

# Derby After Dark/ A Lighting Strategy for Derby City Centre/

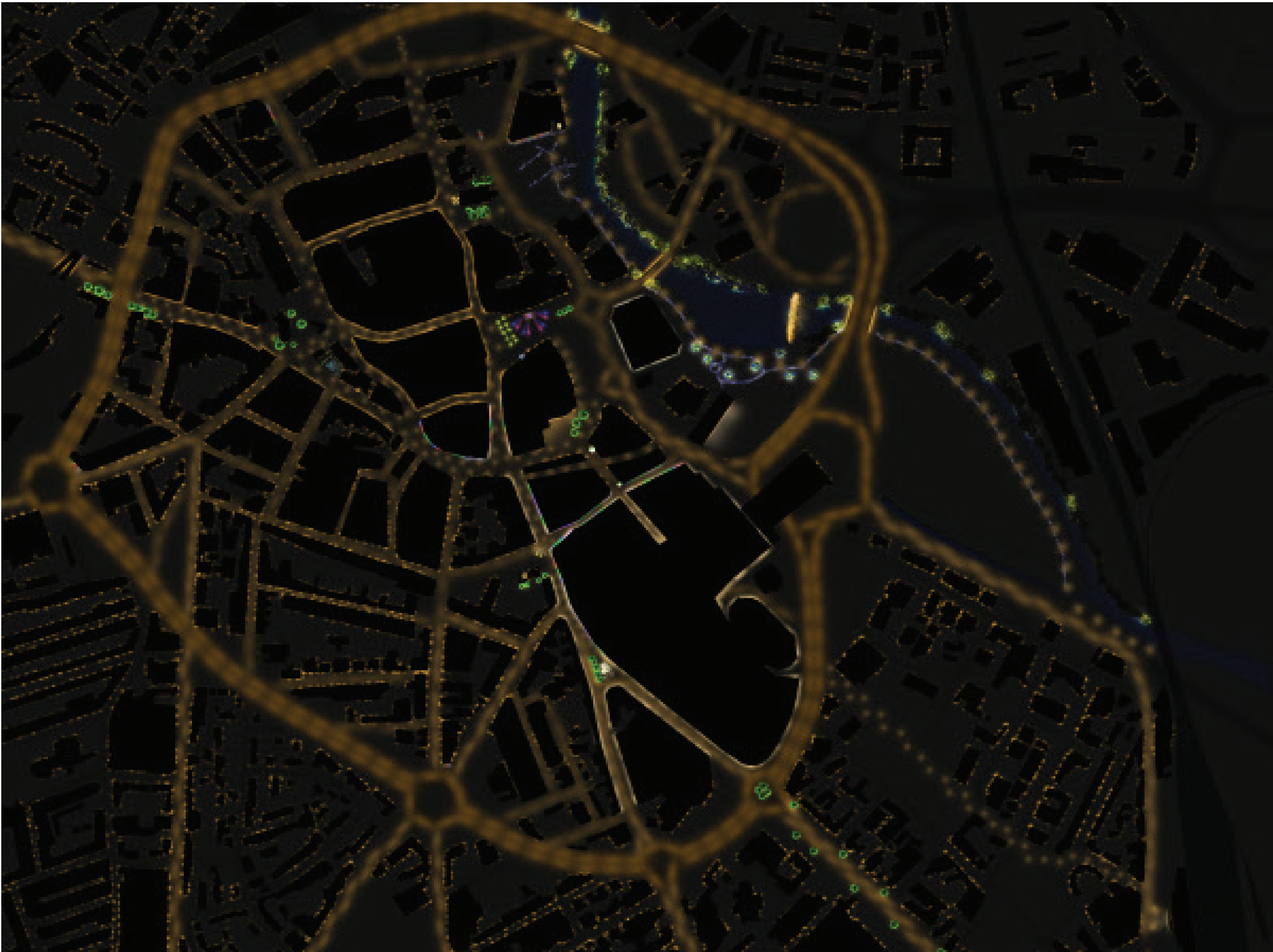
**The key objectives for this strategy are to:**    **What is Derby after Dark?**

- 1. Create a positive and safe image for the city centre after dark and attract people to the areas of evening and night time cultural and social activities.
- 2. Redistribute excessive street lighting to architectural and landscape features to create good ambience.
- 3. Reduce energy consumption by using appropriate technology whilst making sure the city remains safe after dark
- 4. Draw upon and promote Derby’s reputation as a city of innovation - use lighting technology to save energy, protect ecology and support a sense of community.
- 5. Support connectivity to outer areas of the city.

