Local Highways Maintenance Challenge Fund

Application Form

The level of information provided should be proportionate to the size and complexity of the scheme proposed. As a guide, for a small scheme we would suggest around 10 to 15 pages including annexes would be appropriate and for a larger scheme, 15 to 30 pages.

A separate application form should be completed for each scheme up to a maximum or one large bid and one small bid for each local highway authority.

Applicant Information

Local authority name(s)*: Somerset County Council

Bid Manager Name and position: Mike O’Dowd-Jones, Strategic Commissioning Manager - Highways and Transport

Contact telephone number: 01823 356238 Email address: modowdjones@somerset.gov.uk

Postal address: Somerset County Council, County Hall, Taunton, Somerset. TA1 4DY

When authorities submit a bid for funding to the Department, as part of the Government’s commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, they must also publish a version excluding any commercially sensitive information on their own website within two working days of submitting the final bid to the Department. The Department reserves the right to deem the business case as non-compliant if this is not adhered to.

Please specify the weblink where this bid will be published: http://somersetnewsroom.com/

SECTION A - Scheme description and funding profile

A1. Scheme name: Street Lighting LED Replacement Project

A2. Headline description:

Please enter a brief description of the proposed scheme (in no more than 50 words)

This bid is for three years funding as part of a four year ‘Invest to Save’ scheme to replace lighting on all standard street lighting columns in Somerset with energy saving LEDs. An integral step in achieving this total is the replacement of 13,340 older, non-galvanised columns with new galvanised steel columns.
A3. Geographical area:

Please provide a short description of area covered by the bid (in no more than 50 words)

This is a Somerset wide scheme. Plan for proposed locations of column replacements can be found in Appendix A.

OS Grid Reference: N/A
Postcode: N/A

Please append a map showing the location (and route) of the proposed scheme, existing transport infrastructure and other points of particular interest to the bid e.g. development sites, areas of existing employment, constraints etc.

A4. Type of bid (please tick relevant box):

**Small project bids** (requiring DfT funding of between £5m and £20m)

- Major maintenance, strengthening or renewal of bridges, tunnels, retaining walls or other structures [ ]
- Major maintenance or renewal of carriageways (roads) [ ]
- Major maintenance or renewal of footways or cycleways [ ]
- Major maintenance or renewal of drainage assets [ ]
- Upgrade of Street Lighting [x]

**Large project bids** (requiring DfT funding of between £20m plus)

- Major maintenance, strengthening or renewal of bridges, tunnels, retaining walls or other structures [ ]
- Major maintenance or renewal of carriageways (roads) [ ]
- Major maintenance or renewal of footways or cycleways [ ]
- Major maintenance or renewal of drainage assets [ ]
- Upgrade of Street Lighting [ ]

A5. Equality Analysis

Has any Equality Analysis been undertaken in line with the Equality Duty? [x] Yes [ ] No

Assessment Attached
SECTION B – The Business Case

B1. The Scheme – Summary/History (Maximum 200 words)

This scheme is an ‘Invest to Save’ Street Lighting project to replace the 34,645 conventional lanterns with LED lanterns. The Councils current illuminated street light assets are made up of SON/SOX lanterns on non-galvanised steel columns which have an estimated life expectancy of 25yrs and galvanised columns which carry a 40 year life expectancy.

The revenue operating expenses associated with the present lighting stock are electricity and maintenance costs. Approximately 75% of operating expense is for electricity and 25% for regular maintenance.

These conventional luminaires are assumed on average to have a lifetime of approximately 4 years. Under this assumption the capital expenditure associated with on-going replacement of these lanterns is significant.

Falling costs are helping to turn LED technology into a mainstream lighting solution. This presents the opportunity to make significant ongoing energy and cost savings.

DfT challenge funding will enable the Council to achieve a much wider roll-out of LED lighting than would have been possible over four years with available Council capital resources. The project will enable us to cover 72% of our stock realising substantial energy savings.

Savings of £963,467 will be achieved as the energy revenue spending reduces from £1,482,257 in Year 1 to £518,790 by year 5.

B2. The Strategic Case (Maximum 650 words)

What are the current problems to be addressed by your scheme? (Describe any economic, environmental, social problems or opportunities which will be addressed by the scheme.

Somerset spends £2.5M annually on energy on highway lighting producing 9.7 ktCO2 emissions. The revenue servicing budget is currently £1.3M each year through a Term Maintenance Contract (TMC) with SSE.

