



Buckinghamshire County Council
Select Committee

Transport, Environment and Communities Select Committee

Report to the Transport, Environment and Communities Select Committee

Title:	Update on the Transport for Buckinghamshire Street Lighting Service
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Author:	Mark Averill
Contact officer:	01296 383306 maverill@buckscc.gov.uk
Cabinet Member sign-off:	Cllr Mark Shaw

Purpose of Agenda Item

This report provides information to the Select Committee about the Transport for Buckinghamshire Street Lighting Service and covers the areas of:

- Service Overview
- Performance
- Capital Programme
- Operational Model
- The Annual Plan and Programme for 2018/19
- Difficulties, Challenges, Opportunities and Best Practice
- Stakeholder Engagement

Background

1. The Street Lighting Service

1.1. The provision of Street Lighting and Footway Lighting within the United Kingdom is a non-statutory service (i.e. Highway Authorities are under no statutory obligation to provide lighting) but where provided, lighting should be maintained to an acceptable standard. The disciplines of Street Lighting and Footway Lighting are distinct in their objectives and the bodies who can provide these services;

- Street Lighting is provided on main or strategic roads and at other locations, e.g.

roundabouts, where it can be considered that there is there is potential for conflict between vehicles and vehicles and pedestrians, including pedestrian crossings or at locations where traffic calming measures have been deemed to be needed. The purpose of the illumination provided is to highlight these potential conflicts to road users. The requirement for the provision of Street Lighting is defined by many factors but the main principles are volume of traffic, both vehicular and pedestrian, and the interaction between these. Street Lighting of this kind is provided by the Highway Authority. The Highway Authority will also be responsible for the provision and maintenance of illuminated street furniture such as signs and bollards. The lighting provided is not designed to illuminate areas away from the Public Highway such as frontages to properties but is an important aid to the safe passage of vehicles and pedestrians on the highway and to the provision and use of CCTV and similar systems in town centre environments. The requirements for the levels of illumination provided are defined by design standards that must be met where lighting is provided.

- Footway Lighting is provided for pedestrian wayfinding of the footways (pavements) adjoining roads or residential areas that do not meet the requirements for the provision of Street Lighting. Footway lighting provides a lower level of lighting than the illumination that is provided by Street Lighting but should again be provided such that it meets the requirements of the relevant lighting design standards. The lighting is not intended to light the frontages of properties or private pathways. Footway lighting is owned and maintained by the footway lighting authority. This can be the Highway Authority but it is common for this service to be provided by Town or Parish Councils. Increasingly, the lighting in new housing developments will not be adopted by lighting authorities (either the Highway Authority or Town/Parish Councils) and will remain in the hands of the developer or their managing agents.

1.2. Buckinghamshire County Council currently acts as both a Street Lighting and Footway Lighting Authority for the assets within the County Council's ownership. Buckinghamshire County Council maintain a total of approximately 37,500 assets consisting of 30,000 lighting units mounted on columns and telegraph poles, 4000 illuminated bollards, 3000 illuminated signs and 500 Belisha Beacons. Additionally many Parishes, Towns and Districts also provide footway lighting in for their residents' benefit.

1.3. The above is not consistently managed across the County. For example, in Aylesbury, Buckinghamshire County Council maintain almost all of the street and footway lighting assets. In other locations, such as Wendover, Buckinghamshire County Council maintain only the lighting on main roads and Wendover Parish Council maintain the majority of assets on more minor roads.

1.4. The Street Lighting service utilises a risk based approach to assigning a repair timescale to each asset that is reported as defective, damaged or otherwise requires attendance. The risk based approach is consistent with national standards of good practice promoted by Central Government and as laid down in the Code of Practice, Well Managed Highway Infrastructure, (WMHI). This CoP was adopted nationally in 2017.