Along with the strategy and an associated action plan, three pilot projects are being designed:

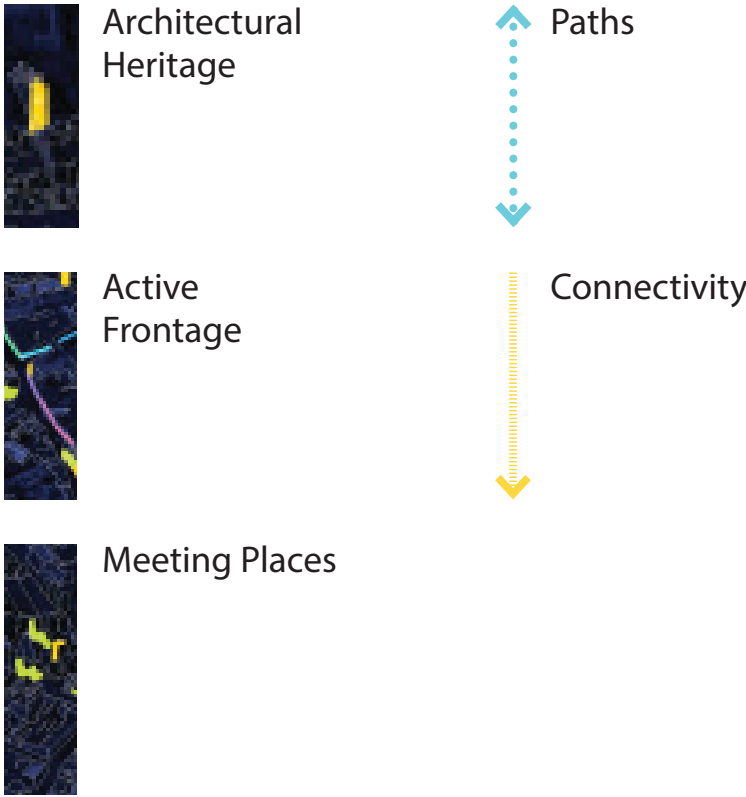
- 1. St Peter’s Street
- 2. Riverside
- 3. The Strand - Wardwick - Museum Square

- Proposal to create an attractive skyline and aid orientation after dark by lighting a number of buildings, landmarks, meeting places and the paths connecting them.
- Four character areas - Cathedral Quarter, Riverside, St Peters Quarter + Westfield and Residential areas.
- Primary evening and night-time paths have been identified for consistent and characteristic lighting making them feel safer and attractive.
- A series of lit building frontages to help draw people through to key destinations and reveal the heritage of the city.
- Lighting of meeting places to form the focus of social and cultural activities.
- Guidelines for shop frontages to enhance the retail offer.
- Recommendations for activating ‘dead’, currently empty frontages through light.
- Unifying the city streetscape through employing a consistent light, and extending this along key routes out of the city centre.
- Lighting streets to specific brightness levels to ensure that they are in line with the latest British Standards and are balanced with each other so that no one street appears too bright or too dark compared to those around it.
- Preserving areas along the river with low but safe level of illumination to help protect ecology and allow natural light to be enjoyed.