The Council’s energy bill is increasing by approximately 2% each year, forecast to increase further when our current contract ends. In the longer term it is inevitable that the Council will see increasing energy costs.

It is the Council’s aim to move towards a complete replacement of the existing lighting stock with LEDs. The headline benefits of LEDs are:

- A 65% reduction in energy usage for the same light output as existing lighting (based on current specification supplied through the TMC)
- A potential 75% reduction in servicing costs in the longer term due to greater reliability and longevity over existing conventional lanterns
**Why the asset is in need of urgent funding?**

Replacement LED lanterns can only be installed on galvanised steel columns due to the additional weight of the lantern. All 13,340 non-galvanised steel columns are life expired and there is risk of them collapsing as a result of structural failure as they have in other areas. This type of failure could result in a large personal injury claim should a member of the public be injured.

Replacing them will enable us to fit LEDs across a much larger proportion of our lighting stock than would otherwise be possible.

**What options have been considered and why have alternatives have been rejected?**

Verco Advisory Services Ltd were commissioned to develop an outline business case (with financial modelling) that investigated in more detail the range of options available to the Council to improve its lighting stock through investment in new technology. A copy of this report can be found at Appendix B.

Options considered:
- to continue with how the service is delivered currently, that is to replace existing conventional lighting due to failure or routine maintenance, with LEDs. This would lead to a financially unstable service, ongoing exposure to rising energy costs leading to revenue budget increases or reduced lighting hours.
- Invest in Cosmopolis lamps with dimming trays. This would take eight years to recoup the capital and with changing technology would themselves require conversion to LEDs in the future.
- Several alternative investment profiles were considered and it was concluded that it was desirable to ‘front load’ investments as much as possible in order to accrue significant energy savings and realise cost efficiencies through bulk purchasing and implementation.

**What are the expected benefits / outcomes?**

Once replaced, the new stock will reduce the annual maintenance expenditure and we will in a better position to react to new technologies in the future. The ongoing energy costs will be reduced by 65%

Other non-financial considerations over changes to the lighting asset include:
- improved public perceptions over the availability and quality of lighting;
- improved public and political satisfaction with the timing and dimming of street lighting;
- being able to meet individual parish lighting level requirements;
- reduced risk of traffic accidents and traffic accident management; and
- reduced risk of crime through better visibility definition

Please provide information on the geographical areas that will benefit from your scheme. You should indicate those areas that will directly benefit, areas that will indirectly benefit and those areas that will be impacted adversely.
This is Somerset wide scheme – See plan at Appendix A.

**What will happen if funding for this scheme is not secured - would an alternative (lower cost) solution be implemented (if yes, please describe this alternative and how it differs from the proposed scheme)?**

The Council has committed to the first year of a potential £2m/year for 5 years capital investment in street lighting. This funding if approved annually would be used to replace all the County’s LED lanterns on galvanised columns over a 4 year programme which would only cover just over 40% of the stock. Non-galvanised columns and lanterns would be replaced on failure of the column or when funding allowed.

**What is the impact of the scheme?**
Positive impacts are:
- Reduced energy costs
- Reduction on CO2 emissions
- Provides the certainty over future cash flows
- Visual impact: Beneficial impact; LED white light has a greater frequency aiding clarity even when dimmed. This will be a benefit to partially-sighted and road users.

The majority of the steel columns are in residential areas and replacement works would have minimal impact on traffic during the replacement programme. Works will be registered on Elgin (Streetworks Notification Management System) to ensure they are coordinated with other works on the highway.

Out of hours working will be utilised to mitigate impact on the travelling public.

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**B3. The Financial Case – Project Costs**

Before preparing a scheme proposal for submission, bid promoters should ensure they understand the financial implications of developing the scheme (including any implications for future resource spend and ongoing costs relating to maintaining and operating the asset), and the need to secure and underwrite any necessary funding outside the Department’s maximum contribution.

Please complete the following tables. **Figures should be entered in £000s** (i.e. £10,000 = 10).

**Table A: Funding profile (Nominal terms)**

<table>
<thead>
<tr>
<th>£000s</th>
<th>2015-16</th>
<th>2016-17</th>
<th>2017-18</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>DfT Funding Sought</td>
<td>4,352</td>
<td>4,352</td>
<td>4,352</td>
<td>13,056</td>
</tr>
<tr>
<td>LA Contribution</td>
<td>2,800</td>
<td>2,000</td>
<td>2,000</td>
<td>6,800</td>
</tr>
<tr>
<td>Other Third Party Funding</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The complete cost of the project is £21,856,442 over a period of four years. DfT funding amount sought is £13,056,442 and will be spent over three years by 2017/18. The local
contribution is £8,800,000 with the final £2,000,000 being spent in 2018/19. This brings the cost of the project for 3 years to £19,856,442.

