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## 1 SUMMARY OF CURRENT STATUS

### 1.1 Current Issues

It is estimated that it would cost **£11.28M** to replace the street lighting infrastructure with a modern equivalent asset. Data Source: Street Lighting GRC Calculator for Whole of Government Accounting (CIPFA 2010). Depreciated replacement cost (DRC), the cost of replacing the asset in its current condition, is estimated to be in the region of **£4.46M**.

Historical levels of allocated resources suggest that the age profile of the asset has deteriorated over time.

<b>Table 1.1 Percentage of columns over 30 years</b>						
2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
25.2%	25.5%	26.7%	28.8%	30.1%	30.4%	28.0%

Current funding of the lighting infrastructure concentrates on replacing old columns, reactive lamp repairs and energy supply. However this has meant that limited funding is available to carry out structural testing, electrical testing, cable replacement and introducing innovation to improve lighting efficiency.

Until the late 1980's the majority of luminaires installed included low-pressure sodium lamps (SOX), which have a characteristic monochromatic orange light and have a realistic design life of less than 15 years. However, directly replacing this type of lamp costs over four times that of the now standard high-pressure sodium lamps (SON) and compact fluorescent lamps (PLL). Replacement of the existing low-pressure sodium units (SOX) would see significant reductions in maintenance.

Energy costs have increased significantly in the last few years and are predicted to continue to increase given the ever-increasing global pressure on energy resources.

As roads in new developments are adopted, associated street lighting inventory adds to the existing inventory, however no allowance is made in the budget planning process to recognise increased inventory.

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## 1.2 Current Asset Management Strategies

**Funding.** The Council allocates an annual capital budget to fund, the replacement of ageing columns particularly concrete columns. The Council also allocates an annual roads revenue budget, part of which is allocated to street lighting maintenance, particularly lamp outage monitoring and repair.

**Lighting design** of new and replacement installations is carried out to BS 5489 and BSEN 13201 together with guidance from the Institution of Lighting Engineers technical document TR27 'Code of practice for Variable Lighting Levels'. New and replacement installations incorporate efficient lanterns and control equipment, which help enable the Council meet increasing energy costs.

**Adaptive Lighting.** The Service also now specifies that all new installations be fitted with Candelon monitoring equipment, which allows lighting levels to be varied at peak or off-peak times in accordance with ILE Technical document TR27. This adaptive lighting system enables energy savings over conventional control equipment in the region of 20% to 30%, as well as providing remote reporting on the current performance of the lighting equipment. This helps allow more effective targeting of resource to future maintenance issues. This lighting solution also helps deliver the reduced energy and carbon commitments required by Government. The recent EU directive on energy using Products (EuP) provides indicative benchmarks for street lighting lamps, control gear and luminaire performance and the equipment specified is intended to meet this requirement.

This system has been introduced in some residential street and at Kildean Park and ride site.

**Improvement Action IAL1: The specification for all new lighting, including new developments, will require the installation of Candelon monitoring equipment.**

**Energy cost savings** is possible by considering the system by which energy is measured. The current method is via an Estimated Annual Charge or EAC where the assessed wattage is multiplied by the annualised burning hours. Consideration is being given to moving to a passive half hourly metering system, which if carried out at the correct time may result in significant financial savings.

**Improvement Action IAL2: Establish a passive half hourly metering system.**

**Electrical Testing.** The existing revenue budget allocation is currently under review with a view to reintroducing a limited electrical testing and maintenance programme to help meet the requirements of the Electricity at Work Regulations 1989 and BS7671. As well as helping meet these statutory requirements, it is expected that there will be a reduced failure rate resulting in future maintenance savings.

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This would help address an area of concern with the existing council cable networks installed during the 1980's, when a type of cable known as 'split concentric' was used. At the time, this cable was considered a more secure choice for underground cable as it consisted of the neutral and earth cables completely surrounding the 'live' core. If the cable was cut during excavation works, the protection offered by the neutral and earth would remain until the 'live' core was completely cut. However, over time, the insulation on this type of cable has deteriorated and possibly broken down to a point where this cable would fail current electrical tests with a resultant loss in electrical protection and loss of service.

Since the start of the 1990's the council has been using a 'Steel Wire Armoured' (SWA) cable, which has proven to be more resilient.