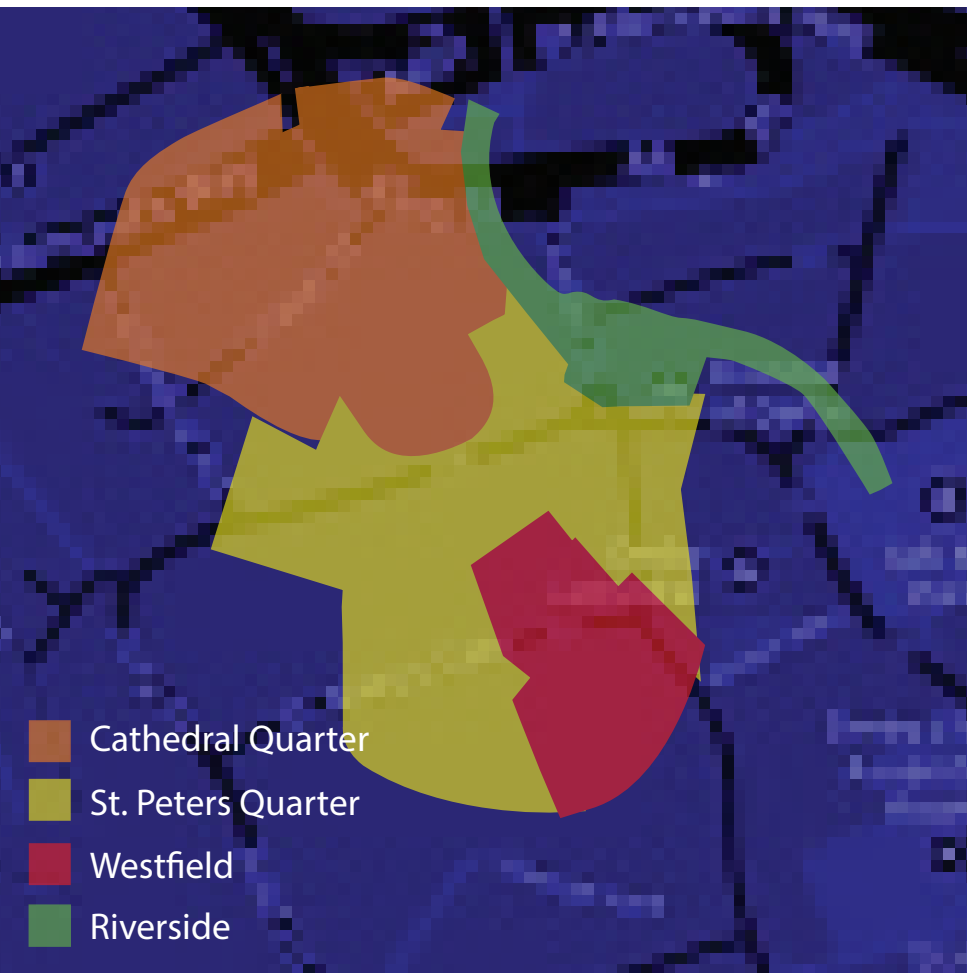




# Strategy/



- Landmarks**
- 01 St. Mary's Church + St. Alkmund's Bridge
  - 02 Silk Mill
  - 03 Cathedral
  - 04 Friar Gate Bridge
  - 05 Corner Pub
  - 06 Exeter Bridge
  - 07 Council House Portico
  - 08 Guildhall
  - 09 The Strand
  - 10 Library
  - 11 Corn Market
  - 12 Market Hall
  - 13 Corner Pub
  - 14 Exchange Street Corners
  - 15 Old Boots Building
  - 16 St. Peter's Church
  - 17 New Life Christian Centre
  - 18 Holy Trinity
  - 19 Rail Station
  - 20 Central Mosque
- Nodes**
- 20: Museum Square
  - 21: River Gardens
  - 22: The Spot
  - 23: Market Place
  - 24: St. Peter's Cross



### Paths

A series of primary evening and night-time paths have been identified in collaboration with DCC and LSE Cities' research group 'Configuring Light'. These paths relate to a variety of user types and take in Derby's important evening and night-time economic and cultural activity areas, plus key architectural heritage and landscape features.

- a high quality of light is applied consistently along each path.
- the relative brightness of streets is balanced city-wide to make sure one street does not feel overly bright or overly dark compared to another.
- paths are punctuated with illuminated heritage features, retail frontages and meeting places
- views towards illuminated destinations are promoted to make them easily identifiable from afar and to encourage movement towards them.

### Architectural Heritage

A series of key heritage landmarks should be illuminated to:

- reveal the heritage of the city.
- create an attractively lit skyline.
- help draw people through to key evening destinations.

### Active Frontages

Guidelines will be prepared for the illumination of retail frontages to help:

- create a more vibrant experience at street level.
- promote movement towards key nodes.
- allow the intensity of streetlighting to be minimised whilst making sure streets still feel well lit.
- improve perceptions of natural surveillance.

### Meeting Places

A series of evening and night-time nodes should be created, with distinctive lighting for each. These could include:

- The Spot
- The Quad
- Museum Square
- River Gardens
- St. Peter's Cross

### Connectivity

Light can be used to help connect the city centre with residential and outer city areas. The strategy proposes to support connectivity through:

- highlighting selected landmarks and avenues of trees to aid orientation and reinforce a sense of place just outside the inner ring road.
- extending a consistently high quality of streetlight - warm white with good colour rendering - to residential areas and along primary routes out of the city to soften the perceived edge between the city centre and outer city areas.



