

Committee(s)	Dated:
Streets & Walkways Sub Committee – For Decision Planning & Transportation Committee – For Information	25 February 2020 6 March 2020
Subject: City Lighting Programme Update	Public
Report of: Director of the Built Environment	For Decision / For Information
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Summary

This report provides Members with an update on the implementation of the City's innovative Lighting Strategy approved by the Court of Common Council in October 2018. The aim of the strategy is to deliver a holistic and co-ordinated approach to lighting the Square Mile, and was initially driven by the project to upgrade our street lighting to energy efficient LED units and to implement a new smart control system.

These interlinked workstreams have been highly successful, creating opportunities to use the technology to deliver wider benefits, in establishing new cross-departmental governance and challenging conventional thinking behind how lighting affects the public realm. Our holistic approach has generated significant interest from a series of high profile external stakeholders such as the Centre for London, Historic England, the London School of Economics and the Greater London Authority, with the City of London now a member of Lighting Urban Community International (LUCI).

Further initiatives planned for the coming year include:

- Completion of the LED upgrade project;
- Trials of Smart sensors using the same mesh technology platform;
- Trials into how dynamic lighting can influence anti-social behaviour and crime & disorder;
- Social & economic studies into people's perceptions of lighting and its impact on the public realm;
- The drafting of Planning guidance to establish best practice for developers in relation to lighting their buildings;
- Ensuring that lighting is seen as a focus for planning the future Culture Mile;
- Working with the Illuminated River to relight Blackfriars Road Bridge;
- Further stakeholder engagement and event planning to promote the City's approach at a London, national & international level.

Recommendation(s)

Members are recommended to:

- Note the progress & next steps towards delivering the Lighting Strategy outlined in this report;
- Agree in principle for the City to host the 2021 LUCI event subject to an appropriate business case.

Main Report

Background

1. At a previous Streets & Walkways Committee, Members asked for an update on street lighting in the context of the on-going rollout of LED lighting, the various initiatives connected to the City's new lighting strategy and a series of informative night walks to illustrate the progress being made in this area.
2. This report provides that general update, including an overview of the various projects and activities planned for 2020/21 to deliver the wider City Lighting Programme. A specific Gateway 6 (project close out) report for the LED upgrade will come to Streets & Walkways Committee and Project Sub Committee later in the year.
3. In terms of background, Members may recall from previous reports that prior to 2017, the City's street lighting inventory was subject to a series of pre-existing issues common to many highway authorities, including a large & aging inventory of equipment, installed over several decades using equipment from numerous different suppliers and costing more each year to maintain.
4. In parallel, energy costs were rising with carbon taxes added to our energy bills by central government, but without significant capital investment, we could not take advantage of the new energy efficient lighting products starting to appear on the market.
5. In building the business case to seek those funds, two key opportunities were identified. Firstly, new technology could allow us to establish a mesh system that would enable dynamic real time control of each individual street light, as well as creating the potential to implement wider smart technology applications in the longer term.
6. Secondly, in the absence of a pre-existing lighting strategy, the investment in new equipment and control systems would enable us to establish the City's very first Lighting Strategy for the public realm, with the fundamental aim of ensuring the right type of lighting would be used in the right place at the right time whilst recognising the wider societal and environmental benefits of efficient and appropriate public realm lighting.
7. Members approved that business case on a spend to save basis, agreeing a £4m investment in new LED lighting technology funded from the On-Street Parking Account, and in parallel, a new Lighting Strategy was also approved after a wide ranging and informative public consultation

Current Position – Lighting Strategy

8. The Strategy focused on three general themes, namely:

- The Functional requirements focusing on public realm look & feel, safety, security & accessibility;
- An Environmental focus covering sustainability, culture & building development;
- The Technical needs ie system management, control & other advances in new technology.

Function

9. Between the Lighting Strategy and LED rollout, the intention was to find a way to rebalance our lighting away from a traffic dominated and overly lit environment, establishing a more human & less traffic dominated scale aligned to our Transport Strategy & Public Realm objectives.

10. With our new ability to set lighting timings (when individual lights come on and off), lighting levels (high to low) and lighting temperature (warm to cold) tailored to every area, street & alleyway in the City, we are now starting to implement that vision.

11. As part of the LED project, we have identified a number of locations where we can explore opportunities to deliver fundamental change to the look & feel of a location. One of those has been Peters Hill between Carter Lane and Queen Victoria St, where we have reduced the scale of the lighting and the overall number of fittings, introducing lighting at ground level in handrails and generally introducing warmer, lower lighting levels. This has served to create a calmer and more welcoming space more in keeping with a key pedestrian route connecting the riverside & Millennium Bridge to St Paul's Cathedral, at the same time as achieving a consistency of approach with the adjacent Illuminated River project.

