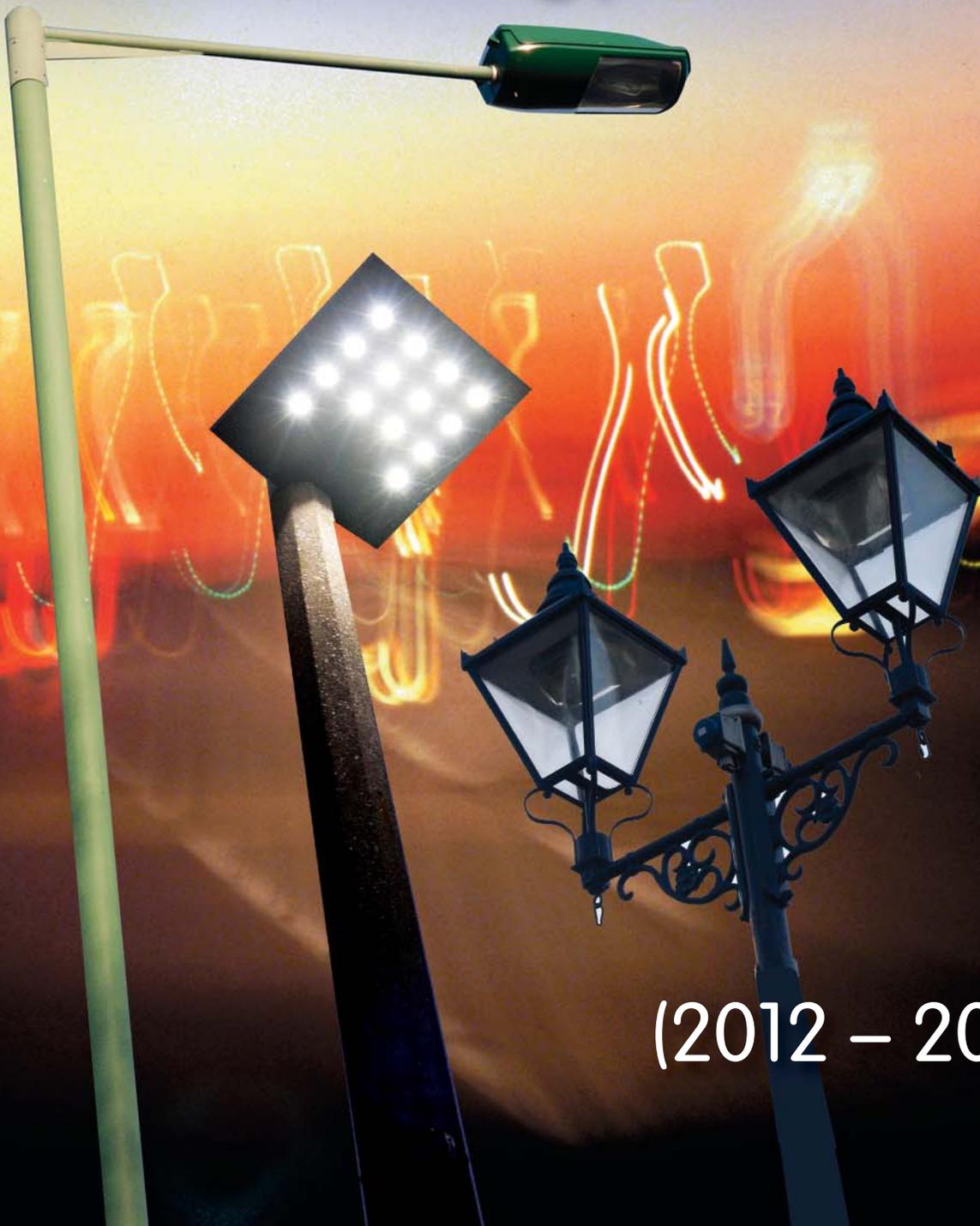




**Solihull**  
METROPOLITAN  
BOROUGH COUNCIL

# Street Lighting

## - A Strategy for Solihull



(2012 – 2022)



# Contents

	<i>Page</i>
<b>Foreword</b>	<b>3</b>
<b>1 Introduction</b>	<b>4</b>
<b>2 Vision</b>	<b>5</b>
<b>3 Developing the Strategy</b>	<b>6</b>
3.1 Background	6
3.2 Drivers for Change	7
3.3 Council Policy Context	8
<b>4. The Strategy</b>	<b>10</b>
4.1 Energy Usage and Carbon Emissions	10
4.2 Illuminated Traffic Signs and Bollards	11
4.3 New Developments	12
4.4 Street Lighting Design	15
4.5 Equipment Specification	16
4.6 Maintenance and Asset Management	17
4.7 Working with Customers and Partner Organisations	18
4.8 Procurement and Delivery	20
<b>5. The Next Steps</b>	<b>21</b>
<b>6. Conclusion</b>	<b>22</b>
<b>The Street Lighting Action Plan</b>	<b>23</b>

# Foreword

## A message from Solihull's Transport and Highways Cabinet Member Councillor Ted Richards OBE



*Councillor Ted Richards*

I am pleased to present this strategy document which covers all aspects of street lighting in Solihull. Street lighting is an important element of the transport and highways service because of the benefits it can bring to the travelling public and residents.

Currently street lighting is a major consumer of energy and through this strategy I am committed to reducing the amount used in street lighting and will pursue all possible ways to do this. I am equally committed to reducing the carbon footprint of this part of our service.

With more and more pressures facing the Council's resources in today's economic climate, it is important also that we find ways of saving money. Developments in street lighting technology in recent years offer opportunities to do this whilst at the same time reducing any adverse impacts of street lighting on the environment.

For these reasons, I commissioned a review of our street lighting policies and practice in 2012. The results of this review are embodied in this new Street Lighting Strategy for the Borough to take the service through the next ten years, and in the associated plans to bring improvements and modernise the way the boroughs streets and other public spaces are lit. To bring these plans to fruition I am looking for the support of the community and any change to street light regimes will only be enacted following appropriate consultation with the emergency services and representatives of the local community.

# 1. Introduction

Street lighting forms a highly visible and vital part of the streetscape. Lighting is provided to enable safe use of the highway for road users and pedestrians and also helps to promote strong and safe communities.

Lighting can also be a key element in successful regeneration projects and can provide an area with a strong visual identity.