Proposals for buildings and landscaped spaces to have special lighting schemes



# Riverside/

During the daytime the riverside contributes an important natural character to the city, but after sunset it is unwelcoming with ill-defined character, unsatisfactory levels of perceived safety and security and poor legibility. This is partly due to a lack of balance between lit and unlit areas, as well as the presence of glare and a lack of illumination to vertical features. A lack of visible activity resulting from under-use amplifies perceptions of poor natural surveillance and unwelcoming character.

The Action Plan could include the following measures to improve the legibility of the riverside:

- Apply a consistent quality of white light with good colour rendering along the riverside pedestrian path.
- Use reflective gravel to help unify the full length of the path and make it naturally luminous.
- Light selected features, such as trees and bridges, to improve perceptions of brightness and to make destinations and junctions along the route visible from afar.
- Softly illuminate selected landmarks visible on the skyline, such as The Cathedral and The Silk Mill, to aid orientation.
- Ensure that views towards landmarks and destinations are clearly identifiable by avoiding glary light sources that block views.
- Encourage active frontages along the waterfront with localised, low level lighting to improve natural surveillance and make the riverside feel more active.
- Recommend a trail of light artworks/ installations as part of festivals to help establish the riverside as a usable public space after dark.
- Softly illuminate selected natural assets like the east bank trees and the weir to improve the character and perceived brightness of the route.
- Utilise very warm qualities of light to create a distinctive ambience.

In some areas the natural character of the riverside is dominated by tall bright streetlights visible in the distance and bright lighting visible in open deck, glary car-parks. The riverside is also used by bats and so the lighting should be adjusted to mitigate negative impacts on their ability to nest and forage.

The Action Plan could include the following measures to help mitigate environmental impacts:

- Utilise warm qualities of light with low blue content to mitigate impacts on bats and allow lighting to be controlled according to their foraging cycles.
- Avoid glary light sources through employing anti-glare accessories and dimmable light fittings and through careful design and integration of lighting equipment.
- Provide guidelines for the scale and intensity of light on surrounding highways to reduce their visibility from the riverside.
- Provide guidelines for the intensity of light within car-parks, which could include recommendations for the shielding of light sources, the darkening of ceiling finishes and the control of light intensity according to patterns of use.



Soft lighting of east bank trees will define the line of the river and promote movement along it



Preserved darkness will promote connections to nature, help protect bats and provide contrast against which lit nodes and landmarks can be easily seen



A programme of festivals and events will attract visitors and encourage public engagement with the riverside as a public space after dark



Festive landscape lighting will animate River Gardens



Uplighting trees at nodes will signify crossing points from afar



Sketch view towards Exter Bridge



# Cathedral Quarter/

The Cathedral Quarter is currently the most active quarter after dark, but its night-time legibility, image and ambience fall short in some areas. Some historic buildings are lit at night but they could be done so in a more sensitive and environmentally friendly manner. There are missed opportunities for lighting to other exceptional historic buildings and features that would help to improve the image of the city, aid way-finding around it and create a stronger sense of place.

The Action Plan could include the following measures to help improve the image and identity of the quarter after dark:

- Light selected landmarks, which could include The Strand, The Cathedral, The Silk Mill, Friar Gate Bridge, Guildhall, the portico of the Council House, the entrance to Corn Market, the spire of the Library and frontages of selected pubs on corners to aid way-finding and improve the image of the quarter after dark.
- Create distinctive ambiances with special lighting schemes in public meeting places after dark, which could include The Quad, Museum Square, Friar Gate and hidden yards off Sadler Gate.

The character of the historic quarter is compromised in some areas due to various reasons including: poor distribution of light – in some cases too even and bland and in others too high-contrast; lack of light to vertical surfaces and dead retail frontages; the use of light sources that create a dim and monochromatic lit appearance; over-illumination and overly bright and coloured lighting to building frontages which dominate the visual scene; inappropriate scale of streetlights.

The Action Plan could include the following measures to help improve the quarter’s character:

- Balance the brightness of light on different streets so that any one street does not feel too dark compared to the others.
- Establish a hierarchy of streetlight heights and styles that relates to the different widths and architectural styles of the street.
- Provide guidelines for retail and commercial frontages, which could include recommendations for spotlight window displays and lit hanging signs as well as advice on the brightness of signage and the use of colour.
- Upgrade older streetlighting sources to newer technologies that reveal colours and textures more accurately.
- Use warm white light only to reinforce the historic character of the streetscape.