The local contribution would therefore be 40%.

B4. The Financial Case - Local Contribution / Third Party Funding

Please provide information on the following points (where applicable):

a) The non-DfT contribution may include funding from organisations other than the scheme promoter. Please provide details of all non-DfT funding contributions to the scheme costs. This should include evidence to show how any third party contributions are being secured, the level of commitment and when they will become available.

No other local contribution is being sought.

b) Where the contribution is from external sources, please provide a letter confirming the body’s commitment to contribute to the cost of the scheme. The Department is unlikely to fund any scheme where significant financial contributions from other sources have not been secured or appear to be at risk.

Have you appended a letter(s) to support this case?  □ Yes  □ No  N/A

c) Please list any other funding applications you have made for this scheme or variants thereof and the outcome of these applications, including any reasons for rejection.

No other funding bids have been submitted.

B5. The Financial Case – Affordability and Financial Risk (maximum 300 words)

This section should provide a narrative setting out how you will mitigate any financial risks associated with the scheme (you should refer to the Risk Register – see Section B10).

Please provide evidence on the following points (where applicable):

a) What risk allowance has been applied to the project cost?

As current contract rates have been used with a bulk discount rate applied that has been suggested by Verco in their report, there is a high degree of confidence in the calculations therefore no risk allowance is seen as necessary. The programme is highly scalable and can be scaled down should this become necessary to ensure no cost overrun.

b) How will cost overruns be dealt with?

The phased approach and the ability to scale the Programme up or down will give the flexibility to avoid any overrun.

c) What are the main risks to project delivery timescales and what impact this will have on cost?
Main risks are external e.g. weather, network occupation. These risks lie with the contractor but this is mitigated by the commercial decision to let a new contract.

### B6. The Economic Case – Value for Money

**a)** If available for smaller scheme bids, promoters should provide an estimate of the Benefit Cost Ratio (BCR) of the scheme.

The delivery of the scheme by 2018 will realise sufficient cost savings to achieve a BCR of 2.82 and NPV of £26.6m over a 25 year appraisal period.

The detailed economic appraisal is set out in a technical note included in Appendix C

**b)** For larger schemes costing £20 million or more we would expect the bid to include a BCR and this should align with WebTAG - [https://www.gov.uk/transport-analysis-guidance-webtag](https://www.gov.uk/transport-analysis-guidance-webtag)

Where a BCR is provided please provide separate reporting in the form of an Annex to the bid to enable scrutiny of the data and assumptions used in deriving that BCR. This should include:

- A description of the key risks and uncertainties in the data and assumptions and the impact these have on the BCR;
- Key assumptions including (but not limited to): detail of the data used to support the analysis, appraisal period, forecast years, level of optimism bias applied; and
- A description of the modelling approach used to forecast the impact of the scheme and evidence to demonstrate that it is fit-for-purpose.

**c)** Please provide the following data which may form a key part of our assessment:

*Note* this material should be provided even if a BCR estimate has been supplied (unless already covered in a VfM Annex).

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A description of the do-minimum situation (i.e. what would happen without Challenge Fund investment).</td>
<td>A £2m a year capital investment determined annually for up to 5 years for the retrofitting of the existing lantern stock, and installing new LED lighting across the County. This funding would be used to roll out LED technology progressively. It would take four years to install LED lanterns on our galvanised poles which would cover just over 40% of the stock.</td>
</tr>
</tbody>
</table>
| Details of significant monetised and non-monetised costs and benefits of the scheme (quantified where possible) | As set out in the financial model attached:  
**Monetised costs and benefits:**  
**Non-monetised benefits: All assessed as beneficial:**  
- CO2 emissions  
- Access to services  
- Journey quality  
- Accidents  
- Security  
- Affordability  

<table>
<thead>
<tr>
<th>Length of scheme (km)</th>
<th>N/A</th>
</tr>
</thead>
</table>
B7. The Commercial Case (maximum 300 words)

In order to deliver the scheme proposed, the Council will run a full EU-compliant procurement process. The Council’s Commercial and Procurement function will be responsible for the delivery of this element of the project. Somerset County Council has made a significant investment in this function, which is able to rapidly deploy a professional resource to deliver the procurement in as short a period of time as legally permissible. This approach was recently demonstrated in the delivery of other DfT-funded schemes, such as the Flood Prevention Works at Beer Wall and Muchleney and in the creation of a pan-regional Repair and Resilience Framework Agreement.

