

Meeting of the Environment & Leisure Committee

Tuesday 4 May 2021

Agenda Item 7.3

TO CONSIDER AN UPDATE ON COMMUNITY SPEEDWATCH AND REVIEW INTO SPEED REDUCTION MONITORING DEVICES

1.0 Background

1.1 Members will recall at the meeting of Environment & Leisure Committee on 16 November 2020, when discussions took place relating to ES Highways for an SLR (Strengthening Local Relationships) meeting, members discussed speeding and the need to instigate measures to reduce speeds in the town, and the roads leading into and out of the Uckfield.

1.2 Further to these discussions, it was resolved to:

EL27.11.20 Members **RESOLVED to:**

(i) note the report;

(ii) liaise with the Community Speed Watch Group in Ridgewood to re-establish in the New Year and raise awareness of speed restrictions between New Road and Fernley Park roundabout;

(iii) continue to look at phase four of the access corridors into town around highway improvements to combat speeding.

2.0 Update on re-establishing the Community Speedwatch scheme

2.1 Since that meeting, Councillor K. Bedwell, Councillor G. Johnson and the Town Clerk have been working with County Councillor Chris Dowling and a previous volunteer of the Community Speedwatch scheme to re-establish the group, and help recruit new volunteers.

2.2 A meeting with held with Sussex Police just before Christmas, to discuss re-establishing the existing Community Speedwatch scheme in the south of the town (Ridgewood) as a starting point. It was also helpful to understand the latest with regards to the technology used and follow up enforcement.

2.3 Locations had previously been agreed for Ridgewood in Eastbourne Road. It was stressed by the above individuals that the scheme would like to incorporate locations in Lewes Road as well.

2.4 The Uckfield (Ridgewood) Community Speedwatch scheme was still active on the system used, and risk assessments were all still live. The tolerances at which enforcement could be carried out was set across Sussex by the Chief Constable.

2.5 In Covid-19 restrictions, community speedwatch schemes could operate but in Tier 4 they had not been able to operate without extra risk assessments being put in place. Tiers 1, 2 and 3 were able to operate but obviously it would be up to the scheme itself to decide if they felt comfortable.

2.6 Since the meeting, a recruitment campaign was issued via a press release, social media and an article in Uckfield Matters. Six volunteers have come forward along with office staff and councillors who are interested in undertaking the training.

- 2.7 The first training session with Sussex Police is due to take place on Friday 7 May 2021 at 10am in the Civic Centre. Places have to be booked due to number restrictions and social distancing. Therefore more training sessions will be arranged.
- 2.8 The technology used now is a Bushnell which would cost in the region of £500.00 (inclusive of VAT) and would be supplied by Community Speedwatch Ltd. The scheme could purchase a kitbox which would be available to parish councils on the website online. The bushnell kitbox includes:
 2 x X-Large Hi-visibility long-sleeve vests
 1 x Bushnell Velocity Radar Gun
 1 x Tuning Fork - uniquely numbered
 1 x Click counter
 Certificates (Authorisation & Accuracy)
 Radar Gun easy to use 'Point and Shoot'. Large, easy-to-read LCD display. This was at a cost of £406.50 plus VAT.
- 2.9 It was recommended that this be purchased. For members' information, a sum of £200 had previously been donated to the Town Council to assist with purchasing this equipment and currently listed as an action under General Purposes Committee's action list. The funding is sat within earmarked reserves 'Speed reduction', and a total of £3,700 remains available within that budget.
- 2.10 At the meeting of Environment & Leisure Committee on 22 March 2021, members agreed for the Town Clerk to purchase the equipment.
- EL37.03.21** Members **RESOLVED** to:
(i) note the report and the work undertaken to date;
(ii) confirm that they were happy with the Bushnell Kitbox being purchased at a cost in the region of £500 from the 'speed reduction' earmarked reserves;
(iii) advise that they wished to proceed on exploring speed monitoring and speed Indicator display devices with the various companies suggested
- 3.0 Reviewing speed monitoring devices**
- 3.1 As explained in March 2021, there are numerous devices on the market and the they all have different purposes. Some just record speed data, some help to remind drivers of the speed limit and some record and assist with enforcement (speed camera). Some are mobile, some are fixed so more permanent.
- 3.2 A couple of companies who had been suggested as selling speed monitoring products included Westcotec who supply speed activation signage etc and C A Traffic who have recently been taken over by TagMaster, who now mainly provide covert monitoring in the form of a permanent in-ground sensor or temporary radar device:
<https://www.westcotec.co.uk/products/speed-indicator-device/>
<https://uk.tagmaster.com/products/traffic-radar/>
- 3.3 The Town Council heard of a device being used by parishes to record speed data (Black Cat device). It is covert radar recorded and supplied by TagMaster, a company noted above. It has been advised that it is not an approved device by Sussex Police but parishes have found the device useful to maintain regular data on traffic flows and speeds recorded.