12. At a governance level, one of the key outcomes of developing the Lighting Strategy was the realisation of the need for a cross-departmental Lighting Board to recognise the wider impacts of lighting, rather than just decisions being left to the technical engineers.

13. As such, a Public Realm Lighting Board now meets quarterly to review issues and opportunities across the board and includes representation from:

- DBE's Transportation & Public Realm team, including street lighting, road safety and public realm remits;
- the City Police, who consider how lighting can assist in addressing anti-social behaviour and crime & disorder;
- Licensing & Environmental Health covering licensing issues, light spillage and statutory nuisance concerns;
- DBE's Planning officers in relation to building development;
- Open Spaces re lighting the Square Mile's garden spaces;
- the City's Energy Management team;

- Community & Children's Services for the City's estates and residential concerns.
14. From this Board, one of the first outcomes has been to instigate a series of trial initiatives to see whether lighting changes can support the efforts of the City Police and Consumer Protection's Licensing Team in dealing with anti-social behaviour and crime & disorder. So far, the results of those trials have been positive, where (as part of a package of measures) bespoke lighting timings have helped address localised issues such as noise associated with late night bars at closing time.
15. Moving forward, we will use the new control system to:
- set individual lighting profiles to mirror the times of nightclubs closing or activity at a transport hub
 - deliver much higher levels of light to help discourage anti-social behaviour in regular hot spot locations
 - provide direct access for the police to trigger much higher levels of street lighting in response to a night-time incident.

Environment & Culture

16. The challenge of moving towards a carbon neutral City will require a response from developers in how they light their buildings, both in terms of architectural external lighting but more fundamentally in terms of their approach to lighting their buildings internally.
17. Flowing from the Lighting Strategy, the City's Planning team will be bringing forward new Planning guidance that looks to set out best practice in this area, challenging new and existing developments to deliver environmentally sustainable building lighting that complements the public realm rather than clashes with it.
18. In terms of the potential for delivering cultural impacts from lighting, not surprisingly the key area going forward will be the Culture Mile quarter, where the ambition of creating a distinct look & feel for that geographical area will include a night time focus embedded in the project from the outset.
19. Some of the temporary Culture Mile installations have already included a lighting element, such as the Beech St art and sound installation in 2018, but as an indication of how light can be used as an artistic and cultural medium, the Illuminated River project to light the Thames bridges and create a new backdrop to the riverside is now the benchmark for London as a whole.
20. Following its launch in June last year, reaction to the Illuminated River has been universally positive, with three of the City's Bridge House Estate's five bridges forming the core of the first phase. City officers worked closely with the Illuminated River Foundation and artist Leo Villareal to ensure the scheme enhanced the bridge structures, was sensitive to the surrounding environment

and was delivered with the most energy efficient lighting equipment possible to deliver a sustainable and popular long-term project.

21. The Illuminated River installation on Southwark, London and Cannon Rail Bridges also formed part of the Lord Mayor's Show celebrations in 2019 as a unique lighting scheme was implemented by lighting designers Speirs & Major to commemorate the Show and honour the incoming Lord Mayor.

Technology

22. The LED upgrade project is currently due to complete on schedule this Spring, with officers within Highways working closely with our highways term contractor (JB Riney) and key suppliers DW Windsor (lighting units) and iTron (control system) to roll this out across the City's footways and alleys. Once complete, every street light in the City will contain an LED fitting connected to the mesh system.
23. As expected, the project has required a considerable degree of work to replace old and worn out brackets and wiring, but with 70% of the work now complete, both energy and maintenance savings are starting to be realised. In particular, the reporting system means we no-longer require 'night scouting' to spot street lights that aren't working, and the energy savings so far achieved have helped offset further significant increases in energy prices that would otherwise have doubled our costs.
24. The mesh control system used to monitor the street lights and change the lighting levels in real time also has the capacity to carry data beyond street lighting. With the system now in place across the Square Mile, officers are looking at proof of concept trials to see whether this technology can also be used to facilitate smart sensors and create a new data platform of benefit to the City's wider transport objectives.

Wider Interest & Opportunities

25. Feedback from City stakeholders to these initiatives has been universally positive, including residents of the Barbican where a series of changes on the highwalk to refresh the night-time look and feel has been welcomed.
26. A somewhat unexpected outcome has been the degree of interest from outside the City regarding this area of work. Not only is the development of the City's mesh control system seen to be highly innovative and cutting edge, but the establishment of a holistic strategy for lighting the Square Mile has been recognised as one of the first of its kind and potentially ground-breaking.
27. Interest in how the City went about building this strategy and the opportunities it creates has been wide ranging, with Cross River Partnership, Historic England and the Greater London Authority recognising and promoting the City's approach as best practice.

