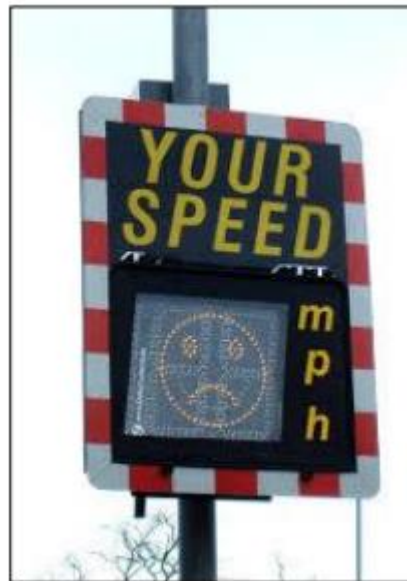




Stonnall Campaign About Roads

Speed Limit Reminders (SLRs) & Safety Information Devices (SIDs) - a Guide to Vehicle Activated Signs (VASs).

Detailed report assessing the effectiveness and application of SLRs and SIDs, known collectively as Vehicle Activated Signs (VASs) within the village of Stonnall.



Andy Baker

Adrian Floyd

Section 1 - SCAR

In 2005 Walsall Council proposed to build the Brownhills Bypass through the fields near Stonnall from Barracks Lane to the Chester Road. The majority of villagers opposed this idea to build in the greenbelt as it could open up further development that would impact the Village. A group of residents formed Stonnall Campaign About Roads (SCAR) and was given the Village mandate to stop Walsall Council building the bypass in that area. SCAR enlisted the help of our Local/District/County Councillors/MP, had a long and well-run campaign and thankfully Walsall Council stopped their plans for the bypass.

In addition to being instrumental in stopping the bypass, SCAR has also been part of the process for various traffic surveys to be commissioned and have consulted on various roads and junctions that were deemed dangerous such as Church Lane. We have been actively involved in trying to reduce the movements of HGV's through Stonnall Roads, accessing better road signage, and improvements to The Shire Oak junction. In 2021 we successfully implemented improvement works to Cartersfield Lane that now has better signage and a new 40mph limit approaching the village with a view to slowing down speeding traffic. Some of SCAR's committee members are also part of the Community Speed Watch initiative.

SCAR is a Company Limited by Guarantee under registration number 5729077 there is a Board of Directors that oversees the running of the company. A Campaign Committee meets several times per year and is responsible for running campaigns and carrying out the actions that the Village has raised. All members are volunteers and SCAR is not politically affiliated or associated in any way. Today, SCAR has over 500 members of the local community that support our activities.

Section 2 – What are Vehicle Activated Signs (VAS).

Traffic authorities have powers to 'cause or permit' traffic signs and other equipment to be placed on the highway as part of their duties to manage their road networks. Parish councils also have some powers to place traffic signs, provided they obtain prior consent from the traffic authority within their area. These often include signs and devices to remind drivers of the speed limit in place with a view to improving compliance and addressing local concerns about inappropriate speed. Under Section 72 of the Road Traffic Regulation Act 1984*, a parish or community council may, with the permission of the highway authority and subject to any conditions imposed by that authority, provide on or near any road, other than a footpath or bridleway, or may contribute, either wholly or in part, towards the cost of providing on or near any such road, traffic signs indicating:

- (a) a stopping place for public service vehicles,
- (b) a warning of the existence of any danger,
- (c) the name of the parish or community or of any place in it.

[*Road Traffic Regulation Act 1984 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/1984/72)

In recent years, Highway Authorities have experimented with various types of signs which are triggered by approaching vehicles illuminating an electronic display that provides a warning message. Temporary vehicle activated signs, (or VAS), come in several forms - the speed indicator device (SID) which displays the speed of approaching vehicles, the Speed Limit Reminder sign (SLR) which displays the speed limit of the road and a more general vehicle activated sign (VAS) which provides a warning sign for things such as sharp bends or dangerous junctions. More recently ANPR devices have become available increasing flexibility and reducing risk for local speed watch community groups. Parishes may choose the type they believe most suits their circumstances, including any additional features to collect traffic survey data.

- An **SLR** provides a clear and unambiguous message in the form of a recognisable regulatory speed limit sign where drivers exceed a set speed. The SLR should only be triggered at a level that represents the threshold for Police enforcement - 10% plus 2mph above the speed limit. For instance, in a 30mph speed limit the SLR is triggered at 35mph.
- A **SID** displays the actual travel speed of an approaching vehicle which may be effective when a driver has not recognised the posted speed limit compared to the speed they are travelling at.

The deployment of SLR's and SID's is becoming more popular, and Parish Councils are expressing an interest in purchasing their own, for use at locations where traffic speed is a concern. Over recent committee meetings and from attending various community events, such as Stonnallbury, it has become apparent that there is a consistent and perpetual concern from local residents regarding the volume and speed of traffic passing through the village at peak times.

Types of Devices



The **Speed Limit Reminder (SLR)** is triggered by an approaching vehicle that is travelling above the speed limit of the road. The sign will then display the road speed limit inside a red circle with a “SLOW DOWN” message below.



The **Safety Indicator Device (SID)** will also display a “SLOW DOWN” message should a motorist be travelling above the speed limit; however, the numbers above will reflect the exact speed of the approaching vehicle. The number will also be displayed if the vehicle is travelling below the speed limit, however the “SLOW DOWN” message will not appear.



The **Smiley Activated Message (SAM)** also displays the speed at which any motorist is travelling. When detecting a speed below the limit, a green smiley face will illuminate below the displayed speed, and when detecting a speed above the limit, a red sad face will illuminate.



The **Automatic Number Plate Recognition (ANPR)** camera can be used in conjunction with a VAS to support the enforcement of speed limits. The camera will record the time, date, speed and registration number of the vehicle passing, this data can then be used by the Police to issue warning letters to drivers.

Additional Benefit - Reduces the need for Community Speedwatch Groups to put themselves at risk of incidents with vehicles or motorists.



A **Vehicle Activated Sign (VAS)** is a generic term for a type of road traffic sign which displays a message conditional upon the presence, or speed, of a road vehicle. The devices are deployed on roadsides like regular traffic signs, and they are intended to help drivers by alerting them and drawing attention to danger or other undesirable situation. Used for things such as sharp bends or dangerous junctions, it could warn of an accident blackspot, or display a warning of an upcoming crossroads.

Effectiveness

As concluded from a VAS device in-situ with data capture functionality, speed signs are highly effective in reducing the average speed of a motorist on a given road.

Over a two-and-a-half-week period, following the implementation of a VAS on a road in a village, recordings were taken on the 1st September, 7th September and 17th September. Most notably, the average speeds and the highest speeds were analysed. The average speed reduced from 39mph, to 38.8mph, to 28.8mph respectively. The Highest recorded speed also fell from 61.8mph, to 60.4mph, to 46.6mph respectively.