**Improvement Action IAL3: Review revenue budget allocation with a view to reintroducing electrical testing and a cable replacement programme.**

**Structural Testing.** Similarly, consideration is also being given to re-establishing a structural testing programme in accordance with ILE Technical report TR22 'Managing a Vital Asset: Lighting Supports' to allow the development of a future column replacement programme, based on the physical condition of the asset.

**Improvement Action IAL4: Review revenue budget allocation with a view to reintroducing of structural testing.**

**Works Programming and Retro Fitting.** The electricity supply to the lighting columns is provided either directly from the regional energy company (REC) or by the councils own private cable network, which has been installed over the last 40 years in line with long standing working practices in Scotland.

Where the supply is directly from the REC cable network, which is the case with the majority of the older concrete columns requiring replacement, it is normal practice to install a new Council cable network when replacing these columns. As this requires significant excavation works this work is ideally suited to being carried out in conjunction with footway improvement works. When footway improvements are not scheduled for a number of years, in some cases, remedial works are carried out to defective columns until such a time as joint working can be carried out. This retrofit work typically involves the removal of existing brackets and replacement with a metal-sleeved bracket to mount the lantern on. In certain circumstances the removal and replacement of a dangerous column will still be required upon detection, in these situations a 'transfer of service' request is made to the REC to minimise costs.

## 2 THE ASSET

### 2.1 The Inventory

Stirling Council currently has 16,086 lighting units, with the majority being located within residential areas. 14,480 are streetlights and the remainder lit road signs and bollards.

SOX	SON	Other	Total
4879	8991	623	14480
33.66%	62.04%	4.3%	100%

SOX is a low-pressure sodium lamp (SOX), which have a characteristic monochromatic orange light. SON is a high-pressure sodium lamp, which has some colour rendering properties.

Age (years)	Column Material			All
	Lighting Columns	Wall Mounted	Mounted on Power Poles	
0 to 5	1,755	12	1	1,768
6 to 10	2,552	103	0	2,655
11 to 15	2,109	64	0	2,173
16 to 20	1,794	59	0	1,853
21 to 25	751	37	0	788
26 to 30	955	0	0	955
31 to 35	1,362	4	0	1,366
35 +	2,498	126	298	2,922
<b>Total</b>	<b>13,776</b>	<b>405</b>	<b>299</b>	<b>14,480</b>

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## 2.2 Inventory Data & Asset Register

Asset inventory and condition data is stored and maintained in an electronic data management system. Attribute data stored includes, the location, unique reference number, column material, height, age and lamp types. This data is updated on a regular basis and is considered to have a high confidence of reliability except for installation dates older than 12 years. Installation dates greater than 12 years have been estimated based on existing knowledge. However little or no data is available to determine the location and condition of underground cabling. Further development is required to include spatial cabling data.

Some street lighting layouts data is recorded using computer aided design software (Autocad) This data includes location, column material & height and lantern & lamp type together with indicative locations of private circuits. Some detailed cabling and layout records are held also held in the same format.

Spreadsheets (MS Excel) are currently used to record the electrical inventory and to calculate energy consumption. MS Word reports are used to record the circuit details and control pillar test details.

**Improvement Action IAL5: Develop a programme to update and improve the asset inventory including capturing spatial cabling data.**

## 2.3 Asset Growth

The lighting asset has grown from 13,710 to 16,086 lighting units in the past six year's, this is mainly as a result of new housing developments and a small increase from road improvement and environmental enhancement schemes. Capital expenditure is currently targeted at replacing ageing stock and energy savings with little or no asset growth.

Additional growth will continue due to ongoing developments in the council area, though this growth is slowing due to the current economical climate.

### 3 SERVICE EXPECTATIONS

#### 3.1 Customer Perception

Section 3 of the main document provides detailed information on the results of various customer surveys that the Council has undertaken in the last few years. However, these surveys did not identify any specific customer comments or concerns relating to the street lighting asset.

#### 3.2 Goals & Objectives

Section 1.5 of the main document provides information on where Road Asset Management practices and principles relate to the Council's Strategic Topics and Themes. Whilst there is no specific mention of Road Asset Management in the Council's adopted Strategic Plan (Shaping Stirling: Strategic Plan 2008 – 2012) and the current Single Outcome Agreement (published in 2008-09), the development of asset management practice has clear links with the planned local outcomes related to the Council's established Strategic Topics and Themes. In relation to the carriageway assets, Topic 5 and Theme A have a direct relationship.

