CRIME SCRUNTY PANEL - 23 SEPTEMBER 2021

Briefing Note – Street Lighting (Perception versus Crime)

Introduction

The purpose of this briefing note is to explain the arrangements for street lighting in Enfield and to review the current position regarding crime, including the fear of crime, and to explore any associations between the two.

Background to Street lighting

In 2006, Enfield Council entered into a Streetlighting PFI for a 25-year period, which requires the service provider, Enfield Lighting Services (ELS), to manage and maintain Enfield's street lights on our behalf until 2031. ELS sub-contract the day to day activities to a specialist contractor – Bouygues Energies and Services. Highway Services has a small client team that manages the PFI contract.

The new street lights installed during the first 5-year period of the PFI were designed in accordance with the British Standard and Institute of Lighting Professionals (ILP) guidance documents relevant at that time. Most residential roads were designed to a specific lighting class called S2, which was at the higher end of the range of lighting levels required by the British Standard for residential roads and provided an average brightness of 10lux and a minimum of 3lux. Main roads and town centres were designed to a higher standard. By way of comparison, the natural lighting conditions provided by moonlight (full moon) typically provides 1lux and night-time with no moon provides less than 0.01lux.

In 2013/14, the lights were dimmed to save energy; an approach adopted by many authorities at that time. The power supply was reduced by 50%, which reduced the lighting level for the S2 class from an average of 10 lux to an average of 2.3 lux. The measurement of light, in lux, is not a linear scale and during the night-time dimming trials held with Councillors at that time, Councillors agreed that the reduction was difficult to detect.

In July 2019 full Council approved a project to convert all Enfield's street lights to LEDs, controlled by a new central management system (CMS), which would further reduce Enfield's electrical consumption by over 50% (ie a reduction of nearly 4m kWh per year) and provide associated reductions in carbon emissions of approximately 1,400 tonnes of carbon each year (a similar level of carbon would be produced by 1,000 cars of average emissions rating and average mileage in a year).

A significant benefit of LED lighting is that it provides a much clearer, whiter light that is closer to natural daylight and gives better colour rendition at night than the old-style yellow lanterns. This is particularly beneficial for identification and CCTV recordings. A further benefit is that a LED lighting source is more controlled and direct, meaning less stray 'backlight' into people's homes. Stray backlighting caused

numerous complaints with the previous street lights resulting in back-shields being fitted to luminaires in situations where this issue caused problems for residents.

The LED upgrade has involved each road in the borough being re-designed using the latest industry standard software in accordance with the British Standard and Institute of Lighting Professionals (ILP) guidance documents. This has allowed specific selection criteria to be assigned to each road within Enfield with a larger number of lighting classes than before. The new designs take account of local factors thereby increasing the lighting levels, for example, by one class for a residential road that has a school in it. Busier roads and areas with shops have been designed to higher lighting classes.

As part of the development of the LED proposals, the Street Lighting Team worked closely with the Council's Community Safety Team who identified a number of crime 'hot spots' in the borough. The lighting in these roads was increased by one lighting class.

One of the areas of concern highlighted was around Upper Edmonton from the North Circular Road (NCR) junction with Fore Street and southwards toward the Haringey boundary. This included the Joyce Avenue and Snells Park Estates, some roads to the east of Fore Street and some also just north of the NCR junction. In total 29 roads were highlighted and were subsequently designed to a higher lighting level.

The other area identified was in Ponders End with various roads within the area from Lincoln Road towards Green Street, east of the Hertford Road. Here there were 15 roads that were highlighted and designed to a higher lighting level.