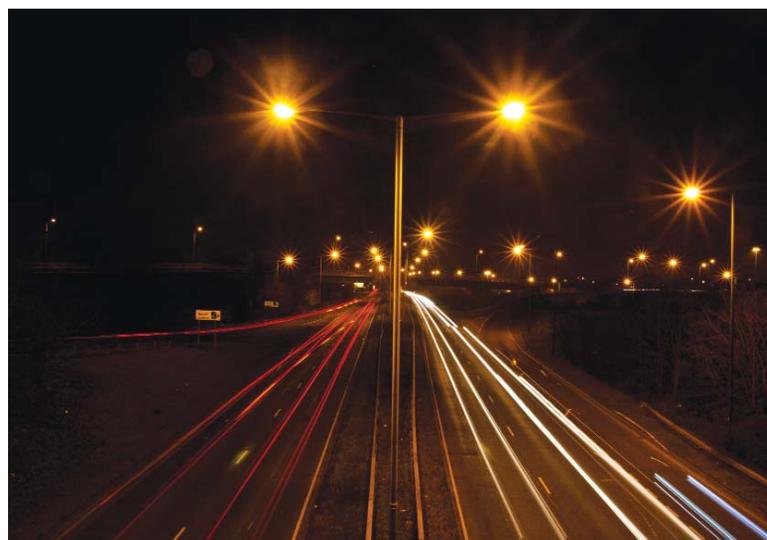
However, street lighting also consumes a great deal of energy and therefore contributes to carbon emissions. Street lighting is also a contributor to light pollution.

As a Lighting Authority, Solihull Metropolitan Borough Council is charged with the management and provision of street lighting and other illuminated street furniture within the Borough. This involves fulfilling a number of statutory obligations and making judgements and decisions about how to maintain existing lighting as well as when, where and how to provide new lighting.

This new Street Lighting Strategy for the Borough provides a framework which will assist in the decision making process. It aims to strike a balance between the need to reduce the environmental impact of street lighting and the need to provide lighting for the safe use of the highway and for the community in general. The Strategy will set the direction for the service over the next ten years until 2022, in order to ensure the best possible street lighting service for the residents and travelling public within Solihull.

The Strategy builds on the work carried out in improving the service since the last major Street Lighting Review undertaken in 1998. It has been developed following a comprehensive review of the service and takes account of the experience gained through piloting new street lighting technologies. It sets out the vision for the service for the next ten years and the Council's strategic aims and key policies in delivering that vision. Accompanying the Strategy is a comprehensive Action Plan to ensure delivery of these aims.

Within this Strategy the term street lighting encompasses lighting and all other items of illuminated street furniture (such as lit bollards and lit signs) provided on the public highway and within other open space areas owned or managed by the Council.



## 2. Vision

The aims and aspirations of the Council with respect to the management of street lighting in Solihull are embodied in the following vision statement.

***In providing its street lighting service the Council will aim to harness the benefits offered by street lighting in an efficient, cost effective way, whilst minimising any adverse impact on the built and natural environment.***

In delivering this vision for the Street Lighting Service the Council will:

- Aim to act in the best interests of the customer and authority at all times
- Have consideration for the natural and built environments
- Continually seek to improve energy efficiency and reduce carbon emissions
- Give full consideration to the impact of its actions on safety and street lighting related crime
- Strive to reduce the cost of the service to the Council and residents of Solihull whilst still maintaining an effective and efficient service
- Wherever practicable, adopt best practice in the equipment, design and maintenance of the street lighting asset including where appropriate the use of emerging and innovative technologies.

These guiding principles underpin the strategy and how the service will be delivered through a number of key aims and policies which cover the eight service areas of:

- Energy use and carbon emissions
- Illuminated traffic signs and bollards
- New developments
- Street lighting design
- Equipment specification
- Maintenance and asset management
- Working with customers and partner organisations
- Procurement and delivery

# 3. Developing the Strategy

## 3.1 Background

Within the Borough of Solihull, there are currently 23,501 street lighting units in operation. Whilst provided principally on Solihull's road network, units can also be found within pedestrianised areas of the town and local centres and on many footpaths, cycle ways and walkways. In addition to the 23,501 street lighting units, 2,595 road signs and 1,727 bollards are currently illuminated on the Boroughs road network. The street lighting service also maintains lighting units within parks and car parks on behalf of other Council departments.

It is widely acknowledged that street lighting that is modern, well designed, installed and maintained can provide a number of benefits to the community. Such benefits include:

- The potential to prevent night-time personal injury collisions
- The potential to prevent street crime and to reduce the fear of crime
- Promoting sustainable transport, public transport, cycling and walking
- Facilitating social inclusion by providing the freedom to use streets after dark
- Promoting economic development by supporting a 24-hour leisure economy
- Assisting with 24-hour use of the existing road infrastructure, night time distribution and travel
- Facilitating lifelong learning by encouraging after dark access to educational facilities
- Assisting the emergency services to identify locations and carry out their duties
- Allowing the effective use of CCTV systems at night

The provision of an effective street lighting service is therefore a key area of work for the Council.

In June 1998 a Borough wide review of street lighting was undertaken which focussed on the four key areas of safety, environment, energy conservation and cost effectiveness. The review gave rise to a number of initiatives aimed at improving this important Council service. These included:

- Production of a complete inventory of street lighting equipment and procedures for updating and holding the data on a Geographical Information System
- Introducing a system of continuous updating of the inventory
- A pilot scheme of low wattage SON lamps undertaken during 1998/1999
- Introducing a programme of assessment and replacement of 'life expired' steel and concrete lighting columns

This work has secured lasting improvements to the way the service is managed and delivered. However since this 1998 review, both technology and the economic and social climate in which the industry is operating has undergone significant change. There is more for the Council to do.

## 3.2 Drivers for change

Street Lighting is high on the agenda of many local authorities as a potential area for change. The main drivers for this change are:

- **Energy saving** – Amidst growing concerns about the effect of CO2 emissions on the environment, a number of key reports have been produced since the mid-1990s that have led to carbon emission reductions being imposed on the UK with the government currently working towards targets of a 34% reduction by 2020 and of 80% by 2050.
- **Environmental awareness** – Today there is an even greater awareness of the intrusive effect badly designed street lighting can have on the natural environment. Apart from The Netherlands, the night sky over Britain is more brightly lit than in any other country in Europe.
- **Economic and financial pressures** – Predicting energy costs is consistently problematic as fluctuations can occur due to global factors such as extreme weather or international contents, for example. The Council is continually exploring more efficient ways of working in response to the current economic pressures and within the Council's current Medium Term Financial Strategy there is an expectation that efficiency and cost savings can be made from reviewing its approach to the provision, operation and maintenance of street lighting. There is an opportunity through the implementation of this Street Lighting Strategy to save costs as well as energy.
- **Changes in technology** – There are consistently high levels of investment in research and development in the street lighting industry. Emerging technology, including LED lighting, is attempting to reduce energy consumption and improve lighting output and colour. It is important that Solihull Council continues to be part of these technological advances whilst still providing efficiency and value for money. In addition to these general considerations, there is a particular problem within the Borough due to recent changes in EU legislation. After 2015 the Council will no longer be able to purchase Mercury Blended Filament Unit (MBFU) lamps, which are used in over 5,000 street lights across the Borough. This has resulted in a need to replace the lanterns in which these light sources are used.