See overleaf...

4.0 Collection of traffic data (recording data)

- 4.1 Members have shown an interest in devices that record and monitor data. A device that collects data on the number of passing vehicles and speed (and time of day) could be useful for building a case to ES Highways or Sussex Police for further support, or even to compare with traffic studies carried out by developers. The margin of error of the speed record might not be up to ES Highways standard, but it would definitely be indicative of an issue should there be one.

Black Cat Device

- 4.2 Councillor G. Johnson carried out research into the Black Cat device used by two other parishes in East Sussex. The cost of the Black Cat speeding device, is approx. £2500 incl. VAT and fittings. See appendix A for further information.

- 4.3 Information states:

Black Cat Radar

This device collects traffic data (Time, Location and Speed) without the need for in-road traffic sensors, can detect the direction and lane position of vehicles in 2 lanes, measure vehicle length (Car, Van, HGV), the distance between vehicles (shows higher risk if too close at speed) and vehicles overtaking. The device is powered by a rechargeable battery which will last up to 15 days. This will provide the data needed for a traffic survey prior to any infrastructure considerations and data to help target Police resources. Data is downloaded from the device to a Microsoft PC or tablet, there no licence fee for the analytics data base.

See Appendix A for full details and specification

The cost of the device is £2,500 which includes 1 battery, mounting brackets and security fittings with the option of purchasing an addition battery at £70 or less. The device is mounted on poles or other assets at approximately 2m height and can be installed by one person. Highways have indicated that this type of device is acceptable to them but that it would not be funded by ESCC. We do therefor need to consider how this may be funded, and how governance should be applied in terms of insurance and training and ESCC licencing of the positioning of such devices. Free technical support is available from the supplier but there may be a role here for SSRP in advising and mentoring Councils.

Some of the larger parishes may be persuaded to fully fund this for their Parish or alternatively on a 50/50 basis with other Councils, a second option is a pool of devices that can be loaned (for a modest fee) to parishes and lastly highways installing a device for a 7 day period (current cost £410 per site per week).

Training for operatives is dependent on the distance from the side of the road that the device is being deployed where this is 1.2m or more then no special training would be required however, for distances less than 1.2m Parish Councils would need to ensure at least one of their operatives are in possession of a (Appendix B Signing, Lighting & Guarding) certificate which is valid for 5 years. Training for this qualification costs approximately £130 for 1 person or £474 + £53pp for a group booking of up to 8 people, insurance (theft/damage) for the device is approximately £15pa. Public liability insurance is probably within your current cover provided that installation instructions are followed. There is also a £50 per site one-off licencing fee which is payable to Highway's, but multi-site licences may be considered by Highways if the Governance of such a project is adequate

The device has been demonstrated to us and the system looks very capable and not too complicated to set up and download data from. In order to evaluate the viability and effectiveness of this initiative it is proposed that two or three pilot sites be identified in order to trial a device provided funding can be found for the trials, and if successful, a further roll out of devices as and when resources and funding become available.

- 4.4 The parishes that had started to use the device (Peasmarsh Parish Council and Catsfield Parish Council) were asked for further information by Councillor. G. Johnson. They advised that this was a RALC (Rother Association of Local Councils) sponsored initiative. Although fairly early days (and impacted by the pandemic), it was understood that ES Highways had now agreed to use Black Cat (BC) data and licence the use of the device. You can still pay for speed monitoring surveys by ES Highways at about £400 per week (24 hour 7 day) per site but now you can also use your own equipment (the Black Cat).

- 4.5 In terms of road safety regs & licenses they have helped by allowing a parish to have multiple sites on one ES Highways licence). You do need to agree those sites first and each site needs an assessment to confirm if operators need specific road safety training. If your site is more than 1.2m from the kerb you may well not need training. All this refers only to 30mph and 40mph limits. The device is installed at about 2m high on a post.
- 4.6 It may be considered useful for Sussex Police to target resources, but not yet approved by Sussex Police.
- 4.7 You have to download software from TagMaster who are the BC suppliers and install it on a laptop or PC which you can then download the collected data to. The data can then be output, via the TagMaster software, as a CSV file and used as input into Excel as a spreadsheet.
- 4.8 The advice given is to wait and see how things progress with Sussex Police and ES Highways, be clear why you need the data and that you will use the device it at least 5 times (to payback the investment vs 5X the ES Highway survey hire fees).