The reduction in speed a VAS can facilitate can lead to wider implications on accident prevention and road safety in general. Furthermore, speed signs can also allow the user to download and analyse data of motorists on the given road, meaning specific trends, such as peak speeding times, can be established. This then can be used to increase knowledge of the given road and implement further traffic calming methods if necessary.

Many studies have been carried out as to assess the effectiveness of SIDs, See **Appendix 4 – Effectiveness of Speed Indicator Devices on reducing vehicle speeds in London.**

In summary:

SIDs were effective at reducing mean speeds in London by approximately 1.4mph.

SIDs were effective at reducing the proportion of vehicles exceeding the speed limit by 6%.

The reduction in mean speeds continued for a short distance downstream of the SID.

SIDs were effective at reducing mean speeds for the first two weeks of their operation, some tapering off of effectiveness is seen post 2-3 weeks of installation.

When SIDs were removed, mean speeds returned to prior recorded results.

Hammerwich Parish council

Installs additional device in a bid to cut speed on local roads



The new Speed Indicator Device on Hospital Road.

Another device designed to cut speed on local roads has been installed by Hammerwich Parish Council. The Speed Indicator Device (SID) uses a smiley face symbol to flag whether motorists are

travelling within or above the speed limit. The latest one – the fifth paid for and installed by Hammerwich Parish Council – is on Hospital Road near the approach to Coppy Nook playing fields.

A spokesperson for the parish council said the value of the SIDs was clear:

“They are expensive, but we firmly believe they are a good investment, reducing speeds, risk of accidents and traffic noise.

‘They are a major part of our road safety initiative, and they are popular with residents.’”

The latest SID was installed after data from local community speed watch teams showed that the numbers of speeding motorists reported to police on roads where the devices are in place had dropped by as much as 60%.

Section 3 – Why does Stonnall want to install them.

Stonnall Village has a population of approximately 1500 residents, over 60% of the population are 40 years of age or older, whilst 9% of the population are under the age of 10, having a local primary school, St. Peters, within the village. The village is served well by local amenities having two pubs, a restaurant, a take-away, and a hairdresser. The village is surrounded by green belt and farmland meaning we have a higher proportion of dog walkers, horse riders and cyclists passing through the village.

The primary concern is the increased volume of traffic using the village as a means of avoiding the Shire Oak junction at peak commute times. This increased volume coupled with a desire to justify the short cut has been worthwhile has resulted in vehicles travelling at increased speeds through the village.

A survey carried out by Staffordshire County Council (**Project Name: Lichfield Rural South, Document Title: Traffic Study – Lichfield South**) conducted a traffic survey in 2018 and again in 2022 to look at the volume and speeds of vehicles on a number of roads within its area, including the 4 primary roads in Stonnall as below.

- Cartersfield Lane, Stonnall
- Church Road, Stonnall
- Main Street, Stonnall
- Wallheath Lane, Stonnall – data gathering only, funded by Shenstone Parish Council

Cartersfield Lane, Stonnall

Cartersfield Lane, Stonnall – 30 / 40 mph speed limit sections

Speed/Volume/Weight	Data 2018	Data 2022	Difference
Speed 85th%ile* (northbound)	40 mph	38 mph	-2 mph
Speed 85th%ile* (southbound)	39 mph	37 mph	-2 mph
Volume 24 hours (7 day average) (northbound)	781 vehicles	1,226 vehicles	+445 vehicles
Volume 24 hours (7 day average) (southbound)	640 vehicles	1192 vehicles	+552 vehicles
HCV – 7.5 tonnes or above** (northbound)	9 vehicles 1.1% of total	33 vehicles 2.6% of total	+24 vehicles
HCV – 7.5 tonnes or above** (southbound)	1 vehicle >0.0% of total	66 vehicles 5.5% of total	+55 vehicles
HCV – Bin 5 (northbound)***	No data	5 vehicles	No data
HCV – Bin 5 (southbound)***	No data	6 vehicles	No data
* Speed 85th%ile: the speed that 85% of vehicles recorded travelled at or slower.			
** Data taken from Bins 3 & 4 of the traffic survey data.			
*** Data taken from Bin 5 of the traffic survey data. Not recorded in 2018.			

Accident Statistics between 01/01/2018 and 28/02/22 show zero recorded personal injury collisions.

Speed data shows a 2mph reduction in speed between the 2018 survey and the 2022 survey. The speed survey was carried out by the change in speed limit between 30mph and 40mph. The speeds recorded reflect drivers decelerating into a 30mph limit, or accelerating into a 40mph limit and

therefore the speeds are higher than the 30mph limit and lower than the 40mph limit. It could be argued that this data was taken in a place which could lead to ambiguity.

A 30mph / 40mph speed limit buffer has been installed at 23 Cartersfield Lane, together with associated 40mph repeater signage.

The 2022 survey shows that vehicle volumes have increased in both directions since the 2018 survey, with northbound traffic increased by 445 vehicles and southbound by 552 vehicles.

Overall, traffic flows are low for a C road of this nature.

Cartersfield Lane has a good road safety record overall.

Recommendation of the survey were that no further action is required.

Church Road, Stonnall

Church Road, Stonnall – 30 mph speed limit

Speed/Volume/Weight	Data 2018	Data 2022	Difference
Speed 85th%ile* (northbound)	35mph	34 mph	-1 mph
Speed 85th%ile* (southbound)	40 mph	36 mph	-4 mph
Volume 24 hours (7 day average) (northbound)	1,255 vehicles	1,009 vehicles	-246 vehicles
Volume 24 hours (7 day average) (southbound)	1,401 vehicles	1,273 vehicles	-128 vehicles
HCV – 7.5 tonnes or above** (northbound)	14 vehicles 1.1% of total	30 vehicles 2.97% of total	+16 vehicles
HCV – 7.5 tonnes or above** (southbound)	40 vehicles 2.8% of total	38 vehicles 2.99% of total	-2 vehicles
HCV – Bin 5 (northbound)***	No data	1 vehicle 0.05% of total	No data
* Speed 85th%ile: the speed that 85% of vehicles recorded travelled at or slower.			
** Data taken from Bins 3 & 4 of the traffic survey data.			
*** Data taken from Bin 5 of the traffic survey data. Not recorded in 2018.			

Accident Statistics between 01/01/2018 and 28/02/22 show zero recorded personal injury collisions.

Councillor Smith funded the closure of Church Lane in 2016 through his highways fund; part of the scheme involved reducing the speed limit on Church Road from 40mph to 30mph.

Vehicle speeds have effectively stayed the same northbound and have decreased slightly southbound by 4mph. **Both speeds are at or above the police enforcement speed of 35mph.**

Vehicle speeds are likely to be higher southbound as vehicles accelerate out of the village into a more rural environment.

