

Appendix 2

Summary report of draft business cases for H&T Committee

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Activity Title:	Street Lighting Energy Savings		
Reference No:	B/R.6.221		
Triple Bottom Line Approach – score range from -5 to +5 with 0 being neutral	Social Score 1	Environment Score 3	Financial Score 5
Business lead / sponsor:	Sue Procter Service Director – Highways and Transport		
Document prepared by:	Rob Powell / Emma Murden		
Financial summary:	Investment to achieve long-term savings		
Financials signed off by:	Sarah Heywood		
Date:	31/08/22	Version	2

1. Driver / reason for the activity

Street lighting energy price increases have been dramatic over the past 12 months, with prices doubling, effective from October 2022, and a further 30% to 35% increase forecast for October 2023. With energy prices increasing by 100% in October 2022, the council's energy spend for street lighting will reach an annual cost of around £3.3m, therefore, any interventions for reducing energy consumption by a significant percentage will have a considerable impact on future budget demands and will insulate the council from further price increases.

We explored a number of options to reduce the energy used by our streetlighting stock, engaging with key stakeholders, and our preferred option is for replacement to LED over a two-year programme.

The primary focus of this business case is to reduce ongoing costs for the authority by reducing energy consumption, however, additional benefits will be delivered including a significant reduction in carbon over 20 years, aligned to the percentage cost saving, improved lighting quality and reduced maintenance costs long term.

2. Proposed activity or intervention(s)

LED replacement

The current lighting assets consume considerably more energy than modern LED lanterns. A programme of replacements would be implemented to replace these with

energy efficient LED's. This would reduce the overall energy consumption per year. For reference, the current energy spend is in the region of £3.3m per annum. This option requires a significant investment spread over two years and offers a payback on the investment in under six years based on current electricity price forecasts.

Implementation

Implementation of this option will require an initial year to negotiate a deed of variation with the PFI providers representing a significant legal process. A further two years will then be used to conduct the replacement programme with approx. 55k assets being replaced in a programme designed to generate maximum benefit by replacing highest consuming assets first.

3. Equality, Diversity & Inclusion (EDI) and Socio-economic inequalities Assessments undertaken to inform the proposed activity

Has an Equality Impact Assessment been completed? Yes

Summary of key points to consider in terms of benefits, negative impacts and any mitigations:

All residents and highway users in Cambridgeshire will be affected by this proposal as there are streetlights in all areas of Cambridgeshire owned by CCC that would have LED lanterns installed as part of the proposed LED lantern replacement programme.

There is, at present though, no identified impacts on people with protected characteristics, including poverty and rural isolation, from these proposed changes. The proposals being made have a countywide impact.

They are not targeted at specific geographical areas which may have higher/lower levels of a particular demographic.

Benefits include the LED lanterns providing an improved lighting solution as they produce a white light that enables people to see objects/persons in their true colours, whilst also being a well-controlled light source that reduces night-time sky light pollution.

Benefits also include a significant energy reduction and energy expenditure saving.

3. Financial Impact on Business Plan 2023-2028

Revenue Implications:

This table is completed in recurring format as per the Business Plan.

LED replacement

	One off or Permanent	2022- 23 000	2023- 24 000	2024-25 000	2025-26 000	2026- 27 000	2027- 28 000	2028- 29 000	2029- 30 000
Saving	permanent	NA	NA	-£1,648	-£1,018	-£8	£399	£112	-£184
Income									
Investment	permanent								
Pressure									
Total			NA	-£1473	-£930	-£8	£399	£112	-£184

Capital Implications:

Capital Funding:	22-23 000	23-24 000	24-25 000	25-26 000	26-27 000	27-28 000	28-29 000	29-30 000	30-31 000
Prudential Borrowing		£100	£7,099	£6,084	£-	£ -	£ -	£ -	
Grants									
Total		£100	£7,099	£6,084	£-	£ -	£ -	£ -	

For pressures / investments only, please provide further details regarding:

What is the service's forecast outturn for the current financial year?

£8,021,648

What financial mitigations have been considered?

- Energy costs increasing no other alternative but to pay the increased costs.
- The above options describe the approaches we could use to mitigate this cost.

