56% once the programme is complete.
- 6.6. Shropshire Council currently spends approximately £1.0 million each year on energy for street lights. These costs have steadily increased and have also been affected by the recent spike in energy cost, with costs set to rise by a further 14% over the next 10 years. This could mean the annual costs increasing to nearly £3.7 million in that time and as high as £13.7 million in 20 years. These forecasts are clearly unsustainable for most local authorities and the key driver for the change in approach.

- 6.7. By investing approximately £4.8 million during next financial year 2023/24 converting the remaining street light lanterns to LED will reduce the street lighting energy consumption by 56%. This will save approximately £506,000 per year (at today's prices) in energy and a reduction in maintenance costs of an estimated £390,000 per year.

LED Conversion Project

- 6.8. At the time Shropshire Council was awarded the funding by Salix, the highways service was under significant pressure generally due to high levels of potholes and more specifically aging and time expired street lanterns. There were high levels of failure demand across the service and resources were stretched significantly. The contract arrangements that underpinned the service were also not well positioned and contributed to issues in the service. This also had an impact on the street lighting service and the delivery of the LED programme.
- 6.9. The need to embrace the pressures around saving energy alongside ageing lanterns are clear and the Salix funding was a great initiative, which many Councils' including Shropshire embraced.
- 6.10. It is now recognised that whilst the highways service at the time had internally the skills to put forward a credible business case it did not have sufficient capacity, skills or the contract arrangements in place to deliver it successfully. This prevented this initiative from progressing as quickly as it could have.
- 6.11. This delay has accelerated other issues which the LED programme sought to address, aside from significantly reducing energy costs. For example, lights that remained out when reported. The reason for this is explained below.
- 6.12. The old and inefficient SOX sodium lighting started to see a significant number of faults being reported. This placed additional pressure on resources that would be identified to deliver the LED programme.
- 6.13. In addition to that, all SOX lamps (60% of our Street lighting stock) are no longer manufactured for environmental reasons. Therefore, when a fault is reported a new lantern will be required, which automatically places the job under a 28-day repair. However, we have seen increased levels of failure which has created excessive demand and has resulted in high numbers of lights out.
- 6.14. In order to try and manage the additional pressures this situation created, individual failures that sat within a system of old SOX lanterns that were identified within the LED replacement programme were not repaired or replaced. These would be addressed as part of the programme of replacement when that occurred.

- 6.15. Although the service recognises that street lighting faults are higher than we would like to see, public perception of the street lighting service has not seen a significant shift. A detailed examination undertaken by the National Highways and Transport service illustrated this point and is shown in paragraph 6.34 below.

WSP

- 6.16. At that time the service was solely reliant on our external consultant (WSP) for support. Although the design and technical expertise was required to support the project, it was clear that this project was far more complex and required a range of skills and contractor input at the early stage to see it delivered successfully.
- 6.17. Due to these concerns, alternative views were sought on how the project could be taken forward to ensure as much investment as possible was focused on investment in the asset. This involved engagement with other authorities who had been awarded Salix funding in an earlier tranche of funding and had already started their LED replacement programme. What emerged from the 'peer review' process was an alternative perspective to how the project could be managed and delivered.
- 6.18. This led to a refocusing exercise and the original business case was re-submitted to Salix for approval. This placed a far stronger emphasis on maximising the investment in the asset, an approach that had a greater alignment with national best practice and lent itself far more to a 'design and build' arrangement with a contractor leading, as the project would only involve a small element of design.
- 6.19. The project also transcended the end of the existing WSP contact, which also presented an additional risk and could have impacted upon continuity.

Kier

- 6.20. It became clear that a contractor-led approach that reduced the requirement on design was the best way to deliver the greatest level of efficiency.
- 6.21. Under the existing TMC (Term Maintenance Contract) Kier were asked to lead the project delivery, utilising Kier Design Services (KDS) where design is legitimately required and operational implementation through supply chain partners. The selection of the appropriate partner to deliver the work was also a major consideration. Kier needed to ensure that the supply chain partners had the capacity and capability to deliver this programme successfully.
- 6.22. In addition to the contractual complications, the asset inventory had to be ready to capture a significant influx of asset data as soon as the conversion of 16,253 streetlights started to roll out. The focus of the programme was reduced energy consumption, all of which needed to be calculated via a

funding compliance tool, which captures the energy savings and is then captured within our asset inventory (Confirm). Without the back-office infrastructure in place the project was at risk of not being compliant with the terms of the loan or our own internal financial rules.