Vehicle volumes have decreased slightly both northbound and southbound.

The traffic volumes are towards the lower end for a C road. When comparing traffic volumes on Cartersfield Lane, Main Street, and Church Road in light of the closure of Church Lane, it would appear that traffic has reduced from Cartersfield Lane and remains unchanged from Main Street not

Church Road. The Southbound increase on Church Road could be from traffic travelling from Wallheath Lane.

Recommendations from the survey data were that the local community considers measures such as community speed watch and Speed Indicator Devices (SID's)

Main Street, Stonnall

Main Street, Stonnall – 30 mph speed limit

Speed/Volume/Weight	Data 2018	Data 2022	Difference
Speed 85th%ile* (northbound)	30mph	30 mph	No change
Speed 85th%ile* (southbound)	33 mph	32 mph	-1 mph
Volume 24 hours (7 day average) (northbound)	1,355 vehicles	1,227 vehicles	-108 vehicles
Volume 24 hours (7 day average) (southbound)	1,631 vehicles	1,471 vehicles	-160 vehicles
HCV – 7.5 tonnes or above** (northbound)	19 vehicles 1.4% of total	20 vehicles 1.6% of total	+1 vehicle
HCV – 7.5 tonnes or above** (southbound)	75 vehicles 4.5% of total	69 vehicles 4.6% of total	-6 vehicles
* Speed 85th%ile: the speed that 85% of vehicles recorded travelled at or slower.			
** Data taken from Bins 3 & 4 of the traffic survey data.			

Accident Statistics between 01/01/2018 and 28/02/22 show zero recorded personal injury collisions.

Vehicle speeds have broadly stayed the same in both directions. Vehicle speeds are below the police enforcement level of 35mph. Main Street already has a system of traffic calming in the form of speed cushions.

Vehicle volumes have decreased slightly in both directions by approximately 100 to 160 vehicles.

Main Street has a good road safety record.

Recommendation of the survey were that no further action is required.

Wallheath, Stonnall

SUMMARY OF TRAFFIC COUNTS FUNDED BY							
Location	Lat/Lng		85 percentile speed		Speed Limit	NORTHBOUND AND SOUTHBOUND	
			Northbound	Southbound		Speeding present?	Over police threshold (10% + 2mph)?
Main Street, Shenstone	52.6397	-1.8405	17	17	30	No	No
Wall Heath Lane, Stonall	52.6356	-1.8901	37	36	30	Yes	Yes

<u>SHENSTONE PARISH COUNCIL</u>		
<u>THBOUND</u>		
Any accidents (involving personal injury) in last three	Any accidents (involving personal injury) in relation to	Comments:
No	No	85th percentile speeds show good compliance with the existing speed limit. No further investigation is required at present.
No	No	Wall Heath Lane is a long, relatively straight road. Wall Heath Lane is semi-rural in nature, and this may explain why it perhaps attracts less compliance than other routes. Our suggestion initially would be for the parish council to consider Speed Indicator Devices (SIDS). Staffordshire Safer Roads Partnership may also be able to provide advice i.e. suitability of community speed watch/provision of 30mph

Shenstone Parish Council funded an additional 4 roads to have data collected on them, one of these roads was Wallheath Lane, which is a continuation of Church Road. Wallheath Lane is more densely populated than Church Road and has a number of Crescents leading off it. The data collected clearly shows that speeding is an issue and exceeds the police threshold for enforcement (second entry line of above table).

Summary of Survey Data

The traffic survey indicates that neither Cartersfield Lane or Main Street have an issue with vehicle volumes or speeds, but it should be noted that the location on Cartersfield which was used to collect the data was in between the 30mph and the 40mph zones so the conclusion was that vehicle speeds were not a concern. However, as vehicles should not be travelling in excess of 30mph until they pass the 40mph limit change, it could also be argued that speeds of 37mph to 38mph are well above the police enforcement speed of 35mph.

The survey found that vehicle speeds on Church Road and Wallheath Lane continue to be a concern and, in both directions, remain at or above the police enforcement speed of 35mph.

In light of this data relating to Church Road and Wallheath Lane, the recommendation from Staffordshire County Council were that the local community considers measures such as community speed watch and Speed Indicator Devices (SID's).

Other considerations

SCAR feel that the village would benefit from the recommendation of Staffordshire County Council following their traffic survey but also include Cartersfield Lane where the survey data was ambiguous due to the placement of the data pick-ups in between a 30mph and 40mph limit. SCAR is of the opinion that if Cartersfield Lane is not considered then traffic volumes and speeds could increase as vehicles would use it to avoid Vehicle Activated Safety Signs on Wallheath Lane.

Section 4 – Feedback from other local Parish Councils.

Hammerwich Parish Council Comments:

1. The Cost of each item when purchased by HPC in October 2022 was £2875 each + Vat Posts are separate and have to be arranged with Highways also extra costings of between £600 and £800 which takes a few weeks to organise.
Hammerwich Parish Council Purchased the SID's out of Parish Funds earmarked at the AGM for road safety.
Lichfield District Council installed the SID's for us and were paid separately.
2. Type of SID
S.A.M. Smiley Activated Message Happy Face when on the speed limit in green or Unhappy Face when over the speed limit in red, Solar Powered by batteries which should last many months when fully charged.
You also have a 6 year back to base Warranty for any faults found.
3. We chose these SID's as the cost of them were reasonable the more complex devices for example showing number plates or messages of thank you for driving carefully are more expensive.
4. No Electric needed
5. The locations were agreed with Michelle Shaker from Staffs Police as a safety spot for Speedwatch first where we would have been insured to stand.
We then decided to install the SID's at the same spots.
6. They have brought down speeding although you will still get the odd few motorists still going over the Speed Limit.
HPC installed the SID's for tackling speeding and anti-social driving which in turn has reduced collisions and accidents.
We purchased two SID's at each side of The Burntwood Dragons Football Club on Hospital Road as we had many complaints and residents wanted a crossing which Highways refused to do. They have been effective thankfully.
7. The SID's are maintained and moved around by LDC if needed which over the past few years have not been needed.
8. The longest time to start the process was with Highways to agree and install the posts you will have to arrange a meeting with Highways to agree where to install them.
9. We felt as a Responsible Parish Council road safety and speeding was a top priority for our residents and to date HPC has installed 5 SID's on our roads and has been worth the investment.

Alrewas Parish Council Comments:

- They had some help from Officers at Staffs County Council (Garry Hunt and Beth Tranter)
- They used a firm in Burntwood called **Morgan and Bond** to do a lot of the work and also liaise with Staffs CC
- They are having the Solar/Back up Battery Smiley Face SID (No data collection)
- No ANPR was possible due to constraints mainly by the Police.
- They are installing several poles and will just move the Head of the SID around periodically.
- The **Parish Lengthsman** will clean them and move them around.
- Cost of each SID thought to be **c£3000**.
- They are also installing CCTV Cameras which will work in conjunction with an active Speedwatch Team and the SIDs
- Installation of the devices is imminent.
- They Recommend we speak to **Morgan and Bond**.

