Street Lighting Energy Reduction Project (SLERP) Update

Environment and Sustainable Communities Overview and Scrutiny Committee
16 May 2022

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Introduction

- Current street lighting inventory:
  - 83,676 street lights
  - 5,737 illuminated signs, bollards, beacons
- “Invest to Save” SLERP project financed from energy and maintenance cost savings delivered as 2 SLERP schemes
- Delivery:
  - In-house street lighting team
  - External sub-contractors
  - Collaborative regional procurement of LEDs

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Street Lighting Policy

- Updated November 2013 to facilitate the SLERP
- Full public consultation
- Light to the minimum British Standard
- Remove street lights not required where safe to do so
- Dimming
  - 25% between 10 pm and 12 am
  - 50% between 12 am and 5 am

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Scope – Phase 1

	Original	Revised 21.10.15	Completed @ 31.3.19	Outstanding @ 31.3.19
Retrofit street lights with LEDs	41,412	55,000	59,881	0
De-illuminate signs	942	942	1,168	0
Remove street lights	7,000	3,000	2,151	8

- Investment appraisal undertaken on every type of asset
- Only proceeded where invest to save criteria met

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Timetable – Phase 1

- Business case approved by Cabinet 12 December 2012
- Retrofits commenced June 2013
- Street Lighting Policy approved by Cabinet 20 November 2013
- Removals commenced January 2014
- Project completion 31 March 2019

Financial Performance

	Business Case £'000	Actual £'000
Capital Expenditure	22,552	22,532
Gross Revenue Saving Per Annum	2,635	2,871
Capital Repayments Per Annum	1,746	1,567

- Project Internal Rate of Return - Nominal 13.17%
- Net revenue savings being used to meet Medium Term Financial Plan savings required

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Benefits

- Energy reduction 13,808,612 KwH per annum
- Carbon reduction 7,512 tonnes per annum (7% reduction in total Council emissions)
- Better quality white light
- Reduction in light pollution
- Maintenance savings
- Investment in highway infrastructure – reduce lifecycle replacement costs

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Key Issues – Removals (1)

- Only removed street lights that were not required by the Street Lighting Policy where it was safe to do so
- No removals in residential areas, roundabouts, major junctions or where there were proven road safety and crime issues
- Commissioned independent road safety auditors to undertake risk assessments

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Key Issues – Removals (2)

- If risk assessment identified any significant road safety issues that could not be mitigated then did not proceed with removal
- Consultation with local Members and Town/Parish Councils to ensure that risk assessment reflected all relevant factors
- Some removals attracted opposition
- Offered Service Level Agreements to Town/Parish Councils and developers to retain the lights on a fully funded basis

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Key Issues – LED Retrofits (1)

- Large spacings between some columns
- Strived to get as close as reasonably practicable to the British Standard
- Fixed dimming drivers
- Additional weight/ windage of LED lanterns
- LEDs are a significant change from the old lights they replace:
  - White light, better colour rendition
  - Better control, reduce light spillage onto homes and gardens

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Key Issues – LED Retrofits (2)

- Took a few weeks for residents to get used to LEDs and reduction in light spillage
- Generally well received by the public
- Escalation process for complaints:
  - Desktop design checks
  - On site light meter testing

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Before

After

From Above

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SLERP Phase II

- Council declared a climate change emergency on 20 February 2019
- 22,860 street lights are not currently LED
- Not all suitable to retrofit – spacings/ lantern styles
- Invest to Save Business Case developed and approved
- Report to Cabinet 11 December 2019 to commence with SLERP II

Phase 2 - Scope

Apparatus Type	Existing Units	Removals	Retrofit
Non-LED Lights within the Environmental Zone E1	330	0	281
Non-LED Heritage Style Luminaires	737	0	588
Non-LED Subway Units	273	0	214
Non-LED Lights in conjunction with column replacement programme	1,037	0	1,037
Non-LED Standard Style Luminaires	20,180	8	15,208
Non-LED, Non-Standard Style Luminaires	295	0	0
Total	22,852	8	17,328

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Phase 2 - Delivery

- Procurement exercise appointed a “one-stop-shop” luminaire provider
- Highway Services undertaking the design and installation with support from their supply chain of external sub-contractors
- The project delivered over 3 years from 2020/21 to 2022/23

Phase 2 – Projected Outcome

- Reduction in electricity consumption of 54% for the in scope apparatus
- Reduction in carbon emissions of 1,300 tonnes per annum for the in-scope apparatus
- Average Annual Revenue Savings over a 25 year period @ £1.2m

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SLERP II Update

Year	Target Installs	Completed / Projected Installs	Year End Position
2020/2021	4,618	1,986	Under achieved by 2,632
2021/2022	9,207 (6,575 + 2,632 carryover)	7,394	Projected under achievement of 1,813
2022/2023	7,948 (6,135 + 1,813 carryover)	Projected 7,948	Project planned to complete on target
Project Total	17,328	Project Duration 3 Years	Anticipate completing on time

SLERP II Update

- Year 2 cumulative energy savings = 2,554,939 kWh's
- Year 2 cumulative CO2 savings = 584 tonnes
- Year 2 cumulative savings = £337,852
- Year 3 targets ambitious

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Thank you - Any Questions?

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