### 3.3 Council policy context

This Strategy has been developed to realise the Council's vision for the Borough and to support the aims and objectives of other Council strategies and initiatives:

- **Council priorities**

The Council's vision for the Borough, as set out in the recently published 'Council Plan 2012-2015' is as follows.

***'Solihull in 2018: where everyone has an equal chance to be healthier, happier, safer and prosperous'***

The Plan sets out the Council's 'Top 5' step change priorities, namely



The strategy for street lighting is expected to make a major contribution to the Council priority of 'going lean' in terms of improving the overall effectiveness and value for money of the service. Solihull Council is also a key member of the Solihull Partnership which shares the vision for borough and has set itself 11 key priorities. The improvements brought about by implementing this Street Lighting Strategy will contribute to two of these priorities, namely economic growth and reducing fear of crime and anti-social behaviour.

## • LTP Priorities for West Midlands

The West Midlands Local Transport Plan 2011 - 2026 (LTP) is a statutory document which looks at the transport needs of the Metropolitan Area and sets out a way forward to deliver those needs through short, medium and long term transport solutions.

For the period 2011-2026, five transport strategy objectives have been set.

- **Economy** – to underpin private sector led growth and economic regeneration in the Metropolitan Area, including support for housing development and population growth, increased employment and low carbon technologies
- **Climate change** – to contribute towards tackling climate change through achieving a reduction in the emission of greenhouse gas emissions and ensure the resilience of the transport system to any changes to the Metropolitan Area's climate
- **Health, personal security and safety** – to improve the health, personal security and safety of people travelling in the Metropolitan Area
- **Equality of opportunity** – to tackle deprivation and worklessness, so enhancing equality of opportunity and social inclusion, by improved access to services and other desired destinations within and adjacent to the Metropolitan Area
- **Quality of life and local environment** – to enhance wellbeing and the quality of life for people in the Metropolitan Area and the quality of the local environment

It is clear that street lighting has an important role to play in the delivery of these objectives.

# 4. The Strategy

In producing this strategy document it has not been the intention to repeat all the current policies, practices and procedures which form the framework for the current street lighting service. Much of what the service does currently reflects good practice and the service has a good reputation. Rather the approach taken has been to focus on those areas where the recent review has identified changes and/or improvements which would bring increased benefits, efficiency and value for money to the service. On this basis, set out below are the eight strategic aims and a number of associated key policies through which the Strategy will be implemented.

## 4.1 Energy Usage and Carbon Emissions

In response to the issue of carbon management, Solihull Council has acted through:

- The signing of the Nottingham Declaration on Climate Change
- The development of a climate change strategy
- The production of a range of other policies and strategies including the 'Buildings and Schools Energy Policy', Home Energy Efficiency and Affordable Warmth Strategy and the Green Travel Plan.
- Participation in Phase 6 of the Local Authority Carbon Management Programme.
- Carbon Management has been accepted as a Shaping Solihull Transformational Project, with an aspirational target to reduce carbon emissions by 33% on a 2008/09 base year by the end of 2013/14.

Until the energy generation mix changes, energy reduction is the same as carbon reduction. In 2012 street lighting accounted for 27% of all of Solihull's carbon emissions or the equivalent of a Carbon Reduction Commitment charge of £79,248 per annum.

### **Aim**

***To minimise future energy usage and carbon emissions from street lighting through the implementation of economically viable programmes of work to achieve energy savings and by ensuring that new street lighting is provided only where necessary.***

### **Key policies**

To minimise future energy usage and carbon emissions Solihull Council will:

- Seek to use constant and design dimming for new schemes to ensure that roads/areas are not over lit;
- Consider where part night switching would be suitable within the Borough and to determine the likely levels of savings involved;

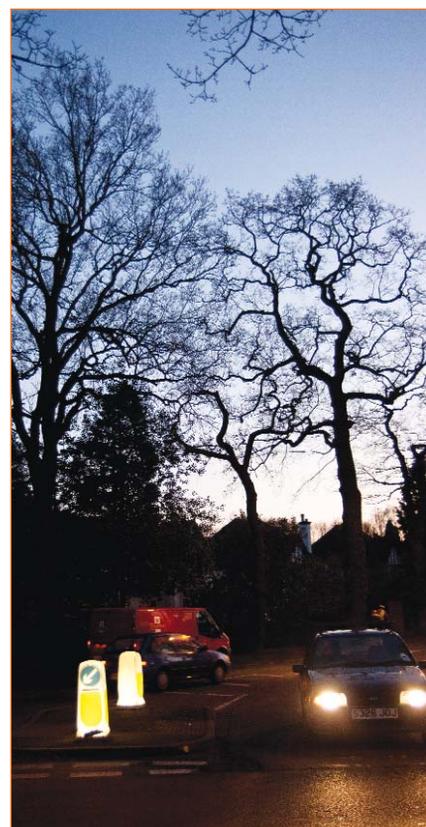
- Ensure that white light is adopted as standard in town centres and areas of high pedestrian activity;
- Ensure that the impact on known personal injury collision 'hotspot' locations be carefully considered should the Borough change its lighting regime, for example the adoption of dimming or switching off protocols.

In terms of only lighting where necessary, Solihull Council will:

- Adopt a general presumption that new street lighting will not normally be provided in areas considered rural in nature;
- Adopt the concept of environmental zones as set out in the Institution of Lighting Engineers advice 'Guidance Notes for the Reduction of Obtrusive Light' and use this when assessing requirements for new and existing lighting installations.