General comments and consideration from Parish Councils.

1. Cost of each item (licence, installation, buying of SID's etc)?

A quotation of **£2,422.50** per SID unit from Messagemaker UK
£3,538.96 for the installation, permits and permissions for 3 poles to hold the SID's quote from SCC/Amey

2. How did they agree on the correct location for installation?

Consultation process with our active **Community Speed Watch** group identified locations and a **site meeting with SCC approved the locations**.

3. Who moves them around (if moveable)?

Fixed units are being considered, as it was deemed a **high safety risk** for the volunteers on the roadside to **keep moving the units**.

4. What was the waiting time for each stage?

So far, the proposed scheme has taken 18 months, and this includes:
A meeting with Beth Tranter Community Highway Support Officer at SCC for locations
Approval by SCC Highway Department
Receiving a quote from Amey for the installation of the poles
Consultation process with residents affected by the newly installed units.
We anticipate another 6 months before Amey install the poles and the units can be erected.

5. Any other useful information they can advise us about.

We notified our parishioners about our proposals for the scheme in the early stages but as you can imagine, we are now encountering a lack of patience from the parishioners. The whole process has taken so long. If we could go back, we would have collated all this information and run through the process with the Highways Department then notifying the parishioners towards the end of the scheme.

Section 5 – What are the considerations, procedures & costs to install them.

Please note – Section 4 is guidance only for typical considerations, procedures, and Policies. Should Stonnall be granted approval by the Paris Council to install VASs, then SCAR will consult with Staffordshire County Council at all stages to ensure policies and procedures are adhered to.

SIDs and VAS are very popular within rural and semi-rural communities, Staffordshire County Council (SCC) no longer run a SID program due to the age of previous equipment, however, more recently many Parish Councils, resident associations and community groups are using them with SCC permissions within village areas to assist with speeding issues and traffic calming.

Considerations and procedures:

SIDs are typically installed 50 – 100 metres into a 30-mph zone to impact traffic as it enters the new speed limit. That said, SIDs can be installed further within 30 mph zone if there were a location that would benefit from a SID. SIDs need to be installed where there is sufficient verge width for safe installation and ongoing maintenance (e.g. for battery changes/swapping SIDs to other locations)

- SIDs need to be installed a minimum of 2.1m from the finished footway/ground level to the underside of the SID, particularly in footways.
- A minimum height of 2.4m is required if located by a cycleway.
- SIDs should not be located in the middle of a footway or cycleway.
- SID faces need to be a minimum of 450mm from the edge of the carriageway to the leading edge of the SID face, the SID pole itself will likely be set further back than that from the edge of the carriageway.

Note: They **cannot be installed** on lighting columns as E.On who maintain the street lighting network in Staffordshire do not authorise the installation of this type of signage and will remove them if they are installed.

SCC no longer permit the installation of mains powered SIDs. The County Council's position on this matter is as follows:

...moving forward our preference would be that any units installed of this type are of the solar powered variety, which are easily attainable. To go down the mains supply route opens a whole other area of responsibility. Mains powered highway electrical equipment is fed from an un-metered supply i.e. the unit would have a direct electrical connection to the local LV (Low Voltage) underground mains supply. As a consequence of this technique there will be no electrical meter installed and the unit owner (Parish council/community group) would need to ensure that they operate and manage the electrical service arrangements in accordance with BSCP520, the Balancing and Settlement Code Procedure for un-metered supplies. This is a complicated process with any duty holder requiring significant experience of the required procedures. It is for this reason that I would recommend that only solar powered units be deployed as this clearly negates the need for the compliance with BSCP520. As a result, the parish council/community group need to proceed on the solar powered/battery basis, not mains powered SIDs.

When installing solar powered SIDs, consideration needs to be given to nearby trees/hedges and structures to ensure the solar panel with receive sufficient light. Generally, companies providing this type of equipment will usually advise and assist with this process. Care should also be taken to ensure that SIDs are not directly pointed at or into residential properties that could cause a light nuisance to the occupants. Once sites have been identified and approved and SCC have ensured that the proposal satisfies the highway design code and regulations, a contractor can be appointed to install the SID posts. To carry out work on the highway the contractor must be a NRSWA (New Roads

& Streetworks) qualified person and accredited in accordance with HAUC (Highway Authorities & Utilities Committee), it is not essential that the contractor is registered with SCC as long as they comply with the above.

If considering locating a SID outside of a property, SCC (including the Parish Council) would require written confirmation from any property owners that they have been consulted with about the installation of the SIDs. This will help to demonstrate that residents have been made aware of the proposed design of the SID(s) (including the installed height of the post, mounting height of the SID) and the proximity of the SID to their property/driveway etc. Any adjacent property owners should also be reminded that any boundary hedges or other vegetation should be regularly maintained to the property boundary to ensure that this does not affect the operation of the SID.

Before engaging SCC, or any other contractor, to install the sign(s) / post(s), the Parish must first enter into a licence agreement with the Council under Section 72 of the Road Traffic Regulation Act 1984.

Although the Parish may pay for the supply and installation of the VAS sign and post(s), there are no legislative powers for Parish councils under the Highways Act to erect these signs on the highway. The Council as the highway authority is however empowered to consent to their use on the highway at approved sites and subject to the Parish Council entering into a licence agreement - Section 72 of the Road Traffic Regulation Act 1984 covers this activity.

A copy of the licence agreement will be drafted and sent to the Parish for signature and return. The Council's Asset Management Team will send the licence to the contact details given on the original application form. There is no charge for the granting of the licence. **No VAS sign may be installed at any location prior to the date of the licence, which must be signed and returned before any works on site can be authorised.**

The contractor will be required to apply for a 'Permit to Dig' from SCC, of which can be applied for by visiting SCC website <https://www.staffordshire.gov.uk/Highways/licences/PermittoDig.aspx>

SCAR or the third party will be required to apply for a Section 50 licence which gives permission for private apparatus to be installed on the highway, for further information and to apply please visit our website <https://www.staffordshire.gov.uk/Highways/licences/Section-50/InstallationofPrivateApparatusSection50Licence.aspx>

See **Appendix 2** – Staffordshire County Council SIDs Process and Guidance for specific SCC guidance on the implementation of SIDs.

Typical costs (estimates):

- SCC License Agreement ~ £0 (No Charge for this service)
- Initial Site Suitability Assessment ~ £200 - £300
- NSRWA utility search fees for selected sites ~ £150 - £200 per location
- Section 50 License Agreement ~ £385

Cost of Devices (see Appendix 3):

Portable SID – Dual Colour Speed Display (SLOW DOWN Legend)

~£3,445 + Solar Panel £1245 / £650 ex VAT depending on panel size.

