

Street Lighting Lifecycle Plan Summary

Inventory Condition	Performance Requirements																								
<p>The street lighting network is composed by:</p> <table border="1" data-bbox="199 498 968 825"> <thead> <tr> <th>Street lighting assets</th> <th>Units (approx.)</th> </tr> </thead> <tbody> <tr> <td>Columns</td> <td>11,867</td> </tr> <tr> <td>Lit Signs</td> <td>1,022</td> </tr> <tr> <td>Street Light (Unit)</td> <td>562</td> </tr> <tr> <td>Bollard</td> <td>451</td> </tr> <tr> <td>Belisha Beacon</td> <td>50</td> </tr> <tr> <td>Others (feeder pillar, school flasher, subway lighting, hat pins)</td> <td>103</td> </tr> </tbody> </table> <p>A full survey in 2011 established the following:</p> <table border="1" data-bbox="199 899 968 1101"> <thead> <tr> <th>Condition</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Very good (VG)</td> <td>93%</td> </tr> <tr> <td>Good (4%)</td> <td>4%</td> </tr> <tr> <td>Fair (1%)</td> <td>1%</td> </tr> <tr> <td>Poor (1%)</td> <td>1%</td> </tr> </tbody> </table> <p>The majority of the poor and very poor columns were replaced in 2015.</p>	Street lighting assets	Units (approx.)	Columns	11,867	Lit Signs	1,022	Street Light (Unit)	562	Bollard	451	Belisha Beacon	50	Others (feeder pillar, school flasher, subway lighting, hat pins)	103	Condition	Percentage	Very good (VG)	93%	Good (4%)	4%	Fair (1%)	1%	Poor (1%)	1%	<p>The street lighting network is managed to deliver the following levels of service:</p> <ul style="list-style-type: none"> • Safety: assets are to be structurally and electrically safe to road users and maintenance staff; • Serviceability: roads and footways lit to the standard; • Affordability: the network should provide cost-effective lighting to public areas; • Availability: all lights should be working as planned; • Environmental: the network should contribute to low levels of light pollution and energy consumption.. <p>All sections of the network are to be maintained to the safety standards set out in the 'Highways Maintenance Plan'.</p>
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Current Asset Value and Deterioration

<p>The value of the street lighting network is:</p> <table border="1" data-bbox="239 1403 928 1528"> <tbody> <tr> <td>New build costs (2015)</td> <td>£15,078,000</td> </tr> <tr> <td>Depreciated value (2015)</td> <td>£6,470,000</td> </tr> <tr> <td><i>Annual Depreciation</i></td> <td><i>57%</i></td> </tr> </tbody> </table>	New build costs (2015)	£15,078,000	Depreciated value (2015)	£6,470,000	<i>Annual Depreciation</i>	<i>57%</i>	<p>The budget considerations adopted for the street lighting network are:</p> <table border="1" data-bbox="1041 1403 1871 1558"> <tbody> <tr> <td>Funding required to restore to new condition:</td> <td>£8,200,000</td> </tr> <tr> <td>Annual depreciation (2015)</td> <td>£533,000</td> </tr> <tr> <td>Budget (2016/2017)</td> <td>£83,000</td> </tr> </tbody> </table>	Funding required to restore to new condition:	£8,200,000	Annual depreciation (2015)	£533,000	Budget (2016/2017)	£83,000
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Note the above figures do not yet take account of the recent investment in columns and lamps.

Maintenance Strategy

Between 2012 and 2015, the County's street lighting network was subject to a major investment programme. The programme aimed at replacing around 3,000 obsolete concrete columns and upgrading all the lanterns to LED technology. This investment has enabled a major reduction in energy use, maintenance need and an increase in quality and reliability of public lighting.

Following this investment, a short period of lower maintenance need is anticipated, prior to the requirement to replace columns that come to the end of their lives increasing in 2020 onwards. The below asset condition forecast demonstrates the current 'good' condition of the network, and how the number of columns requiring replacement is due to increase over time.