## 4.2 Illuminated Traffic Signs and Bollards

There are currently 2,595 road signs and 1,727 bollards illuminated on the Boroughs road network, a number of which remain on 24 hours a day. Reducing the number of illuminated signs and bollards on the highway network can have a positive impact on street clutter and can have cost benefits in terms of reduced energy consumption (thus reducing CO2), lower traffic sign/bollard installation costs, lower maintenance costs and would also produce less light pollution. By looking at the use of signs and bollards, it may also be possible to reduce the time taken to implement traffic management schemes which involve illuminated street furniture. In addition, maintenance of lamps and lanterns in locations within close proximity to live traffic could be significantly reduced. However, this needs to be balanced against any genuine benefit in terms of road safety from the direct illumination of signs and bollards.



### **Aim**

***To ensure that illuminated signs and bollards are used only where essential for the purposes of road safety and minimising congestion***

### **Key policies**

Solihull Council will:

- Undertake an audit of existing traffic signs and remove any unnecessary sign lighting;
- Seek to use LED or other low voltage/energy lighting, solar powered lighting or using electroluminescent items;
- Before installing new traffic signs and bollards, undertake a risk assessment, to include assurance of appropriate arrangements for maintenance and benefits will be weighed up against whole life cost to ensure best value.

## **4.3 New Developments**

The population of Solihull is expected to increase by 20,000 persons between 2011 and 2028 with an expected increase in housing stock of 14,000 units. Such development will result in future energy and maintenance costs for such lighting installations being passed on to the Local Authority through the highway adoption process.

Whilst the need for lighting in urban areas is understandable and accepted, lighting may not be desirable in remote rural locations, particularly where it has not been provided due to local communities need or request but instead installed purely as part of a developers desire to make their development 'special'.

### **Aim**

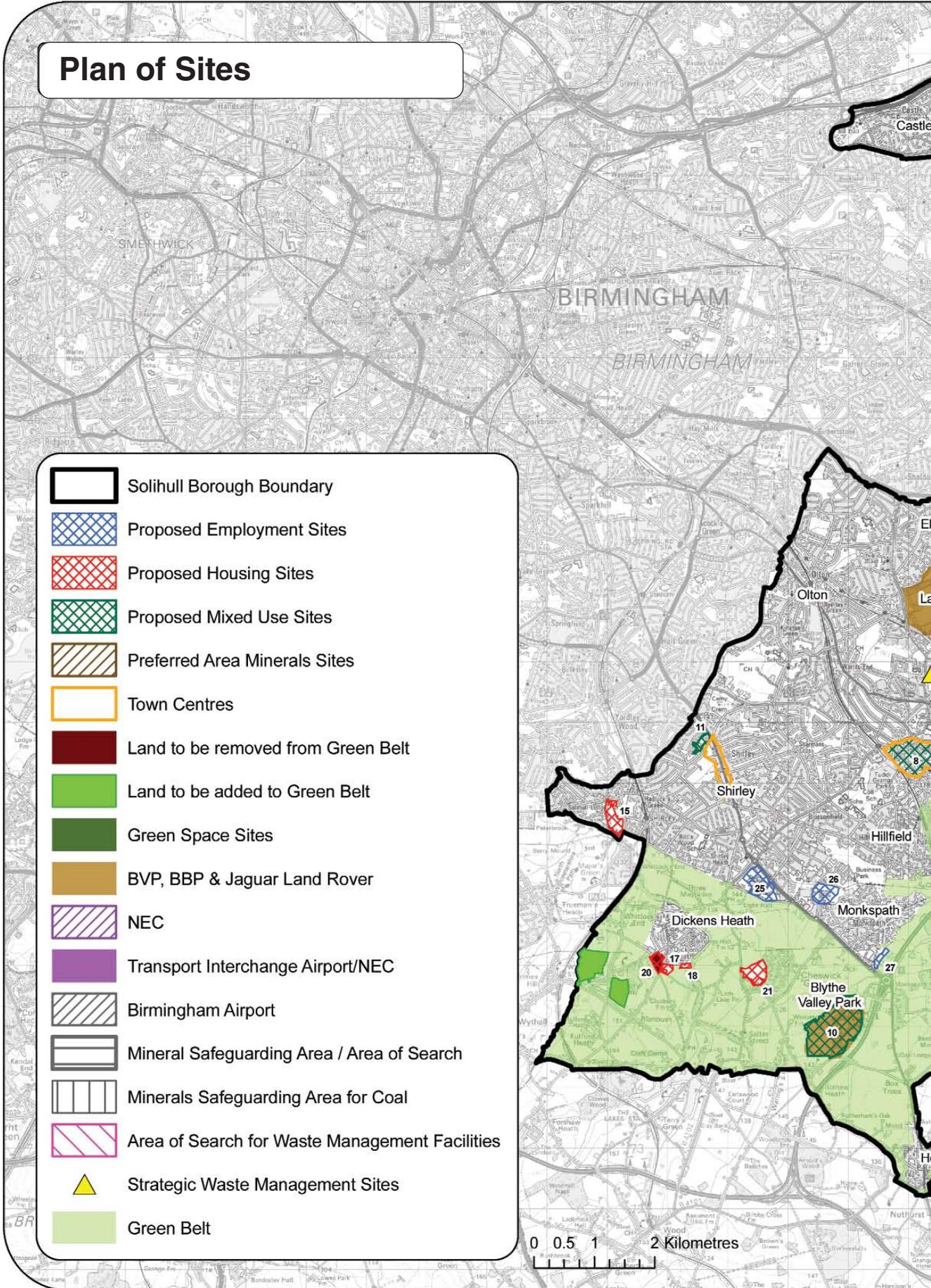
***To ensure that new developments do not place an unnecessary burden on the Street Lighting service by the implementation of appropriate and up to date control processes.***

### **Key policies**

With regard to new developments, processes will be drawn up to ensure that:

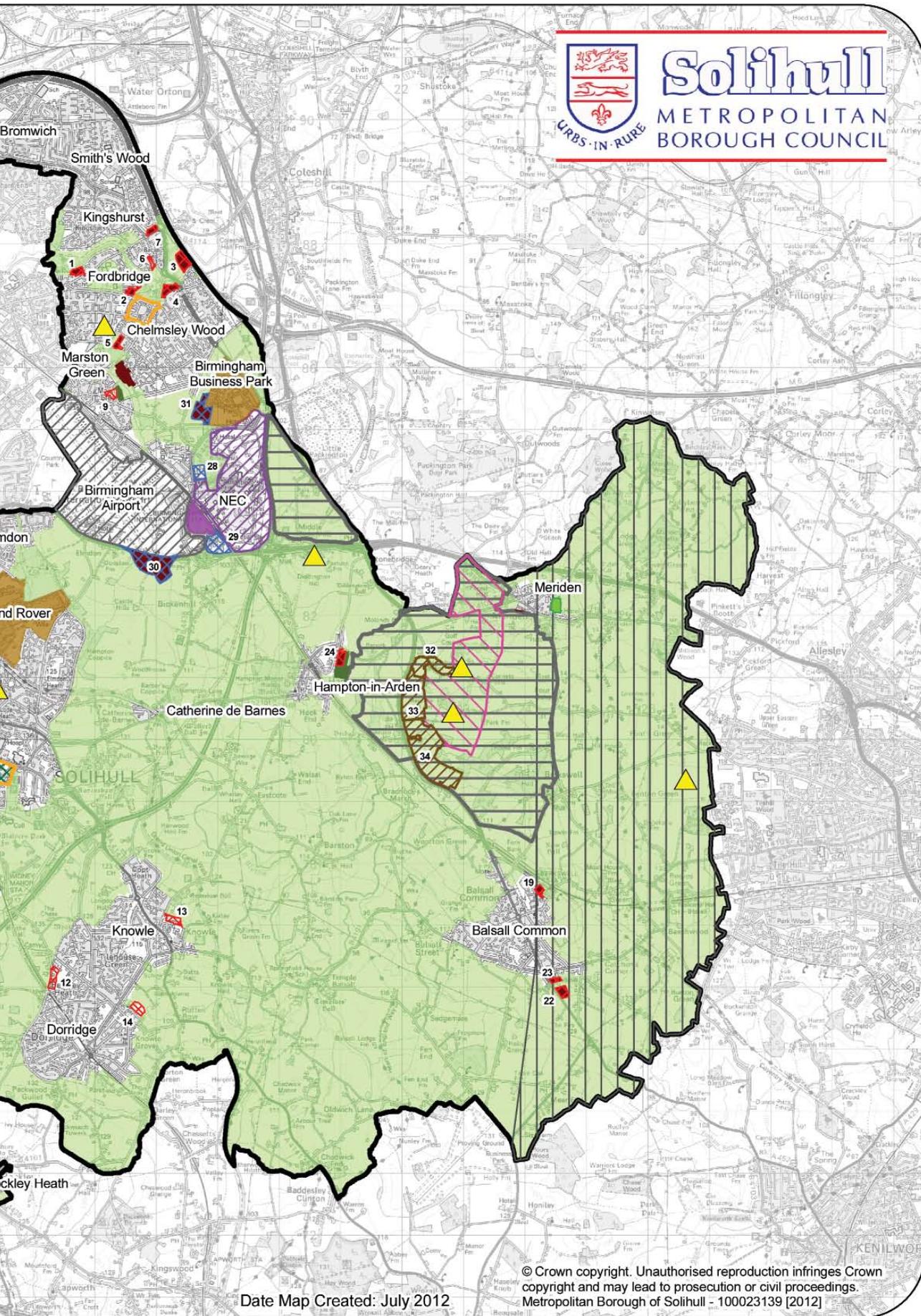
- Existing lighting levels are evaluated if an area changes use or character;
- The full costs associated with changes to the Council's inventory are recovered from developers where new columns are installed or existing arrangements altered.

# Plan of Sites





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Date Map Created: July 2012

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## 4.4 Street Lighting Design

When considering any street lighting scheme it is important to take into account both the natural and built environments. Light pollution is a problem which is becoming increasingly serious. During the 1990s, the area in England with pure, dark skies reduced by some 27% (CPRE 2011). This reduction in dark skies can impact heavily on areas that are of ecological interest, with effects on mammals, birds, insects and trees. Lighting can also impact on the appearance of the built environment; with 374 listed buildings and 20 conservation areas, this is of particular importance to Solihull.

### **Aim**

***To take full account of both the natural and built environments in the design of new street lighting schemes and ensure that designs and selection of equipment match the needs of the specific location for which they are intended***

### **Key policies**

The Council will ensure that:

- Schemes take into account the recommendations made in the 2006 document published by English Heritage and the Department for Transport entitled 'Streets For All: West Midlands';
- Schemes to introduce new lighting within existing areas consider existing trees and that column positions are sited so as to not require serious vegetation works;
- Where new streets are proposed, planting regimes will take full account of the initial street lighting design;
- Minimum desirable clearances from the edge of the carriageway are achieved where possible with new or replacement lighting schemes;
- New locations for lighting columns permit a lighting scheme to meet the requirements of BS5489-1:2003.



## 4.5 Equipment Specification

Standardising street lighting equipment will ease future maintenance liabilities and keep replacement stocks to a minimum. There are currently in excess of 60 different lantern types, 5 different lamp types, 23 wattages, 4 types of photocell control and 5 types of column material in use across the Borough. However, roads in the Borough do not have a uniform width and without a standard geometry the use of different equipment will be needed to ensure lighting classes can be met and maximise the return made on any 'invest to save' projects.



### **Aim**

***To take account of whole life costs in the selection and provision of new and replacement street lighting equipment by using standardised equipment wherever practicable.***

### **Key policies**

Solihull Council will:

- Adopt a catalogue of appropriate materials and products for future use;
- Specify a list of suitable future lanterns, with consideration given to both lighting performance and environmental concerns, particularly 'sky glow';

- Draw up and adopt colour palettes for street lighting equipment, particularly columns, for key parts of the Borough and specify the extent of their usage;
- Select new or replacement apparatus taking into account whole life cost, including repair, vandal resistance, energy consumption, other lighting styles in the vicinity and on-going maintenance;
- Install passively safe designs in most situations for new schemes on rural roads, especially where it is difficult to use safety barriers and on major urban roads where there is little likelihood of their falling onto the carriageway or where there might be pedestrians;
- Fit yellow reflective banding to appropriate lamp columns and illuminated signs across the Borough to ensure that they can be identified by those with visual impairments;
- Give special consideration to variation from standard equipment where environmental or conservation requirements dictate otherwise or where improved value for money can be achieved by taking an alternative approach.

## 4.6 Maintenance and Asset Management

It is important that street lighting equipment is maintained to the highest possible standard so that it performs at its optimum; does not waste money and generate unnecessary carbon. It is also important that the street lighting inventory, which is used to calculate the Boroughs annual energy charge, is updated as soon as possible after any on site change, so as to ensure that the correct payment is made to the energy provider. In addition, it is important where residents, developers, public utilities or other bodies require lighting columns to be relocated to facilitate their works, or where damage or vandalism occurs, full costs are recovered by the Council.