What other funding sources have been explored?
<ul style="list-style-type: none"> • No other technologies or funding available to mitigate these impacts.
<p>Could you meet the costs from your own budget?</p> <p>Not without top-ups from the central budget. This saving is not a saving from current baseline budget but a mitigation to future financial pressures. There will be a saving from what we are currently seeing but the actual budget saving is smaller. So therefore, the saving is against the forecast budget spend based on current energy inflation estimates.</p>

Activity Title:	Highways Materials Recycling		
Reference No:	B/R.6.220		
Triple Bottom Line Approach – score range from -5 to +5 with 0 being neutral	Social Score 0	Environment Score 5	Financial Score 1
Business lead / sponsor:	Jon Munslow		
Document prepared by:	Jon Munslow		
Financial Summary:	Investment to achieve long-term savings		
Financials signed off by:	Sarah Heywood		
Date:	26/9/22	Version	V4

1. Driver / reason for the activity

Achieving Net Zero in Highways Services requires a step change in how we deal with the materials removed in maintenance activities. The norm has been a straight-line model of purchase, use, remove and dispose. This is high cost in carbon, environmental impact and cost.

Around 80% of materials removed during maintenance activities are disposed of. Some are recycled by waste re-processors, but the majority is thrown away and Cambridgeshire County Council (CCC) buys in virgin aggregates and road surfacing materials.

The rising costs of materials is affecting the industry and a 20% increase is forecast over this financial year. CCC has already experienced a 31% price increase in costs for one of our major maintenance programmes this year.

Road surfacing materials are high carbon as they need to be hot and use bitumen (from the fossil fuel oil). The materials also have to travel long distances from the quarries and manufacturing plants to get to us.

Without a change in our model, CCC will suffer from high inherent carbon in the highways service and be exposed to industry supply and cost pressures with no control to help ensure we are able to keep roads and footways safe and functioning.

2. Proposed activity or intervention(s)

Implement a Net ZERO Road Maintenance model- Establish a multiple stream recycling facility to enable the Council to recycle 100% of arisings into usable materials in each stream.

Four initial high ROI (Return on Investment) streams

1. Recycled Road materials – process what comes out to go back in.
2. Encapsulating Tar - Processing tar-bound asphalt waste that usually goes to hazardous waste into usable materials.
3. Dewatering gully waste – reusing gully water by cleansing.
4. Reprocessing gully silts and waste to extract re-usable components and create usable soil materials.

There are three elements to each of these streams:

1. Establish the operation
2. Establish the new specification for the materials
3. Align the operation with our programmes of work.

The operational recycling facility will be as low carbon as is possible in construction and operation.

The operational model would be a central Hub servicing four satellite facilities at existing depots in Whittlesford, March, Huntingdon and Witchford, which will help to reduce vehicle movements and ensure productivity within works and schemes on the ground. The outcomes would be:

- Materials cost reduction in the 3rd full year of operation - circa £750k
- Carbon reduction circa 40% CO₂ per year from current baseline. Carbon Baseline work is currently being undertaken within the service and will result in Carbon KPIs to support tracking of net zero progress at an operational level.

A two-phase approach can be used to accelerate the benefits:

Phase 1 - Establish the recycling of road materials (Stream 1) and processing of tar-bound asphalt into usable materials (Stream 2) at the March depot satellite site (within existing site boundaries) and the other three existing highways depots remain as further satellites.

This requires a one-off £500k of funding to bring the facility up to date, put in environmental protection measures, establish the operation and define the specification of the materials and includes project management and specialist consultancy support to deliver. This new operation will then be aligned with our programmes of work.

This facility will provide around 30% of required recycling capacity, with an estimated permanent saving of circa £250k (£100k revenue and £150k capital) achievable from 2023/2024 onwards.

Phase 2 – Establish a new site in the North-West area of the county. The site will need to be owned by the Council and be approx. 1.5 to 2 hectares in size. As with the March Phase 1 site it would use the existing highways depots as satellites.

This will require significant investment. Firstly, a site would need to be available from within the council's existing property portfolio – it is currently unknown if such a site is available, including the cost of acquiring/using the site.

If a suitable site can be found, a new operation would need to be established with an estimated one-off investment cost of £2M. This investment includes establishing the facility on the chosen site, commencing the operation and defining the specification of the materials, as well as project management and specialist consultancy support to deliver.

The site would then operate all four recycling streams. The bulk of Streams 1 and 2 would move to the new site and March will become a satellite depot operating Streams 1 and 2 for the north-east of the County. Adding in dewatering of gully waste (Stream 3), and reprocessing gully silts and waste into re-usable components and creating usable soil materials (Stream 4). The whole operation will be aligned with our programmes of work to maximise benefits and carbon reduction across all our works. This facility, with the satellite depots, will provide our required recycling capacity, with an estimated permanent saving of circa £750K (£250k revenue and £500k capital), achievable from the end of 2024/2025 onwards.