Preparatory work for the procurement is already underway, such that the market analysis and procurement strategy has already been completed. Similarly, specifications and tender documents are currently being drafted and will be available by the time the outcome of this application is communicated.

The Council will procure both its column replacement and a concurrent lantern replacement and CMS implementation as part of the same contract, maximising opportunities for achieving economies of scale in scheme programme delivery and leveraging volume-based discounts; benchmarks undertaken within the South West Highways Alliance have indicated that prices 5-10% below the prevailing market rates can be achieved through a carefully planned and well-executed procurement strategy.

Upon approval of its funding application, the Council will immediately commence the procurement process. It is anticipated that a contract can be awarded by August 2015; Gantt chart is provided and can be found at Appendix E.

Following award of the funding, and prior to execution of the above-mentioned contract, the Council will use existing arrangements (including Lot 9 of Crown Commercial Service’s Traffic...
Management Technology framework agreement [RM869] to deliver an initial programme of work, ensuring that savings from energy consumption reductions can be realised immediately.

B8. Management Case - Delivery (maximum 300 words – for b)

Deliverability is one of the essential criteria for this Fund and as such any bid should set out any necessary statutory procedures that are needed before it can be constructed.

a) An outline project plan (typically in Gantt chart form) with milestones should be included as an annex, covering the period from submission of the bid to scheme completion. The definition of the key milestones should be clear and explained. The critical path should be identifiable and any contingency periods, key dependencies (internal or external) should be explained.

Has a project plan been appended to your bid? ☑ Yes ☐ No

The plan attached as Appendix A indicates which relate to the areas selected for the Non galvanised LED replacements over the 3 year period from 2015 to 2018:

Phase 1 – Northern area of Somerset, 2015/16
Phase 2 – Southern area of Somerset, 2016/17
Phase 3 – Taunton, Bridgwater and West Somerset, 2017/18

• The plan attached is a preliminary programme of works as agreement of the contractor will be needed. Whilst an area approach is planned it will be possible to review and re-programme as works progress should any other priorities on the network develop.
• Phase 1 (Northern Somerset) contains the fewest number of columns and allows for adequate lead times to obtain materials as the proposed works are due to start in 2015/16.
• The rural areas identified for phase 1 will generally have lower height columns which are more readily available from the manufacturer. While not targeting high usage equipment the ease of road space coordination will allow a high number of units to be replaced while not impacting on traffic.
• Phases 2 and 3 contain the major conurbations and allow us time to plan the works efficiently and minimise disruption through working with other utilities and coordinating with our own maintenance activities.
• New equipment will be designed to ensure maximum energy savings are achieved.

The LED lanterns will be phased in to complement the above work. Any remaining areas will be reviewed and completed in year 4.

b) Please summarise any lessons your authority has learned from the experience of delivering other DfT funded programmes (such as pinch point schemes, local majors, Local Sustainable Transport Fund, and Better Bus Areas) and what would be different on this project as a result.

The DfT allocated funding to SCC to implement short term priority actions to both reduce flood risk and increase resilience, the requirement to deliver before the next round of floods gave us approximately nine months to research, procure, design and build a suitable engineering solution at two main sites. Both schemes have been delivered to time and budget and the best practice learnt from the ambitious schemes will be applied to this project.
The Council has recently invested a significant amount in a new Commercial & Procurement department which was instrumental in putting into place a legally compliant method of delivering the above schemes. This included negotiating with contractors, building relationships, sourcing suppliers and ensuring delivery all to very tight deadlines. Similar methods will be utilised for the procurement method for this project.

B9. Management Case – Governance (maximum 300 words)

Please name who is responsible for delivering the scheme, the roles (Project Manager, SRO etc.) and set out the responsibilities of those involved and how key decisions are/will be made. An organogram may be useful here. This may be attached as an Annex.

Project Manager – Geoff Dight, Strategic Manager Highway Operations
Senior Responsible Owner – Paula Hewitt – Director & Lead Commissioner Economic & Community Infrastructure

Sponsoring Group are the Highways Improvement Schemes Board.

This board meets monthly to address issues raised across the entire county highway schemes and improvements programme. The Highway Schemes and Improvement Board includes the County Council’s Cabinet Members for Highways & Transport and Business, Inward investment & Policy.