### ***Aim***

***To continue to maintain a fit for purpose street lighting asset by managing the service in accordance with sound asset management principles and nationally accepted good practice***

### **Key policies**

The Council will:

- Continue to undertake maintenance in accordance with the requirements set out in “Well Lit Highways- Code of Practice for Highway Lighting Management”, the Institution of Lighting Professionals Technical Reports and good industry practice;
- Maintain an up to date and accurate inventory of all highway electrical equipment (including authority cable networks) as part of the asset management system;
- Consider how best to resource maintenance of the Highway Services asset management inventory, to include street lighting and other functions.

## 4.7 Working with customers and partner organisations

Customers, residents and the travelling public in Solihull are central to the Council's vision for the Borough. The Council is committed to delivering maximum value and to be open, honest, approachable and trustworthy in its dealing with the public. Street lighting is regarded by the public as a particularly important service because of the potential impact it can have on convenience and safety. The service by its nature involves working with a number of partner organisations and third parties. It is important that interfaces with these organisations and the public work as efficiently and effectively as possible. Central to this is the way in which the Council communicates its actions and the reasons for them.

A key interface for the authority is that with the company responsible for distributing electricity in the borough, the Distribution Network Operator, who is responsible for ensuring the good provision of electrical services to the Council's apparatus. The performance of the Distribution Network Operator has a direct impact on the performance of the Council street lighting service.

Keeping partner organisations properly informed is essential. Under the Traffic Management Act, statutory notices are issued to cover a variety of works that require the opening up of the Public Highway. Such works include the installation, transfer, disconnection and reconnection of electrical supply.

The Council also deals with a number of requests for attachments and connections to its street lighting columns from external organisations. It is important for the Council to control this process well so that the integrity of the asset is not compromised.

In some cases, the actions of third parties can have a potentially negative impact on the service. The Council here has a responsibility to ensure that these impacts are limited and that an unnecessary burden is not placed upon the majority of Council residents by the actions of a few.

### **Aim**

***To work effectively with customers, partner organisations, third parties and other service providers for the overall benefit of the service.***

### **Key policies**

The Council will:

- Seek to maintain 98% of its street lights in working order at any one time;
- Respond to reported faults promptly by aiming to repair instances of a single light being out within 5 working days of receiving notification. For cases where 2 or more lights are out, the aim will be to repair these within 24 hours of receiving notification;
- Clearly state the authority's policy in relation to the provision of its public lighting service covering all the organisations and services involved in delivering the service;
- Communicate planned works to all those potentially affected in a timely way and ensure that appropriate channels are available for the reporting of issues relating to street lighting;

- Ensure full compliance with statutory notification procedures for works undertaken by the Distribution Network Operator and the Council's own works;
- Undertake dialogue with the Distribution Network Operator to address how the existing service can be improved;
- Monitor the performance of the Distribution Network Operator on the repair of faults which are its responsibility and new connections;



- Not encourage third-party connections and attachments to the Council's apparatus. However, where these are considered to be of value to the community, are not for commercial purposes and an alternative suitable electrical supply is not available, such connections may be permitted with the written approval of the Council;
- Ensure that traffic signs that are attached to lighting columns do not exceed the lighting column manufacturers recommended criteria for wind loading;
- Ensure that all columns in town centres/shopping areas are designed to carry attachments (banners and hanging baskets) at the start of their life;
- Promptly remove signs and attachments to lighting columns that have not been approved by the Council, recovering the costs of removal, storage and disposal from those responsible;
- Work with West Midlands Police to endeavour to identify the vehicle owner or culprit of damage or vandalism;
- Work with third parties to enable their works to progress whilst still maintaining the integrity of the lighting system by the installation of temporary lighting if required;
- Recharge to third parties any costs incurred by the Council, its contractors, sub-contractors and agents for the works undertaken for the third party.

## 4.8 Procurement and Delivery

Approximately £600million is spent across the street lighting industry each year. Of this total, approximately 50% is attributable to energy costs and the remaining 50% to the maintenance and replacement of street lighting units.

In 2011/12, over £275,000 was spent by Solihull purchasing street lighting materials. An additional £250,000 was attributable to contractor costs.

Energy to light the Boroughs street lights, illuminated signs and illuminated bollards is currently supplied through EDF Energy, via a framework agreement with the Government Procurement Service, an executive agency of the Cabinet Office. Approximately £1.2 million was spent providing energy to the Boroughs lighting stock in 2011/12.

### **Aim**

***To maximise value for money when purchasing street lighting equipment, services and energy, by ensuring compliance with the corporate procurement process and looking at new ways of working.***

### **Key Policies**

Solihull Council will

- Investigate the potential for funding future upgrade projects through external sources;
- Ensure that appropriate time is built into future project programmes to fully examine options for procurement and complete an appropriate procurement exercise prior to implementation;
- Give consideration to tendering the electrical testing programme for street lighting electrical equipment (undertaken on a 6 year cycle);
- Give consideration to externally resourcing the delivery of any major projects, from a design and management as well as a works implementation perspective;
- Continue to look at how delivery of the service can be improved through new ways of working.



## 5. The Next Steps

In formulating this Strategy the Council's Highway Services undertook two major initiatives in 2012:

- A comprehensive review of best practice which included looking at latest industry standards and equipment together with what other authorities around the country are doing to take their street lighting services forward in the future
- A pilot scheme trialling new technologies and equipment which allows centralised 'remote control' of street lighting in the Monkspath area of the borough

These two initiatives have formed key inputs into the strategy and have started the process of implementation. Arising directly from this work, the Cabinet Member for Transport and Highways in December 2012 agreed to the preparation of a detailed business case for 'invest to save' proposals for improving the Council's street lighting by replacing redundant equipment and introducing a Centralised Management System for street lighting in selected areas of the Borough. This work will form a major component of the Council's Action Plan for saving energy, reducing carbon emissions and saving costs in the future.

In parallel with this a number of other actions have been identified as part of this review in order to ensure that the full range of improvements to the street lighting service encompassed by this Strategy are brought to fruition. These actions together with targets for their completion are set out in the 'Street Lighting Strategy' Action Plan' which accompanies this document.

## 6. Conclusion

This Strategy provides a clear vision for the street lighting service between 2012 and 2022.

The aim is that by 2022, energy usage and carbon emissions will have been minimised as far as practically possible within appropriate and relevant political, environmental, legal and technological limits. Lighting will only have been provided where necessary and subjected to appropriate control. Although the street lighting stock will have increased as a result of new developments, this will not have placed an unnecessary burden on the Street Lighting Service.

