WIRRAL COUNCIL

CABINET – 5TH FEBRUARY 2009

REPORT OF THE DIRECTOR OF TECHNICAL SERVICES

VEHICLE ACTIVATED SIGNING - PROPOSED CRITERIA FOR PROVISION

1.0 EXECUTIVE SUMMARY

1.1 This report outlines to Cabinet the rationale behind the use of vehicle activated signs, the history of deployment of such measures on Wirral so far and seeks Cabinet's endorsement of a criteria for future provision of vehicle activated signs.

2.0 INTRODUCTION

2.1 Members will be familiar with the conventional signposting measures in frequent use on Wirral's roads. For all Local Highway Authorities, compliance with Department for Transport Guidelines as issued through the 2002 Traffic Signs Regulations and General Directions is paramount. The categories for signposting are generally, informatory, warning and regulatory.

2.2 In 2004 the Traffic Management Act was introduced with relevance being attached to Local Highway Authorities under part 2 of the Act to have placed upon them a duty to ensure the expeditious and safe movement of traffic (Network Management duty).

2.3 In addition, there is the Council's strategic objective to create a clean, pleasant, safe and sustainable environment. This in part is to reduce the number of people killed or seriously injured (KSI) in road accidents (national indicators NI47 for all KSIs and NI48 for Child KSIs). It is also included in Wirral's Local Area Agreement.

2.4 A final point which is noteworthy in the drive to reduce personal injury accidents is the partnership developed with Merseyside Police under the Roadsafe Partnership. This has been developed into the Wirral Road Safe Action Plan and is being rigorously implemented and monitored.

2.5 Members will have seen a variety of vehicle activated signs deployed on the country's roads let alone in Wirral. This report is to identify some of the best practices and develop a consistent framework for future use of this type of signposting in Wirral which is designed to assist in the important activity in reducing accidents occurring on the roads.

3.0 DEFINITION OF VEHICLE ACTIVATED SIGNS

3.1 A Vehicle Activated Sign (VAS) is a road sign that is illuminated or activated by the approach of a road vehicle and displays a message temporarily relating to the hazard. VAS usually display safety-related information, and are most frequently used to manage speed but also in community safety programmes and to manage traffic and reduce community safety fears. They are available in a variety of types.

3.2 All VAS feature a vehicle detection device, an information display that varies according to what has been detected, vehicle detection circuits most commonly measure the speed of the vehicle, but technology has also successfully been employed to measure the height, weight or width of a vehicle as well as the distance between vehicles.

3.3 When data is measured by the device, the feedback provided to the driver can also take many forms. The driver can simply be informed of the current status of his/her vehicle (speed, weight, height etc), informed of the regulation he/she is contravening (speed limit, weight restriction etc), informed of the hazard ahead (sharp bend, junction etc), issued with an instruction (to slow down, change lanes or stop) or any combination of these.

3.4 VAS are often used where:

- The road hierarchy is not well defined
- The road layout and signing do not provide information quickly and clearly
- Fixed signs are ineffective
- Speed limits are unhelpful
- 40 mph and 30 mph limits are not obeyed
- on rural bends where improvements to the geometry are not possible
- junctions where enforcement is not possible

3.5 There are three main types of VAS and the table below distinguishes between them and identifies best practice for their use.

Types of VAS

	Permanent	**Temporary**	**Mobile**
Roundel **(Typically Speed Limit Reminder sign (SLR))**	Useful in areas with a persistent speed problem but no specific hazards, e.g. urban areas.	Useful as part of a managed long-term campaign over a wide area with a general speeding problem.	Useful for publicity campaigns and to increase speed awareness.
Hazard Specific **(bends, road narrows)**	Most appropriate measure for locations with a specific crash problem associated with the hazard identified, as well as safety camera sites.	Possibly useful in wider areas with a large number of similar hazards (e.g. rural areas with many sharp bends).	Useful for warning of hazards that move often or are only present temporarily, such as roadworks or bridge strengthening.
SID **(Speed Indicator Device)**	Offers few advantages over a roundel in long-term context. Risk of 'record setting' attempts if permanently in one place.	Useful for a distributed area programme of speed awareness. Can be employed on almost any road.	Very useful for community-based speed awareness on roads with community concern but no serious casualty record.