ANPR Camera

~£4,215 + Solar Panel £1245 / £650 ex VAT depending on panel size.

(optional DVLA plugin +£500)

Installation Costs

- ~ £375 permit to dig
- ~ £600 materials
- ~ £775 labour

Maintenance Costs

~ £X (Site / Device Dependant)

Summary costs (installation & maintenance are estimates for comparison purposes):

£ / Installed Device	SID Only	ANPR Only	ANPR + SID
Initialisation	£885	£885	£885
Device	£4,690	£5,460	£8,905
Installation	£1750	£1750	£1750
Maintenance	£500 pa	£500 pa	£500 pa
TOTAL	£7,825	£8,595	£12,040

NB: 1 large solar panel assumed for all estimates.

Deployment, moving signs, and ongoing maintenance:

Deployment of the sign(s) can only take place after the signing of the licence agreement and full payment of any fees or invoices, as listed above. Once the licence agreement has been signed and dated by both parties, then the Parish may commence deployments.

Depending on SCC's policy, deployment can constitute a short period of deployment (4 to 6 weeks) of the sign at any chosen site – with no return at that site within a pre-determined longer period (12 weeks) and could also include permanent locations where no movement takes place. For movable signs Parish Councils may be required to agree an annual programme for deployment and required to send a copy of the annual programme to the Council.

It is recommended that the Parish engages the services of SCC or a suitable contractor in order to move the signs between sites and carry out any other associated activities - such as battery charging / replacement and downloading of data. This service should be quoted for prior to signature of the licence agreement so there is confidence between parties that adequate arrangements are in place.

If a Parish wishes to carry this out themselves, they should refer to **Appendix 1: Notes for guidance for moving Speed Limit Reminder and Speed Indicator Devices. Reference – South Gloucestershire Council – Policy and Guidance - Parish and Town Councils Purchasing Mobile (Temporary) Vehicle Activated Signs (VAS)**

Applicants funding the introduction of new measures within the public highway are responsible for their future maintenance. The sign(s) / post(s) will need to be identifiable as an asset for which a third party is responsible, this should be done via the licence agreement.

Once installed, the future maintenance of the sign(s) / post(s) will be the responsibility of the third party. Where the installation was carried out by an external contractor, if within 12 months any remedial works need to be carried out due to poor workmanship, or because the work has been carried out outside the specification, the third party will be informed of what actions are required – the third party will be liable for any costs associated with this.

The third party is responsible for all maintenance and replacement costs should the VAS sign(s) or posts not function correctly, become lost or stolen, vandalised or other similar occurrence that prevents its use. It is recommended that all equipment is clearly marked / labelled with ownership and contact details.

Note that the licence issued under Section 72 of the Road Traffic Regulation Act 1984 will remain valid for a maximum period of 5 years - at the expiry of 5 years a new licence must be applied for. The third party will be responsible for any costs incurred following the termination of the programme or licence agreement to reinstate the highway, (e.g.: the removal of posts and making good of the surface).

In many cases the third party will be the local Parish Council.

Section 6 – Recommended locations and next steps

1. Church Road, Stonnall



- Vehicle speeds are above the recommended police enforcement speed (34mph northbound and 36mph southbound).
- Speed limit was reduced from 40mph to 30mph in 2016, with little benefit seen.
- Vehicle speeds are likely to be higher southbound as you exit the village

SCC Recommendation – consider Community Speed Watch and Speed Indicator Devices



SCAR Recommendation – We propose the installation of VAS with ANPR functionality at the location indicated by the yellow pin on the map above and the photo. This location provides clear line of sight approaching the village and also ensure vehicles are slowing down approaching the staggered crossroads where accidents have been known to occur due to restricted views when turning into or out of the lanes.

2. Wallheath Lane, Stonnall



- Vehicle speeds are above the recommended police enforcement speed (37mph northbound and 36mph southbound).
- Vehicle speeds are consistently high both northbound and southbound as you enter / exit the village. The relatively straight section of road is aiding this.

SCC Recommendation – consider Community Speed Watch and Speed Indicator Devices



SCAR Recommendation – We propose the installation of VAS with ANPR functionality at the location indicated by the yellow pin on the map above and the photo. This location provides clear line of sight approaching the village and also ensure vehicles are slowing down approaching the staggered crossroads where accidents have been know to occur due to restricted views when turning into or out of the lanes.

Note: SID's device has prevoiusly been installed on Wallheath Lane at the location shown and the pole and mounting plate still exist. A license agreement may already exist within SCC for this location.

3. Cartersfield Lane, Stonnall



- The speed survey was carried out by the change in speed limit between 30mph and 40mph. The speeds recorded reflect drivers decelerating into a 30mph limit, or accelerating into a 40mph limit and therefore the speeds are higher than the 30mph limit and lower than the 40mph limit. It could be argued that this data was taken in a place which could lead to ambiguity.
- A 30mph / 40mph speed limit buffer has been installed at 23 Cartersfield Lane, together with associated 40mph repeater signage, this was carried out due to previous traffic issues observed.
- The 2022 survey shows that vehicle volumes have increased in both directions since the 2018 survey, with northbound traffic increased by 445 vehicles and southbound by 552 vehicles.



SCAR Recommendation – The pin at the top of the image above is Cartersfield Lane, which runs parallel to Wallheath Lane, SCAR have concerns that if both roads are not considered in conjunction with each other then there is a significant risk that we could have a negative impact on both speed and volume of traffic on Cartersfield Lane. The photo shows the identified suitable location for a VAS on Cartersfield Lane.

4. Stonnall Village

The image below clearly shows the flow of traffic seen within the village of Stonnall which is experienced due to vehicles attempting to avoid delays at the Shire Oak Traffic Lights (red pin on the map), when travelling along the Chester Road and Lichfield Road. This has resulted, post covid, in residents experiencing higher volumes and high speeds of vehicles passing through the village.

SCAR has a duty of care towards its residents and wants all that live or work within the village to feel safe when moving around the village, the local amenities (pubs, shops, hairdressers), primary school, and church attract people to the village, and we want this to continue.



SCAR fully support and endorse SCC's recommendations for SID's to be consider on Church Road and Wallheath Lane. SCAR would also recommend extending the consideration of SIDs to Cartersfield Lane for the reasons mentioned above.

Section 7 – Next Steps

1. Present to Parish Council and Staffordshire County Council (SCC), seeking approval to continue (meeting with councillor David Smith).
2. Meet with SCC (Bethany Tranter) to discuss locations and seek site approvals with Highways Agency.
3. Identify funding sources.
4. Start application process for site locations and pole installations.
5. Obtain final quotes for agreed SIDs devices and procure.
6. Completion of any final paperwork and monitor results from SIDs implementation.