1.5. Timescales which Buckinghamshire County Council currently target are as follows;

- 2 hours – Emergency situations including asset leaning/knockdowns, missing doors, risk of items falling from height, equipment causing obstruction, dislodged bollard shells.
- 24 Hours – Multiple Street Lighting outages, more than 3 consecutive lights out in a road and defects with assets related to pedestrian crossings.
- 28 working days – All appropriate defects reported which do not meet the criteria above. This would include single outages to street lights, signs and bollards. If the item cannot be repaired at this visit or it is deemed that the asset requires replacement, either in whole or in-part, the works will be added to programmes of Planned Maintenance works. (Note: If the underground electrical supply cables are found to be defective these can

only be repaired by the relevant electricity company for the area and the details are passed straight across to these organisations for repair. The Electricity Company also work to 28 day repair timescales).

- 90 Working Days – Planned Maintenance. All planned maintenance works will be programmed and delivered as swiftly as is practicable, but within 90 working days. Some locations require liaison with other parties, road closures or coordinated works between teams to deliver a coherent and cost effective solution.

1.6. Street Lighting assets nationwide have traditionally experienced under investment over an extended period. Much of the existing street lighting stock was erected in the 1960's and 1970's, and the original design life of 25 years has been reached and exceeded for many of the units. An industry best practice electrical and structural testing regime of 6 years is employed to identify assets which require electrical upgrade or full asset replacement.

1.7. In 2017/18 4700 units were tested and the results of these tests indicated that 1887 assets were in advanced stages of degradation and would require further investigation within 3 years and that a further 199 required immediate removal from service. These results were refined into a coherent programme of works for the replacement of 374 assets under Capital programmes in 2018/19. It is clear therefore that levels of Capital funding (approx £1.5m) do not enable the annual repair of all priority defects found within testing programmes, although the risk of failure of columns remains low.

1.8. The Revenue budget for the lighting service for 2018/19 is £2.38m. Energy costs account for £1.4m of this leaving just under £1m to deliver repairs and maintenance of all 37,500 assets.

1.9. The Street Lighting service has a team for the number of assets with 7 full time staff in the office and 7 operational staff working in 3 crews of 2 operatives each, with one trainee who floats between the crews. There is a current vacancy that would allow a further crew to be formed when it is filled.

2. Performance

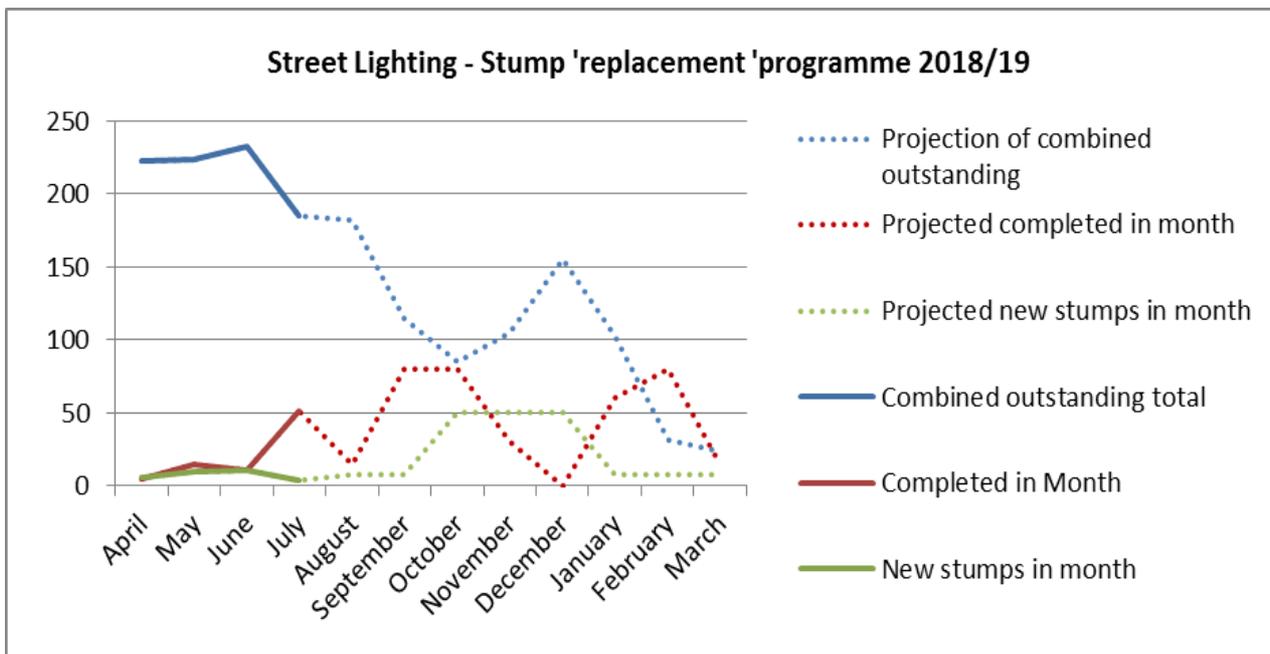
2.1. Good progress has been made in improving the service during 2017/18 and this has continued in 2018/19. A new performance measure has driven improvements within the reactive service. See the following for details.