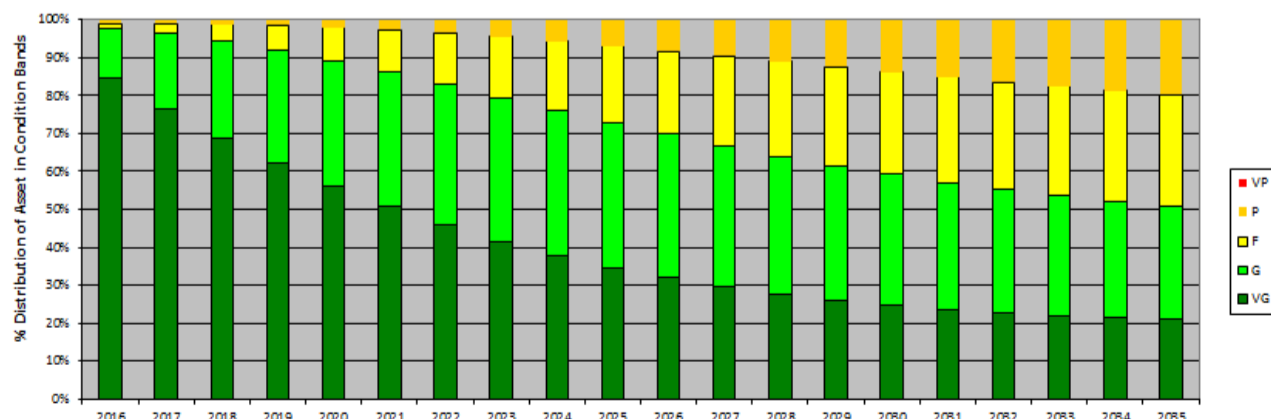
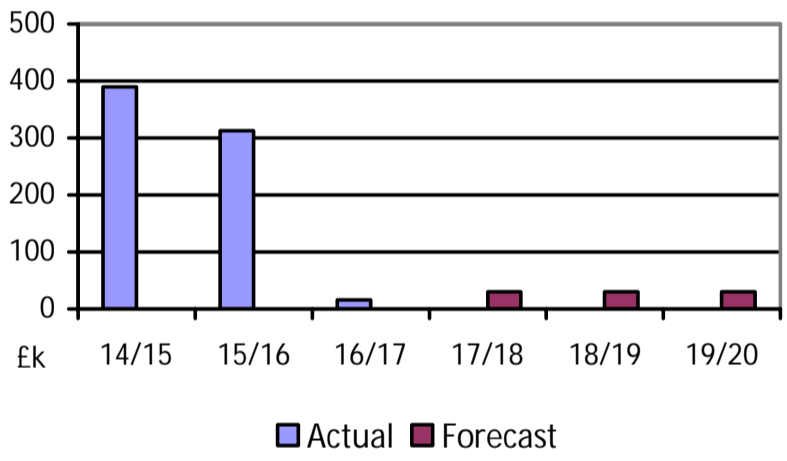
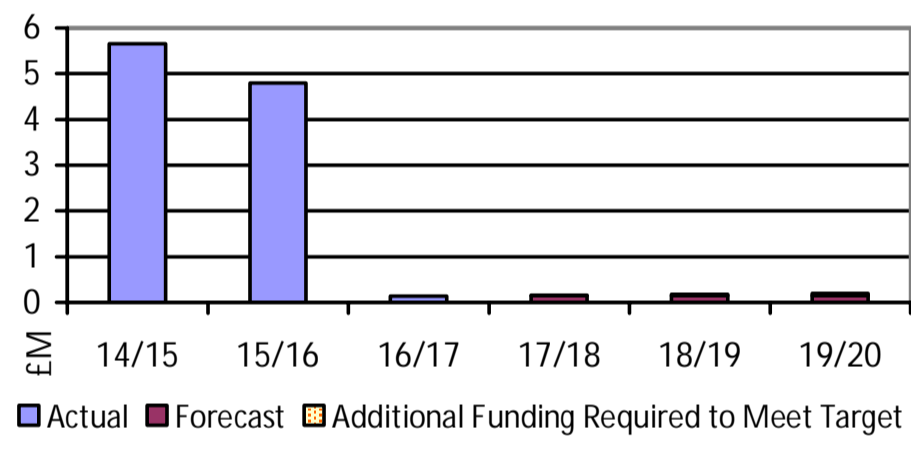


Figure 1. Estimated network condition over the next 20 years

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Routine Maintenance Strategy (Revenue)	Structural Maintenance Strategy (Capital)																																																	
<p>Routine (and reactive) works are coordinated centrally in a control centre to ensure a productive and prompt service is provided. Routine maintenance is supported by structural and electrical inspections that occur on a six year cycle. Usually, around 2,500 columns are inspected per year. Inspections are supported by modern technology such as mobile computer tablets that help the Council staff to identify and record those defects and plan their intervention.</p> <p>Due to the recent upgrade to LED, the amount of reactive changing of bulbs is due to dramatically reduce in 2016.</p>	<p>Capital works will focus on replacement of the small number of columns that come to the end of their lives until 2020. Deterioration models have shown that the number of columns needing replacement will increase substantially to around 100 per year. These values do not include the number of columns that need to be reactively replaced due to vehicle accident. .</p>																																																	
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<p>Defects are identified through regular safety inspections, asset condition inspections and enquiries from the public. They are categorised and responded according to the guidelines of the 'Highway Maintenance Plan'. Response times are based on the risk presented by the defect. Apart from the highest risk defects that are responded to within 24hrs, all Cat 1, 2A & 2B defects have permanent fixes carried out.</p>	<p>Programmes of work and future condition predictions have been developed using the specialist street lighting software <i>Mayrise</i> and the HMEP's lifecycle planning toolkit.</p> <p>Forecast condition and funding requirements are based upon historic recorded deterioration rates, current costs as well as assumed inflation (3%). Column replacement is based upon risk presented by the asset.</p>																																																	