



Research Paper 40/08

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VARIABLE SPEED LIMITS OUTSIDE SCHOOLS: A SCOTTISH CASE STUDY

In Scotland, the use of variable speed limits outside schools has been in operation since 1995. In 2004 the Scottish Executive issued guidance stating that a 20mph speed limit should be the norm outside schools. This paper details the performance of a trial involving variable speeds within five Scottish Council Areas.

Research Papers are compiled for the benefit of Members of The Assembly and their personal staff. Authors are available to discuss the contents of these papers with Members and their staff but cannot advise members of the general public.

SUMMARY OF KEY POINTS

The draft Speed Management Policy prepared by the Department for Regional Development proposes the development of updated guidance on the concept of variable, time dependent, speed limits at schools.

Best practice guidelines are therefore outlined within the draft policy and include:

- having times of operation coinciding with on-road, school-related activity;
- installation of approved advisory signs and regulatory displays that alert motorists they are travelling through a school zone;
- the need to ensure appropriate levels of enforcement by the local police; and
- encouraging long term commitment by the school principal and Education Board for the correct operation of a variable speed limit at their school.¹

Similar schemes have been piloted and/or are in operation in other countries such as Scotland, Ireland, Australia and New Zealand.

In Scotland, the use of variable speed limits outside schools has been in operation in the form of pilot projects or otherwise since 1995. In 2004 the Scottish Executive issued guidance stating that a 20 mph speed limit should be the norm outside schools.²

The Scottish Executive provided financial resources to Local Authorities totalling £27m between the years of 2003 and 2006 for the implementation of such schemes.³ Discussion with the Society of Chief Officers of Transportation in Scotland (SCOTS) confirmed that the scheme had been taken up by 75% of Scottish Schools.⁴

In October 2003, SCOTS published a report detailing the success of a trial of part-time speed limits outside schools in five Scottish council areas. Key findings of the report concluded that:

- speeds were observed to be reduced;
- there were no general regional variations; and
- no specific site characteristics were found to influence speed reductions.

These results were generally regarded by the working group to be better than expected.

¹ DRD, *draft Local Speed Limits in Northern Ireland*, 2007, pg 29.

² <http://www.scotland.gov.uk/library5/transport/20mphcirc1.pdf>

³ <http://www.scotland.gov.uk/library5/transport/20mphcirc1.pdf>

⁴ Discussion with Andy Duff, SCOTS, Monday 14th April 2008.

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BACKGROUND

The draft Speed Management Policy prepared by the Department for Regional Development proposes the development of updated guidance on the concept of variable, time dependent, speed limits at schools.

Best practice guidelines are therefore outlined within the draft policy and include:

- having times of operation coinciding with on-road, school-related activity;
- installation of approved advisory signs and regulatory displays that alert motorists they are travelling through a school zone;
- the need to ensure appropriate levels of enforcement by the local police; and
- encouraging long term commitment by the school principal and Education Board for the correct operation of a variable speed limit at their school.⁵

Similar schemes have been piloted and/or are in operation in other countries such as Scotland, Ireland, Australia and New Zealand. This paper provides information on the success of the use of variable speed limits outside schools in Scotland.

⁵ DRD, *draft Local Speed Limits in Northern Ireland*, 2007, pg 29.
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SCOTLAND

In Scotland, the use of variable speed limits outside schools has been in operation in the form of pilot projects or otherwise since 1995.

In 2004 the Scottish Executive issued guidance stating that a 20 mph speed limit should be the norm outside schools.⁶ The Scottish Executive provided additional financial resources to local authorities totalling £27m (£5m 2003-04 and £11m each in 2004/05 and 2005/06) for the introduction of 20mph speed limits around schools, including schools on roads with speed limits higher than 30 mph and related safety projects.⁷

Discussion with a Society of Chief Officers of Transportation in Scotland (SCOTS) representative confirmed that this had been taken up by approximately 75% of Scottish Schools.⁸ It also confirmed that the decision to implement this initiative was largely political in nature. It was a popular measure despite schools not necessarily being the location of most road traffic incidents.

In October 2003, SCOTS published their final report detailing the success of a pilot project titled *Trial of Part-Time Speed Limits in Five Scottish Council Areas*.

A number of signing options were considered for the project. The objective was to develop a trial sign which was;

- unequivocal in its message and clearly understood;
- minimised expense;
- met Scottish Executive requirements; and
- would be effective in cutting speed.

After full consideration the selected option for the trial was in the form of an “activated” invariable sign. The sign is based on the display of a 20mph roundel with the words “When Lights Flash”. At each corner of the sign lights flash alternatively top and bottom. Figure 1 shows a photograph of the proposed sign as used in the pilot.