2.2. Outages – Performance is formally measured through Contract Performance Indicator (CPI) against completion of 2 hour and 28 day jobs. 24 hour jobs are not currently subject to a formal CPI, although these are monitored. Performance is also measured by the percentage of lighting in operation at any time. Targets and performance are;

- 2 hours
 - Acceptable Target = 98%.
 - Minimum Target = 93%.
 - Performance for 2018/19 to date = 100%
- 24 hours
 - No formal target
 - Performance for 2018/19 to date = 100%
- 28 Days – This is a new measure for 2018/19 that was formally agreed in June with a review scheduled to be carried out in September. Targets and performance are;
 - Acceptable Target = 95%
 - Minimum Target = 90%

- June = 89%. July = 88%
- Percentage of Street Lights in operation
 - Acceptable Target = 95%
 - Minimum Target – 93%
 - Performance for 2018/19 = 97%

2.3. Stumps/Removed Assets – Lighting assets can need to be cut to stumps for a number of reasons but the primary causes are road traffic collisions (RTCs) and deteriorated assets identified through structural testing. On average in 2018 there have been eight assets damaged in RTCs per month which have resulted in complete asset removal or the reduction of the column to a stump. There are currently 165 stumps on the network, the majority of which will be replaced as part of the annual capital programme which commences in September and runs initially until November. The Structural Testing Programme for 2018/19 also commences in September and will be completed in November and any assets which are identified as requiring replacement will be replaced in January and February, budget permitting.



3. Capital Programme

- 3.1 Due to the age and type of equipment used across the County, it was identified in 2017/18 that a particular lamp type (low pressure sodium - SOX) that was in common use would cease manufacture in 2020 and thus would become unmaintainable. In 2017/18 over 3000 such lanterns were replaced with modern and efficient LED variants. This project was very successful in meeting the project briefs of reducing energy consumption (circa 80%), reducing the amount of uncontrolled light output (therefore reducing sky glow), improving the amount of useful light to the highway and delivering a more reliable package covered by a manufacturer's warranty for 10 years. A similar project is currently underway and seeks to convert the remaining 3295 SOX lighting within the County to LED whilst at the same time renewing the mounting equipment and connections to the telegraph pole mounted lanterns.
- 3.2 The replacement of 374 columns identified by structural testing as being in need of replacement in 2017/18 will be carried out between the beginning of September and mid-November, with a similar number projected to be replaced in January to February. Due to the age and structural condition of the assets, this is still somewhat short of the number needed year-on-year to maintain the standard of the

lighting stock but is constrained by budget. An MTFP bid for additional funding for 2019/20 to 2022/23 has been submitted.