Appendix 1 – Notes for Guidance for moving Speed Limit Reminder or Speed Indicator Devices

Reference – South Gloucestershire Council – Policy and Guidance - Parish and Town Councils Purchasing Mobile (Temporary) Vehicle Activated Signs (VAS)

This guidance is based on the South Gloucestershire Councils document and therefore will not be fully relevant to Stonnall or Staffordshire County Council, however many of the legal requirements will read across, as they are based on government policy.

Guidance Notes:

These guidance notes are designed to assist Parish Councils when moving the speed limit reminder signs under Licence Agreement, and to draw attention to some of the points that must be considered.

Things you and your operative must consider when moving signs:

There is always risk associated with working on the public highway and you must ensure that you minimise this risk to both you and to others using the highway. Consider the process required to setup and remove your device.

Ensure that you are physically able to conduct the task as it involves lifting and carrying.

Ensure you have the correct Personal Protective Equipment such as a high visibility jacket and trousers, safety boots, hard hat and gloves, plus eye protection, if necessary, plus any other safety equipment.

Ensure your vehicle can be parked off the highway.

Ensure that enough clear sight lines are available for motorists to see what you are doing. You should take account of weather conditions and time of day.

Ensure that you have the necessary temporary traffic management, signing and guarding, in place. Temporary traffic management is a legal requirement and the 'red book – safety at Streetworks' must be followed.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/321056/safety-at-streetworks.pdf

In designing your temporary traffic management layout, you should consider if it is clear to other road users that work is taking place.

Do you have the necessary access equipment to remove / re-fit the speed limit reminder sign? If you propose to use a step ladder, do you have a level and firm base upon which to place it? Alternative access equipment is available and should be considered if the conditions for safe use of stepladders are not met. Are you familiar and comfortable with the procedure for removing / refitting the SLR or SID?

You should undertake a risk assessment for the erection and removal of the sign and identify the control measures to be taken to minimise risk to the operative and all road users. The risks to be considered must include as a minimum:

- Operative falling, being struck by a vehicle or injured through lifting.
- Member of public injured by road traffic incident associated with the works.

You should produce a method statement for the safe installation and removal of the sign. The operator(s) must be competent to perform the operation according to the method statement.

Ensure that you or your operatives have minimised the risk. Always ask for further advice if you are uncertain.

Legal requirements when fitting/removing speed limit reminder signs.

Have you placed the signing and guarding correctly and in accordance with the red book 'safety at Streetworks' for other road users to understand what is going on?

Are you wearing the correct personal protective clothing? Have you placed your vehicle off the highway?

Do you have the correct insurance for both the vehicle to be used for this purpose and for yourself to be carrying out the task?

Have you taken all appropriate steps to minimise the risk to yourself and other road users when carrying out this task?

Can pedestrians safely pass without stepping into the road?

At all locations, any vehicles associated with the installation or removal of the apparatus must be removed from site to a suitable location to ensure clear lines of sight – a clear footway / carriageway should always be maintained during the operation.

Failure to comply with the licence agreement may result in its termination.

Appendix 2 – Staffordshire County Council SIDs Process and Guidance

T. Hemmingsley

21/03/2019

Page 1 of 3

Speed Indicator Devices (SIDs) – Process and guidance

Process for installing SIDs

1. SIDs can be installed on highway verges in agreement with the county council (speak to the local Community Highway Engagement Officer - CHEO). Extents of highway verges can be confirmed with the CHEO.
2. Equipment to be purchased, maintained and relocated as desired by the parish council/community group.
3. SIDs need to be installed within 30 mph zones and where there is sufficient verge width for safe installation and ongoing maintenance (e.g. for battery changes/swapping SIDs to other locations).
4. SIDs can't be installed on lamp columns – the county council is halfway through a 25-year PFI contractor with Eon who maintain the street lighting network in Staffordshire. Eon/county council don't authorise the installation of this type of signage on the columns and will remove them if they are installed.
5. SIDs are typically installed by the county council 50 – 100 metres into a 30-mph zone to impact traffic as it enters the new speed limit. SIDs can be installed anywhere within 30 mph zone if there is a location that would benefit from a SID.
6. SIDs are usually installed on the nearside (left hand side of the road as you drive) of the highway where most drivers tend to focus, but SIDs can be installed on the offside of the road if that is better suited.
7. When installing solar powered SIDs, consideration needs to be given to nearby trees/hedges and structures to ensure the solar panel will receive sufficient light. Companies providing this type of equipment will usually advise and assist with this process and the local CHEO can also advise.
8. If locating a SID outside of a property, the Council strongly recommends that this is discussed with the adjacent property owner(s) before installation, even if the equipment is not located directly on their land.
9. The Council strongly recommends that any SIDs located on private land require written permission from the land owner.
10. Consideration needs to be given to the locating of SIDs in urban areas. Care should be taken to ensure that SIDs are not directly pointed at or into residential properties that could cause a light nuisance to the occupants.

Installation details

the knot unites



1. Typically, 1 number 76.1mm x 5mm diameter Circular Hollow Section (CHS) pole is required to install SID's on. Length and diameter of pole may vary dependant on the height and width of the SID.
2. SID's need to be installed a minimum of 2.1m from the finished footway/ground level to the underside of the SID, particularly in footways. A minimum height of 2.4m is required if located by a cycleway. SID's should not be located in the middle of a footway or cycleway.
3. SID faces need to be a minimum of 450mm from the edge of the carriageway to the leading edge of the SID face – the SID pole itself will likely be set further back than that from the edge of the carriageway.
4. Poles can be located in a ground screw (especially useful if the removal of the sign and pole is desirable) or poles can be located in a concrete base. If the parish council/community group tell the council the size of the sign they plan to use, the council will check the foundation requirements if using a concrete base (there may be a charge for this). Examples of ground screws can be found at - <http://www.krinner.co.uk/>.
5. Ground screws/concrete bases & poles need to be installed by a registered highway contractor. The council use Amey as their partners; the parish council/community group council is free to use a contractor that is registered. If in doubt about the status of a contractor, please ask the CHEO and they can check for you. The parish council/community group council can use Amey if they desire.

Permits and Licenses

1. The **contractor** is required to apply for a Permit to Dig to check for underground utility services at the pole locations in advance of the works. The contractor will need to inform the county council's Network Management Unit of any traffic management requirements needed for the installation of the ground screws/concrete bases.
2. Traffic management needs to be considered by the **contractor** and they may need to apply for a further permit.
3. The **parish council/community group council** needs to apply for a Section 50 license (private apparatus on the highway). This transfers the maintenance and insurance liabilities for the equipment to the parish council/community group council. **Parish councils/community groups should notify their public liability insurers of the SID's they plan to install and take on.**
4. All permits and license details can be found at:



<https://www.staffordshire.gov.uk/transport/staffshighways/licences/Home.aspx>

5. Using Amey to install the poles means that the above permit process (except for the Section 50 license) will be dealt with by them and it will simplify the procedure.