**Strategic Topic 5: We will make Stirling a place where the environment is protected and well managed.**

Related Local Outcomes

- Better Roads that are well maintained
- Improved public realm
- Protected and enhanced natural and built environment

**Strategic Theme A: We will make Stirling a place with better services**

Related Local Outcomes

- A robust performance management and improvement culture across the Council
- Effective, efficient and modernised service delivery
- Improved customer focus

The increased safety, greater security and enhancement to the environment provided by modern public lighting help to achieve these objectives.

#### 3.3 Use

Whilst the RAMP deals primarily with the maintenance of the road network, the Council's adopted Local Transport Strategy (LTS) addresses the current use and future demands relating to the movement of people and goods on our transport network.

The LTS encompasses the City Transport Strategy, the National Park Transport Strategy and the Smaller Towns and Villages Transport Strategy. The LTS fits into a wider framework of Regional and National Transport Strategies.

The aim of the LTS is to:

- Widen travel choices by creating conditions to encourage more sustainable travel
- Reducing the need to travel through integration of land-use and transport
- Ensure that the existing transport network is adequately maintained and managed
- Address safety and accessibility issues within communities, acknowledging the diverse urban and rural nature of the area.

### **3.4 Safety Considerations**

The main safety concerns directly relating to the asset group are the risk of electrocution from defective electrical apparatus and the risk caused by collapsing columns. The strategy of replacing old units (particularly concrete) first helps reduce the risk of collapse. Tasks have been identified to attempt to address the current lack of electrical testing and structural inspection regimes.

It is widely recognised that good lighting contributes significantly to perceived and actual public safety. Further work is required to establish metrics, which measure the levels of safety that good street lighting achieves.

### **3.5 Utility Activity**

Utility activity impacts on the maintenance and management of the street lighting asset, particularly buried cables. In some instances, damage to street lighting apparatus goes unreported and is only found when lighting problems occur. Where Statutory Undertakers have caused damage to street lighting assets, the Service endeavours to reclaim the costs of repair or replacement from the responsible party. Details of such occurrences are not formally recorded. Further details of the control of utility activity can be found within the Carriageway Lifecycle Plan.

### **3.6 Third Party Claims**

Details of third party claims are currently maintained. No third party claim specifically relating to the street lighting asset has been received within the last 10 years.

### **3.7 Environmental Considerations**

The environmental requirements for new installations can be found within BS 5489/ BSEN 13201.

The provision of public lighting will vary with need, location, environmental factors and cost. It is generally accepted that urban areas, including residential estates in villages is provided with a system of public lighting for the security and comfort of the residents. However the level and standard of lighting provided will be dependent upon a number of factors.

Many inner city areas have higher than normal crime rates and may therefore benefit from the provision of a high level of public lighting, whereas, environmental factors in rural areas may constrain the level and type of lighting considered necessary.

For public safety reasons and where there is right of public passage, the Council, where appropriate, provides and maintains lighting in semi-urban areas where: -

- frontage development is continuous beyond the urban limit.
- there is another lit area within 300 metres.
- Investigation of night-time accident statistics indicates that lighting is justified as an accident remedial measure.

Lighting will also considered where the density of housing adjoining the road is a minimum of 10 properties within 200m and where a community can be identified.

### **3.8 Network Availability Considerations**

There are no specific network availability considerations with regards to the management of the street lighting assets, however the timing of works may be affected where carriageway space is required to safely undertake the works.

### **3.9 Amenity Value Considerations**

The Council does not have a formal policy that establishes column standards in different amenity areas. However the type of luminaire used on a particular lighting scheme will vary in accordance with the area and the type of lighting to be provided.

Functional – Used where maximum utilisation of the light output is required. Practical design combined with high efficiency optical systems providing low operational costs.

Decorative – Used where a decorative and aesthetically pleasing appearance both by day and by night are required. Optical systems designed to create a pleasant lighting ambience.

Decorative seasonal lighting is provided by the Council in some of the main shopping areas.

## 4 MANAGEMENT PRACTICES

### 4.1 Policies

There are no Council policies directly relating to the street lighting asset.

### 4.2 Inspection Regime

The following street lighting inspection regime is based on the guidance and recommendations of the Code of Practice (COP) “Well Lit Highways”, (Nov 2004).

