

**ANGUS COUNCIL**

**COMMUNITIES COMMITTEE – 20 JANUARY 2015**

**VEHICLE ACTIVATED SIGNAGE**

**REPORT BY HEAD OF TECHNICAL AND PROPERTY SERVICES**

**ABSTRACT**

This report informs the Committee of the procedures employed when dealing with concerns regarding speeding traffic on the Angus road network and on the current use of Vehicle Activated Signage in Angus as one of the measures to assist in reducing speeding.

**1. RECOMMENDATIONS**

It is recommended that the Committee:

- (i) note the content of the report for information;
- (ii) confirm the existing procedure for dealing with speeding in conjunction with our Community Partners, Police Scotland;
- (iii) consider the potential options as detailed in the report;
- (iv) agree the recommendation to increase the frequency of rotation for semi-permanent sites.

**2. ALIGNMENT TO THE ANGUS COMMUNITY PLAN/SINGLE OUTCOME AGREEMENT/COPORATE PLAN**

This report contributes to the following local outcome(s) contained within the Angus Community Plan and Single Outcome Agreement 2013-2016:

- Our Communities are safe, secure and vibrant

**3. BACKGROUND**

At the Member Officer Budget meeting on the 13 November 2014, the Head of Technical and Property Services was asked to bring forward a report on the use of Vehicle Activated Signage (VAS) in Angus to Committee.

Traffic speeds are a frequent cause of concern for our communities and a regular area of correspondence to Elected Members and the Roads Business Unit and our Community Partners, Police Scotland.

Excessive or inappropriate speed is often the cause of road collisions in both rural and urban environments. It is also a major factor in the degree of severity of injuries suffered by casualties as a result of road accidents. Addressing speeding issues is part of 'A Road Safety Action Plan for Angus Towards 2015' as well as a national issue and detailed in strategy documents such as 'Go Safe on Scotland's Roads' Scotland's Road Safety Framework to 2020. As with other road safety considerations Education; Enforcement; and Engineering all play a part in addressing speed.

#### 4. CURRENT POSITION

##### **Investigations**

A partnership approach between Angus Council and Police Scotland is applied to dealing with concerns of speeding. Concerns arise from various sources which may be; members of the public, Local Members, MSP's, MP's. The partners compile complaints of this nature and raise them at the monthly meetings of the Angus Traffic Co-ordination Group which is attended by Police Scotland. Raising the respective concerns allows initial discussion to take place to assess any site specific issues and appropriate actions.

Following expression of concerns the normal course of action is for the Roads Business Unit arrange for a speed survey to be undertaken at the locus. A small unobtrusive radar speed measuring device is placed at a location for a period of 7 days and speed data is recorded over the 7 days, 24 hours a day. The speed measuring device is placed from mid-week to mid-week so as to attain speed data during the week and also over the weekend when traffic patterns change, e.g. lower levels of commuter traffic/higher levels of recreational traffic. The statistical information output from the device gives hourly breakdowns of vehicle numbers, average speeds, speed ranges etc. A sample copy of such data is included in Appendix 1.

Once survey information is available, results are taken back to the next available meeting of the Traffic Co-ordination Group for further discussion. It is noted that in the vast majority of cases, relating to both rural and urban speeding complaints that speed survey results frequently confirm that there is not a significant speeding problem. Perception of speed is often understandably mistaken for an actual speeding problem. For the 3 month period to November 2014 there were 17 site surveys undertaken, with only three (18%) giving results that indicated speeding.

In those cases that speed survey data confirms evidence of speeding, further discussion will take place at the Traffic Co-ordination Group meetings to establish, through a partnership approach, the best methods of dealing with the issue, whether through additional police enforcement or through the introduction of educational/engineering measures. For instance this may be targeted enforcement if the intelligence from the data captured during the speed surveys shows speeding as a problem at a particular time.

Police Scotland and Tayside Safety Camera Partnership are actively involved with speed enforcement to ensure compliance with speed limits with particular attention given to known accident sites and also those areas within the community where speeding complaints have been received. Angus Council recognise that safety cameras can offer significant improvement to road safety in Angus and is one of a number of partner councils and agencies that comprise Tayside Safety Camera Partnership (TSCP). Safety Camera use is targeted at sites with a proven history of collisions and excessive speed, and plays a key part in road casualty reduction. There are fixed camera sites on the A90 trunk road within Angus and TSCP operate mobile safety camera enforcement at identified sites on local Angus Roads. It is noted that Safety Camera Partnerships are currently under review and the outcome of this will be reported as appropriate to Committee.