Figure 1: A 'low cost' Part Time 20mph sign in Aberdeenshire.⁹

It was decided that the trial should focus on the speed limit signs and no additional traffic calming measure should be introduced.

⁶ <http://www.scotland.gov.uk/library5/transport/20mphcirc1.pdf>

⁷ <http://www.scotland.gov.uk/library5/transport/20mphcirc1.pdf>

⁸ Discussion with Andy Duff, SCOTS, Monday 14th April 2008.

⁹ SCOTS, Trial of Part-Time Speed Limits in Five Scottish Council Areas, Final Report, October 2003, <http://www.scotsnet.org.uk/> See page 4.

The average cost per sign was £3,800 giving a cost for a two sign site of £7,600 with significant variation dependent upon electricity supply and cost.

The trial considered the effect of the signing on average speeds, compliance levels, before and after speeds together with the effect of site characteristics.

The primary conclusions of the trial are highlighted below.¹⁰

Effect on average speed:

- There is clear evidence that the signs produce speed reductions during the times of operation. Observed reductions are in the range of 0-9 mph with an average reduction in speed of 4 mph;
- The results show no regional variation;
- More detailed examination of the data shows that reductions in speed tend to be coincident with the start of operation of the signs, particularly in the morning.
- Speeds tend to rise again before the signs cease their operation for each 'on' period.

Compliance:

- Whilst it is clear that significant speed reductions are being achieved, in absolute terms, drivers are not in general reducing their speeds to observe the part-time limits;
- There are indications that these results are positively related to the implementation of the signs;
- These reductions have been achieved without significant publicity or enforcement; and
- Compliance during lunch time period is poorer than during both the morning and afternoon periods. The morning period represents the highest levels of compliance however, this is marginal.

Public comments on schemes

- There were a number of pilot sites that were very well received. However, there is a perception and a very real concern raised in some communities that the schemes do not work.

Influential site characteristics

- The analysis observed speed statistics with site characteristics revealed no significant relationships between the two; and

¹⁰ SCOTS, Trial of Part-Time Speed Limits in Five Scottish Council Areas, Final Report, October 2003, <http://www.scotsnet.org.uk/> See page 17.

- The information available therefore, did not identify any characteristics influencing speed reduction or compliance rates.

SCOTS have confirmed that no further research has been conducted by the Scottish Executive on evaluating the impacts of variable speed management outside schools.

Appendix 1 shows a number of photographs of the signing used in Scotland.

APPENDIX 1 – VARIABLE SPEED SIGNING IN SCOTLAND¹¹

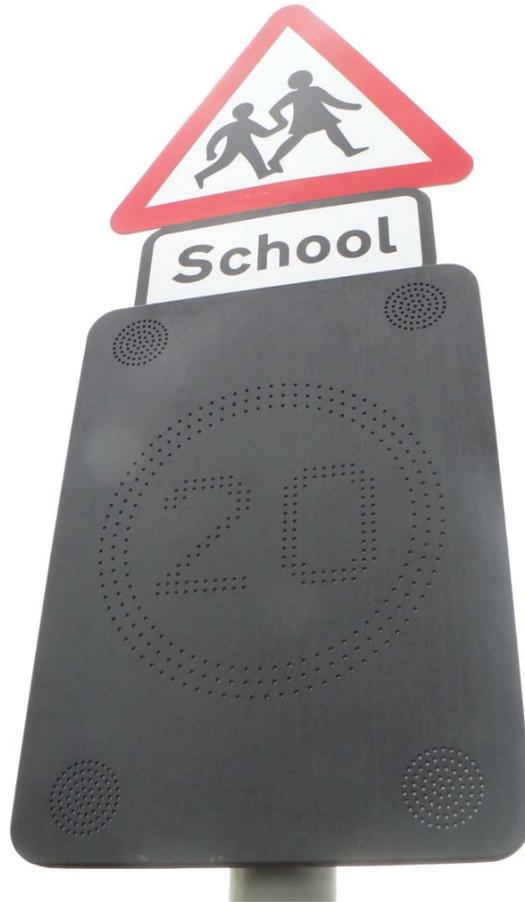


Rural solar powered Advance Slave Unit on local authority road (Aberdeenshire)



¹¹ All photographs supplied by DRD, 2008.
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Slave advance warning sign (South Ayrshire) on passively safe GRP post





Urban school zone entry with wig-wags (Aberdeenshire)



Rural solar powered speed limit sign on local authority road (Aberdeenshire)





Minor road access to school zone on trunk road (Morayshire)



School zone entry sign on trunk road (Morayshire)

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Urban school zone entry with wig-wags (Aberdeenshire)