Once both sites are in operation, the Council will be able to recycle 100% of arisings into usable materials. The facility could then provide an income opportunity by reprocessing materials for neighbouring authorities and/or local developers. This could generate income to support wider service delivery, further recycling and carbon reduction activities and contribute to reduced carbon in construction across the region

3. Equality, Diversity & Inclusion (EDI) and Socio-economic inequalities Assessments undertaken to inform the proposed activity

Has an Equality Impact Assessment been completed? Yes

Summary of key points to consider in terms of benefits, negative impacts and any mitigations:

No direct impact on residents or staff from this project.

4. Financial Impact for Business Plan 2023-2028

Revenue Implications:

This table is completed in recurring format as per the Business Plan.

Revenue	One off or Permanent	2022-23 £000	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	2027-28 £000
Saving	Permanent		-100	-150			
Income	NA						

Capital Implications:

Capital Funding:	22-23 £000	23-24 £000	24-25 £000	25-26 £000	26-27 £000	27-28 £000	28-29 £000	29-30 £000	30-31 £000
Investment (one-off)		500	2,000						
Savings (permanent)		-150	-500	-500	-500	-500			

For pressures / investments only, please provide further details regarding:

What is the service's forecast outturn for the current financial year?

- Service spends around £25million on materials that the four recycling streams will contribute to.

What financial mitigations have been considered?

- Price rises pressure will need to be dealt with in one of two ways – do less work or increase funding.

What other funding sources have been explored?

- None

Could you meet the costs from your own budget?

- No

Activity Title:	Weedkilling Service Review		
Reference No:	B/R.6.218		
Triple Bottom Line Approach – score range from -5 to +5 with 0 being neutral	Social Score 0	Environment Score 1	Financial Score 1
Business lead / sponsor:	Sue Procter Service Director – Highways and Transport		
Document prepared by:	Jon Munslow		
Financial summary:	125k permanent saving		
Financials signed off by:	Sarah Heywood		
Date:	1 Nov 2022	Version	1

1. Driver / reason for the activity

Weedkilling is carried out on highways to reduce the nuisance and damage caused by weeds growing at the back of paths, top of kerbs and in channels:

- Weeds at the back of paths over time cause minor damage to the path surface which can lead to trip hazards.
- Weeds on the path edge at the kerb over time cause minor damage to the path surface which can lead to trip hazards.
- Weeds in the channel (road edge adjacent to the kerb) over time cause damage to the road surface. The weeds trap debris and detritus which then affects the flow of water to the drainage gullies which can cause flooding.
- Weeds are generally considered unsightly and a sign of a lack of care in our built environment.
- Most weedkilling occurs within communities in the urban and suburban areas.

Weedkilling is carried out on a cyclic and reactive basis. Cyclic weedkilling using chemicals is the most efficient method of controlling weeds.

In recent years the chemicals authorised for use have had to change to avoid health issues and environmental impact. There is now less support for chemical weed clearance within communities as a result of better environmental understanding. The Highways service, in partnership with Cambridge City Council, is trialling ceasing cyclic weed clearing to reduce chemical use.

2. Proposed activity or intervention(s)

The new approach is to cease all cyclic weedkilling using chemicals. The new service would adopt a reactive approach to weed removal. Where we are notified of weeds by the community, we would assess and decide whether to remove the weeds. Only weeds causing an immediate safety hazard would be removed.

We estimate that the assessment and notification of our intended action, in response to the community notifying us, would take up to 14 days and any removal would take up to eight weeks from notification of the issue to removal (if that is what is decided by technical officers carrying out the assessment).

Removal of noxious and injurious weeds would continue as now and not be affected by the changed approach.

We expect there to be an increase in public enquires and a reduction in satisfaction of the Highways service in general.

Implementation will require investment in community engagement to gain buy in from town and Parish Councils. This will need to take place in the first quarter of 23/24. Estimated of cost of engagement work is £40k in the first year. We anticipate a saving of £125k overall with the new reactive approach.

The cessation of chemical weed killing would contribute to reducing the risk of long-term illness from operatives and improve the natural environment.