4. Operational Model

- 4.1. Transport for Buckinghamshire have three operational crews who undertake all repair work and also cover emergency attendances across the County. Although efforts are made to deploy the crews evenly across the county on a daily basis (to most efficiently cover any emergency attendances by geographic area), this is not always possible due to the nature of emergencies being unpredictable. Emergency response requirements will always disrupt routine work schedules.
- 4.2. The majority of the columns and sign posts across the County are powered by cables connected directly by the electricity companies for the area. These companies are the only bodies who can carry out repairs to their equipment when it becomes faulty. TfB cannot undertake this work directly. This is referred to as a dead service. Unlike connections to homes and offices, the electricity companies do not have a set time limit for the repair of their equipment that supplies Street Lighting assets but they should repair them within 28 working days. If they fail to do so and also fail to notify of legitimate engineering reasons for the failure they are fined by their governing body and this fine is recovered by Transport for Buckinghamshire. So far in 2018 these fines have amounted to £15,000, equating to around 250 'days over' timescales in place. Relationships with the electricity companies are generally good but can always be improved upon and this a main focus of the service currently.
- 4.3. For many of the non-standard "change the bulb" operations, Supply Chain Partners assist with the delivery of installation and also now, the connection of electricity company cables as well as assistance with the delivery of the capital programs. Transport for Buckinghamshire has added additional options to our list of approved partners in 2018 including a Buckinghamshire based company who are carrying out the lantern conversion program currently.

5. Difficulties, Challenges, Opportunities and Best Practice

- 5.1. Difficulties most commonly encountered are lead times for materials and the availability of Supply Chain Partners. It is worth considering that all of the Street Lighting Authorities in the United Kingdom are procuring materials from the same group of suppliers as they have demonstrated that they make good quality and reliable products. Transport for Buckinghamshire has worked hard to develop relationships with our most common suppliers and through this we have not only secured improved delivery times but in many cases improved pricing structure and value for money.
- 5.2. With energy costs continuing to rise and opportunities to reduce energy consumption through the installation of more efficient equipment being finite, options to de-illuminate non-required items should now be given serious consideration. This is also good from an environmental point of view as it would have the added benefit of reducing light pollution and tie in with international 'dark skies' initiatives.
- 5.3. Budgets continue to be a pressure and with energy prices increasing, more efficient equipment is required. Our capital programmes have facilitated decreasing consumption, allowing the overall energy costs to continue at a steady state whilst prices have risen, but continued investment will be required in order to maintain this steady state.
- 5.4. Recruitment for experienced operational staff can be difficult in the County, largely due to the pull of London, so retention of staff is very important. Effective training packages are vital in increasing competencies so that trainees can be recruited and trained to the high standards that are required.
- 5.5. Advancements in solar powered technology are currently being explored. The manufacturers are not suggesting the suitable as permanent replacements due to having a battery life of only three years but as a possibility for temporary installations or for locations where it will take some time for the power supplies to be installed are a possibility. Limited products are available at this time but more manufacturers are looking into options and these should be with the market shortly.
- 5.6. Having different authorities responsible for different lighting across the county does cause a degree of confusion, and can lead to frustration amongst residents. This is especially true of Footway Lighting,

with the range of ownership between BCC and Town and Parish Councils and also private ownership leading to a lack of clarity and potential differential in repair/upgrade.

- 5.7. Approximately 1300 street lights were de-commissioned as a part of the Street Light Switch-off programme that was implemented prior to 2009. The County Council needs to consider how this discretionary service is maintained moving forward and where the costs for delivery best sits.
- 5.8. Part night lighting is an option that has not been explored by the County Council, however savings made as a consequence are minor as electricity costs during off peak hours are relatively cheap. Savings in carbon emissions can be achieved as well as a corresponding lengthening of the useful life of the street light itself (in peak summer lanterns probably only burn for 2 hours per night on a part night lighting regime. Part night lighting does not, in itself, deal with the issues relating to physical stock numbers and asset liability.

6. Stakeholder Engagement

- 6.1. During recent Stakeholder Conferences, discussions with various Parish and Town Council regarding upgrading of their lighting stock to LED technology to future proof against existing equipment becoming unserviceable proved to be a very popular topic.
- 6.2. A number of Parishes who do not currently act as Footway Lighting Authorities have enquired about what is they are required to do so that they might meet the needs of their residents. Transport for Buckinghamshire would support such actions for the reasons highlighted earlier.
- 6.3. Parishes who currently hold the Status of Footway Lighting Authority have enquired about extending their portfolios of assets. Transport for Buckinghamshire are happy to advise on this subject.