#### 4.2.1 Night Scouting Inspections

The lighting network is inspected 17 times during the hours of darkness. One complete inspection is carried out monthly during the summer months April to October (7 inspections) are fortnightly during the winter months October to March (10 inspections).

#### 4.2.2 Safety Inspections

Street lighting infrastructure is not routinely safety inspected during the day. Safety defects are attended to following night scouting or ad hoc inspections or where the public has reported an issue.

#### 4.2.3 Defects.

The most common lighting defects relate to dark lamps

There are two categories of defects.

Category 1 Those that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short-term structural deterioration. Response time is 4 hours.

Category 2 All other defects. Response time is 5 working days.

Category 1 defects are corrected or made safe at the time of inspection if practical. This may involve displaying warning notices, coning off or fencing off to protect the public from the defect. If it is not possible to make the defect safe immediately, permanent or temporary repairs are carried out within 4 hours. Once made safe the defect then becomes a Category 2 defect. Where Category 1 defects have been made safe with temporary signs or repair, but still have potentially serious consequences for safety, special inspections must be carried out to ensure the integrity of the emergency works.

Category 2 defects will be permanently repaired within 5 days.

Examples of street lighting defects include

Category 1

- Pole knock downs due to accidents
- Open or missing column or cabinet doors
- Exposed wiring
- Dark areas – multi outages

Category 2

- Dark lamps
- Flickering lamps
- Damaged lantern bowls
- Turned lanterns or brackets

The following are not considered to be significant defects and safety related action is not required, but will be considered as part of planned maintenance works.

- Unit identification number missing
- Lanterns obscured by foliage

Identified defects are addressed using the reactive maintenance process detailed at 4.6.

**4.2.4 Reactive Inspections and Response**

Reactive inspections are undertaken when a potential defect or other issue is reported by the public or from another source, e.g. Central Scotland Police. The vast majority of these types of reported defects are processed via the Council’s Contact Centre. The Public also has the opportunity to log calls via the Council’s website. Other sources of reported defects include letters to the Council, public contact with Local Councillors, e-mails direct to employees, and personal contact at Council Offices. Reactive inspections are processed in much the same way as safety inspections are handled.

Table 4.2b shows the different categories of maintenance defects and the established response times for all calls.

<b>Category</b>	<b>Response</b>
Emergency Response (Cat 1)	Immediate (4 hours)
Street Lighting Outages (Cat 2)	5 days
General Enquiries	15 days

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#### 4.2.5 Inspection Records

The results of inspections are currently recorded using a part paper based/ part electronic system. However, work is currently underway to record inspections fully electronically using tough books, linked to GPS and downloaded into GIS mapped based, asset management software. The system will generate location plans of each defect, which aids the repair team to identify and locate each defect. The inspections will be stored with a complete history against each lamp or column, recording faults collected during the inspection. The inspection records will provide a valuable resource in enabling maintenance works to be planned.

**Improvement Action IAL6: Develop wholly electronic inspection record process.**

#### 4.3 Condition Assessment

There are two forms of condition assessment (other than the scouting inspections as above), electrical testing and structural testing.

**Electrical Testing** – These should take place on a continuous cycle ensuring that all electrical systems are tested every 6 years. The test includes circuit test details, control pillar test details and visual column inspection details. There is currently an informal regime of electrical testing currently underway. This regime is being undertaken where staff resources allocated to undertaking lighting repairs become free. The introduction of a programme, specified inspection periods and formalising a method of recording results would improve this process.

**See Improvement Action IAL3.**

**Structural Testing** – These should take place on all columns over 30 years old, every 6 years. The testing requires structural condition analysis on street lighting columns by means of both static and dynamic methods to EN40. Test results for the condition of foundations, brackets and columns are recorded. There is currently no structural testing regime undertaken.

**See Improvement Action IAL4.**

#### 4.4 Construction/ Asset Acquisition

The installation of new lighting stock normally occurs where lighting is necessary as part of various traffic management and road safety improvements. Also, replacement of existing lighting may require an increased number of units in order to meet current lighting standards.

Acquisition of lighting is normally associated with the adoption of new developments. In such cases the street lighting officer is either asked to approve or undertake the street lighting design prior to construction consent being granted. In addition all electrical test certificated must be provided prior to final adoption.