3. Equality, Diversity & Inclusion (EDI) and Socio-economic inequalities Assessments undertaken to inform the proposed activity

Has an Equality Impact Assessment been completed? Yes

Summary of key points to consider in terms of benefits, negative impacts and any mitigations:

The proposed changes will not directly impact (positively or negatively) any persons with protected characteristics or people experiencing socio-economic inequalities, as the network is available for all users.

There is expected to be a positive impact on staff (Operatives) with reduced exposure to chemical weed killers.

4. Financial Impact on Business Plan 2023-2028

Revenue Implications:

This table is completed in recurring format as per the Business Plan.

Revenue	One off or Permanent	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	2027-28 £000	2028-29 £000	2029-30 £000
Saving	Perm.	-125						
Income								
Investment		40	-40					
Debt charges (inc. MRP)	Perm.							
Pressure								
Total								

For pressures / investments only, please provide further details regarding:

What is the service's forecast outturn for the current financial year?

£229,000

What financial mitigations have been considered?

None

What other funding sources have been explored?

None

Could you meet the costs from your own budget?

No

Activity Title:	Risk based review of Winter gritting network		
Reference No:	B/R.6.219		
Triple Bottom Line Approach – score range from -5 to +5 with 0 being neutral	Social Score 0	Environment Score 1	Financial Score 1
Business lead / sponsor:	Sue Procter Service Director – Highways and Transport		
Document prepared by:	Jon Munslow		
Financial summary:	300k permanent saving		
Financials signed off by:	Sarah Heywood		
Date:	2 Nov 2022	Version	1

1. Driver / reason for the activity

Driver 1:

The Department for Transport (DfT) through the Transport Resilience Review, the subsequent Highways Resilience Report and the Highways Incentive Fund, require Local Highway Authorities to move away from a winter gritting focused service to a broader Resilient Network approach, to include management of the core local road network to provide resilience for all weather conditions. The winter salting network forms a core part of any Resilient Network.

Driver 2:

The current winter gritting network has evolved over time, being extended in an ad-hoc nature. This has led it to develop to a point that much is not set by an objective risk-based assessment of need for the safe movement of users. The network is currently motorised vehicle focused. There is a need to review the network to ensure it aligns more fully with the needs of 'Active Travel' users.

As Highway Authority the Council has a statutory duty to 'as far as reasonably practicable' maintain the highway free from snow and ice. The council, as Highway Authority, is also responsible and accountable to drain the highway to avoid the nuisance and danger of flooding and standing water.

The council currently treats around 34% of the road network. This is high when compared to most other authorities who treat around 25%. A review of the network could achieve financial savings without a significant increase in risk to road users or the authority.

2. Proposed activity or intervention(s)

Design a new resilient network using a risk-based approach that includes active travel routes and broader resilience to flooding.

The approach will be to carry out a risk review of the current network to understand roads and locations where risk has manifested for road users.

- Agree with Members objective criteria on which to build the new resilient network.
- Build the new network.
- Consult key emergency response stakeholders.
- Create practical treatment routes and optimise and set the operational resources to achieve the required level of service.
- Agree new network with H&T Committee.
- Communicate the change to Town and Parish Councils, communities and businesses through a concentrated publicity campaign across all media.
- Implement new network.
- A circa £50,000 investment is required to carry out the review and work associated with the new network and its communication to Communities. It is estimated we can achieve a £300k saving overall with the new approach.

3. Equality, Diversity & Inclusion (EDI) and Socio-economic inequalities Assessments undertaken to inform the proposed activity

Has an Equality Impact Assessment been completed? Yes

Summary of key points to consider in terms of benefits, negative impacts and any mitigations:

The proposed changes will not directly impact (positively or negatively) any persons with protected characteristics or people experiencing socio-economic inequalities, as the network is available for all users.

4. Financial Impact on Business Plan 2023-2028

Revenue Implications:

This table is completed in recurring format as per the Business Plan.

Revenue	One off or Permanent	2023-24 £000	2024-25 £000	2025-26 £000	2026-27 £000	2027-28 £000	2028-29 £000	2029-30 £000
Saving	Perm.		-300					
Income								
Investment	One off	50	-50					
Debt charges (inc. MRP)								
Pressure								
Total								

For pressures / investments only, please provide further details regarding:

What is the service's forecast outturn for the current financial year?
£2,8333,340

What financial mitigations have been considered?
None

What other funding sources have been explored?
None

Could you meet the costs from your own budget?
No