5.0 Speed activation roadside signage

- 5.1 Exploring speed activation road signage, there are various products on the market. It has been recommended that a Town Council would get more use from a portable device rather than a fixed/permanent flashing sign. For the simple reason, it would be more cost effective and could be immobilised to a particular road or area that is experiencing issues at that time.
- 5.2 Members really need to consider how they wish to attempt to change behaviour and the purpose of such signs.

Portable speed activated signs/devices range from £2,600 to £3,200 depending on the detail of the displays on the signs. A full copy of the quotations are available for members in appendix B.

Members will see they vary from just warning drivers of the speed limit in that area, to the speed limit being displayed and 'slow down', to the next level of displaying the speed of the vehicle and 'slow down', the speed of the vehicle with a cross or smiley face, to the speed of the vehicle, and a slow down or thank you message.

- 5.3 You can also purchase a portable solar panel to be used with the portable speed activation sign, as well as optional extras such as data collection units etc. See attached report.

6.0 Recommendations

- 6.1 Members are asked to consider the above report and consider how they wish to proceed.

Contact officer: Holly Goring



Black CAT Radar

Above Ground Vehicle Count, Speed and Classification

The Black CAT Radar unit allows for the collection of traffic data without the need for in-road traffic sensors. This newly developed radar product has the ability to detect the lane position of vehicles, thus allowing the device to monitor two lanes of traffic travelling in the same direction. Furthermore, improvements with the on-board algorithms ensure that the vehicle length measurement is more accurate, allowing for VBV classification.

The device can either be battery powered for short term surveys, or can be solar powered for permanent installations. Units can be fitted with a GSM / GPRS or 3G modem and users can specify the way data is collected. It can record either VBV or binned data and can log the data both historically or in real-time.

In historical mode the Black CAT Radar waits for the user to collect the data, in real-time mode it sends the data automatically to the in-station at user configurable time periods.



Radar Range 15M (Maximum 2 lane operation)

Bi-directional Traffic

| | |
|--------|-----------------------------------------------------------|
| Volume | 98% accuracy with a 95% confidence |
| Speed | +/- 2mph or 3% whichever is greater |
| Length | +/- 40cm or 5% whichever is greater with a 95% confidence |

Dual Carriageway Traffic

| | |
|--------|-----------------------------------------------------------|
| Volume | 97% accuracy with a 95% confidence |
| Speed | 99% accuracy with a 95% confidence |
| Length | +/- 40cm or 5% whichever is greater with a 95% confidence |

* Results excluding obscuration. Ideal CA Traffic site conditions are specified in the user manual.



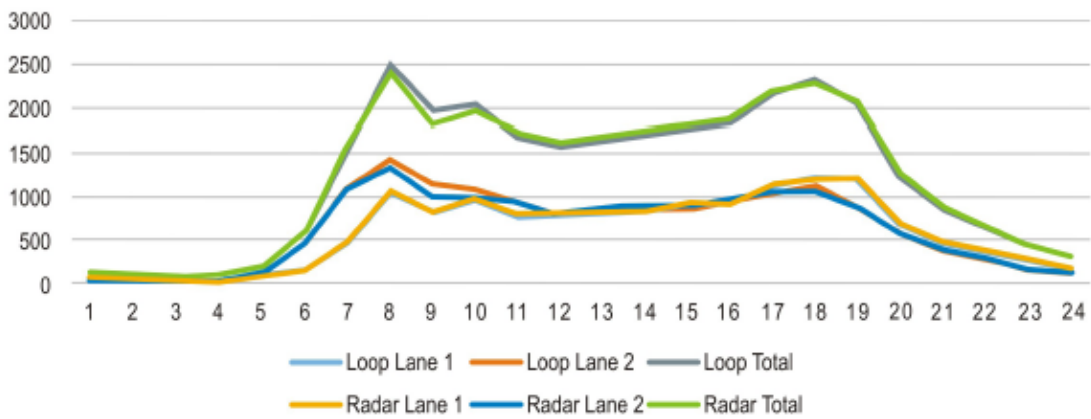
With the advancements of the CA Traffic Black CAT Radar, which utilises the latest radar technology, it is now possible to accurately detect and record two individual lanes of traffic travelling in the same direction, for example half a dual carriageway with an individual channel per lane.