#### **4.5 Planned Maintenance**

Planned maintenance relates primarily to asset renewals, funded from the capital budget allocated to street lighting. Work is prioritised on the basis of visual condition assessments and the age of the asset components. The target, based on historical funding levels being maintained, is to replace all concrete columns within the next 10 to 15 years.

Any upgrading of lighting points to current standards is limited to lamps replaced as part of the concrete column replacement programme. All new lighting schemes are designed using Candelon active monitoring equipment.

#### **4.6 Reactive Maintenance**

Reactive maintenance relates to all emergency and non-emergency repairs that have been identified either by inspection or by our customers via the Councils Customer Relationship Management system (CRM) used by the Contact Centre. The inspection process and all repairs are funded from the revenue budget.

#### **4.7 Routine Cyclic Maintenance**

There is no cyclic maintenance activities carried out for street lighting assets. Previous regimes of bulk lamp changes, cleaning have been suspended for a number of years due to financial constraints.

#### **4.8 Disposal**

It is generally unusual for complete systems of street lighting to be disposed of. But occasionally, mainly through housing regeneration, some roads with street lighting may no longer be required.

Disposal of lighting elements is, in the main, associated with the replacement and upgrading programmes. Items are disposed through contracts where the bulk of items (lamps and lanterns) fall under the WEEE regulations.

## 5 INVESTMENT

### 5.1 Historical Investment

<b>Table 5.1 Historical Investment (£)</b>						
<b>Cost Category</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11 (Est)</b>
Planned Renewals	262,333	241,714	801,296	201,159	186,571	200,414
Reactive Maintenance	317,029	328,828	394,449	406,719	395,122	390,320
Routine Maintenance	0	0	0	0	0	0
Electrical Testing	0	0	0	0	0	5,000
Structural Testing	0	0	0	0	0	0
<b>Totals</b>	<b>579,362</b>	<b>570,542</b>	<b>1,219,894</b>	<b>632,945</b>	<b>581,693</b>	<b>595,734</b>
Energy Costs	N/A	N/A	500,703	510,493	524,924	522,620

## 5.2 Output from Investment

Systems are currently under development to provide outputs associated with the level of investment.

Year	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Old columns removed	N/A	N/A	N/A	N/A	TBC	TBC
Replacement columns installed	N/A	N/A	N/A	N/A	TBC	TBC
New columns installed (road schemes)	N/A	N/A	N/A	N/A	TBC	TBC
Night Scouting Inspections completed	N/A	N/A	N/A	N/A	TBC	TBC
Number of Recorded Faults	1271	2015	1202	2309	3194	TBC
Repairs on Target	N/A	N/A	N/A	N/A	92%	TBC
Electrical systems tested	N/A	N/A	N/A	N/A	0	TBC
Number of columns structurally tested	N/A	N/A	N/A	N/A	0	TBC
Number of dimmable street lights installed	0	0	636	0	0	0
Street Lighting annual consumption (KwHrs)	N/A	N/A	N/A	N/A	6,257,100	TBC

## 5.3 Forecasting Financial Needs

There is currently no formal process in place that establishes ongoing, long term, budgetary requirements for the maintenance and management of the structures asset. However 4,150 columns are over their 30-year nominal life span. It is estimated that it would cost in excess of £5.25M to upgrade these columns. It has also been noted that an estimated 1,125 extra columns will exceed their expected life span within the next 5 years.

## 5.4 Valuation

An initial calculation of the gross replacement costs estimates that it would cost **£11.28M** to replace the street lighting infrastructure with a modern equivalent asset. Data Source: Street Lighting GRC Calculator for Whole of Government Accounting (CIPFA 2010). Depreciated replacement cost (DRC), the cost of replacing the asset in its current condition, is estimated to be in the region of **£4.46M**. Annual depreciation is estimated to be in the region of **£340k**.

## **6 FORWARD WORKS PROGRAMME**

### **6.1 Existing Works Programme**

Street Lighting works programmes have historically been developed on an annual basis to match with the Council's annual budget setting process. Forward planning beyond this period is not possible as budgets continue to vary year on year.

Prior to the start of the new financial year, a potential schemes list is compiled using data gathered from the inventory on the age of assets and from inspections. The list of schemes up to the value of the allocated budget is then included in the master programme (see 6.2). Lower priority schemes that do not make the list are considered for inclusion in the following years programme.