3.6 The use of VAS on the public highway is regulated by Regulation 46 of the Traffic Signs Regulations & General Directions 2002 and guidance is provided on their application and installation guidelines via the Department for Transport's Traffic Advisory Leaflet (TAL) 1/03. However, there is no precise scientific formula for setting the criteria for installing VAS.

3.7 The neighbouring authority Cheshire County Council has extensively researched other local authorities and has been in dialogue with the Department for Transport's Road Research Laboratory. It has collated best practice and assembled this into a criteria which the County Council has endorsed. It found that data collected was favourable and before and after studies were revealing

typically that the percentage of vehicles travelling above the speed limit was reduced by over 20%.

4.0 CURRENT DEPLOYMENT OF VAS IN WIRRAL

4.1 Over the last five years we have deployed the Speed Alert Trailer which displays the motorists approaching speed. This has been particularly beneficial in 30 mph areas where communities have been concerned about speeding traffic and more recently as well as covering community concerns it has been deployed at locations where the personal injury accident record suggests speeding to be a problem. A second trailer was commissioned in partnership with and is now deployed by Merseyside Police. It is not intended that the rationale behind the deployment of speed alert trailers be changed but that it be regularised in the criteria for VAS.

4.2 The table below identifies the 22 sites at which VAS currently operate. As Members will appreciate, officers have over the past two years identified these sites primarily in recognition of their personal injury accident records and in knowledge that the topography and geometry of the actual road layout is not capable of easily receiving other conventional measures such as engineering remedial measures.

Those sites treated with permanent VAS have shown a marked improvement in motorist behaviour and a benefit to the accident record.

Existing VAS

	LOCATION	SIGN TYPE/ LEGEND	POWER SOURCE	REMOTE MONITORING
1	Telegraph Road Nr. Dawpool Cottages (Thurstaston)	Right Bend SLOW DOWN	Solar	Yes
2	Telegraph Road Opp. Rugby Club (Thurstaston)	40 MPH Roundel SLOW DOWN	Solar	Yes
3	Column Road Nr. Kings Drive North (West Kirby)	30 MPH Roundel SLOW DOWN	Solar	Yes
4	Neston Road Nr. Eton Drive (Thornton Hough)	30 MPH Roundel SLOW DOWN	Solar	Yes
5	Dock Road/Hickmans Road	Left Bend	Mains	No
6	Dock Road/Hickmans Road	Right Bend	Mains	No
7	Barnston Road	Left Bend	Mains	No
8	Barnston Road	Right Bend	Mains	No
9	New Chester Road / Portbury Way	30 MPH Roundel	Mains	No
10	New Chester Road / Beaconsfield Road	30 MPH Roundel	Mains	No
11	Village Road, West Kirby	Double Bend	Solar	No

12	Eastham Rake, Nr. Station	30 MPH Roundel SLOW DOWN	Solar	No
13	Eastham Rake, Nr. Chicane	30 MPH Roundel SLOW DOWN	Mains	No
14	Saughall Massie Road, Nr. Kingfisher Way	30 MPH Roundel SLOW DOWN	Mains	No
15	Saughall Massie Road, Nr. West Kirby Road	30 MPH Roundel SLOW DOWN	Mains	No
16	Beryl Road, Nr. The Ridings	Left Bend	Mains	No
17	Beryl Road, Nr. West Road	Right Bend	Solar	No
18	Ferry Road	30 MPH Roundel SLOW DOWN	Mains	No
19	Ferry Road	30 MPH Roundel SLOW DOWN	Mains	No
20	Docks Link Approach near Toyota Garage	Left Bend SLOW DOWN	Solar	No
21	Docks Link Approach near Toyota Garage	Left Bend SLOW DOWN	Solar	No
22	Thornton Common Road near Church Road	Left Bend SLOW DOWN	Solar	No

5.0 PROPOSED CRITERIA FOR THE PROVISION OF VEHICLE ACTIVATED SIGNS (VAS)

5.1 Officers have scrutinised the approach taken by Cheshire and have also researched other councils' approach to VAS on their websites. It is considered that the resulting practices can be similarly applied to the roads and situations in Wirral.