##### **Vehicle Activated Signage**

In August 2006 the Scottish Government published new guidance on setting local speed limits (Circular 1/2006). Within this guidance was the requirement for all Local Authorities to review their A and B Class road network by 2011. In Committee Report No 1397/06 (23 November 2006) an undertaking was made to complete the review of A and B Class roads by the end of 2007.

The review of speed limits on the "A" and "B" Class roads in Angus was completed and the findings were detailed in Committee Report No 266/08 (4 March 2008). In addition to reporting the findings of the review, the Infrastructure Services Committee was requested to approve the adoption of an Angus Council Speed Limit Strategy 2008.

In some villages on the A and B Class road network, new speed limits were introduced and the Speed Limit Strategy stated that if mean speeds were found to be significantly above the

new limit, consideration would be given to using Vehicle Activated Signs (VAS) on a semi-permanent basis depending on the individual conditions.

National Guidance on the use of vehicle activated signage is given by the Department of Transport in their Traffic Advisory Leaflets. Generally, the signs have been developed to address the problem of inappropriate speeds where conventional signage has not been effective in managing speeds and should only be used where there is justification. Conventional signage should be audited to ensure that all appropriate signs are in place before considering the use of speed activated signs which are not a substitute for standard plate signing and should therefore only be used sparingly.

Vehicle Activated Signs are a means of addressing speeding issues and have an impact on driver behaviour, and can be classed as both an engineering and educational traffic management solution. However they are not a panacea to speeding problems and have limitations.

The guidance states that installation can either be permanent or semi-permanent (where signs are left for a period then moved to other sites, generally on a rota basis). An example of a permanent sign may be on an approach to a hazard as part of a range of road safety measures, but only when justified in relation to speed-related accident history on approach to a hazard, especially inappropriate speeds. Examples of permanent VAS for hazard warning used on the local road network would be the low bridge signage at Inverkeillor and on the trunk road network signage for turning traffic at the A90 Lochlands junction.

Semi-permanent VAS can be more effective as they avoid drivers becoming complacent after the sign has been in place for some time and developing an attitude of “sign blindness”. Information from suppliers indicates that the impact of VAS reduces over time and that this time may be in the order of two weeks.

Speed management VAS were provided on a semi-permanent basis at the villages where new speed limits were introduced following the aforementioned review and subsequently at several further sites identified through consultation with Police Scotland on where the signs would be of best benefit to assist with speed enforcement. There are currently 16 VAS signs, usually used in pairs that are installed at 32 sites in Angus and the signs are relocated on a rota basis of approximately 16 weeks. This results in signs being in place approximately once every 16 months. The existing sites are detailed in Appendix 2. There is one permanent site with a single speed display sign on the A926 at Maryton.

In addition to the VAS provided on a semi-permanent basis, the Roads Business Unit have several portable VAS units that can be deployed on a short-term basis (2-3 weeks) to assist Police Scotland at sites with high levels of speed enforcement.

Vehicle Activated Signs (VAS) typically display a standard road sign symbol with message text e.g. speed limit roundel, bend warning sign etc, with permitted text such as “Slow Down”, sometimes with LED warning lights; a message that highlights the speed of the approaching vehicle; or symbols such as a smiley or sad face. Signs can be set to be activated at certain speeds. There are advantages and disadvantages to the different types including:

Displays 'Slow' + Speed Limit	Pros - the sign informs the driver that they are both exceeding the limit and indicates the speed limit; Cons – the sign does not trigger unless the speed limit is exceed (plus a tolerance) and communities do not always understand that only speeding vehicles activate the sign.
Displays Speed	Pros – shows driver and community speed of vehicle; Cons – does not show speed limit; provides the same information as available in the vehicle.
Emoticon - Smiley/Sad face	Pros – shows driver and community whether vehicle is within limit; Cons – does not show speed limit

The majority of signs in Angus are the 'slow' and speed limit display with a small number of speed display signs.

In terms of permitted sign symbols and text, these are prescribed in the Traffic Signs Regulations and General Directions 2002. When a VAS sign is not activated by a vehicle, the sign remains blank.

Depending on the type of VAS, signs are usually set at an activation speed which is not targeted at all drivers but only those exceeding the posted speed limit by a certain margin or a predetermined safe approach speed to a hazard. Sign activation speeds are set following consultation with Police Scotland.