Current Position

- 6.23. A significant amount of work has been completed to get this project on a stronger footing. There is a Project Execution Plan (PEP) in place, which is a comprehensive document that sets out the detail on how the project will be delivered and managed. Designs for the whole county are now complete for locations where design work is required. All the lanterns, adaptors and other equipment for the project are either in stock or have been ordered and will not affect the timeline for the project.
- 6.24. Therefore, the service is in a far stronger position to deliver this project and governance has been established that will oversee and manage key deliverables in terms of lantern numbers, energy savings and budget compliance successfully. The governance structure is described in 6.39.
- 6.25. The programme began on the 3rd March 2023, this programme is anticipated to be substantially completed by October 2023. That LED's being installed will see 4,387 lanterns being installed on main distributor roads; and 5,919 lanterns on residential roads.
- 6.26. The first phase of the programme is focusing on distributary roads, as this is where lanterns wattages are highest, therefore converting to LEDs will maximise energy savings, reduce revenue pressure and reduce carbon emissions.
- 6.27. Kier between January and December last year on an ad-hoc basis installed 1,627 LED lanterns, this year to date 306 have been installed. A final programme of works has begun by geographical area with an estimated completion date of November 2023, although we are looking to accelerate this for an earlier completion in the Autumn.

NHT Survey

- 6.28. The National Highway and Transport Public Satisfaction Survey (NHT) seeks the public's views on key areas of highways and transport. This year 1,047 members of the public responded. This represented an overall response rate for Shropshire of 31.7%, compared with the national average of 23.8%.
- 6.29. The following tables provide an overview of the Shropshire Council results for each of the street lighting indicators, this shows that overall (KBI25) there has been no change in public satisfaction with street lighting in Shropshire since 2021.
- 6.30. For all of the indicators, satisfaction in Shropshire is lower than the average score across all 111 local authorities taking part in the survey. Shropshire Council sits within a peer group of 30 'county council' authorities. Whilst still below average, the gap between Shropshire's score and that of its peer group is smaller than the national gap.

Indicator	Description	2022 Result	Trend from 2021	Gap from NHT Average	Gap from Peer Group Average
KBI25	Street lighting	57	0%	-5	-3
HMBI05	Provision of street lighting	53	-1%	-5	-4
HMBI06	Speed of repair to streetlights	50	1%	-4	-4
HMQUI13*	Provision of street lighting	72	-2%	-6	-5

*HMQUI13 relates to the whether respondents are satisfied with the amount of street lighting in their local area

- 6.31. The table below also shows the standard data output for the 'speed of repair to streetlights' indicator (HMBI06). This indicator is generated from respondents being asked how satisfied or dissatisfied they are with the speed of repair to street lights locally. The breakdown of responses is as follows:

Satisfaction with speed of repair to streetlights	% no. respondents
Very satisfied	3%
Fairly satisfied	21%
Neither Nor	32%
Fairly dissatisfied	10%
Very dissatisfied	8%
Does not apply	23%
Not stated	3%

- 6.32. Overall, 24% of respondents indicated that they were satisfied with the speed of repair to streetlights and 18% indicated that they were dissatisfied.

Governance and Contract Management

- 6.33. It is essential that the project is supported by a governance framework and a full suite of governance meetings that manage the project and provide oversight and the ability to approve changes to ensure the project meets its objectives.
- 6.34. This consists of a Strategic Board, which is attended by the Head of Highways, the Kier Contract Manager, Finance and sitting below is an Operations Board that delivers outcomes set at the Strategic Board and drives operational change and delivery, which is chaired by the Head of Highways and the Kier Contract Manager.

7. Conclusions

- 7.1. It is recognised that the delivery of the LED replacement programme has not commenced as quickly as the service would have liked. A range of factors which have impacted on the programme have been set out in the report. The conditions within the service were not right at the time the funding became available. A lot of work has taken place in the service to address these shortcomings and ensure that the foundations are in place for effective and efficient service delivery. These issues have taken time to address in order to ensure that programmes, such as the LED project, would be managed and delivered successfully.
- 7.2. There are some mitigating factors but there is significant and tangible evidence that there have been significant service delivery improvements over the last six months and that will have a corresponding positive impact on the LED replacement project.
- 7.3. The deterioration of the road network and infrastructure such as street lighting resulted in significantly increased demand for service requests which in turn stretches existing resources and to some extent budgets. Regrettably operational improvements aren't necessarily always visible to members of the public who understandably associate highway condition with council performance.

List of Background Papers (This MUST be completed for all reports, but does not include items containing exempt or confidential information)

None

Cabinet Member (Portfolio Holder) - Cllr Richard Marshall

Local Member - All

Appendices