New street lighting schemes whether built by the Council or developers, will have taken into account both the natural and built environments and value for money will have been obtained for the purchase of street lighting equipment, services and energy.

Through the identified aims and objectives, the Boroughs street lighting stock will have continued to be modern, well designed, installed and maintained, providing clear benefits to Solihull's residents, visitors and road users.

The street lighting service will be continuing to provide a significant contribution to the achievement of the Council's priorities and aspirations for the people of Solihull.

# The Street Lighting Action Plan

The following section sets out the proposed action plan to ensure Solihull Council continues to deliver an excellent street lighting service to its customers.

Item No	Strategy Aim	Action Points	Timeline
1	Energy Usage and Carbon Emissions	Develop a detailed business case for the implementation of 'invest to save' proposals to: <ul style="list-style-type: none"> <li>• Replace MBFU lamps</li> <li>• Introduce low energy, dimmed and trimmed lighting</li> <li>• Implement a Central Management System of street lighting control at appropriate locations.</li> </ul>	April 2013
2	Energy Usage and Carbon Emissions	Subject to available funding and acceptance of business case implement a programme of replacement street lighting.	From June 2013
3	Energy Usage and Carbon Emissions	Install trimmed photocells that switch lighting units on when light levels reach 35 lux and switch lighting units off when light levels reach 18 lux as standard for all new and replacement street lighting installations, in accordance with industry guidance.	From January 2013
4	Energy Usage and Carbon Emissions	Assess all lantern types in use across the Borough in terms of their suitability for retrofitting of electronic ballasts.	April 2013
5	Energy Usage and Carbon Emissions	Draw up detailed "Environmental Zones" for the Borough, along the following guidelines: <ul style="list-style-type: none"> <li>• E1 Intrinsically dark landscapes- National parks &amp; areas of natural beauty</li> <li>• E2 Low district brightness areas- Rural, small village or relatively dark urban locations</li> <li>• E3 Medium district brightness areas- small town centres or urban locations</li> <li>• E4 High district brightness areas- Town/city centres with high levels of night-time activity.</li> </ul>	April 2013
6	Energy Usage and Carbon Emissions	Draw up a programme for reviewing lighting classes across all roads within the Borough to ensure that they are lit to the appropriate standard in accordance with BS 5489-1:2003. In particular, review lighting levels on the principal road network to determine the potential for dimming opportunities outside of times of peak traffic flow.	April 2013

Item No	Strategy Aim	Action Points	Timeline
7	Energy Usage and Carbon Emissions	Work with the Solihull Observatory to produce a crime map of the Borough to assist with the selection of an appropriate lighting standard in accordance with BS 5489-1:2003 for subsidiary roads, including pedestrian areas, footpaths and cycle tracks.	April 2013
8	Energy Usage and Carbon Emissions	Consider where further dimming would be suitable within the Borough and determine the likely levels of savings involved.	April 2013
9	Energy Usage and Carbon Emissions	Consider where part night switching might be suitable within the Borough and determine the likely levels of savings involved.	April 2014
10	Illuminated Traffic Signs and Bollards	Consider the removal of unnecessary traffic signs. DfT have stated that it is essential that all unnecessary warning signs be removed.	September 2013
11	Illuminated Traffic Signs and Bollards	Check current lighting requirements as they may no longer require a separate lighting source and power supply, following changes to TSRGD 2002.	September 2013
12	Illuminated Traffic Signs and Bollards	Consider the use of LED or other low voltage/energy sign lighting, solar powered lighting or using electroluminescent signs.	September 2013
13	Illuminated Traffic Signs and Bollards	Make an application for the further use of retro reflective self-righting traffic bollards (as have been used in front of traffic signals) and consider using them in situations where safety is not likely to be compromised.	April 2014
14	Illuminated Traffic Signs and Bollards	Establish a protocol for the maintenance of non-illuminated traffic bollards including cleaning and replacement after damage.	April 2013
15	Illuminated Traffic Signs and Bollards	Where practicable 'switch' bollards and signs so that they are only illuminated during the hours of darkness.	April 2015
16	Illuminated Traffic Signs and Bollards	Develop and issue guidelines to designers of traffic schemes to ensure that a safe working environment can be provided for electrical maintenance operatives when working in close proximity to live traffic.	January 2013
17	Illuminated Traffic Signs and Bollards	Introduce procedures for undertaking risk assessments before installing new traffic signs and bollards.	January 2013
18	New Developments	Ensure that existing lighting levels are evaluated if an area changes use or character.	Ongoing

Item No	Strategy Aim	Action Points	Timeline
19	New Developments	Ensure that the full costs associated with the re-numbering of existing columns and associated changes to the Councils inventory are recovered from developers where new columns are installed or existing arrangements altered.	Ongoing
20	New Developments	Ensure that Street Design Guide and updated specifications for developers work fully reflect the requirements of the Street Lighting Strategy.	March 2013
21	Street Lighting Design	Draw up procedures to ensure that consultation is carried out with the Landscape Architecture section, Planning Enforcement and Conservation and the Urban Design teams prior to the design of any street lighting scheme which falls within areas that are of special landscape or ecological interest, is within a conservation area or near to a listed building or is in an area considered to be public realm space.	September 2013
22	Street Lighting Design	Ensure that new lighting within existing areas considers existing trees and should be sited so as to not require serious cutting back.	Ongoing
23	Street Lighting Design	Draw up processes to ensure that where new streets are proposed, lighting will be designed first and planting sites fixed afterwards.	September 2013
24	Street Lighting Design	Achieve minimum desirable clearances from the edge of the carriageway at all times with new or replacement lighting schemes.	Ongoing
25	Street Lighting Design	Ensure that the new location for the lighting column permits the lighting scheme to meet the requirements of BS5489.	Ongoing
26	Equipment Specification	Draw up and agree a catalogue of appropriate materials and products for future use.	March 2013
27	Equipment Specification	Draw up and adopt colour palettes for key parts of the Borough and agree the extent of their usage.	March 2013
28	Equipment Specification	Draw up a list of suitable lanterns, with consideration given to both lighting performance and environmental concerns, particularly 'sky glow'.	March 2013