In terms of the effectiveness of VAS signage, semi-permanent VAS can be effective for speed management to avoid drivers becoming complacent after the sign has been in place for some time and developing "sign blindness". National studies on the use of VAS, such as TRL Report PPR 314 which looked at the effectiveness of Speed Indicator Signs in London, have confirmed that there tends to be an immediate effect in terms of a reduction in traffic speeds at sites where VAS are installed but that this reduces with time. Since the introduction of the VAS signs in Angus on the semi-permanent, rota basis, traffic surveys have been conducted pre and post installation to assess the effect that the signs have on traffic speeds. Traffic data from the surveys confirm that initial installation of the signs resulted in a marked reduction in traffic speeds; however, further on in the rota programme, the sites where VAS are reintroduced, produce results showing less reduction of speed over the passage of time. The results seem to confirm the notion of complacency and "sign blindness" with drivers aware of the signs, their purpose and the tendency to pay less attention to them.

## 5. OPTIONS

The review of VAS provision as requested at the Member Officer Group on 13 November 2014 includes the following;

### **Increasing the frequency of rotation of signs**

The current frequency of visits is established on a rotational basis which is a factor of the number of sites, the number of signs and the resources to rotate them.

### **Sites proposed by the community based on concerns of speeding**

Empowering the community to have input into determining the allocation of equipment designed to reduce speed has some merit and potential to alleviate the communities' concerns. However placement of the limited resources needs to be evidenced based and where they can contribute to the council's priorities and outcomes. The procedure detailed above already ensures that resources are allocated where there is an identified speeding issue and resources are appropriately applied which may be enforcement rather than VAS.

### **Signs are erected at permanent sites in each ward**

There is currently an average of four sites in each ward used on a rotational basis with a number of VAS signs used for reactive response to concerns. Whilst the evidence of 'sign blindness' is limited and previous research documents relate to city environments, if used on permanent sites and their effectiveness reduces over time then enforcement is potentially the only remaining option if speeding persists.

National statistics indicate that the highest numbers of fatal accidents are on the rural road network and consideration of using signs in rural areas where there is evidence of speeding and accidents may be more appropriate use of the resource.

### **Programme of additional signs and sites introduced over a period**

Additional resources to address speeding would allow an increased frequency of site use or allow additional sites to be introduced, if such resources can be allocated amongst the other council priorities. The costs of additional signs are set out in the Financial Implications section below.

## 6. FINANCIAL IMPLICATIONS

The approximate cost of a Vehicle Activated Sign, is circa £2,000; with costs of approximately £1,000 for a mounting pole with power supply (mains connection or solar powered) therefore it is typically £6,000 per site for a permanent installation, where two signs are required.

The current rotational programme for the provision of VAS is funded from Revenue at a cost of approximately £5,000 per annum.

### **Increasing frequency of rotation for semi-permanent sites.**

The frequency of VAS being located at each site can be increased by:

- Reducing the period at each site and increasing the frequency of moving sites. Reducing the period to two months would enable a repeat visit to site at approximately every eight months. The additional revenue costs would be £5,000 per annum.
- Alternatively additional VAS could be purchased, and an additional 16 signs would have the same effect of reducing the rotational frequency to every eight months, and would require £32,000 of capital funding.

The capital costs and revenue costs cannot be contained within existing budgets.

### **Additional signs**

Establishment of additional sites to add to the current 32 sites and purchase of additional signs would allow additional semi- permanent sites. As each new site requires two signs and can be used at up to four sites (eight poles) during the sixteen month cycle the investment required is £12,000 for an additional four sites, or multiples of this figure. There would be a revenue cost of £625 per annum to rotate the signs for every additional set of four sites.

The capital costs and revenue costs cannot be contained within existing budgets.

### **Programme of additional signs and sites introduced over a period/ Signs are erected at permanent sites in each ward**

An annual programme to set up one additional permanent site in each ward would cost £48,000. Over a period of three years this would add 24 new sites at a total cost of £144,000.

There is no allowance for such costs within the current capital plan, and either additional capital resources would need to be made available or a current planned project would have to be postponed to accommodate such a proposal. Both these funding routes would however require to be considered through the Council's capital budget process by the Policy and Budget Strategy Group.

Noting the financial implications and the budget situation the low cost option of **increasing frequency of rotation for semi-permanent sites** at the existing 32 sites by reducing the period the signs are at each site to eight weeks is recommended at a revenue cost of £5,000 pa.

## 7. CONSULTATION

The Local Commander of Police Scotland and the Head of Leal and Democratic Services have been consulted in the preparation of this report.