New evening meeting place at Museum Square



Lit hanging signs and shop windows alongside pedestrian scale streetlighting on Sadler Gate



Lit trees along Friar Gate with lit bridge in distance



Pedestrian scale streetlighting will reflect the historic character of the streets, whilst selected lit landmarks will help attract people towards key destinations



Lit architectural heritage assets and improved light quality along The Strand



Creating a sense of discovery in 'hidden yards' with lighting supporting an 'outdoor living room' ambience



Landscape and architectural lighting will help to draw people along primary paths to destinations



# St. Peters Quarter + Westfield/

Despite boasting a variety of beautiful heritage buildings and details, St. Peters Quarter and Westfield are somewhat dominated by brightly illuminated paving, inactive retail frontages and a handful of lit commercial premises that in some cases compromise the image, memory and ambience of the quarters.

Light is very brightly and evenly focused onto the pavement/road, with spill onto building frontages. This makes the ambience somewhat bland by creating a 'flood-lit' quality with little variation and is environmentally unsustainable. Lighting of vertical surfaces, such as trees, buildings and shop frontages, would help to make spaces feel brighter, help people find their way and improve the character of streets and spaces by revealing the colours, forms and textures the city. Light distribution onto vertical surfaces in St. Peters and Westfield is currently slightly haphazard and in others non-existent.

The Action Plan could include the following measures to help improve light distribution on streets and buildings:

- Reduce light levels on the ground plane in line with current best practice.
- Apply lighting to selected building frontages instead to reveal the heritage features of the quarters.
- Reduce streetlight heights to focus light where it is needed at human scale.

Once the shops have closed the quarters feel a little dead after dark. This is exacerbated by the fact that the streets are amongst the most brightly lit in the city despite the lack of visible activity within them. This reduces perceptions of security, creates a division in the city after dark and discourages movement towards the areas that are still open after dark.

The Action Plan could include the following measures to help make the quarter feel more active and vibrant after dark:

- Provide guidelines for the lighting of shop fronts with a view to creating a more vibrant ambience at street level, which could include spot-lit shop window displays and illuminated artworks painted on shutters.
- Establish two new after-dark meeting places that host events and that are each lit with a distinctive ambience – The Spot and St. Peter's Cross.



Spotlit statues of old Boots building - revealing and highlighting architectural heritage features after dark



Reduced scale and intensity of streetlighting provides a better backdrop for lit features and localised lighting



Lit artworks on retail shutters activate 'dead' frontages after dark to improve perceptions of brightness, enhance character and encourage movement towards areas of economic and social activity



Lighting to St. Peter's Church and churchyard alongside a permanent events infrastructure creates a new evening and night-time node at St. Peter's Cross