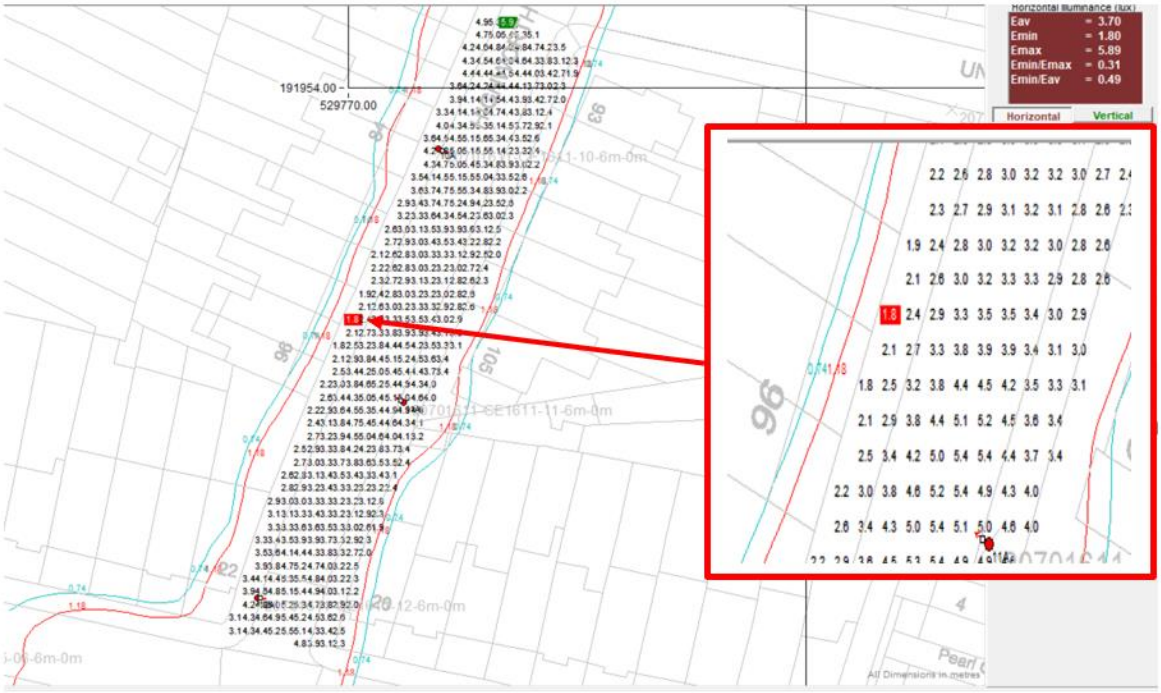
In addition, wards that were identified as having higher crime levels were prioritised to be in the earlier part of the LED installation programme, thereby improving the quality of lighting standards in these roads sooner.

The majority of residential roads have been designed to a new P4 standard in accordance with the above criteria. The new LED luminaire units have been retrofitted on the existing lighting columns. The designs have therefore also been checked to ensure they not only meet the correct 'average' level of light for each road, but also to ensure that the point mid-way between street lights complies with the specified 'minimum' level of lighting, thereby avoiding a potential 'zebra effect' along a street with lighter and darker zones. This is more critical with the new LED lighting as each LED luminaire unit provides a narrower spread of light as described above.

The new lighting luminaires themselves are based on a small number of different LED luminaire unit types, which are then designed to operate at different power consumption rates in order to achieve the correct level of light for the lighting class specified for each road. The majority of luminaires in residential roads are operating at 80 – 90% power consumption. The power supply is controlled by the Central Management System.

The new P4 lighting class designed in residential roads requires an average lighting level of 3.69 lux whereas, as stated above, the old S2 class, dimmed by 50%, gave an average of 2.3 lux. The P4 lighting class also specifies a minimum lighting level of 0.74lux at any point on the public highway (carriageway or footway), which is the same as that achieved by the lighting prior to installing the LEDs.

The diagram below is an example of the information produced by the lighting design software and shows the designed light levels at individual points in a road.



Highworth Road N11 P4

In summary, the levels of illumination provided by the new LED lights are at least as bright as before.

Issues

The programme to install 22,943 LED luminaires started in February 2020 and is now substantially complete, with approximately 1000 still to install, mainly along Mollison Avenue and Meridian Way and a number of special ‘heritage style’ units, generally in conservation areas.

The programme appears to have been well received by the public with low numbers of complaints being received from residents and Councillors. Bouygues have received 353 complaints in total. 323 were from residents regarding lights being too bright, which generally occurred during the period immediately after installation before the correct power profile had been applied via the CMS, or where properties are very close to a street light, and these have been resolved by fitting a back-shield. The remaining 30 related to residents’ concerns that the lighting levels were too

dark. Enfield's Client Team has directly received a total of 36 complaints, of which 5 related to the levels being too bright and 31 related to the levels being too dark. The majority of these duplicated those received by Bouygues.