### **6.2 Programme Coordination**

A master programme of works is then established, which includes all major planned works including new roads projects, bridges and lighting schemes. Regular monthly meetings take place to monitor progress and to adjust the programme accordingly. Processes are in place to ensure all works are added to the Scottish Roadworks Register (SRWR) in accordance with the notification standards. Statutory Undertakers receive copies of this programme at the quarterly meetings.

### **6.3 Option Appraisal**

The size of the budget and the condition of the known condition and age of the asset precludes the need for any meaningful option appraisal exercise.

## 7 RISK

### 7.1 Risk Management Framework

Stirling Council has an established framework for risk management, which includes both a Council Risk Register and a Service Risk Register. Details of the Framework are provided in Section 8 of the Main RAMP Document. Identified risks associated with the street lighting asset are included in **Appendix D: RAMP Risk Register**

It should be noted that this Framework relates to overall business risk but includes, where appropriate, risk associated with health and safety. However risk management in terms of compliance with the Health and Safety at Work etc Act 1974 is covered in more detail through the Services Quality Management System and compliance with the Health and Safety Standard OHSAS 18001:2007.

**Improvement Action IAL7: Review Risk Register to include identified risks associated with street lighting.**

## 8 PERFORMANCE MEASUREMENT

### 8.1 Performance Management Framework

The Services Road Management Plan 2007-2011 sets out the proposed actions, performance measures and targets we aim to achieve over the next four-year period. The actions, measures and targets are related to most activities of the Service. These are reported, evaluated and reviewed on at least an annual basis by the Roads, Transport & Open Space (RTOS) Management Team. The Plan also includes a list of policies to be formulated, which will guide how we deliver and improve our services. To ensure we meet our objectives, a comprehensive set of performance measures and targets (PIs) are being developed that cover all areas of our activity. These measures and targets are used to monitor how individual service units are performing and whether our collective objectives are being met.

### 8.2 Performance Indicators

<b>Table 8.1 – Currently Reported Performance Indicators related to the Carriageway</b>		
<b>Performance Indicator</b>	<b>Target</b>	<b>Where Reported</b>
Depreciated Replacement Cost (DRC) as a % of Gross Replacement Cost (GRC)		Recording system under development
No. of street lighting repairs completed within 5 working days.	90%	Service Management
Proportion of street lighting columns over 30 years old	Management Info	Service Management
% of street lights working as planned on any one evening.		Recording system under development
Average annual electricity consumption per street light (kWhrs)		Recording system under development

These PI's are reviewed and evaluated on an annual basis by the RTOS Management Team.

### 8.3 Future Planned Performance Indicators

Councils, through SCOTS, are currently developing additional performance indicators, statistics and management information as part of the holistic development of Asset Management throughout Scotland. ***See Appendix B for details of developing performance information***

**Improvement Action IAL8: New Performance Indicators: Develop methods of capturing required data**

## 9 SERVICE IMPROVEMENT ACTIONS

The Table below provides information on the current planned actions for the continuing development of the Street Lighting Lifecycle Plan. This information is also include in **Appendix E: Improvement Action Plan**

<b>Table 10.1 Improvement Actions (Street Lighting)</b>			
<b>Ref</b>	<b>Action</b>	<b>By</b>	<b>Responsibility</b>
IAL1	The specification for all new installations, including new developments, will require the installation of Candelon monitoring equipment.	2011	Street Lighting Team Leader
IAL2	Establish a passive half hourly metering system.	2011	Street Lighting Team Leader
IAL3	Review revenue budget allocation with a view to reintroducing electrical testing and a cable replacement programme.	2011/12	Street Lighting Team Leader/Roads support Manager/ RM Manager
IAL4	Review revenue budget allocation with a view to reintroducing of structural testing.	2012	Street Lighting Team Leader/Roads Support Manager/ RM Manager
IAL5	Develop a programme to update and improve the asset inventory including capturing spatial cabling data.	2012	Asset Coordinator/Street Lighting Team Leader
IAL6	Develop wholly electronic inspection record process.	2012	Asset Coordinator/Street Lighting Team Leader/ Electricians
IAL7	Review Risk Register to include identified risks associated with street lighting.	Annually	Street Lighting Team Leader/Roads support Manager/ RM Manager
IAL8	New Performance Indicators: Develop methods of capturing required data	2013	Asset Coordinator/Street Lighting Team Leader/ Roads Support Manager