5.2 Cabinet is requested to approve the following criteria for the future provision of this type of signs:

5.2.1 Warning Signs

Examples:	**General** Where there is proof/evidence of injury collisions that could have been prevented by a reduction in vehicle speed. Where there are collisions associated with a hazard. Where the 85%ile speeds are considered too high for the conditions. Other traffic management measures have been implemented, but with no significant reduction of traffic speeds. No other standard signing/lining measures are appropriate. It is not possible to introduce conventional traffic calming measures. Used as part of the decommissioning of safety cameras in accordance with the Safety Camera Partnership's policy. **Siting** Signs to be sited in accordance with Chapter 4 of the Traffic Signs Manual. This will usually be 100 to 150 m from the hazard, to give drivers time to respond, but care to be taken to ensure that drivers do not lose association between sign and hazard. Subject to site conditions, signs to be set to operate at a speed of 50%ile of measured speeds prior to erection of sign. **Power** Solar powered signs are easier to install, and all solar panels should face due south in an open aspect for best results (i.e. in rural areas). Mains power may be considered if an installation is close to a lamp column in an urban area but would also be dependent upon the supplier being capable of supplying a mains powered sign.

5.2.2 Speed Limit Roundels

Examples:	**General** Where there is proof/evidence of injury collisions that could have been prevented by a reduction in vehicle speed. The 85%ile speeds are greater than 10% plus 2 mph of the speed limit (e.g. 35 mph in a 30). Used as part of a comprehensive package of road safety measures. Other traffic management measures have been implemented, but with no significant reduction of traffic speeds. No other standard signing/lining measures are appropriate. It is not possible to introduce conventional traffic calming measures. Used as part of the decommissioning of safety cameras in accordance with the Safety Camera Partnership's policy. **Siting** Signs to be sited not less than 70 m from the speed limit entry point. Sight lines to give 3 seconds minimum visibility of the sign assembly. SLRs should not be used within 1 km of fixed camera locations or on any mobile Safety Camera site or route. **Power** Solar powered signs are easier to install, and all solar panels should face due south in an open aspect for best results (i.e. in rural areas). Mains power may be considered if an installation is close to a lamp column in an urban area but would also be dependent upon the supplier being capable of supplying a mains powered sign.

5.2.3 Speed Indication Device (SID)

SID with digital display (temporary) **(Speed Alert Trailer)** 	**General** The 85%ile speeds are greater than 10% plus 2 mph of the speed limit (e.g. 35 in a 30). There is a history of recorded personal injury accidents. Route used by vulnerable road users but does not have facilities such as footways, crossing points, cycle lanes. **Siting** • within existing speed limit areas • sight lines to give 3 seconds minimum visibility of the sign assembly • each site to be risk assessed • SIDs and SLRs should not be used within 1 km of fixed camera locations or on any mobile Safety Camera site or route. **Power** Battery.

5.3 In deploying this type of signing scheme, officers will obviously have regard to the criteria encompassing the guidance within in an attempt to roll out borough-wide a signposting initiative that will be seen and hopefully have a positive influence on many motorists.

5.4 Members will be aware of the success of the initiative under the “Bring Accident Down 2zer0” which will soon be moved on to its second tranche of sites. This scheme is centred particularly on the relatively minor trafficked residential streets and not capable of achieving the desired effect on main distribution roads. It is hoped that the VAS initiative will complement some of the “Bring Accident Down 2zer0” sites by being able to deploy VAS schemes in the immediate environs of the advisory 20 mph areas.

5.5 It is anticipated that this VAS initiative will generate positive feedback from the community in much the same way as the “Bring Accident Down 2zer0” initiative has.

6.0 SUPPLIERS AND COSTS

6.1 There are a number of suppliers for this type of equipment, however from officers’ experience only a few can supply the equipment required and meet a satisfactory standard of:-

- Reliability
- Repairs charges
- Customer satisfaction
- Remote monitoring facilities

6.2 In liaison with the Director of Finance’s Corporate Procurement Unit, officers have sought and had supplied best practice products. To date, these suppliers have been Solargen, Signature and Varitex.