Complaints relating to the new LEDs being too dark have mainly related to residential roads in Bowes Ward and occasionally in Upper Edmonton. Generally, residents' complaints about the lights being too dim are based on their view that roads appear darker than before the LEDs were installed. Some residents have raised concerns that they feel less safe at night because they consider that the Council has reduced the level of lighting in their road or neighbourhood. This issue has been raised at the Bowes Ward Forum in June and the message has been reinforced by the Ward Councillors in Bowes Ward who have requested that the Council address the issue.

Several residents in Bowes Ward have raised concerns that Enfield's street lights are much darker than Haringey's. Officers have liaised with Haringey's Street lighting team and are aware that Haringey's residential roads are currently lit at two lighting classes higher than Enfield's, apart from midnight to 5am, when Haringey's street lights are dimmed such that they are only one lighting class brighter than Enfield's. By comparison, Barnet has recently converted its street lights to LEDs that are designed to the same lighting levels as Enfield.

In roads where complaints have been received, Bouygues have undertaken photometric tests to check both the average and minimum lighting levels provided. In all cases the tests confirmed that actual levels met the designed levels apart from one recent test in Bowes Ward. The low light levels were caused by overgrown street trees and arrangements have been made to prune the trees in order to remedy this.

The LEDs in Bowes Ward were installed during the Autumn 2020 but the majority of complaints received by the Street lighting team regarding dark streets and expressing concerns over public safety at night were received during the Spring 2021, ie when the evenings were becoming lighter. (6 complaints were received across the whole of Enfield during the period Sept – Nov 2020, 6 during Dec – Feb 2021, 17 between Mar – May, and 7 during June – Aug 2021.)

Since the new LED lights have a more direct spread of light towards the public highway, there is now less light spilling into private gardens. Whilst this complies with the requirement to illuminate the public highway and has the benefit of reducing the level of complaints previously received regarding over-lit front gardens, it may well give the appearance of the whole street being darker overall. This, in turn, may have led to some residents raising concerns over their fear of crime in the borough.

Levels of Crime, trends and fear of Crime in Enfield.

Officers in the Streetlighting team have liaised closely with Enfield's Community Safety Team to obtain a better understanding of any relationship between lighting and crime. Key issues to consider are whether there has been a change in the level

of night-time crime in Enfield since the installation of the new LED lighting and, if so, whether this has been more prevalent in certain areas of the borough or in specific road types, ie residential or shopping areas. Officers also believe that there may be an understandable heightened awareness and greater concern regarding public safety at night, particularly for women as a result of the tragic death of Sarah Everard on 3rd March 2021. This is a national issue rather than specific to Enfield.

There is no existing survey data on the fear of crime. Therefore, the following analysis is provided using local crime data and the results from the Crime Survey of England and Wales.

The Community Safety Unit works closely with the Police and other agencies to review crime levels and trends. There are opportunities for hotspots and local issues to be discussed and contributary factors identified. Issues reviewed have included effects of the pandemic, as well as local issues, including issues raised by members of the public and also recorded crime data.