Project Board
A project board would be developed that meets monthly to address issues raised by the Project Manager and to hold the delivery of the scheme to account. The project board would include the SRO, project manager, other appropriate service managers and external representatives if appropriate. The members of the project board would be reviewed as the project progresses through various stages of delivery so that board members with appropriate responsibility and roles can influence the project adequately.

Members are:-
Mike O’Dowd-Jones, Strategic Commissioning Manager – Highways and Transport
Geoff Dight, Strategic Manager Highways Operations
Jamie Walker, Service Manager Commercial & Procurement
David Jones, Commissioning Manager - Highway Asset & Improvement

The project board will meet on a monthly basis to hold the Project Manager to account for the delivery of the scheme and if issues arise how these should be addressed. The Senior Professional Lighting Engineer will attend to provide technical guidance.

Delivery Team – Led by the Project Manager and responsible for the day to day delivery of the project. Members are:-

Project Manager
Senior Professional Lighting Engineer
Street Lighting Technician
Street Works Co-ordination
Contract Documentation/Management
Contractor/supplier
SCC Energy Team
All decision making process will be made in accordance with Somerset County Council’s Scheme of Delegation.

B10. Management Case - Risk Management

A risk register covering the top 5 (maximum) specific risks to this scheme should be attached as an annex including, if relevant and in the top 5, financial, delivery, commercial and stakeholder issues.

*Please ensure that in the risk register cost that you have not included any risks associated with ongoing operational costs and have used the P50 value.*

Has a risk register been appended to your bid? ☑ Yes ☐ No

SECTION C – Monitoring, Evaluation and Benefits Realisation

C1. Benefits Realisation (maximum 250 words)

Please provide details on the profile of benefits, and of baseline benefits and benefit ownership. This should be proportionate to the size of the proposed scheme.

Benefit to SCC – 65% energy reduction realised as soon as the LED is installed over the period of the project.
Benefit to SCC – reduction in maintenance costs of 75% realised as the new posts and lanterns are installed over the period of the project.
Benefit to SCC – Improved street lighting asset with the ability to accommodate new technology

C2. Monitoring and Evaluation (maximum 250 words)

Evaluation is an essential part of scheme development and should be considered and built into the planning of a scheme from the earliest stages. Evaluating the outcomes and impacts of schemes is important to show if a scheme has been successful.

Please set out how you plan to measure and report on the benefits identified in Section C1, alongside any other outcomes and impacts of the scheme

<table>
<thead>
<tr>
<th>Expected Benefit</th>
<th>When</th>
<th>Data requirement</th>
<th>Survey timings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in energy costs</td>
<td>As LED’s installed and from completion</td>
<td>Energy consumption data</td>
<td>Monthly</td>
</tr>
<tr>
<td>Reduction in ongoing maintenance costs</td>
<td>As LED’s installed and from completion</td>
<td>Financial data</td>
<td>Monthly</td>
</tr>
<tr>
<td>Reduction in CO2 emissions</td>
<td>As LED’s installed and from completion</td>
<td>Based on energy data</td>
<td>Monthly</td>
</tr>
<tr>
<td>Positive public opinion</td>
<td>Within a year of completion</td>
<td>Public survey (NHT)</td>
<td>Annually</td>
</tr>
</tbody>
</table>
SECTION D: Declarations

D1. Senior Responsible Owner Declaration
As Senior Responsible Owner for Street Lighting LED Replacement Project I hereby submit this request for approval to DfT on behalf of Somerset County Council and confirm that I have the necessary authority to do so.

I confirm that Somerset County Council will have all the necessary powers in place to ensure the planned timescales in the application can be realised.

Name: Paula Hewitt
Position: Director & Lead Commissioner Economic & Community Infrastructure

Signed:

D2. Section 151 Officer Declaration
As Section 151 Officer for Somerset County Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Somerset County Council

- has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution
- will allocate sufficient staff and other necessary resources to deliver this scheme on time and on budget
- accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme
- accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested
- has the necessary governance / assurance arrangements in place
- has identified a procurement strategy that is legally compliant and is likely to achieve the best value for money outcome
- will ensure that a robust and effective stakeholder and communications plan is put in place

Name: Kevin Nacey

Signed:

Submission of bids:

The deadline for bid submission is 5pm, 9 February 2015

An electronic copy only of the bid including any supporting material should be submitted to:

roadmaintenance@dft.gsi.gov.uk copying in steve.berry@dft.gsi.gov.uk