Item No	Strategy Aim	Action Points	Timeline
29	Equipment Specification	Ensure that any future Central Management System be compatible with the Councils Urban Traffic Control system to allow for the effective adjustment of lighting levels on the principal road network within the Borough.	Ongoing
30	Equipment Specification	Ensure that new lanterns be of a high Ingress Protection (IP) rating (so as to prevent entry by objects and water) and be of modular construction to provide a future proof structure for installing the latest technical advances.	Ongoing
31	Equipment Specification	Ensure that the design of the optic allows for a degree of adjustability, and ensure that sky glow is kept to an absolute minimum.	Ongoing
32	Equipment Specification	Ensure that new lanterns are able to accept as wide a range of lamp sizes as possible, reducing the number of spare parts that are required to be kept and carried.	Ongoing
33	Equipment Specification	Ensure that bracket projection be as short as possible and does not exceed one quarter of the mounting height.	Ongoing
34	Equipment Specification	Select new or replacement apparatus based on whole life cost, including repair, vandal resistance, energy consumption, other lighting styles in the vicinity and ongoing maintenance. Minimising environmental impact such as sky glow will also be a consideration.	Ongoing
35	Equipment Specification	Use passively safe designs in most situations on rural roads, especially where it is difficult to use safety barriers and on major urban roads where there is little likelihood of their falling onto the carriageway or where there might be pedestrians.	Ongoing
36	Equipment Specification	Subject to finance, undertake a programme for fitting yellow reflective banding to appropriate lamp columns and illuminated signs across the Borough.	April 2015
37	Maintenance and Asset Management	Develop a lantern replacement programme.	April 2013
38	Maintenance and Asset Management	Consider the implications of EU347/2010 alongside a lantern replacement programme.	April 2013
39	Maintenance and Asset Management	Establish an inventory and record all highway electrical equipment and authority cable networks on the Councils Geographic Information System.	April 2013

Item No	Strategy Aim	Action Points	Timeline
40	Maintenance and Asset Management	Review how best to administer maintenance of the street lighting inventory within the overall asset management framework for Highway Services.	April 2014
41	Maintenance and Asset Management	Adopt handheld technology so as to allow operatives to update the street lighting inventory following any change in the on-site asset.	April 2014
42	Maintenance and Asset Management	Undertake bulk lamp changing at appropriate frequencies for each lamp type. Any new installation will be included in the bulk lamp change for that area if it is more than 12 months old at the time the bulk change is due.	Ongoing
43	Maintenance and Asset Management	Consider establishing a column painting programme with priority given to those units located in town centres and other areas of high pedestrian footfall and on the principal road network.	April 2014
44	Maintenance and Asset Management	Continue to liaise closely with colleagues in the Road Safety Engineering Team with regard to personal injury collision analysis.	Ongoing
45	Working with customers and partner organisations	Clearly state the authority's policy in relation to the provision of its public lighting service, covering all the organisations and services involved in delivering the service.	January 2013
46	Working with customers and partner organisations	Develop an appropriate public consultation process for any future energy saving programme.	April 2013
47	Working with customers and partner organisations	Consider procuring an Independent Connection Provider.	April 2014
48	Working with customers and partner organisations	Ensure that all instructions for works sent to the DNO are accurate and include all plans and documentation they require.	Ongoing
49	Working with customers and partner organisations	Monitor the performance of the DNO as per their Service Level Agreement on faults and new connections.	Ongoing
50	Working with customers and partner organisations	Continue with our agreement with the DNO that they work within the Traffic Management Act for the purposes of notification of works and quality of works.	Ongoing

Item No	Strategy Aim	Action Points	Timeline
51	Working with customers and partner organisations	Undertake discussions with the Street Works team to ensure that notices are issued for works being undertaken on the public highway by the Street Lighting Department, particularly those works that involve traffic management other than where signing and guarding is used or where there is a duration of more than 10 days.	January 2013
52	Working with customers and partner organisations	Organise appropriate training for employees of the Street Lighting Department to ensure that correct Traffic Management Act noticing procedures are being followed.	January 2013
53	Working with customers and partner organisations	Create a link within Symology to allow appropriate street works notices to be automatically generated as part of the internal works order process.	September 2013
54	Working with customers and partner organisations	Permit third-party connections only with the written approval of the Council and only where they are considered to be of value to the community and are not for commercial purposes and an alternative suitable supply is not available.	Ongoing
55	Working with customers and partner organisations	Only allow the supply, fit, maintenance and removal of permanent (or temporary) supply units for the purpose of festive decorations once we have established that the third party has the agreement of the electricity company. The costs of this work will be recharged to the person or organisation requiring the supply unit.	Ongoing
56	Working with customers and partner organisations	Ensure that traffic signs that are attached to lighting columns do not exceed the lighting column manufacturers recommended windage area. This is particularly important where multiple signs are attached to a lighting column. In these cases either a freestanding traffic signpost will be required or, if no other suitable site exists, a strengthened column may be installed at the cost of the organisation wishing to fit the sign.	Ongoing
57	Working with customers and partner organisations	Remove signs and attachments that have not been approved by the Council, recovering the costs of removal, storage and disposal from those responsible.	Ongoing
58	Working with customers and partner organisations	Design all columns in town centres/shopping areas to carry attachments (banners and hanging baskets) at the start.	Ongoing
59	Working with customers and partner organisations	Further investigate the wider issue of generating income from highway assets (eg. roundabout & boundary signs, bridge advertising, free standing units and billboards).	April 2013

Item No	Strategy Aim	Action Points	Timeline
60	Working with customers and partner organisations	Fully script the street lighting service so that comprehensive information is available through the Councils Connect service.	April 2013
61	Working with customers and partner organisations	Review the street lighting services webpages, and integrate a fault reporting tool within Symology.	April 2013
62	Working with customers and partner organisations	Continue to work with third parties to enable their works to progress whilst still maintaining the integrity of the lighting system by the installation of temporary lighting if required.	Ongoing
63	Working with customers and partner organisations	Continue to work with West Midlands Police to endeavour to identify the vehicle owner or culprit of damage or vandalism.	Ongoing
64	Working with customers and partner organisations	Continue to recharge to the third party costs incurred by Solihull MBC, its contractors, sub-contractors and agents for the works undertaken for the third party while making allowance for betterment if appropriate.	Ongoing
65	Procurement and Delivery	Consider tendering the electrical testing programme.	September 2013
66	Procurement and Delivery	Investigate the potential for funding future upgrade projects through external sources of finance, eg. Salix.	April 2013
67	Procurement and Delivery	Consider externally resourcing the delivery of any major projects, from a design and management perspective as well as a works implementation perspective.	Ongoing
68	Procurement and Delivery	Build in appropriate time into future project programmes in order to complete a procurement exercise.	Ongoing