28. From this feedback, both the Centre for London and the London School of Economics have expressed interest in working with City officers to better understand how public realm lighting can positively impact the lives of those who live and work in the City, and assess future opportunities around policy, culture and technical advances.

Proposals

29. There has been international interest in the City's approach through the Lighting Urban Community International (LUCI) association, with LUCI asking the City to consider hosting their 2021 conference, provisionally titled 'City under the Microscope'. LUCI is a network of over 70 towns & cities that share information and work together to promote light as a tool for social, cultural and economic development, and with support from Members, hosting their annual event would be a prestigious and high calibre undertaking.

30. It is acknowledged that such an event is likely to require funding of between £50k to £100k for the City to host, but this could potentially be met through the use of sponsors or other funding streams, so it is proposed to build an initial business case first for the consideration of your Chairman & Deputy Chairman before proceeding.

Next Steps

31. There are continuing opportunities for the City Corporation to be seen to lead on this exciting & developing area of work, with the following activities planned for the coming year:

- As part of the move away from a 'one size fits all' approach to lighting our streets, a series of core timing profiles will be developed to better fit the needs of the City's transport hubs, residential areas, night-time economy hotspots and our riverside & open spaces;
- Planning Guidance for the control of lighting within buildings will be brought forward;
- The LED rollout project will be completed, with a Gateway 6 report being brought forward to summarise the project's outcomes;
- More work will be done to better understand the role dynamic lighting can play in creating enjoyable spaces (eg Culture Mile) & in dealing with anti-social behaviour;
- The City's approach will form the basis of studies being undertaken by the London School of Economics (on the social impacts of lighting) and Centre for London (on establishing best practice);

- Smart City sensors will be considered using the opportunity created by the underlying mesh technology;
- The Department of Children & Community Services has suggested including their Youth Parliament in broadening out awareness and involvement of this area of work;
- The Illuminated River project will be extended to include Blackfriars Road Bridge as part of its second phase, and discussions will begin about when Tower Bridge could be similarly relit;
- Sheriff Christopher Hayward has been invited to address the Middle East Smart Landscape Summit, setting out the City's lighting vision;
- Further night walks with Members are planned to help illustrate the achievements so far and the issues and challenges going forward;
- External sponsorship and a potential application for CIL Neighbourhood funding will be considered to help fund a refreshed external lighting scheme for St Paul's Cathedral;
- Officers will build the business case for the City of London to host the LUCI international lighting conference in spring 2021.

Corporate & Strategic Implications

32. The City Lighting Strategy meets a series of key objectives contained within the Corporate Plan. These include:

- We will ensure people are safe & feel safe by tackling anti-social behaviour & protecting our streets & open spaces
- We will ensure people enjoy good health & wellbeing by better service design & delivery
- We will develop & trial smart innovations and improve the experience of moving through our spaces
- We will curate a vibrant, attractive & complementary blend of uses of space
- We will create & transform streets & public spaces for people to admire & enjoy
- We will champion a distinctive & high-quality residential, worker, student & visitor offer
- We will drive down the negative effects of our own activities
- We will provide environmental stewardship in use of resources
- We will influence UK and global policy to protect the environment
- We will maintain our streets & public spaces to high standards

33. In terms of funding, the above actions have largely been delivered within business as usual activities, with the capital investment in the LED upgrade

(funded from the On-Street Parking Account) the only major cost. Through better governance, guidance and policy direction, the intention remains to deliver the ambition of the Lighting Strategy by embedding more efficient, effective and appropriate use of lighting in the next wave of building development and cultural activities, as well as the City's own public realms schemes and maintenance works.

34. Funding for staff costs and consultancy fees may need to be identified from within existing budgets or external sources to help deliver the LUCI event and the Planning guidance respectively, but the overall impact of the reduction in maintenance costs and energy savings is expected to offset the recent increase in energy prices.

Conclusion

35. The City's Lighting Strategy represents a genuinely innovative opportunity to create a joined up and holistic approach to managing the look & feel of the Square Mile at night. The Strategy has created the framework, and the LED project the mechanism, to deliver a step change in approach, with benefits in terms of sustainability, cultural opportunity and public realm safety.
36. The recognition of the work done so far suggests the City Corporation is leading the way in this field, and that the lessons to learn from our approach can be used to inform the development of policies and best practice across London & beyond.

Appendices

Appendix 1 – Lighting Programme & Milestones

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