Due to the advances in technology and hardware developments for dual carriageway operation, the BlackCAT Radar has also inherited advanced single carriageway performance. This functionality enables the Black CAT radar to be utilised as a viable alternative to loop based systems at both temporary and permanent installations.

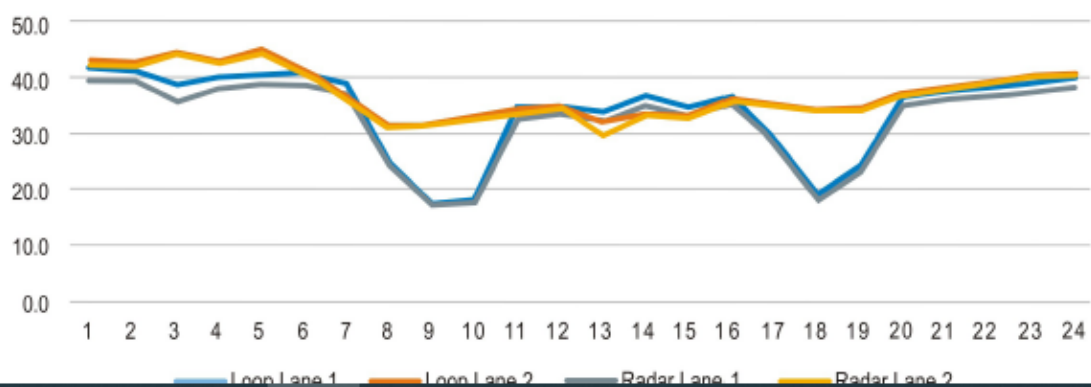
In light of this we feel it's important to measure the performance against a conventional inductive loop site which has a proven volumetric accuracy of 99.5% with a 95% confidence. There are almost always obscuration issues when dealing with Radar Outstations due to high sided near side traffic, however thanks to state-of-the-art platoon splitting algorithms the majority of far side traffic can now be correctly resolved.

Below is a graph depicting a Black CAT Radar detecting vehicles vs a Black CAT inductive loop system on a single carriageway across two lanes reading bi-directional traffic.

A41 Bi-directional Volumetric Comparison of Black CAT Radar and Black CAT Loop Unit