Mains powered SIDs not permitted

The county council's position on this matter is as follows:

...moving forward our preference would be that any units installed of this type are of the solar powered variety, which are easily attainable. To go down the mains supply route opens a whole other area of responsibility. Mains powered highway electrical equipment is fed from an un-metered supply i.e. the unit would have a direct electrical connection to the local LV (Low Voltage) underground mains supply. As a consequence of this technique there will be no electrical meter installed and the unit owner (Parish council/community group Council) would need to ensure that they operate and manage the electrical service arrangements in accordance with BSCP520, the Balancing and Settlement Code Procedure for un-metered supplies. This is a complicated process with any duty holder requiring significant experience of the required procedures. It is for this reason that I would recommend that only solar powered units be deployed as this clearly negates the need for the compliance with BSCP520.

As a result, the parish council/community group need to proceed on the solar powered/battery basis, not mains powered SIDs.



Appendix 3 – Westcotec Quote



- ◆ **Portable Mini Speed Indicator Device (miniSID), battery powered complete with spare Lead Acid battery, 'intelligent' charger, sign weatherproof cover and bracket set for a cost of £2,980.00 each excluding VAT.**



Weight: 7.5kg
Weight with Lead Acid: 11kg

- **Optional dual colour speed display for the above sign for an additional cost of £270.00 excluding VAT.**



- ◆ **Portable Speed Indicator Device (SID) with SLOW DOWN Legend beneath, battery powered complete with spare Lead Acid battery, 'intelligent' charger, sign weatherproof cover and bracket set for a cost of £3,175.00 each excluding VAT.**



Weight: 12kg
Weight with Lead Acid: 23kg

- **Optional dual colour speed display for the above sign for an additional cost of £270.00 excluding VAT.**



- ◆ **Portable Speed Indicator Device (SID) with Smiley / Angry Face beneath, battery powered complete with spare Lead Acid battery, 'intelligent' charger, sign weatherproof cover and bracket set for a cost of £3,289.00 each excluding VAT.**



Weight: 12kg
Weight with Lead Acid: 23kg



t: 01362 853124 e: sales@westcotec.co.uk w: www.westcotec.co.uk

Registered Office: Westcotec Ltd 34 Bertie Ward Way Rash's Green Ind Est Dereham Norfolk NR19 1TE

Reg'd in Cardiff No: 4208260



- **Optional dual colour speed display for the above sign for an additional cost of £270.00 excluding VAT.**



- ◆ **Portable Speed Indicator Device (SID) with 20mph/30mph/40mph roundel beneath, battery powered complete with spare Lead Acid battery, 'intelligent' charger, sign weatherproof cover and bracket set for a cost of £3,396.00 each excluding VAT.**



Weight: 12kg
Weight with Lead Acid: 23kg

- **Optional dual colour speed display for the above sign for an additional cost of £270.00 excluding VAT.**



- ◆ **Portable Speed Indicator Device (SID) with Thank You / Slow Down Legend beneath, battery powered complete with spare Lead Acid battery, 'intelligent' charger, sign weatherproof cover and bracket set for a cost of £3,607.00 each excluding VAT.**



Weight: 13kg
Weight with Lead Acid: 25kg

- **Optional dual colour speed display for the above sign for an additional cost of £270.00 excluding VAT.**



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OPTIONAL PORTABLE SOLAR POWER SYSTEM:

If you require your sign to be Solar Powered (portable) please add the below cost per sign.

- ◆ **10W Portable Solar Panel with bracket set for a cost of £650.00 per sign excluding VAT.**



Solar Panel Dimensions:
H 355mm x W255 x D34mm
Solar Panel Weight: 3.3kg

OPTIONAL DATA COLLECTION:

- ◆ **Data Collection (Download via Bluetooth to your existing Android Device, running on 7.0 or newer version. App download required from Google Play Store) for a cost of £379.00 per sign excluding VAT.**
- ◆ **Remote Data Collection/ mapping with 2-year SIM for a cost of £1,675.00 per sign excluding VAT. £365 +VAT per sign annually in year 3 onwards.**

OPTIONAL EXTRA:

- ◆ **Additional bracket sets for a cost of £52.00 per set excluding VAT.**
- ◆ **Combination Padlocks (pack of 2) for a cost of £21.00 per pack excluding VAT.**
- **All of our portable signs come complete with our comprehensive **THREE-YEAR WARRANTY** which covers everything except vandalism, impact damage, theft and batteries*.**
* Batteries include manufacturer's **ONE-year warranty**

IMPORTANT INFORMATION REGARDING PORTABLE SOLAR SYSTEM

We suggest four weeks in one location before changing batteries and moving the device. Even if the unit is still operational, swap the battery to ensure a regular charging cycle for both.

At present, we could deliver the above products within approximately 6 - 8 weeks from receipt of the written Official Purchase Order.



t: 01362 853124 e: sales@westcotec.co.uk w: www.westcotec.co.uk

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Reg'd in Cardiff No: 4208260



- ◆ ***Post Mounted Mains Powered ANPR System including bracket and all associated software, on site Wi-Fi download, mains powered for a cost of £4,215.00 each excluding VAT.***
- ◆ ***DVLA plugin for automatic make and colour generation on ANPR reading for a cost of £500.00 excluding VAT.***

Appendix 4 – Effectiveness of Speed Indicator Devices on reducing vehicle speeds in London

Research summary

Transport for London

Street Management



Effectiveness of Speed Indicator Devices on reducing vehicle speeds in London

London Road Safety Unit
Research Summary No 13

May 2008

Overview

Speed Indicator Devices (SIDs) are increasingly used in London and the UK. However, little research has been undertaken on their effectiveness on reducing vehicle speeds and improving road safety. The London Road Safety Unit commissioned the Transport Research Laboratory (TRL) to study the effectiveness of SIDs on reducing vehicle speeds in London¹.

This research measured vehicle speeds before the installation of the SID, during their operation and after their removal.

Overall, at the 10 study sites, it was found that speeds reduced by 1.4mph while a SID was operational for at least two weeks. The reduction in speeds extended 200 metres downstream of the sign. When SIDs were removed, speeds returned to the speeds recorded before the SIDs were operational.

The research findings show that a SID rotation programme can contribute and be part of a speed management programme to improve road safety in London.

Background

Vehicle speeds are an important factor in the frequency and severity of collisions. SIDs are temporary signs that detect an approaching vehicle's speed at a distance of 100 metres and can in some cases display the speed and also a happy / sad face if the vehicle is under / over the speed limit (Figure 1). SIDs were set not to display speeds over a certain point. The display and operation of a SID is different to Vehicle Activated Signs (VAS) which have been found to reduce vehicle speeds and collisions².