# Technical Streetlighting Guidelines/

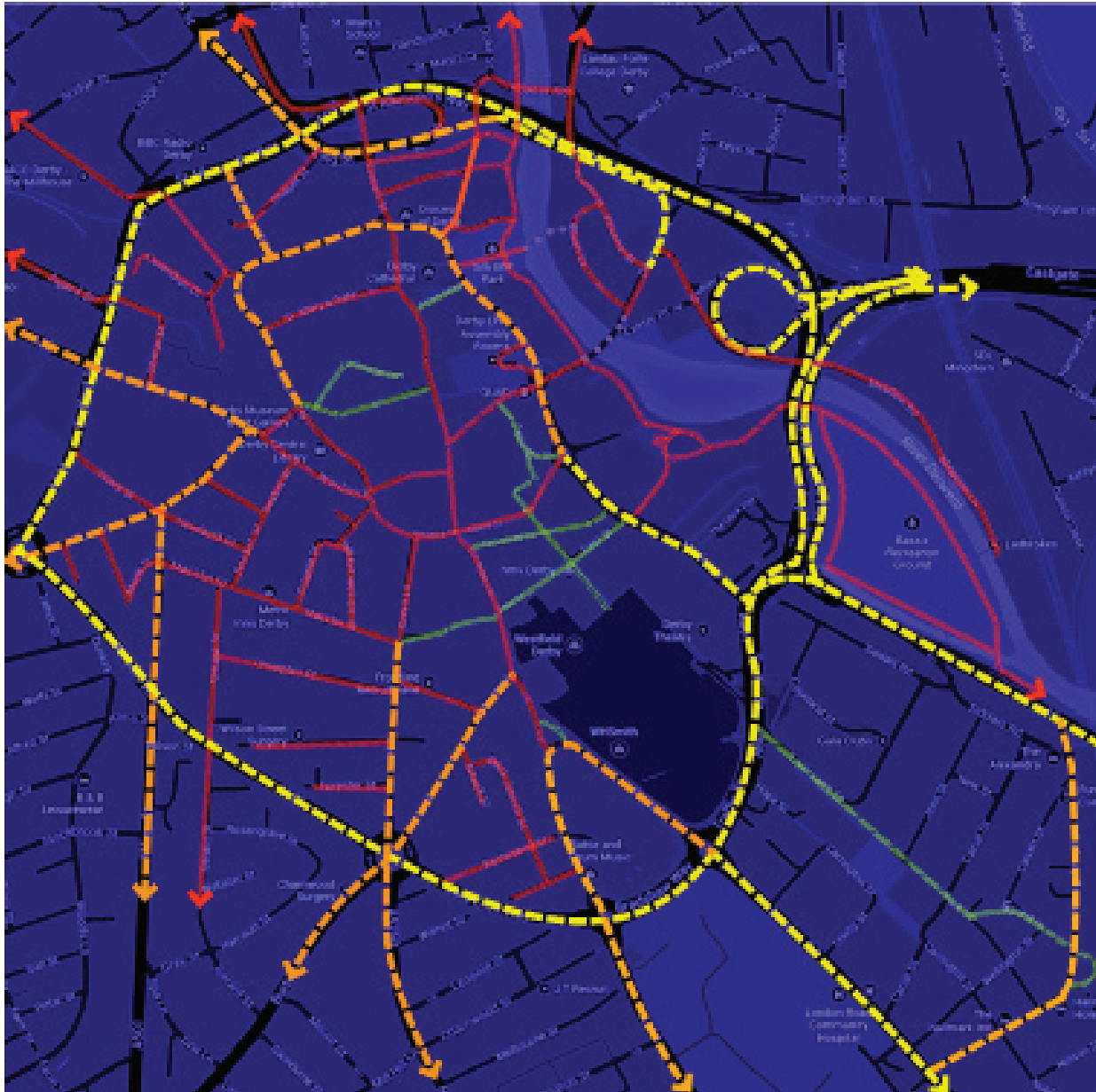
Hierarchies of streetlighting intensities, light source types, mounting heights and mounting styles are proposed to help achieve the following aims:

1. Ensure that the relative brightness of streets is balanced across the city so that any one street does not appear too bright or too dark.
2. Balance the intensity of streetlighting with surrounding lit landmarks and landscape features to make sure that they work together to create a well-lit space, rather than competing with each other and making a space over-lit.
3. Extend a consistent quality of light into residential areas in the city centre and along key routes out of the city to help smooth the transitions between them and ensure that perceptions of security are maintained.
4. Help save energy where and when possible whilst making sure that safety and security are not compromised.
5. Make sure that the scale of streetlighting is appropriate to the scale of the street and that light spill and light trespass are minimised.
6. Provide a style of streetlight that compliments the style and age of the street and its uses.
7. Ensure that a warm quality of streetlighting is provided throughout the city to help unify it and to mitigate potential aesthetic and physiological impacts associated with cold/ bluish streetlighting sources.



Source

- Cosmopolis metal halide, 2800K, Ra60+
- LED, 3000K, Ra80+



Mounting Height

- 10m
- 8m
- 6m
- 4-5m
- ... <1.2m



Standards + Control

- ME3:  $L_{min}$  1cd/m<sup>2</sup>  $U_o$  0.4
- ME4:  $L_{min}$  0.75cd/m<sup>2</sup>  $U_o$  0.4
- CE3:  $E_{ave}$  15lux  $U_o$  0.4
- CE4:  $E_{ave}$  10lux  $U_o$  0.4
- P1:  $E_{ave}$  12.3lux  $E_{min}$  2.5lux
- ... P2:  $E_{ave}$  8.6lux  $E_{min}$  1.7lux
- P3:  $E_{ave}$  6.3lux  $E_{min}$  1.3lux
- ... P4:  $E_{ave}$  4lux  $E_{min}$  0.8lux
- Routes prioritised for dimming



Mounting Type

- Roadway column
- Multi-head post (to facilitate tree/events lighting)
- Pedestrian post-top
- Wall
- ... Balustrade/Landscape integrated