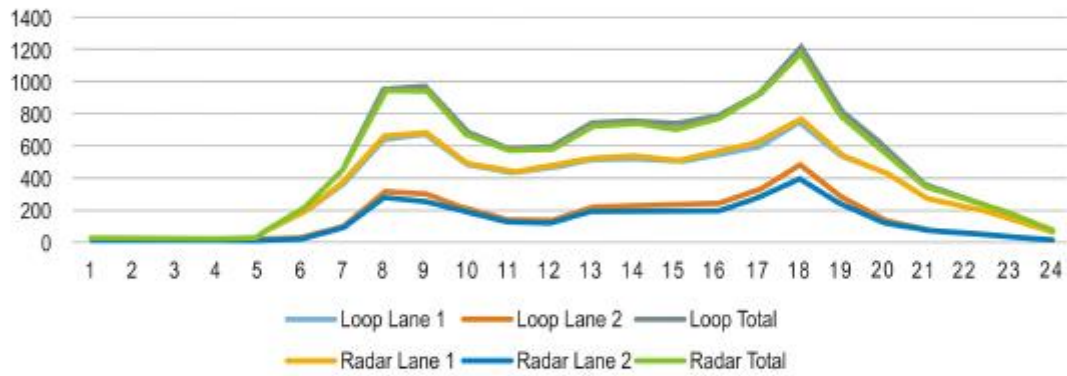


A41 Speed Comparison of Black CAT Radar and Black CAT Loop Unit

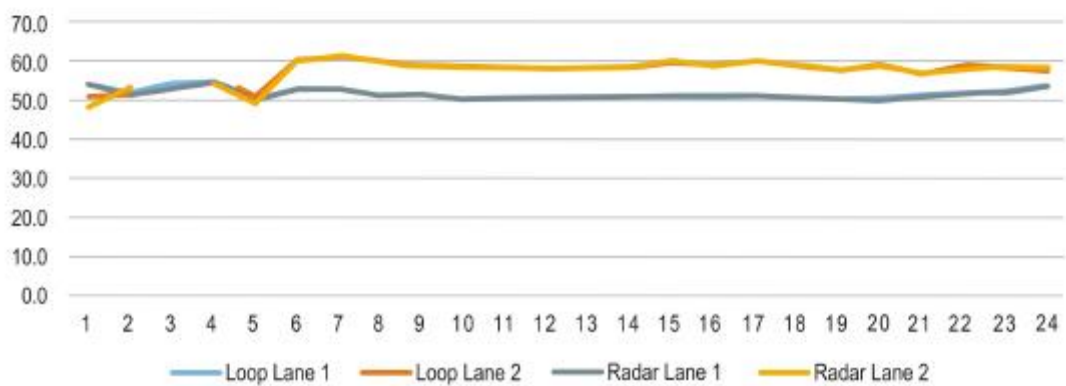




A41 Bi-directional Volumetric Comparison of Black CAT Radar and Black CAT Loop Unit



A41 Speed Comparison of Black CAT Radar and Black CAT Loop Unit



Specifications

| | |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Configurations | 2 Lanes. Supports bi-directional traffic and two lanes same direction. |
| Bi-directional Traffic | Volume - 98% accuracy with a 95% confidence Speed - +/- 2mph or 3% whichever is greater Length - +/- 40cm or 5% whichever is greater with a 95% confidence |
| Dual Carriageway Traffic | Volume - 97% accuracy with a 95% confidence Speed - 99% accuracy with a 95% confidence Length - +/- 40cm or 5% whichever is greater with a 95% confidence |
| Operating time | Dependant upon battery options |
| Data Storage | 2 GB (approx 200,000,000 vehicles), maximum supported 4 GB |
| Number of files | Maximum of 256 data files |
| Surveys Supported | Historical VBV, Historical Binned, Real-time VBV and Real-time Binned. |
| Operating Voltage (V) | 12 |
| Temperature | -25°C - + 80°C. (Dependant upon batteries used) |
| Weight & Size | Dependant upon battery option |
| Setup | The unit can be configured, monitored etc using 'Collect Black'. This software is free of charge and runs on a Windows Platform. |
| Solar Panel | External Solar Panel. |
| Approval | CE and FCC approval. |

* Results excluding obscuration.
Ideal CA Traffic site conditions are specified in the user manual.

Software

This product is built around the Black CAT development and therefore supports the same software packages as the Black CAT.

Collect Black

This software provides the capability to configure the unit, monitor the live vehicle output to confirm correct operation and to retrieve data files. Collect Black can also be used to dial-up units fitted with a GSM/GPRS modem for remote data collection and monitoring.

Catalyst

Manages Outstation equipment and provides fault management tools. It is also responsible for collecting and processing data and can be configured to insert the data into VDA-Pro R2.

VDA-Pro & VDA-Pro R2

CA Traffic provide a data converter that will format the data into a DMP format so that the data can then be imported into VDA-Pro or VDA Pro R2. The telemetry module will also support dialling up these units when fitted with an internal GSM modem.

Surveys

The Black CAT can support up to a maximum of 4GB mini SD card and a maximum of 256 data files.

Historical Surveys

For Historical surveys the system is designed to have the files broken periodically and the un-retrieved files collected. Periods supported are 1, 2, 3, 4, 5, 6, 10, 15, 20, 30, 60 & 1440 Mins

Real-time Surveys

For Real Time surveys the data is designed to be transmitted unsolicited to the In-station, and therefore via a Catalyst In-station and permanent connection. The transmission periods supported are 1, 2, 3, 4, 5, 6, 10, 15, 20, 30 & 60 Mins. For Real Time Binned Surveys, multiple intervals can be collected before being transmitted to improve system efficiency.

Binned Surveys (Historical & Real Time)

These surveys are stored on the unit and wait for the user to collect them either manually or via GSM dialup. The system supports up to 5 data specifiers, each specifier can have up to 30 bins. Specifiers supported are:

- Count
- Speed
- Length
- Headway
- Gap

VBV Surveys (Historical & Real Time)

The user can specify which fields are included and to what resolution. The following fields are supported:

- Headway (includes lane number + direction). field has to be included. The resolution options are 0.1, 0.01, 0.001 seconds.
- Gap. The resolution options are 0.1, 0.01, 0.001 seconds.
- Speed. In either kph or 0.1kph resolution.
- Length. In either cm or 0.1M resolution.



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