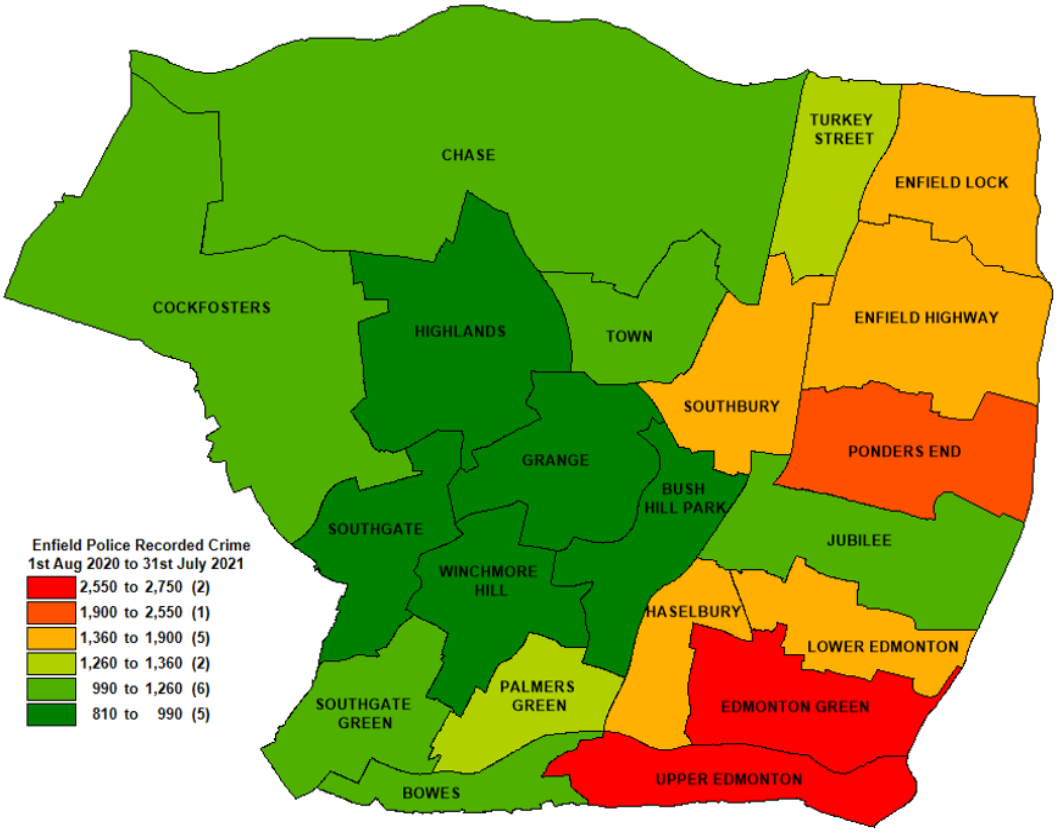
Accessible Police data (https://data.police.uk/) can be used to ascertain crime levels and is used here to show trends and comparisons for the 2 years from 1st August 2019 to 31st July 2021. The main limitation of this available information is that the data from this source does not contain the temporal information of when a crime took place, but it does include approximate geographic locations of crime reports.

The summary of publicly available crime recording for Enfield is shown below to provide an indication of **crime trends** of offences recorded in 2020/21:

Enfield	Aug 2019 to Jul 2021			
Crime Category	2019/20	2020/21	Diff	% Diff
Violence and sexual offences	8200	9182	982	12%
Vehicle crime	5577	5631	54	1%
Other theft	2413	2738	325	13%
Burglary	2786	2128	-658	-24%
Criminal damage and arson	1775	1905	130	7%
Public order	1585	1855	270	17%
Drugs	1320	1108	-212	-16%
Robbery	1383	936	-447	-32%
Shoplifting	932	907	-25	-3%
Theft from the person	579	685	106	18%
Other crime	365	391	26	7%
Bicycle theft	221	252	31	14%
Possession of weapons	227	165	-62	-27%
Total	27363	27883	520	2%

Overall locally there has been a 2% increase in crimes in the borough over the review period.

The maps below show ward level offences of ALL crime for the Borough of Enfield for the latest year to demonstrate spatial distribution of actual reported crime.



When considering the national picture using the Crime Survey for England and Wales information - those figures demonstrate that crime fell in the year to March 2021 as a result of the restrictions linked with Covid-19 pandemic.

At the peak of the Covid restrictions nationally, the reduction in crime reached - 26% (during April 2020) compared with April 2019. However, by the time of the phased exit out of lockdown in March 2021, **national** recorded crime was 7% higher in March 2021 than in March 2020. Despite these fluctuations, the high harm offences of violence and sexual offences remained the greatest proportion of crimes across all regions in England and Wales. (Within this category are a large number of offences where no physical violence has occurred – such as harassment).

Locally there is a seasonal peak of these offences over both years analysed during the summer months – May – July (which would be less impacted by lighting levels). There was also a noted increase in sexual offence reports to the police in March 2021. These may be linked with events outside the borough such as the murder of Sarah Everard and associated discussions and encouragement of people to report incidents.

The Community Safety Team will continue to work closely with the Police and other agencies to review crime levels and trends.