Figure 1: A Speed Indicator Device (SID)



Research summary

Research objectives

1. To measure vehicle speeds and to assess the effectiveness of SIDs.
2. To assess the contribution SIDs can make in improving road safety in London.
3. To identify and document good practice of operating SIDs in London.

Methods

Sites were selected for inclusion in the study if they passed several inclusion and exclusion criteria. These criteria included a record of speed related collisions, appropriate road length and geometry, no other speed management features and a 30mph speed limit.

Speed data were collected at one pilot site and ten study sites using Automatic Traffic Counter tubes. The period for which speed data were recorded differed between sites. Overall, speed data were collected to allow the analysis of speeds a week before SID installation, during SID operation and for two weeks after the SIDs were removed.

In the collection of the speed data several days of data were lost at some sites because of equipment failure and vandalism. Some SID batteries failed prematurely and SIDs were therefore inactive for some periods of the study. Data issues were resolved by excluding data and analysis undertaken as planned.

Using free flowing speed data all research questions were answered by comparing mean speeds to the mean speeds of the before period. The mean speeds at a loop 200 metres upstream of the SID were used to control for any background changes in vehicle speeds during the study.

The analysis allowed for the assessment of the effectiveness of SIDs on mean speeds.

Results

1. SID effectiveness on reducing mean speeds in London

SIDs were effective at reducing mean speeds in London.

At the ten study sites mean vehicle speeds before the installation of the SIDs ranged from 28.4mph to 35.4mph. When the SIDs were operational, mean speeds reduced by between 0.6mph and 2.6mph. The overall effect was a 1.4mph reduction in mean speeds. All changes in speeds were statistically significant. Therefore, the probability of no changes is less than 5%.

SIDs were effective at reducing the proportion of vehicles exceeding the speed limit.

The proportion of vehicles exceeding the speed limit at higher speeds was significantly reduced when the SIDs were operational. Table 1 shows that before the SIDs were present, 18.8% of vehicles were travelling at 36mph or higher. This is the speed that the Association of Chief Police Officers suggest that speed limit enforcement should start at. During the period of SID operation, 13.1% of vehicles were travelling at or exceeding 36mph. When the SIDs were removed, the proportion of vehicle's exceeding 36mph increased. The proportion of vehicle's exceeding one and a half times the speed limit (45mph) reduced while SIDs were operational and increased once they were removed.

Table 1: Proportion of vehicles exceeding speed limit

	Vehicles travelling at or exceeding:		
	30mph	36mph	45mph
Before	56.5%	18.8%	2.0%
During	45.4% *	13.1% *	1.5% *
After	56.0% *	17.7% *	1.8% *

* Change is statistically significant at the 5% level from the before period

Research summary

The proportion of vehicle's exceeding one and a half times the speed limit (45mph) reduced while SIDs were operational and increased once they were removed.

The reduction in mean speeds continued for a short distance downstream of the SID.

Table 2 shows that mean speeds returned to the before mean speed between 200 and 400 metres downstream of the SID.

Table 2: Difference in mean speeds during SID operation to before mean speeds

	Distance downstream		
	At SID	200m	400m
Change (mph)	-1.4 *	-0.2 *	0.6 *

* Difference statistically significant at the 5% level from the before period

SIDs were effective at reducing mean speeds for the first two weeks of their operation.

Table 3 shows that when the SIDs were present, speeds were reduced for the first two weeks of operation. There was a 'novelty' effect at some sites where reductions were greater in the first week of operation compared to the second week.

Table 3: Difference in mean speeds during and after SID operation to before mean speeds

	During week			After week	
	1	2	3	1	2
Change (mph)	-1.5 *	-1.5 *	-	0.0	0.1 *

Note: Not enough data for change to be calculated in during week 3

* Statistically significant at the 5% level from the before speed

The study was unable to conclude whether the SID had an effect in the third week of operation. At the one site mean speeds increased (a reduction compared to the before mean speed of -1.6mph in week 2 to a reduction of -1.0mph in week three). At the other site, mean speeds remained at the same level compared to the second week (-2.5mph). In the first and second week after the SID was

removed, speeds returned to the mean speed recorded in the before period.

During the study, several SIDs were non-operational because of failed batteries. The effect on speeds when a SID was present but not displaying speeds to approaching vehicle's was a 0.5mph reduction compared to the before mean speed.

SID effectiveness varied between sites with different characteristics.

Table 4 shows that the effect of SIDs on speeds varied between sites with different characteristics. The small number of sites means any differences should be interpreted with caution. Mean speeds reduced more at residential sites compared to sites where the land use was a mixture of residential and commercial activities. Mean speeds reduced more at sites with a low daily vehicle flow compared to sites with a high vehicle flow.

Table 4: Road characteristics and reduction in mean speeds at SID sites

Site characteristic	Difference to before mean
Residential	-1.5 *
Commercial / residential	-1.2 *
On road parking	-0.9 *
No on road parking	-1.7 *
Low flow road (less than 7000 vehicles per day)	-2.1 *
High flow road (more than 7000 vehicles per day)	-1.2 *

Note: Some road characteristics were only present at one site

2. Estimated collision reductions from SIDs

SIDs could reduce collisions by 5.6%.

The relationship between speed and collision frequency is well documented and potential collision reductions from lower speeds can be estimated³. Overall, it is estimated that a reduction in mean

Research summary

speeds of 1.4mph by an active SID would reduce collisions by 5.6%. The effect on reducing collisions is applicable for the period a SID is operational, for a section of road downstream of a SID and for the two to three weeks that the SID reduces speeds for.

3. Case study for good practice: Royal Borough of Kingston-Upon-Thames SID rotation policy

An efficient method of operating SIDs is to design a programme of rotating SIDs around several sites.

The Royal Borough of Kingston-upon-Thames through their use of SIDs since 2003 and have amassed a large amount of knowledge and experience in operating a SID rotation programme.

The policy of rotating 13 SIDs around 90 sites is based on a body of data and evidence that shows SID effectiveness reduces over time. The monitoring of vehicle speeds at SID locations showed that vehicle speeds began to increase after two to three weeks despite the SID still being present⁴.

SID locations have backing plates and a permanent power supply fitted. The 13 temporary SIDs are rotated around the SID locations. SIDs remain at a site for three weeks before being moved to the next scheduled site by two staff members in one day. This is a cost effective and efficient way of using SIDs.

Conclusions

Overall, the research found:

- 1) SIDs were effective in reducing speeds on 30mph roads in London.
- 2) SIDs were effective at reducing speeds 200 metres downstream of the sign.
- 3) SIDs were effective in the first two weeks of operation.

- 4) The likely effect on road safety of SIDs is an estimated reduction in collisions of 5.6% for the first two weeks of operation at site.

There is no residual effect after a SID is removed. The effect on vehicle speeds reduces over time so SIDs should be moved after two to three weeks of operation.

Therefore, the research findings show that a SID rotation programme can contribute and be part of a speed management programme to improve road safety in London.

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