6.3 Each siting of a VAS has been treated on its own merits and typical costs are as follows:

Item	Typical Unit Cost
Speed data collection (for one week)	£200
Supply and delivery of VAS	£3,000
Supply and erection of new post	£300
Provision of complete solar power unit	£2,000
Total for VAS installation	£5,500

7.0 ONGOING WORK DURING 2008/09 TO PROVIDE VAS

7.1 As well as the 22 sites previously described, a piece of work is underway to introduce VAS at 11 permanent sites as detailed below. This proposed implementation plan is embracing the new policy and designed to have a positive impact in reducing personal injury accidents.

New Permanent Vehicle Activated Signs Sites 2008-2009

	Location	Solar	Mains Electric	Sign Type/Legend
1	Bidston Link Road, Bidston		✓	Cars Queuing
2	Thingwall Road	✓		30 Roundel Slow Down
3	Thingwall Road	✓		30 Roundel Slow Down
4	Thingwall Road	✓		30 Roundel Slow Down
5	Thingwall Road	✓		30 Roundel Slow Down
6	Pensby Road, Pensby		✓	3 Single Signs Chevron
7	Rock Ferry By-Pass	✓		Left Bend
8	Rock Ferry By-Pass	✓		Right Bend
9	Rock Ferry By-Pass	✓		Left Bend
10	Rock Ferry By-Pass	✓		Right Bend
11	Thornton Common Road, Thornton Hough	✓		30 Roundel Slow Down

7.2 Temporary mobile signing is to be trialled across 21 sites where fewer units (7) are purchased than sites treated but that the units be moved around. The moving around of the signs is to remove complacency and at sites where a hazard (for example a sharp bend) has been identified, a conventional metal sign will be in place when the VAS is moved elsewhere.

7.3 The Vehicle Activated Sign stock for temporary deployment will consists of 3 number 30 mph signs, 2 number 40 mph signs, one left hand bend and one right hand bend.

7.4 For those signs that are provided on a temporary basis, the cost of moving and maintaining the signs is approximately £3000 per annum for all of them.

8.0 FINANCIAL IMPLICATIONS

8.1 Both revenue and capital funding (in the case of Local Safety Schemes) has been used to purchase the existing VAS equipment and install on site. Each sign is estimated to cost around £5500 and to move the seven mobile signs from location to location will require an additional £3000 p.a. Revenue maintenance costs are in the region of £4,000 p.a.

8.2 As the stock of such signs increases there will be a need to review the budget to cover maintenance.

8.3 Future sites for permanent schemes will be identified in the 2009/10 Capital Programme to be reported to Cabinet in due course and may include locations identified via local Area Forums to be funded via the LTP Integrated Transport Block.

9.0 STAFFING IMPLICATIONS

9.1 The management and maintenance of VAS across the borough is carried out from within existing staff resources.

10.0 EQUAL OPPORTUNITIES IMPLICATIONS

10.1 There are no implications under this heading.

11.0 COMMUNITY SAFETY IMPLICATIONS

11.1 The rationale behind the deployment of Vehicle Activated Signs is to emphasise to motorists the need to exercise vigilance and reduce the potential for being involved in crashes.

12.0 LOCAL AGENDA 21 IMPLICATIONS

12.1 There are no implications under this heading.

13.0 PLANNING IMPLICATIONS

13.1 There are no specific implications under this heading. The siting of VAS in conservation areas is in liaison with the conservation officer.

14.0 ANTI-POVERTY IMPLICATIONS

14.1 There are no specific implications.

15.0 SOCIAL INCLUSION IMPLICATIONS

15.1 There are no specific implications.

16.0 LOCAL MEMBER SUPPORT IMPLICATIONS

16.1 The report has implications for all Wards.

17.0 BACKGROUND PAPERS

17.1 Department for Transport guidance and information sourced from other local authorities has been used in the preparation of this report.

18.0 RECOMMENDATIONS

That

(1) the report be noted and the measures already taken to introduce Vehicle Activated Signs in Wirral be endorsed;

(2) the proposed criteria for the provision of Vehicle Activated Signs as set out in Section 5.0 be approved; and

(3) the Director of Technical Services be given delegated authority for the identification of sites for the future provision of vehicle activated signs in line with the criteria and the Director be given delegated authority to utilise new style vehicle activated signs as they come available and are of a type approved by the Department for Transport.

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