**NOTE:** The background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) which were relied on to any material extent in preparing the above report are:

- 'A Road Safety Action Plan for Angus Towards 2015 – Report 176/11 - Road Safety Action Plan for Angus – Infrastructure Services Committee - 1 March 2013

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List of Appendices:

Appendix 1 Sample speed survey data  
Appendix 2 List of Semi-Permanent VAS sites

APPENDIX 1

Summary Data: 15/10/2014 11:30:00 to 22/10/2014 11:30:00, All Channels

Time	Total	Mean	Std.	5th	15th	25th	50th	75th	85th	95th	<-- %	Above	30 Mph	-->
Beginning	Vol.	Ave.	Dev.	%ile	%ile	%ile	%ile	%ile	%ile	%ile	By 0%	By 5%	By 10%	By 15%
00:00	2	17.1									0	0	0	0
01:00	0	23.5									0	0	0	0
02:00	0	17.8									14.3	9.9	5.4	1
03:00	0	18.5									0	0	0	0
04:00	0	19.3									0	0	0	0
05:00	0	15.6									0	0	0	0
06:00	2	15.4	3.3								0	0	0	0
07:00	10	13.8	4	6.1	8.3	10.8	13.2	15.1	17.2	19.3	0	0	0	0
08:00	26	14.9	4.7	7.2	11	11.9	14.2	17.1	19	19.9	0	0	0	0
09:00	28	15.7	4.9	7.5	11.3	12.3	14.8	18.2	19.9	23.5	0	0	0	0
10:00	27	14.7	4.3	7	10.3	11.7	14	16.6	18.9	21.9	0	0	0	0
11:00	29	15	4.2	7.3	11.1	12	14.3	17.3	19.3	21.8	0	0	0	0
12:00	33	15.1	3.9	7.7	11.3	12.2	14.3	17.2	19.2	21.8	0	0	0	0
13:00	24	15.3	4.3	7.4	11.2	12.1	14.4	17.5	19.4	22.4	0.6	0.4	0.2	0
14:00	28	15.7	4	8.4	11.6	12.5	14.8	18.1	19.8	22.9	0.5	0.4	0.2	0
15:00	39	15.2	3.8	8.7	11.6	12.4	14.6	17.4	19.1	19.5	0	0	0	0
16:00	35	15	3.9	8.2	11.4	12.3	14.4	17.2	19	20.4	0	0	0	0
17:00	33	14.6	3.9	7.5	11.2	12	14	16.1	18.4	19.9	0.4	0.3	0.2	0
18:00	29	14.7	4.1	7.3	11.1	11.9	14.1	16.7	18.8	20.8	0	0	0	0
19:00	19	14.9	4.3	6.8	10.8	11.8	14.3	17.3	19	18.5	0	0	0	0
20:00	11	14.6	4.1	6	10.9	11.7	13.5	15.3	16.5	19.7	1.4	1	0.5	0.1
21:00	6	14.4	3.5								0	0	0	0
22:00	5	15.6	3.2								0	0	0	0
23:00	2	15.8									0	0	0	0
Totals														
12H,7-19	341	14.9	4	8.2	11.3	12.2	14.4	17.4	19.3	21.9	0	0	0	0
16H,6-22	379	14.8	3.9	8.2	11.3	12.2	14.4	17.3	19.2	21.5	0	0	0	0
18H,6-24	386	14.8	3.9	8.2	11.3	12.2	14.4	17.2	19.2	21.5	0	0	0	0
24H,0-24	388	14.8	3.9	8.2	11.3	12.2	14.4	17.2	19.2	21.5	0	0	0	0

Am	11:00	01:00
Peak	29	23.5
Pm	15:00	22:45
Peak	39	16.5

02:45	02:45	02:45	02:45
50	34.5	19	3.5
20:15	20:15	20:15	20:15
1.6	1.1	0.6	0.1



## List of Semi-Permanent VAS sites

<b>No</b>	<b>Location</b>
1	A934 Muirhead/Birkhill
2	A934/B954 Muirhead/Birkhill
3	B978 Wellbank
4	B961 Redford
5	B954 Newtyle
6	B9128 Kingsmuir
7	C6 Westhall Terrace
8	B9127 Whigstreet
9	B961 Newbigging
10	A933 Colliston
11	C16 Balkerrie
12	Latch Road Brechin
13	B966 Trinity
14	B9134 Lunanhead
15	A94 Glamis Road, Forfar
16	A932 Dundee Road, Forfar
17	A926 Kirriemuir Road, Forfar
18	A926 Padanaram
19	B9113 at Gowanbank
20	A937 Coronation Avenue, Montrose
21	A935 at Tayock, Montrose
22	A92 Rossie Braes
23	A937 Hillside
24	A92 Montrose Road, Arbroath
25	A92 Lady Loan, Arbroath
26	B955 Cortachy Road, Kirriemuir
27	A926 Westmuir
28	A930 Barry Road, Carnoustie
29	A930 Carlogie Road, Carnoustie
30	B978 Kellas
31	C51 Woodville
32	B966 Inchbare